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Dynamic Efficiencies in Merger Analysis

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DYNAMIC EFFICIENCIES IN MERGER ANALYSIS

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FOREWORD

This document comprises proceedings in the original languages of a Roundtable on Dynamic Efficiencies in Merger Analysis and Competition Policy, held by the Competition Committee in June 2007.

It is published under the responsibility of the Secretary General of the OECD to bring information on this topic to the attention of a wider audience.

This compilation is one of a series of publications entitled "Competition Policy Roundtables".

PRÉFACE

Ce document rassemble la documentation dans la langue d'origine dans laquelle elle a été soumise, relative à une table ronde sur les gains d'efficacité dynamique dans l'analyse des fusions, qui s'est tenue en juin 2007 dans le cadre du Comité de la concurrence.

Il est publié sous la responsabilité du Secrétaire général de l'OCDE, afin de porter à la connaissance d'un large public les éléments d'information qui ont été réunis à cette occasion.

Cette compilation fait partie de la série intitulée "Les tables rondes sur la politique de la concurrence".

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EXECUTIVE SUMMARY

by the Secretariat

Considering the discussion at the roundtable, the delegates' submissions and the background paper, several key points emerge:

- (1) *The distinguishing feature of dynamic efficiencies is that they have recurring effects. That characteristic considerably enhances their potential impact on performance.*

Mergers sometimes create positive effects called efficiencies. Efficiencies may be static or dynamic. In general, dynamic efficiencies are synergies that enable firms to improve their performance, whether in terms of cost, quality, service, or new product development, on a potentially continuing basis. Efficiencies that enhance the ability or incentive to innovate, for example, are considered dynamic. Learning by doing, eliminating redundant research and development expenditures, and achieving economies of scale in R&D are all examples of dynamic efficiencies. Static efficiencies, in contrast, enable improvements that occur only once. Economies of scale in production, for instance, are a static efficiency. Over time, the benefits of dynamic efficiencies may outweigh those of static efficiencies even if the latter are initially larger.

- (2) *Competition authorities and courts have a more favourable view of efficiencies today than they did in the past. Incorporating static efficiencies into merger reviews in a rigorous way has proven to be difficult, though. The difficulty is even greater with respect to dynamic efficiencies.*

There was a time when courts and competition enforcement agencies tended to view merger efficiencies as either irrelevant or as a basis for blocking transactions. It was believed that large combinations were likely to be harmful regardless of any arguments that could be made about their actual economic effects. A significant change in economic thinking about efficiencies began in the 1970s and it has influenced competition policy in more and more jurisdictions in recent years. Competition authorities and courts have gone from ignoring efficiencies or even being hostile toward them to appreciating their value to society. Today, efficiencies are commonly viewed as factors that favour allowing mergers rather than disallowing them.

In spite of the greater respect now given to efficiencies, instances in which they play a substantial role in merger analysis remain uncommon, particularly in court decisions. The problem is not so much that courts still think efficiency-enhancing mergers are bad for competition, but that it can be difficult to gauge the efficiencies themselves. Making a prospective determination about whether a merger will lead to static efficiencies and how such efficiencies measure up against any anti-competitive effects that the merger is expected to cause can be very challenging. Dynamic efficiencies pose an even greater measurement problem than static efficiencies because dynamic effects will occur – if at all – over several time periods and may be more abstract in nature than static effects. Courts have shown a tendency to avoid delving into such exercises whenever possible.

Several types of complications may arise when one tries to assess dynamic efficiencies. For example, “apples-to-oranges” comparison problems may come up under a standard that focuses on price effects. A merger may cause price to rise soon after consummation but it may also bring about dynamic efficiencies that have positive non-price effects (*e.g.*, benefits from new or improved products) in the longer term. That puts investigators in the awkward position of needing to compare different concepts from different time periods – and possibly from two or more different markets with different sets of consumers. This presents a complex quantification problem. How much quality enhancement or how many new products are necessary for some customers to compensate for a given expected price increase affecting other customers? It may be difficult or even impossible to answer such questions. Other complicating factors include the uncertainty inherent in innovative activity regarding its cost, timing, and the likelihood and extent of its commercial success, difficulties in measuring innovation itself, the problem of how to conceptually transform innovation into some measure of welfare, and informational asymmetry between the merging parties and the enforcement agencies.

- (3) *Nevertheless, some commentators argue that agencies pay too much attention to short-run price competition in their merger reviews and not enough attention to dynamic efficiencies and non-price competition.*

That argument has been growing louder in recent years, showing up most recently as a recommendation by the US Antitrust Modernization Commission to give greater weight to efficiencies that promote innovation. The argument is on solid ground in the sense that it is clear that innovation is vital to economic growth and welfare. The economist Joseph Brodley has stated that innovation efficiency “provides the single most important factor in the growth of real output in the industrial world.” The OECD has likewise concluded that innovation is responsible for most of the increase in material standards of living that has taken place since the industrial revolution. It seems likely that dynamic efficiencies have a considerably greater potential to benefit consumers than static efficiencies have. Therefore, it would be desirable – in an ideal world – for dynamic efficiency considerations to feature more frequently and more prominently in merger decisions. The real-world problem is that no one has figured out a robust way to do that yet, and rather than engage in speculation, courts have tended to avoid dynamic efficiency analysis in cases where it could have been relevant.

- (4) *When competition agencies assess efficiencies, they typically consider several factors to determine how much weight to assign to them, including whether the efficiencies are quantifiable. Due to their complexity, it appears that dynamic efficiencies will rarely be quantifiable. Qualitative approaches may yield some helpful information, though.*

Virtually all OECD jurisdictions place responsibility for providing evidence of the existence and adequacy of efficiencies on the merging parties. The factors that competition agencies usually consider when assessing efficiencies claims include merger-specificity (an efficiency is merger-specific when there are no less anticompetitive but reasonable alternatives that would be likely to achieve the efficiencies other than the proposed merger), whether at least some of the benefits of the efficiencies will be passed on to consumers, and whether the efficiencies will lower fixed costs or variable costs (with a preference for variable cost reductions). Other considerations include effects in other markets and the degree to which the efficiencies are quantifiable, substantial, and timely.

The “timely” factor is especially significant with respect to dynamic efficiencies, which may take several years to bear fruit. The farther out into the future the prediction of benefit is, though, the harder it will be for parties to provide satisfactory evidence. Not only will a discount factor be

applied to the claimed future benefits, but in general the farther out into the future they are expected to be, the more speculative the claims will be deemed. That leads to another consideration – verifiability. Agencies typically examine whether there is sufficient information to verify by reasonable means the claimed efficiencies’ likelihood and magnitude.

A pessimistic view appears to be warranted, at least with respect to quantification. Qualitative approaches to dynamic efficiencies may provide more useful results, however, so some agencies focus on them. The Merger Enforcement Guidelines issued by Canada’s Competition Bureau, for example, indicate that the Bureau generally examines dynamic efficiencies from a qualitative perspective. Much can be learned by studying how well the merging parties have integrated with previous merger partners, how adept the companies have been at turning R&D into successful innovations, and whether any of their innovations are attributable to synergies from past mergers. Studying characteristics of the relevant industry – particularly what encourages innovation and whether the merger will help the combined firm to capitalise on those factors – can also be helpful. Finally, whether the merger will combine substitute or complementary technologies is a relevant factor because R&D efficiencies tend to be stronger when complementary technological assets are combined. Therefore, one way to promote the realisation of those efficiencies is to take a lighter approach toward vertical and conglomerate mergers.

- (5) *In any event, giving more attention to dynamic efficiencies in merger analysis may change the outcomes in only a small percentage of cases.*

For a variety of reasons, the fact that dynamic efficiencies have historically been largely ignored by courts and agencies may have affected relatively few mergers. One of those reasons is that merging parties have tended to ignore dynamic efficiencies, too. A number of competition agencies simply have never been confronted with a case in which the parties attempted to make an argument based on dynamic efficiencies. Several delegations expressed the view that even when parties do present such arguments, alleged efficiency gains of any type rarely have the magnitude and credibility necessary to overturn a finding that competition would otherwise be substantially lessened. Some delegations referred to empirical studies which have concluded that it is actually unlikely that most mergers enhance efficiency. Furthermore, others expressed the view that the vast majority of mergers that are likely to produce significant dynamic efficiencies do not raise substantial competitive concerns in the first place. Specifically, the safe harbours (concentration thresholds) built into most merger guidelines tend to spare mergers that combine firms with complementary as opposed to overlapping assets. It has been argued, therefore, that the number of cases in which dynamic efficiencies are impeded by regulatory intervention is limited.

SYNTHÈSE

du Secrétariat

Plusieurs points essentiels se dégagent des débats de la table ronde, des contributions des délégués et du document de référence :

- (1) *Le trait distinctif des gains d'efficacité dynamique est qu'ils produisent des effets répétés. Cette caractéristique accroît considérablement leur impact potentiel sur les performances.*

Les fusions produisent dans certains cas des effets positifs qualifiés de gains d'efficacité. Il peut s'agir de gains d'efficacité statique ou dynamique. En règle générale, les gains d'efficacité dynamique sont des synergies qui permettent aux entreprises d'améliorer leurs performances – en termes de coût, de qualité, de service ou de développement de produit – parfois sur la durée. C'est notamment le cas des gains d'efficacité qui renforcent l'aptitude ou les incitations à innover. Apprendre par la pratique, supprimer les dépenses de recherche et de développement superflues et réaliser des économies d'échelle dans la R-D sont également des exemples de gains d'efficacité dynamique. Les gains d'efficacité statique, en revanche, permettent d'apporter des améliorations ponctuelles. Les économies d'échelle réalisées dans la production, par exemple, sont des gains d'efficacité statique. À la longue, les avantages découlant des gains d'efficacité dynamique peuvent l'emporter sur ceux des gains d'efficacité statique même si à l'origine, ces derniers étaient plus importants.

- (2) *Les autorités de la concurrence et les tribunaux envisagent aujourd'hui les gains d'efficacité d'un œil plus favorable qu'hier. Intégrer de façon rigoureuse les gains d'efficacité statique dans l'examen des fusions n'est toutefois pas allé sans mal. La difficulté est encore plus grande pour les gains d'efficacité dynamique.*

À une certaine époque, les tribunaux et les autorités de la concurrence avaient tendance à considérer que les gains d'efficacité résultant des fusions n'avaient pas d'intérêt ou pouvaient justifier que l'on fasse échec aux transactions. On estimait que les regroupements d'envergure risquaient d'être dommageables sans tenir compte des éventuels arguments portant sur leurs véritables répercussions économiques. Une évolution sensible de la pensée économique au regard des gains d'efficacité s'est amorcée dans les années 70 et ces dernières années, elle s'est répercutée sur la politique de la concurrence dans un nombre croissant de pays. Les autorités de la concurrence et les tribunaux, qui ne prenaient nullement en considération les gains d'efficacité, quand ils n'y étaient pas hostiles, reconnaissent aujourd'hui qu'ils représentent une valeur ajoutée pour la société. À l'heure actuelle, les gains d'efficacité passent couramment pour des facteurs qui vont davantage dans le sens de l'autorisation des fusions que de leur rejet.

En dépit de la considération accrue dont bénéficient désormais les gains d'efficacité, les cas où ils jouent un rôle notable dans l'analyse des fusions restent rares, notamment dans les décisions judiciaires. Le problème n'est pas tant que les tribunaux continuent de croire que les fusions qui favorisent l'efficacité nuisent à la concurrence, mais qu'il peut être difficile d'évaluer les gains d'efficacité eux-mêmes. Décider en amont si une fusion entraînera des gains d'efficacité statique et si ces gains sont à la mesure des effets anticoncurrentiels devant en découler peut s'avérer

extrêmement périlleux. Les gains d'efficacité dynamique soulèvent au regard de leur évaluation un problème encore plus épineux que les gains d'efficacité statique, les effets dynamiques se manifestant – le cas échéant – sur différentes périodes et pouvant être plus abstraits par nature que les effets statiques. De manière générale, les tribunaux se sont autant que possible gardés de se livrer à de tels exercices.

Plusieurs types de complications peuvent surgir lorsqu'on tente de jauger les gains d'efficacité dynamique. Ainsi, les problèmes symptomatiques de la comparaison des pommes et des oranges peuvent apparaître lorsque le critère retenu est axé sur les effets de prix. Dès lors qu'elle est consommée, une fusion peut faire grimper les prix, mais elle peut aussi être porteuse de gains d'efficacité dynamique ayant, à plus longue échéance, des effets positifs sur des facteurs autres que les prix (avantages tirés de produits nouveaux ou améliorés). Les enquêteurs se trouvent ainsi dans la position singulière de devoir comparer des concepts différents sur des périodes différentes – voire pour deux marchés différents ou plus, ou des groupes de consommateurs différents. Cela pose un problème de quantification complexe. À quel point faut-il améliorer la qualité ou combien de produits nouveaux faut-il lancer pour que le comportement de certains consommateurs compense une hausse de prix donnée touchant d'autres consommateurs ? Peut-être est-il difficile, voire impossible de répondre à ces questions. Les complications peuvent également tenir à l'incertitude inhérente au coût des activités innovantes, ainsi qu'au calendrier fixé et à la probabilité et à l'ampleur de leur réussite commerciale, aux difficultés liées à la mesure de l'innovation elle-même ou à la transformation, sur un plan conceptuel, de l'innovation en indicateur de bien-être et à l'asymétrie de l'information entre les parties à la fusion et les instances répressives.

- (3) *Certains commentateurs font néanmoins valoir que dans leur examen des fusions, les autorités font trop de cas de la concurrence par les prix à court terme et trop peu des gains d'efficacité dynamique et de la concurrence hors prix.*

Cet argument a été défendu avec une virulence croissante au cours des dernières années et il s'est traduit tout dernièrement par une recommandation de l'Antitrust Modernization Commission des États-Unis visant à accorder davantage d'importance aux gains d'efficacité favorisant l'innovation. C'est un argument de poids puisqu'il ne fait pas de doute que l'innovation est déterminante pour la croissance et le bien-être économiques. Selon l'économiste Joseph Brodley, l'efficacité de l'innovation « est le principal facteur de croissance de la production réelle dans le monde industriel ». De même, l'OCDE a conclu que l'innovation est à l'origine de l'essentiel de l'amélioration du niveau de vie matériel intervenue depuis la révolution industrielle. Les gains d'efficacité dynamique devraient pouvoir procurer aux consommateurs des avantages très nettement supérieurs à ceux des gains d'efficacité statique. Il serait donc souhaitable – dans un monde idéal – que les considérations liées à l'efficacité dynamique entrent plus fréquemment et plus manifestement en ligne de compte dans les décisions relatives aux opérations de fusion. Le problème du monde réel est que nul n'a trouvé à ce jour un moyen fiable d'y parvenir et plutôt que de se perdre en conjectures, les tribunaux se sont généralement abstenus d'effectuer une analyse de l'efficacité dynamique dans des cas où elle aurait pu s'avérer utile.

- (4) *Lorsque les autorités de la concurrence évaluent les gains d'efficacité, elles prennent d'ordinaire plusieurs facteurs en considération afin de déterminer la place qu'elles doivent leur accorder, et notamment la question de savoir si les gains d'efficacité sont quantifiables. Compte tenu de leur complexité, il semble que les gains d'efficacité dynamique soient rarement quantifiables. Les approches qualitatives peuvent néanmoins fournir des renseignements utiles.*

La quasi-totalité des pays de l'OCDE estiment qu'il incombe aux parties à la fusion d'apporter la preuve de l'existence et de l'adéquation des gains d'efficacité. Les facteurs habituellement retenus par les autorités de la concurrence pour évaluer les allégations de gains d'efficacité sont notamment le fait que ces gains sont spécifiques ou non à la fusion (un gain d'efficacité est spécifique à la fusion lorsqu'il n'existe, hormis la fusion proposée, aucune solution moins préjudiciable à la concurrence mais raisonnable qui puisse aboutir à ce gain), qu'une partie au moins des avantages découlant des gains d'efficacité bénéficient ou non aux consommateurs et que les gains d'efficacité fassent ou non baisser les coûts fixes ou les coûts variables (avec une préférence pour une réduction des coûts variables). Sont également pris en compte les répercussions sur d'autres marchés et le caractère quantifiable, substantiel et opportun des gains d'efficacité.

Le caractère « opportun » est particulièrement important pour les gains d'efficacité dynamique, qui ne portent parfois leurs fruits qu'au bout de plusieurs années. Toutefois, plus les avantages prévus s'inscrivent sur un horizon lointain, plus les parties auront des difficultés à fournir des preuves satisfaisantes. Un coefficient d'actualisation sera alors appliqué aux avantages futurs allégués et en général, plus ils seront censés se matérialiser à long terme, plus on estimera qu'ils tiennent de la spéculation. On en vient donc à un nouvel élément d'appréciation – la vérifiabilité. Les autorités cherchent habituellement à savoir s'il existe des éléments suffisants pour vérifier par des moyens raisonnables la probabilité d'occurrence et l'ampleur des gains d'efficacité déclarés.

Le pessimiste semble être de mise, du moins en ce qui concerne la quantification. Les approches qualitatives des gains d'efficacité dynamique peuvent néanmoins produire des résultats plus intéressants, de sorte que de nombreux organismes les privilégient. Ainsi, le document « Fusions – Lignes directrices pour l'application de la loi » publié par le Bureau de la concurrence du Canada indique que le Bureau examine habituellement les gains d'efficacité dynamique sous un angle qualitatif. Il est très instructif d'étudier dans quelle mesure les parties à l'opération ont réussi à fusionner avec les partenaires à une précédente transaction et les entreprises ont su transformer la R-D en innovations performantes, et de se demander si l'une de leurs innovations est attribuable aux synergies résultant des fusions passées. Il peut aussi être utile d'analyser les caractéristiques du secteur d'activité concerné – en se demandant notamment ce qui favorise l'innovation et si la fusion aidera la nouvelle entité à tirer parti de ces facteurs. Enfin, savoir si la fusion associe des technologies substituables ou complémentaires présente également un intérêt puisque dans la R-D, les gains d'efficacité sont généralement supérieurs lorsqu'on associe des actifs technologiques complémentaires. On peut donc promouvoir la réalisation de ces gains d'efficacité en adoptant une approche plus souple envers les fusions verticales et hétérogènes.

- (5) *En tout état de cause, accorder une plus large place aux gains d'efficacité dynamique dans l'analyse des fusions n'en modifierait les résultats que dans un nombre infime de cas.*

Pour diverses raisons, le fait que traditionnellement, les tribunaux et les autorités n'aient guère prêté attention aux gains d'efficacité dynamique n'a peut-être pesé que sur un nombre relativement faible de fusions. En effet, les parties à la fusion ont eu elles aussi tendance à ne pas tenir compte des gains d'efficacité dynamique. Plusieurs autorités de la concurrence n'ont

simplement jamais traité d'affaire dans laquelle les parties tentaient d'avancer un argument en se fondant sur des gains d'efficacité dynamique. Plusieurs délégations estiment que même lorsque les parties présentent de tels arguments, les gains d'efficacité allégués de toute nature ont rarement l'ampleur et la crédibilité nécessaires pour infirmer la conclusion selon laquelle la concurrence s'en trouverait par ailleurs sensiblement diminuée. Certaines délégations ont fait référence à des études empiriques montrant que la plupart des fusions n'aboutissent probablement pas à des gains d'efficacité. De plus, d'autres délégations ont jugé que la grande majorité des fusions susceptibles de générer d'importants gains d'efficacité dynamique ne suscitent du reste aucune préoccupation majeure du point de vue de la concurrence. Plus précisément, les régimes de protection (seuils de concentration) prévus par la plupart des lignes directrices relatives aux fusions ont tendance à ménager les fusions d'entreprises dont les actifs se complètent plus qu'ils ne se chevauchent. On a ainsi fait valoir que le nombre de cas où une intervention réglementaire a fait obstacle aux gains d'efficacité dynamique est limité.

BACKGROUND NOTE

1. Introduction

Generally speaking, dynamic efficiencies are synergies that enable firms to improve their performance, whether in terms of cost, quality, service, or variety, on a continuing basis. Efficiencies that enhance the ability or incentive to innovate, for example, are considered dynamic. Static efficiencies, in contrast, enable improvements that occur only once. Economies of scale in production, for instance, are a static efficiency.

An evolution in economic thinking about efficiencies began in the 1970s and has influenced competition policy in more and more jurisdictions in recent years. Competition law enforcement agencies and courts have gone from ignoring efficiencies or even being hostile toward them to taking a more favourable view of their value to society. Yet despite the increase in respect for efficiencies, there continues to be a reluctance to incorporate them into merger analysis, not so much because it is still thought that efficiency-enhancing mergers are bad for competition, but because it is so difficult to gauge the efficiencies themselves. That reluctance is even greater with respect to dynamic efficiencies than it is with respect to static ones. It is challenging enough to make a prospective determination about whether a merger will lead to static efficiencies and how such efficiencies will compare with any anti-competitive effects the merger is expected to cause. The problem becomes much harder when one is trying to predict a merger's dynamic effects, which will occur – if at all – over several time periods and may be more abstract in nature.

Nevertheless, as a 2002 Background Note observed, some commentators have made the criticism that agencies pay too much attention to static efficiencies and short-run price competition in their merger reviews. Dynamic efficiencies and non-price competition, the critics say, must be given a greater role, especially in markets where consumers may have considerably more to gain through innovation than through lower prices on existing products.¹ That body of criticism has grown during the past five years and has led most recently to a recommendation by the US Antitrust Modernization Commission that greater weight be given to efficiencies that promote innovation.²

These commentators are on solid ground in the sense that it is clear that innovation is vital to economic growth and welfare. Joseph Brodley has stated that innovation efficiency “provides the single most important factor in the growth of real output in the industrial world.”³ The OECD has likewise concluded that innovation is responsible for most of the increase in material standards of living that has taken place since the industrial revolution.⁴ It seems likely that dynamic efficiencies have a considerably

¹ OECD, “Merger Review in Emerging High Innovation Markets,” DAF/COMP(2002)20, Background Note at 22 (citing Michael Porter, “Competition and Antitrust: Toward a Productivity-Based Approach to Evaluating Mergers and Joint Ventures,” 46 *Antitrust Bulletin* 919, 934 (2001)).

² Michael Katz & Howard Shelanski, “Mergers and Innovation,” 74 *Antitrust Law Journal* 1, 3 (2007); US Antitrust Modernization Commission, Report and Recommendations at 10 (April 2007).

³ Joseph Brodley, “Proof of Efficiencies in Mergers and Joint Ventures,” 64 *Antitrust Law Journal* 575 (1996) 581.

⁴ OECD, *Going for Growth* (2006) at 56.

greater potential to benefit consumers than static efficiencies have. Therefore, it would be desirable – in an ideal world – for dynamic efficiency considerations to feature more frequently and more prominently in merger decisions. The real-world problem is that no one has figured out a robust way to do that yet, and rather than engage in speculation, agencies and courts have shown a quite reasonable tendency to avoid dynamic efficiency analysis. In doing so, they are willingly but understandably ignoring a powerful influence on society's welfare.

This Note explores various ways in which mergers can create or enhance dynamic efficiencies and the difficulties inherent in assessing them. While it offers no immediate answer to the question of how to deal with them, it aims to give readers a better understanding of the problem in the hope of making it easier to move toward a solution. This Note does not cover the ways in which mergers can harm innovation or the related concept of innovation markets.

Part 2 briefly explores how the treatment of efficiencies by courts and agencies has changed over time. It also reviews the basic theoretical reasoning supporting the incorporation of efficiencies in merger review and presents various types of dynamic efficiencies. Part 3 discusses how dynamic efficiencies tend to be treated under enforcement agencies' merger guidelines, describes the difficulties inherent in measuring and analysing dynamic efficiencies, and offers some practical considerations for a qualitative analysis. Finally, it covers several scholars' suggestions for decisional frameworks that courts and agencies can use.

The main points of this paper are:

- There was a time when courts and competition enforcement agencies tended to view merger efficiencies as either irrelevant or as a basis for blocking transactions. It was believed that large combinations were likely to be harmful regardless of any arguments that could be made about their actual economic effects. Sometimes that belief was motivated by an ideal of markets populated by numerous small businesses. Sometimes it stemmed from a concern that consumers would ultimately suffer if some firms were allowed to gain efficiency advantages over their rivals by acquiring other firms. The popularity of this point of view began to ebb after theoretical work showed that merger efficiencies could make society better off in some cases even if the merger also created or strengthened market power. Today, efficiencies are commonly viewed as factors that favour allowing mergers rather than disallowing them.
- Dynamic efficiencies are processes that occur over time and lead to progressively lower costs, new products, or improved products. Learning by doing, eliminating redundant research and development expenditures, and achieving economies of scale in R&D are all examples of dynamic efficiencies. Whereas static efficiencies relate to a particular point in time, dynamic efficiencies relate to evolutionary forces like R&D, which can occur and have effects in multiple time periods.
- In practice, efficiencies are relevant in merger analysis only when there is a concern that the transaction is otherwise anticompetitive. The burden of establishing the likelihood and extent of the efficiencies usually falls upon the merging firms. Competition agencies typically consider several factors to determine how much weight, if any, to assign to alleged efficiencies. These include merger specificity (meaning there are no less anticompetitive but reasonable ways to achieve the efficiencies), whether at least some of the benefits of the efficiencies will be passed on to consumers, whether the efficiencies will lower fixed costs or variable costs (with a preference for variable cost reductions), effects in other markets, and the degree to which the efficiencies are substantial, quantifiable and verifiable.

- Dynamic efficiencies have especially strong potential to compensate for anticompetitive features of mergers. Unfortunately, dynamic efficiencies also tend to be extremely difficult to identify, substantiate, and measure, making their incorporation in merger analysis problematic. A number of factors are responsible for that complexity. They include the uncertainty inherent in innovative activity regarding its cost, timing, and likelihood and extent of commercial success, difficulties in measuring innovation itself, the problem of how to conceptually transform innovation into some measure of welfare, the challenge of comparing near-term price effects with long-term non-price effects such as quality improvements or new products, several other quantification problems, and informational asymmetry between the merging parties and the enforcement agencies.
- On the whole, a pessimistic view of the prospects for quantifying dynamic efficiencies appears to be warranted. A qualitative approach may provide at least moderately useful results, though. Much can be learned by studying how well the merging parties have integrated with previous merger partners, how adept the companies have been at turning R&D into successful innovations, and whether any of their innovations are attributable to synergies from past mergers. It is also worthwhile to study characteristics of the relevant industry, particularly what encourages innovation and whether the merger will help the combined firm to capitalise on those factors. In addition, it may be helpful to determine what kinds of product development consumers want to see since that will bear on how valuable the claimed efficiencies are. Finally, it matters whether the merger will combine substitute or complementary technologies, since R&D efficiencies tend to be stronger when complementary technological assets are combined. Therefore, one way to promote the realisation of those efficiencies is to take a light-handed approach to vertical and conglomerate mergers.
- Although dynamic efficiency claims have not been given much of a role in merger decisions to date, calls for that to change are becoming more frequent. Over the years, scholars have suggested a handful of specific ways to take dynamic efficiencies into account. Most of them apply to efficiencies in general, not just to the dynamic variety. For example, some commentators favour a *laissez faire* approach, under which efficiencies would never be given any consideration in individual cases. Instead, the idea is simply to have faith that the safe harbours built into merger guidelines' concentration thresholds will get the efficiencies question right in the majority of cases. Another idea is to condition merger approval on the firms' agreement to a set of undertakings designed to ensure that the claimed efficiencies will be realised. A "wait and see" approach has also been recommended, which would give agencies the option of permitting mergers tentatively, on the condition that the claimed efficiencies actually occur. If, after a certain period, the efficiencies are not realised, the agency can revoke its tentative approval. One other idea is to forego any attempts to perfect the analysis of dynamic efficiencies anytime soon, but rather to study the outcomes of cases in the hope of attaining better understanding in the long term. Through intermittent audits, agencies would be able to tell whether the theories and assumptions they made about dynamic efficiencies in past cases were valid, helping them to learn from their successes and mistakes. Those lessons could then be applied in subsequent cases. All of these ideas have certain advantages, but they also have substantial disadvantages. It does not appear likely that the question of how dynamic efficiencies can be systematically incorporated in merger analysis will be answered in the near future.

2. What are dynamic efficiencies?

2.1 *Background: Efficiencies in General*

An introduction to efficiencies in general will help to set the stage for the subset known as dynamic efficiencies. Most mergers are undertaken because the parties believe that combining their businesses will produce certain synergies that will lead to better performance, whether in the form of lower costs, higher quality, new products, or something else. Those synergies are called efficiencies. A common example of a merger efficiency is the ability to make better use of previously underutilised capacity by combining the operations of two companies.

2.1.1 *The Evolution of Attitudes Toward Efficiencies*

Today, agencies in most if not all OECD jurisdictions recognise that mergers having some anticompetitive aspects should be permitted if they would also lead to efficiencies that are more significant than the anticompetitive harm. That principle can be found, for example, in the EC Horizontal Merger Guidelines, the US Horizontal Merger Guidelines, and the Canadian Competition Act. This was not always the case. For many years competition agencies and courts – at least on both sides of the Atlantic – were indifferent or even opposed to efficiencies.

The Alcoa decision typified the mid-20th century attitude toward efficiencies in the United States. Judge Hand's opinion states that the antitrust laws' constraints on mergers are "based upon the belief that great industrial consolidations are inherently undesirable, regardless of their economic results."⁵ A passage in the Supreme Court's Brown Shoe decision looks equally askew to the modern practitioner's eye:

[W]e cannot fail to recognize Congress' desire to promote competition through the protection of viable, small, locally owned businesses. Congress appreciated that occasional higher costs and prices might result from the maintenance of fragmented industries and markets. It resolved these competing considerations in favour of decentralization.⁶

The European Commission set an unreceptive tone toward efficiencies in 1991 when it blocked the Aerospatiale-Alenia/de Havilland merger and reasoned that, although it would create some efficiencies, they would only strengthen the combined firm's ability to act independently of its competitors.⁷

Even as the EC was issuing that decision, however, changes were afoot in other agencies and courts, where a new outlook on efficiencies had begun to take hold. Eventually, that new point of view spread to Europe and beyond. In the US, even though the Supreme Court had not officially renounced its old stance,

⁵ United States v. Aluminum Company of America, 148 F.2d 416, 428 (2d Cir. 1945).

⁶ Brown Shoe Company v. United States, 370 U.S. 294, 344 (1962). For an example of outright antagonism toward efficiencies, see *Foremost Dairies*, 60 F.T.C. 944 (1962) (finding that Foremost's pattern of growth via acquisitions in new geographic areas gave the company advantages in size and operations that enabled it to "strike down its smaller rivals with relatively little effort or loss in overall profits" and concluding that mergers are unlawful when it can be shown that the acquirer's "overall organization gives it a decisive advantage in efficiency over smaller rivals"). *Id.* at 1084, 1087.

⁷ Case IV/M53, 1991 O.J. (L 334) 42. This tone extended to cases with dynamic efficiency implications, such as AT&T/NCR, in which it was acknowledged that the merger might advance innovation. It was prohibited nonetheless on the ground that it would create and seal off a dominant position in one future market and would hinder competition in another. *MSG Media Service* (Case IV/M469), Commission Decision 94/922/EC [1994] OJ L 364/1 para. 100ff.

lower courts began to appreciate that efficiencies are actually pro-competitive. For example, in the 1991 decision *FTC v. University Health, Inc.*, one appellate court wrote that “evidence that a proposed acquisition would create significant efficiencies benefiting consumers is useful in evaluating the ultimate issue – the acquisition’s overall effect on competition.”⁸ The evolution in the treatment of efficiencies can also be seen by comparing successive versions of some competition agencies’ merger guidelines. The progression is fairly continuous in editions of the US Merger Guidelines, beginning in 1982.⁹ A less gradual shift is apparent in the EC Horizontal Merger Guidelines, which explicitly acknowledged efficiencies as a decisional factor for the first time in 2004 and dedicated a separate chapter to them.¹⁰ Most recently, the Japanese Fair Trade Commission amended its merger guidelines, adding a more detailed description of how efficiencies – including dynamic efficiencies – are evaluated.¹¹

Despite these developments, some critics assert that the new perspective on efficiencies has largely been limited to a theoretical or hypothetical level.¹² Courts and agencies appear to be reluctant to incorporate efficiencies in their decisions, particularly when they are hard to quantify. As we will see, one of the hallmarks of dynamic efficiencies is that quantifying them is usually difficult.

2.1.2 Basic Theory of Efficiencies

Kolasky and Dick identify four different types of efficiencies:

- *Allocative efficiencies* cause society’s resources to be allocated closer to their highest valued use. More precisely, they lead firms to adjust their level of output so that it is closer to the point where marginal cost equals the value that consumers place on the last unit produced. One of the main virtues of competition is that it drives markets toward allocative efficiency by making it harder for firms to price above long-run marginal cost.
- *Productive efficiencies* are cost savings that allow firms to produce more output, or higher quality output, from the same amount of input. Another way of describing the concept is to say that

⁸ 938 F.2d 1206, 1222 (11th Cir. 1991).

⁹ Efficiencies were recognised in the 1982 DOJ guidelines, but rather grudgingly, as they were considered only in “extraordinary cases” when the parties could furnish clear and convincing proof of substantial cost savings. The 1984 DOJ guidelines at least nominally backed away from the chilly tone in the 1982 version, but retained the “clear and convincing” requirement. That requirement was eliminated in the 1992 joint FTC/DOJ version, and in 1997 there appeared both an explanation of how efficiencies can make firms more competitive and an expanded list of efficiencies’ positive effects. For more information on the history of efficiencies in the US Merger Guidelines, see William Kolasky & Andrew Dick, “The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers,” 71 *Antitrust Law Journal* 207 (2003).

¹⁰ Guidelines on the Assessment of Horizontal Mergers under the Council Regulation on the Control of Concentrations between Undertakings (EC) OJ C31/03 (hereafter, “EC Guidelines”) [76-88]. Notably, the latest EC Merger Regulation contains a (non-binding) recital expressly calling for efficiencies to be taken into account and noting the possibility that “efficiencies brought about by the concentration [could] counteract the effects on competition, and in particular the potential harm to consumers, that it might otherwise have, and that, as a consequence, the concentration would not significantly impede effective competition[.]” Recital 29, Council Regulation (EC) 139/2004 of 20 January 2004 on the Control of Concentrations between Undertakings (the ECMR) [2004] OJ L24/1.

¹¹ Japanese Fair Trade Commission, Guidelines to Application of the Antimonopoly Act Concerning Review of Business Combination, (28 March 2007).

¹² See, e.g., Thomas Leary, “Efficiencies and Antitrust: A Story of Ongoing Evolution,” speech before the ABA Section of Antitrust Law (Washington, D.C.: 8 November 2002), p. 1.

productive efficiencies enable firms to produce at the lowest possible total cost. Another virtue of competition is that it encourages businesses to achieve productive efficiencies and use them to operate as efficiently as possible, since competition will eliminate inefficient firms from the market. Examples of productive efficiencies include savings from economies of scale or scope, rationalising the product mix among plants or transferring superior production techniques, as well as savings in non-manufacturing activities such as distribution.

- *Dynamic efficiencies* are processes that occur over time and lead to lower costs, new products, or improved products. Common examples include innovation and learning by doing. Whereas allocative and productive efficiencies relate to a particular point in time and are therefore considered “static,” dynamic efficiencies relate to evolutionary forces like research and development which can occur and have effects in multiple time periods.
- *Transactional efficiencies* enable firms to lower the cost of completing sales, purchases, and other business dealings. When firms that produce complementary goods merge, for example, they should be able to lower their costs by eliminating the need to negotiate contracts between themselves.¹³

Much of the attitudinal shift described in Part 2.1.1. occurred as a result of work by the economist Oliver Williamson. In a now-classic 1968 article, Williamson articulated the theoretical basis for including efficiencies as a pro-competitive factor in merger analysis.¹⁴ Using a fairly simple diagram and a model that is elementary by today’s standards, he proved that static efficiency gains can easily outweigh post-merger deadweight loss due to monopoly pricing. As a result, agencies and courts eventually faced the fact that a rational merger policy had to consider the benefits of efficiencies.

Williamson’s diagram is reproduced in Figure 1. Line AC_1 represents the merging firms’ pre-merger average costs. AC_2 depicts post-merger average costs, which are lower to reflect the static efficiencies that Williamson assumed to illustrate his point. It is also assumed that the two firms have no market power when they operate separately, so they are able to charge no more than the competitive price P_1 before the merger. Post-merger, and now with market power, the combined firm is able to charge price P_2 .¹⁵ The net allocative welfare effects are represented by the two shaded areas. Triangular area A_1 is the deadweight loss resulting from monopoly-level pricing (with the assumption that costs remained constant). But given the merger’s static efficiencies, average costs will decline to AC_2 so that rectangular area A_2 portrays the associated savings. The net allocative effect, then, would be area $A_2 - A_1$. Of course, Williamson assumed a certain elasticity of demand, a certain level of costs savings, etc., so this result is just one possibility among many. The point is that it is a plausible result for some mergers, so efficiencies need to be considered.

Williamson would permit mergers that, on balance, increase “total surplus” despite any increase in price above the competitive level. In other words, the cost savings resulting from efficiency gains generated by the merger would “only” have to be greater than the deadweight loss associated with the expected anticompetitive price increase. Williamson ignores the wealth transfer A_3 from consumers to the monopolist because the total surplus standard treats that transfer as a neutral event. In other words, to Williamson, a gain to producers is just as beneficial as a gain to consumers.

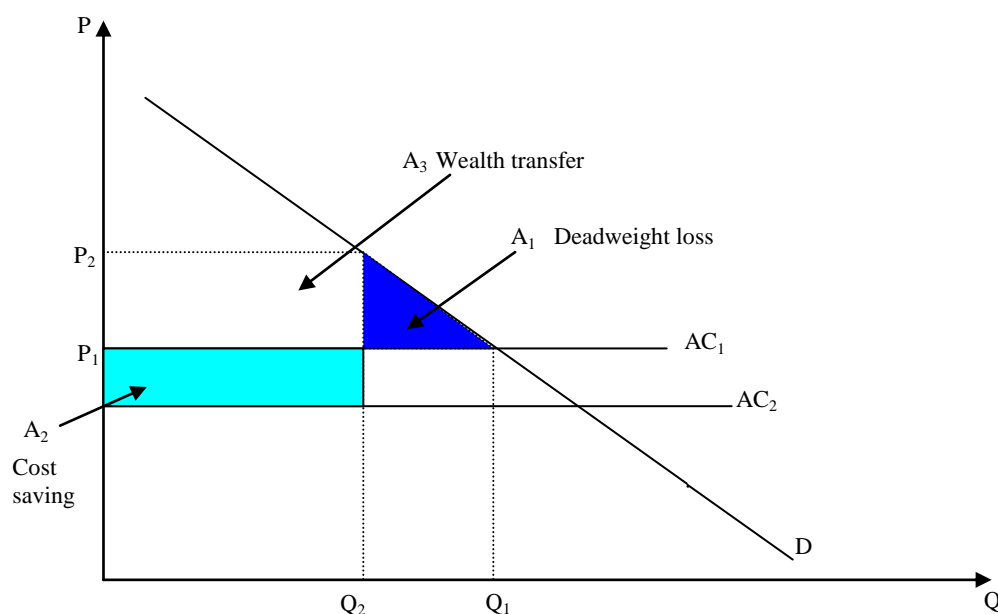
¹³ Kolasky & Dick, *supra* note 9 at 208, 242-251.

¹⁴ Oliver Williamson, “Economies as an Antitrust Defense,” 58 *American Economic Review* 18 (1968).

¹⁵ P_2 is determined by identifying the point where the marginal revenue curve (not shown in the diagram) intersects with the new marginal cost curve, which is identical to line AC_2 in this example, and then drawing a vertical line up to the demand curve D from that point.

Figure 1's implications would be different under the consumer welfare standard, which not only treats wealth transfers from consumers to producers as harmful events, but ignores cost savings that are not passed on to consumers. Therefore, under that standard, cost savings are deemed insufficient unless AC_2 drops so much that the post-merger price is no higher than P_1 .¹⁶ Another way of stating this is that the consumer welfare standard requires at least price-neutrality, or better yet, a price decline. Notice that the consumer welfare standard ordinarily requires greater efficiencies than the total surplus standard.

Figure 1.



Having sketched out the basics of the diagrammatic comparison between static efficiencies and harmful merger effects, we may turn to dynamic efficiencies. To depict them, Figure 1 would have to be reconfigured in one or more ways. First, if the dynamic efficiencies are the type that lower costs again and again for an existing product (such as learning by doing), there would be a series of average cost lines drawn lower and lower on the vertical axis. One implication is that, unlike static efficiencies, dynamic efficiencies that do not initially overcome the deadweight loss (or the deadweight loss plus the wealth transfer to producers) still have a chance to do so over time.

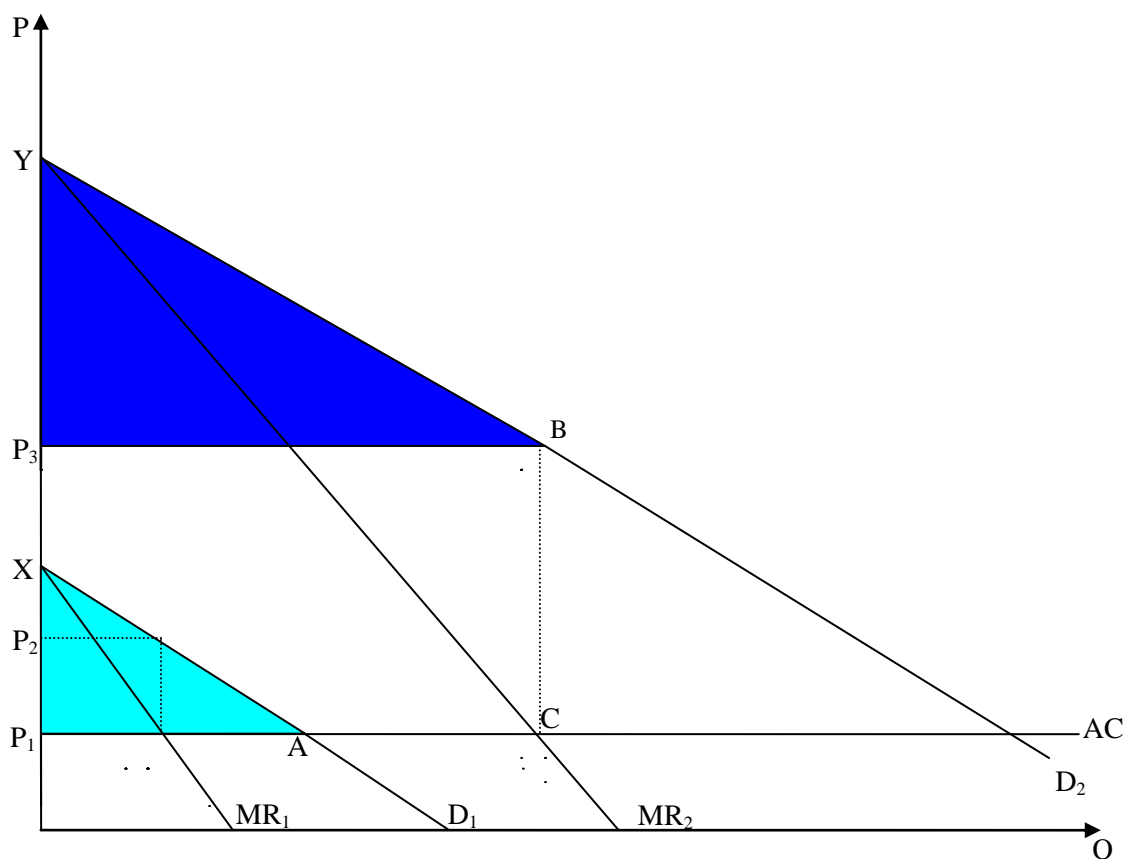
Second, if the dynamic efficiencies enable the combined firm to make higher quality versions of the current product at the same cost, then the demand curve D would shift outward. Continuing quality improvements would translate into a series of demand curves drawn further and further above and to the right of the original demand curve. If the demand curve shifts in a parallel fashion, the post-merger price

¹⁶

As the average cost curve shifts lower and lower, not only does area A_2 become larger and larger, but the deadweight loss and the wealth transfer area above A_2 shrink because the merged firm will produce more output to maximise its profit (given an elastic demand curve as shown), even though it is a monopolist. Eventually, if costs drop far enough, the deadweight loss and wealth transfer may disappear (which occurs when P_2 equals P_1).

will rise above P_2 , yet even if we consider only consumer effects (rather than total surplus), consumers may be far better off than they were before the merger. See Figure 2.

Figure 2.



Prior to the merger, the market is competitive and price = AC = P_1 . Consumer welfare is represented by the triangle XP_1A . Immediately after the merger, the combined firm has market power and charges price P_2 . Over time, however, the merger's dynamic efficiencies enable the firm to raise the quality of its product without incurring additional costs. Therefore, AC remains constant but the demand curve begins to shift outward. Suppose that after two or three years the demand curve arrives at position D_2 . There, the firm will set price P_3 . Consumer welfare is now represented by the triangle YP_3B . It can be seen that consumer welfare, though not nearly as large as it would be under perfectly competitive pricing, has nevertheless become larger than it was in the pre-merger period, reflecting the substantial value created by the firm's quality improvements.¹⁷ In such cases an insistence that prices not rise would no longer correspond well with the consumer welfare standard – at least, not when one accounts for effects that can take several time periods to develop.

¹⁷ Technically, triangle YP_3B should be reduced by some degree to reflect the application of a discount rate. However, if the discount rate is not very high, if the quality improvements do not take very long to materialise, or if the demand curve shifts out enough, that reduction will not affect the outcome very much. Note also that under the total surplus standard the merger's net benefit would be viewed as being much bigger. Total surplus would grow from triangle XP_1A before the merger to area YP_1CB when demand reaches D_2 .

Third, if the dynamic efficiencies lead to the development of a totally new product (or products), then we would need an entirely new diagram with different cost curves and a different demand curve. Consumer surplus would be represented by the triangular area under the demand curve and above the price. Producer surplus would be the rectangular area between average cost and price on the price axis, and between zero and the equilibrium quantity on the quantity axis. Under either the total surplus or the consumer welfare standards, a whole new area of surplus would spring into existence.

The emphasis of Williamson's basic static model was on cost and price in one market. When a merger leads to non-price effects or effects in other markets, however, his model needs a number of adjustments. The information required to make those adjustments would be quite substantial. Even in Williamson's relatively simple, static world, it would be no easy feat to make the trade-off he depicts because it calls for data that are hard to obtain. For example, the size of the deadweight loss depends on the elasticity of demand for the relevant product and the anticipated price increase. Ordinarily, those values cannot be known precisely, so any calculations would have to be performed for a range of assumed data.

2.2 *Types of Dynamic Efficiencies*

As noted above, dynamic efficiencies are generally considered to be processes that occur over time and lead to lower costs and new or improved products. The following list contains some examples of possible dynamic efficiencies.

1. *Learning by doing.* Learning by doing is simply what happens when firms get better at what they do by gaining experience doing it. Over time, they may learn new ways to minimise their costs or make improvements to their products.
2. *Upgrading management.* It is sometimes claimed that dynamic efficiencies occur when the acquiring company has an excellent management team that replaces the target company's inferior team, making possible a sustained improvement in performance. This is a somewhat controversial claim. First, it may or may not be merger-specific, depending on whether there are any other management teams that could do at least as well but who do not work for companies that overlap (or overlap as much) with the target firm. Second, empirical studies cast some doubt on this claim.¹⁸
3. *Combining complementary distribution or marketing assets.* Some vertical mergers may bring complementary assets together in a way that causes products to reach consumers faster. This includes possibilities such as improved product distribution logistics brought about by the combined company's greater geographic coverage, or the benefits of combining a company with an excellent R&D program with a company whose strength is marketing.
4. *Elimination of duplicative R&D.* If the two merging firms are devoting resources to the same research, there is an obvious potential for cost savings. If the combined firm uses those savings to fund other innovation efforts, dynamic efficiencies may result. There are some pitfalls in such claims, though. First, although the two companies may have been trying to reach the same end result, they may have been going about their research in different ways. Since one of those ways may turn out to be superior to the other, there might be some value in keeping the two programs separate and funding both of them rather than risk eliminating the wrong program. It is therefore important to verify that the two allegedly duplicative research projects are truly duplicative, not just in objective but in method. Second, it is possible that competition that will be lost as a result of the merger was a driving force behind the two companies' research efforts. If so, the merged

¹⁸ See, e.g., Robert McGuckin & Sang Nguyen, "On Productivity and Plant Ownership Change: New Evidence from the Longitudinal Research Database," 26 *Rand Journal of Economics* 257 (1995).

firm may lose some or all of its incentive to continue the research, or it may opt to pursue it less aggressively.

5. *Economies of scale and scope in R&D.* When two companies' research programs are combined, their R&D assets might accomplish more than they would have if the programs had remained separate. For example, one program might benefit from gaining access to a certain piece of equipment that the other company's lab has but that the first company would have considered too expensive for it alone to buy. Unless the first company's program is keeping that equipment in use around the clock, there will be an opportunity to use it more fully after the merger. Alternatively, the two programs together might be able to use a new research tool enough to justify purchasing it, whereas neither company would have bought the tool for itself alone. Another possibility – and probably the most frequently occurring one – is that the two companies have complementary R&D assets and can reduce transaction costs by merging.
6. *Joint exploitation of intellectual property.* Ordinarily, exploiting IP more fully is as easy as agreeing to a licensing arrangement. In some cases, however, a merger may be the only arrangement that can persuade a firm to share its IP with another firm. The IP holder may believe its IP is worth more than anyone else does, for example, so it may insist on fees that no other firm is willing to pay. Alternatively, it may believe that allowing another company to use its IP would enable the other firm to accomplish further innovation that would eventually displace the licensor's technology.
7. *Better R&D risk spreading.* If both of the merging parties are currently profitable, they may perceive a lower risk for each contemplated R&D investment because those investments can be spread over a larger revenue and income base, thereby lowering the relative impact of failures on the combined company. That, in turn, may give the merged firm a greater incentive to fund R&D projects.
8. *Better IP enforcement.* Small firms are less likely than larger firms to have the resources necessary to fund legal actions aimed at protecting their IP. Research has shown that the probability a firm will file a lawsuit to enforce its patent rights is negatively related to the number of patents the firm owns, and that this effect is stronger for smaller firms.¹⁹ This phenomenon is not helpful to the incentives that small firms have to innovate. Consequently, when a merger enhances the merging parties' ability to enforce their IP portfolios, their incentives to innovate may increase, too.
9. *Increased financial resources with which to fund R&D.* When firms' financial resources are combined, they may undertake more research projects for a variety of reasons. As a larger entity, the combined firm may find that it has greater access to capital markets or is able to borrow money at lower interest rates. With a lower cost of capital, the firm may be able to afford more research projects in general. If so, it may invest more money in its research equipment, facilities, and personnel. It may also be willing to fund projects with somewhat lower expected returns than the individual parties would have been willing to fund. Furthermore, if the merger involves a large company with plenty of cash on hand and a smaller, research-oriented firm without much capital, the whole point of the merger may have been to fund the smaller firm's work – especially if the larger firm is uniquely situated to understand and estimate the potential value of the smaller firm's ideas.

¹⁹ Jean Lanjouw & Mark Schankerman, "Protecting Intellectual Property Rights: Are Small Firms Handicapped?" 47 *Journal of Law and Economics* 45 (2004).

It is not necessarily a good idea to assume that any of those effects will happen in every case. Instead, the better course is probably just to bear them in mind as possibilities in a fact-based, case by case approach. The reason a blanket presumption is unwarranted is that it is not clear that greater firm size generally causes more innovation. Some studies have shown that R&D activity does rise in proportion to firm size, but only up to a point. Others indicate that firm size is merely correlated with R&D, not causally related to it, and that other factors are the real drivers of R&D activity.²⁰ Still others show that large firms are no more productive at all than smaller ones in terms of creating patents, which are one possible measure of innovation. In fact, on the basis of patent output per employee and per amount spent on R&D, small firms actually produce more innovations than large ones.²¹ As for the point about financial resources in particular, a counterpoint is that some mergers actually create cash-flow crunches that wind up reducing R&D investments. This might happen, for example, in a highly leveraged acquisition.²²

10. *Standard-setting.* By facilitating or accelerating the adoption of an industry standard, a merger might increase confidence in that standard and make innovation that is based on it more profitable than it would have been in a splintered market. In this case, the ensuing innovation may come from other firms, as well as the merging firms.
11. *Schumpeter effect.* Finally, there may be a very general innovation efficiency associated with mergers that increase concentration significantly. This is the Schumpeterian argument that market power stimulates innovation. In a nutshell, the theory holds that firms with market power tend to innovate more than firms without it, but that all market power is temporary because of the process of creative destruction through innovation.²³ If correct, this theory would imply that every concentration-enhancing merger should automatically be credited with some degree of dynamic efficiency. It is not clear, however, whether Schumpeter was right.²⁴

There may, for example, be an inverse-U shaped relationship between concentration and innovation. If that is right, then it might be the case that some mergers should automatically receive credits while others should receive demerits in the dynamic efficiency category. However, implementing such a policy would require detailed knowledge of not only the shape of

²⁰ Richard Levin, Wesley Cohen & David Mowery, "R&D Appropriability, Opportunity, and Market Structure: New Evidence on Some Schumpeterian Hypotheses," 75 *American Economic Review Proceedings* 20 (1985); Wesley Cohen & Richard Levin, "Empirical Studies of Innovation and Market Structure" in Richard Schmalensee & Robert Willig (eds.), 2 *Handbook of Industrial Organization* 1074 (1989).

²¹ Katz & Shelanski, *supra* note 2 at 52 (citing Zoltan Acs & David Audretsch, "R&D, Firm Size, and Innovative Activity," in Acs & Audretsch (eds.), *Innovation and Technological Change: An International Comparison* (1991)).

²² See Bronwyn Hall, "The Impact of Corporate Restructuring on Industrial Research and Development," 1990 *Brookings Papers on Economic Activity, Microeconomics* 85 (1990) (examining the effects of debt financing on innovation in a substantial sample of mergers and concluding that the evidence is neither clearly negative nor clearly positive).

²³ One might argue that no such general efficiency should be recognised because any synergies that are due to the mere fact that concentration levels increase as a result of a merger would not be merger-specific (see Part 3.1.1 below for an explanation of merger specificity), provided that other, similar merger partners or groups of partners exist. On the other hand, mergers with similar merger partners or groups of partners are still mergers. Therefore, even though Schumpeterian efficiencies might not be specific to a particular merger partner, they could still be specific to the merger process in general.

²⁴ OECD, "Patents, Competition and Innovation" (forthcoming).

the relevant market's inverse U curve, but the market's correct pre- and post-merger positions on it. It is also possible that the inverse U theory is wrong, or that it applies in some industries but not in others. For now, at least, it does not appear that any presumption about efficiencies based on the general relationship between market structure and innovation is warranted.²⁵

3. The treatment of dynamic efficiencies under merger guidelines

3.1 Formal Considerations

In practice, efficiencies are relevant in merger analysis only when there is a concern that the transaction is otherwise anticompetitive. After the relevant market(s) have been defined and market shares have been determined, if it appears that a merger will raise concentration levels to a point where there is cause for concern about the transaction's effects on competition, then agencies will typically conduct a competitive effects analysis. If their analysis indicates that anticompetitive effects are expected to be non-existent or small, then there is no need to go further; the merger is approved. Only if the analysis confirms that there will likely be substantial anticompetitive effects will efficiencies be evaluated, either as a possible offset of those effects or as part of the final determination of whether the transaction should be considered anticompetitive on the whole. The burden of establishing the likelihood and extent of the efficiencies usually falls upon the merging firms.

Limiting the efficiencies inquiry to cases in which it appears that there might be an anticompetitive effect is sensible because it is usually quite difficult to identify and quantify efficiencies prospectively. It would make no sense to undertake those tasks when the merger is not expected to cause any harm. Moreover, placing the burden of proof regarding efficiencies on the merging firms is fair because they have better access to the relevant information.

When dynamic efficiency claims are relevant, competition agencies typically consider several factors to determine how much weight, if any, to assign to them. The focus here is on agencies, rather than courts, for the simple reason that efficiencies are rarely the determinative factor in court decisions. There is, in other words, a dearth of court decisions to work with, and there are very few cases indeed that hinge on dynamic efficiencies.²⁶ A number of competition authorities have issued merger guidelines that provide some indication of how they will evaluate efficiencies, though, and some include guidance especially for dynamic efficiencies. The following factors are commonly considered, though of course there are variations among different jurisdictions.²⁷

1. *Merger Specificity.* Because the consideration of efficiencies may, at least in principle, result in the approval of a merger that would otherwise be considered anticompetitive, the parties are usually required to show that there are no less anticompetitive ways to achieve the efficiencies. If alternatives such as internal expansion by one or both of the parties, other mergers with weaker

²⁵ Katz & Shelanski, *supra* note 2 at 22 (“The literature addressing how much market structure affects innovation (and vice versa) in the end reveals an ambiguous relationship”).

²⁶ More than ten years ago, the OECD Competition Committee held a roundtable on efficiencies in horizontal agreements. The Background Note for that roundtable observed that “in surprisingly few situations involving mergers has an enforcement decision explicitly turned on the efficiency-enhancing attributes of the transaction in question.” OECD, “Competition Policy and Efficiency Claims in Horizontal Agreements,” OCDE/GD(96)65, Background Note at 5 (1996). Not only does that remain true today, but the number of such merger decisions involving dynamic efficiencies is smaller still.

²⁷ Because it would be cumbersome and perhaps confusing to discuss many different sets of guidelines, to the extent that particular jurisdictions' guidelines are discussed here the focus is limited to those from two jurisdictions, the EU and the US.

anticompetitive effects, or more benign contractual arrangements between the parties would likely bring about the same efficiencies, then the efficiencies are not “merger-specific” and are disregarded.

A related issue is whether the parties should have to show that there is absolutely no other way to achieve the efficiencies that would be less anticompetitive than the proposed merger, as opposed to showing that there is no other way to do so that would actually be likely to happen. There appears to be general agreement that the parties should not have to justify excluding every possible alternative, however remote. The US Merger Guidelines, for example, define merger specific efficiencies as “efficiencies likely to be accomplished with the proposed merger and unlikely to be accomplished in the absence of either the proposed merger or another means having comparable anticompetitive effects. . . . Only alternatives that are practical in the business situation faced by the merging firms will be considered in making this determination; the Agency will not insist upon a less restrictive alternative that is merely theoretical.”²⁸

One reason for taking that more lenient approach is that there can be significant practical obstacles to seemingly “easy” alternatives, especially when the parties are competitors. For example, it may be unrealistic to expect partial co-ordination (such as a joint venture) between firms that are otherwise rivals to be as successful as it would be if they were fully joined. Without the complete unification of the firms’ operations, they may be reluctant to share their technology or their most able employees. Planned research projects might be stalled while the two firms argue repeatedly about whether each company is contributing enough. The best evidence of the feasibility of such arrangements may be industry practice in similar situations.

Merger specificity can be difficult to establish in high-innovation markets where strategic alliances are fairly common. Furthermore, many countries have liberal provisions for judging the permissibility of R&D joint ventures among competitors.²⁹ Both strategic alliances and joint ventures appear to reduce competition less than mergers would.

In any event, a good first step for determining whether innovation-related efficiencies are merger specific is to ask the parties how they expect the merger to improve their ability to innovate.³⁰ Then investigators can focus on whether the parties could obtain those claimed advantages through some other reasonable but less anticompetitive arrangement, such as a joint venture or an IP licensing agreement. If they could, that means society could gain the benefits of cooperation between the two firms without all of the competitive drawbacks of a merger. Consequently, the claimed efficiencies would not be counted.

2. *Pass-on Requirement.* Efficiency gains may enrich the merged firm, consumers, or both. It is not unusual for agencies to require that producers pass at least some of the gains on to

²⁸ U.S. Dept. of Justice and Federal Trade Commission Horizontal Merger Guidelines (hereafter, “U.S. Guidelines”) s. 4 (April 8, 1997). *See also* EC Guidelines [85] (“The Commission only considers alternatives that are reasonably practical in the business situation faced by the merging parties having regard to established business practices in the industry concerned”).

²⁹ For example, the U.S. National Cooperative Research and Production Act of 1993 is designed to foster efficiency-enhancing R&D and production joint ventures. 15 U.S.C. ss. 4301-05 (2000) (guaranteeing rule-of-reason rather than per se scrutiny so long as there are no ancillary restraints in the joint venture agreement, and limiting any antitrust awards to single-damages rather than the usual treble-damages if antitrust agencies are notified of the venture in advance).

³⁰ Katz & Shelanski, *supra* note 2 at 53.

consumers.³¹ This requirement is a product of the choice to use a consumer welfare standard in evaluating efficiencies. Under a total surplus standard it would be irrelevant whether cost savings are passed on to consumers. But in the majority of jurisdictions that have addressed the issue, court decisions as well as agency guidelines demand proof that cost savings from merger efficiencies will be passed on to consumers and will counteract an expected price increase due to the merger's effect on concentration.

The pass-on requirement can create a formidable dilemma for analysing some dynamic efficiencies, which may be very beneficial to consumers yet have no effect whatsoever on prices for existing products. It is possible that the merger will cause those prices to increase, yet the merger's positive influence on innovation may lead to completely new products that yield marvellous consumer welfare benefits. Another possibility is that dynamic efficiencies' cost savings may take many years to occur, at which point they could push prices down considerably. In such cases enforcers may face the question of how to handle a merger that is expected to cause an immediate price increase but also has a chance to lead to an even greater decline in price some years later.³²

3. *Lower Fixed Costs vs. Lower Variable Costs.* This issue is closely related to the pass-on requirement because it has to do with determining whether consumers are likely to benefit from lower costs. The analysis of static efficiencies often focuses on whether and how much variable costs decline because reductions in fixed costs do not affect profit-maximising prices, at least in the short run.³³ Therefore, for consumers to see any benefit from the alleged static efficiencies, *i.e.*, for their prices to decline, those efficiencies must generate variable cost savings.

In the context of innovation efficiencies, however, it is definitely possible for lower fixed costs to benefit consumers because such cost savings can motivate firms to undertake R&D projects that they previously considered too expensive or too risky. In fact, dynamic efficiencies such as combining complementary R&D inputs and eliminating duplicative ones reduce fixed costs. While those cost reductions do not necessarily benefit consumers immediately in the form of reduced prices, they can generate significant value for consumers in the longer term – in the form of new, improved, or lower-priced products –through the larger investments in innovation that they encourage. Therefore, as Katz and Shelanski have noted, “it is important that fixed costs not be summarily excluded from the efficiencies analysis when innovation is at issue.”³⁴

³¹ The EC Guidelines, for example, state that “[t]he relevant benchmark . . . is that consumers will not be worse off as a result of the merger.” *Id.* [79].

³² For suggestions on how to identify the portion of efficiencies that is likely to be passed through to consumers, see Gregory Werden, Luke Froeb & Steven Tschantz, “The Effects of Merger Efficiencies on Consumers of Differentiated Products,” 1 *European Competition Journal* 245 (2005). For a spirited criticism of the pass-on requirement, see Mitja Kocmut, “Efficiency Considerations and Merger Control – Quo Vadis, Commission?” [2006] *European Competition Law Review* 19, 24-25.

³³ Katz & Shelanski, *supra* note 2 at 54. What the authors mean is that, according to microeconomic theory, firms maximise their profits by producing the quantity of output at which their marginal revenue equals their marginal cost. The output decision is not affected by changes in fixed costs in the short run. In the long run, all costs are variable.

³⁴ *Id.* at 54-55; *see also* US Antitrust Modernization Commission, Report and Recommendations at p. 58 (April 2007) (“Failure to take account of and give proper weight to such [reductions in] fixed costs in evaluating a merger could deprive consumers and the U.S. economy of significant benefits from a procompetitive merger.”).

4. *Effects in Other Markets.* Mergers with dynamic efficiency aspects may raise concerns about anticompetitive effects in one market while creating plausible, substantial efficiencies in another market (or markets). This may happen, for example, when a merger is expected to facilitate the development of completely new products. Do agencies take such efficiencies into account? The EC Guidelines are ambiguous on this point. On the one hand, paragraph 79 expresses a non-committal preference for within-market efficiencies, stating that efficiencies “should, in principle, benefit consumers in those relevant markets where it is otherwise likely that competition concerns would occur.” On the other hand, paragraph 81 clearly recognises that consumers may benefit from new products or services, “for instance resulting from efficiency gains in the sphere of R & D and innovation.”

The US Guidelines also address efficiencies occurring in other markets, but do not provide any bright lines, either. They note that efficiencies outside the relevant market may be taken into account at the agency’s discretion, but warn that they are rarely a significant factor. “They are most likely to make a difference when they are great and the likely anticompetitive effect in the relevant market(s) is small.”³⁵ The joint DOJ and FTC “Commentary on the Horizontal Merger Guidelines” contains an example in which out-of-market efficiencies were taken into account and as a result, a merger was not challenged.³⁶

5. *Quantification.* This will typically be one of the most difficult conditions for a dynamic efficiencies claim to meet. The US Guidelines, for example, require the merging firms to substantiate their efficiency claims so that the efficiencies’ magnitudes (among other things) can be *verified*. “Efficiency claims will not be considered if they are vague or speculative of otherwise cannot be verified by reasonable means.”³⁷

The EC Guidelines also mention quantification, but do not strictly require it: “Where reasonably possible, efficiencies and the resulting benefit to consumers should [] be quantified.” This allows some flexibility for claiming dynamic efficiencies even if they are impossible to measure without going to unreasonable lengths. The door is not wide open for speculative claims, though: “When the necessary data are not available to allow for a precise quantitative analysis, it must be possible to foresee a clearly identifiable positive impact on consumers, not a marginal one.”³⁸ Thus, in one way or another, enough information must be presented to support the contention that the claimed efficiencies will make a meaningful difference to consumer welfare, even if the precise amount of that difference is unknown.

6. *Substantiality.* Regardless of whether the applicable standard is consumer surplus, total surplus, or total welfare, agencies tend to require that the demonstrated efficiencies be substantial. In practice, that usually means that the value of the efficiencies will have to comfortably *exceed* the agency’s estimates of the merger’s anticompetitive effects. There does not appear to be an exact definition of “comfortably exceed,” though. Williamson recommended that a sliding scale be used for that parameter, depending on how speculative the claimed efficiencies are.³⁹ Highly

³⁵ US Guidelines n.36.

³⁶ See US DOJ and FTC, “Commentary on the Horizontal Merger Guidelines,” p. 57 (describing the Gai’s – United States Bakery case).

³⁷ US Guidelines s. 4.

³⁸ EC Guidelines [86].

³⁹ Oliver Williamson, “Economies as an Antitrust Defense: The Welfare Tradeoffs,” 58 American Economic Review 217 (1968).

speculative claims would have to yield high net benefits, whereas efficiencies that can be easily and objectively verified could yield lower net benefits and still be considered.

7. *Verifiability.* This criterion seems to mean different things to different agencies. In the EC Guidelines, it means that the claimed efficiencies have to be “verifiable such that the Commission can be reasonably certain that the efficiencies are likely to materialise, and be substantial enough to counteract a merger’s potential harm to consumers.”⁴⁰ The US Guidelines’ concept of verifiability requires that the claimed efficiencies be described, explained and supported with enough information to enable the competition agency to confirm their timing, means and probabilities of being achieved, and magnitudes with reasonable effort. Speculative, poorly supported, or vague claims will not meet this requirement.⁴¹ Putting aside the scope of what needs to be verifiable, a helpful way of thinking about “verifiability” is that it means an independent person would reach the same conclusions about the claimed efficiencies by reviewing the same supporting information.
8. *Future Efficiencies and Discounting.* Under the European Merger Guidelines, “the later the efficiencies are expected to materialise in the future, the less weight the Commission can assign to them.”⁴² The US Merger Guidelines do not contain a bright line, either. They state that efficiencies with no short-term, direct effect will be considered, but “will be given less weight because they are less proximate and more difficult to predict.”⁴³

These provisions seem to indicate nothing more than the sensible idea that a discount rate will be applied to reflect risk and the time value of money. However, Katz and Shelanski (“KS”) attack this policy, at least as it is applied in the US. They contend that courts and agencies in the US “appear to adopt arbitrary thresholds, whereby unlikely events are treated as impossible events” and distant events are discounted to a value of zero.⁴⁴ In other words, they argue that claimed efficiencies estimated to be less than 50 percent likely to occur or that are not expected to occur for several years not only receive less weight, but no weight at all. Their contention would also appear to be well-founded with respect to the EC, whose guidelines state that “in order to be considered as a counteracting factor, the efficiencies must be timely.” In KS’s view, these approaches are improperly biased against improbable-but-possible and slowly developing efficiencies. The result is systematic underestimation of potentially revolutionary innovations that have a chance of generating large consumer welfare benefits over time.

To illustrate the irrationality they perceive, the authors discuss a hypothetical merger that is challenged because it is considered likely to harm consumers even though there is a 60 percent likelihood it will cause \$100 million of harm due to increased market power and a 40 percent likelihood of \$200 million in consumer surplus due to efficiencies. According to KS, this merger would be challenged under current US policy because based on probabilities alone, it is more likely than not to cause harm to consumers. But they would like to see an expected value approach in such cases, which would mean that both probabilities and magnitudes would be taken into account. That is, magnitudes would not be ignored and improbable efficiencies would not be disregarded, but instead the magnitudes of all claimed efficiencies and anticompetitive

⁴⁰ EC Guidelines [86].

⁴¹ US Merger Guidelines s. 4.

⁴² EC Guidelines [83].

⁴³ US Guidelines s. 4 n.37 (1997).

⁴⁴ Katz & Shelanski, *supra* note 2 at 57.

effects would be discounted by their probability of occurrence. The expected values of harm and benefit would then be compared and the greater value would drive the enforcement decision. In this simple example, the calculation is:

$$(\$100 \text{ million} \times 0.6) = \$60 \text{ million of harm} < \$80 \text{ million of benefit} = (\$200 \text{ million} \times 0.4)$$

and the rational policy choice is to approve the transaction.⁴⁵

If they are correct about the way that improbable (but not impossible) and temporally far-off dynamic efficiency claims are being treated, it would seem that KS must be given credit for having made an insightful and technically correct criticism. In fairness to the agencies and courts, however, it has to be pointed out that the KS approach assumes the availability of critical data. Not only do their calculations require accurate figures for the amounts of consumer surplus and harm that a merger may cause, but they also require perfect estimates of the probabilities for the harm and surplus. In reality, such figures will rarely be at anyone's disposal.

Given the difficulty of obtaining such data, it may be rational for enforcers to do exactly what KS say is currently done in the US, rather than trying to achieve theoretical perfection by taking improbable and distant effects into account as they suggest.⁴⁶ Errors in estimates for any of the figures in their formula could easily lead to an incorrect policy choice. In addition, it would be all too easy for parties to argue that huge magnitudes should be assigned to their claimed efficiencies, knowing that even if enforcers consider those efficiencies to be unlikely to occur they would still receive some weight (unless they were deemed to have absolutely no chance of being achieved). Then again, given that the nature of dynamic efficiencies is that they often have lengthy gestation periods, an enforcement policy that systematically ignores events that are expected to take longer than a year or two to materialise is probably fatal to most dynamic efficiency claims.

9. *Claimed Savings Are Not the Result of Anticompetitive Reductions in Output.* Parties sometimes claim that their merger will lead to savings on R&D spending, but it so happens that those savings are merely the result of planned reductions in their competitive efforts to innovate. Obviously, it would not be desirable to count those reductions as dynamic efficiencies (or as any other kind of efficiencies, for that matter).
10. *Burden of Proof.* Regardless of whether efficiencies are officially considered to be a "defence" or not in a given jurisdiction, in practice the responsibility for establishing them will fall upon the companies who wish to merge. They will be in the best position, after all, to gather, produce and interpret the information that can be used to support their efficiencies arguments.⁴⁷

⁴⁵ *Id.* at 59.

⁴⁶ At one point Katz and Shelanski acknowledge that "it will sometimes be difficult for parties or reviewing authorities to assign probabilities or values to a merger's predicted effects." They then state that their "recommended approach simply requires that implicit judgments of current practice be made explicit." *Id.* at 60-61. That does not seem to be quite true, since they criticise the implicit judgments of current practice for failing to use the concept of expected value.

⁴⁷ See American Antitrust Institute, "Comments of the American Antitrust Institute Working Group on Merger Enforcement" (15 July 2005) at p. 7 ("Much of the necessary information for determining the likelihood of efficiencies is in the merging parties' control, with no penalties for puffery and speculation. Accordingly, . . . it is reasonable for the merging parties to carry the burden of proof in showing the likelihood and magnitude of meaningful efficiencies.").

3.2 *Difficulties Inherent in Measuring and Analysing Dynamic Efficiencies*

Dynamic efficiencies have especially strong potential to compensate for anticompetitive features of mergers. Unfortunately, dynamic efficiencies also tend to be extremely difficult to identify, substantiate, and measure, making their incorporation in merger analysis problematic. In fact, whereas performing a Williamson-style tradeoff of expected static efficiencies against expected anticompetitive effects is quite difficult,⁴⁸ rigorously incorporating dynamic efficiencies in a tradeoff analysis is, in the opinions of at least some scholars, beyond the capabilities of known techniques.⁴⁹

A number of factors are responsible for that complexity. Many of them are described in this section, not in an effort to create a comprehensive list but rather to provide an impression of the nature and depth of the problems inherent in assessing dynamic efficiencies.

1. *Uncertainty.* There is a great deal of uncertainty involved in dynamic efficiencies in general and in innovation in particular. First, the factors that lead to greater innovation are not completely understood. It is hard to determine whether a merger will create dynamic efficiencies when it is unclear whether one is considering the right factors in the right manner. Furthermore, it is usually hard to know whether an investment in R&D will pay off at all in the form of a profitable product, let alone whether claimed dynamic efficiencies will actually spur greater R&D investment in the first place. In addition, prices for future innovations will virtually always be unknown at the time of the merger investigation. Demand for future innovations will not generally be known, either. It is possible, for instance, that other, superior innovations will appear first and make the merged firm's envisioned product obsolete before it even hits the market.⁵⁰
2. *Timing.* Timing presents another complexity. Dynamic efficiencies may take place over several years. R&D investment, for example, may take a very long time to bear fruit. A discount rate should be applied to reflect the time value of money, inflation, and the risk that the efficiency

⁴⁸ Katz & Shelanski, *supra* note 2 at 49-50 ("As a general matter, it is very difficult to predict with any certainty the magnitude of cost savings likely to result from a proposed merger because doing so entails making predictions about the results of combining complex operations and corporate cultures. Indeed, we are unaware of any decision in which a court has found that a merger threatened to have major competitive harms but nonetheless allowed the merger on the grounds that it would generate offsetting efficiencies."); Brodley, *supra* note 3 at 584 ("In practice, courts are unable to balance efficiencies against anticompetitive effects Enforcers lack information to make [the necessary] estimates reliably, particularly in advance of a transaction. Thus, while courts often embrace balancing in principle, they rarely, if ever actually attempt it, and leading commentators are mute on how they might go about it.").

⁴⁹ *E.g.*, Alan Fisher & Robert Lande, "Efficiency Considerations in Merger Enforcement," 71 California Law Review 1582, 1635 (1983) ("It is virtually impossible to determine whether a change in quality reflects an efficiency whenever quality and either price or cost change in the same direction. It is virtually hopeless to expect antitrust decisionmakers to take expert witnesses' conflicting predictions of quality changes and balance the 'correct' opinions tolerably accurately against estimates of market power and efficiency results on a case-by-case basis."); Damien Gerard, "Merger Control Policy: How to Give Meaningful Consideration to Efficiency Claims?" 40 Common Market Law Review 1367 (2003).

⁵⁰ Speaking about the difficulty of predicting efficiencies in general, Robert Willig has acknowledged a degree of futility. "Especially in terms of their uniqueness, the causality that lies behind them, they are inevitably a longer-term phenomenon and it is really hard to make the call We can't solve this. Economists, the system, auditoriums full of well-educated competition analysts, cannot actually overcome the essential unpredictability of the future." Frédéric Jenny, et al., "Substantive Standards for Mergers and the Role of Efficiencies" in Barry Hawk (ed.), *International Antitrust Law & Policy: Annual Proceedings of the Fordham Corporate Law Institute* (2003) 342-43.

will never materialise. It is hard to perform the discount rate calculation correctly, though, when it is unclear how likely the efficiency is to occur, how long it will take to achieve it if it does occur, and how long it will last once it begins.

3. *Measuring innovation.* The first of several quantification problems is how to measure innovation. How does one gauge this rather abstract concept? One could look at inputs to innovation, such as R&D spending. Or one could examine innovation's outputs, such as the number of patents obtained or the number of new products created. There are problems with both of those ideas. First, not all R&D spending necessarily leads to innovation, and even when it does, some R&D spending is far more "productive" than other R&D spending in terms of leading to successful innovation. In other words, there is not a steady, predictable relationship between R&D investment and innovation results. In fact, some innovation occurs without any R&D spending at all. Furthermore, R&D investment spending is an especially slippery parameter in the context of dynamic efficiencies. Even if it could be assumed that greater R&D investment equals greater innovation, a dynamically efficient merger might increase the *efficiency* of R&D activity so much that an anticipated reduction in the level of R&D spending will be outweighed. Consequently, any conclusions based solely on the expected level of R&D spending could be misleading.

On the outputs side there is the problem that not all innovations are patented, and not all patents represent useful innovation. Most of them never generate profits for their owners. Similarly, not all new products should automatically count as innovations – many will be considered failures. In addition, a great deal of innovation is not intended to generate new products, but rather to improve production processes or to enhance the quality of existing products. In short, there are serious problems with these methods for quantifying innovation, but they appear to be the only ones available.

4. *Transforming innovation measurements into welfare measurements.* The quantification difficulties do not end there, unfortunately, because even if there were a good way to measure innovation, we would still need another method for transforming that appraisal into a reckoning of consumer welfare, total surplus, or total welfare. The difficulty of doing that was foreshadowed earlier, in the discussion of Williamson's model and what would be required to adapt his diagram to dynamic efficiencies. It is easy enough to lower average cost curves or push demand curves outward on a diagram to illustrate a theoretical point, but trying to model dynamic efficiencies with any kind of empirical precision in a real case would be a formidable endeavour. To begin with, the same challenges that presented themselves in the static context remain in the dynamic setting. That is, it will still be necessary to embody concepts like the elasticity of demand with data.

Moreover, predicting the value of dynamic efficiencies that take the form of R&D cost savings is complex because there is a relationship between R&D costs and consumer welfare and it is not a smooth and steady one. In other words, a small decline in R&D costs may lead to a huge gain in consumer welfare if the cost savings are enough to tip the company's decision to invest in innovation that ultimately creates a great deal of consumer surplus. An obvious example would be an R&D project that leads to the development of a very successful new product. In such cases one would need to predict and count as an efficiency not only the cost savings attributable to the merger, but the ultimate consumer surplus from the new product, as well, keeping in mind that the latter may be far larger than the cost savings.⁵¹

⁵¹ Katz & Shelanski, *supra* note 2 at 56.

5. *Additional quantification and assessment problems.*⁵² Innovative behaviour is not very predictable. If a merger is blocked, the parties might not simply abandon their R&D work, but instead they might find new ways to conduct it. Alternatively, they might devote their energies to different R&D projects altogether. Consequently, it is not enough simply to compare the pre-merger status quo with the likely outcome if the merger is allowed. The status quo must also be compared with a variety of possible outcomes if the merger is blocked. It is highly unlikely that anyone will be able to assign precise, accurate probability figures to each of the alternative outcomes. A certain amount of speculation will therefore come into play.

Second, it may not be very easy to isolate the component of a product or service that is attributable to innovation. Innovations may be bundled with other products, for example. How can the innovation's price, cost and value to consumers be distinguished from the rest of the bundle?

Third, "apples-to-oranges" comparison problems may arise when trying to assess dynamic efficiencies under a welfare standard that focuses on price effects. A merger may cause price to rise soon after consummation but dynamic efficiencies may have positive non-price effects (e.g., benefits from new or improved products) in the longer term. That puts investigators in the awkward position of needing to compare different concepts from different time periods – and possibly from two or more different markets with different sets of consumers. This presents a complex quantification problem. How much quality enhancement or how many new products are necessary to compensate for a given expected price increase?

Another facet of the apples-to-oranges problem is that when a merger is expected to have anticompetitive effects in one market but substantial efficiencies in another market (or markets), it is likely that one set of customers will suffer no matter what the agency decides to do. If it approves the merger, customers in the first market will probably experience some anticompetitive harm and no benefit. If it blocks the merger, then customers in the second market will likely be deprived of efficiency effects even though they were never in danger of suffering anticompetitive harm. Unless the two markets have a common set of customers, the decision therefore requires the agency to make some people better off at the expense of others. Who can mathematically determine which set of customers deserves priority? Even on a qualitative level, this is a thorny problem, and for an agency such as the EC, it could be especially difficult from a political perspective. Suppose a merger is expected to cause immediate and lasting harm in Germany but is also expected to lead to valuable innovation in Spain. There may not be a correct solution in such cases.

Speaking of harm, that raises another difficulty, namely the problem of how to estimate the other side of the equation. Estimating anticompetitive effects, while perhaps not quite as complex as estimating dynamic efficiencies, still requires peering into the future and thus (at least to some extent) into the unknown. Assumptions will need to be made about all sorts of variables, such as the slope of the demand curve, the ways in which companies will react to each other's strategic moves, and the merger's effect on those parameters.⁵³

Finally, when dynamic efficiencies spur innovation in the form of new products, but consumers have differing opinions about the value of those products, it may be hard to project net consumer

⁵² This discussion is based on Christian Fackelmann, "Dynamic Efficiency Considerations in EC Merger Control: An Intractable Subject of a Promising Chance for Innovation?" University of Oxford Centre for Competition Law and Policy, Working Paper (L) 09/06 24-28.

⁵³ Leary, *supra* note 12 at 8.

welfare . Economists have made some progress on quantifying the value of new products to consumers in hindsight.⁵⁴ There are also certain ways to predict that value, but they require knowledge that will not always be available at the time of the merger, such as what the new product will be, the probability that it will actually be developed and commercialised, how widely adopted it will be, how long all of that will take, and what the price will be.

To sum up, a pessimistic view of the prospects for quantifying dynamic efficiencies appears to be warranted. Brodley calls innovation efficiencies “the least measurable type of efficiency.”⁵⁵ Econometric techniques have become increasingly sophisticated, but they are dependent on the amount and quality of data available. When data is missing or it has to be discarded because it is unreliable, econometric methods amount to an educated guess, which does not inspire much confidence.

6. *Confidentiality may be a factor.* One thing that makes it more difficult for parties to prove claimed efficiencies is that when approval of the merger is in doubt, it will sometimes be considered risky to expose the necessary proprietary information. Even if companies do eventually proffer the information, they may wind up doing so only after it becomes clear that approval will be unlikely without an efficiencies claim. By that time the authorities will (understandably) view the offered evidence with scepticism.
7. *Informational asymmetry and informational voids.* When assessing dynamic efficiencies, agencies and courts will have to rely heavily on information that exists solely in the hands of the parties – if it exists at all. A major obstacle to some dynamic efficiency claims is that there simply is not any adequate information available in the present period regarding future events like the possibility of creating new products. That will leave the agency without enough information on which to base a decision to take the efficiency claims into account, so they will have to be rejected.

Even when such information arguably exists, much or all of it will be in the companies’ own documents and internal estimates. This informational asymmetry creates an incentive for the parties to exaggerate the claimed efficiencies. In addition, even if the companies’ estimates are plausible, consistent, and objective, studies have shown that they are still likely to be inaccurate. As Thomas Leary notes, an extensive and growing body of business consulting literature demonstrates that a substantial number of merger transactions do not achieve the shareholder benefits that were forecast.⁵⁶ F.M. Scherer observes that several large-scale studies in that literature found widespread disappointment and failure in the record of recent mergers.⁵⁷ He adds

⁵⁴ See, e.g., Amil Petrin, “Quantifying the Benefits of New Products: The Case of the Minivan,” 110 *Journal of Political Economy* 705 (2002); Timothy Bresnahan & Robert Gordon (eds.), *The Economics of New Goods* (Chicago: 1997).

⁵⁵ Brodley, *supra* note 3 at 581.

⁵⁶ Leary, *supra* note 12 at 8 (citing John Kelly & Colin Cook, *Synergies: A Business Guide*, KPMG (2001); Norm Augustine, *Corporate Marriage: Bliss or Blight? A Monograph on Post-Merger Integration*, A.T. Kearney (Apr. 1999); Gerry Adolph et al., *Merger Integration: Delivering on the Promise*, Research Summary, Booz-Allen & Hamilton (2001); Dorian Swerdlow et al., *Managing Procurement Through a Merger: Capturing the Value of the Deal*, Booz-Allen & Hamilton (2001)).

⁵⁷ F.M. Scherer, “The Merger Puzzle,” in Wolfgang Franz, Hans Ramser & Manfred Stadler (eds.), *Fusionen* 1, 5 (Tuebingen: 2002). For arguments supporting the applicability of such studies’ results to competition policy, see Gerard, *supra* note 49 at 1388.

that “[o]ne would like to believe that mergers bring substantial efficiency benefits to the economy, but on this point, the balance of evidence remains tenuous.”⁵⁸

8. *Keeping it simple.* As if all of that were not enough, there is another, more practical problem. It will not always be adequate for econometric methods and data gathering techniques to advance to the point of being able to predict dynamic efficiencies accurately. Even if that were to happen, it would also be necessary – at least in litigated cases – for those methods and techniques to be simple enough for judges to understand and use. Given that even current econometric methods are probably outside of the skill sets of most judges today, this sets up a formidable impasse: the state of the art for measuring dynamic efficiencies quantitatively would have to become both more advanced and simpler at the same time.

3.3 *Qualitative Considerations for Assessing Dynamic Efficiencies*

It is one thing to have a set of formal requirements for recognising efficiencies, but it is another thing to know how much weight to assign them in an overall merger analysis. As discussed above, a daunting array of difficulties awaits anyone who tries to assess dynamic efficiencies quantitatively. A qualitative inquiry may, however, yield at least moderately useful results. A number of practical steps offer ways to make progress toward a better qualitative understanding.

1. *Study the Past.* A review of the parties’ historical record of acquisitions and innovation will shed light on several important questions. How well have they integrated with previous merger partners? How experienced are the companies at turning R&D into successful innovations? Are any of their innovations attributable in some manner to synergies from past mergers? Third parties such as research institutes, securities analysts, competitors, suppliers, and customers may be able to assist with this inquiry. Of course, the past is not a perfect predictor of the future. Talented managers may have departed in the interim, or they may not be as adept in one setting as they were in another. Conversely, the companies may have learned a great deal from any past merger failures and could therefore be more capable than ever of achieving dynamic efficiencies with their new partners. Nevertheless, much may be learned by studying the companies’ past successes and failures.
2. *Study the Present.* It would be helpful to know what factors tend to spur innovation in the industry in which the parties operate, and to study whether the merger will strike the right chords. Some industries depend heavily on IPRs, for instance, while others rely mainly on secrecy or complexity.⁵⁹ If the merger takes place in an IPR-heavy sector, will it allow greater exploitation of protected technology than would have been possible through alternative arrangements (such as licensing)? In a market where companies typically shroud their work in secrecy, will a merger make secrecy harder or easier to maintain? How will innovation be affected once the parties begin to share highly confidential technical information with each other?
3. *Study the Future.* Some dynamic efficiencies are expected to take place so far off in the future or to lead to innovation so revolutionary that the nature of the forthcoming products or services cannot be determined at all yet. But that need not always be the case. For example, the parties may claim that merging will soon allow them to develop an improved version of a product for which a market already exists. If so, investigators can benefit from developing a good

⁵⁸ F.M. Scherer, “A New Retrospective on Mergers,” 28 *Review of Industrial Organization* 327, 341 (2006); see also David Ravenscraft & F.M. Scherer, *Mergers, Selloffs and Economic Efficiency* (1987).

⁵⁹ Wesley Cohen, Richard Nelson & John Walsh, “Protecting Their Intellectual Assets: Appropriability Condition and Why US Manufacturing Firms Patent (Or Not),” NBER Working Paper No. 7552 (2000).

understanding of what consumers in that market would like to see in terms of product development and asking how valuable the claimed efficiencies are – or whether they are even relevant.

4. *Consider Whether the Merger Will Combine Substitute or Complementary Technologies.* R&D efficiencies tend to be stronger when complementary technological assets are combined.⁶⁰ Therefore, one way to promote the realisation of those efficiencies is to take a light-handed approach to vertical and conglomerate mergers. This is not to say that all such mergers should always be approved. Limiting the scope for challenging them, however, will have the benefit of increasing the level of dynamic efficiencies that are obtained via merger activity.

On the other hand, studies have shown that reductions in R&D spending tend to be relatively large while R&D efficiencies are typically small when the merging companies are product market rivals who use substitute technologies. Accordingly, a more sceptical view of dynamic efficiency claims may be warranted in such cases.⁶¹

3.4 *Deciding How to Decide*

Once the formal requirements and other practical considerations are explored, if an agency is satisfied that there are some dynamic efficiencies that should be taken into account, the ultimate issue remains: exactly how should that be done?

Williamson envisioned a weighing process in which the value of expected efficiencies would be compared to the value of expected harm and mergers would be approved or blocked according to which value was greater. Performing Williamson's trade-off would require a very rich set of data and knowledge that are not commonly available in real-world cases, even those that involve only static efficiencies. When dynamic efficiencies are an issue, even the conceptual process of trading off expected gains against expected harm becomes more complex, and the data availability problem becomes more acute, as well.

A quantitative weighing of dynamic efficiencies versus anticompetitive harm seems out of reach from a practical standpoint, so it seems sensible to decide on a qualitative basis. The goal might be simply to reach a conclusion about whether a merger is likely to be beneficial or harmful without necessarily trying to assign numbers to those effects. But while some merger guidelines appear to leave room for this kind of process with respect to static efficiencies, they are less receptive to dynamic efficiencies.

The US Merger Guidelines, for instance, state that mergers will not be challenged "if cognizable efficiencies are of a character and magnitude such that the merger is not likely to be anticompetitive in any relevant market."⁶² The key question is whether efficiencies "likely would be sufficient to reverse the merger's potential to harm consumers in the relevant market, e.g., by preventing price increases in that market."⁶³ Despite the use of the word "magnitude," this framework does not seem to call for a literal

⁶⁰ See Bruno Cassiman, Massimo Colombo, Paola Garrone & Reinhilde Veugelers, "The Impact of M&A on the R&D Process: An Empirical Analysis of the Role of Technological and Market Relatedness," 34 *Research Policy* 195 (2005) (empirical study finding that R&D efficiency increases more when the merging parties' technologies are complements rather than substitutes).

⁶¹ *Id.* at 195 (concluding that "rival firms reap little technology gains from mergers").

⁶² US Merger Guidelines s. 4. "Cognizable" efficiencies are defined as efficiencies that are merger-specific, verified, and do not arise from anticompetitive reductions in output or service. *Id.*

⁶³ US Merger Guidelines s. 4.

weighing, but for efficiencies to be considered in the overall assessment of whether the merger should be considered anticompetitive in the first place. Another passage, however, notes that some kinds of efficiencies are more likely to be considered than others, and in particular that “those relating to research and development[] are potentially substantial but are generally less susceptible to verification[.]”⁶⁴ It would seem that they face an uphill battle for recognition under the US Guidelines even if they meet all the standard conditions such as merger-specificity, consumer pass-on, etc.

Similarly, when a proposed merger exceeds the concentration thresholds in Article 1 of the ECMR, the EC assesses efficiencies before deciding whether the merger should be considered anticompetitive. Recital 29 of the ECMR is phrased in terms of a possibility that the effect of efficiencies will be such that “the concentration would not significantly impede effective competition.” Furthermore, Article 2(1)(b) of the ECMR and recital 76 of the EC Guidelines mention that efficiency claims are considered during the “overall competitive appraisal of the merger.” As discussed above, the EC Guidelines do not insist on quantification when it is not “reasonably possible,” but in such cases “it must be possible to foresee a clearly identifiable positive impact on consumers, not a marginal one.”⁶⁵ This language is somewhat ambiguous in the sense that it is unclear whether both the probability that a claimed efficiency will occur as well as its expected magnitude must be clearly identifiable or if only the magnitude must be clearly identifiable. But in either case, this standard sounds difficult for most dynamic efficiency claims to meet, given the likely forecasting problems.⁶⁶

It seems unlikely that very many dynamic efficiency claims will be given much of a role in merger analysis under either the US or the EC Guidelines. But suppose we assume that some are, or that they are received more warmly in other jurisdictions. What then? How exactly can an agency fit them into its decision about whether to block a merger? This is not exactly well-trodden ground, but some scholars have spent time on it. The first three suggestions below were conceived with all efficiencies in mind, not just the dynamic type. The fourth one is specific to dynamic efficiencies.

1. *The Laissez-faire Approach.* Chicago-school writers like Bork and Posner would do away with the idea of giving any consideration to efficiencies at all in individual cases.⁶⁷ Instead, they simply trust the safe harbours built into merger guidelines’ concentration thresholds to get the efficiencies problem right in most cases. Mergers within the safe harbours are assumed to be efficiency enhancing for the most part, or at least neutral. Mergers that exceed the thresholds are assumed to be incapable of generating efficiencies large enough to offset their anticompetitive effects.

This stark idea does have certain positive aspects. One is that doing nothing is almost always an inexpensive and easy policy to implement. In addition, it would enhance the predictability of agency behaviour by removing some discretion. Finally, the time needed for merger review would shrink, and so would litigation costs.

On the other hand, this approach could be criticised for being too pessimistic, especially since it encompasses static efficiencies as well as dynamic ones. It seems clear enough that a simple, mechanical application of thresholds will not always yield the best results, either, and that some highly efficiency-enhancing mergers would be blocked for essentially arbitrary reasons.

⁶⁴ US Merger Guidelines s. 4.

⁶⁵ EG Guidelines at para. 86.

⁶⁶ Fackelmann, *supra* note 52 at 30.

⁶⁷ Robert Bork, *The Antitrust Paradox: A Policy at War with Itself* 128 (New York: 1993); Richard Posner, *Antitrust Law: An Economic Perspective* 133-34 (Chicago: 2d ed. 2001).

Nevertheless, Chicagoans are not the only ones willing to accept the loss of some important efficiency gains in exchange for greater certainty. In Fisher and Lande's view, for example, losing some of those gains is inevitable anyway, since any system that would attempt to determine the probable extent and effects of merger efficiencies would reach erroneous conclusions. It is simply too difficult, they argue, to make such determinations accurately.⁶⁸

2. *The Commitments, or "Fix It First," Approach.* This idea is to have the parties agree to certain behavioural undertakings as a condition of having their merger approved. The undertakings would, of course, be designed to help ensure that claimed efficiencies will be realised. Like the laissez-faire approach, this plan allows the agency to avoid having to make a tough ex ante decision. Instead, the burden of decision shifts to the parties, who can either give up their dynamic efficiency claims or commit to achieving them.

This approach does not seem to be very practical. How can a firm be held to a promise to develop a successful new product unless some fairly precise characteristics of that new product are known at the time the merger is being reviewed? Furthermore, even if such characteristics were known, would it be possible to predict that consumers would like the product enough to overcome concerns about anticompetitive effects?

Another problem is that, depending on the consequences of failing to live up to the commitments, it might be difficult to persuade firms to sign up for this arrangement. If the penalty is divestiture or a heavy fine, for example, the risk of taking this approach will likely be perceived as quite large, perhaps discouraging parties from pursuing mergers whose efficiencies would have made consumers better off. The prospect of heavy fines may have the same effect. In addition, even if the parties were to accept a commitments deal, the mere possibility of divestiture could interfere with their ability to achieve the promised dynamic efficiencies, especially if the parties competed with each other prior to the merger. For example, the two companies may not fully integrate or share their knowledge with each other in light of the possibility of being forced to resume their competitive relationship in the future.

3. *The Wait and See Approach.* Despite its name, this approach works out to be fairly similar to the commitments approach. The idea is to give agencies the flexibility to permit mergers tentatively, on the condition that the parties actually achieve the efficiencies they claim will occur. The parties would have the option of accepting or rejecting this approach. If they accept it, there would be a probation period to allow the combined firm an opportunity to follow through on its claims. At the end of that period, the agency would re-examine the case and determine whether and to what extent the efficiencies were realised. If the agency is satisfied that the efficiencies were achieved, the merger is given final approval. If the firm fails to deliver the promised level of efficiencies, the agency may break up the company, impose fines, or take some other remedial action to try to restore competitive conditions.⁶⁹

On the positive side, determining whether efficiencies were achieved should be easier than either predicting whether they will be achieved or trying to design remedies that will ensure they are achieved. Much more information – and much better information – is likely to be available after the merged firm has been operating for some time. Furthermore, under this approach parties will

⁶⁸ Alan Fisher & Robert Lande, "Efficiency Considerations in Merger Enforcement," 71 California Law Review 1582 (1983).

⁶⁹ Robert Pitofsky, "Proposals for Revised United States Merger Enforcement in a Global Economy," 81 George Mason Law Review 195 (1993); Joseph Brodley, "The Economic Goals of Antitrust: Efficiency, Consumer Welfare, and Technological Progress," 62 New York University Law Review 1020 (1987).

no longer have much of an incentive to inflate their efficiency claims, given that they will be penalised for failing to achieve them. Finally, the problem that few dynamic efficiency claims will ever make it past the ex ante verification hurdle might become less significant.

Some substantial negatives remain, though. One is that, at least as Brodley describes the wait and see approach, there would still need to be an ex ante screening to determine whether the proposed merger would be eligible for this kind of treatment. The screening would filter out proposed mergers that could not meet certain familiar elements such as quantifiability and a passing-on requirement.⁷⁰ Quantifiability alone, as we have seen, will quickly rule out many dynamic efficiency claims. Yet if agencies do not have a sense of how substantial the claimed efficiencies will be, they will have a difficult time deciding whether the efficiencies are great enough to overcome their concerns about anticompetitive effects.

Another negative is that it might be difficult to persuade firms to sign up for this arrangement, too, given the penalties for failure. Next, it will be difficult to know how long the probation period should last because it will not usually be clear how much time it should take to achieve the claimed efficiencies. In addition, consumers face serious risks under this approach, as well. Allowing a merger that an agency is confident will have anticompetitive effects is inherently dangerous – even when approval is given on only a temporary basis. Anticompetitive effects will likely be felt before dynamic efficiencies materialise, if they materialise at all. Furthermore, fines will not necessarily rescue consumers from being stuck with an anticompetitive merger (though they might deter future dynamic efficiency claims), and divestiture may not always be feasible, especially if the probation period lasted for several years so that the two companies are already thoroughly integrated.

4. *Making the Best of a Difficult Situation.* Agencies can learn by doing, too. Fackelmann suggests improving the incorporation of dynamic efficiencies into merger review by setting up periodic, institutionalised ex post audits of actual dynamic efficiency outcomes in previously-reviewed mergers.⁷¹ This is a long-term plan aimed at making better decisions in the future. It would not have any effect on decisions made in the shorter term. Through intermittent check-ups, agencies would be able to tell whether the theories and assumptions that they made about dynamic efficiencies in past cases were valid, helping them to learn from their successes and mistakes. Those lessons could then be applied in subsequent cases.

One immediately apparent drawback to this idea is that it would seem to take a very long time to bear fruit, given the scarcity of cases in which dynamic efficiencies play a significant role. Another disadvantage is the expense involved in carrying out the audits, though this may not be significant in light of the first drawback. Furthermore, as Fackelmann acknowledges, it could be difficult to disentangle the various factors that stimulate dynamic efficiency. The merger might be only one contributing factor among many for a firm's innovation successes, for example. In some cases the successes may have occurred even without the merger. Finally, this idea still does not really offer a way forward with respect to the crux of the problem, which is how to tell whether dynamic efficiencies will compensate for anticompetitive harm in a particular case. But it does provide a way for agencies to develop a better understanding of how often the right and wrong decisions were made, and of the merger characteristics that do and do not tend to lead to the realisation of dynamic efficiencies.

⁷⁰ Brodley, *supra* note 3 at 578.

⁷¹ Fackelmann, *supra* note 52 at 69-76.

4. Conclusion

While it would be desirable to assess dynamic efficiencies rigorously, it appears that doing so is a largely intractable problem. There simply are no easy answers. There are some steps that can be taken to understand them better, but such knowledge will probably come slowly and in any event it is unlikely to make a quantitative approach possible. In the meantime, courts may continue to shy away from confronting dynamic efficiency analysis direct.

The fact that there are not many published decisions in which dynamic efficiencies are expressly considered (let alone in which they make the difference between approval and disapproval) does not necessarily mean that great numbers of mergers that would have led to substantial innovation or other dynamic synergies are being wrongfully blocked. To begin with, many mergers do not create any dynamic efficiencies. Furthermore, the safe harbours in concentration levels that are typically built into competition authorities' merger review practices ensure safe passage of the vast majority of mergers, including those that cultivate dynamic efficiency.⁷² In addition, many of the mergers that fall outside safe harbours are ultimately allowed, even without any consideration of dynamic efficiencies. Finally, agencies are able to preserve the efficiency benefits of many mergers that would otherwise have been anticompetitive through the use of various palliatives, such as technology licensing and partial divestitures. Therefore, the fact that it is usually too hard for practitioners to incorporate dynamic efficiencies into merger analyses in a rigorous, quantitative manner should not necessarily be taken as a cause for great concern.

Nonetheless, the issue ought not to be considered unimportant, either. Finding ways to go about assessing dynamic efficiencies methodically and accurately is a worthy topic for ongoing research.

⁷² Putting the significance of efficiencies analysis into perspective, Conrath and Widnell note that fewer than 2% of mergers are challenged in the US. "The current debate on efficiencies has focused, then, on whether any of the two percent of mergers that face a challenge . . . should be allowed because their efficiencies can be proved to outweigh their anticompetitive effects." Craig Conrath & Nicholas Widnell, "Efficiency Claims in Merger Analysis - Hostility or Humility?" 7 *George Mason Law Review* 685, 692 (1999).

NOTE DE RÉFÉRENCE

1. Introduction

De manière générale, les gains d'efficacité dynamique sont des synergies qui permettent aux entreprises d'améliorer leur performance, que cela soit en termes de coûts, de qualité, de service ou de variété et ce, de manière continue. Par exemple, les gains d'efficacité qui améliorent la capacité ou la volonté d'innover sont considérés comme étant des gains d'efficacité dynamique. Par contre, les gains d'efficacité statiques ne permettent que des améliorations ponctuelles. Les économies d'échelle en production, par exemple, sont un gain d'efficacité statique.

Les esprits ont commencé à évoluer sur le plan économique au sujet des gains d'efficacité dans les années soixante-dix et cette évolution a influencé la politique de la concurrence dans plus en plus de pays ces dernières années. L'attitude des administrations chargées d'assurer le respect des règles de la concurrence et des tribunaux est passée d'une absence de prise en compte ou même d'une hostilité vis-à-vis des gains d'efficacité, à une analyse plus favorable de leur valeur de la société. Toutefois, malgré le plus grand respect dont jouissent les gains d'efficacité, on hésite encore à les intégrer dans l'analyse des fusions, non pas tant au motif que l'on persisterait à estimer que les fusions qui améliorent les gains d'efficacité sont néfastes pour la concurrence, mais parce qu'il est difficile d'évaluer ces gains eux-mêmes. Cette hésitation est même encore plus grande vis-à-vis des gains d'efficacité dynamique que des gains d'efficacité statiques. Il est déjà suffisamment difficile de déterminer si une fusion entraînera des gains d'efficacité statiques et la manière dont on pourra comparer ces gains à de quelconques effets anticoncurrentiels que la fusion est supposée entraîner. Le problème devient beaucoup plus difficile si l'on veut prédire les effets dynamiques d'une fusion. De fait, si tant est qu'ils se produisent, ces effets interviendront sur plusieurs périodes de temps et peuvent être de nature plus abstraite.

Néanmoins, comme le faisait observer une note de référence de 2002, certains observateurs ont estimé que les administrations chargées de la concurrence, dans leur examen des fusions, accordent trop d'attention aux gains d'efficacité statiques et à la concurrence à court terme sur les prix. Ces critiques estiment que l'on doit accorder un plus grand rôle aux gains d'efficacité dynamique et à la concurrence autre qu'en matière de prix, notamment pour les marchés où les consommateurs peuvent avoir beaucoup plus à gagner par l'innovation que par une baisse des prix des produits existants.¹ Ce genre de critique s'est développé au cours des cinq dernières années et a récemment mené à une recommandation de la Commission américaine de modernisation de la législation antitrust, demandant que l'on accorde une plus grande importance aux gains d'efficacité qui promeuvent l'innovation.²

¹ OCDE « Examen des fusions sur les marchés émergents très innovants », DAF/COMP(2002)20, note de référence, 22 (citant Michael Porter, « Concurrence et politique antitrust : vers une méthode fondée sur la productivité pour l'évaluation des fusions et des joint ventures, » Antitrust Bulletin, n°46, p. 919, p. 934 (2001)).

² Michael Katz et Howard Shelanski, « Fusions et innovation, » Antitrust Law Journal, vol. 74, pp. 1-3 (2007); Commission américaine de modernisation de la réglementation antitrust, rapport et recommandations, 10 (avril 2007).

Ces commentateurs ont de solides arguments à avancer car il est évident que l'innovation est essentielle à la croissance et au bien être économiques. Joseph Brodley a déclaré que les gains d'efficacité permettant l'innovation « constituent le facteur le plus important de croissance de la production réelle dans le monde industriel. »³ De même, l'OCDE a conclu que l'innovation est responsable de la majeure partie de la hausse du niveau de vie matériel intervenue depuis la révolution industrielle.⁴ Les gains d'efficacité dynamique sont probablement beaucoup plus bénéfiques aux consommateurs que ne le sont les gains d'efficacité statiques. Il serait donc souhaitable – dans un monde idéal – que l'on tienne plus souvent compte des gains d'efficacité dynamique et qu'on leur accorde une plus grande importance dans les décisions relatives aux fusions. Le problème dans le monde réel est que personne n'a encore trouvé une façon très fiable de le faire. Plutôt que de s'aventurer sur un terrain spéculatif, les administrations et les tribunaux ont eu très raisonnablement tendance à éviter d'analyser les gains d'efficacité dynamique. Ce faisant, ils ne tiennent pas compte, volontairement mais de manière compréhensible, d'un facteur important du bien-être de la société.

Le présent document étudie plusieurs manières dont les fusions peuvent créer ou renforcer les gains d'efficacité dynamique et les difficultés d'évaluation de ces gains. Nous ne proposons aucune réponse immédiate quant à la façon de les traiter, mais nous visons à donner au lecteur une meilleure compréhension du problème en espérant que cela facilitera la recherche d'une solution. La présente note n'aborde pas les cas où les fusions peuvent porter préjudice à l'innovation ou au concept qui leur est lié de marchés de l'innovation.

Dans une deuxième partie, le document indique brièvement comment les tribunaux et les administrations ont évolué avec le temps dans leur façon de traiter les gains d'efficacité. Nous exposons aussi le raisonnement théorique en faveur de la prise en compte de ces gains dans l'examen des fusions et nous présentons divers types de gains d'efficacité dynamique. Dans une troisième partie, nous décrivons comment les gains d'efficacité dynamique tendent à être considérés en application des principes directeurs des administrations chargées de l'examen des fusions. Nous expliquons les difficultés inhérentes à la mesure et à l'analyse des gains d'efficacité dynamique et nous présentons des éléments pratiques utiles à une analyse qualitative. Enfin, nous citons plusieurs suggestions avancées par des théoriciens en matière de décisions sur les fusions, et dont les tribunaux et les administrations pourraient s'inspirer.

Les principales positions du présent document sont les suivantes :

- À une certaine époque, les tribunaux et les administrations chargés de faire respecter la réglementation de la concurrence avaient tendance à considérer les gains d'efficacité résultant des fusions comme non pertinents ou comme un motif de blocage de la fusion. On considérait alors que les fusions de grande ampleur étaient probablement nuisibles, quels que soient les arguments avancés quant à leurs effets économiques réels. Cette position était parfois motivée par une vision idéaliste de marchés composés de nombreuses petites entreprises. D'autres fois, ce point de vue s'expliquait par l'idée que les consommateurs seraient ceux qui pâtiraient en fin de compte si l'on autorisait certaines entreprises à dégager des avantages sur leurs rivales en matière de gains d'efficacité en rachetant d'autres entreprises. L'adhésion à ce point de vue a commencé à baisser après que des études théoriques ont montré que les gains d'efficacité induits par les fusions pouvaient dans certains cas bénéficier à la société en général, même si la fusion entraînait aussi l'instauration ou le renforcement d'un pouvoir de marché. Aujourd'hui, on considère

³ Joseph Brodley, « Preuve des gains d'efficacité dans les fusions et les joint ventures, » *Antitrust Law Journal*, p. 575 (1996) p. 581 .

⁴ OCDE, *Objectif croissance* (2006), 56.

couramment que les gains d'efficacité sont des facteurs positifs, favorables à l'autorisation des fusions, plutôt que des facteurs d'interdiction de ces opérations.

- Les gains d'efficacité dynamique se produisent à la longue et permettent une diminution progressive des coûts, la création de nouveaux produits ou l'amélioration de produits. L'apprentissage sur le tas, l'élimination des doublons en matière de recherche et de dépenses de développement, les économies d'échelle en R-D sont autant d'exemples de gains d'efficacité dynamique. Alors que les gains d'efficacité statiques interviennent à un moment précis dans le temps, les gains d'efficacité dynamique ont trait à des évolutions comme la R-D, qui peuvent intervenir et avoir des effets sur de nombreuses périodes.
- Concrètement, les gains d'efficacité n'ont un intérêt pour l'analyse des fusions que dans les cas où l'on craint que la fusion n'ait par ailleurs des effets anticoncurrentiels. La charge d'apporter la preuve de la probabilité et de l'ampleur de ces gains incombe normalement aux entreprises qui fusionnent. Les administrations chargées de la concurrence prennent généralement en compte plusieurs facteurs pour déterminer quelle pondération, le cas échéant, attribuer aux gains d'efficacité présumés. Il s'agit notamment de la spécificité de la fusion (à savoir qu'il n'y a pas de moyens moins anticoncurrentiels, tout en étant raisonnables, d'obtenir ces gains), du fait qu'une partie au moins des bénéfices des gains sera répercutée sur les consommateurs, que ces gains permettront de diminuer les coûts fixes ou variables (avec une préférence pour la diminution des coûts variables), des effets sur d'autres marchés, du degré d'importance des gains d'efficacité et de la mesure dans laquelle ils sont quantifiables et vérifiables.
- Les gains d'efficacité dynamique sont particulièrement susceptibles de compenser les aspects anticoncurrentiels des fusions. Malheureusement, ils sont aussi extrêmement difficiles à cerner, à représenter sous une forme concrète et à mesurer, ce qui pose des problèmes pour les incorporer dans l'analyse des fusions. Cette complexité s'explique par un certain nombre de facteurs. Il s'agit notamment de l'incertitude inhérente aux activités innovantes en termes de coûts, de moment, de probabilité et d'ampleur du succès commercial, de difficultés de mesure de l'innovation proprement dite, de la difficulté de quantifier le concept d'innovation en termes de bien-être, de la difficulté de comparer les effets sur les prix à court terme avec les effets à long terme autres que sur les prix tels l'amélioration de la qualité ou la création de nouveaux produits et autres problèmes de quantification, ainsi que de l'asymétrie d'information entre les entreprises qui fusionnent et les administrations chargées de faire appliquer la réglementation sur la concurrence.
- Il peut globalement sembler acquis que les possibilités de quantifier les gains d'efficacité dynamique sont malheureusement très restreintes. Par contre, une étude qualitative peut au moins donner des résultats modérément utiles. On peut tirer beaucoup d'enseignements de l'analyse du degré de réussite des entreprises fusionnées à s'intégrer avec leurs partenaires lors de fusions précédentes, de la capacité des entreprises à concrétiser la R-D en innovations réussies, et de savoir si l'une quelconque de leurs innovations sont dues à des synergies de fusions précédentes. Il convient aussi d'étudier les caractéristiques du secteur concerné, et notamment ce qui encourage l'innovation, et d'analyser si la fusion aidera l'entreprise une fois fusionnée à tirer parti de ces facteurs. En outre, il peut s'avérer utile de déterminer quelles évolutions des produits souhaitent les consommateurs, puisque cela influera sur la valeur des gains d'efficacité allégués. Enfin, il importe de savoir si la fusion entraînera une substitution de technologie par une autre ou un ajout de technologie complémentaire à une autre, puisque les gains d'efficacité en R-D tendent à être plus forts lorsque les actifs technologiques des entreprises fusionnantes sont complémentaires. L'un des moyens de faire émerger ces gains consiste donc à ne pas avoir une attitude trop rigide vis-à-vis des fusions verticales et horizontales.

- Jusqu'à présent, les gains d'efficacité dynamique ont joué un rôle très restreint dans les décisions sur les fusions, mais les appels à un changement dans ce domaine se font désormais de plus en plus fréquents. Les théoriciens ont proposé au cours des années quelques moyens spécifiques de prise en compte des gains d'efficacité. La plupart de ces moyens concernent les gains d'efficacité en général et non pas uniquement les gains d'efficacité dynamique. Certains, par exemple, sont partisans du laissez faire d'après lequel on n'a pas besoin d'aborder la question des gains d'efficacité pour chaque fusion à titre individuel. L'idée ici est simplement de faire confiance aux seuils de concentration indiqués par les principes directeurs en matière de fusion pour dégager correctement les gains d'efficacité dans la majorité des cas. Autre idée : conditionner l'autorisation de la fusion à une série d'engagements des entreprises parties à l'opération, engagements qui assureront la réalisation des gains d'efficacité promis. On a aussi recommandé une politique d'autorisation provisoire qui permettrait à l'administration d'avaliser temporairement une fusion, sous réserve de concrétisation des gains d'efficacité allégués. Si, au bout d'une certaine période, ces gains ne se matérialisent pas, l'administration peut alors revenir sur son autorisation provisoire. Autre idée encore : renoncer à toute tentative de perfectionner dans un proche avenir l'analyse des gains d'efficacité dynamique, et analyser plutôt les résultats des cas concrets dans l'espoir d'arriver à une meilleure compréhension à plus long terme. Par des vérifications ponctuelles, les administrations pourraient dire si les théories et les hypothèses formulées à propos des gains d'efficacité dynamique dans des cas précédents sont valables, ce qui leur permettrait de tirer des enseignements de leurs succès et de leurs erreurs. Ces leçons pourraient alors servir dans des cas ultérieurs. Toutes ces idées présentent certains avantages, mais aussi des inconvénients importants. La question des modalités d'intégration systématique des gains d'efficacité dynamique dans l'analyse des fusions ne paraît pas susceptible de recevoir une réponse dans un avenir proche.

2. Que sont les gains d'efficacité dynamique ?

2.1 *Les gains d'efficacité en général*

Aborder en introduction les gains d'efficacité en général permet ensuite de présenter la sous-catégorie « gains d'efficacité dynamique ». La plupart des fusions ont lieu parce que, selon les parties, la réunion de leurs entreprises produira certaines synergies qui conduiront à une amélioration de la performance sous forme de baisse des coûts, de hausse de la qualité, de nouveaux produits, ou d'autres choses encore. On appelle ces synergies « gains d'efficacité ». La possibilité de mieux utiliser des capacités auparavant sous-utilisées en réunissant les activités de deux entreprises, est un exemple courant de gain d'efficacité permis par une fusion.

2.1.1 *Évolution des attitudes vis-à-vis des gains d'efficacité*

À l'heure actuelle, les autorités dans la plupart des pays de la zone OCDE, sinon tous, reconnaissent que les fusions présentant des aspects anticoncurrentiels devraient néanmoins être autorisées si elles entraîneraient par ailleurs des gains d'efficacité plus importants que le tort qu'elles font au libre jeu de la concurrence. On trouve par exemple ce principe dans les Lignes directrices de l'UE en matière de fusions horizontales, les Lignes directrices des États-Unis sur les fusions horizontales et la loi canadienne sur la concurrence. Cela n'a pas toujours été le cas. Pendant de nombreuses années, les autorités chargées de la concurrence et les tribunaux, des deux côtés de l'Atlantique, n'ont guère tenu compte des gains d'efficacité ou se sont même opposés à leur prise en compte.

La jurisprudence Alcoa caractérise l'attitude des États-Unis au milieu du 20^{ème} siècle vis-à-vis des gains d'efficacité. Selon l'opinion du juge Hand, les contraintes imposées aux fusions par la législation antitrust sont « fondées sur la croyance selon laquelle les grands mouvements de concentration industrielle

sont éminemment indésirables, quels que soient leurs résultats économiques ». ⁵ Un passage de la décision de la Cour Suprême dans l'affaire *Brown Shoe* paraît également « tordu » pour le praticien actuel :

[Nous ne pouvons pas ne pas] reconnaître la volonté du Congrès de promouvoir la concurrence en protégeant les petites entreprises locales viables. Le Congrès est conscient que la persistance de secteurs et de marchés fragmentés peut parfois entraîner des coûts et des prix élevés, mais il a tranché cette question en faveur de la décentralisation. ⁶

La Commission Européenne s'est montrée peu réceptive aux gains d'efficacité en 1991 lorsqu'elle a bloqué la fusion Aérospatiale - Alenia/de Havilland en estimant que, même si cette opération créerait certains gains d'efficacité, elle ne ferait que renforcer la capacité de l'entité fusionnée d'agir en toute liberté par rapport à ses concurrents. ⁷

Alors même que la Communauté Européenne prenait cette décision, des administrations et tribunaux commençaient à avoir une autre analyse des gains d'efficacité. En fin de compte, le nouveau point de vue a fini par gagner l'Europe et au-delà. Aux États-Unis, même si la Cour Suprême n'avait pas officiellement renoncé à sa position ancienne, les tribunaux de degré inférieur ont commencé à comprendre que les gains d'efficacité sont en fait favorables à la concurrence. En 1991, par exemple, dans l'espèce *FTC v. University Health, Inc.*, une cour d'appel a estimé que « la preuve qu'une acquisition projetée entraînerait des gains d'efficacité significatifs au bénéfice des consommateurs est un élément très utile pour évaluer le point essentiel en dernier ressort, à savoir les effets de cette acquisition sur la concurrence ». ⁸ On peut aussi constater l'évolution des opinions vis-à-vis des gains d'efficacité en comparant les versions successives des principes directeurs publiés par certaines autorités de la concurrence. Cette progression est plutôt continue à partir de 1982 dans les éditions successives des lignes directrices des États-Unis en matière de fusions. ⁹

⁵ États-Unis v. Aluminum Company of America, 148 F.2d 416, 428 (2ème Circuit 1945).

⁶ *Brown Shoe Company v. États-Unis*, 370 U.S. 294, 344 (1962). Pour un exemple d'opposition totale à la prise en compte des gains d'efficacité, voir *Foremost Dairies*, 60 F.T.C. 944 (1962) (où il a été dit que le type de croissance de Foremost par des acquisitions dans de nouvelles zones géographiques conférerait à la société des avantages de taille et de fonctionnement qui lui permettraient « d'éliminer ses rivaux plus petits en faisant relativement peu d'efforts ou en subissant peu de pertes au niveau de ses résultats ». Le tribunal en conclut que les fusions sont illégales si l'on peut démontrer que « l'organisation d'ensemble de l'acquéreur lui confère un avantage décisif en termes de gains d'efficacité sur ses rivaux plus petits »). Id. p. 1084, 1087.

⁷ Affaire IV/M53, 1991 J.O. (L 334) 42. Ce point de vue s'est étendu à des affaires où des gains d'efficacité dynamique étaient en jeu, comme dans l'espèce *AT&T/NCR*, où il a été reconnu que la fusion pouvait être favorable à l'innovation. Toutefois, l'opération a été rejetée au motif qu'elle aurait créé et pérennisé une position dominante sur un marché à terme et qu'elle aurait entravé la concurrence sur un autre marché. *MSG Media Service* (Affaire IV/M469), Décision de la Commission 94/922/EC [1994] OJ L 364/1par. 100ff.

⁸ 938 F.2d 1206, 1222 (11ème Circuit 1991).

⁹ Les Lignes directrices de 1982 du Ministère américain de la Justice ont reconnu les gains d'efficacité, mais plutôt du bout des lèvres et seulement dans des cas « exceptionnels », lorsque les parties pouvaient fournir des preuves claires et convaincantes que ces gains permettraient des économies de coûts importantes. Les Lignes directrices de 1984 du Ministère américain de la Justice sont au moins revenues sur la formulation sans appel de la version de 1982, mais ont conservé l'exigence de preuves « claires et convaincantes ». Cette exigence a été supprimée dans la version conjointe de 1992 de la Commission de la Concurrence et du ministère de la Justice. En 1997, on a donné une explication de la manière dont les gains d'efficacité

Un changement moins progressif apparaît dans les lignes directrices de la Communauté Européenne sur les fusions horizontales, qui reconnaissent explicitement et pour la première fois les gains d'efficacité comme facteur décisionnel en 2004 et qui leur consacrent un chapitre séparé.¹⁰ Très récemment, la Commission japonaise de la Concurrence a amendé ses principes directeurs en matière de fusion en rajoutant une description plus détaillée des modalités d'évaluation des gains d'efficacité, y compris d'efficacité dynamique.¹¹

Malgré ces évolutions, certains critiques affirment que les nouveaux points de vue sur les gains d'efficacité se limitent largement au niveau théorique ou hypothétique.¹² Les tribunaux et les administrations paraissent hésiter à prendre en compte ces gains dans leurs décisions, notamment lorsqu'ils sont difficiles à quantifier. Comme nous le verrons, l'une des caractéristiques principales des gains d'efficacité dynamique est qu'ils sont généralement difficilement quantifiables.

2.1.2 Théorie de base des gains d'efficacité

Kolasky et Dick identifient quatre types différents de gains d'efficacité :

- *Les gains d'efficacité répartis* sont ceux qui permettent une répartition des ressources de la société en général, la plus proche de leur valeur d'usage la plus élevée. Plus précisément, ces gains conduisent les entreprises à ajuster leur niveau de production de telle sorte qu'il se rapproche du point où le coût marginal est égal à la valeur que les consommateurs assignent à la dernière unité produite. L'une des principales vertus de la concurrence est qu'elle amène les marchés à l'efficacité répartitive étant donné que les entreprises peuvent plus difficilement fixer leurs prix à un niveau supérieur au coût marginal à long terme.
- *Les gains d'efficacité productive* sont des économies de coûts qui permettent aux entreprises de produire davantage ou d'avoir une production de meilleure qualité, à partir d'une quantité identique d'intrants. On peut décrire cette idée d'une autre manière en disant que les gains d'efficacité productives permettent aux entreprises de produire au coût total le plus bas possible.

peuvent améliorer la compétitivité des entreprises et on a présenté une liste étendue des effets positifs de ces gains. Pour plus d'informations sur l'histoire des gains d'efficacité dans les lignes directrices des États-Unis en matière de fusions, voir William Kolasky et Andrew Dick, « The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers, » *Antitrust Law Journal*, vol. 71, 207 (2003).

¹⁰ Lignes directrices sur l'appréciation des concentrations horizontales au regard du règlement du Conseil relatif au contrôle des concentrations entre entreprises (2004/C 31/03) («les Lignes directrices de la CE») [76-88]. Le dernier règlement de la CE sur les fusions, notamment, comporte un exposé liminaire (qui n'a pas force obligatoire) appelant expressément à la prise en compte des gains d'efficacité et notant la possibilité que « les gains d'efficacité résultant d'une concentration contrebalancent les effets [de la concentration] sur la concurrence, et notamment le préjudice potentiel pour les consommateurs que cette concentration pourrait représenter en l'absence de ces gains, et qu'en conséquence, la concentration pourrait ne pas entraver de manière significative une concurrence [...] » Point 29, règlement du Conseil (EC) 139/2004 du 20 janvier 2004 sur le contrôle des concentrations entre entreprises (le RFCE) [2004] OJ L24/1.

¹¹ Commission japonaise de la concurrence, Principes directeurs pour l'application de la loi de lutte contre les monopoles concernant l'analyse des fusions d'entreprises (28 mars 2007).

¹² Voir par exemple Thomas Leary « Gains d'efficacité et lutte antitrust : une évolution en cours », discours prononcé devant la section sur le droit antitrust de l'American Bar Association (Washington, D.C., 8 novembre 2002), p. 1.

La concurrence a notamment pour vertu d'encourager les entreprises à dégager des gains d'efficacité productive et à s'en servir pour fonctionner de manière aussi efficiente que possible, puisque la concurrence élimine du marché les entreprises inefficaces. Entre autres exemples de gains d'efficacité productive, on peut citer les économies d'échelle ou d'envergure, la répartition rationalisée de la production entre usines ou le transfert de techniques de production supérieures, ainsi que les économies dans les activités non manufacturières comme la distribution.

- *Les gains d'efficacité dynamique* se produisent sur un certain temps et permettent une baisse des coûts, la création de nouveaux produits ou l'amélioration de produits. On en trouve des exemples courants comme l'innovation et l'apprentissage sur le tas. Alors que les gains d'efficacité répartis et productifs interviennent à un moment précis et sont donc considérés comme « statiques », les gains d'efficacité dynamique sont sous-tendus par des forces évolutives comme la recherche – développement qui peuvent se produire et avoir des effets sur de nombreuses périodes de temps.
- *Les gains d'efficacité transactionnelle* permettent aux entreprises de baisser le coût des ventes, achats et autres opérations commerciales. Par exemple, lorsque des entreprises produisant des biens complémentaires fusionnent, elles devraient être en mesure de baisser leurs coûts puisqu'elles n'ont plus besoin de négocier les contrats entre elles.¹³

Le changement d'attitude décrit en partie 2.1.1 résulte pour une grande part des travaux de l'économiste Oliver Williamson. Dans un article désormais célèbre de 1968, Williamson formulait la base théorique incluant dans l'analyse des fusions les gains d'efficacité en tant que facteur favorable à la concurrence¹⁴. À l'aide d'un diagramme très simple et d'un modèle élémentaire selon les normes actuelles, Williamson a prouvé que les gains d'efficacité statique pouvaient aisément compenser les pertes sèches postérieures à la fusion, dues à la fixation de prix de monopole. En conséquence, les administrations et les tribunaux ont finalement été confrontés au fait que toute politique rationnelle en matière de fusions devait prendre en compte les effets positifs des gains d'efficacité.

Nous reproduisons le diagramme de Williamson en figure 1. La droite AC_1 représente les coûts moyens des entreprises avant leur fusion. La droite AC_2 représente les coûts moyens après la fusion, qui sont moins élevés en raison des gains d'efficacité statique que Williamson voulait illustrer. On suppose également que les deux entreprises séparément n'ont pas de pouvoir de marché, et qu'elles ne peuvent donc pas pratiquer avant la fusion de prix supérieur au prix de concurrence P_1 . Après la fusion et bénéficiant désormais d'un pouvoir de marché, la nouvelle entité résultant de la fusion peut pratiquer un prix P_2 .¹⁵ Les effets nets sur le bien-être en termes de répartition sont représentés par les deux zones colorées. L'aire triangulaire A_1 est la perte sèche résultant de la fixation de prix de monopole (en prenant l'hypothèse que les coûts restent constants). Cependant, vu les gains d'efficacité statique de la fusion, les coûts moyens baissent et reviennent à AC_2 . L'aire rectangulaire A_2 représente les économies associées. L'effet répartitif net est donc représenté par la soustraction aire $A_2 -$ aire A_1 . Williamson prenait bien évidemment pour hypothèse une certaine élasticité de la demande, un certain niveau d'économies de coûts, etc., et ce résultat n'est par conséquent qu'une possibilité parmi de nombreuses autres. Cela n'en montre

¹³ Kolasky et Dick, supra note 9, p. 208, pp. 242-51

¹⁴ Oliver Williamson, « Economies as an Antitrust Defense, » 58 American Economic Review 18 (1968).

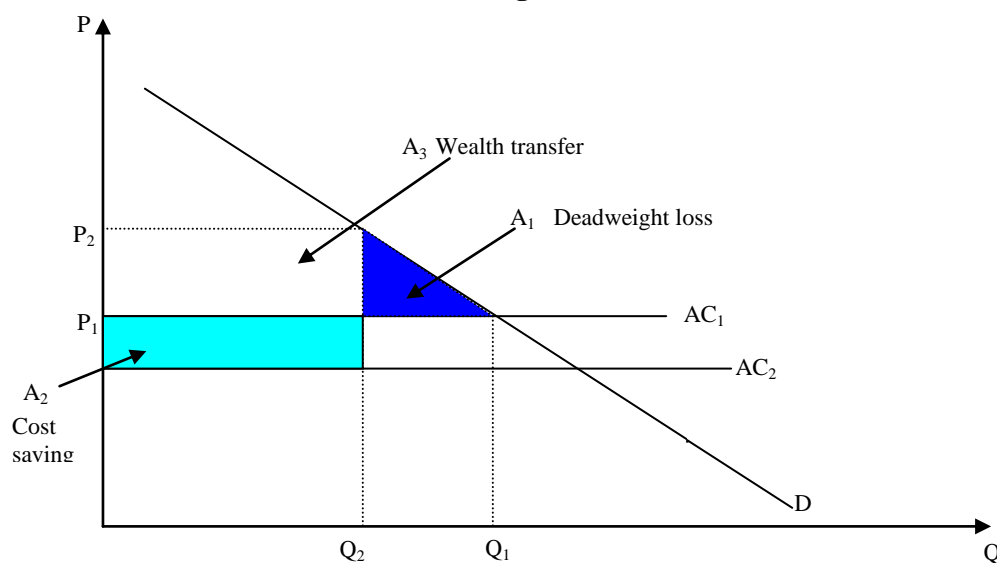
¹⁵ On détermine P_2 en fixant le point où la courbe du chiffre d'affaires marginal (qui ne figure pas dans le diagramme) recoupe la nouvelle courbe du coût marginal, identique à la droite AC_2 dans notre exemple, puis en traçant une droite verticale à partir de ce point, rejoignant la courbe de la demande D .

pas moins que c'est un résultat plausible pour certaines fusions. Il faut donc prendre en compte les gains d'efficacité.

Williamson était partisan d'autoriser les fusions qui, globalement, augmentent le « surplus total », malgré toute augmentation des prix au-delà du prix de concurrence normale. En d'autres termes, l'économie de coûts résultant des gains d'efficacité dégagés par la fusion pouvait « se contenter d'être » supérieure à la perte sèche associée à l'augmentation de prix au-delà du prix concurrentiel. Williamson ne tient pas compte du transfert de richesse A_3 des consommateurs au monopoleur étant donné que le surplus total normatif considère ce transfert comme un événement neutre. En d'autres termes, pour Williamson, un gain pour les producteurs est aussi bénéfique qu'un gain pour les consommateurs.

Les enseignements à tirer de la figure 1 seraient différents selon le critère du bien-être du consommateur qui, non seulement considère les transferts de richesse des consommateurs aux producteurs comme des événements négatifs, mais ne prend pas en compte les économies de coûts qui ne sont pas répercutées sur les consommateurs. Ainsi, d'après le critère du bien-être du consommateur, les économies de coûts sont insuffisantes, à moins que la baisse de AC_2 soit telle que le niveau de prix après fusion ne dépasse pas P_1 .¹⁶ On peut exprimer cela d'une autre manière en disant que le critère du bien-être du consommateur exige au moins un effet neutre en termes de prix ou, mieux encore, une baisse de prix. On notera que le critère du bien-être du consommateur exige d'ordinaire des gains d'efficacité plus grands que le critère du surplus total.

Figure 1.



Traduction des légendes :

- A_3 Transfert de richesse
- A_1 Perte sèche
- A_2 Economie de coûts

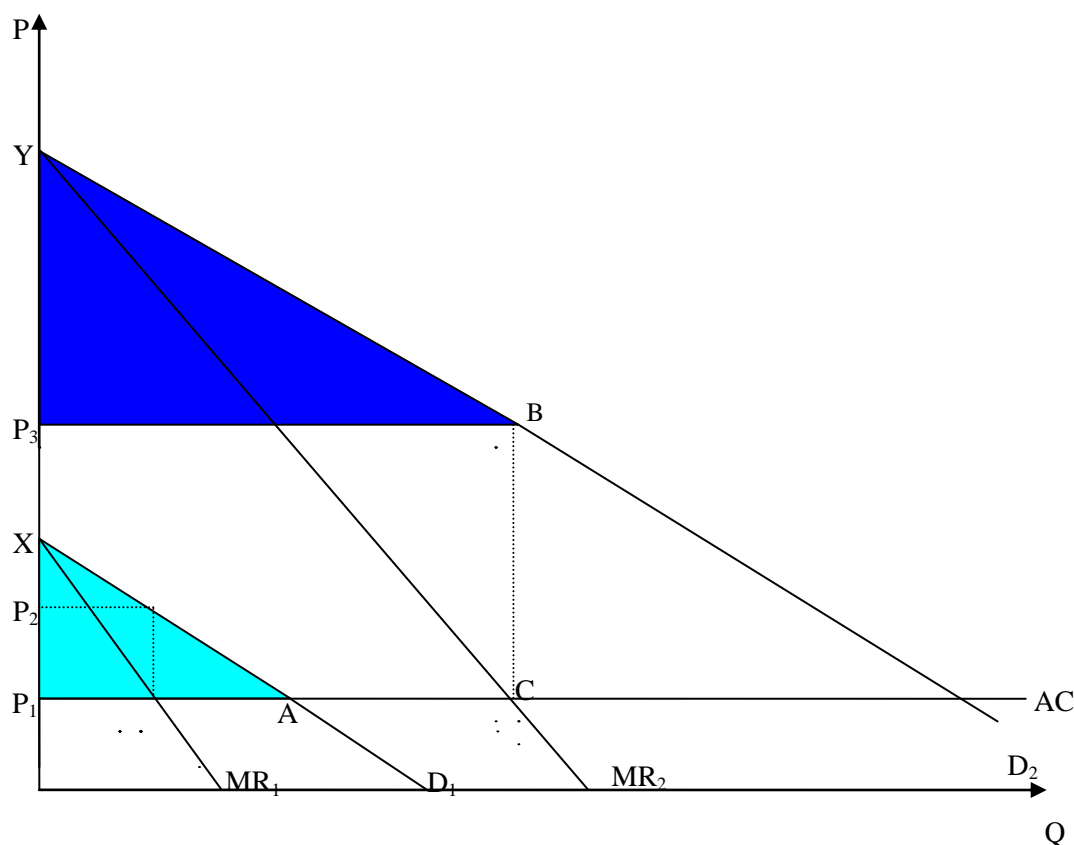
¹⁶

La courbe des coûts moyens baissant de plus en plus, non seulement l'aire A_2 devient de plus en plus grande, mais les aires de perte sèche et de transfert de richesse situées au-dessus de l'aire A_2 diminuent parce que l'entreprise résultant de la fusion produit plus pour maximiser ses profits (étant donné une courbe élastique de la demande, comme indiqué), bien que cette entreprise soit en position de monopole. En fin de compte, si ses coûts baissent suffisamment, la perte sèche et le transfert de richesses peuvent disparaître (ce qui est le cas lorsque P_2 est égal à P_1).

Après avoir exposé succinctement la comparaison graphique entre les gains d'efficacité statique et les effets négatifs d'une fusion, nous pouvons aborder maintenant les gains d'efficacité dynamique. Pour en rendre compte, il faudrait reconfigurer la figure 1 à un ou plusieurs points de vue. En premier lieu, si les gains d'efficacité dynamique sont du type qui abaisse régulièrement les coûts d'un produit existant (grâce par exemple à l'apprentissage sur le tas), on devrait trouver une série de droites représentant les coûts moyens, tirées de plus en plus bas le long de l'axe des ordonnées. L'une des conséquences est que, contrairement aux gains d'efficacité statique, les gains d'efficacité dynamique qui ne compensent pas dès le départ la perte sèche (ou la perte sèche plus le transfert de richesse vers les producteurs), ont malgré tout des chances de le faire dans le temps.

En deuxième lieu, si les gains d'efficacité dynamique permettent à l'entreprise résultant de la fusion de fabriquer des versions de meilleure qualité d'un produit existant et ce, pour le même coût, la courbe de la demande D doit augmenter. La poursuite de l'amélioration de la qualité devrait se traduire par une série de courbes de la demande s'inscrivant de plus en plus haut et de plus en plus à la droite de la courbe d'origine de la demande. Si la courbe de la demande évolue en parallèle, le prix après fusion augmente et passe au-dessus de P_2 , et même si, au lieu de prendre en compte le surplus total, nous ne tenons compte que des effets sur le consommateur, ce dernier peut se trouver dans une bien meilleure situation qu'il ne l'était avant la fusion. Voir figure 2.

Figure 2.



Avant la fusion, le marché est concurrentiel et le prix = $AC = P_1$. Le bien-être du consommateur est représenté par le triangle XP_1A . Immédiatement après la fusion, l'entreprise issue de la fusion détient un pouvoir de marché et pratique le prix P_2 . Toutefois, avec le temps, les gains d'efficacité dynamique de la fusion permettent à l'entreprise d'améliorer la qualité de son produit sans encourir de coûts supplémentaires. AC reste donc constant, mais la courbe de la demande commence à augmenter. Supposons qu'après deux ou trois ans, la courbe de la demande se situe en D_2 . L'entreprise va alors

pratiquer le prix P_3 . Le bien-être du consommateur est à ce moment-là représenté par le triangle YP_3B . On peut constater que le bien-être du consommateur, bien que moins important qu'il ne le serait dans une situation de prix parfaitement concurrentiel, est toutefois supérieur à ce qu'il était avant la fusion en raison de la valeur substantielle créée par les améliorations de qualité réussies par l'entreprise.¹⁷ Dans une telle situation, il n'est plus dans l'intérêt du bien-être du consommateur de persister à vouloir que les prix n'augmentent pas – du moins, si l'on prend en compte des effets qui peuvent se produire sur plusieurs périodes de temps.

En troisième lieu, si les gains d'efficacité² dynamique entraînent la mise au point d'un produit ou de produits totalement nouveau(x), nous aurons alors besoin d'un diagramme totalement différent, avec des courbes de coûts différentes et des courbes de la demande différentes. Le surplus du consommateur serait représenté par l'aire triangulaire située sous la courbe de la demande et au-dessus du prix. Le surplus du producteur serait matérialisé par l'aire rectangulaire située entre le coût moyen et le prix sur l'axe des prix, et entre zéro et la quantité d'équilibre sur l'axe quantitatif. Que cela soit dans le cadre du surplus total ou du critère du bien-être du consommateur, on verra apparaître dans le diagramme une toute nouvelle aire représentative de surplus.

Le modèle de base de gain d'efficacité statique de Williamson met l'accent sur le coût et le prix sur un seul marché. Quand une fusion entraîne des effets autres que sur les prix ou des effets sur d'autres marchés, ce modèle doit alors faire l'objet d'un certain nombre d'ajustements. Il faut pour ces ajustements quantité d'informations substantielles. Il ne serait pas aisé, même dans le monde relativement simple et statique de Williamson, de procéder à l'arbitrage qu'il décrit car cet arbitrage suppose des données difficiles à obtenir. L'importance de la perte sèche, par exemple, dépend de l'élasticité de la demande du produit concerné et de l'augmentation de prix attendue. On ne peut pas normalement connaître précisément ces valeurs. Par conséquent, tout calcul devrait être effectué sur une série d'hypothèses chiffrées.

2.2 *Types de gains d'efficacité dynamique*

Comme nous l'avons déjà indiqué plus haut, les gains d'efficacité dynamique sont généralement considérés comme intervenant sur une certaine durée dans le temps et ayant pour effet de baisser les coûts et de créer de nouveaux produits ou d'améliorer les produits existants. La liste suivante donne quelques exemples de gains possibles d'efficacité dynamique.

1. *Apprentissage sur le tas.* L'apprentissage sur le tas est simplement ce qui se produit lorsque les entreprises améliorent ce qu'elles font grâce à l'expérience. Au fil du temps, elles peuvent apprendre de nouvelles manières de minimiser leurs coûts ou d'améliorer leurs produits.
2. *Amélioration de la direction.* On parle parfois de gains d'efficacité dynamique lorsque l'entreprise qui en rachète une autre possède une excellente équipe dirigeante qui remplace l'équipe dirigeante moins bonne de l'entreprise rachetée, permettant ainsi une amélioration durable des performances. Cet argument est sujet à caution. En effet, un tel argument n'est pas forcément spécifique aux fusions selon qu'il existe d'autres équipes dirigeantes en mesure de faire au moins aussi bien mais qui ne font pas partie d'entreprises dont les

¹⁷ Techniquement, le triangle YP_3B devrait se trouver en partie diminué pour tenir compte d'un taux d'actualisation. Cependant, si le taux d'actualisation n'est pas très élevé, si les améliorations de qualité ne sont pas trop longues à se dessiner ou si la courbe de la demande augmente suffisamment, cette diminution ne devrait pas beaucoup affecter le résultat. On notera aussi qu'au titre du critère du surplus total, le gain net de la fusion serait considéré comme bien plus important. Le surplus total changerait pour passer de l'aire triangulaire XP_1A avant la fusion, à l'aire YP_1CB lorsque la demande atteint D_2 .

activités se recoupent (ou du moins se recoupent autant) avec l'entreprise rachetée. En second lieu, des études empiriques jettent un doute sur cet argument.¹⁸

3. *Rapprochement d'actifs complémentaires dans la distribution ou le marketing.* Certaines fusions verticales peuvent aboutir au rapprochement d'actifs complémentaires en sorte que les produits parviennent plus vite aux consommateurs. Il peut s'agir par exemple de l'amélioration de la logistique de distribution des produits rendue possible par la plus grande couverture géographique dont bénéficie l'entreprise issue de la fusion, ou des avantages de rapprocher une société bénéficiant d'un excellent programme de R-D avec une société dont la force réside dans le marketing.
4. *Elimination des doublons en R-D.* Si les deux entreprises qui fusionnent consacrent des ressources aux mêmes recherches, il y a là manifestement un potentiel d'économies de coûts. Si l'entreprise issue de la fusion utilise ces économies au financement d'autres efforts d'innovation, il peut en résulter des gains d'efficacité dynamique. Il y a toutefois des écueils à éviter. En effet et en premier lieu, bien que les deux sociétés, avant la fusion, aient recherché le même résultat final, elles ont peut-être abordé cette recherche selon des méthodes différentes. Dans la mesure où l'une de ces méthodes peut s'avérer supérieure à l'autre, il vaut peut-être mieux continuer à séparer les deux programmes et les financer tous les deux plutôt que de risquer d'éliminer le programme qu'il faudrait garder. Il est donc important de vérifier que les deux programmes de recherche que l'on estime faire doublon font réellement double emploi, non seulement au niveau de leur objectif, mais aussi en termes de méthode. En second lieu, la fusion peut faire disparaître la concurrence qui était le moteur des efforts de recherche des deux sociétés. Si tel est le cas, une société fusionnée peut perdre toute motivation de poursuivre sa recherche ou décider de la poursuivre, mais de façon moins dynamique.
5. *Economies d'échelle et d'envergure en R-D.* Lorsque les programmes de recherche de deux sociétés sont réunis, leurs actifs de R-D peuvent réaliser plus de choses qu'ils ne le feraient individuellement s'ils étaient restés séparés. Un programme, par exemple, peut profiter de l'accès à un certain matériel qui se trouve dans le laboratoire de l'autre société et que la première société aurait considéré comme trop cher pour l'acheter pour elle toute seule. Le taux d'utilisation de ce matériel pourra donc être amélioré après la fusion, sauf si le programme de la première société implique que ce matériel soit utilisé vingt-quatre heures sur vingt-quatre. Autre scénario : les deux programmes peuvent à eux deux utiliser un nouvel outil de recherche de façon suffisamment importante pour justifier l'achat de cet outil, alors qu'aucune des deux sociétés ne l'aurait acheté pour elle toute seule. Autre possibilité encore, probablement la plus fréquente : les deux sociétés ont des actifs de R-D complémentaires et peuvent donc diminuer leurs coûts de transaction en fusionnant.
6. *Exploitation conjointe de propriété intellectuelle.* Normalement, il est aussi facile d'exploiter plus pleinement la propriété intellectuelle que de conclure un accord de licence. Toutefois, dans certaines situations, la fusion est le seul cas de figure susceptible de persuader une entreprise de partager sa propriété intellectuelle avec une autre entreprise. Le détenteur de la propriété intellectuelle peut estimer que celle-ci vaut plus que ne la valorise aucune autre personne et peut donc tenir bon sur un niveau de droits qu'aucune autre entreprise n'est prête à payer. Il peut également estimer que le fait d'autoriser une autre entreprise à utiliser la

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Voir par exemple, Robert McGuckin et Sang Nguyen, « On Productivity and Plant Ownership Change: New Evidence from the Longitudinal Research Database, » *Rand Journal of Economics*, vol. 26, p. 257 (1995)

propriété intellectuelle qui lui appartient permettrait à cette autre entreprise de réaliser des innovations évinçant en fin de compte la technologie du concédant de la licence.

7. *Meilleure répartition du risque de R-D.* Si les deux sociétés qui fusionnent sont actuellement rentables, elles peuvent estimer que le risque pour chaque investissement en R-D envisagé est moindre car on peut répartir ces investissements sur une assise plus large de chiffre d'affaires et de résultats, ce qui diminue les conséquences relatives des échecs de la société issue de la fusion. Cette constatation peut, à son tour, inciter plus fortement la société fusionnée à financer des projets de R-D.
8. *Meilleure respect des droits de propriété intellectuelle.* Les petites entreprises sont moins susceptibles que les grandes de disposer des ressources nécessaires pour financer des actions en justice destinées à protéger leurs droits de propriété intellectuelle. Selon certaines études, la probabilité qu'une entreprise engage des poursuites judiciaires pour faire respecter ses brevets est corrélée négativement au nombre de brevets détenus par cette entreprise, et cet effet est encore plus accentué pour les petites entreprises.¹⁹ Cela ne renforce guère les incitations à l'innovation par les petites entreprises. Par conséquent, lorsqu'une fusion améliore les capacités des parties à faire respecter leurs droits de propriété intellectuelle, cela est aussi susceptible d'accroître leurs motivations pour l'innovation.
9. *Augmentation des ressources pour le financement de la R-D.* Lorsque l'on additionne les ressources financières de deux entreprises, celles-ci sont susceptibles d'entreprendre un plus grand nombre de projets de recherche et ce, pour diverses raisons. En tant qu'entité plus grande, l'entreprise résultant de la fusion peut constater qu'elle jouit d'un plus grand accès aux marchés financiers ou qu'elle peut emprunter de l'argent à des taux d'intérêt plus bas. Bénéficiant ainsi d'un coût plus bas du capital, l'entreprise peut alors se permettre de financer davantage de projets de recherche en général. Dans ce cas, elle peut investir davantage d'argent dans le matériel, les installations et le personnel de recherche. Elle peut aussi être prête à financer des projets dégageant des rendements inférieurs à ceux que les deux sociétés ayant fusionné auraient été individuellement enclines à financer. En outre, si la fusion concerne une grande entreprise ayant une trésorerie abondante et une entreprise plus petite, orientée vers la recherche mais sans beaucoup de capitaux, tout l'intérêt de la fusion peut résider dans le financement des travaux de l'entreprise plus petite – d'autant plus si la grande entreprise se trouve en position idéale pour comprendre et estimer la valeur potentielle des idées de la petite entreprise.

Il n'est pas forcément exact de supposer que ces effets se produiront dans tous les cas. Il faut plus probablement les garder simplement à l'esprit en tant que possibilité, dans le cadre d'une méthode factuelle, au cas par cas. En effet, on ne peut pas présumer de manière générale qu'une entreprise qui acquiert une plus grande dimension est davantage portée vers l'innovation. Selon certaines études, la R-D augmente effectivement en proportion de la dimension de l'entreprise, mais jusqu'à un certain point. D'après d'autres études, la dimension de l'entreprise n'est que corrélée à la R-D, et n'entre pas dans une relation de cause à effet avec elle. D'autres facteurs sont les véritables moteurs de la R-D.²⁰ D'autres

¹⁹ Jean Lanjouw et Mark Schankerman, « Protecting Intellectual Property Rights: Are Small Firms Handicapped? » *Journal of Law and Economics*, vol. 47, p. 45 (2004)

²⁰ Richard Levin. Wesley Cohen et David Mowery, « R&D Appropriability, Opportunity, and Market Structure: New Evidence on Some Schumpeterian Hypotheses » *American Economic Review Proceedings* vol. 75, p. 20 (1985); Wesley Cohen et Richard Levin, « Empirical Studies of Innovation and Market Structure » in Richard Schmalensee et Robert Willig (dir. pub.), *Handbook of Industrial Organization*, vol. 2, p. 1074 (1989)

études encore montrent que les grandes entreprises ne sont pas plus productives que les petites pour la création de brevets, une mesure possible de l'innovation. De fait, si l'on considère la création de brevets par employé et par montant investi en R-D, les petites entreprises sont plus innovantes que les grandes.²¹ Quant à la question des ressources financières notamment, certaines fusions provoquent une crise des liquidités qui finit par peser sur les investissements en R-D. C'est par exemple ce qui peut se produire lors de rachats d'entreprise à l'aide d'un fort endettement.²²

10. *Fixation de normes.* En facilitant ou en accélérant l'adoption d'une norme industrielle ou sectorielle, une fusion est susceptible d'augmenter la confiance dans cette norme et de rendre l'innovation fondée sur cette norme plus rentable que cela n'aurait été le cas dans un marché fragmenté. Dans cette situation, l'innovation issue de la norme peut venir aussi bien des entreprises qui fusionnent que d'autres entreprises.
11. *Effet de Schumpeter.* Il peut enfin y avoir un gain d'efficacité très général en termes d'innovation associée aux fusions qui augmente nettement la concentration. C'est l'argument de Schumpeter selon lequel le pouvoir de marché stimule l'innovation. En quelques mots, selon cette théorie, les entreprises qui détiennent un pouvoir de marché ont tendance à innover davantage que les entreprises qui n'ont pas de pouvoir de marché, mais le pouvoir de marché est toujours temporaire en raison du processus de destruction créatrice entraîné par l'innovation. Si cette théorie est correcte, elle implique que toute fusion qui entraîne une plus grande concentration doit automatiquement comporter un certain degré de gain d'efficacité dynamique.²³ Cependant, il n'est pas sûr que Schumpeter ait raison.²⁴

Il peut par exemple y avoir une relation de courbe en U inversé entre la concentration et l'innovation. Si cela s'avère, alors certaines fusions devraient automatiquement recevoir « de bonnes notes » et d'autres « de mauvaises notes » en matière de gains d'efficacité dynamique. Toutefois, pour ce faire, il faudrait avoir une connaissance détaillée, non seulement de la forme de la courbe en U inversé du marché concerné, mais aussi de la position du marché sur ce point, avant et après la fusion. Il se peut également que la théorie de la courbe en U inversé soit fautive, ou qu'elle s'applique à certains secteurs et pas à d'autres. Pour le moment du moins, il ne semble y avoir aucune existence présumée de gains

²¹ Katz et Shelanski. supra note 2, p. 52 (extrait de Zoltan Acs et David Audretsch, « R&D, Firm Size, and Innovative Activity, » in Acs et Audretsch (dir. pub.), Innovation and Technological Change: An International Comparison (1991))

²² Voir Bronwyn Hall « The Impact of Corporate Restructuring on Industrial Research and Development, » 1990 Brookings Papers on Economic Activity, Microeconomics, p. 85 (1990) (examen des effets du financement de la dette sur l'innovation à partir d'un échantillon appréciable de fusions aboutissant à des conclusions mitigées)

²³ On peut estimer qu'il ne faut pas tenir compte d'une efficacité générale de ce type étant donné que toute synergie due au simple fait que les niveaux de concentration augmentent en raison de la fusion n'est pas spécifiquement due à la fusion (voir la partie 3.1.1 ci-après pour une explication de la spécificité d'une fusion), sous réserve de l'existence d'autres partenaires ou groupes de partenaires similaires de fusion. D'un autre côté, les fusions avec des partenaires ou groupes de partenaires similaires de fusion n'en demeurent pas moins des fusions. Par conséquent, même si les gains d'efficacité de Schumpeter ne sont pas spécifiques à un partenaire donné de fusion, ces gains peuvent malgré tout être caractéristiques du processus de fusion en général.

²⁴ OCDE, « Brevets, concurrence et innovation » (à paraître).

d'efficacité liés à la relation générale entre structure du marché et innovation.²⁵

3. Traitement des gains d'efficacité dynamique par les principes directeurs en matière de fusions

3.1 Considérations de forme

En pratique, les gains d'efficacité ne sont pris en compte dans l'analyse d'une fusion que lorsque l'on soupçonne que l'opération risque par ailleurs d'être anticoncurrentielle. S'il apparaît qu'une fusion, après définition des marchés pertinents et détermination des parts de marché, va augmenter les niveaux de concentration à un point où l'on peut craindre que l'opération n'entrave le jeu de la concurrence, les autorités vont alors normalement procéder à une analyse de cette opération du point de vue de ses effets sur la concurrence. Si cette analyse montre qu'il ne devrait pas y avoir d'effets anticoncurrentiels ou que ces effets devraient être extrêmement limités, il n'y a pas besoin d'aller plus loin. La fusion est alors autorisée. Ce n'est que si l'analyse confirme que la fusion entraînera probablement d'importants effets anticoncurrentiels que l'on évaluera les gains d'efficacité, soit au titre de compensation possible de ces effets, soit en tant qu'élément de la décision finale pour trancher la question de savoir si la fusion doit être globalement considérée comme anticoncurrentielle. La charge d'apporter la preuve de la probabilité et de l'ampleur des gains d'efficacité incombe normalement aux entreprises qui fusionnent.

Il est logique de limiter la recherche des gains d'efficacité aux cas où un effet anticoncurrentiel est susceptible de se produire. En effet, il est souvent très difficile de déterminer et de quantifier ces gains à l'avance. Cette recherche n'a pas de sens si la fusion ne devrait entraîner aucune conséquence préjudicielle à la concurrence. En outre, faire supporter la charge de la preuve des gains d'efficacité aux entreprises à la fusion est juste puisque ces elles bénéficient du meilleur accès aux informations utiles pour déterminer ces gains.

Lorsque les allégations de gains d'efficacité dynamique sont justifiées, les autorités chargées de la concurrence prennent normalement en compte plusieurs facteurs pour fixer le poids qu'il faut donner à ces gains, le cas échéant. Nous parlons ici des administrations chargées de la concurrence plutôt que des tribunaux, pour la simple raison que les gains d'efficacité sont rarement le facteur déterminant dans les décisions de justice. En d'autres termes, il y a une très nette insuffisance de décisions judiciaires que l'on puisse étudier, et très peu de cas portant sur les gains d'efficacité dynamique.²⁶ Par contre, un certain nombre d'autorités chargées de la concurrence ont publié des principes directeurs donnant des indications sur la manière dont elles évaluent les gains d'efficacité, et certaines d'entre elles prodiguent des conseils,

²⁵ Katz et Shelanski, supra note 2, à 22 (« Les études théoriques concernant l'influence de la structure du marché sur l'innovation (et vice versa) montrent en fin de compte une relation ambiguë »).

²⁶ Il y a plus de dix ans, le Comité de la concurrence de l'OCDE a réuni une table ronde sur les gains d'efficacité dans les fusions horizontales. La note de référence pour cette table ronde faisait observer que « ce n'est que dans un nombre étonnamment limité de cas impliquant des fusions, qu'une décision s'est explicitement fondée sur les caractéristiques de l'opération en question promouvant les gains d'efficacité » OCDE, « Politique de la concurrence et efficacité dans les fusions horizontales » OCDE/GD(96)65, note de référence, p. 5 (1996). Non seulement cette observation demeure valable aujourd'hui, mais le nombre de décisions sur les fusions qui font appel aux gains d'efficacité dynamique est encore plus limité.

notamment pour les gains d'efficacité dynamique. Les facteurs énumérés ci-après sont généralement pris en compte, avec toutefois et bien évidemment des variantes d'un pays à l'autre.²⁷

1. *Spécificité de la fusion.* Étant donné que la prise en compte des gains d'efficacité peut, du moins en principe, emporter l'autorisation d'une fusion qui serait sinon considérée comme anticoncurrentielle, on demande généralement aux parties d'apporter la preuve qu'il n'existe pas de moyens *moins* anticoncurrentiels de concrétiser ces gains. Si d'autres possibilités comme la croissance interne de l'une des parties ou des deux, une fusion avec des effets anticoncurrentiels moins forts, ou encore des accords moins poussés entre les parties, seraient susceptibles d'entraîner les mêmes gains d'efficacité, ceux-ci ne sont alors pas « spécifiques à la fusion » et on n'en tient pas compte.

Autre point lié au précédent, celui de savoir si les parties à la fusion doivent prouver qu'il n'existe absolument aucun autre moyen de concrétiser les gains d'efficacité qui soit moins anticoncurrentiel que cette fusion, au lieu de prouver qu'il n'y a tout simplement pas d'autre moyen réalisable de le faire. Un consensus général paraît s'établir sur le fait que les parties ne doivent pas être tenues de justifier l'exclusion de toute alternative possible, même peu probable. Les principes directeurs des États-Unis sur les fusions, par exemple, définissent les gains d'efficacité spécifiques aux fusions comme étant « des gains susceptibles de se matérialiser par la fusion proposée et non susceptibles d'intervenir en l'absence de la fusion proposée ou d'un autre moyen ayant des effets anticoncurrentiels comparables . . . Seules des possibilités réalistes eu égard à la situation des entreprises qui fusionnent seront considérées ; l'administration ne tiendra pas compte d'une autre possibilité présentant moins d'obstacles à la concurrence, mais de nature purement théorique. »²⁸

Ce point de vue plus conciliant est notamment motivé par le fait qu'il peut exister d'importants obstacles pratiques à des solutions apparemment « faciles », notamment lorsque les parties sont concurrentes. Il peut par exemple être irréaliste de tabler sur le succès d'une coordination partielle (sous forme notamment de joint venture) entre entreprises par ailleurs rivales, aussi grand que si ces entreprises étaient totalement fusionnées. Sans la réunification complète des activités des deux entreprises, celles-ci peuvent hésiter à partager leur technologie et leurs employés les plus qualifiés. Les projets de recherche peuvent être arrêtés tandis que les deux entreprises discutent sur le fait de savoir si chacune d'entre elles y contribue suffisamment. Les pratiques du secteur dans des situations semblables sont peut-être le meilleur témoignage de la faisabilité de ces dispositions.

Sur les marchés à forte intensité innovatrice où les alliances stratégiques sont équitablement courantes, il peut s'avérer difficile d'apporter la preuve que les gains d'efficacité sont spécifiques à la fusion. Les alliances stratégiques sont relativement courantes sur ces marchés. En outre, de nombreux pays ont une réglementation peu contraignante pour juger de la licéité des entreprises conjointes en R-D conclues entre concurrents.²⁹ Les alliances stratégiques comme les entreprises conjointes semblent moins restreindre la concurrence que ne le font les fusions.

²⁷ Il serait fastidieux d'analyser les nombreux principes directeurs différents et cela risquerait d'amener la confusion. En conséquence, dans la mesure où nous traitons de certains principes directeurs dans le présent document, nous nous limitons aux principes directeurs de l'UE et des États-Unis.

²⁸ Lignes directrices en matière de fusions horizontales, édictées par le Ministère américain de la Justice et la Commission fédérale du Commerce (ci-après les « lignes directrices des États-Unis ») article 4 (8 avril 1997). Voir également les lignes directrices de la CE [85] (« La Commission ne prend en compte que les autres possibilités raisonnablement pratiques eu égard à la situation des entreprises qui fusionnent et compte tenu des pratiques en vigueur dans le secteur concerné »).

²⁹ À titre d'exemple, la loi américaine de 1993 sur la recherche et la production nationales en coopération a pour but de promouvoir les entreprises conjointes en R-D et en production génératrices d'efficacités. Voir

Quoi qu'il en soit, dans une première étape, pour juger si les gains d'efficacité liés à l'innovation sont spécifiques à la fusion, on peut demander aux parties de quelle manière, selon elles, cette fusion va améliorer leur capacité à innover.³⁰ Ensuite, l'investigation peut se concentrer sur la question de savoir si les parties pourraient obtenir les mêmes avantages qu'elles allèguent en prenant d'autres dispositions raisonnables, mais moins contrares au jeu de la concurrence, comme par exemple la création d'une entreprise conjointe ou un contrat de licence d'exploitation de propriété industrielle. Dans l'affirmative, cela signifie la coopération entre les deux entreprises pourrait bénéficier à la société en général, sans les inconvénients d'une fusion en termes de concurrence. Par conséquent, les gains d'efficacité allégués n'auraient alors pas besoin d'être pris en compte.

2. *Exigence de répercussion sur le consommateur.* Les gains d'efficacité peuvent enrichir l'entreprise une fois fusionnée ou le consommateur, ou encore les deux à la fois. Les autorités exigent assez fréquemment des producteurs que ceux-ci répercutent au moins une partie de leurs gains aux consommateurs.³¹ Cette exigence s'explique par le choix qui est fait du critère de bien-être du consommateur pour évaluer les gains d'efficacité. Dans le cadre d'un critère de surplus global, il importerait peu que les économies de coûts soient ou non répercutées auprès des consommateurs. Cependant, dans la majorité des pays qui ont traité cette question, les décisions des tribunaux et les principes directeurs édictés par les autorités exigent de rapporter la preuve que les économies de coûts issues des efficacités dégagées par les fusions seront répercutées sur les consommateurs. Les tribunaux et les autorités s'opposent à toute augmentation de prix prévue résultant des effets de la fusion sur la concentration.

L'exigence de répercussion sur les consommateurs peut être à l'origine d'un dilemme terrible au niveau de l'analyse de certains gains d'efficacité dynamique qui peuvent être très bénéfiques pour les consommateurs, sans avoir pour autant d'effet quelconque sur les prix des produits existants. Il se peut, d'ailleurs, que la fusion provoque une hausse de ces prix, alors même que l'influence positive de la fusion sur l'innovation peut conduire à la création de produits entièrement nouveaux procurant aux consommateurs de merveilleux avantages en termes de bien-être. Il existe un autre scénario possible : que les économies de coûts dues aux gains d'efficacité dynamiques mettent des années à se concrétiser, échéance à laquelle ces économies pourraient faire considérablement baisser les prix. Dans une telle situation, les autorités peuvent se trouver face au problème du traitement d'une fusion qui risque d'entraîner une hausse immédiate des prix, mais qui est aussi susceptible de provoquer une baisse encore plus importante des prix quelques années plus tard.³²

15 U.S.C. ss. 4301-05 (2000) garantissant l'examen selon des règles raisonnables plutôt que d'après des critères arbitraires, tant qu'il n'y a pas de restrictions secondaires dans l'accord d'entreprise conjointe, et limitant les amendes antitrust aux dommages simples plutôt que le triplement des dommages, à condition que les autorités aient été notifiées à l'avance de la création de l'entreprise conjointe.

³⁰ Katz et Shelanski, supra note 2, p. 53.

³¹ D'après les lignes directrices de la CE, par exemple, « il importe de vérifier que . . . les consommateurs ne seront pas dans une moins bonne situation si l'opération a lieu » Idem [79].

³² Pour des suggestions sur les moyens de déterminer la partie des gains d'efficacité susceptible d'être répercutée sur les consommateurs, voir Gregory Werden, Luke Froeb et Steven Tschantz « The Effects of Merger Efficiencies on Consumers of Differentiated Products » 1 European Competition Journal 245 (2005). Pour une critique humoristique de l'exigence de répercussion sur les consommateurs, voir Mitja Kocmut, « Considérations de gains d'efficacité et contrôle des fusions – Quo vadis, Commission ? » [2006] Revue de droit européen de la concurrence, 19, 24-25.

3. *Baisse des coûts fixes / baisse des coûts variables.* Cette question est étroitement liée à l'exigence de la répercussion des gains de la fusion sur le consommateur. En effet, elle a quelque chose à voir avec la question de savoir si les consommateurs sont susceptibles de bénéficier de la baisse des coûts. L'analyse des gains d'efficacité statique est souvent centrée sur l'existence et l'ampleur de la baisse des coûts variables puisque la baisse des coûts fixes n'affecte pas la fixation des prix à leur niveau maximisant les profits, du moins à court terme.³³ Par conséquent, pour que les consommateurs tirent un quelconque avantage des gains d'efficacité statique allégués, en d'autres termes, pour que les prix à la consommation baissent, ces gains d'efficacité doivent engendrer des économies de coûts variables.

Toutefois, dans le contexte des gains d'efficacité tirés de l'innovation, il se peut que la baisse des coûts fixes bénéficie aux consommateurs car ces économies de coûts peuvent inciter les entreprises à se lancer dans des projets de R-D qu'elle considéraient auparavant trop onéreux ou trop risqués. En fait, les gains d'efficacité dynamique, tel le regroupement d'intrants complémentaires de R-D et l'élimination d'intrants redondants, font baisser les coûts fixes. Dans l'immédiat, ces réductions de coûts ne profitent pas nécessairement aux consommateurs sous forme de baisse des prix, mais elles peuvent dégager beaucoup de valeur pour ces consommateurs à plus long terme, sous forme de produits nouveaux, améliorés, ou moins chers grâce aux plus investissements plus importants dans l'innovation encouragés par ces réductions de coûts. Par conséquent, comme Katz et Shelanski l'ont fait remarquer, « il importe de ne pas exclure sommairement les coûts fixes de l'analyse des gains d'efficacité lorsque l'innovation est en jeu ».³⁴

4. *Effets sur d'autres marchés.* Les fusions comportant des gains d'efficacité dynamique peuvent susciter des craintes d'effets anticoncurrentiels sur un marché, tout en engendrant de façon plausible des gains d'efficacité importants sur un autre (ou d'autres) marché(s). C'est ce qui peut se produire, par exemple, lorsqu'une fusion doit faciliter la mise au point de produits totalement nouveaux. Les autorités tiennent-elles compte de ces gains d'efficacité ? Les lignes directrices de la CE sont ambiguës sur ce point. En effet, d'un côté, le paragraphe 79 exprime une préférence, qui n'est donc pas un engagement ferme, pour les gains d'efficacité sur le marché, et stipule que les gains d'efficacité « doivent, en principe, être à l'avantage des consommateurs qui sont sur les marchés où, à défaut de tels gains, l'opération soulèverait probablement des problèmes de concurrence ». Par ailleurs, le paragraphe 81 admet clairement que les consommateurs peuvent tirer avantage de nouveaux produits ou services, « qui seraient le fruit, par exemple, de gains d'efficacité dans le domaine de la recherche et du développement et de l'innovation ».

Les lignes directrices des États-Unis traitent aussi des gains d'efficacité qui interviennent sur d'autres marchés, mais ne donnent pas non plus de principes clairs. Elles notent que les autorités chargées de l'analyse des fusions peuvent prendre en compte à leur souveraine appréciation les gains d'efficacité en dehors du marché concerné, mais elles avertissent que ces gains constituent rarement un facteur important. Ces gains « sont le plus susceptibles d'être déterminants lorsqu'ils sont importants et lorsque l'effet anticoncurrentiel de la fusion sur le(s) marché(s) concerné(s) est

³³ Katz et Shelanski, supra note 2, p. 54. Ce que veulent dire les auteurs, c'est que, selon la théorie microéconomique, les entreprises maximisent leurs profits en produisant les quantités auxquelles leur chiffre d'affaires marginal est égal à leur coût marginal. La décision de production n'est pas affectée par l'évolution des coûts fixes à court terme. À long terme, tous les coûts sont variables.

³⁴ Id. 54-55; voir aussi Commission américaine de modernisation des dispositions antitrust, rapport et recommandations p. 58 (avril 2007) (l'absence de prise en compte [des baisses de coûts fixes] ou leur pondération erronée dans l'évaluation d'une fusion peut priver les consommateurs et l'économie des États-Unis des avantages significatifs que procure une fusion favorable à la concurrence.)

réduit ».³⁵ Le commentaire conjoint du DOJ et de la FTC sur les lignes directrices concernant les fusions horizontales contient un exemple dans lequel des gains d'efficacité en dehors du marché ont été pris en compte, ce qui a eu pour conséquence qu'une fusion n'a pas été contestée³⁶.

5. *Quantification.* C'est généralement l'une des conditions les plus difficiles à remplir pour prouver l'existence de gains d'efficacité dynamique. Les lignes directrices des États-Unis, par exemple, exigent que les entreprises qui fusionnent étayent leurs allégations de gains d'efficacité afin que l'on puisse notamment vérifier l'importance de ces gains. « On ne tiendra pas compte des allégations de gains d'efficacité si elles sont vagues, de caractère spéculatif ou ne peuvent pas être vérifiées par d'autres moyens raisonnables ».³⁷

Les lignes directrices de la CE mentionnent aussi la quantification, mais n'en font pas une exigence absolue : « Dans la mesure des possibilités, les gains d'efficacité et les bénéfices en résultant pour les consommateurs devront [] être quantifiés ». Cela donne une certaine latitude pour présenter l'argument des gains d'efficacité, même si ces gains sont impossibles à quantifier sans se lancer dans de très longues considérations. Cela n'ouvre pas pour autant la porte à des arguments purement spéculatifs : « Lorsque les données nécessaires pour permettre une analyse quantitative précise ne sont pas disponibles, il doit être possible de prévoir un effet positif sur les consommateurs clairement identifiable et non un effet marginal »³⁸ Ainsi, d'une manière ou d'une autre, il faut fournir suffisamment d'informations à l'appui de l'affirmation selon laquelle les gains d'efficacité allégués feront une nette différence au niveau du bien-être des consommateurs, même si l'ampleur précise de cette différence n'est pas connue.

6. *Caractère substantiel.* Que la norme applicable soit le surplus pour le consommateur, le surplus total ou le bien-être total, les autorités ont tendance à exiger que les gains d'efficacité démontrés soient substantiels. En pratique, cela veut généralement dire que la valeur des gains d'efficacité doit nettement excéder la valeur estimée par les autorités des effets anticoncurrentiels. Il ne semble toutefois pas y avoir de définition exacte de l'expression « nettement excéder ». Williamson recommandait d'utiliser une échelle mobile pour ce paramètre, en fonction du degré de spéculation des gains d'efficacité allégués.³⁹ Des gains d'efficacité très spéculatifs doivent déboucher sur des bénéfices nets très importants pour être pris en compte dans la décision des autorités, tandis que des gains d'efficacité que l'on peut vérifier facilement et objectivement peuvent entraîner des bénéfices nets moins importants et néanmoins être pris en compte.
7. *Caractère vérifiable.* Ce critère paraît avoir des significations différentes selon les autorités. Selon les lignes directrices de la CE, « les gains d'efficacité doivent être vérifiables pour que la Commission puisse avoir la certitude, dans une mesure raisonnable, que la concrétisation de ces gains est probable et qu'ils seront suffisamment importants pour contrebalancer l'effet dommageable potentiel de la concentration pour les consommateurs. »⁴⁰ Dans le cadre des lignes

³⁵ Lignes directrices des États-Unis n.36.

³⁶ Commentaire sur les lignes directrices des fusions horizontales de la DOJ et de la FTC des États-Unis, p. 57 (description du cas Gai United States Bakery).

³⁷ Lignes directrices des États-Unis, article. 4.

³⁸ Lignes directrices de la CE [86].

³⁹ Oliver Williamson. « Economies as an Antitrust Defense: The Welfare Tradeoffs, » American Economic Review, vol. 58, p. 217 (1968)

⁴⁰ Lignes directrices de la CE [86].

directrices des États-Unis, le caractère vérifiable exige que les gains d'efficacité allégués soient décrits, expliqués et appuyés par des éléments d'information suffisants pour permettre aux autorités chargées de la concurrence de confirmer le moment où ces gains se concrétiseront, les moyens et la probabilité de cette concrétisation et leur ampleur et ce, au prix d'efforts raisonnables. Des allégations spéculatives, avec très peu d'éléments à l'appui, ou vagues, ne satisferont pas à cette exigence.⁴¹ Hormis l'étendue de ce qui doit être vérifiable, on peut donner une définition utile de ce que l'on entend par « caractère vérifiable » : c'est le fait qu'une personne indépendante aboutirait aux mêmes conclusions à propos des gains d'efficacité allégués en examinant les mêmes informations apportées à l'appui de ces allégations.

8. *Gains d'efficacité prospectifs et actualisation.* En vertu des lignes directrices européennes en matière de concentration, « plus les gains d'efficacité projetés seront éloignés dans le temps, moins la Commission pourra leur accorder de poids. »⁴² Les lignes directrices des États-Unis n'ont pas de définition claire, elles non plus. Elles stipulent que l'on tiendra compte des gains d'efficacité n'ayant pas d'effet direct à court terme, mais que ce type de gains « aura un moins grand poids car ces gains sont moins proches dans le temps et sont plus difficiles à prévoir. »⁴³

Ces dispositions semblent indiquer simplement que l'on applique un taux d'actualisation pour tenir compte du risque et de la valeur temps de l'argent. Cependant, Katz et Shelanski (« KS ») mettent en cause ce point de vue, du moins tel qu'il est appliqué aux États-Unis. Ces auteurs estiment que les tribunaux et les autorités aux États-Unis « paraissent adopter des seuils arbitraires en vertu desquels des événements peu probables sont considérés comme des événements impossibles » et que les événements relativement éloignés dans le temps sont actualisés à une valeur de zéro.⁴⁴ En d'autres termes, selon KS, les gains d'efficacité dont on estime la probabilité de concrétisation à moins de 50 pourcent ou dont on n'attend pas la concrétisation avant plusieurs années, ne reçoivent pas une moindre pondération, mais pas de pondération du tout. Leur affirmation paraît aussi bien fondée pour ce qui concerne la CE, dont les lignes directrices indiquent clairement que « pour être considérés comme un facteur de contrepoids, les gains d'efficacité doivent intervenir en temps utile ». D'après KS, ces points de vue sont improprement défavorables aux gains d'efficacité peu probables mais possibles, et aux gains d'efficacité qui ne se concrétisent que lentement dans le temps. Il en résulte une sous-estimation systématique d'innovations potentiellement révolutionnaires susceptibles de donner avec le temps d'importants bénéfices en termes de bien-être du consommateur.

Pour illustrer l'irrationalité que ces auteurs perçoivent dans la position officielle, ils prennent l'exemple d'une fusion hypothétique qui est contestée car on considère qu'elle portera probablement préjudice aux consommateurs, même s'il y a 60 pourcent de chances qu'elle entraînera un préjudice de 100 millions de dollars des États-Unis en raison de l'augmentation du pouvoir de marché, mais 40 pourcent de chances qu'elle dégagera un surplus pour le consommateur de 200 millions de dollars des États-Unis en raison des gains d'efficacité. Selon KS, cette fusion serait contestée en application de la réglementation américaine actuelle car, sur le seul fondement des probabilités, l'opération risque davantage de porter préjudice aux consommateurs qu'elle n'est susceptible de leur bénéficier. Dans un tel cas, KS souhaiteraient que l'on recoure à

⁴¹ Lignes directrices des États-Unis article 4.

⁴² Lignes directrices de la CE [83].

⁴³ Lignes directrices des États-Unis article 4 n.37 (1997).

⁴⁴ Katz et Shelanski, supra note 2, p. 57.

un critère de valeur prospective, ce qui veut dire que l'on tiendrait compte aussi bien de l'ampleur des effets de la fusion que de la probabilité de ces effets. En d'autres termes, l'ampleur des effets et les gains d'efficacité peu probables ne seraient plus ignorés. Au lieu de cela, on tiendrait compte de l'ampleur de tous les gains d'efficacité allégués et de tous les effets anticoncurrentiels, en fonction de leur probabilité de concrétisation. On comparerait ensuite les valeurs prospectives des préjudices et des bénéfices et les plus élevés d'entre eux emporteraient la décision. Dans le simple exemple ci-dessus, le calcul serait le suivant :

$$(100 \text{ millions de dollars des États-Unis} \times 0.6) = 60 \text{ millions de préjudice} < 80 \text{ millions de bénéfices} = (200 \text{ millions} \times 0.4)$$

La décision rationnelle serait d'approuver l'opération.⁴⁵

Si KS ont raison dans leur analyse du traitement des gains d'efficacité dynamique peu probables (mais pas impossibles) et éloignés, alors on doit donner crédit à ces auteurs d'avoir fait une critique perspicace et techniquement correcte. Toutefois, pour être juste avec les autorités et les tribunaux, la méthode de KS suppose que l'on dispose de données essentielles. En effet, les calculs de KS ne peuvent se faire qu'avec des chiffres précis de surplus et de préjudice pour le consommateur qu'une fusion est susceptible de provoquer, mais ils supposent aussi des estimations parfaites des probabilités de concrétisation de ce surplus et de ce préjudice. En réalité, on disposera rarement de ces chiffres et de ces estimations.

Étant donné la difficulté d'obtenir ces données, il est peut-être plus rationnel pour les autorités chargées de l'application de la réglementation de faire exactement ce que KS décrivent comme étant la situation actuelle aux États-Unis, plutôt que d'essayer d'atteindre une perfection théorique en tenant compte, comme ces auteurs le suggèrent, d'effets peu probables et éloignés dans le temps.⁴⁶ Les erreurs d'estimation de l'un quelconque des chiffres de leur formule peuvent facilement déboucher sur une décision erronée. Par ailleurs, il serait trop facile pour les parties à une fusion d'arguer que l'on doit attribuer des effets de très grande ampleur aux gains d'efficacité qu'elles allèguent, en sachant que même si les autorités chargées de l'application des règles estiment que ces gains sont peu susceptibles de se concrétiser, ils bénéficieront malgré tout d'une certaine pondération (à moins que l'on estime qu'il n'y a absolument aucune chance que cette concrétisation n'intervienne). Ici encore, étant donné que par nature, les gains d'efficacité dynamiques ne se matérialisent souvent qu'après une longue période de gestation, tout principe en matière d'application des règles qui ne tient systématiquement pas compte des événements ne se concrétisant pas dans un délai de un ou deux ans, est probablement fatal à la plupart des arguments de gains d'efficacité dynamique.

9. *Les économies alléguées ne doivent pas résulter de réductions anticoncurrentielles de la production.* Les parties à une fusion avancent parfois que l'opération entraînera des économies de R-D, mais il s'agit souvent d'économies dues à une diminution prévue de leurs efforts d'innovation qui visaient à faire face à la concurrence. Il n'est manifestement pas souhaitable d'inclure cette

⁴⁵ Idem, 59.

⁴⁶ À un certain moment, Katz et Shelanski admettent qu'« il est parfois difficile pour les parties ou pour les autorités chargées de l'analyse d'une fusion d'attribuer des probabilités ou des valeurs aux effets prévus d'une fusion ». Ces auteurs indiquent ensuite que la méthode qu'ils recommandent « exige simplement d'explicitier les jugements implicites selon lesquels la pratique actuelle fonctionne ». Idem, 60-61. Cela ne semble pas tout à fait vrai, puisque Katz et Shelanski critiquent les jugements implicites de la pratique actuelle parce qu'ils n'utilisent pas le concept de valeur prospective attendue.

diminution dans les gains d'efficacité dynamique (ou, d'ailleurs, dans tout autre type de gain d'efficacité).

10. *Charge de la preuve. Que les gains d'efficacité soient ou non officiellement considérés comme une « défense » dans un pays donné, la preuve de leur existence incombe aux entreprises qui veulent fusionner. Après tout, ces entreprises se trouvent dans la meilleure position pour recueillir, produire et interpréter les informations utiles aux arguments qu'elles avancent à l'appui de ces gains.*⁴⁷

3.2 Difficultés inhérentes à la mesure et à l'analyse des gains d'efficacité dynamique

Les gains d'efficacité dynamique recèlent un potentiel particulièrement fort pour contrebalancer les éléments anticoncurrentiels des fusions. Malheureusement, les gains d'efficacité dynamique sont aussi généralement très difficiles à déterminer, à prouver et à mesurer, ce qui rend problématique leur inclusion dans l'analyse des fusions. De fait, alors qu'il est déjà très difficile de procéder à un arbitrage du type de celui de Williamson entre les gains d'efficacité statique et les effets anticoncurrentiels attendus,⁴⁸ la prise en compte rigoureuse des gains d'efficacité dynamique dans un arbitrage avec les effets anticoncurrentiels est, du moins de l'avis de certains théoriciens, hors de portée des techniques connues.⁴⁹

Un certain nombre de facteurs sont responsables de cette complexité. Nous décrivons nombre d'entre eux dans la présente section de notre document, non pas pour en donner une liste exhaustive, mais pour donner une idée de la nature et de l'importance des problèmes inhérents à l'évaluation des gains d'efficacité dynamique.

⁴⁷ Voir American Antitrust Institute, « Commentaires du groupe de travail de l'American Antitrust Institute sur l'application des règles en matière de fusions » (15 juillet 2005) p. 7 (« Une bonne partie des informations nécessaires pour déterminer la probabilité des gains d'efficacité est entre les mains des parties à la fusion, qui n'encourent aucune sanction si elles gonflent les chiffres et spéculent excessivement. En conséquence, . . . il est raisonnable que les parties à la fusion aient la charge de prouver la probabilité et l'ampleur des gains d'efficacité »).

⁴⁸ Katz et Shelanski, supra note 2, 49-50 (« En règle générale, il est très difficile de prévoir avec une quelconque certitude l'ampleur des économies de coûts susceptibles de résulter d'un projet de fusion. En effet, cela suppose de faire des prévisions sur les résultats de la conjugaison d'opérations complexes et de cultures d'entreprise. D'ailleurs, il n'existe pas à notre connaissance de décision judiciaire dans laquelle le tribunal ait jugé qu'une fusion était susceptible d'entraîner un préjudice anticoncurrentiel majeur mais ait néanmoins autorisé cette fusion au motif qu'elle générerait des gains d'efficacité compensatoires ».); Brodley, supra note 3, 584 (« En pratique, les tribunaux ne sont pas en mesure d'arbitrer entre les gains d'efficacité et les effets anticoncurrentiels . . . Les autorités chargées de l'application des règles ne disposent pas des informations pour procéder de façon fiable aux estimations [nécessaires], notamment avant qu'une fusion n'ait lieu. En conséquence, si les tribunaux adoptent souvent en principe le concept d'arbitrage, ils ne procèdent que rarement, sinon jamais, à un tel arbitrage, et les commentateurs les plus en vue sont muets quant à la façon dont les tribunaux pourraient le faire »).

⁴⁹ Par exemple, Alan Fisher et Robert Lande, « Prise en compte des gains d'efficacité dans l'application des règles en matière de fusions », *California Law Review*, vol. 71, pp. 1582-635 (1983) (« Il est virtuellement impossible de déterminer si un changement dans la qualité est dû à un gain d'efficacité, lorsque la qualité et le prix ou le coût évoluent dans la même direction. On ne peut pratiquement pas attendre des décideurs en matière antitrust qu'ils prennent en compte les prévisions contradictoire des experts appelés comme témoins et qu'ils arbitrent au cas par cas, de façon suffisamment précise entre les opinions « correctes » et les estimations de pouvoir de marché et d'effets des gains d'efficacité »). Damien Gerard, « Merger Control Policy: How to Give Meaningful Consideration to Efficiency Claims? » *Common Market Law Review*, vol. 40, p. 1367 (2003).

1. *Incertitude.* Les gains d'efficacité dynamique en général, et ceux qui ont trait à l'innovation en particulier, comportent une grande part d'incertitude. En premier lieu, on n'appréhende pas complètement les facteurs générateurs d'une plus grande innovation. Il est difficile de déterminer si une fusion va créer des gains d'efficacité dynamique lorsque l'on ne sait pas avec certitude si l'on prend en compte les bons facteurs de la bonne manière. En outre, il est généralement difficile de savoir si un investissement en R-D sera rentable parce que cet investissement aura permis de créer un produit rentable, sans parler du fait de savoir tout d'abord si les gains d'efficacité dynamique allégués entraîneront effectivement une augmentation des investissements en R-D. De plus, on ne connaît virtuellement pas les prix des produits innovants futurs au moment où la fusion est analysée. La demande d'innovations n'est en général pas connue non plus. Il se peut, par exemple, que d'autres innovations, meilleures, apparaissent d'abord et rendent obsolète le produit de l'entreprise fusionnée, avant même qu'il n'arrive sur le marché.⁵⁰
2. *Moment de concrétisation des gains d'efficacité dynamiques.* Ce moment est aussi un facteur de complexité. En effet, les gains d'efficacité dynamique interviennent sur plusieurs années. Les investissements en R-D, par exemple, peuvent ne porter leurs fruits que sur une très longue période. Il faut donc appliquer un taux d'actualisation pour prendre en compte la valeur de l'argent dans le temps, l'inflation, et le risque que les gains d'efficacité ne se concrétisent jamais. Or, il est difficile de calculer correctement le taux d'actualisation lorsque l'on ne connaît pas précisément le degré de probabilité de ces gains, le temps qu'il faudra pour qu'ils se concrétisent si tant est qu'ils doivent se concrétiser et le temps que ces gains dureront une fois qu'ils commenceront à apparaître.
3. *Mesure de l'innovation.* Le premier des divers problèmes de quantification est celui de la mesure de l'innovation. Comment juger de ce concept plutôt abstrait ? On pourrait tenir compte des intrants de l'innovation, comme les dépenses en R-D. On pourrait aussi considérer les produits de l'innovation, comme par exemple le nombre de brevets obtenus ou le nombre de nouveaux produits créés. Or, ces deux démarches posent des problèmes. En premier lieu, les dépenses de R-D n'aboutissent nécessairement pas toutes à une innovation, et même lorsque tel est le cas, certaines dépenses de R-D sont bien plus « productives » que d'autres du point de vue des innovations réussies. En d'autres termes, il n'y a pas de relation stable et prévisible entre les investissements en R-D et les innovations. De fait, certaines innovations ne résultent d'aucune dépense en R-D. De plus, les investissements en R-D sont un paramètre difficilement saisissable des gains d'efficacité dynamique. Même si l'on pouvait supposer qu'une augmentation des investissements en R-D débouche sur de plus grandes innovations, une fusion présentant des gains d'efficacité dynamique est susceptible d'augmenter l'efficacité de la R-D de telle manière qu'elle compensera la diminution prévue des dépenses de R-D. Par conséquent, toute conclusion tirée uniquement du niveau attendu de R-D risque d'être trompeuse.

Du point de vue des produits, le problème est que toutes les innovations ne font pas l'objet de brevets, et tous les brevets ne constituent pas des innovations utiles. La plupart ne dégagent jamais de profits pour leurs propriétaires. De la même manière, tous les produits ne doivent pas

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À propos de la difficulté à prévoir les gains d'efficacité en général, Robert Willig reconnaît que cette question présente un certain caractère futile. Ces gains, « particulièrement parce qu'ils sont uniques en leur genre et en raison de leur causalité, sont forcément des phénomènes à plus long terme difficiles à déterminer. . . . Le problème ne peut pas être résolu. Les économistes, le système, toute réunion d'analystes de la concurrence les plus compétents possibles, ne peuvent pas remédier au caractère fondamentalement imprévisible de l'avenir. » Frédéric Jenny et al., « Normes substantielles des fusions et rôle des gains d'efficacité » in Barry Hawk (dir. pub.), *International Antitrust Law & Policy: Annual Proceedings of the Fordham Corporate Law Institute* (2003), pp. 342-3

automatiquement être considérés comme des innovations – nombre d’entre eux seront considérés comme des échecs. Par ailleurs, un grand nombre d’innovations n’ont pas pour objet de créer de nouveaux produits, mais plutôt d’améliorer les processus de production ou de perfectionner la qualité des produits existants. En résumé, ces méthodes de quantification de l’innovation posent de sérieux problèmes, mais elles semblent être les seules dont on dispose.

4. *Traduction des mesures de l’innovation en mesures du bien-être.* Les problèmes de quantification ne s’arrêtent malheureusement pas là. En effet, même si nous disposions d’un bon moyen de mesurer l’innovation, nous aurions encore besoin d’une autre méthode nous permettant de traduire cette mesure en calcul du bien-être du consommateur, en surplus total ou en bien-être total. Nous avons déjà abordé la question de la difficulté de cette opération lors de la discussion du modèle de Williamson, et de ce qu’il faudrait pour adapter le graphique de Williamson aux gains d’efficacité dynamique. Il est relativement facile de faire baisser la courbe moyenne des coûts ou de faire monter la courbe de la demande sur un graphique pour démontrer un point théorique, mais il serait extrêmement difficile de modéliser dans un cas concret les gains d’efficacité dynamique avec suffisamment de précision empirique. Tout d’abord, les difficultés rencontrées avec les gains d’efficacité statique se retrouveraient dans le cas des gains d’efficacité dynamique. En effet, il faudra toujours recourir à des concepts comme l’élasticité de la demande avec les données.

En outre, prévoir la valeur des gains d’efficacité dynamique sous forme d’économies de coûts de R-D est une tâche complexe puisque la relation existante entre les coûts de R-D et le bien-être du consommateur n’est pas régulière et stable. En d’autres termes, une légère baisse des coûts de R-D peut entraîner une progression considérable du bien-être du consommateur si les économies de coûts sont d’ampleur suffisante pour faire pencher la décision de l’entreprise en faveur d’un investissement dans l’innovation, créateur en dernier ressort d’un important surplus du consommateur. Un exemple évident serait un projet de R-D permettant la mise au point d’un nouveau produit très réussi. Dans ce cas, il faudrait prévoir et comptabiliser en tant que gain d’efficience, non seulement les économies de coût dues à la fusion, mais aussi le surplus du consommateur dû in fine au nouveau produit, tout en ayant présent à l’esprit que ce surplus peut être bien plus important que les économies de coûts.⁵¹

5. *Autres problèmes de quantification et d’évaluation.*⁵² On ne peut pas prévoir facilement ce que sera le comportement des parties en termes d’innovation. Si une fusion est bloquée, les parties peuvent ne pas abandonner pour autant leurs travaux de R-D, mais elles peuvent trouver de nouveaux moyens d’effectuer cette R-D. Elles peuvent aussi consacrer leur énergie à différents projets de R-D. Il ne suffit donc pas de comparer le statu quo avant la fusion avec le résultat probable de la fusion une fois acceptée. Il faut aussi comparer ce statu quo avec divers résultats possibles si la fusion est bloquée. Il y a très peu de chance que quiconque soit en mesure de chiffrer précisément les probabilités de réalisation de chacun des scénarios possibles. Il y a donc un certain degré de spéculation.

En deuxième lieu, il risque de ne pas être facile d’isoler l’élément d’un produit ou d’un service dû à l’innovation. En effet, les innovations peuvent se trouver incluses dans d’autres produits, par exemple. Comment peut-on alors distinguer le prix, le coût et la valeur de cette innovation pour les consommateurs, de l’ensemble des produits ?

⁵¹ Katz et Shelanski, supra note 2, p. 56

⁵² Cette analyse s’appuie sur Christian Fackelmann, « Dynamic Efficiency Considerations in EC Merger Control: An Intractable Subject of a Promising Chance for Innovation? », University of Oxford Centre for Competition Law and Policy, Document de travail (L) 09/06, pp. 24-8

En troisième lieu, des problèmes de comparaison entre produits très différents peuvent se poser lorsque l'on veut évaluer des gains d'efficacité dynamique au titre d'une norme de bien-être centrée sur les effets au niveau des prix. Une fusion peut entraîner une hausse des prix au bout de peu de temps, alors que les gains d'efficacité dynamique sont susceptibles d'avoir des effets positifs hors prix (par exemple les bénéfices de produits nouveaux ou améliorés) à plus long terme. Cela met l'analyste dans la position inconfortable d'avoir à comparer différents concepts relatifs à des périodes différentes – et peut-être à deux ou plusieurs marchés ayant des consommateurs de type différent. Cela pose un problème de quantification complexe. Quelle est la quantité d'amélioration qualitative ou le nombre de nouveaux produits nécessaires pour compenser une hausse de prix prévue ?

Autre aspect du problème de comparaison entre produits très différents : la situation dans laquelle une fusion est censée avoir des effets anticoncurrentiels sur un marché, mais est supposée dégager des gains d'efficacité substantiels sur un autre marché ou d'autres marchés. Il est alors probable qu'un certain type de consommateurs va en pâtir, quoi que les autorités décident de faire. En effet, si ces autorités approuvent la fusion, les consommateurs du premier marché vont probablement subir un dommage anticoncurrentiel et ne tireront aucun avantage. Si les autorités bloquent la fusion, les consommateurs sur le second marché se verront privés des gains d'efficacité alors même qu'ils n'ont jamais été exposés au risque de dommage anticoncurrentiel. À moins que les deux marchés ne partagent le même ensemble de consommateurs, la décision des autorités implique que certaines personnes sont favorisées au détriment d'autres. Qui peut déterminer mathématiquement le groupe de consommateurs auxquels on doit accorder la priorité ? Même en termes qualitatifs, il s'agit d'un problème épineux. Pour une autorité comme l'UE, cela pourrait poser un problème difficile du point de vue politique. Supposons en effet qu'une fusion doive entraîner un dommage immédiat et durable en Allemagne, mais en même temps une innovation recelant de la valeur en Espagne. Dans ce genre de situation, il risque de ne pas y avoir de solution correcte.

Sous l'angle des dommages, cela pose une autre difficulté, à savoir l'estimation de l'autre partie de l'équation. En effet, l'estimation des effets anticoncurrentiels, bien que peut-être pas aussi complexe que l'estimation des gains d'efficacité dynamique, n'en suppose pas moins que l'on sonde l'avenir et donc, l'inconnu (au moins dans une certaine mesure). Il faut alors faire des hypothèses sur toutes sortes de variables comme la pente de la courbe de la demande, les façons de réagir des entreprises face aux décisions stratégiques des autres entreprises, et l'effet de la fusion sur ces paramètres.⁵³

Enfin, si les gains d'efficacité dynamique favorisent l'innovation sous forme de nouveaux produits, les consommateurs ont des avis différents sur la valeur de ces produits et il peut donc s'avérer très difficile de faire des projections quant au bien-être net des consommateurs. Les économistes ont fait certains progrès dans la quantification de la valeur des nouveaux produits a posteriori pour les consommateurs.⁵⁴ Il y a certaines façons de prévoir cette valeur, mais qui supposent des informations pas toujours disponibles au moment de la fusion, par exemple sur ce que sera le produit, la probabilité de sa mise au point et de sa commercialisation, l'ampleur de son adoption, le temps que tout cela prendra et quel sera le prix du produit.

⁵³ Leary, supra note 12, p. 8.

⁵⁴ Voir, par exemple, Amil Petrin, « Quantifying the Benefits of New Products: The Case of the Minivan, » *Journal of Political Economy*, vol. 110, p. 705 (2002) ; Timothy Bresnahan et Robert Gordon (dir. pub.), *The Economics of New Goods* (Chicago, 1997).

En résumé, on peut être pessimiste quant aux perspectives de quantification des gains d'efficacité dynamique. Brodley dit des gains d'efficacité dynamique qu'ils sont « le type de gain d'efficacité le moins mesurable »⁵⁵. L'économétrie est certes devenue de plus en plus raffinée, mais elle n'en dépend pas moins de la quantité et de la qualité des données disponibles. Lorsqu'il manque des données ou lorsque ces données doivent être rejetées parce qu'elles ne sont pas fiables, l'économétrie n'est guère plus qu'une « devinette » un peu améliorée, ce qui n'inspire pas une très grande confiance.

6. *La confidentialité, un facteur possible.* S'il y a un doute sur l'approbation de la fusion, on considérera qu'il est alors risqué de divulguer les informations propriété des parties, ce qui complique la tâche de ces dernières quand elles doivent apporter la preuve des gains d'efficacité qu'elles avancent. Même si les entreprises divulguent ces informations, elles ne les divulgueront peut-être qu'après qu'il sera avéré que l'approbation de la fusion est peu probable en l'absence des gains d'efficacité allégués. À ce moment là, les autorités considéreront les éléments d'information divulgués avec scepticisme, ce qui peut se comprendre.
7. *Asymétrie et absence d'information.* Pour évaluer les gains d'efficacité dynamique, les autorités et les tribunaux doivent se fonder sur des informations qui ne se trouvent qu'entre les mains des parties – si tant est qu'elles existent. Certaines allégations de gains d'efficacité dynamique sont confrontées à un obstacle majeur, à savoir qu'il n'y a tout simplement pas suffisamment d'informations disponibles sur des événements futurs, telle la création possible de nouveaux produits. Dans ce cas, les autorités ne disposent pas d'information suffisante pour décider de prendre en compte les gains d'efficacité allégués qui seront donc rejetés.

Même si ces informations existent, elles se trouvent en totalité ou en grande partie dans les propres documents des entreprises et figurent dans leurs estimations en interne. Cette asymétrie d'information constitue une incitation pour les parties à exagérer les gains d'efficacité qu'elles avancent. De plus, même si les estimations des entreprises sont plausibles, cohérentes et objectives, des études ont montré qu'elles risquent cependant d'être inexactes. Comme le remarque Thomas Leary, des études de plus en plus nombreuses en matière de conseil d'entreprises montrent qu'un nombre important de fusions ne dégagent pas les profits attendus pour les actionnaires.⁵⁶ F.M. Scherer observe que plusieurs études importantes portant sur les fusions récentes font état d'une assez large désillusion et d'un échec.⁵⁷ L'auteur ajoute que l'on souhaiterait que les fusions apportent des avantages importants à l'économie mais sur ce point, les conclusions demeurent globalement peu probantes. »⁵⁸

⁵⁵ Brodley, supra note 3, p. 581.

⁵⁶ Leary, supra note 12, à 8 (citant John Kelly et Colin Cook, « Synergies: A Business Guide », KPMG (2001); Norm Augustine, « Corporate Marriage: Bliss or Blight? », une monographie sur l'intégration après fusion, A.T. Kearney (avril 1999); Gerry Adolph et al., « Merger Integration: Delivering on the Promise », dans une synthèse de recherche de Booz-Allen et Hamilton (2001); Dorian Swerdlow et al., « Managing Procurement Through a Merger: Capturing the Value of the Deal », Booz-Allen et Hamilton (2001))

⁵⁷ F.M. Scherer, « The Merger Puzzle » in Wolfgang Franz, Hans Ramser et Manfred Stadler (dir. Pub.), Fusionen 1, 5 (Tubingen, 2002). Pour des arguments en faveur de l'application des résultats de ces études à la politique de la concurrence, voir Gerard, supra note 47, 1388.

⁵⁸ F.M. Scherer, « A New Retrospective on Mergers », Review of Industrial Organization, vol. 28, pp. 327-41 (2006); voir également David Ravenscraft et F.M. Scherer, « Mergers, Selloffs and Economic Efficiency » (1987).

8. *Rester simple*. Comme si tout cela ne suffisait pas, il existe un autre problème, plus pratique. Il ne suffit pas toujours que les méthodes économétriques et les techniques de collecte des données progressent au point de pouvoir prédire précisément les gains d'efficacité dynamique. Même si cela se produisait, il faudrait aussi – au moins dans les cas qui font l'objet d'une procédure judiciaire – que ces méthodes et ces techniques soient suffisamment simples pour être comprises et utilisées par les juges. Étant donné que les méthodes économétriques actuelles ne rentrent probablement pas dans les compétences de la plupart des juges, cela présente un énorme obstacle. En effet, il faudrait que les techniques actuelles de mesure quantitative des gains d'efficacité dynamique deviennent à la fois plus perfectionnées et plus simples.

3.3 *Considérations qualitatives pour l'évaluation des gains d'efficacité dynamique*

C'est une chose que d'avoir un certain nombre d'exigences pour la prise en compte des gains d'efficacité, c'en est une autre de savoir quelle pondération leur attribuer dans l'analyse globale d'une fusion. Comme nous venons de le voir, des difficultés terribles et nombreuses attendent ceux qui veulent procéder à une évaluation quantitative des gains d'efficacité dynamique. Toutefois, une analyse qualitative peut donner des résultats modérément utiles. Grâce à un certain nombre de mesures pratiques, on peut progresser vers une meilleure compréhension qualitative des gains d'efficacité dynamique.

1. *Étude du passé*. Un examen du passé des parties en matière d'acquisitions et d'innovations apporte un éclairage sur plusieurs questions importantes. Dans quelle mesure les parties ont-elles réussi l'intégration avec leurs partenaires lors de précédentes fusions ? Quelle est l'expérience de ces entreprises dans l'aboutissement de la R-D en innovations réussies ? L'une quelconque des innovations de ces entreprises peut-elle être attribuée d'une manière ou d'une autre aux synergies d'anciennes fusions ? Des tiers comme les établissements de recherche, les analystes de valeurs mobilières, les concurrents, les fournisseurs et les clients peuvent aider à répondre à ces questions. Certes, le passé n'est pas un moyen infaillible de prévoir l'avenir. Des dirigeants talentueux ont pu quitter l'entreprise ou ne sont peut-être pas aussi compétents dans un domaine qu'ils l'étaient dans un autre. À l'inverse, les entreprises peuvent avoir beaucoup appris des échecs de fusions passées et sont donc peut-être plus en mesure que jamais de concrétiser des gains d'efficacité dynamique avec leurs nouveaux partenaires. Il n'en reste pas moins que l'on peut beaucoup apprendre de l'examen des succès et des échecs passés des entreprises.
2. *Étude du présent*. Il serait utile de savoir quels sont les facteurs tendant à favoriser l'innovation dans le secteur où les parties sont présentes, et de déterminer si la fusion va agir sur les facteurs idoines. Certains secteurs, par exemple, sont très dépendants des droits de propriété intellectuelle, alors que d'autres tablent surtout sur le secret ou la complexité.⁵⁹ Si la fusion a lieu dans un secteur où les droits de propriété intellectuelle jouent un rôle très important, va-t-on permettre une plus grande exploitation de la technologie protégée par de tels droits que cela ne serait le cas en présence d'autres dispositions (comme l'octroi de licence par exemple) ? Dans un marché où les entreprises entourent habituellement leurs travaux d'un certain secret, la fusion va-t-elle rendre ce secret plus difficile ou plus facile à préserver ? Comment l'innovation sera-t-elle affectée lorsque les parties commenceront à échanger des renseignements techniques hautement confidentiels ?
3. *Étude du futur*. Certains gains d'efficacité dynamique sont censés intervenir dans une période si éloignée dans le futur ou de permettre des innovations si révolutionnaires, que l'on ne peut pas

⁵⁹ Wesley Cohen, Richard Nelson et John Walsh, « Protecting Their Intellectual Assets: Appropriability Condition and Why US Manufacturing Firms Patent (Or Not), » Document de travail NBER n° 7552 (2000).

encore déterminer la nature des produits ou services à venir. Cela n'est pas forcément toujours le cas. Les parties, par exemple, peuvent exposer que la fusion va bientôt leur permettre de développer une version améliorée d'un produit pour lequel il existe déjà un marché. Si tel est le cas, cela peut permettre aux enquêteurs de bien comprendre ce que souhaitent les consommateurs sur ce marché en termes d'évolution du produit et de savoir quelle est la valeur des gains d'efficacité – ou si ces gains ont effectivement trait à la fusion.

4. La fusion va-t-elle concerner des technologies de remplacement ou des technologies complémentaires? Les gains d'efficacité en R-D sont généralement plus forts dans les cas où l'on allie des technologies complémentaires.⁶⁰ Par conséquent, l'un des moyens de promouvoir la concrétisation de ces gains d'efficacité consiste à adopter une attitude libérale vis-à-vis des fusions verticales et horizontales. Cela ne veut pas dire pour autant que ces fusions doivent toujours être approuvées. Cependant, si l'on restreint les possibilités de les empêcher, cela doit permettre d'augmenter le niveau des gains d'efficacité dynamique obtenus par les fusions.

Par ailleurs, les études tendent à montrer que les diminutions de dépenses de R-D sont relativement importantes et les gains d'efficacité en R-D sont généralement réduits lorsque les entreprises sont rivales sur le marché du produit concerné et utilisent des technologies de remplacement. Dans ce genre de situation, un plus grand scepticisme vis-à-vis des gains d'efficacité allégués par les parties peut se justifier.⁶¹

3.4 *Décider comment décider*

Une fois passées en revue les exigences formelles et autres considérations pratiques, si une autorité est convaincue qu'il existe des gains d'efficacité dynamique à prendre en compte, il reste une dernière question : comment procéder précisément ?

Williamson envisageait une méthode par pondération dans laquelle la valeur des gains d'efficacité attendus serait comparée à la valeur du préjudice attendu, une fusion étant alors approuvée ou rejetée en fonction de la plus grande de ces deux valeurs. L'arbitrage de Williamson nécessite que l'on dispose d'un ensemble très riche de données et de connaissances, ce qui n'est pas souvent le cas dans le monde réel, même dans les situations où seuls les gains d'efficacité statique sont en jeu. Lorsqu'il s'agit de gains d'efficacité dynamique, l'arbitrage, même théorique, entre les gains et le préjudice attendus devient plus complexe et le problème de la disponibilité des données devient aussi plus aigu.

Au niveau pratique, une comparaison quantitative entre les gains d'efficacité dynamique et le préjudice anticoncurrentiel paraît impossible à réaliser. Il semble donc sensé de prendre une décision sur une base qualitative. L'objectif peut simplement être d'arriver à une conclusion sur le fait de savoir si une fusion est susceptible d'être bénéfique ou préjudiciable, sans nécessairement tenter de chiffrer l'opération. Cependant, si certaines lignes directrices sur les fusions paraissent donner une certaine latitude pour ce type d'évaluation des gains d'efficacité statique, elles se prêtent moins à l'évaluation des gains d'efficacité dynamique.

⁶⁰ Voir Bruno Cassiman, Massimo Colombo, Paola Garrone et Reinhilde Veugelers, « The Impact of M&A on the R&D Process: An Empirical Analysis of the Role of Technological and Market Relatedness » *Research Policy*, vol. 34, p. 195 (2005) (étude empirique selon laquelle les gains d'efficacité de R-D augmentent plus lorsque les technologies des parties à la fusion sont complémentaires plutôt qu'elles ne se substituent l'une à l'autre).

⁶¹ Id., 195 (qui en conclut que « les entreprises rivales n'obtiennent guère d'avantages technologiques des fusions »).

Les lignes directrices américaines, par exemple, stipulent que les fusions ne sont pas remises en cause si « les gains d'efficacité dont on peut reconnaître l'existence sont d'un type et d'une ampleur tels que la fusion n'est probablement pas anticoncurrentielle sur l'un quelconque des marchés pertinents »⁶². La question essentielle est de savoir si les gains d'efficacité « sont probablement suffisants en sorte qu'ils compensent, et au-delà, le potentiel qu'a la fusion de porter préjudice aux consommateurs sur le marché pertinent, par exemple en empêchant des augmentations de prix sur ce marché »⁶³. Malgré l'emploi du mot « ampleur », il ne semble pas que cette démarche appelle à un arbitrage quantitatif littéral, mais plutôt à une évaluation d'ensemble des gains d'efficacité afin de déterminer si la fusion doit être considérée en premier lieu comme anticoncurrentielle. Toutefois, il est noté dans un autre passage que certains type de gains d'efficacité sont davantage susceptibles d'être pris en compte que d'autres, et notamment « ceux qui concernent la recherche et le développement [] et qui sont potentiellement importants, mais sont en général moins susceptibles de vérification [...] »⁶⁴. Ces gains d'efficacité auront du mal à être reconnus au titre des lignes directrices américaines sur les fusions, même s'ils satisfont à toutes les conditions de normes, telles la spécificité par rapport à la fusion, la répercussion des avantages aux consommateurs, etc.

De même, lorsqu'une fusion proposée dépasse les seuils de concentration de l'article 1 du règlement sur les concentrations de la CE, celle-ci procède à une évaluation des gains d'efficacité avant de décider si l'opération doit être considérée comme anticoncurrentielle. Le considérant 29 du règlement parle de la possibilité que les effets des gains d'efficacité soient tels que la concurrence « n'entrave pas de manière significative une concurrence effective ». En outre, l'article 2(1)(b) du règlement et le considérant 76 des Lignes directrices de la CE indiquent que les gains d'efficacité allégués par les parties sont examinés au cours de « l'appréciation d'ensemble de la concentration du point de vue de la concurrence ». Comme nous l'avons mentionné plus haut, les lignes directrices de la CE n'insistent pas sur la quantification lorsque cette quantification n'est « pas raisonnablement possible », mais dans de telles situations, « il doit être possible de prévoir un effet positif sur les consommateurs clairement identifiable et non un effet marginal ».⁶⁵ Ce libellé est quelque peu ambigu dans la mesure où l'on ne sait pas si la probabilité de survenance d'un gain d'efficacité et son importance doivent toutes deux être clairement identifiables, ou si seule l'importance de ce gain doit l'être. Néanmoins, dans un cas comme dans l'autre, la plupart des gains d'efficacité dynamique semblent difficilement pouvoir satisfaire à cette norme, étant donné les problèmes probables de prévision.⁶⁶

Il y a peu de chances que des gains d'efficacité dynamique soient amenés en grand nombre à jouer un rôle dans l'examen des fusions, que ce soit au titre des lignes directrices des États-Unis ou de la CE. Supposons cependant que c'est le cas, ou que ces gains sont mieux acceptés dans d'autres pays. Qu'en est-il alors ? Comment exactement une autorité administrative peut-elle inclure ces gains dans sa décision d'approbation ou de rejet d'une fusion ? Ce sujet n'a pas été vraiment traité de façon exhaustive, mais des chercheurs y ont pourtant consacré du temps. Les trois premières méthodes proposées ci-dessous sont conçues en ayant tous les types de gains d'efficacité à l'esprit, et pas seulement les gains d'efficacité dynamique. Par contre, la quatrième méthode se rapporte spécifiquement aux gains d'efficacité dynamique.

⁶² Lignes directrices américaines sur les fusions, article 4. On définit les gains d'efficacité « dont on peut reconnaître l'existence » comme étant les gains d'efficacité propres à la fusion, vérifiés, et qui ne proviennent pas de diminutions anticoncurrentielles de la production ou des services. Id.

⁶³ Lignes directrices des États-Unis sur les fusions, article 4.

⁶⁴ Lignes directrices des États-Unis sur les fusions, article 4.

⁶⁵ Lignes directrices de la CE, paragraphe 86.

⁶⁶ Fackelmann, supra note 50, à 30.

1. *Le laissez faire.* Les théoriciens de l'Ecole de Chicago, tels Bork et Posner, ne prennent aucunement en compte les gains d'efficacité dans les cas individuels.⁶⁷ Ils font confiance aux seuils de concentration indiqués par les principes directeurs en matière de fusion pour dégager correctement les gains d'efficacité dans la majorité des cas. On suppose que les fusions qui interviennent dans les limites des seuils de concentration sont en majeure partie bénéfiques pour les gains d'efficacité, ou du moins neutres de ce point de vue. Les fusions qui dépassent ces seuils sont supposées incapables de dégager des gains d'efficacité suffisamment importants pour contrebalancer leurs effets anticoncurrentiels.

Cette position très tranchée présente certains aspects positifs. L'un d'entre eux est que ne rien faire est presque toujours une position peu coûteuse et facile à mettre en oeuvre. De plus, cela rend les agissements de l'autorité administrative plus prévisibles puisque cette approche lui ôte un certain pouvoir discrétionnaire. Enfin, le temps nécessaire à l'examen de la fusion diminuerait très nettement, de même que les frais judiciaires.

Par ailleurs, on peut critiquer cette position pour son pessimisme excessif, du fait particulièrement qu'elle inclut les gains d'efficacité statique comme les gains d'efficacité dynamique. Il paraît clair aussi qu'une simple application mécanique des seuils ne peut pas toujours donner les meilleurs résultats, et que des fusions à fort potentiel de gains d'efficacité seraient bloquées, essentiellement pour des raisons arbitraires. Néanmoins, les tenants de l'Ecole de Chicago ne sont pas les seuls prêts à accepter la perte de gains d'efficacité importants en échange d'une plus grande certitude. Selon Fisher et Lande, par exemple, la perte d'une partie de ces gains est de toute manière inévitable puisque tout système qui tenterait de déterminer l'ampleur et les effets probables des gains d'efficacité issus d'une fusion aboutirait à des conclusions erronées. D'après ces auteurs, il est tout simplement trop difficile de faire ce type de détermination de façon précise.⁶⁸

2. *Les engagements ou « régler d'abord les problèmes ».* Cette méthode consiste à demander aux parties de convenir de certains engagements en tant que condition préalable à l'approbation de la fusion. Ces engagements sont bien évidemment conçus pour aider à la réalisation des gains d'efficacité allégués. Comme pour le laissez faire, cette méthode permet à l'autorité administrative de ne pas avoir à prendre une décision difficile *ex ante*. La décision revient dans ce cas aux parties, qui peuvent renoncer aux gains d'efficacité dynamique qu'elles avancent, ou s'engager à les réaliser.

Cette méthode ne paraît pas très pratique. En effet, comment une entreprise peut-elle se trouver engagée par la promesse de mettre au point un nouveau produit si l'on ne connaît pas certaines caractéristiques précises de ce produit au moment de l'examen de la fusion ? De plus, même si ces caractéristiques étaient connues, peut-on prévoir que les consommateurs apprécieront suffisamment le produit pour que cela compense les risques d'effets anticoncurrentiels ?

Autre problème : en fonction des conséquences que peut avoir le fait de ne pas satisfaire à ces engagements, il peut s'avérer difficile de convaincre les entreprises de signer un tel engagement. En effet, si la sanction est le renoncement à la fusion ou une lourde amende, par exemple, le

⁶⁷ Robert Bork, « The Antitrust Paradox : A Policy at War with Itself », vol. 128 (New York, 1993); Richard Posner, « Antitrust Law: An Economic Perspective », pp. 133-34 (Chicago: 2nd éd. 2001).

⁶⁸ Alan Fisher et Robert Lande, « Efficiency Considerations in Merger Enforcement », California Law Review, vol. 71, p. 1582 (1983).

risque sera perçu comme très élevé et cela peut dissuader les parties de procéder à des fusions dont les gains d'efficacité auraient bénéficié aux consommateurs. La perspective de lourdes amendes risque d'avoir le même effet. De plus, même si les parties acceptent de se prêter aux engagements, la simple possibilité de devoir renoncer à la fusion peut affecter leur capacité à concrétiser les gains d'efficacité dynamique promis, particulièrement si les parties étaient concurrentes avant la fusion. Les deux sociétés pourraient par exemple ne pas intégrer ou partager entièrement leurs connaissances dans l'éventualité où elles seraient obligées plus tard de reprendre leurs relations de concurrence.

3. *Attendre et voir venir.* Malgré son nom, cette méthode est en fait très semblable à celle des engagements. Il s'agit de donner aux autorités administratives la possibilité d'autoriser provisoirement les fusions, à condition que les parties réalisent effectivement les gains d'efficacité dont elles affirment qu'ils auront lieu. Les parties auraient le choix entre l'acceptation et le refus de cette méthode. S'ils l'acceptent, il y aurait une période probatoire pour donner à l'entreprise fusionnée le temps de concrétiser les gains d'efficacité qu'elle allègue. À la fin de cette période, l'autorité administrative réexaminerait le cas et déciderait si les gains d'efficacité ont été réalisés et, dans l'affirmative, dans quelle mesure. Si l'autorité administrative est convaincue que les gains d'efficacité sont bien réalisés, la fusion est définitivement approuvée. Si l'entreprise ne concrétise pas le niveau de gains d'efficacité auquel elle s'est engagée, l'autorité administrative peut annuler la fusion, imposer des amendes ou prendre d'autres mesures destinées à réinstaurer les conditions de la concurrence.⁶⁹

L'aspect positif de cette méthode est qu'il devrait être plus facile de déterminer si les gains d'efficacité ont été réalisés, plutôt que de prédire s'ils seront réalisés ou d'essayer de trouver des solutions qui assureront leur réalisation. On devrait disposer d'un bien plus grand nombre d'informations – et de qualité nettement meilleure – lorsque la société fusionnée aura fonctionné depuis quelque temps. De plus, selon cette méthode, les parties n'ont plus vraiment intérêt à multiplier leurs allégations de gains d'efficacité car elles seront pénalisées si elles ne les atteignent pas. Enfin, le fait que peu de gains d'efficacité dynamique satisfèrent au test de vérification *ex ante* peut constituer dans ce cas un problème moins important.

Il subsiste toutefois d'importants aspects négatifs. L'un d'entre eux, du moins telle que Brodley décrit la méthode consistant à attendre et voir, est que l'on a toujours besoin d'une sélection *ex ante* pour déterminer si la fusion projetée pourrait avoir droit à ce type de traitement. Cette sélection rejeterait les projets de fusion qui ne pourraient pas satisfaire à certains critères habituels comme la possibilité de quantifier les gains et la répercussion de ces gains sur le consommateur.⁷⁰ La possibilité de quantifier à elle seule, comme nous l'avons vu, va rapidement éliminer de nombreuses allégations de gains d'efficacité dynamique. Cependant, si les autorités administratives n'ont pas une idée de l'importance des gains d'efficacité allégués, elles pourront difficilement déterminer si ces gains suffisent à compenser leurs craintes d'effets anticoncurrentiels.

Autre aspect négatif : il peut s'avérer difficile de persuader les entreprises d'adhérer à une telle méthode, au vu des pénalités qu'elles encourent en cas d'échec. Par ailleurs, on aura des

⁶⁹ Robert Pitofsky, « Proposals for Revised United States Merger Enforcement in a Global Economy » *George Mason Law Review*, vol. 81, p. 195 (1993); Joseph Brodley, « The Economic Goals of Antitrust: Efficiency, Consumer Welfare, and Technological Progress », *New York University Law Review*, vol. 62, p. 1020 (1987)

⁷⁰ Brodley, *supra* note 3, p. 578.

difficultés à déterminer la longueur de la période probatoire. En effet, on ne sait pas normalement le temps qu'il faut pour que les gains d'efficacité allégués se réalisent. En outre, les consommateurs sont aussi exposés à des risques sérieux dans le cadre de cette méthode. Autoriser une fusion dont une autorité administrative est quasiment sûre qu'elle aura des effets anticoncurrentiels est intrinsèquement dangereux – même si cette autorisation n'est donnée qu'à titre temporaire. Ces effets se feront normalement sentir avant la concrétisation des gains d'efficacité dynamique, si tant est que cette concrétisation intervienne. De plus, l'imposition d'amendes n'empêche pas nécessairement les consommateurs d'être confrontés à une fusion anticoncurrentielle (mais ces amendes sont susceptibles de dissuader les entreprises d'alléguer des gains futurs d'efficacité dynamique. Quant à l'annulation de la fusion, elle risque de ne pas être toujours faisable et ce, d'autant plus que la période probatoire aura duré plusieurs années et que les deux entreprises se trouveront déjà largement fusionnées.

4. *Tirer le meilleur parti d'une situation délicate.* Les autorités administratives peuvent aussi apprendre avec l'expérience. Fackelmann propose d'améliorer l'intégration des gains d'efficacité dynamique dans l'examen des fusions en mettant en place des audits ex post périodiques, institutionnalisés, des résultats des gains réels d'efficacité dynamique dégagés lors de fusions précédemment analysées.⁷¹ Il s'agit d'un plan à long terme dont le but est de prendre de meilleures décisions à l'avenir. Il ne concernerait pas les décisions prises à court terme. Par des vérifications périodiques, les autorités administratives seraient en mesure de dire si les théories et les hypothèses qu'elles ont formulé à propos des gains d'efficacité dynamique dans des cas passés sont valables, leur permettant ainsi de tirer des leçons de leurs succès et de leurs échecs. Ces leçons pourraient alors s'appliquer à des cas ultérieurs.

Un inconvénient apparaît immédiatement : cette méthode prendrait probablement beaucoup de temps avant de porter ses fruits, étant donné que les cas dans lesquels les gains d'efficacité dynamique jouent un rôle important sont très peu nombreux. Autre inconvénient : les coûts des audits, quoique cela ne paraît pas si important si l'on s'en réfère au premier inconvénient. De plus, comme Fackelmann le reconnaît lui-même, il pourrait être difficile de démêler entre les différents facteurs qui stimulent les gains d'efficacité dynamique. À titre d'exemple, la fusion par elle-même peut ne constituer que l'un des nombreux facteurs des succès d'une entreprise dans l'innovation. Dans certains cas, les succès peuvent même être intervenus sans la fusion. Enfin, cette méthode ne propose pas non plus de solution réelle au noeud du problème, à savoir comment déterminer, dans un cas précis, si des gains d'efficacité dynamique compenseront le préjudice anticoncurrentiel causé par la fusion. Elle permet cependant aux autorités administratives de mieux comprendre la fréquence des décisions bonnes ou mauvaises, et de mieux déterminer les caractéristiques des fusions favorables à la concrétisation de gains d'efficacité dynamique.

4. Conclusion

Il serait souhaitable d'évaluer les gains d'efficacité dynamique de façon rigoureuse, mais il s'agit apparemment d'un problème rebelle à toute solution simple. On peut prendre certaines mesures pour mieux connaître ces gains d'efficacité, mais ces connaissances ne s'acquerront probablement qu'assez lentement et, de toute manière, ne sont guère susceptibles de permettre le recours à une méthode quantitative. En attendant, les tribunaux pourraient bien continuer d'éviter d'avoir à analyser directement des gains d'efficacité dynamique.

⁷¹ Fackelmann, supra note 50, p. 69-76.

Le nombre assez peu important de décisions publiées qui considèrent expressément les gains d'efficacité dynamique (sans parler de celles où on différencie entre autorisation et rejet) ne veut pas dire nécessairement qu'un grand nombre de fusions qui auraient débouché sur des innovations importantes ou d'autres synergies dynamiques, ont été bloquées de façon erronée. Il faut remarquer tout d'abord que nombre de fusions ne créent pas de gains d'efficacité dynamique. En outre, les seuils de concentration habituellement pris en compte dans la pratique par les autorités administratives en matière d'analyse des fusions, permettent à la grande majorité de ces fusions de passer avec succès le cap de l'autorisation, y compris les fusions axées sur les gains d'efficacité dynamique.⁷² De plus, nombre des fusions qui ne correspondent pas aux seuils de concentration sont malgré tout autorisées, même sans prendre en compte les gains d'efficacité dynamique. Enfin, les autorités administratives sont en mesure de préserver les avantages de gains d'efficacité de nombreuses fusions qui auraient sinon été anticoncurrentielles, en prévoyant divers palliatifs, tel l'octroi de licences d'utilisation de technologie et la cession partielle d'activités. Par conséquent, s'il est habituellement trop ardu pour les praticiens d'intégrer rigoureusement et quantitativement les gains d'efficacité dynamique dans les analyses des fusions, cela ne doit pas forcément être un sujet trop préoccupant.

Le problème ne doit pas pour autant être considéré comme sans importance. Trouver des moyens d'évaluer méthodiquement et précisément les gains d'efficacité dynamique est une question digne de recherches à venir.

⁷² Conrath et Widnell, remettant l'importance de l'analyse des gains d'efficacité dans son contexte, remarquent que moins de 2 % des fusions sont contestées aux États-Unis. « Le débat actuel sur les gains d'efficacité s'est donc centré sur la question de savoir si tout ou partie des deux pourcent de fusions qui sont contestées . . . devraient être autorisées parce que l'on peut prouver que les gains d'efficacité qu'elles permettent compensent leurs effets anticoncurrentiels ». Craig Conrath et Nicholas Widnell, « Efficiency Claims in Merger Analysis - Hostility or Humility? », *George Mason Law Review*, vol. 7, p. 685 et p. 692 (1999).

CANADA

1. Introduction

Efficiencies are explicitly recognised in Canada's *Competition Act* (the Act), both in the purpose clause under section 1.1 and in section 96 of the merger provisions. In the purpose clause, promoting "the efficiency and adaptability of the Canadian economy" is one of four goals of maintaining and encouraging competition in Canada. In section 96, a trade-off analysis is set out between the gains in efficiency arising from a merger and the competitive harm that is likely to result from that merger.

The nature of efficiencies that are considered in merger review is not explicitly set out in the legislation but rather in policy statements of the Competition Bureau (the Bureau), most notably in the 2004 Merger Enforcement Guidelines (the MEGs). As described in the MEGs, dynamic efficiencies may play a role both in the competition analysis under section 92 and in the efficiencies defence under section 96 of the Act.

With respect to the competition analysis under section 92, "the nature and extent of change and innovation in a relevant market" is listed in section 93 of the Act as a factor to be considered when examining the effects of a merger. Without specifically using the term "dynamic efficiencies", but implying their relevance, the MEGs describe this innovation factor in merger analysis as follows:

- 5.7 The Bureau evaluates the general nature and extent of change and innovation in a market. In addition to assessing the competitive impact of technological developments in products and processes, the Bureau examines change and innovation in relation to: distribution, service, sales, marketing, packaging, buyer tastes, purchase patterns, firm structure, the regulatory environment and the economy as a whole.
- 5.8 The pressures exerted by change and innovation on competitors in a market (including the merging parties) may be such that a material price increase is unlikely to be sustainable, especially where a merger reduces barriers to entry or stimulates or accelerates the change or innovation in question. *Such pressures may have important implications for efficient markets in the medium-to-long term.* However, for the purpose of the Bureau's analysis of competitive effects, the resulting competitive pressures are generally relevant when they are expected to have a constraining influence within two years of a likely exercise of market power.
- 5.9 A merger may also facilitate the exercise of market power by impeding the process of change and innovation. For example, when a merger eliminates an innovative firm that presents a serious threat to incumbent firms, the merger itself *may hinder or delay the introduction of new products, processes, marketing approaches, aggressive research and development initiatives or business methods.*¹ (Emphasis added. Footnotes omitted.)

The MEGs also describe the importance of dynamic efficiencies as they relate to the efficiencies trade-off under section 96, both as gains in efficiency and as an element of anti-competitive effects (i.e.,

¹ 2004 Merger Enforcement Guidelines.

losses in dynamic efficiency). Given the difficulties in measuring dynamic efficiencies, the MEGs state that dynamic efficiencies are generally examined from a qualitative perspective.

8.15 The Bureau also examines claims that the merger has or is likely to result in gains in dynamic efficiency, including those attained through the optimal introduction of new products, the development of more efficient productive processes, and the improvement of product quality and service. It is recognised that attaining dynamic efficiency is crucial to both the general evolution of competition and the international competitiveness of Canadian industries. Because dynamic efficiency is ordinarily extremely difficult to measure, the Bureau generally relies on documents prepared in the ordinary course of business to assess the validity of such claims. Such efficiencies are generally considered from a qualitative perspective.

...

8.30 Mergers that result in a highly concentrated market may reduce the rate of innovation, technological change, and the dissemination of new technologies with a resulting opportunity loss of economic surplus.

While difficult to measure and analyse, the Bureau believes dynamic competition is important to the “efficiency and adaptability of the Canadian economy”. Consequently, the Bureau is endeavouring to develop further policy in this area. Several issues are being examined, including the appropriate framework for evaluating dynamic efficiencies in merger review. Given the importance to the Canadian economy, the Bureau is also currently studying the role of efficiencies generally in a section 92 analysis, and, in particular, relevant comments made by the Competition Tribunal in the ICG/Superior Propane matter.² The Bureau expects to release a policy statement addressing certain issues related to efficiencies. This document will supplement the MEGs.

As a starting point to develop further policy specifically related to dynamic efficiencies, the Bureau has commissioned an independent third party report from an economics firm (“the Report”).³ The Report poses some useful questions that its authors argue should be considered when evaluating dynamic efficiencies in merger review. The Bureau intends to further reflect on the framework proposed in the report and looks forward to the discussions that will ensue. To be sure, given the need for evidence to substantiate claims regarding gains or losses in dynamic efficiencies, any framework that is adopted must be flexible enough to meet the challenges in collecting quality information about what is likely to happen in the future.

This submission is organised as follows: Part II defines some of the key terms used throughout the discussion, including the relationship between innovation and dynamic efficiencies; Part III offers

² The Competition Tribunal is a specialised tribunal with exclusive authority to hear challenges made by the Commissioner under the merger provisions of the Act. In its second decision regarding the ICG/Superior Propane merger it said: “...There is no requirement for efficiency gains to prevent the effects of lessening or prevention of competition from occurring, and the Tribunal found accordingly (Reasons, at paragraph 449)...It is plainly Parliament’s intent that, in merger review, efficiencies are to be considered only under section 96 and not under section 92. As a result, the consideration of efficiency gains is not to be tied into the analysis of competitive effects of the merger. Section 96 is worded accordingly by requiring that gains in efficiency be “greater than and offset” the effects of lessening or prevention of competition, rather than prevent those effects from occurring. Accordingly, “cleansing” of those effects is not required under the Act and, indeed, effects of lessening or prevention of competition may remain even when the test under section 96 is met.” *Canada (Commissioner of Competition) v. Superior Propane Inc.* (April 4, 2002), CT-1998/002 (Competition Tribunal) (hereinafter “Superior Propane Redetermination”) at ¶ 136-137.

³ This Report is attached to this submission as Appendix 1.

examples of cases where innovation, and thus dynamic efficiencies, were part of the assessment of whether a merger would likely prevent or lessen competition substantially; Part IV identifies the main findings and recommendations that have been proposed in the Report setting out a possible framework for evaluating markets where dynamic efficiencies are important; Part V discusses tensions between static and dynamic competition; and, finally, Part VI concludes by setting out next steps for further work in this area.

2. Defining terms and the relationship between dynamic efficiency and innovation

It is useful to define some of the key concepts that will be discussed herein; namely, innovation, dynamic efficiency versus static efficiency, and dynamic competition versus static competition.

Innovation occurs when firms create new ways of doing business. This can take place through the creation of new products or through the development of new processes. Innovation typically requires an investment in research and development (R&D) that causes the firm to assume a measure of risk. Importantly, extensive investment in R&D does not ensure that innovation will occur. Despite the risk, the gains from innovative activity can be significant, and can be so particularly if the resulting product or service is protected through intellectual property rights. Truly innovative products and processes result in increased market share for the innovating firm. They may also result in monopoly profits (where price is above marginal cost) for a period of time while the firm tries to recoup the costs of its initial investment.

Achieving the optimal level of innovation over time is dynamic efficiency. An ultimate goal of dynamic efficiency is to improve the economic environment in which markets operate in order to increase overall welfare in the long run. For firms, this means better processes that allow for lower costs; for consumers, this means better or a greater variety of products that can be purchased.

Dynamic efficiency may be difficult to measure as one must predict the future success of products and processes currently in the R&D phase. The timelines associated with R&D (ranging from early stages of initial field work to later stages of product development) are therefore important considerations. Because there is no one-to-one relationship between R&D and innovation, solely measuring R&D activity is generally not a good measure for dynamic efficiency.

In contrast, static efficiency occurs when firms in a competitive marketplace reduce costs by refining existing products and capabilities, but do not necessarily invest in new product or process development. Rationalising facilities that results in a reduction in per unit costs is an example of static efficiency. Achieving static efficiency gains involves incremental process improvements and/or better use of labour and capital, but nothing to create a new good or process.

Unlike static efficiency, potential innovation and dynamic efficiencies are very difficult concepts to quantify. There is no set formula for predicting the future winners or value of any potential product or process innovation. How or why such innovations are affected by a merger is even more obscure. Innovation and dynamic efficiency claims require analysis on a case-by-case basis by competition authorities. All claims are based on potential rather than likely future impacts.

Related to these concepts is the distinction between static competition and dynamic competition. Static competition is generally considered a short term concept that describes the interaction among producers of existing products with existing processes (“competition *in* the market”), whereas dynamic competition refers to the interaction among producers in the context of new products and processes that are expected to exist in the future (“competition *for* the market”).

3. Examining Dynamic Efficiencies in Existing Markets

The Bureau's traditional analysis, described in its MEGs focuses on both actual and potential competition in existing goods markets. The competition test under the Act requires a determination about whether a merger or proposed merger is likely to prevent or lessen competition substantially. Typically, a determination regarding lessening requires a consideration of actual competition in a relevant market, whereas a prevention case requires a consideration of potential competition in a relevant market.

In either case, a merger of actual or potential competitors can result in an increase or decrease in dynamic efficiency. As mentioned above, a key feature of a market where dynamic efficiency may be important and therefore relevant is where investment in some type of R&D is evident.

3.1 *Determining whether a merger of actual competitors will likely decrease dynamic efficiency*

A merger between firms that have historically introduced innovative products or product processes can generally raise a concern that the loss of such rivalry will result in a reduction in product choice for consumers (in addition to higher prices and/or lower quality for existing products). Measuring the effects arising from the possibility of less product innovation is difficult. However, there may be tangible ways to do so in terms of process innovations. For example, a loss of dynamic efficiency can occur if, post-merger, the merged entity will not (or cannot) implement plans in which either the acquirer or the target firm had invested to improve processes or products.

The Bureau has examined cases where the target company in a merger had recently invested (or was in the process of investing) in new technology that was expected to have positive impacts on its production and distribution activities, but where the merged entity was not likely to implement the plans post-merger. With the assistance of industry experts, the Bureau has evaluated these investments in technological solutions, accounting for the costs of their implementation, in an effort to estimate the *net* gains in efficiency expected to be achieved by the company.

The merger between Superior Propane and ICG in 1998 is one such example. In that case, the target company, ICG, had adopted a new business model involving a "transformation project" and was in the process of implementing various technologies when the merger occurred. While the Bureau encountered difficulties in quantifying the net effects of the transformation project, it nonetheless concluded that the loss of dynamic efficiency was a relevant anti-competitive effect of the merger.

In its first decision in that case, the Competition Tribunal accepted that a reduction in dynamic efficiencies (as defined in the MEGs) could also be an effect of an anti-competitive merger.⁴ When examining the facts regarding the transformation project, it acknowledged that there was evidence that ICG planned to introduce new technologies. Nevertheless, it ultimately rejected the Bureau's submission in this regard due to lack of evidence on the likelihood such gains would be achieved, their "dynamic" character or their quantum.⁵

⁴ Canada (Commissioner of Competition) v. Superior Propane Inc. (August 30, 2000), CT-1998/002 (Competition Tribunal) (hereinafter "Superior Propane") at ¶ 423. See also 2004 Merger Enforcement Guidelines at ¶8.30.

⁵ Superior Propane Redetermination, *supra* note 2 at ¶s 256-258. The Bureau is currently examining whether, under the Act, "lost efficiencies" are properly considered in the analysis of anti-competitive effects or as a deduction to gains in efficiency under the efficiencies defence.

This case illustrates the importance of having quantitative evidence to support claims regarding dynamic efficiencies (whether considering an increase or decrease in dynamic efficiency). Based on the comments made in the *Superior Propane Redetermination* (referenced in footnote 5), such evidence appears to be required for these claims to be validated at the Competition Tribunal.

When attempting to measure the impact that new technological solutions could have on dynamic efficiency, it is necessary to consider the following factors⁶:

- the cost savings that the firm expects to achieve upon implementation of its plans;
- the likelihood that such plans would come into effect, absent the merger (including probability of success); and
- why such plans would not or could not be implemented post-merger.

Evidence regarding these factors may be obtained from various sources. For instance, relevant information may be found in corporate documents of the company engaged in the development of technological solutions, such as those submitted to a Board of Directors outlining the merits of the initiative. Oral testimony from senior management of that company may also be very useful. Furthermore, industry experts could provide advice on certain matters such as whether the plans involve technologies that would be incompatible with those that are expected to be used post-merger.

3.2 Determining whether a merger of actual or potential competitors will likely increase dynamic efficiency

Mergers may create a more vigorous competitor who itself would increase dynamic efficiency and/or would encourage others to be more dynamically efficient. Provided they result in little or no competitive harm to static competition, such mergers that are likely to increase dynamic efficiency, are generally pro-competitive and are therefore not challenged.

In April 2006, Alcatel announced its proposed world-wide merger with Lucent Technologies Inc. Several competition agencies, including Canada, examined this merger. The parties claimed that the merger would create a firm with increased scale, scope and global capabilities that would provide value to consumers, shareholders and employees.

At the time of the announcement, the companies forecasted annual pre-tax cost synergies valued at US\$1.7 billion within three years of merging. Cost synergies were expected to come from several areas, including leveraging R&D and services across a larger base. Furthermore, cost reductions would facilitate continued substantial investments in R&D, which in turn would position the merged entity to better respond to vigorous competition driven by rapidly evolving technology and product innovation.

Within Canada, the merging parties' operations were largely complementary and overlap in product markets such as optical networks and internet protocols was minimal. The one area where overlap was significant involved access networks, where the merged entity would have a large market share post-merger. The Bureau concluded that, notwithstanding high market shares, the merger would not prevent or lessen competition substantially in this product market (or in any other market), primarily because the technology on which the product was based was being phased out by new technologies.

⁶ These factors are relevant whether a decrease or an increase in dynamic efficiency is the focus of the analysis.

3.3 *Determining whether a merger of potential competitors will likely decrease dynamic efficiency*

The Bureau has examined cases involving potential competitors whose products were expected to be one another's closest substitutes. In certain cases, it determined that the merger would have resulted in competitive harm in an existing product market both at the time of the merger and in the future. In such cases, evidence regarding products in development (i.e., pipeline products) was critically important to its conclusions. These pipeline products had already undergone certain levels and stages of testing and were expected to be available on the market within a relatively short time frame – roughly within the two-year time frame that the Bureau generally considers appropriate for the purposes of its merger reviews.

In 2002, the Bureau reviewed the proposed acquisition of Aventis CropScience Holdings S.A. (ACS), constituting the worldwide agrochemical business of Aventis S. A., by Bayer A.G. At the time of the merger, both parties were active in R&D, as well as in the manufacture and sale of crop protection products.⁷

The Bureau found that in certain product markets where either Bayer or Aventis was the incumbent firm, the other merging party had a pipeline product that was expected to have the same or better efficacy rate (since it was based on the same new chemistry of active ingredient) and was expected to come to market within a two-year time frame. While remaining crop protection companies were engaged to some degree in R&D for new products and/or new chemistries, the Bureau concluded that the level of change and innovation in certain product markets was not likely to discipline the exercise of market power by the merged entity in the relevant time frame. The pace of change and innovation would be hindered or delayed by the proposed transaction.

The Bureau therefore concluded that the proposed acquisition of ACS Canada by Bayer would likely prevent or lessen competition substantially in several products markets involving insecticides, herbicides and seed treatments. Notably, limited change and innovation by remaining competitors was but one factor that led to these conclusions. The Bureau also determined that high concentration coupled with high barriers to entry, limitations on foreign competition, lack of acceptable substitutes, the removal of ACS Canada as a vigorous and effective competitor and the lack of effective remaining competition would enable the merged entity to exercise market power in the relevant markets identified above.

The merging parties agreed to remedy these competition concerns by way of a consent order that was issued by the Tribunal. In particular, Bayer agreed to divest key agricultural chemical products and associated intellectual property and to enter into exclusive licences for other products. From the Bureau's perspective, divestiture was required for intellectual property that related primarily to the products at issue, whereas co-exclusive licenses were sufficient for intellectual property used in producing the products at issue but that was not primarily related to those products. Retaining ownership rights to such intellectual property enabled Bayer to continue R&D in product areas that did not raise competition concerns.

Also in 2002, the Bureau examined Pfizer's proposed acquisition of Pharmacia Corporation. At the time of the merger, both companies were actively engaged in R&D, and the manufacture and sale of pharmaceuticals used to treat human afflictions.

In the markets of concern, the merging parties were potential competitors; that is, one of the merging parties was the incumbent with a significant market share, whereas the other had products in the pipeline

⁷ This merger was described in Canada's submission to the OECD in September 2006 so will not be described in detail in this submission. Please refer to DAF/COMP/WD(2006)44 for more details on this case.

that were expected to compete against the incumbent. The Bureau concluded that the proposed transaction would create a disincentive for the merged entity to continue with the development of new products and thus there would represent a loss of potential competition in markets for the treatment of certain human health conditions. The Bureau focused its analysis on two markets where evidence regarding pipeline products was well established, particularly given the advanced stage of certain clinical trials. These were the markets for pharmaceutical products used in the treatment of human sexual dysfunction and those used in the treatment of urinary incontinence.⁸

To address the Bureau's concerns that the merger would likely prevent competition substantially in these markets, the merging parties signed a consent agreement that the Bureau registered with the Competition Tribunal. In particular, the parties agreed to terminate a collaboration and license agreement between Pharmacia and Natestch Pharmaceuticals, and to divest certain pipeline products and related intellectual property. Co-exclusive licences that related to intellectual property that was not used primarily for the products at issue were also part of the consent agreement.

From the perspective of dynamic efficiency, offering co-exclusive licences (rather than divestitures) for certain intellectual property was an important feature of the remedies in these cases. This enabled and also encouraged both the merged entity and the licensee to freely pursue future innovations that would enhance dynamic competition.

4. Examining Dynamic Efficiencies in Future Markets

As described above, dynamic efficiencies can be examined in the context of existing markets. While a merger's effects on dynamic efficiency are often difficult to quantify, conclusions can more easily be drawn when considering short term consequences. The Bureau typically uses a two-year time frame when examining the potential effects of a merger. The longer the time horizon under consideration, the more difficult it is to come to any conclusions regarding expected price levels and whether firms will likely enter or compete effectively. This is the case with respect to dynamic efficiency considerations like all other factors the Bureau considers.

While a merger may not raise issues regarding static competition, there may still be some concern that merging parties would be the only competitors in the future such that dynamic competition would be reduced. Conversely, it may be evident that, once combined, the merging parties would be better positioned to introduce new products and/or processes such that the merger would increase dynamic efficiency. In either case, the focus of the analysis is on the future.

To examine mergers where dynamic efficiencies may have an important role to play in the longer term, the Report identified above in Part I advocates using an analytical framework focussing on a future goods market that differs from the framework set out in the MEGs. The authors define a "future goods market" simply as a market as it exists at some future date, which may include existing goods as well as products that will come into existence at a later date.⁹ The Report focuses on a more distant future than what is contemplated in the MEGs. How far into the future one can predict the effects on dynamic efficiency with sufficient confidence remains an open question.

⁸ This merger was described in Canada's submission to the OECD in September 2006 so will not be described in detail in this submission. Please refer to DAF/COMP/WD(2006)44 for more details on this case.

⁹ The Report at page 17.

When evaluating potential competitive effects of mergers in future goods markets, the approach recommended in the Report involves asking five main questions. The Report then identifies a number of factors that should be taken into account under each of these five inquiries. Emphasis is also made throughout the Report on the need for reliable evidence.¹⁰

The Report recommends addressing the following five questions by using the following indicators.

4.1 *Is innovation important in the industry?*

The starting point of the analysis is relatively straightforward. Analyst reports or industry studies may be a useful source of qualitative information, particularly if they contain evidence that consumer demand is driven by product attributes. The Report suggests that quantitative evidence of innovation is often readily available as well, citing the following examples:¹¹

- (i) R&D spending by industry participants;
- (ii) scientific research activity as indicated by publications in scientific journals; and
- (iii) an observation of frequent change in market share.

While such sources may be useful to some degree, practical limitations exist. For example, evidence contained in scientific journals may only be admissible at the Tribunal if it is provided through testimony of an expert who is subject to cross-examination.

4.2 *Can firms and products in future goods markets be identified?*

To assess the competitive effects of a merger on a future goods market, it is necessary to identify plausible market participants and the products that are likely to make up this future goods market. Analyst reports and the parties' internal documents are two sources of information that may prove useful in identifying these elements of a future goods market.

The Report also suggests that it is important to consider certain economic and technological factors regarding the innovation. For example, the Report calls for distinguishing between innovations that "arrive unpredictably from outside sources, or from firms or individuals that are only peripherally involved in the industry at present" (e.g., computer software) and those that "arrive in a relatively systematic fashion as a result of R&D efforts conducted within established firms" (e.g. pharmaceuticals). In the first scenario, because predicting which firms may compete is very difficult if not impossible, the Report recommends against challenging a merger based on innovation concerns in such cases. In contrast, given the abundance of regulatory documentation and patent information that likely exists in the second scenario, the Report suggests that it is relatively straightforward to identify in advance which firms may ultimately compete in a future market.¹²

Furthermore, the Report stresses the importance of examining the contribution of the innovation to the value and functioning of the resulting product. Generally, the more oriented the innovative activity of companies is toward "basic research" (or the further the product is from commercialisation) the more difficult it is to reliably evaluate the potential competitive effects resulting from a merger, even when the

¹⁰ While suggestions for sources of information are made in the Report, some of them have certain practical limitations.

¹¹ The Report at page 20.

¹² The Report at page 22.

merging parties are pursuing similar research. On the other hand, when R&D efforts are geared toward a single innovation (such as an active ingredient used in pharmaceuticals), it may be easier to predict the extent of competition in a future market.¹³

This last example appears remarkably similar to the Bayer/Aventis and Pfizer/Pharmacia cases; however, from an evidentiary point of view, a critical distinction exists. In each of those cases, one of the merging parties was already an incumbent in the relevant market and the other had products in the pipeline. As a result, clear evidence was much easier to obtain owing to the regulatory (structured) framework that applies to pipeline products and the shorter time frame under consideration.

4.3 *Would the merging firms compete against each other in an identifiable future market, but for the merger?*

Once having identified the future goods market and its likely participants, the question remains as to whether the merging firms would compete in this market, but for the merger. The Report cautions against prematurely assuming the merging parties would be competitors simply by virtue of the fact that both firms are engaged in R&D activities related to that market. Rather, it recommends that consideration be given to the following elements when formulating an answer to this question:

The issue of uncertainty must be examined as many R&D projects are not successful and, as a result, firms involved in similar R&D projects may not compete in the future goods market stemming from the innovation project. To do so, the probability of R&D success (i.e., R&D success rates) must be taken into account.

Even if both firms' innovations prove successful, intellectual property rights may pose a barrier to competition. If patent rights exist in the market (especially with blocking patents), it is possible that competition between the firms would not arise without the merger, unless the firms chose to cross-license. According to the Report, this could be a relevant consideration in assessing competition in the future market but for the merger.

Consideration must be given to whether the innovating firms possess the assets necessary to commercialise the products resulting from the innovation stage. Licensing is often an option (especially if the firms are specialised rather than integrated) and, as such, the innovating firms might not participate directly in the resulting market.¹⁴

4.4 *Would the merger result in decreased R&D resources being allocated to innovation?*

This question examines the issue of whether the merger would result in a decrease in the merged entity's level of innovation activity if the parties were expected to compete in a future goods market. Given the lack of a clear theoretical or empirical connection between increased concentration and reduced innovation, a fact-specific analysis is required.

The Report suggests that the following factors be taken into account when performing this analysis¹⁵:

¹³ The Report at page 23.

¹⁴ The Report at page 24.

¹⁵ The Report at page 28.

- information available from parties on resources devoted to R&D, and planned expenditures going forward;
- information that might have been revealed since R&D began on the size of the eventual market or the expected costs of completing the R&D phase;
- indications that the first firm to innovate would garner a disproportionate share of the rewards; and
- information on the degree of overlap between participating firms' R&D programs.

4.5 *Would the merger lead to increased prices?*

The Report acknowledges that the final question is difficult to answer, as there is likely to be no pre-merger price or output benchmark for the future goods market. As such, a practical indirect solution is proposed to treat the merger's effect on innovation and its effect on pricing as a single inquiry. To assist, the Report sets out four possible cases of interest to examine, defined by whether the merger materially reduces the level of innovation, and whether the combined company has a high share of the post-innovation market. The likely conclusions as suggested by the Report are set out for each case.¹⁶

- Merger has no impact on innovation, merged entity has a large market share
- Traditional conclusion: prices might be higher than without the merger.
- Merger has no impact on innovation, merged entity has a small market share
- There should be no concern with such a merger.
- Merger results in reduced innovation, merged entity has a small market share
- Challenging such a merger is unnecessary (assuming the reduction in the level of innovation is expected only for the merged firm).
- Merger reduces innovation, merged entity has a large market share
- Such a case raises competition concerns as innovation is reduced and prices will likely be higher than without the merger.

5. Tensions between Static Competition and Dynamic Competition

What happens when a merger is found to raise static competition concerns and, at the same time, there is evidence to suggest that the merger would increase dynamic efficiency in the future? From the Bureau's perspective, to date, the answer has depended on the nature and degree of static competition concerns.

For example, when Alcatel proposed to acquire Lucent Technologies, there was general consensus that the merger would ultimately be pro-competitive – that Alcatel and Lucent had complementary R&D programs such that the merged entity could become a strong competitor in the future in various product markets. In Canada, there was overlap in few products, most notably in access networks. While the

¹⁶ The Report at page 30.

proposed merger would remove a market participant and the combined market share in one product market was particularly high, remedial action was not deemed necessary because the evidence was that the technology used in the product was being replaced by new technologies over time. In this case it was relatively straightforward to conclude that the loss of a competitor in the short run was by far outweighed by the benefits of having a stronger competitor in the long run. Such competitor would be better able to offer a wide range of innovative products in the future.

In contrast, in the 1998 bank mergers involving Royal Bank/Bank of Montreal and Toronto-Dominion/Canadian Imperial Bank of Commerce, the merging parties claimed that the mergers were necessary to achieve efficiencies that would enable them to compete effectively, domestically and abroad, in the future. They argued that electronic banking was becoming more prominent and that the way to compete with larger foreign institutions (especially those which use electronic technology and enjoyed economies of scale) was to merge their businesses domestically. The banks also claimed that electronic banking would soon replace the traditional “bricks and mortar” model. The Bureau was not convinced that this would occur in a timely manner.

In the view of a technology expert made available by one of the merging Banks, Internet technology will not replace the need for physical presence in the next five to ten years. Another expert interviewed by the Bureau puts the time frame at between 10 and 15 years. These time frames are well beyond the two-year period considered by the Bureau in assessing the potential for new effective competitors to emerge.¹⁷

The Bureau recognised the merits of electronic banking, but determined that competitive harm to consumers in the short to medium term (based on its traditional analysis of static competition) would outweigh the benefits that could occur in the future.

Furthermore, based on evidence regarding the importance of branch relationships at the time of the reviews, the Bureau determined that electronic banking would continue to develop as a complement rather than as a substitute to branch banking.

In some respects, technology may have raised rather than lowered barriers to entry. According to records produced by the banks, customers have come to expect access to the new channels of distribution as a complement to using their branches.¹⁸

At the end of its review, the Bureau determined that the proposed mergers would prevent or lessen competition substantially in several product and geographic markets in Canada. Ultimately, the mergers did not proceed because the Minister of Finance concluded that they would not be in the public interest.

In Canada, the tension between static and dynamic competition is recognised in the section 96 defence. If the Bureau concludes that a merger is likely to result in anti-competitive effects (i.e., static efficiency losses), merging parties can bring forward claims that gains in efficiency expected to be brought about by the merger will be greater than and offset those anti-competitive effects. Such gains can include gains in dynamic efficiency (i.e., gains resulting from improved innovative conditions). In order for their defence to succeed, the merging parties bear the burden of substantiating such claims to the satisfaction of

¹⁷ The Competition Bureau's Letter to the Royal Bank and Bank of Montreal, December 11, 1998. <http://www.competitionbureau.gc.ca/internet/index.cfm?itemID=1612&lg=e>

¹⁸ Ibid, Supra note 15.

the Bureau or the Competition Tribunal. Given the challenges in measuring dynamic efficiencies, this burden may be difficult to meet.

Cases where the section 96 defence has been invoked are rare. Furthermore, where efficiency claims have been made, typically they have related to productive or technical (fixed and variable) cost savings, rather than dynamic efficiencies. Nonetheless, it is useful to consider the sources of dynamic efficiency that could be introduced into the analysis.

The Report identified above suggests a few sources of dynamic efficiency that may be taken into consideration, including:

- elimination of duplicative R&D (including fixed and variable cost savings): this *assumes* that efficiency would improve while the pace of innovation will not be diminished;
- economies of scale or scope in R&D: this *assumes* that having a larger R&D program (scale) or a broader set of projects in the works (scope) may increase research productivity;
- improved intellectual property enforcement: this *assumes* that larger firms are better able to protect their intellectual property rights which enhances returns to their R&D efforts; and
- increased financial resources for R&D: this *assumes* that firms with larger internal financial resources are better positioned to engage in R&D.

The Report cautions that these sources of dynamic efficiencies may be very difficult to prove and quantify; accordingly, the analysis must be case-specific and requires careful consideration of the facts. Indeed, in order to substantiate such claims, persuasive evidence that supports the underlying assumptions identified above would also be required.

6. Conclusion

The Bureau recognises the need for further study on dynamic efficiencies and appreciates the opportunity afforded by the OECD to discuss these important issues in an open forum. As stated above, policy development on dynamic efficiencies is a work in progress for the Bureau. As we study the recommendations of the commissioned Report, we are also open to exploring whether there is a more appropriate framework for evaluating mergers in industries where innovation and technological change are particularly relevant and powerful. We believe the Report is a helpful contribution to that debate, raising a number of issues worthy of further consideration. We look forward to working with other jurisdictions and exchanging ideas.

ANNEX

FINAL REPORT

**Prepared For:
Competition Bureau**

**INNOVATION AND DYNAMIC
EFFICIENCIES IN MERGER REVIEW**

Prepared By:

Andrew Tepperman and Margaret Sanderson

CRA International

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EXECUTIVE SUMMARY

This report addresses issues that arise when incorporating innovation issues into the merger review process. Competition based on innovation, whereby firms attempt to gain market share through the introduction of new or improved products or services—dynamic competition—is at the heart of many modern industries. Accordingly, an understanding of dynamic competition is relevant for merger review. When incorporating innovation issues into merger review several considerations arise. First, there is no settled economic model that relates the extent of market concentration to the extent of innovation and as a result, we do not know how concentration today affects firms' levels of innovative activity, which differs from the clear link that exists between concentration and pricing. Second, innovation is highly uncertain, making it much more difficult to measure and quantify than price and output. Third, these measurement problems make it difficult to quantify a merger's likely effect on the rate or outcome of innovation. Finally, innovative activity is a form of up-front investment, and prices must be expected to exceed short-run marginal cost to justify the investment, on average. As a result, static measures of economic efficiency that fail to account for the flow of surplus from the introduction of new products cannot tell the whole story when innovation is important to the merger review. An appropriate treatment of efficiency must recognize these dynamic gains, without ignoring the importance of competitive rivalry among firms within markets at a point in time.

With these considerations in mind, in this report we propose a framework that allows for the effect of merger transactions on innovation to be incorporated into merger review, where the current approach found in the Merger Enforcement Guidelines is not sufficient to fully capture dynamic competition. The current approach found in the Guidelines works well for addressing when mergers are likely to lead to a reduction in either actual or potential competition in an existing goods market. The framework we propose is aimed at addressing future goods markets, while making use of information available today. It should be of assistance to competition authorities faced with mergers that may raise competition issues in future goods markets, or that may involve future innovations which obviate any competition concerns in existing goods markets.

The framework proceeds by making the following inquiries: (1) Is innovation important in the industry in question? (2) Can affected future products and firms be identified? (3) Would the merging firms compete against each other in those future markets but for the merger? (4) Would the merger reduce the existing level of innovation? (5) Would the merger result in an increase in prices in the future market above what they would be without the merger? In light of the special considerations associated with innovation, application of this framework is likely to be highly fact specific. A number of factors that can be taken into account under each of these five inquiries are discussed.

The merger review process also calls for gains resulting from improved innovative conditions to be considered as a potential offset to static efficiency losses resulting from price and output changes. Such dynamic efficiency considerations may be difficult for parties to prove, but could be expected to arise from a number of plausible sources. In particular, merging firms may be able to eliminate duplicative research and development programs, or may be able to realize economies of scale or scope in research and development. Again, a dynamic efficiency analysis must be case-specific in nature and would require a careful consideration of factual material.

1. Introduction

We have been retained by the Competition Bureau (“Bureau”) to consider how the Bureau might assess innovation and dynamic efficiency when undertaking merger reviews. While the nature and extent of change and innovation in a relevant market is an identified factor in the *Competition Act* to be considered in order to determine if a merger is likely to substantially prevent or lessen competition,¹ to our knowledge it has not been addressed in a broad Bureau policy report. In particular, a practical framework to address issues of innovation and dynamic efficiency in merger review has not been previously advanced. We hope this report will fill that gap.

Having said this, we do not wish to imply that innovation is a foreign concept in current merger review. The 2004 Merger Enforcement Guidelines (“MEGs”) discuss change and innovation in the context of determining when mergers may have anti-competitive consequences and when discussing the types of efficiencies that the Bureau will consider under section 96. The MEGs indicate the Bureau will consider the competitive impact of technological developments in products and processes arising from many areas of the merging parties’ operations.² Change and innovation may reduce barriers to entry, for example, thereby making it difficult for the merging firms to sustain a material price increase post-merger.³ Alternatively, a merger may facilitate the exercise of market power if it eliminates an innovative firm from the market that posed a serious threat to incumbent firms. In such circumstances the merger may substantially lessen or prevent competition by delaying the introduction of new products or processes.⁴

Gains in dynamic efficiency arising from the introduction of new or improved products and processes are also recognized by the Bureau as important considerations in merger review.⁵ Such gains are described in the MEGs as “crucial to both the general evolution of competition and the international competitiveness of Canadian industries.”⁶ They are also regarded as inherently difficult to measure or substantiate. Improved dynamic efficiency as a public policy goal is sufficiently important in the context of merger review that it warranted a chapter of discussion in the *Report of the Advisory Panel on Efficiencies*.⁷ Nonetheless the *Advisory Panel Report* did not provide (nor was it asked to provide) practical advice on how to consider dynamic efficiencies in merger review.

In this report, we explore these and related issues. We accept as a general proposition that Canadian competition law is flexible enough to allow for a rigorous analysis of innovation and its potential competitive consequences in merger review. Indeed, competition in a market with differentiated products will often take the form of product innovation as well as price and cost reduction. In such markets, a successful product innovation by one firm will stimulate imitation of the innovation by others, and may spur competitors to conduct innovation aimed at leapfrogging one another’s technological advancements. As a result, innovative rivalry can be viewed as one form of competition that the *Competition Act* seeks to protect by preventing mergers that substantially lessen or prevent competition along this dimension.

¹ Section 93(g) of the Competition Act, R.S. 1985, c. C-34.

² Paragraph 5.7 of the MEGs notes that change and innovation may be in respect of distribution, service, sales, marketing, packaging, buyer tastes, purchase patterns, firm structure, regulatory environments and the economy as a whole.

³ MEGs, ¶ 5.8.

⁴ MEGs, ¶ 5.9.

⁵ MEGs, ¶ 8.15.

⁶ MEGs, ¶ 8.15.

⁷ Chapter 4 of the Report of the Advisory Panel on Efficiencies, August 2005.

Similarly, the long-term gains that accrue to consumers (and firms) as a result of innovative behaviour can be encompassed within the efficiencies provisions of Section 96 of the *Act*.

Rivalry in the form of innovation can be distinguished from our usual focus in merger review on pricing in the following ways:

- (a) Innovation involves future products or services making it intrinsically uncertain;
- (b) Innovation is a form of investment, requiring (at least) a normal rate of return on average, which is typically obtained through above-cost pricing in the short term, leading to a potential tension between short-term and long-term efficiency concepts;
- (c) There is no agreed-upon economic theory of innovation-based competition, and as a result a detailed analysis of the facts surrounding each potential transaction is critical; and,
- (d) Measurement issues make it difficult to say what constitutes “more” or “less” innovation in relation to a pre-merger benchmark.

In light of these special characteristics associated with innovation, we do not presume that the merger review process described in the MEGs can necessarily be applied without modification to cases where innovation concerns are paramount. While the framework embodied in the MEGs can be successfully applied to most mergers, it may not provide the correct conclusion in situations where the merger involves two firms that do not currently compete, but that would be significant rivals in respect of a future goods market (which may include existing goods), or if the merger raises substantial competition concerns but future innovation is likely to reduce these concerns. Thus, we depart from the MEGs on certain specific issues, as we will describe in more detail below.

Prior to setting out the framework for analyzing innovation in merger review, it is useful to define key terms. We do this in the next section (Section 2), following which we elaborate on some of the inherent properties of innovation-based competition in Section 3. In Section 4, we outline a pragmatic analytical framework that we believe allows for due consideration to be given to innovation and dynamic efficiencies in considering a merger’s potential competitive effects, while not ignoring the traditional merger concerns related to price and output. This is followed in Section 5 with a discussion of how merger review should address efficiency claims in respect of innovation. Concluding remarks are found in Section 6.

2. INNOVATION AND DYNAMIC COMPETITION

2.1 Key Concepts

We begin by defining several of the terms we use extensively throughout this report. **Innovation** can be thought of as the creation and development of new or improved products or processes. A **product innovation** is a new or improved product (or service); a **process innovation** is a means by which existing production technology is made more efficient, with the consequence that costs of producing the product are decreased. Quality improvements in existing products or the development of new features for existing products are captured in our notion of product innovation. New or improved processes need not relate solely to production, but may also include cost-saving means of distribution or marketing.

Innovation is inherently dynamic, which distinguishes it from more static price and output decisions.⁸ This is so because it is generally necessary to incur costs at some point in time (or over some extended

⁸ Where entry is easy, we expect competitive markets to result in the last unit being sold at a price equal to the marginal cost of the last unit sold. Consumers’ willingness to pay for each unit produced and sold thus equals or exceeds marginal cost. In such a world, society’s resources are optimally allocated with the

interval of time) in order to enable an innovation to be realized later. In this sense innovative activity—research and development (“R&D”)—is a form of sunk and risky investment, in which a cost (in dollars or hours of effort) precedes a potentially uncertain outcome.

Both product and process innovations contribute to economic efficiency. To see this, consider only the outcome of innovation, ignoring the costs of research and development, which are assumed to have taken place in the past. Product innovations contribute to economic efficiency by increasing consumer surplus—the total amount by which consumers’ willingness to pay exceeds the price of the product for those consumers purchasing the product. For existing products, an innovation leading to a product improvement increases the value that consumers place on using the product, assuming price is held constant. For example, the introduction of the minivan generated large gains for consumers who valued its attributes as compared to existing cars.⁹ In the case of innovations that result in entirely new products, such as the introduction of the cellular telephone, consumer surplus increases from a level of zero pre-innovation to some positive and potentially substantial amount post-innovation.¹⁰ The potential gains to consumers from the introduction of new goods are typically far larger than those available from optimizing the pricing of existing goods.¹¹

Process innovations also promote economic efficiency by allowing existing products to be produced at lower costs. This may not immediately translate into lower prices (and thus increased consumer surplus). The innovating firm may instead hold a competitive advantage over its rivals for which it earns additional profits compared to the pre-innovation period. As a result producer surplus is increased and efficiency improved even in the short term. Then, as rival firms seek to imitate the innovation or develop their own cost-saving techniques, the cost-reducing technology is diffused across firms in the market leading to lower prices than would have existed without the process improvement over time.¹² Consumer surplus may then be increased.

When considering competition through innovation, it is important not to confuse the improvement in earnings by the innovating firm with monopoly profits. Instead, the firm is earning a return on its investments, which economists refer to as a **quasi-rent**.¹³ The existence of quasi-rents is not analogous to

result that the sum of consumer and producer surplus is maximized at that point in time. Economists refer to this as allocative efficiency. Allocative efficiency is explicitly a static concept—it does not concern how the product came into being, or which firms are involved in selling it.

⁹ Amil Petrin, “Quantifying the Benefits of New Products: The Case of the Minivan,” *Journal of Political Economy*, Vol. 110, 2002.

¹⁰ Jerry Hausman, “Mobile Telephone,” Chapter 13 in M.E. Cave, S.K. Majumdar, and I. Vogelsang (eds.), *Handbook of Telecommunications Economics*, Vol. I, Elsevier, 2002. Hausman estimates that cellular telephony provided U.S. consumers with between \$53 billion and \$111 billion in consumer surplus in 1999 (p. 586).

¹¹ The potential trade-off between static and dynamic efficiency in a regulatory context is explored by Neil Quigley: Neil Quigley, “Dynamic Competition in Telecommunications,” CD Howe Institute Commentary, No. 194, February 2004; and Lewis Evans, Neil Quigley, and Joe Zhang, “Optimal price regulation in a growth model with monopolistic supplier of intermediate goods,” *Canadian Journal of Economics*, Vol. 36, 2003. Paul Romer has discussed this issue in the context of international trade (Paul Romer, “New Goods, Old Theory, and the Welfare Costs of Trade Restrictions,” *Journal of Development Economics*, 1994).

¹² If innovations are expected to diffuse rapidly to other market participants, the returns from innovation would likewise be expected to be competed away in a short time. This environment would tend to reduce the incentives to invest in innovation, a point elaborated upon further below.

¹³ See Michael Trebilcock, Ralph A. Winter, Paul Collins, and Edward M. Iacobucci, *The Law and Economics of Canadian Competition Policy*, University of Toronto Press, 2002, pp. 54-57 for a discussion of rents.

market power, yet the two are often confused, particularly if analysts look to firm profits at a single point in time as a means of measuring the extent of market power.

Having established that innovations, once realized, lead to gains for consumers and producers, and that the act of innovation is not itself typically costless, it is clear that society overall is faced with a trade off. A greater expenditure devoted to R&D can be expected, on average, to result in a greater number of innovations being realized. Some positive level of expenditure on R&D would then seem to be desirable from a social perspective. At the same time, there will eventually be diminishing returns to R&D expenditure. The optimal level of innovative effort is that which economists call the **dynamically efficient** level. Dynamic efficiency implies that the flow of surplus realized through the introduction of new products or processes over time, net of the cost of researching and developing these new products and processes, is at a maximum.

2.2 *Dynamic Competition*

Competition based on the successive introduction of new or better products over time is called **dynamic competition**. Dynamic competition based on investment in R&D may be thought of as a form of “competition for the market”¹⁴ in contrast to price competition which is “competition in the market.” This characterization is overly simplistic, however. There are certainly many situations in which both forms of competition operate—firms may compete for customers’ business by reducing price and improving quality for existing goods, and by pursuing innovation in an effort to introduce new goods to market.¹⁵ Nonetheless, this way of dichotomizing competitive rivalry serves to emphasize an important contrast. **Static** views of competition take the existing set of products and market participants as given, describing the outcome of competitive behaviour among those market participants using strategic instruments such as pricing or advertising that can be applied and varied in the “short term.” Dynamic competition involves the creation of new products and potentially also new markets, along with the replacement or obsolescence of older products. It also implicitly or explicitly involves entry and exit by firms—there is no guarantee that today’s successful firms will be able to offer the product attributes demanded by tomorrow’s consumers.

Anecdotal examples of dynamic competition are not hard to come by. Consider an example from the pharmaceutical area. SmithKline’s breakthrough anti-ulcer medication Tagamet was largely free from direct competitors in the late 1970s. Newer products with desirable attributes soon arrived on the market, beginning with Glaxo’s Zantac in the early 1980s, and Tagamet’s share dropped off as several competing firms offering different chemical entities to treat the same set of symptoms emerged.¹⁶ In the microprocessor industry, Intel continues to undertake a tremendous amount of innovative effort in order to stay ahead of its rivals, introducing generation after generation of chip since its first products were launched in the 1970s. Only recently have other microprocessor firms such as Advanced Micro Devices been able to make inroads into Intel’s share of the chip market by offering high-quality and innovative products with characteristics desired by consumers.¹⁷

¹⁴ This need not mean the “winner” supplies all customers in the market; a “win” could simply represent introduction of a successful product (as indicated by demand) before competitors are able to do so.

¹⁵ The term “market” as it is used here does not necessarily refer to any rigorously defined antitrust market.

¹⁶ For a survey, see Ernst R. Berndt, Linda T. Bui, David H. Lucking-Reiley, and Glen L. Urban, “The Roles of Marketing, Product Quality, and Price Competition in the Growth and Composition of the U.S. Antulcer Drug Industry,” in *The Economics of New Goods*, T. Bresnahan and R. Gordon (eds.), University of Chicago Press, 1997.

¹⁷ See e.g., “Dell to Use Chip Made by A.M.D.,” *New York Times*, May 19, 2006.

As manufacturers bring new technical features forward, they can create demand for their particular product from both new and established customers. Consider for example the increased demand generated over time for computing processing power. Throughout the 1990s, IBM made a series of investments in its mainframes that significantly enhanced mainframe functionality. A fundamental innovation during this time was the introduction of technology to alleviate the need for large water-cooling systems that prior processor technology required, thereby allowing mainframes to be much smaller in physical size and dramatically lowering their cost. Competing mainframe manufacturers Amdahl and Hitachi had difficulty replicating the significant technology advances of IBM and ceased producing mainframes. Yet IBM's mainframes still faced competition from an alternative technology known as Unix. Sun Microsystems and Hewlett-Packard in particular advanced Unix technology to the point that by 2001 Unix-based server systems had mainframe-like power and comparable performance characteristics. Technology has since advanced further still, allowing firms to link a number of Intel-based servers together to have the computing processing power and performance features of Unix supercomputers. With each new development, IBM invests more in its mainframe technology to improve upon it, while Sun and Hewlett-Packard invest further in Unix technology. Intel and Microsoft, meanwhile, invest in their technologies. New technologies appear, disrupting old technologies and providing the motivation for incumbent firms to continue investing and developing new products.

2.3 *Basic Principles*

From this high-level overview of the relevant concepts, we present two principles to inform the remaining discussion.

2.3.1 *Tension may exist between static and dynamic efficiency*

To sustain innovative efforts, and thus support dynamic efficiency, firms do not expect to price at short-run marginal cost at every point in time and as a result some degree of allocative inefficiency may be inevitable. Motivating firms to make costly investments in R&D requires some prospect of "profit," which as noted above is in the form of quasi-rents. In the absence of this positive return per unit of output sold, a firm would never be able to recoup its up-front investment in R&D, and would therefore have no incentive to undertake this investment. In other words, innovating firms anticipate a period of "incumbency" during which they are able to sell a product at a price exceeding not only the short-run marginal cost of production, but potentially also the price of existing products (if any) that do not incorporate the innovation. Consumers are willing to pay the higher price because they value the additional attributes embodied in the new or improved product sufficiently to pay a premium for it over other firms' products.

An implication is that textbook "perfect competition" may be inconsistent with dynamic efficiency, a point recognized by Joseph Schumpeter decades ago, and developed in subsequent macroeconomic and microeconomic literature.¹⁸ Once we realise that the basic assumptions necessary for perfect competition to hold—including, *inter alia*, homogeneous products, infinitesimally small firms, perfect information, and small fixed costs per firm—cannot possibly apply in the vast majority of real world markets, it is clear that competition is often "imperfect," and prices are expected to exceed short-run marginal cost. As a result, a price above marginal cost does not suggest market power exists, in and of itself.¹⁹

¹⁸ For macroeconomic research on the implications of dynamic competition for growth, see e.g., Philippe Aghion and Peter Howitt, *Endogenous Growth Theory*, MIT Press, 1998, and references cited therein; for a more microeconomic approach with an antitrust dimension, see e.g. Ilya Segal and Michael Whinston, "Antitrust in Innovative Industries," National Bureau of Economic Research Working Paper 11525, July 2005.

¹⁹ The Tentative Recommendations of the US Antitrust Modernization Commission noted that firms engaged in considerable research and development and other innovative activity may have low marginal costs and

The existence of above-marginal cost pricing in any particular market may be explained by a wide range of factors. One common explanation is that products may be differentiated from the perspective of consumers (for example, breakfast cereal), which tends to reduce the intensity of price competition. Alternatively, production may require firms to incur substantial and ongoing fixed costs in order to set up or to stay in business (as is the case with infrastructure industries such as transportation or telecommunications service provision). From a purely static perspective, products with similar (but not identical) attributes may coexist, exerting competitive pressure on the innovator's pricing decision. From a dynamic perspective, any discussion of whether returns are competitive or supra-competitive must confront the problem of how to define market power in the context of a dynamically competitive market; we defer discussion of that issue to a later section.

Incumbency status enabling above-marginal cost pricing must be expected to persist for long enough to make the investment worthwhile. It is a firm's expectation that quasi-rents will exist that drives the investment decision. Should a different state of the world materialize in the future such that *ex post* returns on the product are insufficient to justify the investment, this will not alter the product's current existence. Instead, it would be expected to factor into the firm's next investment decision, or those of similar firms. Legal instruments such as patents may serve to protect a firm's investment to a certain extent.²⁰

In many instances, the process of dynamic competition prevents any one firm from enjoying a position of leadership for very long, unless that firm continues to innovate. "Follower" firms will perceive the benefits of incumbency status and will compete by engaging in R&D, or by imitating. This process normally imposes limits on the length of time any given incumbent can expect to remain ahead of its rivals before its existing product is replaced in a new round of innovation. Recently, economists studying the determinants of economic growth have sought to understand and fully model these forces.²¹

2.3.2 More R&D is good, but more innovation is better

The private incentives to innovate that firms face may not give rise to the optimal level of innovation from a social perspective. As discussed above, the socially optimal level of innovation is that which maximizes dynamic efficiency, or the flow of surplus net of R&D expenditure. The incentives faced by private firms, on the other hand, are determined by a number of different factors, which can give rise to either too much or too little innovation.²² Two effects in particular tend to promote *underinvestment* in innovation because: (i) innovating firms fail to capture the benefits that their innovations provide to future researchers by moving the technological frontier ahead they invest less than the socially optimal level;²³

large fixed costs, which may require pricing significantly above marginal costs in order to earn a competitive return in the long run (see Antitrust Modernization Commission, Tentative Recommendations, issued January 11, 2007, at 2(b)). A key implication is that fixed costs are an important determinant of market outcomes, as these directly affect the return that is required in the long run in order to remain in business.

²⁰ As will be discussed, patents are by no means the only way firms seek to secure returns on their investments in R&D.

²¹ A review of the macroeconomic literature on growth is well beyond the scope of this study. However, as an example, Segerstrom has shown that economic growth over the long term can be supported in an environment in which (i) leader firms pursue R&D to improve their existing products; (ii) follower firms invest in R&D with the hope of becoming leaders; and (iii) innovation becomes increasingly more difficult. See Paul S. Segerstrom, "Intel Economics," *International Economic Review* (forthcoming).

²² Aghion and Howitt (1998), p. 79.

²³ This is known as the "intertemporal spillover effect." It encompasses the notion that future researchers benefit from past research but at any given point in time current researchers are unrewarded for these benefits.

and (ii) firms cannot typically receive all of the increase in consumer surplus that is created by a successful new product.²⁴ Working in the opposite direction toward *overinvestment* in R&D is the “business stealing effect.” This effect is driven by firms failing to take into account the fact that while each firm benefits when it replaces another as incumbent, no such gain accrues to society; so firms may have an excessive incentive (relative to that which is socially optimal) to seek to replace other firms.

On balance, the evidence suggests that firms face insufficient incentives to innovate relative to socially optimal levels. Numerous studies have attempted to empirically measure the spillover benefits generated by firms’ R&D efforts in order to test this theory.²⁵ These spillovers seem to be large, and as a result the social rate of return from R&D exceeds the private rate of return. The implication is that underinvestment in R&D is real and significant.²⁶

This is not to suggest that a discussion of innovation should begin and end with R&D. The considerable attention R&D expenditure receives in practice is warranted to a certain extent because worthwhile innovations do not typically spring fully-formed from inventors’ minds, and thus R&D is a necessary condition for innovation. In addition, R&D is easy to measure, so it is used extensively in empirical studies; for example, public firms report R&D spending in their financial statements, and most empirical studies of innovation rely on publicly available data. Yet too close a focus on R&D risks obscuring the important fact that it is not R&D *per se* that is of interest—it is innovative output. Consumers do not derive benefits from an additional dollar of R&D spending unless that dollar results in an increased likelihood of either a new product being developed or an existing product being made available for a lower price. As a result, the ultimate focus of any investigation into the impact on innovation of a particular transaction must be on the output of the innovative process. Transactions that would reduce total R&D expenditures but leave the level of innovation constant (perhaps because of the existence of duplicative R&D efforts across firms) should not be subject to challenge.

3. Innovation in a Competitive Effects Analysis: Threshold Issues

To usefully incorporate innovation and dynamic efficiency into merger review we need to recognize several distinguishing features of innovative competition. First, there is no robust model of innovation that links the rate of innovation to industry concentration. Second, there is far more uncertainty surrounding innovation than is normally encountered in a typical merger review focused solely on price and output. Third, associated with innovation are complicating measurement problems that do not ordinarily exist with more conventional merger analysis.

These issues do not prevent us from taking innovation and dynamic efficiency into account when assessing mergers. But they do mean that we cannot rely on simple measures to quantify levels of innovative activity or to confidently predict how mergers will impact on innovative activity. Instead, as we discuss in the subsequent section, a more fact-intensive, case-by-case approach is required.

²⁴ This is known as the “appropriability effect.”

²⁵ See e.g., Zvi Griliches, “The Search for R&D Spillovers,” *Scandinavian Journal of Economics*, Vol. XCIV, 1992.

²⁶ A study attempting to calibrate the magnitude of any under- or overinvestment in R&D using a fully specified model of economic growth corroborates this, finding that the private incentives to conduct R&D are too low, likely by a factor of two to four. See Charles I. Jones and John C. Williams, “Measuring the Social Return to R&D,” *Quarterly Journal of Economics*, Vol. 113, 1998, p. 1121.

3.1 *No Predictive Model Relating Innovation to Concentration*

When considering the potential price effects of a merger in the short run, economists typically make reference to a number of accepted models of competitive firm interaction.²⁷ Such models provide guidance on the relationship between firm concentration and price, once other variables such as the demand elasticity and ease of entry are defined. We would like to have a similar model that relates innovation to industry concentration. In particular, we would like to know whether the rate at which firms pursue a particular innovation (and accordingly their likelihood of success) increases with the number of firms involved in the pursuit.²⁸ Unfortunately, a robust framework that predicts the amount by which innovation will increase for a given increase in the number of firms has proven elusive.

One model that is frequently invoked (to varying degrees of explicitness) to address this issue is the “patent race” model. Firms in patent race models interact under the following specific set of assumptions: (i) all firms are assumed to be pursuing the same (known) prize; (ii) the number of firms is fixed at the outset; (iii) the time needed to innovate successfully is uncertain; (iv) only the first firm to attain the innovation will be able to profit from it; and (v) firms that spend more are more likely to innovate first. This model leads to some interesting conclusions, a fundamental one being that R&D efforts are “strategic complements”: the optimal strategy in response to an increase in innovative effort by a rival is to increase one’s own R&D.²⁹ The rate of R&D spending by each firm, and thus the speed at which the innovation is realised, depend positively on the number of participants. As an obvious application, a merger between two participants in the patent race will decelerate the pace of innovation and so there might be some justification for challenging the merger.

But patent race models, and the conclusions reached from these models, are highly dependent on the underlying assumptions. Consider, for example, the repercussions of changing the “winner take all” assumption. Instead, make the assumption that an R&D success by one firm leads to a phase of product market competition against other participating firms. This might arise if success by one firm provides important benefits to other R&D competitors, such that they are then able to complete their own projects and sell products in competition with the successful innovator.³⁰ Models in which research projects are

²⁷ If firms are assumed to make strategic decisions concerning output, the Cournot model of oligopoly is commonly used. If instead firms are assumed to compete on price, and in particular if products are differentiated, the Bertrand model is used. Both of these models yield the sensible predictions that pricing depends on demand elasticity and marginal cost, and that prices tend to increase as industry concentration increases holding all else constant. These types of static models have also performed well in empirical tests. As a result, we have few reservations about applying standard economic models to evaluate short-term competitive effects.

²⁸ This question is of obvious interest in the merger context. For example, it was at the core of the Federal Trade Commission’s recent challenge to Genzyme’s acquisition of Novozyme, and the Commission’s subsequent decision to clear the merger. In this action, the Federal Trade Commission (“FTC”) initially expressed a concern that since Genzyme and Novozyme were in 2001 the only firms conducting R&D toward a treatment for Pompe disease, the merger would potentially have had a negative impact on the pace of innovation. The FTC ultimately concluded (over dissenting views from other Commissioners) that innovation efforts were not likely to be harmed by the transaction. See “FTC Closes its Investigation of Genzyme Corporation’s 2001 Acquisition of Novozyme Pharmaceuticals, Inc.,” January 13, 2004, available at <http://www.ftc.gov/opa/2004/01/genzyme.htm>.

²⁹ See Jean Tirole, *The Theory of Industrial Organization*, MIT Press, 1988, pp. 394-396.

³⁰ In a sample of drug research projects in 10 pharmaceutical firms observed over a 17 year period, Cockburn and Henderson find a very low degree of correlation of R&D investment levels across firms, and in fact find evidence of a positive correlation in research output—success by one firm raises the likelihood of success by another. See Iain Cockburn and Rebecca Henderson, “Racing to Invest? The Dynamics of Competition in Ethical Drug Discovery,” *Journal of Economics and Management Strategy*, Vol. 3, 1994.

assumed to be substitutes and in which there can be only one “winner” will therefore describe this structure very poorly.³¹ Here, it is theoretically possible for R&D effort to be negatively related to the number of competitors, so that a decrease in the number of firms involved in a race will tend to increase each remaining firm’s R&D expenditure.³² A merger between R&D competitors would then have an ambiguous effect, as there would be fewer participants each performing more R&D. This innocuous-seeming change in assumptions completely eliminates the “classic” result. Careful consideration of market conditions is generally necessary before the patent race model can be used.

Empirical studies of the broader relationship between concentration and innovation have also failed to arrive at robust results. Cohen and Levin’s comprehensive review of the early empirical literature finds little compelling evidence of a systematic relationship between concentration and innovation in cross-industry studies, with much of the variation in R&D intensity explained by industry-specific effects and technological opportunities.³³ A more promising model has recently been advanced that relates innovation to competition in an “inverted U” pattern: innovation increases with competition up to some critical point after which the relationship is reversed.³⁴ Empirical research seems to bear this out. If industrial sectors are ranked according to a measure of competitive intensity based on profit margins, an increase in competition seems to promote innovation in less competitive sectors and stifle it in sectors that are already highly competitive.³⁵

The results of economic research on competition, firm size and innovation generally are sufficiently mixed that the Advisory Panel on Efficiencies advised against either a deliberate strategy of increasing competition, or a deliberate strategy of encouraging market concentration as a means by which Canada’s innovative capacity could be predictably and reliably improved upon.³⁶

3.2 *Uncertainty*

In the typical merger analysis, we can observe what products the merging parties are selling and where they are selling them. Customers’ choices are also observable, as is the existence of rival firms.³⁷ In many cases, potential competitors can also be identified by observing which firms have the necessary production capacity to sell the relevant product in the relevant geographic market.

³¹ Cockburn and Henderson (1994) conclude (p. 484): “Our finding that the modern game theoretic literature is of only limited usefulness as an empirical guide points to the need not only to model R&D as a race with multiple prizes, but also to develop theories that incorporate richer models of adjustment costs and firm heterogeneity and to collect appropriately comprehensive and detailed data.”

³² Jennifer F. Reinganum, “The Timing of Innovation: Research, Development, and Diffusion,” Chapter 14 in R. Schmalensee and R.D. Willig (eds.), *Handbook of Industrial Organization*, Volume I, Elsevier, pp. 865-866. Note also that in many cases no clear analytical result is available.

³³ Wesley M. Cohen and Richard C. Levin, “Empirical Studies of Innovation and Market Structure,” Chapter 18 in R. Schmalensee and R.D. Willig (eds.), *Handbook of Industrial Organization*, Volume II, Elsevier, pp. 1077-1078.

³⁴ Philippe Aghion, Nick Bloom, Richard Blundell, Rachel Griffith, and Peter Howitt, “Competition and Innovation: An Inverted-U Relationship,” *Quarterly Journal of Economics*, Vol. 120, 2005.

³⁵ Aghion et al. (2005), pp. 705-710.

³⁶ Report of the Advisory Panel on Efficiencies, August 2005, p. 43.

³⁷ Of course there may be issues around whether a particular rival not selling the product in a particular location today is able to do so post-merger, or whether a particular rival selling another product would be able to sell the relevant product post-merger.

Matters are different where mergers among innovating firms are concerned. In the case of product innovations, we are dealing with products that likely do not yet exist. Two subsidiary issues flow from this.

First, innovation is highly uncertain. When firms set out to do R&D, they often do not know whether their investment will lead to a product that works from a technical perspective and that would be desired by consumers.³⁸ In many innovative industries, failure is more common than success for any particular inventive path. As a result, firms will pursue numerous possibilities, particularly at the early stages of R&D in order to increase the probability that one of these will be successful. This form of R&D is tremendously costly and exposes companies to a great deal of risk, since even if a product is approved for sale it may not ultimately be successful in the market.

Second, innovation takes time. In some cases there may be years between the R&D stage and the point at which a product can be brought to market. During this intervening time period, innovating firms receive information about the technical characteristics of an innovation and its likely market prospects, and make decisions based on this new information as it arises. As a result, a product may be quite different by the time the end of the innovation process is reached than was envisioned earlier on. The time it takes to complete R&D may also make it difficult to identify other firms that would be positioned to undertake similar types of innovation. Suppose a firm estimates that an R&D project is likely to take five years to complete, and that at the end of that time period the firm expects to have a successful product. It is conceivable that two years into this time period, as a result of general technological progress or specialized knowledge, another firm may be able to complete a similar project within three years, such that both resulting products arrive on the market simultaneously. The entry of this second firm would have been completely unanticipated at the outset. Carlton and Gertner argue that since many innovations arrive from unexpected sources, such situations are relatively common, and as a result it is difficult to anticipate the firms that will offer competition in the future to firms that are innovating today.³⁹

3.3 *Measurement Problems*

Associated with uncertainty are measurement issues. First, consider price in the context of innovation. It would be desirable to know the price consumers would be willing to pay for an innovation, since this would be the first step toward being able to determine whether a proposed transaction would likely increase this price. For innovations that have not yet been realized, price is unknown. The value that consumers are expected to place on an innovative product, net of the value placed on other non-innovative aspects of the product, is unobservable prior to the product appearing on the market. Even once a product is sold it may be difficult to disentangle the innovation itself from other aspects of the product contributing to its value. Economists have estimated what are referred to as “hedonic” pricing models in an effort to measure the effect of individual product characteristics on value. These empirical models allow for the measurement of quality-adjusted prices, facilitating a comparison across products that would be uninformative were only nominal prices to be used. Where an innovation relates to one identifiable product characteristic, and where sufficient data exists to be able to isolate the effect of the innovation from everything else, it may be possible to estimate the price effectively paid by consumers for that

³⁸ The pharmaceutical industry provides what is probably the starkest example of this phenomenon. Drug companies must screen an estimated 5,000 chemical compounds for each product approved for commercial sale. See PhRMA (Pharmaceutical Research and Manufacturers of America), “Why do Prescription Drugs Cost so Much and Other Questions About Your Medicines,” June 2000, p. 2.

³⁹ Dennis W. Carlton and Robert H. Gertner, “Intellectual Property, Antitrust, and Strategic Behavior,” in A.B. Jaffe, J. Lerner, and S. Stern (eds.), *Innovation Policy and the Economy*, MIT Press, 2003, pp. 42-43.

innovation using these methods.⁴⁰ Data requirements normally make this very difficult. In addition, except for perhaps minor incremental innovations, it will be risky to attempt to use a model based on existing data to predict the value placed by consumers on future improvements.

This brings up a related complication. Many products are made up of numerous components. Each of these components may be a distinct product which the firm “bundles” with other components before making it available to consumers. Consider as an example the personal computer, or PC. The PC can be crudely described as a collection of components: microprocessor, memory, storage devices such as hard drives, interface devices, and so on. Each one of these components is available on a standalone “unbundled” basis, the price of which can be observed on the market. If an innovation improves one of these components, its value could (in theory) be inferred by observing the price of the component before and after the new technology was introduced. Yet many innovations occur at much finer levels. A microprocessor firm might develop a new means by which logical operations could be performed more efficiently on a chip. This innovation might be incorporated into the next generation of chips sold on the market, along with numerous other improvements and established technologies. In such cases, which are very common, the value of that one logic improvement cannot be isolated because it is not sold on its own, and many other factors contribute to chip performance and thus to the value placed on the product by consumers.

Similar reservations apply to measurement of “quantity” in the context of innovation.⁴¹ In general, no completely adequate measures of quantity exist in the context of innovation, although the level of R&D expenditure, and indicators of innovation output such as patents, have sometimes been used.

R&D spending is a useful indicator of a firm’s overall involvement in innovation at a point in time, but it is problematic to use to represent quantity on at least two counts. First, it is a measure of input rather than output. While greater R&D expenditure toward a particular end may represent a greater chance of eventual success, it is unknown precisely how this relationship works at the individual firm level. If one firm spends twice as much on R&D as another in pursuit of an innovation, it is probably inappropriate to say that the first firm has twice the competitive significance as the second firm. If we were to suggest the first firm is twice as big as the second based on this information we do not even know the extent to which we have over- or underestimated the firms’ relative position. Second, being a measure of the flow of dollars, R&D spending may not provide a sufficiently precise indicator of innovative rivalry with respect to any one particular target. R&D may be shared across numerous projects if a company’s scientists or equipment tend to be engaged in various different pursuits. Economics does not help in determining how shared R&D should be allocated across various projects.

⁴⁰ For example Berndt et al. have estimated a hedonic model for antiulcer drugs sold in the U.S. and have found that prices are strongly dependent on factors such as convenient dosing regimens, the absence of significant negative drug interactions, and the availability of approved treatment for different sets of symptoms (Ernst R. Berndt, Robert S. Pindyck, and Pierre Azoulay, “Consumption Externalities and Diffusion in Pharmaceutical Markets: Antiulcer Drugs,” *Journal of Industrial Economics*, Vol. LI, 2003). Therefore, their model would, for example, allow one to estimate the price premium consumers would be willing to pay over and above existing therapies for a new symptom to be treated. There are also numerous examples of economists attempting to adjust prices within the computer industry, controlling for changes in quality using hedonic pricing models. See, for example, Kenneth H. Brown, “Hedonic price indexes and the distribution of buyers across the product space: an application to mainframe computers,” *Applied Economics*, Vol. 32, 2000; and Ariel Pakes, “A Reconsideration of Hedonic Price Indexes with an Application to PCs,” *American Economic Review*, Vol. 93, 2003.

⁴¹ By “quantity” we do not necessarily mean the number of individual innovations made by each possible firm, since this would tend to implicate numerous different “markets”—instead we use the term as shorthand for an indicator of competitive significance in innovation, as output quantity is used in conventional merger analysis.

Patents have been suggested as a potential alternative to R&D as a measure of innovation quantity. In contrast to R&D spending, patents have the benefit that they are a unit of R&D “output” that is correlated with success, at least as measured along some technical dimension. Moreover, firms often patent relatively early in the R&D process, long before they are ready to sell related products, so patenting might be observed early enough for the information to be useful in an analysis of a merger between innovating firms. Finally, enough information is contained in patent documents to be able to associate each patent with a particular R&D program, at least in principle.

Unfortunately, there are also serious problems with the use of patents as a measure of innovation quantity. The main problem is that not all innovations are patented. Patents appear to be much more useful as a means of protecting returns to innovation in some industries than in others.⁴² In many industries, patents do not appear to be used for this purpose to any great degree. Therefore, in industries like semiconductors, attempting to infer innovation quantity by observing the number of patents would be misleading. Even in industries where firms actively use patents to protect their innovations, it is widely recognized that simply counting patents gives a relatively “noisy” indication of research output.⁴³ If patents are to be used, it is preferable to find some way of indexing them for their importance. Weighting patents by the number of citations each has subsequently received from later patents has been used with some success.⁴⁴

We are therefore left with no single good measure of innovation quantity. Instead, several imperfect indicators, such as R&D spending and patents, must typically be relied upon.

⁴² In a classic survey, R&D managers in most manufacturing industries reported that patents and other formal IP rights were only one of several means for earning returns on R&D (Richard C. Levin, Alvin K. Klevorick, Richard B. Nelson and Sidney G. Winter, “Appropriating the Returns from Industrial Research and Development,” *Brookings Papers on Economic Activity*, Vol. 3, 1987). Respondents to a survey of 650 R&D managers ranked lead time, moving down the learning curve, and complementary sales and service efforts as more important than patents for new product inventions. For new processes, the picture was even more striking, with patents ranked last out of the various means for earning returns, behind lead time, learning curve advantages, secrecy, and sales and service efforts. The results of an updated survey of 1,478 R&D laboratories confirmed many of the same findings (Wesley M. Cohen, Richard R. Nelson and John P. Walsh, “Protecting Their Intellectual Assets: Appropriability Conditions and Why U.S. Manufacturing Firms Patent (or Not),” *National Bureau of Economic Research Working Paper 7552*, 2000). However, both surveys show substantial variation across industries in the ways in which firms seek returns on R&D expenditures, with secrecy and lead time generally important for product innovations, and secrecy alone the most important mechanism for process innovations.

⁴³ Griliches notes that while patents are strongly associated with R&D in cross-sectional data, the relationship between patents as measures of inventive output and R&D in within-firm time-series data is much weaker. He states: “Because the bulk of R&D expenditures are spent on development, most of the time-series variance in this variable must come from the differential success in the further development of existing projects rather than from the initiation of new ones. The relatively low correlations in the time dimension should, therefore, not be all that surprising, but they imply that patent numbers are a much poorer indicator of short-term changes in the output of inventive activity or the ‘fecundity’ of R&D.” See Zvi Griliches, “Patent Statistics as Economic Indicators: A Survey,” *Journal of Economic Literature*, Vol. XXVIII, 1990, p. 1574.

⁴⁴ See e.g., Dietmar Harhoff, Francis Narin, F.M. Scherer, and Katrin Vopel, “Citation Frequency and the Value of Patented Inventions,” *Review of Economics and Statistics*, Vol. 81, 1999; Bronwyn H. Hall, Adam Jaffe, and Manuel Trajtenberg, “Market Value and Patent Citations,” *RAND Journal of Economics*, Vol. 36, 2005.

4. Evaluating Innovation Concerns in Merger Review

4.1 Motivation

We now turn to how best to account for innovation concerns in merger review. We begin by identifying the types of mergers in which innovation and dynamic efficiencies could play a significant role when reviewing the competitive effects of the transaction. A useful classification scheme for mergers is provided by Richard Gilbert and Willard Tom, which they apply to U.S. mergers evaluated by the Federal Trade Commission (“FTC”) and the Antitrust Division of the Department of Justice (“DOJ”).⁴⁵ Gilbert and Tom group challenged mergers, including those involving innovation, into four categories:

- (a) Mergers in which actual competition in an existing goods market would be reduced;
- (b) Mergers in which potential competition in an existing goods market would be reduced;
- (c) Mergers in which actual competition in an “innovation market” would be reduced; and,
- (d) Mergers in which actual competition in a future goods market would be reduced.

The first two types of mergers are adequately addressed using conventional tools, provided attention is paid to dynamic efficiency issues (which we discuss in the next section). The third category is a special type of analysis that has been proposed by the FTC and DOJ for use in some cases.⁴⁶ The concept of the “innovation market” does not exist in Canadian jurisprudence, and we do not advocate it. Instead, we believe the competitive effects related to innovation can most practically be addressed under the fourth merger category.⁴⁷ In speaking about a “future goods market” here, we do not intend to restrict ourselves to markets consisting of new goods that do not currently exist. We have in mind a more general definition, in which a future goods market is simply a market as it exists at some future date; as a result, it may include existing goods as well as products that will come into existence at a later date.

It is useful to additionally motivate the discussion by considering two examples of mergers in which innovation effects are important, and for which a conventional merger analysis may not lead to the correct answer. Any practical framework should be able to deal correctly with examples such as the following:

- Example 1: Two firms, A and B, currently sell products that are commonly understood to be complements from a demand perspective (i.e., an increase in the price of one of the goods decreases demand for the other). However, B is currently engaged in innovation such that in the future, there is a strong likelihood that B’s product will be valued by consumers as a replacement for A’s (instead of used in connection with A’s), and there is likely to be little other competition for A’s product. Firm A proposes to acquire firm B.
- Example 2: Firms C and D currently compete with each other in the sale of some product. No other firms currently sell similar products. However, some set of firms E, F, and G are engaged in

⁴⁵ Richard J. Gilbert and Willard K. Tom, “Is Innovation King at the Antitrust Agencies? The Intellectual Property Guidelines Five Years After,” *Antitrust Law Journal*, Vol. 69, 2001, p. 49.

⁴⁶ See U.S. Department of Justice and Federal Trade Commission, *Antitrust Guidelines for the Licensing of Intellectual Property*, April 6, 1995, § 3.2.3.

⁴⁷ Process innovations are encompassed in our framework as well as product innovations. Where process innovations are concerned, the future product market might be identical to an existing market, with the competitive concern that the merger would result in less cost-reducing innovation than would otherwise have occurred. This notwithstanding, the various problems we have discussed will tend to be most acute (and interesting) in the case of product innovations, and accordingly we focus our discussion there.

R&D that is likely to lead to future products that will be competitive with those offered by C and D. Firms C and D propose to merge.

In Example 1, it is clear that if innovation concerns are not taken into account a merger might be permitted that would decrease economic efficiency if further entry in competition with a merged A/B is unlikely, despite the fact that at the time of the merger, the parties are not producing close substitutes for each other (and consequently their products are not considered to be part of the same relevant antitrust market at the time of the merger). For instance, if Microsoft had proposed to acquire Netscape in the mid-1990s, and accepting the U.S. government's theory of anticompetitive harm (i.e., that Netscape's browser would eventually represent a strong threat to Microsoft's dominance in the market for operating systems), a strong case for blocking the merger should be made.⁴⁸ Example 2 illustrates that accounting for innovation concerns can also have the effect of demonstrating that some mergers thought to be undesirable may actually not lead to a lessening of competition—the state of current competition, as represented (for example) by market shares, need not indicate the “true” long run level of competition after accounting for the likelihood of innovative entry.

4.2 *A Framework*

Given the discussion in the previous section,⁴⁹ we suggest that potential competitive effects of innovation are best dealt with using an approach that proceeds by asking five questions.

(1) *Does innovation matter in the industry?*

This is a critical threshold issue, since if innovation is not a key attribute of competitive rivalry between firms, it is unlikely that innovation concerns are truly at the heart of any negative competitive effects feared from the proposed transaction. On the other hand, if the merging firms operate in a highly innovative industry then an exclusive focus on existing goods markets may overlook competitive issues relating to future goods markets.

(2) *Is it possible to identify the type (or identity) of firms that may participate in the future goods markets?*

The claim that a merger is likely to result in a lessening of competition in a future goods market (as in Example 1) can only be compelling if it is possible to identify the firms that may plausibly compete in that future goods market and the innovative products that these firms would likely be selling, and if the relevance of the innovation to competitive success in that market is transparent. Similarly, it is only reasonable to allow a merger that currently seems problematic on the grounds that innovative new products will be competitive in the future (as in Example 2) if the firms that may develop and sell those products—as well as the nature of the potentially competing products themselves—can be readily discerned.

(3) *Are the merging firms likely to compete against each other in an identifiable future market, but for the merger?*

Assuming we are able to determine with some degree of confidence the future products and firms that will be of interest, this step involves determining if the existing or future products of the merging firms will

⁴⁸ We are grateful to Tim Brennan for suggesting this example and this way of motivating the ensuing discussion.

⁴⁹ In Section 3, we detailed the reasons why it is not feasible to define product and geographic markets based on the prevailing “price” of the future innovation and analyze post-merger competitive effects using indicia such as market shares related to innovation “output.”

compete in that future market. At this stage, the question allows for an appropriate consideration of uncertainty. Firms may be engaged in R&D which would result in competing products if both firms are successful, but if success by both occurs with only a low probability, then there is little reason to fear a merger among the two firms will substantially lessen competition in the future market, and the case for intervention is weak.

(4) *Would the merger result in a decrease in the resources devoted to one or more R&D programs, or the diversity of R&D programs such that the rate of innovation is likely to change following the merger?*

Provided (3) is answered in the affirmative, we ask whether evidence exists that the parties would change the manner in which they are pursuing innovation if the merger is permitted to proceed. An affirmative answer at this stage would support a conclusion that the merger is likely to affect competition in future markets by reducing the level of innovation today. This consideration is absent from merger analysis under the MEGs, but it is potentially important in scenarios involving innovation. For instance, it may be the case that a merger will not be found to have any substantial effect on the prices of existing or future products, but may negatively impact on the speed at which the merging parties introduce new products. If this effect is substantial enough, it might be desirable to challenge the merger despite the absence of price effects in either the existing or future market. Step (4) therefore provides the opportunity to do so.

(5) *Would the merger result in the merged firm being able to raise prices in the identified future market, relative to prices but for the merger?*

This is analogous to the traditional question asked under merger analysis, and discussed in the MEGs. Under the facts assumed in Example 1, we would expect the merger to allow the parties to raise the price of the future product, since the parties would otherwise be in competition but for the merger. In Example 2, we would expect competition from innovators entering in the future to be able to constrain pricing by the merging parties. Relative to the conventional case, another additional nuance is that there may be no pre-merger price to use as the base price; this complication arises in Example 1, for instance.

In setting out this framework, we do not advocate an exclusive focus on innovation at the expense of conventional price concerns. A merger may lead to higher prices in a future market than would otherwise exist if the question posed in (3) is answered in the affirmative. Nonetheless, a substantial price effect is not an inevitable consequence of a merger between likely competitors in a future market, just as it is not for a merger between actual competitors in an existing market. Non-merging parties selling other products—including, as in Example 2, products that do not yet exist—may discipline the merged firm's pricing. To take another example, merging firms may be conducting R&D toward the introduction of new drug products that, if successful, would be sold in competition with a number of therapeutic alternatives offered by other firms, so while the merger may eliminate competition between the merging firms, this is not expected to have a substantial effect on prices in the future market given the competition expected from additional rivals.

4.3 *Practical Issues in Applying the Framework*

In this subsection, we focus on practical issues that are involved in using this framework to evaluate specific mergers. Each of the five questions used to frame the analysis is discussed below.

4.3.1 *Is innovation important in the industry?*

This threshold question is usually relatively easy to address. Research into the industry should be able to establish certain basic facts, including whether firms attempt to gain competitive advantage through

innovation in any form, and whether consumers derive benefits from the introduction of innovative products. Analyst reports covering the merging firms or the sector in which they operate may provide valuable information on the importance of innovation. Studies of the industry in general or of specific markets within that industry may also exist. These are often useful in understanding whether innovative product attributes drive consumer demand. Any evidence that consumers tend to switch purchases among different producers based on product attributes—especially those attributes that have recently been introduced—is indicative of active innovation.

Qualitative information of this type should be supplemented by more quantitative inquiries. One approach is to look at innovative inputs that are known to be correlated with innovative output. R&D spending by industry participants is relevant, since industries in which participants make substantial and ongoing R&D commitments (normally measured as a share of sales) tend to be more innovative.⁵⁰ Another metric of innovative input that has been used with some success is scientific research activity, as indicated by publications in scientific journals. Lim has shown that both pharmaceutical and semiconductor innovation (as represented by firm patenting) are strongly correlated with the number of publications by firm personnel in applied scientific journals.⁵¹

Another approach would be to look for evidence of innovation in market outcomes. An observation of frequent changes in market share is one such indicator. Fluctuations in market share from quarter to quarter or from year to year tend to indicate the presence of dynamic competition, as firms are constantly forced to reevaluate the effectiveness and attractiveness of their product offerings in light of their competitors' performance in the marketplace. The cellular handset industry provides an example of dynamic competition and changing market shares. Leaders such as Nokia are unable to rest on past market successes, finding that if they do so other innovative cellular handset producers such as Motorola or Samsung will rapidly introduce products with attractive characteristics and gain market share.⁵² Note that market share turnover is not a necessary condition to identify the importance of innovation to the sector, as is witnessed by Intel for example.

4.3.2 *Can firms and products in future goods markets be identified?*

This question is posed to determine whether there is likely to be an identifiable future market for which the transaction raises competitive concerns. To identify any such market, we must be able to describe the firms that could plausibly be participants in the future market along with the product(s) that could potentially be at issue. As we have discussed above, these products could include those that already exist and are expected to remain available, as well as new products that will result from innovation. Analyst reports will again be of use here—stock analysts are particularly attuned to factors that may influence the future development of markets in which the companies they cover operate. In telecommunications, for example, analyst reports offer various opinions on the likely take-up of voice-over-Internet Protocol telephony, and what this will mean for incumbent telephone providers.

The parties' internal documents will also offer insight, particularly in sectors where innovation is central. In any "racing" situation, for example, we would expect some discussion in the firms' internal

⁵⁰ See e.g., Bronwyn H. Hall, "The Private and Social Returns to Research and Development," Chapter 6 in B. Smith and C. Barfield (eds.), *Technology, R&D, and the Economy*, Brookings Institute, 1996.

⁵¹ Kwanghui Lim, "The Relationship between Research and Innovation in the Semiconductor and Pharmaceutical Industries (1981-1997)," *Research Policy*, Vol. 33, 2004.

⁵² Tony Hallett, "Nokia Upbeat in Face of Declining Market Share," *Silicon.com*, June 14, 2004. A detailed case study of dynamic competition in the cellular infrastructure and handset industries is provided in Zi-Lin He, Kwanghui Lim, and Poh-Kam Wong, "The Dynamics of Entry in the Mobile Telecommunications Industry," working paper, February 2006.

documents comparing its research advances to those of important rival firms, thereby allowing the Bureau to identify the most relevant rivals to the merging firms. Thus, for instance, IBM will comment on Sun's and HP's latest Unix advances when discussing funding for new mainframe models. Documents that discuss research setbacks or that make requests for further funding may contrast the firm's innovation success with important rivals.

In addition to reviewing available descriptive material on the industry, certain economic and technological considerations must be taken into account. Consider first how information on the form of innovation could be useful in identifying possibly competing firms. Innovation in some industries may arrive unpredictably from outside sources, or from firms or individuals that are only peripherally involved in the industry at present. By looking at firms that currently operate in the industry in such cases, we would be unable to determine the firms that might be active in particular markets in the future, and the sources of innovation for those firms. An example of this type of industry might be computer software. Many software innovations arrive in the form of computer code written by programmers who may not be affiliated with established firms. Software firms can spring up almost overnight to take advantage of perceived market opportunities, facilitated by the fact that entry into software markets requires programmer effort and time, and relatively little capital investment.⁵³ Moreover, programmers are ingenious at devising methods to achieve the same functional goals by means that are different from those currently practiced.⁵⁴ Predicting which software firms might be competing in some future market years hence would then be extremely difficult, if not impossible. In cases such as this we would recommend against challenging a merger based on innovation concerns.

At the other extreme, innovations in some industries may arrive in a relatively systematic fashion as a result of R&D efforts conducted within established firms. Drugs or medical devices are examples of industries in which many innovations result from diligent, systematic internal efforts. Only a select handful of firms may have the necessary physical and human capital assets to pursue particular innovations and commercialize the resulting products. Industry participants and informed observers will normally be well aware of the identities of these firms. Pharmaceutical and medical device products must also pass through a lengthy governmental review and approval process before they can be sold on the market. A wealth of regulatory documentation, together with patents filed by innovating firms, is publicly accessible. These facts ensure that it is relatively straightforward to identify well in advance firms that may ultimately compete in a future market. It is probably for these reasons that the majority of merger challenges brought by the U.S. agencies based on innovation issues have involved pharmaceutical or medical device firms.

Equally important is isolating the contribution of the innovation to the value and functioning of the resulting product. For the reasons discussed previously, it will normally only be possible to do this in a rough and qualitative way. For illustrative purposes we offer two extreme cases for discussion.

At one extreme, the typical innovation in an industry might resemble the incremental improvement to logical processing noted previously in the microchip example. Even if it is somehow known that a set of firms are pursuing similar innovations, it is difficult to predict how a merger between two firms pursuing this research would likely have a negative impact on future product markets, given the great disparity

⁵³ See e.g., Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy*, October 2003, Chapter 3, p. 45.

⁵⁴ Although software firms attempt to protect their innovations using instruments such as patents, some observers have questioned how well software patents perform in terms of excluding others from practicing a software "idea"—it may be possible to reproduce a particular software functionality without infringing a patent simply because in software, there tend to be "many solutions to any particular problem" (Ronald J. Mann, "Do Patents Facilitate Financing in the Software Industry?" *Texas Law Review*, Vol. 83, 2005, p. 979).

between the scale on which innovation takes place and the ultimate scale of the product. A great deal would have to be known or assumed about the technical relationship between the innovation and the additional complementary components necessary to build up from the innovation level to the product level—for example, would innovation failure imply that no product would be forthcoming? Or would the product simply be different somehow? If innovation succeeds, would different firms develop different products using alternative sets of complementary components? Generally, the more oriented the innovative activity is toward “basic research” (or the further the product is from commercialization) the more difficult it is to evaluate reliably the potential competitive effects resulting from a merger. In such circumstances, a merger between two firms, even when both are pursuing similar research, is not likely to result in an identifiable lessening of innovation or increase in prices in future goods markets.

At the other extreme, some products are effectively made up of a single innovation. Pharmaceutical products are a good example. Successful R&D in the pharmaceutical industry results in an “active pharmaceutical ingredient”—essentially a chemical compound with attractive clinical attributes—that can be incorporated into various dosage forms for sale to consumers. Here, it may be relatively easy to predict the extent of competition in a future market, given the observed relationship between R&D along a particular technological trajectory and competition in existing (and past) product markets. Two firms engaged in clinical trials for drug products that aim to treat the same condition in these circumstances will very likely be product market competitors should their development programs succeed.

With this in mind, it is apparent why many of the recent mergers challenged by the U.S. agencies on the basis of innovation issues have involved firms in the pharmaceutical industry.⁵⁵ It is not because these were the only innovation-intensive industries in which firms proposed to merge. Rather, we believe it is because problems of identifying the likely firms and products in future goods markets, which tend to be highly speculative in many other industries, can more frequently be resolved in the pharmaceutical industry.⁵⁶ As a result the potential competitive repercussions from mergers involving firms that are likely to compete in these future markets can be more readily predicted.

4.3.3 *Would the merging firms compete against each other in an identifiable future market, but for the merger?*

Suppose we are able to adequately resolve the previous set of issues, and can identify a class of innovation-embodied products (perhaps together with existing products) that would be considered close substitutes in a future market. Additionally, assume we can determine the firms that are engaged in innovation with the goal of selling products in the future goods market, and also those that are expected to be able to sell such products through the use of alternative technologies.⁵⁷ One might be tempted to

⁵⁵ Gilbert and Tom (2001) review 8 U.S. merger investigations prior to 2001 in which innovation concerns were critical. Five of these were mergers of pharmaceutical companies.

⁵⁶ Carl Shapiro’s remarks in a recent symposium are apposite: “Part of your comment asks: ‘Even if all the people pursuing this line of research were to merge would they have any power to slow down innovation or raise prices, given that they have to compete against other products?’ That’s a fair question. But it may be hard to tell, if the future competition is years away and involves products whose attributes are not yet fully defined. It is not a coincidence these issues have come up in the FDA context where we tend to know who the players are years in advance. In many other sectors of the economy there is greater uncertainty about who is currently doing relevant R&D, the likely timing of those projects, or who is going to enter surprisingly from some other market.” (Antitrustsource.com, “The Role of Innovation in Competitive Analysis,” The Chair’s Showcase Program, ABA Section of Antitrust Law Spring Meeting, March 31, 2005, available at <http://www.abanet.org/antitrust/source/07-05/Jul05-FullSource7=28f.pdf>.)

⁵⁷ The previous subsection described how information on the form of innovation might help identify the former group of firms. We have less to say about the latter, believing that identification of non-innovating firms that are expected to be equipped to compete for one reason or other will tend to be highly dependent

conclude (erroneously) that since these firms would compete in the same market following the conclusion of the innovation stage, a merger involving firms that account for a substantial part of this market (as later defined) will be found to be anticompetitive. However, it does not follow from these assumptions that there is an appreciable likelihood that the merging firms will actually compete against each other in the resulting market, *viewed from today's perspective*. Several specific areas of concern—the uncertainty associated with innovation, the potential for patent holdings to interfere with the ability to bring a product to market, and the need for complementary assets for commercialization—may substantially decrease the likelihood that innovating firms meet in the future product market following the innovation stage. We advocate a great degree of sensitivity to these issues to prevent challenges based on an unrealistic view of the post-innovation market.⁵⁸

Consider first an example addressing the issue of uncertainty. Suppose it is known from an analysis of similar projects that the R&D undertaken by two particular firms is highly risky, such that each firm will succeed with an estimated 25% probability. (In other words, three out of four similar R&D projects have failed to lead to a viable product.) Then in the absence of a merger, these firms would only compete against each other with a 6% probability.⁵⁹ This would suggest that the competitive effect of concern, whether it is in the form of reduced innovation or increased pricing, would have to be quite large to warrant intervention in the presence of any offsetting efficiencies.

One might wonder whether it is reasonable to expect data on the probability of R&D success to be readily available. In fact, where R&D involves a closely monitored regulatory procedure, as in pharmaceuticals and medical devices, data are available. A recent study of R&D success factors in drug development used data collected on over 1,900 drug compounds developed in the U.S. between 1988 and 2000. The authors calculated various measures of R&D “success” based on whether or not the Food and Drug Administration (“FDA”) approved the compound for treatment of particular symptoms at various stages of clinical trials.⁶⁰ Success rates conditional on a treatment starting Phase 1 clinical trials (initial human testing for safety) vary across therapeutic area, ranging from 30% for respiratory drugs to 78% for hormone preparations. Drugs targeted toward a larger market seem to have a lower probability of success. Thus, at least in the pharmaceutical area, good data are available on R&D success rates.

A second factor may pose a barrier to direct competition between innovators even if both firms' innovations successfully proceed to the commercialization stage: the existence of intellectual property rights. Firms in many industries vigorously patent their discoveries. To the extent that a firm's patent rights for a particular discovery are valid, in that the discovery is novel, useful, and non-obvious,⁶¹ the rights conferred allow the patentee to exclude others from practising the invention. Products sold by firms that do not have a licence to the patent and that embody technologies that fall within the patent's claims are

on the situation at hand. See Christopher Pleatsikas and David Teece, “The Analysis of Market Definition and Market Power in the Context of Rapid Innovation,” *International Journal of Industrial Organization*, Vol. 19, 2001, for a discussion of difficulties in identifying competing firms and technologies.

⁵⁸ We do not attempt to address the even more difficult problem of how to identify non-innovating firms that may possibly participate in the future market at some point.

⁵⁹ The probability that both firms are successful equals 0.25×0.25 or approximately 6%.

⁶⁰ Patricia M. Danzon, Sean Nicholson, and Nuno Sousa Pereira, “Productivity in Pharmaceutical-Biotechnology R&D: The Role of Experience and Alliances,” *Journal of Health Economics*, Vol. 24, 2005.

⁶¹ See Canadian Intellectual Property Office, “A Guide to Patents: Patent Protection,” available at http://strategis.ic.gc.ca/sc_mrksv/cipo/patents/pat_gd_protect-e.html: “There are three basic criteria for patentability. First, the invention must be new (first in the world). Second, it must be useful (functional and operative). Finally, it must show inventive ingenuity and not be obvious to someone skilled in that area.”

said to infringe. The patentee has a right to sue the infringer to prevent infringement. Of course, the patentee may choose to license to the infringing firm in return for a royalty, but it need not do so. In some cases, where the technologies contained in products are complex and involve multiple discrete intellectual property rights, patentees may find themselves in a mutually infringing situation, where neither firm can sell its product without access to the patent rights held by the other. Patents in this situation are said to be “blocking.” Blocking patent positions are commonly resolved through licensing negotiations, whereby each firm grants the other the right to produce and sell (referred to as a “cross-licence”), possibly with the exchange of a fee or royalty. Mutual infringement of this type is especially common in high-tech industries such as semiconductors, where any given product may draw on literally thousands of disparate inventions, each potentially covered by some firm’s patent rights.

If the expected result from the innovation is mutual blocking or simply one-way infringement, the existence of valid patent rights may pose a barrier to direct and unfettered competition between innovating merging firms. Where this is likely to be the case, it would be inaccurate to compare the post-merger outcome to a but-for environment that entailing direct competition between the two firms.⁶² In a world without the merger, competition would simply not arise unless the firms chose to license. Even if a licence were agreed upon, its terms might call for running royalties that would affect the prices charged in the future product market. For example, holders of blocking patent rights may seek to resolve their dispute by licensing each other with a running royalty that results in each choosing to sell at the price that maximizes their joint profit, just as though they were part of the same firm. Such a licence would be permissible under the Bureau’s *Intellectual Property Enforcement Guidelines*, since it is consistent with a “mere exercise” of valid intellectual property rights. Alternatively, the parties may resolve their dispute by licensing in a lump-sum form that does not impact on market prices. Where patent threats are roughly symmetric, blocking positions are often cleared up by royalty-free cross-licensing. These possibilities highlight the difficulty in speculating *ex ante* upon the eventual outcome in markets characterized by broad patent rights. That being said, in industries where licensing is common there may be past examples upon which the Bureau may rely to determine the most likely outcome should the merger not proceed.

A final issue to be considered is whether the innovating firms possess the assets necessary to commercialize the products resulting from the innovation stage. The farther away from commercialization is the state of technology under development, the greater the need for inventor cooperation to bring the innovation to the commercialization stage.⁶³ Some innovating firms may be vertically integrated into the production and distribution stages and may therefore have access to all the necessary assets, including perhaps specialized production equipment and highly trained marketing and sales forces. Others may be innovation “specialists” that do not have access to these assets. Such firms are faced with the choice of

⁶² Complicating the analysis is the fact that even if the scope of coverage of some given patent or set of patents were known with certainty (which it generally is not, due in part to the inherent vagueness of verbal descriptions of technological phenomena), patents are not guaranteed to be valid. Some evidence suggests that nearly half of litigated U.S. patents are found to be invalid. On these issues, see Mark A. Lemley and Carl Shapiro, “Probabilistic Patents,” *Journal of Economic Perspectives*, Vol. 19, 2005. Uncertainty of this magnitude should clearly also be incorporated into any consideration of the intellectual property holdings of merging parties.

⁶³ The need for inventor cooperation with the licensee stems from two phenomena. First, there is typically asymmetric information, in that the inventor has greater information than the licensee about the technology and, therefore, the value of the licence. As a result, the licensee will be reluctant to undertake specific investments in the technology without some assurance of its profitability. Second, there is a moral hazard problem, in that the probability of commercial success is positively related to inventor effort. Thus, the licence contract between the inventor and licensee must link a portion of the inventor’s license income to the inventor’s effort expended in additional development. See Richard Jensen and Marie Thursby, “Proofs and Prototypes for Sale: The Licensing of University Inventions,” *American Economic Review*, Vol. 91, 2001.

licensing their successful innovations to others, or attempting to develop the complementary assets needed for commercialization themselves. Licensing is often the preferred alternative.⁶⁴

There are likely to be differences in the *ex ante* competitive considerations depending on whether innovating firms are “integrated” or “specialized.” Our analysis thus far implicitly assumes that innovating firms are integrated; but what if one or both innovators are specialized and have no intention of producing and selling the resulting product? Although the innovating firms, if specialized, may not participate directly in the resulting product market, they would participate indirectly in the absence of the merger by offering licences to firms with the requisite complementary assets. Should the complementary assets be scarce, however, there may be a limited number of attractive licensees, and these licensees would have bargaining power over licence terms. In the extreme case, if there is only a single viable licensee, the licensee would capture the gains from competition among the licensing firms, and may or may not pass these on to final consumers, depending on the structure of the future product market. More generally, the extent to which competition among licensors translates into gains for consumers in the future product market would depend on the structure of the “market” for licensees, and these licensees’ competitive strengths in the product market. While such considerations complicate the analysis, an evaluation of the distribution of complementary assets is essential if the merging firms are not integrated.

4.3.4 *Would the merger result in decreased R&D resources being allocated to innovation?*

If the innovating firms are expected to compete against each other in a future product market, one competitive concern is that the merger would result in a decrease in the combined firm’s level of innovation. For example, where the separate firms are pursuing different R&D paths that, if successful, would result in two differentiated products being sold, the combined company might choose to cancel the least promising program. Consumers would be deprived of the expected benefits of price competition offered by the forgone product, as well as any special benefits offered to particular consumers by the cancelled product’s specific attributes. As an alternative example, both R&D programs might be maintained, but the merged firm, perceiving less urgency than two separate firms, might decide to scale back each program. Innovation might be expected to take longer to yield results in this case, so gains to consumers would arrive at a more distant date than would be the case but for the merger.

Whether a merger would impact on the resources devoted to innovation is fundamentally a context-specific issue. This follows from the earlier discussion of the general inadequacy of theoretical or empirical results concerning the effect of concentration on innovation, and the lack of a clear predictive model relating concentration to innovation activity. A fact-specific analysis might take into account the following factors:

- (a) ***Information available from parties on resources devoted to R&D, and planned expenditures going forward.*** Basic planning documents maintained by the parties in the ordinary course of business would help to characterize the level and type of R&D that would likely exist in the absence of the merger.
- (b) ***Information that might have been revealed since R&D began on the size of the eventual market or the expected costs of completing the R&D phase.*** There is nothing wrong with planning to reduce or eliminate R&D if that R&D is no longer deemed to be warranted in light of market circumstances. Should this information come to light at around the time the merger is announced,

⁶⁴ See e.g., Joshua S. Gans and Scott Stern, “The Product Market and the Market for ‘Ideas’: Commercialization Strategies for Technology Entrepreneurs,” *Research Policy*, Vol. 32, 2003. These authors argue that licensing is likely to be an attractive strategy to an entrant primarily when formal intellectual property rights are strong and incumbents control valuable complementary assets.

it might be erroneously linked to the merger. We must be careful to distinguish actions caused or made possible by the merger from those that the parties would have engaged in regardless, as is done now with any merger investigation. Studies performed or collected by the parties on the possible market prospects for the expected products, as well as internal studies updating estimates of the likely R&D resources necessary to get there, would be helpful for this analysis.

(c) ***Indications that the first firm to innovate would garner a disproportionate share of the rewards.***

Recall that the patent race model assumes that only the first innovating firm will earn returns from innovation. This gives the model its “racing” property. The winner-take-all assumption is unlikely to hold generally, but it is worth investigating whether the market in question has any characteristics that would allow some of the insights of the patent race model to apply. For example, if the first innovating firm is able to lock consumers in to a proprietary standard, so that later innovators would have great difficulty surmounting this first-mover advantage, there would be a strong incentive for participants to bring innovations to market as soon as possible.

(d) ***Information on the degree of overlap between participating firms’ R&D programs.***

A transaction that has the effect of reducing duplicative R&D, while leaving the rate of innovation effectively unchanged, should not be subject to challenge on innovation grounds. The obvious difficulty is in determining whether R&D is truly duplicative or whether firms are instead pursuing different paths toward a similar goal.⁶⁵ In this latter case, elimination of an R&D program would be undesirable. Technical expertise will normally be necessary to make this assessment.

The recent FTC *Genzyme* decision is an interesting example of the use of case-specific information in practice. It also highlights the conflict between those that would adhere to a more formalistic view of innovative rivalry and those, such as then-Chairman Muris, who advocate a more fact-intensive inquiry. The FTC’s initial challenge was brought on an “innovation markets” theory: since Genzyme and Novazyme were the only two firms conducting R&D toward a particular product, the transaction amounted to a merger to monopoly in the innovation market consisting of firms performing such R&D. Ultimately the Commission voted not to challenge the transaction. Chairman Muris summarized the factors that contributed toward his decision to vote with the majority against a challenge.⁶⁶ He commented that “[a]ssessing the effects of a merger on the pace of innovation is especially fact-dependent,” and pointed toward the “lack of any clear theoretical or empirical link between increased concentration and reduced innovation.”⁶⁷ Muris also argued that the merging firms would not have been “racing” to market in the absence of the merger, since there was some evidence that Genzyme’s product was viewed as a short-term treatment while Novazyme’s was more in the nature of an “improved, second-generation therapy.”⁶⁸ The majority appears to have concluded that the facts supported an inference that the firms’ R&D programs were separate and independent, rather than competing and thus interrelated. A dissenting statement was offered by Commissioner Thompson who argued that Genzyme would face reduced pressure to innovate with Novazyme removed as a rival, essentially under a formal patent race theory: “[Competition from Novazyme] was important because it created a race between Genzyme and Novazyme to develop Pompe

⁶⁵ In 1998 the U.S. DOJ challenged the proposed merger between Northrop Grumman and Lockheed Martin on the basis that it was important to preserve a diversity of R&D paths (Gilbert and Tom 2001, p. 59).

⁶⁶ “Statement of Chairman Timothy J. Muris in the matter of Genzyme Corporation/Novazyme Pharmaceuticals, Inc.,” available at <http://www.ftc.gov/os/2004/01/murisgenzymestmt.pdf> (“Muris Genzyme Statement”).

⁶⁷ Muris Genzyme Statement, p. 3.

⁶⁸ Muris Genzyme Statement, pp. 11-12.

ERTs [enzyme replacement therapies], thus increasing the pace of innovation.”⁶⁹ As under the patent race model, Commissioner Thompson viewed the removal of an innovator as likely to lead to a decrease in the overall incentive to innovate.⁷⁰

4.3.5 *Would the merger lead to increased prices?*

In the final step of the analysis, the traditional merger competitive effects assessment is undertaken, but with the complication that we are dealing with a future post-merger environment compared to a future market without a merger. As a result, there is likely to be no pre-merger price or output level for the future product to use as a comparison. This is obviously true when the innovative product is in some sense pioneering and would face no close competition from existing products. Less obviously, it is true even if the innovation leads to an improvement in an existing class of products. If firms are pursuing product improvements, quality-adjusted prices would be expected to change pre- and post-innovation. This effect is distinct from the purely nominal change in price that would result from a firm having increased market power in a given product market. The critical question is then whether we can identify the undesirable price impact in an environment of changing quality-adjusted prices, where the latter are often unobservable.

Data and measurement problems will normally prevent us from being able to answer this question directly—we will rarely have the information necessary to predict post-innovation prices with and without the merger. Accordingly, we propose a practical indirect solution. One way of proceeding is by abandoning the (somewhat artificial) distinction between the merger’s effects on innovation and its effects on pricing, and treating these as a single inquiry. The value of this approach can be seen by examining a simplified framework in which there are four possible cases of interest, depending on whether the merger materially reduces the level of innovation, and whether the combined company has a high share of the post-innovation market.

- ***No impact on innovation, large share.*** Here, the traditional conclusion would apply; prices (both quality-adjusted and nominal) might be higher than without the merger, depending on other characteristics of the post-merger market.
- ***No impact on innovation, small share.*** Here there should be no cause for concern.
- ***Reduced innovation, small share.*** If only the merging firms’ level of innovation is expected to change, while other non-merging participants are expected to be equally active in the post-innovation market regardless of the merger, the reduction in innovation by the merging parties is likely to have little effect on consumer welfare. Product characteristics and quality-adjusted prices are expected to be virtually unchanged with the merger compared to a world without the merger, and therefore a challenge is unnecessary.

⁶⁹ “Dissenting Statement of Commissioner Mozelle W. Thompson: Genzyme Corporation’s Acquisition of Novazyme Pharmaceuticals Inc., File No. 021-0026,” available at <http://www.ftc.gov/os/2004/01/thompsongenzymestmt.pdf>, p. 4.

⁷⁰ It is interesting to note that as Balto and Sher point out, even the dissenting Commissioners seem to have ignored the impact of the merger on post-innovation pricing: “Even assuming that Genzyme had every incentive in the world to quickly get the best product to market to reach as wide a group of customers as possible, what would stop Genzyme from reaping monopoly profits in the goods market?” (David A. Balto and Scott A. Sher, “Refining the Innovation Focus: The FTC’s Genzyme Decision,” *Antitrust*, Spring 2004, p. 31.)

- **Reduced innovation, large share.** The firm's large share in the future market suggests that for a given set of products, it would be able to sustain a nominal price increase relative to the price level that would exist in the absence of the merger, holding all else (including the level of innovation) constant. Combined with the negative impact on innovation, we would conclude that quality-adjusted prices are likely to be higher compared to a world without the merger.

This set of results indicates a compelling case may be made for a merger challenge if (and only if) the merger would result in the combined company having a large share of the future market. This result is intuitive, and it also has the attractive property that it “nests,” as a special case, mergers that do not have innovation effects. We caution that these results are obtained from a highly simplified example; in any practical application, there are more possibilities than just “high” or “low” shares and “negative” or “neutral” impacts on innovation. As a specific example, it is conceivable that a merger may result in an increased level of innovation, an efficiency effect that would tend to offset a large combined company presence in the future product market. It is to such cases that we turn in the next section.

5. Dynamic Efficiency Considerations

Parties may claim that a merger that gives rise to the exercise of market power, and consequently reduces allocative inefficiency, may be beneficial overall due to a positive impact on dynamic efficiency. In this section we discuss generally how such issues may be incorporated into the framework proposed in the prior section. We provide examples of the types of dynamic efficiencies that might be reasonable for parties to articulate and for the Bureau to seriously consider.

5.1 Impact and Quantification

Suppose a merger is expected to result in a significant increase in market power in an existing market. The MEGs recognize that parties may attempt to prove offsetting efficiencies arising from a variety of possible sources, including dynamic efficiencies.⁷¹ The types of efficiencies that may be considered in the conventional case, and the process by which cost savings are found to be true savings in resources, are well understood. In this respect, we note that the Competition Bureau considers fixed cost savings, as part of any efficiency claim: “Both variable and fixed cost savings are relevant to the analysis because both generate producer surplus (even though it is recognized that generally only variable (i.e. marginal) cost savings lead to price reductions).”⁷² The list of cost savings that are either variable or fixed and that the Bureau will consider include the traditional product, plant-level and multi-plant level savings related to economies of scale, economies of scope, and economies of density and specialization, as well as savings in respect of distribution, advertising and raising capital. This differs from U.S. practice, although the Tentative Recommendations of the US Antitrust Modernization Commission include a recommendation by some Commissioners that increased weight should be placed on fixed-cost efficiencies, particularly for dynamic, innovation-drive industries where marginal costs are low relative to prices.⁷³

Demonstrating causation and magnitude where dynamic efficiencies are relevant will normally be much less clear-cut than for these traditional fixed and variable cost savings. This is largely due to the uncertainty and measurement problems associated with innovation, as described above.

⁷¹ “The Bureau also examines claims that the merger has or is likely to result in gains in dynamic efficiency, including those attained through the optimal introduction of new products, the development of more efficient productive processes, and the improvement of product quality and service.” See MEGs, ¶ 8.15.

⁷² MEGs, fn. 98, page 33.

⁷³ Antitrust Modernization Commission, Tentative Recommendations, issued January 11, 2007, at 8(b).

In general, it may be very difficult for parties to show that a merger will appreciably increase innovation, given that innovation is subject to a high degree of uncertainty to begin with. For example, pre-merger the parties may expect to introduce new products within a certain time frame, say two years, although given uncertainty it could take longer or shorter; they may claim that by merging, they will be able to reduce the expected time for the next innovation to be commercialized to one year. Proving that this is likely may be difficult for the party bearing the burden of proof, in this case the merging firms.⁷⁴ In addition, the parties would have to demonstrate that the proposed dynamic efficiencies are merger-specific, and not available through an alternative organizational form such as a strategic alliance devoted to R&D.

Even after addressing such causation issues, merging firms will still face the problem of estimating the incremental surplus created by the additional innovative effort, most or all of which may be tied to future products. The attributes associated with those products may not be known with certainty at present, which will complicate the quantification of the surplus created. We would expect that merging firms will normally have difficulty meeting the requisite level of proof required for causation and quantification. However, given the ease with which claims of dynamic efficiencies can be made, and the fact that the merging firms will have much more information than the Bureau regarding their innovation prospects, the Bureau is right to approach such claims rigorously and with some skepticism.

Clear results exist only for certain limiting cases that, while unlikely in practice, provide the bounds within which cases will generally fall. Suppose that there are only two firms with the knowledge and expertise necessary to develop a new line of products, which will be the only line of products sold by the firms, and that for technical reasons R&D will only succeed if the firms combine their efforts by merging. Post-innovation, the merged firm is expected to price higher than the prices that would be obtained if there was no merger and the two firms were competing. Here, static allocative inefficiency and dynamic efficiencies arise from the same source: the introduction of the innovative products. Consumers would receive no surplus without the merger, as arguably the product would not be introduced. In such a case, dynamic efficiencies outweigh static inefficiencies. At the other extreme, suppose the same merger would have little or no impact on the pace or likelihood of innovation. Then static inefficiencies would be found to outweigh dynamic efficiencies because the negative price impact would remain post-merger without any positive improvement in consumer surplus from the introduction of new goods.

The problem, of course, is that the direct link between changes in allocative inefficiency and dynamic efficiency that is present in these hypothetical illustrative examples will normally not exist. If, for instance, the parties also sell an existing line of products in competition with each other, the allocative losses associated with the pricing of these products would have to be compared to the gains from the introduction of the future products. Alternatively, suppose innovation was possible but uncertain pre-merger, but the merger would render it a certainty. Then the surplus created under a no-merger scenario, which would arise with some probability less than one, would have to be compared to the smaller amount of surplus created by merging, which would exist with certainty.

In general, we are unable to escape the need to make at least rough comparisons of the sizes of static and dynamic efficiencies. While this may seem unpalatable, at least two arguments suggest that if the merging firms can successfully demonstrate plausible and likely dynamic efficiencies, these should be weighted heavily against suspected inefficiencies arising from price effects.

First, as we discuss in the next subsection, there are many sources of dynamic efficiencies for innovating firms but there is just one source of allocative inefficiency. Innovating firms may not even be

⁷⁴ We do not advocate changing the burden of proof. When considering claims of dynamic efficiency, the burden is appropriately with the merging firms, as they will possess greater information to substantiate such claims than the Bureau.

aware of all the ways in which their actions may enhance the flow of consumer gains over time. For example, there may be important spillover effects. Parties do not take spillovers to other industry participants or society into account when making investment decisions—hence the bias toward too little innovation relative to the socially optimal level that we described earlier.⁷⁵ Yet such spillovers are a source of real gains to society, and may be orders of magnitude more important than the losses incurred by select consumers as a result of increased prices.

Second, when dynamic efficiencies can be successfully demonstrated, any possible price effects, if they exist, may tend to be transitory, given the dynamically competitive nature of any industry where demonstration of important dynamic efficiencies is possible. In such cases, higher initial prices are likely to bring forward a new round of innovation intended to replace the merged entity, assuming it attains market leadership status following the merger. This effect would be absent, or mitigated, if the merger allowed the parties to gain control of scarce resources that would be necessary for others to innovate, or if barriers to entry by other potential innovators were otherwise high.

5.2 Sources of Dynamic Efficiencies

Given the variety of different types of innovation and forms of dynamic competition across firms and industries, merging parties may be expected to make a wide range of arguments in support of dynamic efficiencies. Provided parties are able to demonstrate the necessity of the merger to realize these efficiencies, and quantify their magnitude against any inefficiencies associated with the merger, they should be free to make such arguments. We provide in this subsection a brief discussion of sources of dynamic efficiencies that can be given economic support.

5.2.1 Elimination of duplicative R&D

The most obvious efficiency that may arise from a combination of R&D programs is elimination of redundant R&D. Firms seeking to introduce a new product may need to complete certain stages of basic or applied research in order to make product development possible. As a result, when multiple firms are seeking to innovate in the same area, the same research stages may be performed multiple times. Efficiency would be improved if some of this duplication were eliminated, provided there is little or no effect on the pace of innovation.

The difficulty here is judging “whether a company’s decision to shut down one of two research tracks, to focus its resources on just one track, would likely be procompetitive or anticompetitive.”⁷⁶ If there is a strong positive relationship between the number of competitors engaged in R&D and the likely pace of innovation, a case can be made that R&D programs are not likely to be duplicative; the existence of multiple programs results in consumers enjoying the benefits of new products at a faster rate. This is clearly a factual question. In addition, the Bureau must be sensitive to the possibility that often R&D programs are not substitutes for each other but rather complements: “reductions of so-called ‘duplicative’ R&D may actually represent the elimination of diverse research paths that could lead to different results[,] and ... even if research paths were identical, different R&D researchers in different companies might draw different inferences from them, and hence achieve different results from the same discovery.”⁷⁷ Given the

⁷⁵ See also Gary L. Roberts and Steven C. Salop, *Efficiencies in Dynamic Merger Analysis: A Summary*,” *World Competition*, Vol. 19, 1996, who argue that cost-reducing efficiencies should be viewed as taking place within a larger dynamic framework where the benefits of cost reduction achieved by a merged entity eventually spill over to other market participants.

⁷⁶ Federal Trade Commission, *Anticipating the 21st Century: Competition Policy in the New High-Tech, Global Marketplace*, Vol. 1, 1996, Chapter 7, p. 17.

⁷⁷ FTC, 1996, Chapter 7, pp. 17-18.

uncertainties associated with R&D, we urge caution in accepting claims that R&D programs are duplicative.⁷⁸ At the same time, it is not procedurally efficient for the Bureau to conduct large-scale investigations of the nature of merging parties' R&D operations. Our view is that if this argument has merit, it should be evident in the parties' contemporaneous documents (e.g., strategic planning memoranda or presentations), and/or the assessments of independent market observers.

5.2.2 *Economies of scale or scope in R&D*

Another possibility is that a merger may allow the resulting firm to take advantage of economies of scale or scope in R&D activities. Economies of scale in R&D arise when an R&D program of some size, say S , is more productive (in terms of the generation of innovative output) than two separate programs of equal size $\frac{1}{2}S$. Economies of scope in R&D exist when a firm engaged in a range of different R&D activities is more productive at each activity than a firm performing some smaller number of activities. It has long been speculated that "larger" firms, measured according to some metric, are more successful innovators than "smaller" firms. Indeed, this is one way of articulating the classic Schumpeterian hypothesis that posits a relationship between monopoly situations and innovation. As Tirole summarizes:

[Schumpeter] suggests that large firms are better qualified or more eager to undertake R&D than smaller firms because increasing returns are prevalent in R&D; because R&D activity involves a high level of risk that is difficult to eliminate with insurance (for reasons of moral hazard), and large firms are more diversified and therefore more willing to take risks; because innovation, once generated, is implemented more rapidly in a large firm because there is an appropriate production structure; and because a monopolist does not have competitors ready to imitate his innovation or to circumvent an existing patent on this innovation.⁷⁹

Empirical studies focusing on innovation at the industry level have produced mixed results on whether there are increasing returns to R&D activity by virtue of economies of scale and scope. More recent studies have focused on data related to individual R&D programs, which is the level of disaggregation necessary to evaluate the issue. The key references are Henderson and Cockburn's studies of pharmaceutical firm R&D. In a 1996 paper, these authors presented evidence from the R&D programs of ten large pharmaceutical firms observed over an average of 20 years per firm.⁸⁰ They test whether research output, as measured by the output of "important" patents (those filed in several different countries) is responsive to the firm's total R&D effort across all programs, and whether research productivity increases with the number of programs within a firm. They find evidence supporting each of these hypotheses, with a mean research elasticity of about 0.3 in each case. In other words, a 10% increase in total research spending results in about a 3% increase in research output for a given project, and a 10% increase in the number of large R&D projects also leads to a 3% increase in output. In a later paper, Henderson and Cockburn ask whether scale and scope confer similar advantages at the development (as opposed to the discovery) stage.⁸¹ They test whether scale or scope affect the likelihood of receiving FDA approval for a new drug product and find a significant impact for scope, but not scale. From this research, they conclude: "The performance advantage of large firms appears to lie in economies of scope rather than

⁷⁸ In addition, it may often be the case that duplicative R&D can be eliminated by forming an R&D strategic alliance, so even where this source of efficiency gain is potentially present, it may not be merger-specific.

⁷⁹ Tirole, 1988, p. 390.

⁸⁰ Rebecca Henderson and Iain Cockburn, "Scale, Scope, and Spillovers: the Determinants of Research Productivity in Drug Discovery," *RAND Journal of Economics*, Vol. 27, 1996.

⁸¹ Rebecca Henderson and Iain Cockburn, "Scale and Scope in Drug Development: Unpacking the Advantages of Size in Pharmaceutical Research," *Journal of Health Economics*, Vol. 20, 2001.

economies of scale: all else equal, a development program initiated within a more diverse development effort is significantly more likely to result in an [approved drug] than one initiated within a more narrowly focused effort.”⁸²

As a result, some good evidence exists that mergers enhancing the scope of R&D efforts may have salutary and measurable effects on innovation, at least in the pharmaceutical area. This is a developing research area in economics, and few results are available for other industries. One exception is a recent paper by Helfat studying R&D on coal conversion technologies in the petroleum industry.⁸³ She finds a positive association between R&D and a measure of R&D capital stock, implying that firms find additional impetus toward innovation from their direct experience with past R&D efforts.

5.2.3 *Improved intellectual property enforcement*

Many firms seek to protect the returns from their innovations using intellectual property rights. Indeed, a key principle underlying the intellectual property system is that in the absence of additional incentives for innovation provided by the formalized right to exclude, firms will under-invest in R&D. As we have argued above, generating a new idea in the industrial context typically requires incurring sunk, up-front R&D expenditures. Once these costs have been incurred, the incremental cost of employing the innovation, or creating copies of it, is generally quite low. Moreover, since any number of people can use the innovation at the same time, the inventor or author is unlikely to be able to recoup his or her sunk investments if others can exploit the innovation by incurring only the incremental cost after the fact. Intellectual property rights exist to give innovators the incentives to incur the up-front costs of innovation. They do so by giving the inventor or author the temporary right to prevent others from “free riding” on his/her efforts.

Recent research has shown, however, that in some cases, firms are unable to access the intellectual property system in the manner it was intended, and as a result these firms may not be able to protect the returns on their R&D expenditures to an efficient degree. Lanjouw and Schankerman have studied the determinants of patent suits and settlements across a range of technology areas over 1978-1999, focusing on the ability of small firms to protect their innovations.⁸⁴ They find that the probability of filing a suit on any particular patent owned by a firm is negatively related to the number of patents that firm holds in its portfolio, and that this effect is stronger for smaller firms (as measured by employment). In other words, small firms are less likely to be able to settle disputes on advantageous terms and more likely to find themselves embroiled in costly, risky patent litigation, unless they have unusually strong patent portfolios. Lanjouw and Schankerman conclude that as a result, “the enforcement process undermines the R&D incentives of small firms.”⁸⁵

Intellectual property issues may also negatively affect smaller firms in specific high-tech sectors. Josh Lerner, studying patenting behaviour in the biotechnology industry, has found that firms—especially those that are relatively inexperienced or financially weak—tend to avoid research areas in which others have patented intensively, even if these might be fruitful avenues for research.⁸⁶ With reference to the

⁸² Henderson and Cockburn, 2001, p. 1053.

⁸³ Constance E. Helfat, “Know-How and Asset Complementarity and Dynamic Capability Accumulation: The Case of R&D,” *Strategic Management Journal*, Vol. 18, 1997.

⁸⁴ Jean O. Lanjouw and Mark Schankerman, “Protecting Intellectual Property Rights: Are Small Firms Handicapped?” *Journal of Law and Economics*, Vol. XLVII, 2004.

⁸⁵ Lanjouw and Schankerman, 2004, p. 48.

⁸⁶ Josh Lerner, “Patenting in the Shadow of Competitors,” *Journal of Law and Economics*, Vol. XXXVIII, 1995.

semiconductor and communications industries, the widespread practice of cross-licensing of entire patent portfolios for relatively long (typically five-year) periods has developed to resolve patent issues. Through this means firms are able to settle potential infringement battles before they occur and avoid costly overlapping licence payments.⁸⁷ Those firms that are especially reliant on technologies that are covered by a diverse and fragmented set of ownership rights find it less costly to negotiate all the necessary licences *ex ante* than to develop strong patent portfolios of their own to use as a reciprocal threat if necessary.⁸⁸ Smaller firms without strong portfolios may find it necessary to enter into complex and resource-consuming negotiations in order to obtain access to the necessary intellectual property if they wish to compete in such technology areas.

In sum, intellectual property rights may justify a set of dynamic efficiency considerations, provided firms are able to document these appropriately. Mergers to consolidate resources may allow firms to better protect their intellectual property rights, thus enhancing returns to their R&D efforts; and, depending on the industry in which the firms operate, mergers may also help firms to clear a path through the thorny intellectual property positions of other firms, freeing up resources for other value-enhancing activities.

5.2.4 *Increased financial resources for R&D*

Tirole's synopsis of the Schumpeterian hypothesis, excerpted above, alludes to a possible beneficial effect of increased internal financial resources on innovation. The argument is that it may be excessively costly for firms to obtain external financing (from equity or bond markets) for R&D activities and, as a result, firms with larger internal financial resources are better positioned to engage in R&D. If this is true, then a merger that combines one firm's ideas with another's cash would tend to lead to more innovation than if the creative firm attempted to exploit its ideas on its own.

Hall summarizes the empirical work that has been done in this area to date.⁸⁹ She observes that R&D is quite sensitive to a firm's internal cash flow, and that as a result, "any problems associated with financing investments in new technology will be most apparent for new entrants and startup firms."⁹⁰ The availability of venture capital funding does not appear to offer a complete solution to these problems, despite the fact that venture capital financiers are able to much more closely monitor the use of funds than are ordinary stock market investors. Lerner, Shane, and Tsai study a related issue in biotechnology, which is a very R&D-intensive sector. Innovative biotechnology firms often turn to alliances with larger, better-funded partners to overcome financial constraints.⁹¹ They observe that during periods of unfavourable equity market activity, innovative biotechnology firms in need of financing are more likely to enter into alliance agreements which in the longer term are less successful, as measured by subsequent progression through clinical trial and approval phases. This would suggest that hybrid organizational forms such as alliances are an imperfect solution to the funding problem, and that in some cases allowing firms to merge may be the best approach.

⁸⁷ See e.g., Bronwyn Hall and Rosemarie Ham Ziedonis, "The Patent Paradox Revisited: An Empirical Study of Patenting in the U.S. Semiconductor Industry, 1979-1995," *RAND Journal of Economics*, Vol. 32, 2001.

⁸⁸ Rosemarie Ham Ziedonis, "Don't Fence Me In: Fragmented Markets for Technology and the Patent Acquisition Strategies of Firms," *Management Science*, Vol. 50, 2004.

⁸⁹ Bronwyn Hall, "The Financing of Innovation," mimeo, December 2005.

⁹⁰ Hall, 2005, p. 20.

⁹¹ Josh Lerner, Hilary Shane, and Alexander Tsai, "Do Equity Financing Cycles Matter? Evidence from Biotechnology Alliances," *Journal of Financial Economics*, Vol. 67, 2003.

6. Conclusion

We have sought in this report to provide a sound general grounding for the incorporation of innovation and dynamic efficiency effects in merger review. Recognizing that innovation and dynamic competition are critical drivers of economic growth, our discussion has relied in large part on two fundamental principles. First, promotion of dynamic efficiency, and thus productivity growth over the long term, normally requires tolerating some degree of static allocative efficiency over the short term. It is this effect that will lead to a real trade-off in many merger situations: should a merger that is expected to raise prices be allowed to proceed, provided that it supports increased innovation? Second, we have suggested that on balance, the incentives created for innovation in a market economy are likely to be insufficient, and that as a result increased innovation—and not just increased R&D—should generally be regarded as desirable.

Analyzing whether a given transaction is likely to lead to increased innovation is difficult from a practical perspective. We pointed to a number of issues that should remain in the foreground during any actual analysis. With these in mind, we proposed a method for incorporating innovation issues into merger analysis that focuses on effects in future product markets. This method is appealing to us because it does not rely on somewhat hazy concepts such as “innovation markets.” Nonetheless, applying it to any real situation would not necessarily be easy, and in particular, the set of factual information on the markets and firms involved would require careful analysis.

Finally, we examined incorporation of sources of dynamic efficiency into the merger review process. In our view, based on the existing economic literature, there are quite a number of plausible, defensible dynamic efficiency claims that can be made. Of course, firms face a daunting challenge substantiating these in any given case. It may be especially difficult to quantify the gains that can be realized from future surplus as against any expected anticompetitive effects from increased prices, beyond providing rough orders of magnitude. Nonetheless, we do not believe the burden of proof should be shifted. It rightfully should remain with the merging firms, as they have the greatest information available to substantiate any claims of dynamic efficiency. A more relaxed quantitative burden might be provided to those merging firms that are able to adequately demonstrate plausible and likely qualitative improvements in dynamic efficiencies resulting from the merger.

CZECH REPUBLIC

1. Introduction

The material presented here is the Czech Republic's contribution to the discussion as part of the Round Table on Dynamic Efficiencies taking place on the occasion of the session of the OECD Competition Committee being held in June 2007. On the basis of the decision-making activities of the Office for the Protection of Competition (hereinafter the "Office") and taking account of theory, the material attempts to answer several questions which were posed in the call for contributions. It is structured in several parts. The material will deal with the place of efficiencies analysis in general in the competition analysis of mergers, will discuss the specifics of dynamic efficiencies in mergers and reference will be made to several examples from the Office's previous decisions.

2. General comments regarding Efficiencies in the work of the Office

2.1 *Legal framework*

Efficiencies arising from mergers are part of the assessment of mergers on the part of the Office. This applies in particular since 2004 when an amendment to the Competition Act led to a change in the so-called Substantive Test, on the basis of which the impact of mergers on competition is assessed. The original version of the Competition Act contained a test on the creation or strengthening of a dominant position; the amendment, in line with the development of European competition law, brought in a test of the substantial lessening of competition. We are convinced that this creates the basis for more flexible assessment of mergers. On the one hand it allows the Competition Office to rule on a merger also in the event that it leads to the creation of a competitor with a subdominant position (e.g. the threat of uncoordinated effects). On the other hand this test better allows the competition office to permit those mergers, which may indeed lead to the creation of a dominant position whose negative consequences at the level of the intensity of competition are balanced out by other factors, the principal one of which are the merger specific efficiencies, in particular for consumers.

The **Substantive Test** directs the Office to forbid a merger which leads to a substantial lessening of competition, in particular as a result of the creation or strengthening of a dominant position (§17 para 3 of the Competition Act). Whether such a situation would happen after a merger is investigated by the Office by the evaluation of a whole series of criteria. The Competition Act in §17 para 3 demonstratively names the requirement to retain and develop effective competition, the structure of all markets affected by a merger, the market shares of the merging competitors, their economic and financial strength, the legal and other barriers to entry for other competitors in the market affected by the merger, options for the suppliers and customers of the merging competitors, the development of supply and demand in the market in question, the needs and interests of consumers and the research and development, the results of which are in consumers' interests and do not inhibit effective competition.

However the Substantive Test applied by the Office allows other criteria, not included in the Act, including the technical and economic development associated with the merger and other merger specific efficiencies as declared by the merging parties, on the assumption that these efficiencies are in consumers' interests and do not represent a barrier to competition. Although the assessment of the efficiencies arising from a merger is not an explicit part of the criteria given, the Office takes account of these efficiencies in

its decisions, and at the same time is guided by the rules developed by the European Commission and the principles which result from competition theory.

For this reason we can put forward the basic rules which determine the acceptability of the arguments of the parties in relation to the existence of efficiencies. The Office, in keeping with generally accepted principles, argues that merger efficiencies, if they are to be taken into account in competition analysis, must be **objective in nature** and must bring benefits to consumers and not only be subjective advantages for the merging competitors. The benefits must have a **direct impact on consumers** (the consumer's position is not worsened by the merger), benefits must be **significant** and **timely** and must concern **markets which would otherwise be threatened by a detriment to competition**, must be **exclusively merger related** (efficiencies will be relevant for the overall assessment of the case only if they are the direct result of the merger and could not have been achieved by another means, one that is more economic for competition) and must be **verifiable** (there must be sufficient certainty that these benefits would actually be realised and that they would outweigh the negative impacts of the merger). That is, these criteria are not included in the Act or in any interpretative document, but have been adopted from economic theory.

2.2 *The role of efficiencies in merger analysis*

Even if Czech competition law permits the Office to take account of the existence of efficiencies when assessing the impact of a merger on the market, it gives no guidelines concerning in which phase the Office may, or must, consider these efficiencies. In general, there are **two options**. In the first, it is necessary to assess all the classical merger assessment criteria (in particular, the impact of the merger on market structure) and then, in the situation where the Competition Office determines that the merger may have a negative impact on competition structure, to determine whether the benefits outweigh this negative impact. The second option is to assess efficiencies as part of an overall analysis of impacts on competition, as one of many criteria within such an assessment. In this case a conclusion can be drawn as to the negative impact of a merger on competition only after an analysis of merger efficiencies.

In its work in practice the Office tends towards the second options, in which **efficiencies linked to a merger or acquisition are assessed alongside other relevant criteria**, not after their evaluation. This means the analysis of efficiencies is in principle set on a level with the analysis of other relevant criteria, such as market structure or market shares, and its results are evaluated both independently and in the context of the results of analysis of all criteria. From the Office's previous decisions it may be concluded that the Office does not regard the efficiencies category as one that is superior, to be assessed separately and its results should be compared with the total results of a comprehensive assessment of criteria by means of which the impact of a merger on the market is explored. In other words, the Competition Office may not permit a merger which leads demonstrably to a reduction in competition, not even if it accepts the argument of the competitors that the merger introduces substantial efficiencies.

Analysis of efficiencies is a regular part of competition analysis only for those mergers which *prima facie* raise concerns over their impact at the competition level. The slightly reserved stance of the Office to the possibility of efficiencies overturning the analysis results for other merger assessment criteria is in keeping with the results of empirical studies on the efficiency of mergers. These show that in the majority of cases, mergers not only do not lead to an increase in wealth, but at the same time are even ineffective for the parties involved in the medium and long term. The study, which plotted more than 15000 mergers from around the world, came to the conclusion that about 60% of mergers did lead on the one hand to a significant, approx. 8% increase in profit, but also to a reduction in turnover over a 5-year period¹. Some

¹ Comparative results of the study of Denis C. Mueller of 2003 quoted in Schmidt, I: Wettbewerbspolitik und Kartellrecht, 8. Aufl., Lucius & Lucius, Stuttgart, page 107 and following. According to the author, nearly 56% of mergers in the last 15 years have been assessed as mergers decreasing prosperity.

authors point to the fact that mergers have on average only a modest impact on the profitability of the merging companies and that a large proportion of mergers decrease profitability. Many mergers lead to the market power and to internal inefficiency, which eliminates any profit growth; on the contrary, only certain mergers according to these authors bring about efficiencies². If then many mergers in their final effects do not bring efficiencies even for the parties involved, then we cannot expect that in many cases they will be associated with significant benefits for consumers which could overturn the results of the overall competition analysis.

To whatever extent efficiencies analysis is an approved part of the Office's work in practice in measuring concentrations, it does not necessarily mean that these efficiencies are analysed in every case and detailed in every decision. Many cases of merger do not *prima facie* pose a competition problem, which as a rule can be proved on the basis of a simple analysis of market shares and other market structure parameters. In such cases it is unnecessary to conduct a deep competition analysis of the case in question, or by the same token an efficiencies analysis. In addition, the Office deals with efficiencies only when they are asserted by the parties to the merger, which is far from often the case. It may be said that an **analysis of efficiencies has its place in the decision-making work of the Office particularly in complicated cases where concern over breach of competition rules exists and the true risk of this is verified by means of an in-depth analysis of all relevant merger assessment criteria.**

2.3 *Types of efficiencies*

In those cases where the Office explicitly deals with merger efficiencies, it distinguishes between several different types of such efficiencies. These are dynamic, allocation and manufacturing efficiencies. **Dynamic efficiencies** are achieved by means of research and development and the spread of new products and manufacturing processes which improve consumer prosperity. **Allocation efficiencies** are achieved when a given quantity of products is distributed on the market to the purchasers who most value them and are willing to pay for them or give up for them the consumption of other goods. **Manufacturing efficiencies** are achieved when output is optimised in relation to the cost of manufacturing inputs (this breakdown was used by the Office for example in the case of the merger between *Gorenje* and *MORA MORAVIA*³). This breakdown is consistent with the conclusions of competition theory and the approach adopted by other competition offices, e.g. the European Commission.

2.4 *The relationship between different types of efficiencies*

Not all types of efficiencies have to be present in all cases and some mergers can lead to a certain type of efficiency on the one hand, but lead in parallel to inefficiency of another type on the other. Some mergers, for example, lead at the same time to a reduction in allocation efficiency, since they are linked to an increase in prices, while stimulating dynamic efficiency, since the profit generated through higher prices can be used for the development of new products. There is a question as to whether competition offices should have at least an approximate view on which type is the most significant from the standpoint of competition policy, or which type to emphasise in their analysis. The Office for the Protection of Competition is inclined to the view that **individual types of efficiencies cannot be measured in a simplistic manner, and must always be assessed in the context of a specific case**, and for this reason no one type can be considered more significant than another. This also arises from the fact that the aim of competition policy, and therefore also of the monitoring of market concentration, is the protection of competition as something which is linked in the consumer's view of lower prices, higher quality and

² Ref European Economy 5/2001, page 61, the outcomes of which are quoted in Bejček, J: Mergers and efficiencies, see below.

³ Decision of the Office S 132/04 of 23 December 2004 (approved without remedies).

greater choice (all secured *inter alia* by innovation), without it being clear which of these separate aims is in fact the most important.

When assessing the individual impacts of a merger the Office must without doubt **consider a whole range of facts**, including the nature of the efficiencies, the certainty that they will continue to exist after the merger, as well as their significance (size, quantity, and so on). This can be demonstrated by a case, a merger which according to the findings of the Office was to lead on the one hand to an increase in the price of the existing product, while at the same undermining the innovation process leading to the creation of a new and better product. The resolution of this kind of situation must of necessity reflect the further specifics of the case in question.

If we are talking about an existing, outdated product, coming to the end of its product life cycle, with stagnating or declining sales and the price of which is threatened with an increase following a merger, then emphasis could be given within the competition analysis to the innovation effect of the merger, which would accelerate the replacement of such a product with a new one. This will apply even more should there exist a high degree of probability that the product will actually develop in this way, or that the development will be accelerated by the merger. In this case the Office would clearly favour the positive dynamic effect of the merger consisting of accelerated or more intensive innovation, as against the possible negative and static effect of the merger consisting of a price increase on the existing product.

In contrast, were an increase in price to apply to a product at the beginning of its product life cycle and as a result of this, or as a result of the level of customer satisfaction with the existing product, were the dynamic efficiencies relating to the development of a new product to be uncertain, in its overall analysis the Office would certainly place greater emphasis on the unfavourable static impact of the merger.

2.5 *Dynamic efficiencies in the decision-making process of the Office*

The specificity of dynamic efficiencies without doubt consists of the fact that they act long-term and not in a one-off manner, and that a fairly strong assumption exists that consumers will be able to benefit from these for an extended period, should they be transferred to them. In some cases, this can increase their relative importance in the overall merger impact analysis.

Should two pharmaceutical companies manufacturing cut-price generics, for example, be concerned with the development of the same new drugs, then their merger can lead to significant dynamic efficiencies which may serve as a strong argument for approving the merger. This was so in the case assessed by the Office of the merger of *Léčiva* and *Slovakofarma*. This transaction led to the merger of the two most important producers of generic drugs in the Czech Republic and Slovakia, who were dominant competitors in many relevant markets. One of the arguments which led in the end to the merger's being authorised, was the dynamic efficiencies of the merger.

In the case in question, the Office in fact determined that before the merger the merging parties had conducted active research and development of active substances and their combinations thereof contained in almost 40 pharmaceutical products, due to be brought on to the market in the immediate future. These drugs were to form effective competition for original pharmaceutical products whose patents were due to expire in the near future. The merging parties were also developing several original drugs. The Office accepted the argument that the completion of the merger would bring a certain rationalisation in the research and development of generic products, especially in those areas where the activities of the merging companies overlap in the market, and that some of the drugs currently being developed will not in fact be brought to market, or that their development will be terminated. The financial resources thereby released can be divided across the research and development of more products and drugs, bringing a positive effect for the end consumer. The introduction to the market of generic imitations of original drugs has according

to the Office the effect of reducing the price of the original drugs by 30-40%. This in turn reduces the costs of the health insurance companies and leads to a wider accessibility of quality drugs for the population at large. The Office therefore judged that one of the efficiencies of the proposed merger, and one that that end consumer benefits from, is the wider development of new generics, which has as a result an improvement in the quality of health care for the end consumer. This effect of the merger should be of long-term duration according to Office.

Further examples of the assessment of dynamic and other efficiencies from the decision-making process of the Office are given in Chapter III.

2.6 *The quantification and demonstration of dynamic efficiencies*

The experience in practice of the Office shows that **quantification of merger efficiencies is difficult** in all cases, even in the case of manufacturing efficiencies, where scale savings and range savings can be considered. This applies all the more to dynamic efficiencies, which are often a case of less material factors, such as the increase in technological progress, learning economies, improved management efficiency and so on. The Office is therefore of the view that it is neither possible nor essential to require quantification of dynamic efficiencies from the merging parties. On the other hand however, in its decision-making activities the Office cannot and does not wish to be satisfied only with general statements from the merging parties on the potential benefits. The analysis of dynamic mergers in the experience of the Office is qualitative rather than quantitative.

It is the task of the merging parties to persuade the Competition Office that part of its competition analysis should be an assessment of the merger specific efficiencies. The Office maintains the approach that it is not required to find possible efficiencies on behalf of the parties to the merger. On the contrary it is up to the merging parties to confirm the merger efficiencies and appropriately demonstrate them. The parties to the proceedings must therefore not only confirm that the merger will be linked to efficiencies, but must also demonstrate that all conditions are met for the acceptance of their arguments within competition analysis of the case (e.g. merger specificity, verifiability and so on). For this reason it is necessary to insist on the most detailed description of the efficiencies and the strongest assurance that these efficiencies will be realised, when (i.e. how soon after the merger takes place) and, at least approximately, to what extent.

A demonstration should also be given of whether and to what extent these efficiencies will be transferred to the consumer. Should this information and documentation not be presented to the Competition Office by the merging parties, this Office will not be able to handle the analysis of the efficiencies. As already mentioned, the Competition Office is not able to make deductions on efficiencies on behalf of the parties. On the contrary, should the competition office base a positive merger decision on information and documentation from the merging parties concerning efficiencies which they maintain to be linked to the merger, and this information and documentation later turn out to be evidently untrue or unsubstantiated by anything, than, at least according to the laws of the Czech Republic, it would be appropriate to consider an abolition of the merger authorisation.

In the case of an assessment as to whether the efficiencies claimed by the participants to the proceedings are associated exclusively with the merger under question (merger specificity), then the Office does not require from the participants any proof of this, or of the fact that the only cause for these dynamic effects is the merger under question. The Office only requires reasonable proof of the fact that these efficiencies will be eased and speeded up by the merger, or that the merger will secure the increased probability or certainty that these efficiencies will occur.

2.7 *Multi-market mergers and efficiencies*

In the situation when the Office assesses a merger affecting more than one relevant market, the argument of high merger efficiencies in one trouble-free market cannot be an argument for ignoring its impact on another relevant market where the merger would lead to a significant lessening of competition. This applies regardless of the relative significance of the markets and regardless of their size. In these cases the Office must attempt to resolve the problematic issue in all relevant markets which they affect, even if it might appear that this problematic situation is negligible in relation to the high efficiencies that the merger would bring about in other markets. In such cases it will certainly be more suitable to accept sufficient, effective remedies from the merging parties than to forbid the merger entirely.

3. Further examples of efficiencies assessment from the Office's decision-making activity

By analysing the Office's decision-making activity, we can determine that the most frequent positive value merger efficiency is the dynamic efficiencies consisting of the improvement options for innovation from the entity arising from the merger, i.e. research and development of new products, from which consumers derive benefit. This category includes the expansion of the product portfolio as well as its modernisation. This was the case for instance for the *KERRSPOFA/SPOFA-DENTAL*⁴ merger, concerning the production and sale of dental preparations and materials.

In other cases as a merger efficiency was considered the fact that the acquired competitor, not previously particularly active in technological development, would be able to use the extensive research and development results brought by the second of the merging competitors, which increased the competitiveness of the newly merged entity in relation to the existing, most important players in the market (e.g. *TORRECID/Glazura* merger⁵).

The Office's decisions in particular accent the fact that certain investments in innovation have in principle the nature of fixed costs and that a merger enables the merging competitors to realise investments in this area that they would not be capable of independently. So for example in the case of the merger of the two most significant cable operators in the Czech Republic (decision re: *UPC/Karneval*⁶) the Office approved the merger in spite of a significant increase in market power, partly because it determined that the increased financial power of merged entity would be used to finance investment costs associated with the introduction of new, and for the consumer beneficial, services, for example telephony over internet; with a change in technology for digital broadcast, the introduction of interactive services, the unification of technology elements and so on. These investments in innovation at the same time will allow the merged entity, according to the Office's findings, to create competitive pressure on the main competitor in the area of provision of fixed and mobile telephony and internet access, Telefonica O2 (formerly Czech Telecom). A similar argument was then also used by the Office in the preceding decision *Intercable/TES Media*⁷.

The *UPC/Karneval* case may also be used as a study showing adherence to the previously mentioned approach to multi-market mergers. On the one hand this merger led to the danger of a significant reduction in competition in the market of services consisting of pay per view signals. On the other hand the efficiencies from innovation could lead to the creation of a new genuine player in other relevant markets, the market for broadband access to the internet, and the fixed line telephony market, which would contribute to creation of effective competition in these markets, which are characterised by the dominant

⁴ Decision of the Office S 84/03-2864/03 of 31 July 2003 (approved without remedies).

⁵ Decision of the Office S 237/02-1835/03 of 27 May 2003 (approved without remedies).

⁶ Decision of the Office S 271/06-22601/2006/720 of 22 November 2006 (approved with remedies).

⁷ Decision of the Office S 128/02-4488/02 of 31 December 2002 (approved without remedies).

position of the former incumbent, Telefonica O2. In line with the approach outlined above the Office, using remedies accepted from the participants, dealt with the competition problem in the former of the markets named, which allowed the merger to proceed with the subsequent dynamic efficiencies in the latter mentioned markets.

Efficiencies linked to a merger, relating to a greater quantity of research and development, were also the argument for authorising the merger and acquisition in the area of plant protection products manufacture. In the decisions re *BAYER/Aventis Crop Science*⁸ and *BASF/Bayer*⁹ it accepted the assertion that these mergers would allow greater investments in research and development, which would allow the merging parties more frequently to innovate plant protection products. Such higher investments would then allow the introduction of more new plant protection and support products containing more effective ingredients, which can be used for modern plant protection, and be more environmentally friendly. The Office at the same time took into account the difficulty and average development time for a new product (5-10 years).

In 2002 the Office assessed the merger of two companies which operated the so-called primary and secondary systems for urban heating in the city of Ostrava. The separation of the urban heating system had taken place in the past and the *Dalkia Morava / ZTO*¹⁰ merger was intended to achieve a reintegration of operation of both areas under one operator. According to the results of the Office's investigation the merger of the primary and secondary networks under one operator should have significant positive benefits for the end consumer, in particular in the area of increased reliability of the heating system. The Office accepted the arguments of the merging parties that the merged entity would be able to expand the range of available services and to operate the transfer stations and connection points, which would be important for the end consumer from the point of view of lowering costs and increasing reliability. The merger would have a long-term benefit of optimising heat distribution, which would be seen in the shortening of network distances, lower operating, maintenance and investment costs. Unified management of the network would lead to minimalisation of heat losses. From the point of view of assessing the credibility of the merging parties' claims in this case, a key factor was that the efficiencies included, or more importantly the fact they would occur and their nature and importance, were confirmed by the merging parties' competitors.

In the preparation of this article the following article was of considerable help:

BEJČEK, Josef: Mergers and "efficiencies". In a Collection of Contributions from an international conference of students from the Commercial Law doctoral programme at Masaryk University (Brno). "Economic Aspects of the Legal System and their Interpretation": organised on 20 December 2005 by the Department of Commercial Law, Masaryk University, 1st ed. Brno Masaryk University, 2006. ISBN 8021039523, pg 18-42, 20 December 2005, Brno.

⁸ Decision of the Office S 119/01-2133/02 of 14 June 2002 (approved with remedies).

⁹ Decision of the Office S 246/02-1930/03 of 13 June 2003 (approved without remedies).

¹⁰ Decision of the Office S 147/02 of 16 December 2002 (approved with remedies).

FRANCE

Introduction

Les 6 et 7 juin prochains, le Comité de la Concurrence de l'OCDE organise une table ronde portant sur la prise en compte des efficiences dynamiques dans le cadre des analyses d'opération de concentration. Les questions posées en amont de la réunion, tendant à organiser les contributions des États membres et des observateurs, portaient notamment sur la singularité de ce genre particulier d'efficiences économiques que sont les efficiences dynamiques, ainsi que sur leur évaluation dans le cadre du contrôle des opérations de concentration.

En effet, il apparaît extrêmement pertinent de distinguer parmi les gains d'efficiences économiques emportés par les opérations de concentration, ceux des effets diffus au cours du temps. Dans ce contexte, le bilan économique et social que dresse l'autorité de concurrence, établit chaque fois que l'opération est susceptible d'affecter la concurrence, s'avère particulièrement difficile à réaliser, compte tenu de la complexité qu'il y a à estimer des effets économiques différés

La délégation française se félicite de pouvoir contribuer à ces travaux de réflexion sur la politique de concurrence, menés sous l'égide de l'OCDE. Cette table ronde sur les efficiences dynamiques procède d'une logique pertinente, cherchant à préciser la nature des investigations que les autorités de concurrence doivent mener dans le cadre de l'instruction pour évaluer correctement les efficiences dynamiques et pouvoir alors en tenir compte dans le bilan concurrentiel. Ce sujet s'avère par ailleurs d'une très grande actualité, car on constate une tendance continue des entreprises notifiantes à faire valoir de telles approches aux autorités de concurrence qui devront elles-mêmes l'intégrer plus systématiquement dans leur pratique décisionnelle.

Afin de permettre à l'OCDE de préparer table ronde des 6 et 7 juin prochains, le Secrétariat trouvera ci-après quelques unes des réflexions menées par la France sur les spécificités de l'analyse des efficiences dynamiques dans le cadre d'une opération de concentration. Si la France ne dispose pas pour l'heure de document de travail propre à cette question, certains passages des lignes directrices de la DGCCRF relatives au contrôle des concentrations (en général) s'intéressent spécifiquement aux gains d'efficience, et donc évoquent indirectement la question des efficiences dynamiques. Par ailleurs, la pratique de la DGCCRF comporte quelques exemples concrets d'application de ces concepts théoriques, qui seront développés en détail dans la suite du document.

Cette contribution française sur les efficiences dynamiques se décompose en trois parties. Dans une première partie, il sera proposé de définir de manière rigoureuse la notion d'efficiences dynamiques, notamment pour les différencier des efficiences statiques, et ainsi de construire un cadre d'analyse adapté à la question qui nous intéresse. La logique qui sous-tend la prise en compte des efficiences dynamiques dans le cadre du contrôle des concentrations est en effet fondamentalement différente de celle des efficiences statiques. Il convient d'estimer l'impact qu'aura l'opération sur l'efficacité à moyen terme de la fonction de production de l'entreprise fusionnée, et non d'observer ponctuellement les économies de coûts fixes générées par l'opération. Cette différence milite très clairement pour apporter un traitement spécifique aux efficiences dynamiques et circonstancié à chaque cas d'espèce : en ce qu'elles peuvent diminuer durablement le risque que la nouvelle entité utilise le renforcement de son pouvoir de marché pour relever les prix, les efficiences dynamiques constituent un élément crucial du bilan opéré dans les

décisions prises au titre du contrôle des concentrations. Ainsi, en poursuivant cette logique, il convient de rappeler à l'issue de ce rappel quelles atteintes à la concurrence sont susceptibles d'être emportées par une opération de concentration, et de les rapprocher des gains en efficiences dynamiques qui peuvent émerger par ailleurs : suivant cette logique, les effets horizontaux seront présentés dans une deuxième partie. Enfin, dans une troisième et dernière partie, effets verticaux et congloméraux feront également l'objet d'une courte présentation.

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1. Le cadre d'analyse

Cette première partie présente un cadre d'analyse dans lequel pourrait s'inscrire la pratique décisionnelle des autorités de concurrence : un modèle économique simple permet de préciser la problématique à laquelle elles sont confrontées, étant entendu, naturellement qu'il ne peut s'agir que d'une intuition et que la réalité est infiniment trop complexe pour être parfaitement appréhendée par un tel paradigme.

1.1 *Propos liminaire : Williamson [1968] comme modèle de référence*

Le modèle fondateur a été proposé par Williamson [1968]¹, qui constitue un cadre intéressant pour l'étude des gains d'efficacité liés à des opérations de concentration.

Par sa simplicité, ce modèle permet de comprendre intuitivement le bilan que les autorités de concurrence sont amenées à réaliser lorsqu'elles examinent le bien-fondé d'une opération de concentration. Si on part de l'hypothèse que la mission principale d'une autorité de concurrence est de protéger le bien-être des consommateurs, alors deux effets opposés peuvent être induits par une opération de concentration :

- la concentration peut renforcer le pouvoir de marché des firmes qui fusionnent, et partant augmenter le taux de marge moyen pratiqué sur le marché ; ce faisant, l'opération peut avoir pour effet d'augmenter le prix des produits vendus et réduire les quantités mises en vente, et pour conséquence d'aboutir à une allocation des ressources moins favorable aux consommateurs que celle prévalant avant la concentration.
- la concentration peut avoir pour effet d'accroître l'efficacité productive : l'entité issue de la fusion peut par exemple produire à un coût marginal inférieur à ceux des entreprises dont elle est issue, par exemple, parce qu'il existe dans l'industrie des économies d'échelle importantes ; toutes choses égales par ailleurs, c'est-à-dire à taux de marge inchangé, les gains d'efficacité, en entraînant une baisse du coût de production, auront tendance à réduire le prix de vente final, et donc à accroître le bien-être du consommateur.
- en conséquence, l'effet net de la concentration sur le niveau des prix (et donc sur le surplus social) est difficile à anticiper : toutes les situations sont envisageables, selon l'importance relative du renforcement du pouvoir de marché et des gains d'efficacité.

Ce modèle rudimentaire ne permet certes pas d'appréhender finement la réalité du fonctionnement des marchés, notamment au regard de la complexité des analyses de cas réels, mais il permet de poser les bases de la réflexion en matière d'efficacités dynamiques.

Dans le modèle de Williamson, deux entreprises dans un marché en concurrence pure et parfaite décident de fusionner. Avant la fusion, la situation de concurrence est telle que les biens sont vendus aux consommateurs à un prix égal au coût marginal de production (lui-même égal au coût moyen). Après la fusion, le coût moyen de production a diminué mais l'entité fusionnée a augmenté le prix de vente du bien concerné. Dans ce cas extrême, le bien-être de consommateur a été atteint ; pour autant, le surplus social a augmenté.

¹ Williamson, O. (1968) : « Economies as an Antitrust Defense: The Welfare Trade-Offs », *American Economic Review*, Vol.58, 18-36.

Le modèle détaille graphiquement les conséquences de la fusion pour les producteurs (c'est-à-dire les entreprises) et pour les consommateurs. A l'issue de l'opération, il convient d'arbitrer entre le bien-être des consommateurs et celui des producteurs. Comme indiqué précédemment, l'opération de concentration produit deux effets principaux : d'une part, une augmentation de la puissance de marché de l'entité résultant de la fusion par rapport aux puissances de marché des deux entreprises initiales ; de l'autre, la mise en place de synergies dans la production globale (économies d'échelle). Le premier effet se traduit par une augmentation du prix de vente du fait de l'accroissement de la puissance de marché des entreprises, tandis qu'une diminution du coût moyen de la production résulte du second (cela correspond en propre à l'effet de la synergie).

L'arbitrage entre les intérêts des consommateurs et ceux des producteurs est ici pleinement exposé : la fusion diminue le surplus du consommateur, mais augmente celui du producteur² : si les consommateurs perdent en bien-être avec une telle opération (du fait du transfert aux producteurs), les entreprises accroissent leur surplus en partie grâce aux gains d'efficacités économiques : les synergies générées par la fusion permettent de diminuer le coût moyen de production. En moyenne, les entreprises du secteur disposent désormais des capacités pour produire désormais la même quantité qu'autrefois, mais à un coût inférieur. D'un point de vue économique, l'allocation des ressources rares dans l'économie considérée a été améliorée.

Aussi, dans le cadre d'une analyse dont le référent principal ne serait pas nécessairement le bien-être des consommateurs mais celui des acteurs économiques dans leur ensemble, il faudrait évaluer précisément la diminution du surplus des consommateurs et l'augmentation du surplus des producteurs et les mettre en regard. Le bilan général de l'opération déterminera l'effet global de l'opération sur l'économie, et le sens de cet effet : positif ou négatif. La chose devient encore plus complexe lorsqu'on s'inscrit dans un cadre dynamique, que le modèle de Williamson appréhende mal dans la mesure où les efficacités qu'il considère sont statiques (elles ne se produisent qu'une fois). Dans le cadre du modèle, l'autorisation de l'opération de concentration revient à privilégier le court terme et les entreprises, aux dépens du long terme et des consommateurs : le surplus des consommateurs est affecté par l'établissement d'une puissance de marché qui augmente le prix des biens consommés ; un transfert de surplus est opéré vers les producteurs. Toutefois, « *l'analyse de Williamson peut être réinterprétée en termes d'arbitrage entre les conséquences concurrentielles à long terme et les gains d'efficacité à court terme pour les entreprises fusionnées*³ ».

1.2 Les conditions de l'analyse

Pour évaluer les bilans économiques et sociaux des opérations de concentration, la France comme l'Union européenne ont constamment fait valoir une approche critique de l'examen des gains d'efficacité, que ceux-ci soient statiques ou dynamiques. Ainsi pour l'ancien Commissaire de l'Union européenne en charge de la politique de concurrence, Mario Monti, les gains d'efficacité ne pourront jamais être considérés comme une contrepartie suffisante à une concentration⁴, si l'opération se traduit par la disparition complète de la concurrence sur le marché concerné (ce qui est le cas extrême envisagé par le

² A titre d'information, on rappellera que le surplus du consommateur est la « différence entre le prix maximum qu'un consommateur est disposé à payer pour acheter un bien et le prix effectif de ce dernier » et le surplus du producteur « la différence entre le prix reçu par le producteur à l'occasion de la vente d'un produit et le coût de production ». (Source : Principes de l'économie, 1998, N. Gregory Mankiw)

³ Patricia Charléty et Saïd Souam, Analyse économique des fusions, July 11, 2002
<http://www.crest.fr/pageperso/souam/analyse-economique-des-fusions.pdf>

⁴ Voir la préface de European Merger control : do we need an efficiency defence ?, publié par Fabienne Ilzkovitz et Roderick Meiklejohn, en 2006.

modèle de Williamson) ; les gains d'efficacité, pour être pris en compte, doivent donc se traduire également par une amélioration effective du bien-être des consommateurs. Ils ne peuvent être circonscrits à la seule sphère productive et doivent permettre d'écarter tout ou partie du dommage que l'opération de concentration pourrait causer aux consommateurs⁵.

La meilleure connaissance de la nature même des gains d'efficacité, de même que leur prise en compte dans l'analyse concurrentielle, lorsque de tels gains sont susceptibles d'être générés par des opérations de concentration, peuvent préserver l'autorité de concurrence d'une prise de décision inadaptée et de commettre aussi bien des erreurs dites de type I, qui consistent à interdire des opérations neutres, voire bénéfiques à la concurrence, ainsi que des erreurs dites de type II, qui reviennent à autoriser des opérations de nature à porter atteinte à la concurrence.

1.2.1 *Les critères identifiés par la pratique décisionnelle française*

La pratique décisionnelle nationale s'inscrit en ligne avec la pratique européenne en la matière. Ainsi, dans les lignes directrices de la DGCCRF, trois critères sont retenus pour pouvoir prendre en compte les gains d'efficacité dans le cadre du contrôle d'une opération de concentration : « *les éléments de gains d'efficacité ou de progrès économique et social doivent être **quantifiables et vérifiables*** » (i) ; « *ces éléments doivent être **spécifiques à la concentration*** » (ii) ; enfin, « *une part des gains doit être **transférée à la collectivité dans son ensemble, et notamment aux consommateurs*** » (iii)⁶.

En conséquence, l'autorité de concurrence ne pourra pas retenir dans le bilan économique et social réalisé à l'occasion de l'examen d'une opération de concentration toute synergie qui ne respecterait pas l'intégralité de ces trois critères. Dans le cas extrême envisagé par Williamson dans son modèle, les deux premiers critères (i) et (ii) sont certes respectés, puisque la concentration (et elle seule) permet de générer des gains d'efficacité quantifiables et vérifiables, mais le troisième critère (iii) ne l'est pas :

- la synergie économique alléguée par les parties à la fusion est réelle et peut être effectivement quantifiée par le modèle : elle est l'un des constituants du surplus du producteur. Si on trace sur un plan la courbe de la demande des consommateurs (décroissante), les trois droites horizontales représentant respectivement le prix avant la fusion (égal au coût moyen), le prix après la fusion et le coût moyen après la fusion, ainsi que les deux droites verticales correspondant aux quantités produites avant et après la fusion, on identifiera sans mal le rectangle dont la superficie mesure les gains d'efficacité économique résultant de l'opération de concentration (v. ci-dessous : B).

⁵ Ibid, préface.

⁶ DGCCRF, Lignes Directrices relatives au contrôle des concentrations, § 410.

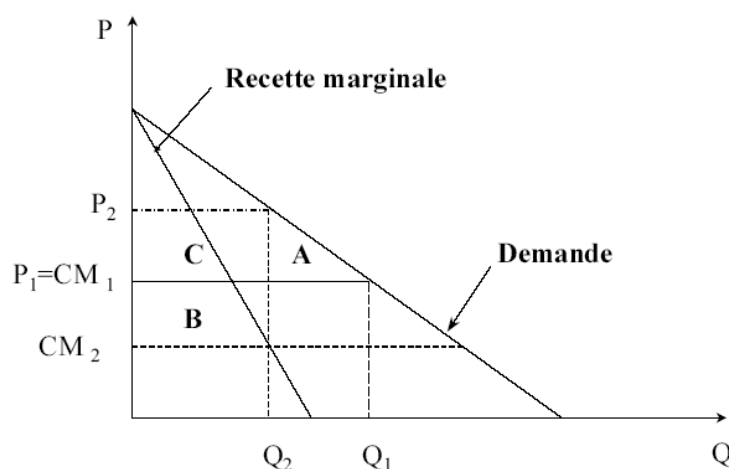


Figure 1 : Le modèle naïf de Williamson (1968)

- La synergie, telle qu'elle est définie, est bien propre à la fusion. Sans l'opération de concentration, les entreprises n'auraient pu mettre leurs capacités de production en commun et réaliser de telles synergies.
- Cependant, la synergie se fait aux dépens du surplus des consommateurs. La contrepartie à la plus grande efficacité économique est une intensification de la puissance de marché : les entreprises peuvent élever les prix bien au-dessus des coûts de production (marge) et réaliser des bénéfices au détriment des consommateurs.

En l'état, une telle opération aurait été interdite par l'autorité de concurrence française. Il n'aurait d'ailleurs pas été nécessaire de vérifier qu'elle respecte effectivement les trois critères identifiés par la pratique décisionnelle, puisque l'opération envisagée par le modèle de Williamson équivaut à éliminer toute concurrence sur le marché, ce qui revient à constituer un monopole. Le cas décrit est certes un cas extrême mais il a le mérite, comme il a été souligné plus haut, de caractériser l'arbitrage fondamental au cœur de toute analyse d'opération de concentration, à savoir la conciliation entre les intérêts des producteurs et de ceux des consommateurs.

1.2.2 Les efficacités économiques

Afin de révéler la difficulté inhérente aux analyses des efficacités, la définition proposée par Frédéric Jenny dans un article paru en 1989 dans la revue des *Cahiers de droit de l'entreprise* sera mobilisée dans le cadre de cette contribution. Ainsi, l'efficacité économique sera définie comme « la plus grande satisfaction du consommateur par les producteurs compte tenu de la rareté des ressources globales de la collectivité⁷ ». Cette définition a le mérite de combiner adéquatement les deux aspects du problème économique des gains en efficacité, à savoir l'amélioration des capacités de production, compte tenu de l'impératif que constitue la satisfaction du consommateur. Dans le cas du modèle de Williamson, les entreprises ont effectivement œuvré dans le sens d'une meilleure réallocation des ressources de l'économie

⁷ Jenny (Frédéric), "Pratiques verticales restrictives, concurrence et efficacité", *Cahiers de droit de l'entreprise* 1989 /4, p.5

considérée en réalisant une synergie au niveau de la production. Cependant, elles n'ont pas tenu compte de la satisfaction du consommateur, qui a vu renchérir la marchandise qu'il souhaitait acquérir, sans que pour autant la qualité ne soit en rien améliorée (la synergie n'a permis qu'une amélioration du processus de production autorisant une baisse des coûts, mais ses effets n'ont pas été perceptibles aux yeux du consommateur, car le prix final a augmenté).

L'intérêt du modèle de Williamson, présenté en introduction, résidait dans la perspective de raisonnement dynamique qu'il esquissait. Or l'arbitrage auquel se livrent les autorités de concurrence porte sur des effets antagonistes se produisant à des instants différents : augmentation du taux de marge à court terme, baisse ultérieure des coûts de production. C'est dans cette approche dynamique que doit en fait être pensée la notion de gains d'efficacités.

1.2.3 Synergies et efficacités dynamiques

Dans l'abondante littérature sur les concentrations économiques et les gains d'efficacité, il convient de se rapporter à un article de Farrell et Shapiro (1990)⁸ afin d'identifier adéquatement le concept de synergie, qui peut être rapprochée avec raison de celui d'efficacité dynamique. C'est en analysant les différents types d'économies de coût que peut permettre une fusion que Farrell et Shapiro ont mis au jour la notion moderne de synergie.

Farrell et Shapiro (1990) distinguent en effet : (i) la rationalisation de la production, qui consiste à réallouer la production vers les usines les plus efficaces ; (ii) les transferts de capital fongible entre usines (à niveau total de capital donné) ; (iii) les effets d'apprentissage : partage de techniques, de savoir-faire, de brevets, de modèles de management⁹. C'est en discutant la mobilité du capital que les auteurs de l'article expliquent que, dans certaines circonstances, les deux premiers types d'efficacité sont équivalents. Seul le troisième type d'efficacité permet d'améliorer la fonction de coût de long terme.

Selon la terminologie retenue depuis l'article de Farrell et Shapiro (1990), il sera estimé qu'une fusion ne génère pas de synergies lorsque l'entité fusionnée ne pourra faire mieux (du point de ses coûts et de son profit) que ce que les parties avant la fusion auraient réalisé en maximisant leur profit joint. Farrell et Shapiro montrent que, lorsque la concurrence est à la Cournot, une fusion qui ne génère pas de synergie conduit à une hausse de prix. Selon, cette formulation économique du concept de synergie, les efficacités dynamiques constituent un objet théorique proche.

La définition précédente des efficacités économiques donnée par Frédéric Jenny est en effet également applicable aux efficacités dynamiques. Cependant, pour caractériser plus précisément les efficacités dynamiques, la définition donnée au chapitre 5 de *European Merger Control : do we need an efficiency defence ?* peut s'avérer utile : les efficacités dynamiques seraient des « réallocations d'actifs incorporels¹⁰ ».

⁸ Farrell Joseph et Shapiro Carl, « Horizontal Mergers : An Equilibrium Analysis », *The American Economic Review*, Vol 80 (1), Mars 1990.

⁹ Ibid., pages 112-113

¹⁰ «This work provides some confirmation that the reallocation of intangible assets is a significant motivation for mergers and a source of merger-specific efficiencies.» in *European Merger Control : do we need an efficiency defence ?*, chapitre 5 «Efficacités in merger control» par Jrissey Motis, Damien Neven, Paul Seabright, page 303.

Dans cette définition, c'est la notion d'« actif incorporel » (« *intangible asset* ») qui est la plus importante. Il existe dans les entreprises une catégorie d'actifs dont le commerce est difficile, en raison de transferts de propriété malaisés. De manière générale, la réputation, le savoir-faire, l'organisation interne, ou de manière plus concrète, les brevets, les marques, les frais d'établissement ou les fonds de commerce, constituent ce genre spécifique d'actifs qu'il est si difficile d'appréhender en ce qu'ils sont « immatériels ». Il est encore plus compliqué de prendre précisément la mesure des interactions qui existent entre ces actifs, et ainsi d'estimer leur valeur économique en vue d'une transaction.

Les efficiences dynamiques sont des « *réallocations* d'actifs incorporels ». Les auteurs se sont en effet interrogés sur le fait de savoir pourquoi les entreprises étaient amenées à fusionner. Au-delà de la justification généralement invoquée en économie industrielle, à savoir l'accroissement de la puissance de marché (« *market power* »), quelles sont les raisons profondes qui peuvent pousser deux entreprises à fusionner ?

Une entreprise représente une certaine combinaison d'actifs incorporels, qui permet d'atteindre une certaine productivité dans la production. Les concurrents de cette entreprise ne peuvent pas, le plus souvent, reproduire un tel arrangement et obtenir la même efficacité productive. S'ils souhaitent y parvenir, ils sont contraints de s'approprier le cadre dans lequel cette combinaison peut se réaliser, c'est-à-dire l'entreprise elle-même. Il convient de noter que l'entreprise cible n'est parfois pas elle-même en mesure d'expliquer les interactions générées entre ses propres actifs incorporels : des interdépendances se sont mises en place au fil du temps et, à terme, la combinaison est devenue trop complexe pour qu'elles puissent être décomposées et reproduites : il n'existe pas toujours de méthode qui permette de transposer le mode d'organisation des entreprises.

Il existe donc bien une différence entre les synergies et les efficiences techniques (« *technical efficiencies* »). Les efficiences techniques correspondraient à une réorganisation de l'outil de production. Elles seraient facilement transposables d'une entreprise à l'autre, par exemple par la diffusion de nouveaux procédés de fabrication. Les synergies, en revanche, seraient à rapprocher de situations dans lesquelles les capacités de production (« *production possibilities* ») se modifient. Les synergies ne sont rendues possibles qu'au travers de l'opération de concentration. En ce sens, les synergies respecteraient donc le second critère identifié par la pratique décisionnelle française, selon lequel le gain d'efficience escompté doit être « *spécifique* » à l'opération de concentration : « *En d'autres termes, il ne doit pas y avoir d'autres moyens moins dommageables pour la concurrence que la concentration envisagée de les obtenir*¹¹ ».

Quant aux autres critères dégagés par la pratique décisionnelle française, il peut être estimé que la définition donnée ci-dessus garantit à coup sûr l'application du premier critère, sans que le troisième et dernier critère ne soit nécessairement respecté. En effet, pour les auteurs, les synergies étant envisagées comme des « *réallocations* d'actifs incorporels », il est nécessaire qu'une véritable réorganisation soit mise en place en amont de l'opération de concentration : plans d'action, calendriers, etc. En effet, la synergie ne peut s'envisager comme le regroupement pur et simple des actifs incorporels des deux entités anciennement indépendantes sous un contrôle commun. Il s'agit au contraire d'élaborer de nouvelles méthodes de travail communes, d'optimiser les processus de production. En conséquence, il est primordial que les acteurs de la concentration aient une idée préalable des manières de modifier les incitations au sein de la nouvelle entité, de sorte que la complémentarité entre les actifs incorporels issus des deux entreprises existe réellement, et que la mise en œuvre de telles synergies soit effective à terme.

Un tel processus d'estimation ex-ante des synergies est nécessairement matérialisé par des documents internes aux entreprises fusionnant. Au cours de l'instruction, les autorités de concurrence sont en droit

¹¹ DGCCRF, Lignes Directrices relatives au contrôle des concentrations, § 410.

d'exiger la remise de cette documentation afin d'évaluer les impacts attendus de l'opération de concentration. Si une entreprise décide de prendre le contrôle de sa concurrence afin d'intégrer les actifs incorporels de la cible dans une nouvelle combinaison inédite (logique de synergie), alors cette opération aura obligatoirement été préparée au préalable par les protagonistes, qui auront élaboré un plan de gestion qui expose les projets à conduire dans l'entreprise, explique leur rationalité, et annonce la manière dont il est envisagé de les mettre en place.

Il est à cet égard peu probable que l'acquéreur puisse mettre en avant les synergies pour justifier une opération dont le seul véritable mobile serait l'augmentation de la puissance de marché (« *market power* »).

Pour qu'une telle argumentation puisse être acceptée, l'autorité de concurrence exigerait des preuves concrètes : l'entreprise serait alors contrainte de forger de fausses pièces pour corroborer ses dires. Or la création d'une argumentation *ad hoc* prendrait un temps précieux, et serait d'issue incertaine, car l'autorité de concurrence vérifierait le bien-fondé des justifications avancées : il semble donc improbable que les protagonistes prennent le temps (et le risque) de confectionner de faux indices.

En conclusion, si la synergie est avérée, il y a de grandes chances que des indices matériels existent, que les parties notifiantes seront enclines à communiquer aux autorités de concurrence ; il leur appartient naturellement d'en vérifier la pertinence, mais ces indices ont de forte probabilité d'être authentiques, et de représenter l'opinion que les parties se font elles-mêmes de leur propre opération.

Enfin, concernant le dernier critère, à savoir l'exigence qu'une partie des gains d'efficacité soit transférée aux consommateurs (amélioration de leur bien-être), il est difficile de tirer des conclusions générales de ce qui relève du cas par cas : pour chaque opération, il convient d'établir si elle se concrétisera par un transfert de tout ou partie des gains d'efficacité à l'ensemble de la collectivité.

Il existe peu de travaux empiriques permettant d'évaluer l'effet des fusions dans un cadre dynamique. C'est pourquoi l'étude menée par Focarelli et Panetta (2003) est si précieuse¹². Les auteurs ont cherché à estimer l'effet de long terme de la consolidation du secteur bancaire ayant eu lieu dans les années quatre-vingt dix en Italie.

Pour mettre en évidence les efficacités dynamiques permises par ces fusions, l'étude s'appuie sur des données détaillées relatives, notamment, aux taux de rémunération de différents types de comptes courants sur chaque marché local (en l'occurrence dans chaque province italienne). Les auteurs montrent que l'effet néfaste des fusions pour les consommateurs, à savoir la *baisse* de la rémunération des dépôts, n'est que temporaire. Ils établissent qu'à long terme les gains d'efficacité dominent l'effet direct d'accroissement du pouvoir de marché, ce qui profite aux consommateurs.

1.3 Le développement de l'analyse des gains d'efficacité en France

Les gains d'efficacité ont été introduits dès l'origine du contrôle des concentrations en France, par la loi du 19 juillet 1977. L'article 8, dernière alinéa, de ce texte prévoyait en effet que :

« L'acte ou l'opération juridique ne peuvent donner lieu à l'une des mesures prévues à l'article 8 s'ils apportent au progrès économique et social (nous soulignons) une contribution suffisante pour compenser les atteintes à la concurrence qu'ils impliquent. L'évaluation de cette contribution tient compte de la compétitivité des entreprises concernées au regard de la concurrence internationale ».

¹² Dario Focarelli et Fabio Panetta, « Are Mergers Beneficial to Consumers? Evidence from the Market for Bank Deposits », *The American Economic Review*, Vol 93 (4), Septembre 2003.

Le législateur de l'époque avait ainsi envisagé qu'une opération de concentration portant simplement atteinte à la concurrence pouvait néanmoins être autorisée par le ministre en charge de l'économie dans la mesure où un progrès économique et social en résultait.

L'idée était de réserver à l'autorité de concurrence la possibilité de préserver les objectifs de politique industrielle du pays ; le contrôle des concentrations participait ainsi à la restructuration de l'appareil industriel français. Il s'agissait pour la France, *a priori* en retard sur ses principaux partenaires économiques, de renforcer la compétitivité internationale de l'industrie française.

De fait, le concept de progrès économique et social s'inscrit avant tout dans un cadre national. Cette délimitation géographique est encore vraie aujourd'hui¹³.

L'ordonnance du 1^{er} décembre 1986 relative à la liberté des prix et de la concurrence a séparé le concept de « bilan économique » du « bilan social » ; l'un relevant de l'analyse du Conseil de la concurrence, l'autre du ministre de l'économie.

Ainsi, l'article 41 de l'ordonnance prévoyait que :

« Le Conseil de la concurrence apprécie si le projet de concentration apporte au progrès économique (*nous soulignons*) une contribution suffisante pour compenser les atteintes à la concurrence. Le Conseil tient compte de la compétitivité des entreprises en cause au regard de la concurrence internationale ».

Et l'article 42 prévoyait que :

« Le ministre chargé de l'Économie et le ministre dont relève le secteur économique intéressé peuvent (...) subordonner la réalisation de l'opération de prescriptions de nature à apporter au progrès économique et social (*nous soulignons*) une contribution suffisante pour compenser les atteintes à la concurrence ».

Était ainsi établie une répartition plus claire des compétences : le Conseil de la concurrence se limite à une analyse concurrentielle et purement économique, l'autorité ministérielle a, elle, compétence pour apprécier des éléments de nature plus politique, lesquels comprennent la prise en compte du progrès social.

La loi du 15 mai 2001 relative aux nouvelles régulations économiques confirme cette répartition des tâches, codifiée aux articles L. 430-6 et L. 430-7 du Code de commerce.

- **L'article L. 430-6** énonce que, dans le cas où il est saisi pour avis par le ministre en charge de l'économie, le Conseil de la concurrence apprécie si une opération de concentration « *apporte au progrès économique une contribution suffisante pour compenser les atteintes à la concurrence. Le conseil tient compte de la compétitivité des entreprises en cause au regard de la concurrence internationale* ».
- **L'article L.430-7** prévoit que le ministre de l'économie et, le cas échéant, le ministre chargé du secteur économique concerné peuvent, alternativement à l'interdiction de l'opération, « *autoriser l'opération en enjoignant aux parties de prendre toute mesure propre à assurer une concurrence*

¹³ CE, 6 octobre 2000, Sté Pernod-Ricard, RJDA 2000, n°1177, concl. Touvet : « La marque Orangina ne bénéficierait que de manière limitée à l'économie française ».

suffisante ou en les obligeant à observer des prescriptions de nature à apporter au progrès économique et social une contribution suffisante pour compenser les atteintes à la concurrence ».

Le cadre textuel ainsi posé, il revenait aux autorités françaises de concurrence de préciser le corps même de ces notions de *progrès économique* et de *bilan social*. En effet, les textes ne donnent aucune définition précise de ces concepts, ni développent la méthode d'analyse correspondante.

A ce titre, la pratique décisionnelle du Conseil de la concurrence et du ministre de l'économie revêt une importance particulière. C'est elle qui, au fil des cas d'espèce, a permis de cerner ces concepts et l'utilisation qui doit en être faite. C'est à elle que les prochains développements sont consacrés

Arrivés au terme de cette première partie, une définition des efficiences dynamiques a été élaborée, définition qu'il s'agit maintenant de confronter à la pratique : les parties suivantes passent en revue les différents cas d'espèce examinés par la DGCCRF, pour lesquels une analyse économique approfondie des gains d'efficience s'est avérée nécessaire au cours du contrôle des concentrations, qu'il s'agisse de compenser des effets anticoncurrentiels horizontaux, verticaux ou congloméraux.

2. Gains d'efficience et effets horizontaux

La pratique décisionnelle française propose un cadre d'analyse afin d'analyser les gains en efficience résultant d'opérations de concentrations qui emportent des effets horizontaux (c'est-à-dire des opérations qui donnent lieu à un chevauchement d'activité sur un même marché entre les entreprises parties à la fusion).

De fait, et conformément aux Lignes Directrices de la DGCCRF et à la délimitation textuelle, il convient de traiter distinctement le *progrès économique* et le *bilan social* résultant de l'opération.

2.1 Progrès économique

Il faut noter tout d'abord que la prise en compte par la pratique décisionnelle du bilan économique de l'opération reste rare.

Le progrès économique est difficile à démontrer pour les parties et complexe à analyser par les autorités de concurrence. Par ailleurs, si l'opération porte atteinte à la concurrence, elle pourra être autorisée par le biais de remèdes (cession d'actifs, engagements comportementaux), plus à même d'éviter, de façon certaine et vérifiable, les atteintes à l'économie. Le bilan concurrentiel, le cas échéant complété par des remèdes, est ainsi privilégié par les autorités françaises.

Cela étant, l'analyse en termes de progrès économique peut être retenue si elle réunit certaines conditions¹⁴ :

- *La première condition* est que le progrès économique allégué par les parties soit vraisemblable, en ce sens qu'il doit être « *qualifiable et quantifiable*¹⁵ ». Ce point est important : l'autorité de concurrence attend des parties à l'opération qu'elles présentent et expliquent substantiellement le progrès économique qui résulterait de la concentration. L'administration encourage en ce sens les entreprises à fournir des informations sur les gains de productivité escomptés et leur incidence

¹⁴ Ces trois conditions ont déjà fait l'objet d'un développement au point 1.1.1.

¹⁵ Point 461 des Lignes Directrices de la DGCCRF relatives au contrôle des concentrations.

sur les prix, en précisant éventuellement les économies d'échelle possibles¹⁶. La précision des informations est essentielle pour permettre aux autorités de mener à bien l'analyse¹⁷.

- *La seconde condition* est que les éléments de progrès économique, démontrés par les parties, *doivent être spécifiques à la concentration. Il ne doit pas exister d'autres moyens de les obtenir qui soient moins dommageables pour la concurrence que la concentration envisagée*¹⁸.
- *La troisième condition* est que le progrès économique « profite à la collectivité dans son ensemble et notamment aux consommateurs¹⁹ ». En d'autres termes, le progrès ne doit pas constituer seulement un avantage pour les entreprises en question, obtenu au détriment des concurrents, clients ou fournisseurs. Le progrès économique doit ainsi être partagé par plusieurs acteurs. Sur ce point, les autorités de concurrence attendent des gains réalisables à court terme.

Ces trois conditions sont cumulatives. Elles permettent d'établir la mesure dans laquelle le progrès économique engendré peut compenser les atteintes à la concurrence éventuellement induites par l'opération. L'autorité de concurrence se livre ainsi à un bilan : elle met en balance les atteintes à la concurrence d'une part et le progrès économique d'autre part. Elle apprécie alors l'équilibre qui en résulte. Plus l'atteinte à la concurrence sera importante, plus la contribution au progrès économique et social devra être substantielle pour offrir un contrepoids suffisant²⁰.

¹⁶ D'un point de vue méthodologique, la DGCCRF a explicité, par une circulaire du 14 février 1978, les éléments qu'il revient aux entreprises de communiquer au ministre pour démontrer le progrès économique. « Afin de permettre d'établir le bilan économique de cette contribution, il pourra être précisé : les parts de marché, compte tenu de l'évolution des échanges extérieurs, que les entreprises souhaitent réaliser ; les gains de productivité escomptés et leur incidence sur les prix, en précisant éventuellement les économies d'échelle possibles et les tailles optimales des unités de production ; l'évolution prévue par la ou les entreprises en cause, notamment en matière de chiffre d'affaires, de volume d'investissements et de création d'emplois à moyen terme ». Les lignes directrices actuelle ajoutent à cette liste qui n'a « rien d'exhaustive », « la description de la méthode mise en œuvre pour générer les gains annoncés », « élément important de l'analyse de la vraisemblance de ces gains » (Lignes directrices, point 465).

¹⁷ Le Conseil d'État a insisté sur l'importance de la précision des informations fournies à l'administration au cours de l'instruction d'une opération de concentration dans sa décision CE, 6 octobre 2000 précitée : « l'imprécision des données fournies [sur les perspectives de développement de la marque Orangina d'une part, et du groupe Pernod-Ricard d'autre part] ne permet pas d'établir que les effets anti-concurrentiels de l'opération envisagée pourrait être compensés par une contribution suffisante au progrès économique et social ».

¹⁸ Sur ce point, v. Coca-Cola/Orangina précité : « il n'est pas contesté que l'acquisition de la marque Orangina dans le groupe Coca-Cola lui permettra de réaliser des économies de coût de production ; cependant aucun élément n'est fourni permettant d'établir que des économies également importantes pourraient être obtenues par le jeu du développement interne par le groupe Coca-Cola des ventes et de la part de marché de la marque Fanta ».

¹⁹ Sur ce point, v. Lignes Directrices, point 410.

²⁰ Ainsi dans l'affaire Coca-Cola/Orangina (Avis 98-A-09 du 29 juillet 1998, secteur des boissons gazeuses non alcoolisées) précitée, le Conseil de la concurrence énonce que « le projet de concentration soumis à l'examen du Conseil n'est pas de nature à apporter au progrès économique une contribution suffisante pour compenser les risques d'atteinte à la concurrence ».

Faisant leur l'analyse de la Commission européenne²¹, les autorités françaises ont eu l'occasion d'examiner si certains arguments précis apportés par les parties concernées dans une opération de concentration pouvaient être de nature à constituer un gain pour le progrès économique. Précisons dès l'abord que cette analyse est peu fréquente, tant les gains escomptés sont rares et difficiles à démontrer.

- Les gains de productivité

Les gains de productivité sont à rapprocher des économies d'échelle qui résultent directement de l'opération. Les autorités de concurrence ne retiennent cette analyse que si les parties en présentent une évaluation précise et chiffrée, et démontrent que les consommateurs en profitent également²².

Un exemple dans le secteur du sucre montre que le bilan économique de la concentration peut être positif s'il permet, via une diminution des coûts, de réallouer des moyens de production. Cette réallocation contribue au progrès économique, alors même que le bilan concurrentiel est négatif :

« Le regroupement de certaines lignes de produits sur un site unique favorisera l'exploitation des économies d'échelle et permettra la résorption partielle des surcapacités. Selon les sites, l'augmentation des volumes, l'optimisation des effectifs et les économies de coûts de structure industrielle devraient permettre de réduire les coûts unitaires (...) »²³.

- L'amélioration des services rendus aux consommateurs et à la collectivité

Cet argument est important. Le Conseil de la concurrence et la DGCCRF le considèrent comme un élément de poids pour l'établissement d'un bilan économique positif, même si, pour l'instant du moins, la pratique décisionnelle n'offre que peu d'exemples en la matière.

Ainsi en est-il par exemple d'une baisse des tarifs d'un contrôle technique pour l'automobiliste :

« En tout état de cause une baisse des redevances ou une amélioration des services offerts aux centres, si elle avait pour effet de réduire le prix des contrôles techniques pour l'automobiliste ou d'améliorer la qualité de ces prestations, constituerait une contribution au progrès économique au sens de l'article 41 de l'ordonnance du 1^{er} décembre 1986 »²⁴.

- L'amélioration des capacités d'innovation et renforcement des moyens de recherche et développement

Cette conséquence de l'opération ne pourra être retenue par l'autorité de concurrence que si les parties fournissent des données chiffrées. Les déclarations de principe tenant, par exemple, « *au regroupement de centres de recherche* » ne peuvent être retenues²⁵.

A l'inverse, le développement de nouveaux produits peut donner lieu à un progrès économique :

²¹ Cf. Lignes directrices sur les fusions horizontales, paragraphes 76 à 88.

²² Sur ce point, v. Conseil de la concurrence, avis n°2002-A-04, 11 avril 2002, TDF-Bouygtel.

²³ Conseil de la concurrence, Eridania Beghin-Say/Compagnie Française De Sucrierie, 5 février 1997.

²⁴ Cons.conc. Avis n°97-A-23, 15 octobre 1997, MAAF-DEKRA.

²⁵ Avis n°97-A-01, 7 janvier 1997, Barry-Cakkebaut AG, BOCC 17 mai 1997, p. 359.

« Sur ce marché [des techniques du vide] reposant largement sur l'innovation technique, le développement de la capacité concurrentielle des opérateurs est étroitement liée à l'intensification de leurs efforts de recherche et développement ; à cet égard le regroupement des moyens de recherche de Balzers et Leybold, en permettant d'accélérer la mise au point de produits nouveaux (nous soulignons), devrait être de nature à favoriser l'accroissement des ventes sur les marchés des grands pays développés et à placer le nouvel ensemble dans une position de compétitivité améliorée au regard de la concurrence internationale »²⁶.

- L'amélioration de la compétitivité internationale des entreprises en cause au regard de la concurrence internationale

Ce critère est explicitement prévu à l'article **L.430-6 du Code de commerce**, distingué du progrès économique proprement dit. Là aussi, la pratique décisionnelle en la matière s'attache à apprécier si la compétitivité aurait pu être améliorée par d'autres moyens. En outre, l'amélioration de la compétitivité de l'entreprise *doit aller de pair avec le progrès économique de la collectivité*.

Ainsi, le Ministre de l'économie a estimé dans l'affaire Coca Cola/Orangina précitée que « si la vente au groupe *Coca-Cola est la solution la plus avantageuse pour Pernod-Ricard, l'avantage qui en résulte pour le groupe ne saurait être considéré à lui seul comme un progrès économique pour la collectivité* ».

En règle générale, l'amélioration de la compétitivité économique est analysée *comme une conséquence de l'ensemble des éléments positifs du bilan économique*²⁷.

- La protection et développement de l'approvisionnement national.

Cet argument n'a été retenu qu'à une seule reprise par le ministre de l'économie à propos d'une source d'approvisionnement en poudre d'asphalte :

« L'opération apporte une contribution certaine au progrès économique dans la mesure où elle devrait permettre, par les gains de productivité réalisés, de maintenir sur le territoire nationale une source d'approvisionnement en asphalte qui pourrait disparaître si l'opération n'était pas autorisée »²⁸.

Le Conseil de la concurrence a, quant à lui, envisagé la possibilité de retenir un tel argument, sans toutefois y procéder au cas d'espèce :

« il n'est pas exclu que l'approvisionnement économique de la France puisse être considéré comme une contribution au progrès économique »²⁹.

Ainsi, sans être a priori exclu, cet argument est rarement retenu par les autorités de concurrence et semble, en tout état de cause, être insuffisant à lui seul pour parvenir à un bilan économique positif. .

²⁶ Lettre du 14 octobre 1994, secteur de la technologie du vide (Oerlikon Bühler Holding/Leybold), BOCC du 27 octobre 1994, p. 481.

²⁷ Cons. Conc., avis 89-A-05, 21 février 1989, Spontex-3M ;

²⁸ Décision SPAPA/SFA/SMAC Acieroid du 2 octobre 1995.

²⁹ Décision Elf/Bianco Tardy-Cie commerciale et pétrolière de l'Ouest (arrêté du 10 mai 1991).

- La protection de l'environnement

Les autorités françaises ont pris en compte cet argument d'inspiration communautaire³⁰. Dès 1994 :

« L'opération envisagée pourra permettre (...) l'abandon des technologies polluantes et leur remplacement par des technologies fermées (...). Le développement du progrès économique doit s'entendre également d'une contribution à la lutte contre la pollution de l'environnement »³¹.

Si l'utilisation de ce critère reste encore timide, il sera probablement développé dans les prochaines années. Ainsi, le Conseil a-t-il estimé en 2002 que :

« le partage des sites [d'équipements de télécommunication mobiles] rejoint les préoccupations relatives à l'environnement et à la santé publique (...). La mutualisation peut donc être considérée comme un objectif d'intérêt général »³².

La protection de l'environnement se rapproche en cela du progrès économique.

Ainsi, les autorités françaises de concurrence prennent en compte le progrès économique qui résulte d'une opération pour, le cas échéant et à la condition d'une compensation suffisante, autoriser une opération qui porte atteinte à la concurrence.

Les considérations économiques ne sont pas les seules à permettre une autorisation de l'opération. Le contrôle du bilan social de l'opération est lui aussi envisagé en droit français.

2.2 Bilan social

Le bilan social peut également entrer dans l'analyse des autorités de concurrence. Celles-ci doivent en effet tenir compte de la création ou du maintien de l'emploi, rendu possible par l'opération de concentration.

La pratique décisionnelle est peu abondante sur ce point : seule l'affaire *Seb/Moulinex*³³ en fait clairement état.

Dans cette affaire, le Conseil de la concurrence a en effet estimé que :

« l'opération doit permettre le maintien des sites de production en France (...) Les gains d'efficacité ainsi obtenus doivent permettre au groupe SEB, tout en maintenant des emplois en France (nous soulignons) de rester compétitifs sur des marchés ».

³⁰ Comm. CE, XIIème Rapport sur la politique de concurrence, 1992, paragraphe 77.

³¹ Cons conc., Avis n°94-A-18, 17 mai 1994, Metaleurop-Heurbach : en l'espèce le Conseil de la concurrence retient l'abandon des technologies polluantes.

³² - Avis n°2002-A-04 du 11 avril 2002, TDF-Bouygues Telecom, BOCC 31 mars 2003, p. 194.

³³ - Avis 02-A-07 du 15 mai 2002, secteur du petit électroménager (SEB/Moulinex), BOCC du 21 octobre 2002, p. 948.

Il faut relever que la prise en compte du bilan social d'une opération n'a pas pu conduire *en soi* à un bilan globalement positif. Tout au plus le bilan social est-il un élément additionnel, complétant une réponse de nature concurrentielle.

Par ailleurs, dans bien des cas, le bilan social est tout juste évoqué par les autorités, sans que celles-ci en tirent de conséquences concrètes pour l'analyse. A titre d'exemple, le Ministre a considéré de manière allusive dans l'affaire des *sels de déneigement* que :

« en adossant MDPA à CSME sur les marchés du sel de déneigement, la concentration lui permet de bénéficier des économies d'échelle tirées du volume conjoint de deux entreprises et de faire face à la demande les années où celle-ci se révèle importante. Ce faisant, elles favorisent la reconversion de l'entreprise minière (...). Par conséquent, je constate que l'opération est à l'origine d'une partie seulement des atteintes à la concurrence constatées et qu'elle entraîne, d'autre part, des effets positifs en termes de progrès économique et social »³⁴.

Au cas d'espèce, cet élément de bilan social n'a pas été suffisant pour compenser l'atteinte à la concurrence.

Si la pratique française est rare, quelques lignes directrices s'en dégagent toutefois :

- Comme en matière de progrès économique, il incombe aux entreprises de démontrer les créations d'emplois alléguées.
- Les créations d'emplois en question doivent être des créations « nettes » et ne doivent pas se faire au détriment de l'emploi chez les opérateurs concurrents ou clients. Ainsi, dans l'affaire Coca Cola/Orangina précitée, le ministre de l'économie précise qu'« il est nécessaire de raisonner en création ou en conservation nette d'emplois, c'est-à-dire de prendre en compte les réductions d'effectifs qui pourront être provoquées dans les entreprises concurrentes par le renforcement du pouvoir de marché des entreprises qui participent à l'opération ».
- Enfin, l'autorité de concurrence examine si les améliorations n'auraient pas pu être obtenues par d'autres moyens que la concentration en cause.

L'appréciation du progrès social, comme celle du progrès économique, ne peut être opérée qu'à la condition d'être *vérifiable* par les autorités de concurrence. Ainsi le Conseil a eu l'occasion de relever que « *les effets positifs significatifs* [relevés par les parties] *dont bénéficieront tant les entreprises que les consommateurs* » n'étaient pas suffisamment étayés : aucun élément ne démontrant que la création d'emplois ne s'étaient pas faite au détriment de l'emploi chez les concurrents³⁵.

Les éléments précédents, développés au sujet de la pratique décisionnelle nationale, sont à la base d'une analyse en termes d'efficacités dynamiques.

2.3 *Efficacités dynamiques*

Certaines efficacités économiques considérées par la pratique décisionnelle nationale, certaines se rattachent directement à la catégorie d'efficacités dynamiques.

³⁴ - Lettre su 1er septembre 1999, CSME/MDPA/SCPA, BOCC du 20 octobre 1999, p.616.

³⁵ Conseil de la concurrence, avis n°95-A-14 du 29 août 1995, BOCCRF du 12 février 1996.

- Les gains de productivité

Les économies d'échelle qui résultent directement de l'opération de concentration par réallocations d'actifs telles que décrites dans le modèle de Williamson exposé *supra*, peuvent relever de la catégorie des efficiences dynamiques. Il est ainsi loisible d'envisager qu'une opération de concentration aura pour objet une réallocation des actifs incorporels ayant pour conséquence un changement des méthodes de production bénéfique à l'efficacité globale. Si la synergie se traduit par une amélioration du bien-être des consommateurs (produit de meilleure qualité à un moindre coût) alors il sera clair que l'opération a entraîné des efficiences dynamiques. Cependant, toute économie d'échelle n'est pas le résultat de ce genre d'efficience, qui se développe sur le long terme et touche à la sphère des consommateurs. Il convient donc de relever la spécificité de chaque opération.

- L'amélioration des capacités d'innovation et renforcement des moyens de recherche et développement

Ce genre d'efficience économique est fortement susceptible d'être dynamique. Toute innovation se développe sur le long terme, et se traduit le plus souvent par une amélioration du bien-être des consommateurs. Comme précisé plus haut, l'autorité de concurrence requiert des parties exposant une argumentation sollicitant ce genre de gains en efficience économique un plan détaillé de la nature des innovations que les parties souhaitent accomplir par le biais de l'opération, ainsi que leur mise en œuvre concrète.

- Protection de l'environnement

On peut à raison estimer que des gains en efficience économique contribuant à la préservation et à la protection de l'environnement relèvent de la catégorie des efficiences dynamiques. De tels gains en efficience ont en effet souvent à voir avec la découverte de techniques de production plus propres, et ils sont solidaires des innovations et des réorganisations affectant l'appareil de production. On peut avancer que la sphère des consommateurs n'est pas affectée en tant que telle par ces gains en efficience. Cependant, si on retient que le consommateur est également le citoyen d'une communauté pour laquelle les ressources naturelles constituent un bien à préserver, des synergies contribuant à la préservation de l'environnement sont effectivement des efficiences dynamiques.

Il apparaît que le reste des efficiences économiques que relève la DGCCRF dans ses lignes directrices appartienne davantage à la catégorie des efficiences statiques, dans la mesure où ces efficiences économiques ont peu de chance d'être de véritables réallocations des actifs incorporels des entreprises.

Il convient également de noter toute la difficulté de l'élaboration d'un bilan économique et social pour les opérations susceptibles d'emporter des efficiences dynamiques. La charge de la preuve revient aux parties notifiantes. Or de telles preuves sont très difficiles à produire et à interpréter, notamment parce qu'elles ne répondent – malheureusement – pas à une définition précise. Dans ces conditions, il est plus que jamais nécessaire d'examiner chacune des preuves proposées par les parties notifiantes au cas par cas. Cette ouverture laissée aux parties complique la mission de contrôle de l'autorité de concurrence, alors que l'appréhension fine de ces phénomènes est rendue nécessaire par l'exigence réaffirmée de produire un bilan économique et social rigoureux.

Le Conseil de la concurrence a eu l'opportunité d'analyser des cas dans lesquels une analyse en termes d'efficiences dynamiques était mobilisée. Dans l'avis 05-A-01 du 7 janvier 2005 relatif à l'acquisition de la société Laboratoires Dolisos par la société Boiron dans le secteur de l'homéopathie, le Conseil de la concurrence, ayant mis en évidence un bilan concurrentiel négatif, s'est intéressé aux gains

d'efficacité que pourrait permettre l'opération (cf. partie VI : « Les autres éléments du bilan économique »).

Les gains envisagés avaient principalement trait à l'innovation : recherche fondamentale, mise au point de nouveaux produits, développement des études cliniques et médico-économiques (permettant de renforcer la légitimité scientifique de l'homéopathie). Ces gains passaient par la mise en commun des efforts financiers des parties en matière de recherche et développement. Les parties à l'opération ont fourni des chiffres sur les budgets qui seraient consacrés à la R&D et ont précisé le calendrier de mise en œuvre de cet effort financier. Le Conseil s'est interrogé sur la transmission des gains aux consommateurs et aux acteurs du marché (partie VI.C), en reconnaissant le caractère de long terme (efficacité dynamique) et incertain de ces gains :

« 134. La transmission d'une partie des gains de la fusion aux consommateurs repose essentiellement sur l'obtention de résultats grâce à la recherche fondamentale et aux études. Cette activité est difficile à évaluer puisqu'elle comporte par nature un certain aléa quant à ses résultats. Par ailleurs, les efforts financiers en matière de R&D débuteront en [...], date à laquelle les parties prévoient de doubler leur budget. Les effets potentiels des efforts de R&D ne peuvent pas être attendus avant probablement [...]. Cependant, l'augmentation des moyens financiers consacrés à cette activité est de nature à accroître la probabilité d'obtention de résultats, et ce faisant la probabilité de transmission des gains aux consommateurs. »

Dans l'avis 04-A-08 du 18 mai 2004 relatif à plusieurs acquisitions d'entrepôts réalisées par le groupe Scottish&Newcastle-Kronenbourg dans le secteur de la distribution de bières dans le circuit CHR, le Conseil a eu à se prononcer, d'une manière rétrospective, sur des opérations réalisées en 1997 et 2001.

Le Conseil a examiné les gains d'efficacité liés à la consolidation du marché (partie V.A.2) et les gains liés à l'intégration verticale (partie V.B.1.). S'agissant du premier type de gains, le Conseil a admis que la concentration horizontale de la distribution permet de répondre à certaines attentes des établissements chaînés de la consommation hors domicile :

« 246. Le Conseil considère que la mise en place de réseaux couvrant tout le territoire national répond, en effet, aux exigences des établissements chaînés qui veulent s'adresser à un guichet unique et mener des négociations centralisées. Les coûts de transaction se trouvent ainsi réduits. »

En l'espèce, les gains d'efficacité devaient être appréciés à la fois de manière prospective et de manière rétrospective, les parties indiquant que ces gains avaient lieu au fur et à mesure de la consolidation : *« 247. La société Kronenbourg souligne aussi que les gains d'efficacité liés à la consolidation de son réseau de distribution sont encore, pour partie, à venir. Elle rappelle que l'intégration des entrepositaires grossistes acquis en 1995-1996 s'est déroulée en plusieurs étapes et n'est pas complètement achevée. »*

En revanche, s'agissant des gains d'efficacité verticaux –notamment la suppression de la double marge, le Conseil n'a pas considéré qu'ils soient avérés ni, en tout état de cause, qu'ils aient profité aux consommateurs :

« 255. Toutefois, le Conseil relève que des relations tarifaires entre le brasseur et les entrepositaires présentent certaines spécificités qui ne favorisent pas la suppression de la double marge. [...] De fait, aucun élément au dossier ne suggère que le renforcement de l'intégration verticale se serait traduit par une baisse des prix dont auraient bénéficié les CHR ou leurs clients. »

A l'issue de cette deuxième partie, il apparaît que la pratique décisionnelle nationale, si elle ne traite pas explicitement des efficacités dynamiques, développe néanmoins une approche qui les sollicite. Il reste maintenant à étudier la question des efficacités dynamiques dans le cas des effets verticaux et des effets congloméraux.

3. Gains d'efficacité et effets verticaux et congloméraux

Cette troisième partie s'intéresse aux efficacités résultant d'opérations de concentration entre des acteurs différents de la chaîne de l'offre (« *supply chain* »). Dans ce cadre, les efficacités dynamiques semblent plus à même de se produire que dans le cadre d'effets horizontaux : la justification de la concentration par la logique de la synergie paraît dorénavant mieux reçue.

Par le passé, les gains d'efficacité générés lors d'une opération de concentration verticale ont été perçus négativement par les autorités de concurrence. En effet, il était estimé que plus une fusion verticale générait d'efficacité et plus le pouvoir de marché des parties augmentait (ce qui engendrait de potentiels problèmes de concurrence). En bref, la concentration de différents acteurs de la chaîne de l'offre semblait condamner une partie du bien-être des consommateurs, les synergies n'étant pas nécessairement transférées à la sphère des consommateurs. Les économistes, notamment ceux de l'école de Chicago, ont remis en question cette approche sur de nombreux points. Ils ont par exemple souligné que les gains d'efficacité généraient le plus souvent des gains nets pour les consommateurs. Ainsi, dans une telle situation, même un monopole pourrait être amené à baisser ses prix et à augmenter les quantités produites s'il s'avère que l'opération lui permet de réduire son coût marginal de production³⁶.

Les effets verticaux et congloméraux emportés par des opérations de concentration incluent en partie des gains d'efficacité : en cela, ils sont différents des effets horizontaux exposés ci avant. Si l'opération de concentration aboutit à une intégration verticale sans qu'il y ait par ailleurs de chevauchement horizontal, les entreprises n'étant pas, préalablement à l'opération, en concurrence directe sur un même marché, mais présentes sur des marchés liés par une relation amont/aval, le nombre des concurrents sur les marchés concernés n'est pas modifié par l'opération : celle-ci n'a d'effet direct ni sur la structure de l'offre, ni sur celle de la demande. Cependant les effets secondaires d'une opération de concentration non horizontale présentent souvent des gains d'efficacité.

De manière générale, il est distingué deux types de concentrations non horizontales : verticales et conglomérale. Il convient d'apprécier cette distinction en détaillant les gains d'efficacité qui se rattachent à chacun de ces types de concentrations.

3.1 Effets verticaux et efficacités

Les effets verticaux se produisent généralement lors d'opérations où une entreprise fusionne avec un de ses clients (à l'aval) ou fournisseurs (à l'amont). Ces opérations ont pour conséquence une intégration verticale entre des entités présentes à différents stades de la chaîne de production. Mécaniquement, la firme acquéreuse se développe sur un nouveau marché, situé à l'amont (acquisition d'un fournisseur) ou à l'aval (acquisition d'un client) de son activité historique.

³⁶ FISHER & LANDE, Efficiency Consideration in Merger Enforcement, 71 Calif. L. Rev. 1580, (1983) ; FISHER, LANDE & VANDAELE, Afterwoof : Could a Merger Lead to Both a Monopoly or a Lower Price?, 71 Calif. L. Rev. 1697 (1983)

Prima facie, du fait de l'absence d'atteinte aux structures de marché, il serait estimé avec raison que ce type d'opérations ne modifie pas le jeu concurrentiel sur chacun des deux marchés.³⁷ Cependant, dans la réalité, la concurrence peut se trouver affectée d'une autre manière. Ainsi, les deux entreprises, initialement actives – indépendamment l'une de l'autre – à des stades différents de la chaîne de production, ont désormais fusionné en une seule entité cohérente. Désormais, l'entité située à l'aval dispose d'une source d'approvisionnement garantie, cependant que l'entité à l'amont voit ses débouchés assurés. L'intégration verticale peut donc générer des efficacités économiques, à l'origine d'avantages concurrentiels au regard de structures non intégrées : outre les garanties d'approvisionnement et de débouchés déjà évoquées, des économies d'échelle (production et distribution plus efficaces) ou une réduction de coûts de transactions.³⁸

Par le biais des opérations de concentration verticale, les entreprises visent généralement une réduction de leurs coûts en se fournissant elle-même un service ou un produit. Ainsi, un fabricant de télévision produira ses propres composants électriques car il trouvera que ces derniers lui reviennent moins chers qu'un achat à un fournisseur de produits électroniques. En s'auto fournissant, le fabricant économise les coûts de transaction qui s'ajoutent au coût de production du fournisseur de composants électroniques. Quand un fournisseur acquiert un client ou un client potentiel, il y a lieu de considérer qu'une intégration verticale a été accomplie. Quand un client acquiert un fournisseur ou un fournisseur potentiel, le chemin inverse a été accompli³⁹.

L'efficacité économique peut donc résulter d'une intégration verticale. Elle se traduit par une amélioration du bien-être des consommateurs, en ce sens qu'elle peut contribuer à la baisse du prix de vente ou à l'augmentation de la qualité du produit concerné. Son caractère « dynamique » n'est cependant pas certifié puisque l'on peut indifféremment envisager que la baisse des coûts se produise en une seule fois comme en plusieurs. Il convient donc d'examiner différents cas de figure afin de déterminer à quel genre d'efficacité la synergie causée par la fusion se rapporte.

3.1.1 *La question de la double marge (externalité verticale)*

Dans une relation verticale entre un producteur et un distributeur indépendant, chacune des deux entreprises se comporte de façon autonome. Cependant, les choix opérés par l'une ont des implications pour la seconde, et inversement ; implications qui ne donnent pas forcément lieu à compensation monétaire. En termes économiques, il y a externalités croisées dans la relation verticale producteur/distributeur.

La question des externalités affectant la relation verticale entre des entreprises disposant d'un pouvoir de marché, mieux connue sous le nom de « double marge » a été identifiée pour la première fois par Spengler en 1950⁴⁰. Le comportement individuel de maximisation des profits des producteurs et des distributeurs disposant d'un pouvoir de marché les conduit à pratiquer un prix (« de gros » sur le marché amont ou « final » sur le marché aval) plus élevé que celui que pratiquerait une firme intégrée verticalement disposant d'un pouvoir de marché équivalent. Les consommateurs payent donc un prix trop

³⁷ BRUNNER. T., KRATTENMAKER. T., SKITOL. R., WEBSTER. A., *Mergers in the New Antitrust Era*. Bureau of National Affairs. 1985

³⁸ PITOFSKY. R., *Proposals for Revised United States Merger Enforcement in a Global Economy*, 81 *Geo. L. J.* 195. 1992

³⁹ 1995-2 Reg. Rep. (CCH) para. 4330, 8097.

⁴⁰ Spengler, J.J. 1950. "Vertical Integration and Anti-Trust Policy." *Journal of Political Economy*. 58 : 347-52.

élevé (ou disposent d'une quantité de biens trop réduite) par rapport à une situation efficace économiquement : au final, producteur, distributeur et consommateur perdent en bien-être par rapport à la situation idéale.

Si les entreprises coordonnaient leur tarification, elles n'appliqueraient la marge (liée au pouvoir de marché) qu'une seule fois au lieu de deux : elles constateraient en effet qu'une baisse du prix sur le marché final leur permettrait d'accroître le profit total généré par l'industrie, l'accroissement du volume des ventes compensant plus que largement la baisse de la marge unitaire. En définitive, l'entreprise intégrée internalise les externalités générées par un secteur sur l'autre, et devient alors économiquement plus efficace. Le bilan économique et social, et notamment la caractérisation du type d'efficacité économique emporté par l'opération, est alors particulièrement difficile à élaborer compte tenu de la nature de l'opération. *A priori*, il peut être estimé avec raison que l'intégration réussie des entreprises, et la disparition progressive du phénomène de la double marge, ne peuvent avoir lieu que sur le long terme, ce qui plaiderait pour l'identification d'efficacités économiques dynamiques. Cependant, une approche particulière doit être sollicitée, qui tiendrait compte de la complexité de l'opération ainsi que de la pertinence des preuves présentées par les parties.

L'existence de ces efficacités est reconnue par la pratique des autorités nationales de concurrence, tant par le Conseil de la concurrence que par la DGCCRF. L'opération Groupe Arc International,⁴¹ dans le secteur de la distribution en gros des produits des arts de la table, qui avait pour effet d'intégrer verticalement les quatre grossistes au sein du groupe, en les réunissant dans une même entité économique (alors même que ces derniers étaient auparavant liés par une centrale d'achat commune, Fliba) a notamment permis de rappeler la doctrine décisionnelle en la matière. Reprenant à son compte les conclusions de l'avis du Conseil de la concurrence, la DGCCRF rappelait d'une façon générale qu'« *une intégration verticale est porteuse de gains d'efficacité dès lors qu'elle favorise une prise de décision commune entre l'amont et l'aval et qu'elle permet de réduire l'ampleur de la double marginalisation.* »

Autre exemple, pour autoriser l'acquisition du Groupe Expositum par Unibail⁴², dans le secteur de l'organisation de salons, la DGCCRF a analysé les effets verticaux. L'opération n'entraînait en effet d'addition de parts de marché sur aucun des marchés concernés, mais pouvait s'analyser comme une intégration verticale : Unibail était active sur le marché amont de la gestion de sites de congrès-expositions et Expositum sur le marché aval de l'organisation de foires et salons. Les deux acteurs étaient présents en région parisienne. L'internalisation verticale permise par une concentration entre un gestionnaire de site et un organisateur de foires et salons peut générer des efficacités. Certains salons sont par exemple créés à l'initiative d'organisations professionnelles, qui peuvent faire le choix de retenir un prestataire extérieur spécialisé pour l'organiser. Dans le cadre d'un appel d'offres, sont sélectionnés à la fois l'organisateur de l'événement et/ou le lieu où il se tiendra. La DGCCRF note dans sa décision qu'« *il peut arriver qu'un organisateur et un gestionnaire de site, qu'ils soient intégrés ou non, répondent conjointement à l'appel d'offres* ». Il y a donc des gains d'efficacité à proposer à la fois l'infrastructure et son exploitation : l'intégration verticale peut constituer une façon de les internaliser.

⁴¹ C2004-86 / Lettre du ministre d'État, ministre de l'économie, des finances et de l'industrie, du 24 novembre 2004 aux conseils du Groupe Arc International relative à une concentration dans le secteur de la distribution en gros des produits des arts de la table.

⁴² C2005-6 / Lettre du ministre de l'économie, des finances et de l'industrie du 14 mars 2005, aux conseils de la société Unibail Holding SA, relative à une concentration dans le secteur de l'organisation de salons.

3.1.2 La question du comportement de « passager clandestin » (externalité horizontale)

Outre les externalités verticales entre producteur et distributeur, évoquées à l'instant, il convient de noter l'existence d'externalités horizontales entre les distributeurs eux-mêmes. Comme il vient d'être précisé, ces externalités horizontales peuvent également être sources d'inefficacité économique. L'intégration verticale serait alors une solution de résoudre ces inefficacités en générant de véritables efficiences dynamiques.

Le service de commercialisation ⁴³ (niveau et qualité) d'un distributeur donné constitue une externalité pour les autres distributeurs du même produit. A titre d'exemple, les efforts réalisés par un distributeur, par exemple pour mettre le produit en avant (souci de la qualité de la mise en rayon, mise à disposition d'un personnel qualifié suffisamment nombreux pour aider les clients, etc.) ont un impact direct non seulement sur le profit du producteur, mais également sur les ventes des autres distributeurs du même produit. Si le coût de comparaison entre les distributeurs n'est pas trop important, le consommateur utilisera dans un premier temps les services de commercialisation du distributeur qui les a dispensés (après avoir obtenu tous les conseils et informations nécessaires à son achat), puis s'adressera finalement au distributeur concurrent (le plus proche) qui proposera le produit au meilleur prix. Chaque distributeur anticipant ce phénomène sera naturellement enclin à restreindre son offre de service : à la limite, si les efforts de service ne sont absolument pas appropriables, aucun distributeur n'en fournira. Cette situation peut alors s'avérer sous optimale pour le producteur, car son produit ne sera jamais mis en avant par les distributeurs. Mais les consommateurs y perdront également, car ils n'obtiendront jamais le service de commercialisation, qui apporte en soi une valeur au produit qu'ils achètent. Au final, le distributeur qui fournit le service de commercialisation le fait pour le bénéfice de l'ensemble des distributeurs, mais en assume seul la charge. *De facto*, ce service est un bien public, pour lequel les autres distributeurs adoptent un comportement de passager clandestin. La conséquence est qu'aucun distributeur n'est incité à fournir un tel service, ce qui a pour conséquence un sous investissement global, qui réduit *in fine* le profit du producteur, des distributeurs, et le bien-être des consommateurs. En définitive, le comportement opportuniste (« *free-riding* ») des agents est source d'inefficience économique.

La solution la plus simple aurait pu consister à maintenir des conditions homogènes de tarification entre les distributeurs. En théorie, la fixation des prix, par le biais d'une entente entre les opérateurs, aurait pu limiter la tentation du *free-riding*. Cependant, elle est contraire aux dispositions légales en vigueur. Les exclusivités territoriales comme une distribution sélective peuvent également permettre de limiter l'opportunisme de certains distributeurs.

Il reste que l'efficacité des clauses contractuelles est parfois sujette à caution. En définitive, l'intégration verticale peut parfois constituer une alternative à des clauses contractuelles verticales, substituables dans leurs effets, mais défailtantes en pratique, du fait des conditions structurelles de fonctionnement du marché. En possédant ses distributeurs, le producteur sera en mesure de mieux internaliser l'externalité que chaque distributeur impose aux autres, et se prémunir du risque d'une concurrence qui aboutit mécaniquement à réduire le niveau de service offert.

Ce genre d'intégration nous semble en mesure de générer d'authentiques efficiences dynamiques transférées à la sphère des consommateurs : l'interdépendance entre le producteur et son distributeur, sanctionnée par la concentration, ne déploie véritablement ses effets que sur le long terme. D'authentiques synergies sont à même d'advenir dans ce cadre précis, le producteur capitalisant sur des « actifs incorporels » que lui aurait apportés l'intégration du service de la distribution.

⁴³ Telser, L.G. 1960. "Why Should Manufacturers Want Fair Trade?" *Journal of Law and Economics*. 3 : 86-105, a le premier étudié cette question.

3.1.3 *La complexité d'une réalité économique dominée par des types d'externalité différents*

Même en se limitant à une analyse purement statique, les deux phénomènes de double marge (externalité verticale) et d'opportunisme (externalité horizontale) peuvent coexister en pratique.

D'un point de vue statique, la réalité des relations producteurs/distributeurs, peut se modéliser sous la forme d'un oligopole de producteurs (qui dispose d'un certain pouvoir de marché) confronté à un autre oligopole pour la distribution des biens sur le marché. Les distributeurs se font donc concurrence pour servir les clients finals : les conseils qu'ils prodiguent aux clients participent de leur effort de commercialisation, mais les fruits de leurs efforts ne sont qu'en partie appropriables. Dans ce contexte, on retrouve à la fois le problème usuel de double marge (à cause des pouvoirs de marché à l'amont et à l'aval), qui tend à accroître les prix au-delà de leur niveau optimal, et le phénomène de *free-riding*, qui incite les distributeurs à fournir un effort de commercialisation minimal.

Dans une perspective dynamique, il convient de tenir compte des coûts fixes qui affectent le surplus social. Ainsi le nombre de distributeurs n'est généralement pas posé de façon exogène, mais suit une logique d'entrée conditionnée par les perspectives de profit sur le marché : un distributeur potentiel décidera d'entrer dans l'industrie s'il anticipe un profit de nature à couvrir ses coûts fixes d'installation. Néanmoins, une partie des bénéfices qu'il tirera de son entrée sera due à un effet de cannibalisation de la clientèle des distributeurs déjà en place : le distributeur n'internalisera pas les effets externes de son entrée sur les bénéfices de ses concurrents – ce qu'aurait fait une firme intégrée – ce qui peut conduire à une situation économiquement sous optimale de surinvestissement dans le réseau de distribution. Une structure non intégrée aura donc tendance à susciter un trop grand nombre d'entrées sur le marché aval. En termes d'efficacité économique globale, ce surinvestissement participe d'une mauvaise allocation des ressources, dommageable au surplus social. L'intégration verticale peut alors augmenter le bien-être, en réduisant la duplication des coûts fixes.

En définitive, l'intégration verticale permet d'accroître l'efficacité économique de l'industrie, en « internalisant les externalités », qu'il s'agisse d'externalité horizontale ou verticale. Il ne s'agit pas du seul schéma qui permette de tels gains, certaines restrictions le peuvent également. Le rôle des autorités de concurrence est de mesurer l'impact de ces gains au regard des risques concurrentiels que l'opération peut faire encourir par ailleurs. Ces développements font l'objet de la partie suivante.

3.1.4 *Probabilité et ampleur des efficacités dynamiques dans le cas des effets verticaux*

Bien que les concentrations qui emportent des effets verticaux permettent la plupart du temps une amélioration de l'efficacité économique dans le secteur en cause, il reste que de telles opérations ne sont pas *a priori* exemptes de risques anticoncurrentiels. Les gains d'efficacité interviennent différemment dans l'analyse des concentrations selon qu'elles entraînent des effets horizontaux ou verticaux. Les gains d'efficacité d'une opération à effets horizontaux ne sont examinés que pour vérifier s'ils sont de nature à compenser l'atteinte à la concurrence : il convient d'apprécier « *si l'opération apporte au progrès économique une contribution suffisante pour compenser les atteintes à la concurrence.* »⁴⁴

Une opération entraînant des effets verticaux bénéficie en revanche *de facto* d'une présomption favorable dans la mesure où l'intégration verticale est très souvent de nature à accroître en soi l'efficacité de la chaîne de production : le risque anticoncurrentiel n'est évoqué que s'il est susceptible de neutraliser le bénéfice social attendu des gains d'efficacité, et de porter atteinte au bien-être des consommateurs. Une autorité de concurrence examinant un effet vertical doit donc procéder en plusieurs étapes pour démontrer l'existence d'un risque d'atteinte à la concurrence.

⁴⁴ Article L.430-6 du code de commerce.

Il est possible d'ébaucher une méthode qui permettrait d'apprécier le caractère vraisemblable, et l'ampleur des efficiences dynamiques et statiques. Cette méthode s'inspirerait de celle en vigueur afin de mesurer la vraisemblance et l'impact des restrictions verticales, qui se décompose comme suit : i) établir en premier lieu que la nouvelle entité va disposer d'un pouvoir de marché significatif, ii) montrer ensuite en quoi la position de cette dernière lui offre l'opportunité de mettre en œuvre une stratégie d'éviction (coordonnée ou non avec d'autres acteurs), iii) évaluer subséquemment la nature des incitations qu'elle aurait à mettre en œuvre une telle stratégie, et iv) estimer enfin l'impact d'une telle stratégie sur le bien-être des consommateurs. Afin de mettre en œuvre une telle méthode d'évaluation dans le cas des efficiences économiques (statiques ou dynamiques), l'autorité de concurrence pourrait mobiliser le postulat suivant lors de son investigation : plus l'entité nouvelle va développer des efficiences économiques, meilleure sera sa capacité à imposer des restrictions verticales. Il semble donc exister une certaine similitude dans l'analyse de ces deux phénomènes – développement d'efficiences économiques et établissement de restrictions verticales – et les mêmes ressorts pourraient être mis en œuvre lors de l'enquête pour évaluer la vraisemblance et l'ampleur de chacun d'entre eux.

Cette méthode permettrait ainsi de fournir une estimation des efficiences, qu'elles soient dynamiques ou statiques, dans le cadre d'un bilan économique et social.

3.2 *Effets congloméraux et efficience : effets de portefeuilles et effets de gamme*

Dans cette deuxième partie, il s'agira de montrer que les opérations de concentrations conglomérales créent des gains d'efficience qui sont différents de ceux générés par les opérations de concentrations horizontales. Les effets se répartissent entre les effets de portefeuille et les économies de gamme.

3.2.1 *Les fusions conglomérales*

Les fusions conglomérales sont les opérations dans lesquelles les parties n'avaient aucunes relations avant la concentration. Les sociétés auraient pu être des concurrents potentiels mais ils n'avaient entre eux aucune relation de client ou de fournisseur. Les « authentiques » opérations de concentrations conglomérales n'ont aucun effet direct sur la concurrence et les parts de marché. Elles ne font que redistribuer la propriété des parts de marchés des sociétés fusionnés. Les effets de telles opérations ne seront sensibles que si les marchés affectés sont concentrés. Il existe principalement deux sortes de fusion conglomérales : des fusions ayant pour effet d'étendre le marché de produit impliquant des produits très similaire entre eux, et des concentrations ayant pour effet d'étendre le marché géographique. Un exemple du premier genre : lorsqu'un producteur de produits détergents fusionne avec un producteur de javel. Pour illustrer le second cas, il suffit de considérer l'exemple d'une banque qui décide d'entrer sur un autre marché géographique⁴⁵ que celui où elle se situe. En général, ce type d'opération produira des économies de gamme et de complémentarité, riches en efficience économiques.

3.2.2 *Les effets de portefeuilles*

Les effets de portefeuilles sont définis comme incluant les effets concurrentiels dans les fusions combinant des produits de marque pour lesquels les parties disposent d'un pouvoir de marché, sans être nécessairement dominantes et qui sont vendus sur les marchés voisins ou connexes. Les effets de portefeuilles dans les fusions conglomérales comprennent les effets proconcurrentiels ou anticoncurrentiels pouvant résulter d'une fusion réunissant des produits complémentaires pour lesquels une ou plusieurs des parties disposent d'un pouvoir de marché substantiel.

⁴⁵ SULLIVAN. E. & HARRISON. J., *Understanding Antitrust and its economic implications*. LexisNexis. 2003

Les éléments de complémentarité qu'on rencontre dans les fusions conglomerales ayant des effets de portefeuilles vont au-delà de la complémentarité économique classique. Ils incluent également la complémentarité « technique » (les produits qui, pour des raisons techniques, doivent être consommés ensemble) et la complémentarité « commerciale » (les produits font partie d'une gamme que les distributeurs doivent commercialiser, par exemple les alcools, les boissons non alcoolisées, etc.).

Ils entrent en jeu également dans le cas de produits pour lesquels l'intensité de la demande pour un produit est en corrélation positive avec l'intensité de la demande pour l'autre produit (par exemple, les consommateurs qui demandent le plus de tableaux peuvent également demander le plus de gestionnaires de bases de données).

Les fusions réunissant des produits complémentaires pour lesquels au moins l'une des parties dispose d'un très grand pouvoir de marché peuvent faciliter la vente liée forcée, la vente groupée sans possibilité de dissociation du lot ou des stratégies analogues (par exemple la vente forcée d'une gamme complète) qui limitent le choix des acheteurs. Mais ces pratiques peuvent au départ accroître le bien-être économique, et donc créer des efficacités. Cependant elles peuvent sous certaines conditions avoir en définitive l'effet inverse si elles éliminent du marché un nombre suffisant de concurrents ou un volume suffisant de capacités.

3.2.3 *Les effets de gamme ou économie de gamme*

Les effets de gamme ou économies de gamme sont créés lorsque le coût de la fourniture jointe de plusieurs biens est inférieur au coût de la production de chacun d'entre eux séparément.

Ainsi les fusions réunissant des produits complémentaires peuvent entraîner une baisse des prix ou d'autres avantages pour le consommateur grâce à diverses économies de gamme, notamment grâce aux économies sur les coûts de transaction, aux effets de « Cournot » et aux comportements stratégiques.

Les produits complémentaires peuvent avoir en commun des facteurs de production, des besoins de promotion et des circuits de distribution, en dégageant par conséquent d'importantes économies de gamme à la production lorsqu'ils sont placés sous un contrôle commun. De même, les acheteurs réalisent des économies sur les coûts de transaction lorsqu'ils acquièrent des produits complémentaires auprès d'un même vendeur, par exemple en se faisant livrer une seule fois par semaine, au lieu de plusieurs.

Les diverses économies sur les coûts de transaction et la baisse des prix après fusion, quelle qu'en soit l'origine, sont bénéfiques pour l'acheteur et militent normalement en faveur de l'autorisation d'une fusion. Il peut y avoir des exceptions à cette règle générale lorsqu'on suspecte fortement qu'une baisse des prix après fusion aura en définitive pour résultat de faire sortir du marché un si grand nombre de concurrents que les prix pourront se retrouver finalement à un niveau supérieur à celui avant la fusion.

En conclusion, il ressort que dans certaines situations et pour certaines autorités de la concurrence, il peut être judicieux de recourir à une approche *ex post* et non à une approche *ex ante* pour traiter les problèmes qu'on peut suspecter en cas de fusion conglomerale ayant des effets de portefeuilles.

Conclusion

Les efficacités économiques de type dynamique sont un objet économique complexe que la pratique décisionnelle envisage avec circonspection, nonobstant la nécessité de dresser un bilan économique fidèle des opérations de concentration faisant justice à une augmentation comme à une diminution potentielle du bien-être des consommateurs, causées par l'existence de tels effets économiques.

Ce sont pour ces raisons que cette contribution s'est attachée à définir avec rigueur l'efficacité économique comme « la plus grande satisfaction du *consommateur* par les producteurs compte tenu de la rareté des ressources globales de la collectivité⁴⁶ ». Les efficacités dynamiques sont ainsi les « réallocations d'actifs incorporels⁴⁷ » qui augmentent le bien-être du consommateur.

La pratique décisionnelle nationale ne propose pas à proprement parler une distinction entre les efficacités dynamiques et statiques dans l'analyse des concentrations horizontales, bien que les critères formels mis en place, ainsi que la typologie établie, permettraient de rendre d'authentiques efficacités dynamiques.

Les concentrations verticales, du fait de leur nature économique, s'avèrent plus propices aux efficacités dynamiques, sans que cette prescription ôte la nécessité d'une étude au cas par cas, assurée par les autorités de concurrence. En effet, la logique qui gouverne l'établissement d'effets verticaux se traduit souvent par d'authentiques synergies, favorables sur le court terme comme sur le long terme au consommateur. Il s'avère possible de mettre en place une méthode rigoureuse afin de mesurer leur probabilité ainsi que leur ampleur. Enfin, les effets congloméraux s'inscrivent dans une logique similaire à celle des effets verticaux, dans leur rapport aux efficacités dynamiques.

Compte tenu de ces différentes observations, il s'avère nécessaire que les autorités nationales de concurrence affinent la qualité des bilans économiques et sociaux qu'elles dressent à l'occasion d'opérations de concentration, et prennent toute la mesure des effets d'efficacités économiques emportés par les opérations examinées. La contribution de la France a souhaité tout particulièrement attirer l'attention des membres de l'OCDE sur la nécessité, pour les parties proposant une argumentation en termes de gains en efficacités économiques de nature dynamique, ainsi que pour les autorités de concurrence en charge de l'instruction des dossiers, de considérer la qualité des preuves mobilisées lors des développements de l'investigation. Compte tenu de la nature bien particulière des efficacités économiques dynamiques, les preuves de leur existence sont difficiles à produire. Dans la mesure où les gains d'efficacité dynamiques ne peuvent être l'objet que d'une analyse prospective, ils sont plus difficiles à chiffrer que les gains d'efficacité statiques. Pour autant, les entreprises notificantes recourent couramment, en amont des notifications, lorsqu'elles préparent leur projet de fusion acquisition, aux services de cabinets spécialisés, qui estiment quels pourraient être les synergies emportées par l'opération dans un avenir proche. Les documents qu'ils fournissent, s'ils ne constituent pas des preuves en tant que telles, peuvent permettre à l'autorité de concurrence de mieux orienter son analyse. Pour l'heure, il est rare que la DGCCRF soit sollicitée sur la base de ces expertises ; cependant, si le cas devait se produire à l'avenir, elle examinerait ces productions avec bienveillance.

⁴⁶ Jenny (Frédéric), "Pratiques verticales restrictives, concurrence et efficacité", Cahiers de droit de l'entreprise 1989 /4, p.5

⁴⁷ "This work provides some confirmation that the reallocation of intangible assets is a significant motivation for mergers and a source of merger-specific efficiencies." in European Merger Control : do we need an efficiency defence ?, chapitre 5 "Efficacités in merger control" par Jrissey Motis, Damien Neven, Paul Seabright, page 303.

GERMANY

1. Introduction

In this contribution to the OECD Roundtable on Dynamic Efficiencies, the practice of the *Bundeskartellamt* regarding efficiencies in the light of German merger control law will be presented.

2. Efficiencies and practical difficulties

2.1 *Dynamic and static efficiencies in economic theory and empiricism*

As the scoping and the background paper point out, economic theory distinguishes between static and dynamic efficiencies. The notion of static efficiencies covers one-time improvements such as economies of scale in production, economies of scope etc. Dynamic efficiencies, on the other hand, enable undertakings to improve their performance over time, whether in terms of cost, quality, service, or variety¹. Such improvements may be called “innovations”. Innovations are undoubtedly vital for economic development and growth and, in theory, innovations caused by mergers may have a much more significant positive welfare effect on the economy than static efficiencies. In the absence of practical problems in assessing these efficiency gains, one might conclude that they should have even more weight in the assessment of a merger than static efficiencies.

An important motivation for firms to merge is to increase their efficiency, *i.e.* the merging parties expect the combined entity to operate more efficiently than they would do without the merger. Mergers may thus give rise to considerable efficiencies that enhance economic welfare in the short and/or long run. However, there is no reliable empirical evidence that mergers actually create such efficiencies on average. Most econometric studies find that mergers on average do not increase the combined shareholders’ value², a finding which seems to contradict a presumption that mergers enhance efficiency. In addition, there are no reliable studies that quantify the relative magnitude of static versus dynamic efficiencies. Hence, there is a lack of empirical evidence for the assumption that mergers create greater dynamic efficiencies than static efficiencies.

However, in a more long-term perspective mergers may still be able to create efficiencies on average through a trial-and-error procedure: Even if the merging parties seem largely unsuccessful in predicting merger-specific efficiency gains, they may find out some years after the merger whether the merger was successful in creating efficiencies. If the merger did not create efficiencies, they can de-merge (the DaimlerChrysler merger and recent Chrysler spin-off may serve as such an example). Taking such spin-offs into account could thus change the empirical results mentioned above.

¹ See Background Note, DAF/COMP(2007)12, p. 2. It should be noted that the present contribution does not propose any specific definition for static / dynamic efficiencies and instead refers to the Secretariat’s Background Paper to this roundtable.

² Studies tend to find that acquisitions are on average more advantageous for the shareholders of the acquisition target than for the shareholders of the acquirer.

2.2 *Practical problems in forecasting efficiency gains*

Forecasting the likely competitive impact of a merger is a complex and difficult task. In comparison to analysing market shares, entry barriers etc., forecasting efficiency gains is much more uncertain and may end up in speculation. As the ICN Merger Guidelines Workbook (2006) put it: “The quantification of merger-specific efficiencies is often the most speculative single element of merger review.”³ This is even more true for dynamic efficiencies. The key reason for these difficulties is the lack of adequate information as the basis of a merger review decision.

Information insufficiency starts at the level of the merging parties. In their internal analysis, the merging parties typically overestimate the merger-specific efficiency gains before and even after the merger⁴. The high number of value-decreasing mergers illustrates this problem. At the same time, this (largely insufficient) information of expected efficiencies is normally solely in the possession of the merging parties; in other words, there are significant informational asymmetries between the merging parties and the competition authority. Where efficiency gains have a positive impact on the competition authorities’ decision-making, there is a clear incentive for merging parties to overstate these expected gains. According to Hayek, there is “constitutional uncertainty” about merger-specific efficiency gains.

Due to such information insufficiency, economists have differing views on whether competition authorities should consider efficiencies at all in individual case assessment⁵. In a world of limited agency resources that can be invested in case investigation, there is a trade-off to be made between investigating expected efficiency gains or other aspects of a proposed merger. Lack of reliable information is also the reason why those competition authorities which do take efficiency claims into account, tend to be sceptical about such claims. Typically high standards of proof must be met by the merging parties: Claimed efficiencies need to be merger-specific, passed on to consumers, verifiable and should be supported by convincing evidence and quantified wherever possible.

Several authors have argued that such a high standard of proof is hardly possible to meet with regard to dynamic efficiencies. These authors draw two different conclusions from this analysis: (i) that the standard of proof should be lowered or (ii) that dynamic efficiencies should not be taken into account by competition authorities⁶.

The *Bundeskartellamt* holds the view that both static and dynamic efficiencies should not be taken into account where they are speculative. With regard to dynamic efficiencies, this can be illustrated by way of an example. A possible dynamic efficiency is the combination of parallel or complementary R&D efforts⁷. The merging parties might argue that by pooling the two lines of research, they will produce more innovations or better innovations than each party separately. However, just the opposite might also be true:

³ See p. 61. The Workbook is available at:
http://www.internationalcompetitionnetwork.org/media/library/conference_5th_capetown_2006/ICNMergerGuidelinesWorkbook.pdf.

⁴ See e.g. KPMG International The Morning After. Driving for Post Deal Success (2006), available at:
<http://www.kpmg.ca/en/services/advisory/morningafter.html>

⁵ For such a discussion, see Oberender (ed.) (2005), *Effizienz und Wettbewerb*, Schriften des Vereins für Socialpolitik, Berlin.

⁶ For further references see Oberender, *ibid.*

⁷ See Background Note, DAF/COMP(2007)12

Maybe one of the merging parties is pursuing a line of research which – not yet known to the firm – will result in a dead end. And the other party is pursuing a line of research which –not yet known to the firm – will result in a successful innovation. Suppose that after the merger they will pursue only one of these two lines of research – how could one predict whether they will choose the “right” track? Taking the information paradox⁸ into account, it seems impossible for the merging parties (and even less for the competition authority) to make such a prediction.

However, there may still be a less assuming way of incorporating dynamic efficiencies in the merger analysis. This can be done in those instances where dynamic efficiencies can be directly tied to the competitive analysis. For example, some dynamic efficiencies may result in lowering entry barriers or in creating incentives for competitors to compete more vigorously. In such cases, dynamic efficiencies may be integrated in the analysis without making speculative arguments. A competition authority which is more humble about its own ability (and the merging parties’ ability) to predict efficiency gains, can thus still incorporate those dynamic efficiencies in the analysis which improve the competitive conditions.

3. German merger control law and efficiencies

3.1 Substantive test of German Merger Control

According to Section 36 (1) ARC⁹, the *Bundeskartellamt* cannot clear a concentration which is expected to create or strengthen a dominant position on a relevant market¹⁰. German merger control law focuses on structural control with the aim of ensuring effective competition. Effective competition is seen as the best guarantor for consumer welfare.

Whether one or more undertakings do enjoy a dominant position has to be examined in a detailed competitive analysis of the envisaged concentration. This analysis takes into account, *inter alia*, the undertakings’ access to supplies or markets, their ability to shift their supply or demand to other goods or commercial services as well as legal or factual barriers to entry by other undertakings, actual or potential competition by undertakings established within or outside of Germany and the ability of the opposite market side to resort to other undertakings. On the basis of its competitive analysis, the *Bundeskartellamt* decides whether or not the creation or strengthening of a dominant position is to be expected and, consequently, the concentration must be prohibited or can only be cleared subject to conditions and/or obligations. The ARC provides for presumptions for the existence of a dominant position on a relevant market (Section 19 (3) ARC)¹¹. However, the presumptions do not amount to a reversal of the burden of proof. In the practice of the *Bundeskartellamt*, these presumptions constitute a first indication as to which cases may deserve closer examination. Ultimately, the presumption of dominance only becomes the

⁸ There is no way to know whether research will deliver specific information. If one knew, there would be no need to research.

⁹ An English translation of the ARC is available at:
http://www.bundeskartellamt.de/wEnglisch/download/pdf/06_GWB_7__Novelle_e.pdf.

¹⁰ The exception to this rule, the so-called weighing clause, will be discussed in greater detail in the context of the treatment of efficiencies in German merger control (see 3. b) below).

¹¹ These presumptions are based on market shares: Single dominance is presumed if one undertaking has a market share of at least one third in the relevant market. Collective dominance is presumed if up to three undertakings reach a combined market share of 50% or if up to five undertakings reach a combined market share of two thirds.

decisive factor if a conclusive investigation cannot establish the presence or absence of a dominant position. In practice, this is a very rare case.

3.2 *Efficiencies are not mentioned explicitly in the law*

German merger control rules do not explicitly mention efficiencies. The *Bundeskartellamt* holds the view that efficiencies arising from a merger should in principle not be seen as negative factors, *i.e.* as indicators for the strengthening of a dominant position. That means that there is no “efficiency offence”. On the other hand, it is clear that no formal efficiency defence exists under German merger control law either.

One could argue that either the presumptions for dominance, which are based on market shares, or market dominance in itself constitute an exhaustive incorporation of efficiencies with the assumption that concentrations only give rise to efficiencies if these thresholds are not met¹². The *Bundeskartellamt* does not share this view: It is not plausible to assume that all concentrations resulting in aggregate market shares beyond the specified levels should never give rise to efficiencies. Furthermore, such a reasoning has been contested by Stennek and Verboven who have argued that intermediate market shares of 40 to 50% lead to the greatest pass-on of cost savings¹³. Therefore, safe harbours may constitute a good first filter. It should, however, not be ruled out that concentrations beyond these thresholds could also generate considerable efficiencies.

3.3 *Influence of efficiencies in merger control proceedings*

Although the ARC does not mention efficiencies explicitly, efficiencies arising from a concentration may affect the merger control proceedings in various ways.

3.3.1 *Efficiencies in the competitive analysis*

The *Bundeskartellamt* may examine efficiencies in the competitive analysis of a concentration. In its analysis, the *Bundeskartellamt* weighs the positive and negative competition effects of the merger on the relevant markets to make a prospective analysis of the expected effects of the merger. In an oligopolistic market, efficiencies arising from a concentration could, for example, enhance competition. By joining their resources, know-how, ability to innovate etc., the parties to the merger may be, post merger, in a position to offer better products or cheaper prices and thus gain the ability and incentive to contest their competitor’s leading market position. In such a case where efficiencies make the market players’ incentives more asymmetric, a common understanding – thus the creation or enhancement of a collective dominant position – would be unlikely.

3.3.2 *Improvements of competitive conditions in other markets (“weighing clause”)*

The German law also stipulates that a merger cannot be prohibited if the companies involved prove that the merger will also lead to improvements in the conditions of competition which outweigh the

¹² For a discussion of the general presumptions approach see e.g. Christian R Fackelmann, Dynamic Efficiency Considerations in EC Merger Control. An Intractable Subject or a Promising Chance for Innovation? University of Oxford Centre for Competition Law and Policy, Paper (C) 09/06, p. 63 et seq. with further references; see also Background note DAF/COMP(2007)12, p.26.

¹³ Johan Stennek and Frank Verboven, Merger Control and enterprise competitiveness: empirical analysis and policy recommendations, in: Fabienne Ilzkovitz and Roderick Meiklejohn (eds.): European Merger Control. Do we need an Efficiency Defence?, p. 202 (262).

disadvantages of dominance (section 36 (1) ARC). The parties to the merger can invoke this clause if the competitive assessment of a merger concludes that the requirements for prohibition are fulfilled. However, to avert a prohibition, undertakings have to provide evidence that the merger would improve the competitive conditions on a market other than the one affected by the merger, on which market dominance is created or strengthened. Undertakings also have to demonstrate that the quality of improvement on the alternative market outweighs the deterioration of competition structures on the dominated market. This means that the other market, where the pro-competitive effects occur, must be of similar or greater economic relevance as the market affected by the merger. As a rule, pro-competitive effects on a market where one of the parties to the merger holds a dominant position would carry more weight than pro-competitive effects on a market with more favourable competitive structures.

Case example: SES Astra/Premiere Digital Playout Center

One example where the anti-competitive effects on one market were outweighed by pro-competitive effects on another market was the *Bundeskartellamt's* clearance of the acquisition of all the shares in DPC Digital Playout Center GmbH (DPC) by SES Global Europe S.A. (SES Global) in December 2004. The shares in DPC were sold by the Premiere Fernsehen GmbH & Co. KG (Premiere).

The takeover affected the market for broadcasting satellite programmes as well as the pay TV end consumer market in Germany. Through SES Astra S.A. (SES Astra), SES Global operated the ASTRA satellite fleet in Europe and in particular provided transponder capacity to broadcasting service providers for the transmission of programmes via satellite to end consumers (DTH “direct to home”). DPC provided Premiere with intracompany technical services for pay TV (so-called digital platform: encoding, SmartCard management, set-top boxes).

The merger led to a strengthening of SES Astra’s dominant position in the national market for DTH transponders. The strengthening of SES Astra’s dominant position resulted from the vertical integration of the dominant satellite provider with the only service provider which was able to grant access to the Premiere set top boxes for satellite reception. Thus, two essential technical components of pay TV advance services were bundled under one provider.

However, the unbundling of the digital platform for pay TV from Premiere resulted in improved conditions of competition in the national pay TV market. So far, Premiere had dominated the pay TV market and sealed it off by using proprietary encoding technology and a matching set top box infrastructure. With the merger, access to the established set top box infrastructure was provided by SES Astra, a company which is independent of Premiere. Thus, a significant entry barrier to the pay TV market was eliminated. According to the *Bundeskartellamt's* findings, the positive effects on the pay TV market outweighed the negative effects on the DTH transponder markets.

4. Conclusion

German merger control law does not provide for a formal efficiency defence but does not treat efficiencies arising from a concentration as an offence either.

In its competitive assessment and within the weighing clause the *Bundeskartellamt* takes efficiencies, whether static or dynamic, into account.

Merger-specific efficiencies can have positive effects, in particular those resulting from the promotion of innovation due to dynamic efficiencies. On the other hand, concentrations cannot, in general, be presumed to give rise to efficiencies, since a concentration may or may not result in efficiencies.

Both static and dynamic efficiencies should not be taken into account where they are speculative. This risk is greater for dynamic efficiencies as these are even more uncertain than static efficiencies. While being humble about the ability to predict efficiency gains, those dynamic efficiencies which improve the competitive conditions are taken into account, e.g. where dynamic efficiencies may result in lowering entry barriers or in creating incentives for competitors to compete more vigorously. In this sense, the *Bundeskartellamt* weighs in an integrated analysis the positive and negative competition effects of the merger on the relevant markets in order to make a prospective analysis of the expected effects of the merger. Efficiency gains and competitive disadvantages are generally not quantified on a case-by-case basis.

Efficiencies that improve the competitive conditions in a market other than the one affected in which market dominance is created or strengthened by the merger, are also taken into account. Clearance will be granted if the improvement on the alternative market outweighs the deterioration of competition structures on the dominated market.

IRELAND

1. Introduction

The purpose of this contribution to the OECD's *Roundtable on Dynamic Efficiencies in Merger Analysis* is to set out the Irish Competition Authority's ("the Authority") experience with efficiencies in merger analysis. The note sets out the role of efficiencies in the Authority's *Merger Guidelines*, before turning attention to the actual record of the incidence of efficiencies in Authority merger determinations. It appears that the incidence is largely an empty set, reasons for which are considered below.

2. The role of efficiencies in the Authority's Merger Guidelines

The *Merger Guidelines*¹ of the Authority set out the way in which efficiencies are taken into account in assessing whether or not a merger will result in a substantial lessening of competition ("SLC"). The latter is the competition test under the Competition Act 2002 ("the Act") that the Authority uses in assessing a merger. The Act does not provide guidance as to how SLC should be interpreted nor is there any mention of efficiencies; hence the publication of the *Merger Guidelines*. Furthermore since the Authority assumed the merger control function as of 1 January 2003, there have been no appeals and/or judicial reviews of the Authority's 300 odd written reasoned merger determinations to provide additional guidance.²

The Authority's *Merger Guidelines* see efficiencies as a factor that might offset any price enhancing effects of a merger:

If a merger gives rise to anti-competitive effects, it is possible that these could be compensated for by improvements in efficiencies resulting directly from the merger. An increase in the price-cost margin resulting from a merger may be compensated by a reduction in cost that leaves the eventual market price unchanged or lower (or output no lower, in the case where output is used). (Competition Authority, 2002, para 5.10).

Several examples of efficiencies are listed as a general indication in the *Merger Guidelines*. Although the discussion of types of efficiencies is limited to a few paragraphs³ it is clear that dynamic efficiencies are included.

Reference is made to demand side efficiencies, for example, "that result in either an increase in demand for one or more products considered in the merger, or that result in the creation of a new product or set of products." (Competition Authority, 2002, para 5.11). One of the reasons why there was not

¹ See Competition Authority (2002)

² All these merger determinations are available on the Authority's website; www.tca.ie. It should be noted that prior to 1 January 2003 the Minister for Enterprise, Trade and Employment was responsible for merger decisions. These were not usually published as reasoned decisions or appealed/reviewed by the courts.

³ Competition Authority (2002, paras 5.10 to 5.13).

greater detail on such efficiencies was that the Authority “would prefer to allow policy in this area [demand side efficiencies] to be determined by cases that come along.” (Fingleton, 2003, p.4).

The *Merger Guidelines* place responsibility for providing evidence of the existence of efficiencies, whether static or dynamic, with the merging parties. More specifically, given “the incentives of the parties to put efficiencies in the most optimistic light, it is necessary that efficiency gains claimed are clearly verifiable, quantifiable, and timely.” (Competition Authority, 2002, para 5.16).

Furthermore the merging parties need to demonstrate that any efficiencies:

- must be directly achieved by the merger;
- cannot be achieved by another less restrictive (of competition) means; and,
- will be achieved within a reasonable timeframe and with sufficient likelihood.⁴

The Authority’s approach to efficiencies is consistent with that of the European Commission.⁵

3. Incidence of efficiencies in Authority merger determinations

Over the period 2003 to 2006, 310 mergers were notified to the Authority, or 77 per year.⁶ However, efficiencies played little or no role in the assessment in whether or not the merger would result in SLC. Typically in the merger notification there is a statement to the effect that the merger will lead to efficiencies that will be of benefit to the consumer, but little in the way of quantification or analysis. Indeed in the two mergers that were blocked by the Authority⁷ no serious attempt was made by the merging parties to document the efficiencies that would accrue to consumers in the State that might be directly related to the merger and how these would more than offset any merger induced price increases. This raises the question of why there is such a dearth of quantification of efficiencies by parties to a merger.

3.1 Where have all the efficiencies gone?

The vast majority of mergers notified to the Authority do not raise competition concerns and are cleared⁸ with no proposals or commitments (“conditions”).⁹ In these cases there is no need to quantify any efficiencies since the merger will not lead to any price increase and hence there will be no SLC. Between 2003 and 2006, of the 310 mergers that were notified, just under 300 were cleared with no conditions.

⁴ Competition Authority (2002, para 16).

⁵ For details see European Commission (2004, paragraphs 76 to 88).

⁶ For details see Competition Authority (2004, p. 43; 2007, p. 62).

⁷ These two mergers are: M/04/032, IBM/Schlumberger; and, M/06/039, Kingspan/Xtratherm.

⁸ If the Authority comes to the conclusion at the end of Phase 1 that there is no SLC then the merger can be cleared at Phase 1. However, if the Authority cannot reach such a decision then the merger is investigated further in Phase 2. At the end of Phase 2 it can also be cleared.

⁹ Proposals are made by the merging parties at Phase 1 and maybe accepted by the Authority and form part any merger decision of the Authority; at Phase 2 the Authority may impose conditions as part of the decision to approve a merger.

For those mergers which are blocked or cleared with conditions, credible evidence on efficiencies may have resulted in the merger being cleared or the conditions being less onerous. However, such evidence was not provided to the Authority by the merging parties. Of the 310 mergers notified to the Authority between 2003 and 2006 two were blocked, as noted above, while 12 were cleared with conditions. However, in at least six of these latter cases the conditions were not onerous.¹⁰ Thus any comments about the lack of evidence with respect to efficiencies applies to a subset of eight mergers over the period 2003 to 2006.

For this set it is not clear why efficiencies are not documented in any credible manner, but several reasons can be suggested:

- efficiencies, whether static or dynamic, are much rarer than commonly supposed and much harder to document. This is particularly the case if the efficiencies are unique in some sense to the merger;
- the acquirer has an estimate of the efficiency gains that substantially exceeds the premium paid to the target and does not wish to reveal this lest there be some attempt by the target to renegotiate the terms and conditions of the merger;
- the bar set for efficiencies to be taken into account in the Authority's *Merger Guidelines* is too high. It could be argued that the *Merger Guidelines* signal to merging parties that the Authority is doubtful about the credibility of the role of efficiencies;
- by the time that the undertakings involved have become aware that the Authority has competition concerns it is too late in the merger review process to quantify the efficiencies; and,
- discussion and quantification of the efficiencies lessens the force of the merging parties' emphasis that the merger will cause no competitive harm. Introducing evidence on efficiencies involves admitting or at least raising the possibility that the merger, absent these efficiencies, is likely to lead to SLC.

We have no way of determining which if any of these and other explanations might account for the muted role played by efficiencies in merger analysis in Ireland.

4. Conclusion

Going forward it might be argued that it would be appropriate for the Authority to consider in some way signalling to merging parties that the perception that the Authority would hold efficiencies against the merging parties is incorrect, while at the same time relaxing the bar for efficiencies to be demonstrated, such as the dropping the merger specific nature of any efficiencies. However, the difficulty with the latter line of argument is that efficiencies are likely to be relevant in precisely those cases where there is a very strong likelihood that the merger will lead to SLC, because, for example, of very high barriers to entry combined with a 2 to 1 or 3 to 2 merger. In such cases it is difficult to see how efficiency savings will be passed on to consumers and, even if that hurdle were to be overcome, it is essential that the efficiencies are verifiable, quantifiable and timely. In other words, it is difficult to see how the bar should be lowered in such instances.

¹⁰ The merged entity undertook to voluntarily notify, if requested by the Authority, mergers below the thresholds in the Act for mandatory notification. The obligation was usually limited in terms of time and the markets where competition concerns arose.

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JAPAN

1. Efficiency in the amended Guidelines to Application of the Antimonopoly Act Concerning Review of Business Combination

The Japan Fair Trade Commission (“JFTC”) has reviewed the Guidelines to Application of the Antimonopoly Act Concerning Review of Business Combination (“Guidelines”) and published the amended Guidelines on March 28, 2007, in order to increase the predictability and transparency of the review.

While the old Guidelines had a simple description on the evaluation of efficiency, the amended Guidelines have a detailed description on it.

In particular, the amended Guidelines stipulate that the impact of business combinations on competition shall be determined in consideration of dynamic efficiency, including streamlining of the research and development system, as well as static efficiency such as economies of scale and reduction in transportation costs, and that business combinations that create a state of monopoly or quasi-monopoly are hardly ever justified by their efficiency. They also state that three aspects determine the efficiency to be considered: (i) the efficiency cannot be achieved by other means that are less restrictive to the competition, such as through a business alliance, (ii) the efficiency improvement should be materialized, and (iii) the efficiency improvement contributes to enhance users’ welfare.

The Antimonopoly Act (“AMA”) prohibits business combinations whose effect may be to substantially restrain competition in a particular field of trade. Thus, even a business combination that will achieve dynamic efficiency and enhance users’ welfare in a particular field of trade will be prohibited by the AMA if its effect restrains competition in any other field of trade. In this case, generally, measures to remedy the problem will be considered for the field of trade where competition is restrained.

Japan has seen no case of business combination in which the concerned companies claimed that their business combination would serve to improve efficiency, including static efficiency, and the JFTC made a judgment in light of improved efficiency.

2. Economic research conducted in the JFTC Competition Policy Research Center (1)

The JFTC Competition Policy Research Center (“CPRC”) carried out the Economic Analysis on the Efficiency of Mergers and their Effect on Markets in September 2003 and published a report on it.

This research included an overall ex post facto analysis of financial data in multiple (specifically, 35) case studies to assess whether efficiency, especially static efficiency, on the part of merging parties improved after their mergers. Selecting 13 sample mergers in four product fields, namely petroleum products, cement, carbon products and paperboard, it performed an ex post facto examination of the efficiency achieved in each case.

This research presented the following conclusion, although it conceded that the results of the analysis were not comprehensive. First, the questionnaire survey unveiled that mergers were designed to ensure the efficiency of business activities by, for instance, cutting costs in the wake of intensifying global

competition and a decline in the domestic market in recent years. Second, however, a statistical analysis of the level of improvement in financial data on merging firms in comparison to those of their competitors confirmed no outstanding improvement of efficiency resulting from the merger in multiple major cases on the whole. And third, as a result of checking the level of improvement in financial data of the merged company in comparison to those of its rivals on a case-by-case basis, few cases were found in which the merged company achieved any significant improvement compared with that of its competitors.

Future technical innovation resulting from strengthened systems of research and technical development is part of the merger's effect of improving dynamic efficiency. On this point, this research carried out a questionnaire on some of the cases analyzed. Nearly 50% of the companies surveyed responded that the purpose of their merger was to boost their research and technical development, but few gave specific examples of long-term improvement in productivity as a result of enhancing achievements in research and technical development. And when asked what benefits were reaped from the mergers of their competitors, few respondents answered that the technical level of the entire industry rose after technical innovation on the part of the merged firms; from among the mergers examined, the research observed no actual instance in which technical improvement of any merged company spread to its competitors.

3. Economic research conducted in the JFTC's CPRC (2)

The JFTC CPRC held the CPRC/JFTC Symposium on M&A and Competition Policy in March 2007.

At the symposium, Professors Robert D. Willig, Paul Seabright and Hiroyuki Odagiri delivered lectures on the subject of M&As and Competition Policy, and there were discussions on the subject.

There, Professor Odagiri presented his surveys on theoretical and empirical studies on the improvement of efficiency and the economic effect of mergers and discussed the implications for competition policy in his lecture entitled "The Impact of Mergers on Economic Performance and the Role of Competition Policy."

For details, please refer to Annex 1. The section on "Empirical Results for Japan: Summary" refers to the following three points:

- Positive effects on profit rates or growth rates were not found.
- Negative effects especially for equal mergers (Yoshida also found that a negative effect is more prominent as the sales of the merging partners are more similar).
- Possibility of employment-reducing effect (Yoshida also found a positive, though insignificant, effect on labor productivity).

Subsequently, the implications for competition policy are summarized as follows:

- Theoretical results suggest that a substantial efficiency increase is needed in order to socially accept mergers on the grounds of efficiency improvement.
- Empirical results suggest that such a substantial efficiency increase is uncommon.

The following explanations are additionally given with respect to the amended Guidelines:

- The Guidelines require an improvement in the wellbeing of consumers to preclude the possibility of a post-merger price increase. They give no consideration to the trade-off between the fall in the consumer surplus after the price rise and the growth in the producer surplus following a cost decrease.

Based on this, Professor Odagiri concludes that the regulations set out in the Guidelines are reasonable in the following respects:

- It is unlikely in theoretical and empirical terms that the trade-off is realistic.
- No price increase is expected provided that the threat of entry or imports is adequate.

APPENDIX

"GUIDELINES TO APPLICATION OF THE ANTIMONOPOLY ACT CONCERNING REVIEW OF BUSINESS COMBINATION" (ABSTRACT)

Part IV. The Effect of Horizontal Business combination May be Substantially to Restrain Competition

2. The Determining Factors to Decide the Substantial Restraint of Competition through the Unilateral Conduct

(7) Efficiency

When improvements of efficiency, through economy of scale, integration of production facilities, specialization of factories, reduction in transportation costs, efficiency in research and development, etc, is deemed likely to make the company group to take competitive conduct after the business combination, this factor will also be considered to determine the impact of the business combination on competition.

Efficiency to be considered in this case is determined from three aspects: (i) efficiency should be improved as an effect specific to the business combination, (ii) improvement of the efficiency should be materialized, and (iii) improvement of the efficiency contributes to enhance users' welfare.

Business combinations that create a state of monopoly or quasi-monopoly are hardly ever justified by their efficiency.

(i) Improvements of Efficiency Specific to the Business Combination

The improvements of efficiency should be specific to the business combination. Therefore, such factors related to the expected efficiency as economy of scale, integration of production facilities, specialization of factories, reduction in transportation costs, efficiency in research and development like next-generation technology and environment-responsive capabilities cannot be achieved by other means that are less restrictive to the competition.

(ii) The Improvements of the Efficiency Should be Materialized

The improvements of efficiency should be materialized. In this regard, such are to be analyzed, for example, as documents concerning internal procedures leading to the decision of the business combination, explanatory materials for stockholders and to financial markets regarding the expected efficiency, the study created by external specialists concerning the improvement in efficiency, etc.

(iii) Improvements of the Efficiency Contributes to Enhance Users' Welfare

The outcome of improvements in efficiency by the business combination must be returned to users through price reduction in products and services, improved quality, supply of new products, efficiency in research and development such as next-generation technology and environment-responsive capabilities,

etc. In this regard, in addition to the materials listed in (ii), such are to be analyzed, for example, as information related to improved capabilities that will bring the effect of price reduction and etc. and past records of realization of price reduction, quality improvement and supply of new products under the competitive pressure from demand and supply side.

KOREA

1. Introduction

It is well recognised that mergers can affect competition and produce efficiencies. While a merger can reduce the competition of a relevant market by eliminating an effective competitor, the merger can generate efficiency gains in various ways. Considering that these effects can make positive or negative impact on market competition or social welfare, most antitrust enforcement regimes take an approach that a merger that may cause significant anticompetitive effects should be permitted if it could generate substantial efficiencies that outweigh the anticompetitive effects.

In conducting this evaluation, how to treat efficiencies is an important matter. Like many other jurisdictions, Korea's merger review regime recognises efficiencies as a defence in the review of mergers. According to the Monopoly Regulation and Fair Trade Act (hereafter MRFTA), it is stated that a merger which may have effects 'substantially to lessen competition in a particular relevant market' shall nevertheless be permitted when 'the enhancement of efficiency attainable through the merger is greater than the anticompetitive effect.' The merger guidelines¹ reemphasise the efficiency defence, stating that in order to have exemptions, 'the effect of enhanced efficiency' as defined in the guidelines 'shall be greater than the competition-restrictive effects of mergers'.

It is fair to say that efficiencies have played a very limited role in merger control in Korea. In most cases, efficiency claims advanced by merging parties are based on a static analysis that typically compared market power with savings in production or sales costs. There have been few cases where transactions were approved on the basis of the efficiency defence. Surprisingly, merging parties have never argued dynamic efficiencies as the efficiency defence, which means that the Korea Fair Trade Commission (hereafter KFTC) or court has never had a chance to consider dynamic efficiencies.

It is said that dynamic efficiencies, at least in theory, could have far greater potential than static efficiencies. However, it is much more difficult to assess the likelihood or magnitude of the claimed dynamic efficiencies than that of static efficiencies. Keeping this in mind, this note focuses on the questions of whether the current merger review framework can embrace dynamic efficiencies, and what the main practical problems are. This note will proceed as follows. The first part presents a brief discussion on the definition of efficiencies. The next part reviews our actual experiences with the efficiency defence. Then the following part discusses specific difficulties with dynamic efficiency claims. The last part evaluates how dynamic efficiencies can be treated in the current merger review system, followed by a brief conclusion.

¹ Korea, Merger Review Guidelines, VIII.

2. Types of efficiencies considered under the efficiency defence

2.1 *A general definition of efficiencies*

Three types of efficiencies are commonly categorised by economists: allocative, productive efficiency and dynamic efficiency. It should be noted that the types of efficiencies considered in the merger review regime may differ from those defined by economists.

Allocative efficiency is achieved when “market process leads society’s resources to be allocated to their highest valued use among all alternative uses”.² In the long-run competitive equilibrium, the price charged for a product is equal to the producers’ marginal cost. At the margin, therefore, the value that consumers place on the product equals the value of resources used for the production of the product. This condition ensures maximisation of the society’s welfare, in that resources are allocated to their highest valued uses. Normally, horizontal mergers may reduce allocative efficiencies in markets that markets are already concentrated, since merging parties with increased market power can impose prices higher than competitive prices.

Productive efficiencies refer to “the creation of a given volume of output at the lowest possible resource cost”.³ In other words, productive efficiencies imply “cost savings in resources, which permit firms to produce more output or better quality from the same amount of input”.⁴ Mergers can generate productive efficiencies in a number of ways; economies of scale, economies of scope, and cost savings in non-manufacturing activities, such as distribution and marketing. If merging parties fail to integrate two firms successfully, on the other hands, mergers can harm productive efficiencies, causing X-inefficiency.

Two abovementioned efficiencies are static efficiencies, since they, by definition, imply efficiencies at a given point in time. As a consequence, these two efficiencies generate only one-off increase in efficiencies. In contrast, **dynamic efficiencies** refer to continuous evolution of firms’ capability to improve their performance in terms of cost, quality or variety of goods over time. A formal definition of dynamic efficiencies can be given as “the optimal introduction of new products and production processes over time”.⁵ Mergers can realise dynamic efficiencies through “the introduction of new products, the development of more efficient productive processes and the improvement of product quality and services”.⁶

2.2 *Efficiencies considered in Korea’s merger review system*

In many jurisdictions, productive and dynamic efficiencies are normally considered under the efficiency defence, even though dynamic efficiencies play little role in practice. Korea’s merger guidelines embrace these two types of efficiencies as well, stating that efficiencies as a defence refer to “the enhanced

² William J Kolasky and Andrew R. Dick, *The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers*, 71 *Antitrust Law Journal* 242 (2003).

³ Canada, *Merger enforcement Guidelines*, 8.3 .

⁴ Canada, *Merger enforcement Guidelines*, 8.12.

⁵ Canada, *Merger Enforcement Guidelines*, 8.3.

⁶ Canada, *Merger Enforcement Guidelines*, 8.15.

efficiency in the areas of production, sales and R&D”.⁷ Rather than providing formal definitions on these two efficiencies, Korea’s merger guidelines list examples of these two efficiencies.

With regard to the production and sales efficiency, the merger guidelines clearly state that the followings shall be taken into account under the efficiency defence:

1. savings in production costs which arise from the economies of scale, integration of production facilities, rationalisation of production process, and etc
2. savings in sales costs which arise from the integration or sharing of sales networks;
3. savings in logistic costs which are associated with sharing of transportation and storage facilities;
4. savings in other expenses

In addition, the merger guidelines incorporate dynamic efficiencies, stating that the efficiency defence shall take into account “improvement in production technologies and R&D capabilities which results from complementing technologies or sharing or effective use of skilful workforce, organisation and capital”.⁸ What is more, according to Korea’s merger guidelines, public interest can be considered under the efficiency defence, since the guidelines categorise public interest as another type of efficiency. The guidelines introduce a very broad concept of public interest such as employment effects, and development of regional economies, even though public interest has received little attention from both merging parties and the KFTC in practice.

2.3 *Cognisable efficiencies*

Once the types of efficiencies to be considered under the efficiency defence are decided, the next question to think about is what level of certainty is required to acknowledge claimed efficiencies advanced by merging parties. It is obvious that antitrust agencies cannot give full credit to claimed efficiencies. Korea’s merger guidelines set a certain criteria for review of the claimed efficiencies.⁹ First, claimed efficiencies should be merger specific. The KFTC will consider only the efficiencies that would not be realised “through means other than the proposed merger, such as the expansion of facilities and internal development of technology”. Second, claimed efficiencies “must not be cost savings achieved through anticompetitive means, such as decreases in output or reductions in service quality”. Third, claimed efficiencies should be verified. According to the merger guidelines, “it should be clear” that the claimed efficiencies will take place in the near future. Lastly, cognisable efficiencies should be substantial. The MRFTA requires that efficiencies should be greater than the anticompetitive effects of a proposed merger.

All of these criteria apply to both productive and dynamic efficiencies, including public interest. There is no comment on the possibility of different treatments for different types of efficiencies in Korea’s merger guidelines, unlike the US merger guidelines¹⁰ which explicitly refer to the possibility that static

⁷ Korea, Merger Review Guidelines, VIII. 1. A.

⁸ Korea, Merger Review Guidelines, VIII 1 A.

⁹ Korea, Merger Review Guidelines, VIII.

¹⁰ US, Horizontal Merger Guidelines, 4.

efficiencies, such as cost savings arising from shifting production among facilities formerly owned separately, are more likely to be cognisable than dynamic efficiencies related to R&D.¹¹

3. Actual experiences with the efficiency defence

A good way to start would be to review past decisions made by the KFTC or the court regarding merger-related efficiencies in general. An important feature to note is that there have been few cases where clearance was given under the efficiencies defence. The likely explanations for that can be given as follows.¹² The first reason is because it is difficult for merging parties to prove the efficiencies. Prior to their transaction, they could not produce such a detailed analysis as to satisfy the criteria mentioned above. In many cases, merging parties have to produce their efficiency study in the course of merger review by agencies, which antitrust authorities may view with scepticism. Another reason would be that, from the antitrust agencies' point of view, the trade-off analysis between anticompetitive effects and claimed efficiencies is difficult and imprecise. Agencies normally require that efficiencies should be sufficiently large enough to outweigh the estimated anticompetitive effects.

Another important feature is quite expectedly that merging parties nevertheless claim the enhancement in efficiencies in most cases where the agency finds anticompetitive effects. They tend to bring up all kinds of efficiencies they could argue. Interestingly, most claimed efficiencies typically fall within the category of productive efficiencies. The followings are several classic examples. In the case of Hyundai's acquisition of Kia motor in the automobiles industry, merging parties claimed savings in production costs resulting from integration of platforms, use of the same parts and etc.¹³ In the case of Muhak's acquisition of Deasun in the liquor market, the companies argued that the merger would generate savings in sales and logistics costs through the integration and sharing of sales networks.¹⁴ With regards to Samick's acquisition of Youngchang in the piano industry, the merging parties asserted that cost savings could be realised through various means including integration of sales networks.¹⁵ In these cases, the KFTC or the court has partially acknowledged claimed efficiencies as cognisable ones, rejecting the argument that efficiency gains outweighed anti-competitive effects.

Now let's turn to the main focus of this note, dynamic efficiency claims. To put it simply, dynamic efficiencies have never played a significant role in the efficiency defence. As mentioned earlier, Korea's merger guidelines leave room open for merging parties to bring up dynamic efficiencies as defence. In spite of that, merging parties have never claimed dynamic efficiencies, such as enhanced R&D capabilities or the possibility of introducing new products through the enhanced R&D activities.

It is interesting to learn that merging parties claimed efficiencies with respect to the research and development in a couple of cases. However, they all focused on cost savings in running R&D activities, which may be deemed as a kind of productive efficiency. In the case of SK Telecom's acquisition of Shinsegi Telecom in the mobile telecommunications sector, merging parties argued that the merger could

¹¹ The US merger guidelines provide reasons for the different treatment; while savings in production cost is more likely to meet the abovementioned criteria such as verification and merger specificity, dynamic efficiencies are less likely to satisfy the criterion of verification.

¹² OECD (1996), Competitive Policy and Efficiency Claims in Horizontal Agreements, OECD/GD(96)65.

¹³ KFTC Decision 1999-43.

¹⁴ KFTC Decision 2003-27.

¹⁵ KFTC Decision 2004-271.

generate cost savings by eliminating duplicative R&D.¹⁶ In the case of Incheon Steel's acquisition of Sammi Steel in the stainless steel sector, merging parties claimed cost savings resulting from the integration of R&D divisions.¹⁷ These claimed efficiencies were partly acknowledged by the KFTC, but they were never decisive factors in the decisions. Given the nature of the efficiency defence that agencies are responsive to claimed efficiencies put forward by merging parties, the KFTC has not had any chance to consider dynamic efficiencies.

4. Difficulties with dynamic efficiency claims

A question arises at this point: why have we had such a limited role of dynamic efficiencies? Or why have merging parties never argued dynamic efficiencies at all? A possible explanation is that, the intent of merging parties was not to achieve dynamic efficiencies through proposed transactions. Or, it could be that the transactions were motivated by a desire to reduce competitive pressure or to achieve static efficiencies. So for either of these reasons, they never brought up dynamic efficiencies in claiming the efficiency defence.

Another line of explanation can be practical difficulties involved with dynamic efficiency claims, as Christian R. Fackelmann presents.¹⁸ (i) Objective measurement of dynamic efficiencies could be a big hurdle in practice. While it is relatively easy to prove a link between productive efficiencies and post-merger prices or costs, dynamic efficiencies are much harder to measure and prove. Within a price-focused analytical framework which fits with static efficiencies relatively well, it is a very challenging task to translate dynamic efficiencies into price effects. (ii) Information and evidentiary problems exacerbate the practical assessment of dynamic efficiencies. Although the uncertainty of forecasting-looking nature in merger review process applies to both static and dynamic efficiencies, information insufficiency and asymmetry becomes worse in claiming dynamic efficiencies. Even merging parties cannot acquire relevant information, or the information could simply be not existent.

(iii) Timing is another practical issue. Generally speaking, while anticompetitive effects of the proposed merger occur right after the transaction, dynamic efficiencies take time to be realised. Therefore, a certain time frame could be applied in the assessment of dynamic efficiencies. Discount or depreciation is normally introduced in the trade-off between short-term anticompetitive effects and efficiencies to be materialised in the future. (iv) In addition, the problem of multi-market consideration arises. Mergers can affect more than one market. While a merger can affect a market, it can also have positive effects in other markets through dynamic efficiencies. Certainly it is more likely that mergers generating dynamic efficiencies, such as the development of a new product, can have impacts on markets other than the market where anticompetitive effects arise. This leads to the problem of trade-off across markets, posing another difficulty in the evaluation of dynamic efficiency claims.

5. Treatment of dynamic efficiencies under the current merger review framework

This section looks at how the current merger review regime can treat dynamic efficiencies in practice. Given the intrinsic difficulties with regard to dynamic efficiency claims discussed above, the part focuses

¹⁶ KFTC Decision 2001-90.

¹⁷ KFTC Decision 2000-151.

¹⁸ Christian R Fackelmann, *Dynamic Efficiency Considerations in EC Merger Control: An Intractable Subject or a Promising Chance for Innovation?*, 09/06 Working Paper 14-16, Oxford Center for Competition Law and Policy (2006).

on how difficult or effective it is to deal with dynamic efficiency claims within the current analytical framework.

5.1 *Dynamic efficiencies and quantification*

In relation to the measurement of dynamic efficiencies, an important question is whether efficiency claims should be quantified or not. There is no guidance in the MRFTA or merger guidelines regarding such quantification. However, it is well recognised that dynamic efficiencies are very difficult to quantify. While the quantification of static efficiencies is not an easy task at all, the task of quantification of dynamic efficiencies is even more difficult. Two aspects are worth mentioning.¹⁹ (i) Innovative activities are, by nature, highly stochastic and inevitably involve a large amount of uncertainty. Although all types of efficiency claims suffer from the uncertainty arising from forecasts of the future, there are two other uncertainties facing dynamic efficiency claims: uncertainty of whether there will be an output at all and uncertainty of market success.

(ii) Dynamic efficiencies, even if their existence is proved, do not fit into a price-focused analytical framework very well. Even if merging parties are successful in demonstrating claimed dynamic efficiencies precisely and convincingly, it is not the end of the story. They are normally supposed to translate dynamic efficiencies into price effects, based on which a trade-off analysis between anticompetitive effects and efficiency gains is conducted. While there are models available to accommodate both innovation and price effects at the same time, such as hedonic price functions or discrete choice models, it is certainly another problem to translate dynamic efficiencies, such as increase in quality or development of a new product, into price effects.

Many jurisdictions are well aware of these problems. One jurisdiction acknowledges that dynamic efficiencies are generally considered from a qualitative perspective.²⁰ Another jurisdiction in principle requires quantification of efficiencies claims “where reasonably possible”, but also relaxes the requirement when the necessary data are not available to allow for a precise quantitative analysis.²¹ In short, attempts to quantify dynamic efficiencies are less likely to succeed due to the nature of dynamic efficiencies, yet qualitative analysis of dynamic efficiencies is still possible.

5.2 *Dynamic efficiencies and timing*

With regard to the timing requirement in claiming efficiencies, the merger guidelines state that it should be clear that efficiency gains will take place “in the near future”.²² However, the guidelines provide no further clarification on the meaning of “the near future”, which is common in many other guidelines. Then, an important issue is what specific time frame should be applied to the efficiency defence. Since the realisation of dynamic efficiencies takes time, it is obvious that the stricter the time line is, the less successful a dynamic efficiency claim is. Another related issue is whether or not to place less weight on dynamic efficiencies realised later. It is a typical approach to introduce discount or depreciation. Notably, the EU merger guidelines adopt a sliding scale approach: “the later the efficiencies are expected to materialise in the future, the less weight the commission can assign to them”. Regarding these two issues, a

¹⁹ See, Christian R Fackelmann, *supra* note 17, at 23-32.

²⁰ Canada, Merger enforcement Guidelines, 8.15.

²¹ EU, Merger Guidelines, VII.

²² Korea, Merger Review Guidelines, VIII. 1. A.

recent case involving cable TV operators is worth a mention.²³ In response to merging parties' argument of cost savings, the KFTC recognised efficiency gains to be created over five years with depreciation applied.

5.3 *Merger specificity of dynamic efficiencies*

To qualify as cognisable efficiencies, according to the current merger guidelines, claimed efficiencies should meet the requirement of merger specificity: it is difficult to achieve claimed efficiencies through means other than the proposed merger; and it must not be realised through anticompetitive means. In case of dynamic efficiencies, a task of proving the first element requires the analysis of potential alternatives. While it is difficult to prove the existence of dynamic efficiencies, it is more challenging to demonstrate that no other alternatives could produce similar efficiencies. In the KFTC's or court's case rulings, merger specificity is frequently cited as a reason to reject claimed efficiencies. However, the KFTC or the court stopped at stating that claimed efficiencies could be achieved through means other than the proposed transaction.

5.4 *Cross-market analysis*

As mentioned above, mergers involving dynamic efficiencies could generate multi-market effects. In such a case, one issue is whether antitrust agencies should focus on a market where anticompetitive effects arise, or whether they should take into account all the other markets influenced by the proposed merger. The merger guidelines are silent on this question. However, the guidelines recognise "significant contribution to the development of upstream and downstream markets" as a type of efficiency gain considered under the efficiency defence.²⁴ There is no case in which cross-market analysis has been disputed.²⁵

5.5 *Verification*

The burden of proof falls on merging parties' shoulder. The MRFTA requires that merging parties concerned should "prove that they meet the requirements" in advancing efficiency claims. For the merging parties to argue a claim, they have to argue a claim, have to prove it and provide all the relevant information. The standard of proof is another issue. In other words, what kind of information should be provided? Again the merger guidelines are quiet on this issue. Other jurisdictions specify a list of useful sources including internal documents that were used by the management to decide on the merger and pre-merger studies by external experts.

6. Conclusion

In principle, the legal framework of merger review in Korea recognises the possibility that merger-related efficiencies can outweigh anticompetitive effects, with a potential to foster economic growth and raise the standard of living. From a legal perspective, Korea's merger review system accommodates dynamic efficiencies as well as static efficiencies as a defence.

²³ KFTC Decision 2004-254.

²⁴ Korea, Merger Review Guidelines, VIII. 1. A.

²⁵ While the US merger guidelines and courts take a very reluctant stance toward cross-market analysis, it is certain that disregard of cross-market effects will keep a large share of dynamic efficiencies from consideration under the efficiency defense. In an attempt to address this issue, a commentator proposes that cross-market analysis should be allowed in exceptional cases.

The actual experience, however, suggests a very limited role of efficiencies in merger review process in general. There are few cases approved on the grounds that efficiency gains outweigh the potential anticompetitive effects. In particular, dynamic efficiencies have never appeared in real cases. Dynamic efficiencies are, by nature, so complex and uncertain, that even merging parties, let alone antitrust agencies, may have immense difficulties in producing precise and convincing claims. The limited prospect of success in dynamic efficiency claims caused by this burden of proof may be the underlying reason for the little use of dynamic efficiencies in practice.

NEW ZEALAND

1. Introduction

The long title of the *Commerce Act 1986* (the Act), New Zealand's generic competition law, states that its goal is "to promote competition in markets within New Zealand". In the case of mergers and acquisitions, the Act provides two options for firms. First, there is a voluntary pre-merger notification scheme, under which a firm can apply to the Commission for a clearance to make an acquisition on the grounds that the acquisition would not lead to a substantial lessening of competition. Under s 66 of the Act, the Commission is required to consider whether the proposal will, or will be likely to, have the effect of substantially lessening competition in the market. If the Commission is satisfied that the proposal is not likely to substantially lessen competition then it is required to grant clearance to the Application. Conversely if the Commission is not satisfied it must decline. The standard of proof that the Commission must apply in making its determination is the civil standard of the balance of probabilities.¹ The effect of a clearance is to immunise the acquisition against a challenge through the courts.

Secondly, through the authorisation provisions of the Act in s 67, business acquisitions that would lead to a substantial lessening of competition may be authorised to proceed where it can be demonstrated that greater efficiencies and other public benefits can be expected from a less competitive outcome. The authorisation procedure requires the Commission to identify, weigh and balance the detriments likely to flow from the lessening of competition in the relevant market(s) against any public benefits likely to flow from the acquisition. Where the detriments are outweighed by the public benefits, the Commission must authorise the acquisition on the grounds that there is a benefit to the public.

A similar test is used in assessing restrictive trade practices for authorisation under s. 58 of the Act. By means of this so-called "public benefit test", restrictive practices that would breach the anti-competitive thresholds of the Act may be immunised against attack through the courts by the Commission or third parties.

The Commission envisages that efficiencies may play a role even in the clearance context.² There may be circumstances where efficiencies are relevant to an application for clearance, even though efficiencies tend to be most relevant in the context of an authorisation. The courts have, in certain circumstances, considered efficiencies to be pro-competitive.³ In the context of an acquisition, the combined entity might be able to make efficiency gains that are not obtainable by other means, such that its incremental cost of production would decline. Such gains could have the effect of blunting the impact of a rise in prices post-acquisition, as any increase in the margin of price over incremental cost arising from a

¹ Foodstuffs (Wellington) Cooperative Society Limited v Commerce Commission (1992) 4 TCLR 713-722.

² Commerce Commission, Mergers and Acquisitions Guidelines, Wellington, New Zealand, p. 31.

³ Fisher & Paykel v Commerce Commission, [1990] 2 NZLR 731, 740. Commerce Commission v Port Nelson, above note 11,433; Shell (Petroleum Mining) Company Ltd v Kapuni Gas Contracts Ltd, (1997) 7 TCLR 463, 531.

lessening of competition would, in effect, be added to a lower level of cost. An efficiency gain could turn a price increase that would otherwise be regarded as lessening competition into one that is not.

In more extreme cases, the efficiency gain might be sufficient to reduce price, in which case the acquisition could be regarded as having a pro-competitive effect overall. The lower price would serve to enhance the constraint upon the unilateral behaviour of other businesses in the market, and might undermine the propensity for coordinated conduct to be sustained.

The Commission considers efficiencies in the broader analysis of all of the competitive effects of the acquisition. To be accepted, the applicant must make a sound and credible case that such efficiencies would be realised, that they could not be realised without the acquisition, and that they would enhance competition in the relevant market. The Commission is of the view that efficiency gains of the required magnitude and credibility will very rarely overturn a finding that competition would otherwise be substantially lessened.

2. Benefit to the Public

The Act does not define the term “benefit to the public”, but the various issues as to what constitutes a public benefit or a detriment have been discussed in a number of decisions by the Commission and the courts over the past twenty years. In assessing both detriments and benefits the focus has been on economic efficiency. The Court of Appeal stated in 1987 in *Trutone*⁴ that the Act:

...is based on the premise that society’s resources are best allocated in a competitive market where rivalry between firms ensures maximum efficiency in the use of resources.

Subsequently, the Act was amended by the *Commerce Amendment Act 1990*, when the addition of s. 3A seemed to place a greater stress on efficiency in the implementation of the public benefit test:

Where the Commission is required under this Act to determine whether or not, or the extent to which, conduct will result, or will be likely to result, in a benefit to the public, the Commission shall have regard to any efficiencies that the Commission considers will result, or will be likely to result, from that conduct.

Subsequently, the Commission published its *Guidelines to the Analysis of Public Benefits and Detriments in the Context of the Commerce Act* (the Guidelines) in October 1994 (revised in 1997), in which it set out its approach to the assessment of public benefits and detriments. The Commission considered that these Guidelines are based on the law, and on economic principles that appear to have wide support. The Guidelines sets out a broad framework within which the Commission assesses benefit claims and evaluates detriments, always remembering that each case has to be treated on its own merits, and that the words of the statute are paramount.

The Commission considers that a public benefit is any gain, and a detriment is any loss, to the public of New Zealand, with an emphasis on gains and losses being measured in terms of economic efficiency. This is not to say that only those gains and losses that can be measured in dollar terms are to be included in the assessment; those of an intangible nature may also be relevant. However, because they are intangible, it is probably fair to say that, in the absence of quantification, the Commission will need some fairly convincing evidence that they would eventuate before much weight is given to them.

⁴ *Trutone Ltd v Festival Records Retail Marketing Ltd* [1987] 2 NZLR 352.

The detriments and benefits have to be measured against what might otherwise happen in the absence of the acquisition. The counterfactual (or “without” scenario) establishes a benchmark against which the detriments flowing from the acquiring of a dominant position, and the claimed public benefits, can be assessed. The Commission makes a forward-looking ‘with’ and ‘without’ comparison, rather than a ‘before’ and ‘after’ comparison. In short, the Commission compares what it considers would be likely to occur with the acquisition or arrangement in place with what it considers would be likely to occur in their absence, in a pragmatic and commercial assessment.

In a business acquisition, a likely counterfactual is a continuation of the *status quo*, in the sense that the parties to the acquisition will remain independent. However, the markets in question are likely in the future to continue to adjust and change in a dynamic fashion both with and without the acquisition, as will the parties themselves. Such likely changes, based upon industry knowledge and the submissions of industry participants, have to be factored into the Commission’s assessment of the two scenarios.

3. Quantification of Benefits and Detriments

A significant development in the last ten years in the application of the public benefit test has been the increased emphasis placed by the Commission on the quantification of detriments as well as of benefits. The Commission has explicitly used economic market models to calculate the possible sizes of detriments. In the *Guidelines*, the Commission stated that it encouraged applicants to quantify projected efficiency gains as far as possible as an aid to its decision making, but noted that the quantification of detriments was more difficult because it tended to involve “less concrete data and situations.”

Greater efforts at quantification were encouraged in the *AMPS A* case,⁵ when Richardson J, sitting as one of five judges in the Court of Appeal, remarked on the:

...responsibility on a regulatory body to attempt so far as possible to quantify detriments and benefits rather than rely on a purely intuitive judgement to justify a conclusion that detriments in fact exceed quantified benefits.

In the same judgement, Cooke P offered the following caution:⁶

Parliament has expressly directed in s 3A that efficiencies are to be taken into account. In my view that direction should not be effectively (albeit unintentionally) circumvented by assuming inefficiencies on grounds of economic doctrine.

The first elaborate attempt by the Commission to quantify detriments occurred in *Air New Zealand/Ansett Holdings Holdings*. It recognised that because of the lack of sufficient information, and the inherent difficulty of predicting the future, such an exercise could not produce exact estimates. Hence, the Commission limited its quantification to establishing possible ranges within which the actual outcomes were considered likely to fall. These ranges tended to be wider where the quantification was more difficult or uncertain. The Commission accepted that the quantification exercise in that case necessarily required the adoption of values that were often based on judgements rather than on the results of empirical studies. Nevertheless, it considered that the Act required that detriments be weighed against public benefits, and that quantification (rather than reliance upon subjective judgement or hunch) aided that process.

⁵ Telecom v Commerce Commission [1992] 3 NZLR 447.

⁶ Ibid., 439.

It has been argued that a problem with quantification is that it is hard to do well, and that it tends to result in too much emphasis being given to things that are less important. For example, allocative effects are generally more susceptible to quantification than dynamic ones, yet allocative effects are typically proportionately small and dynamic effects can potentially be large. In similar vein, it has been said that as the Commission usually assesses the benefits and detriments of an authorisation application looking forward no more than two to five years, because of the difficulty of making reliable forecasts too far into the future, this may lead to an understatement of the weight given to dynamic effects. However, the problem lies not so much in the quantification procedure itself, but in the very attempt to undertake a cost-benefit analysis based on predictions about the future impacts of mergers and acquisitions.

Given that the authorisation procedure exists within the *Commerce Act*, and must be applied by the Commission, quantification at least has the advantage of facilitating the valuation and comparison of disparate factors. Without some common form of measure, it is difficult to aggregate effects or to assess the net effects of factors. It would be like comparing apples with oranges. Quantification may at least allow particular effects to be assessed as being ‘large’ or ‘small’. Further, quantification necessarily involves explicitly stating the assumptions behind the calculations, which has the dual advantages of imposing a greater discipline on the Commission’s thinking, and in providing for greater transparency in the process.

4. Nature of Detriments

The starting point for the Commission’s public benefit analysis is the widely accepted framework first put forward by the distinguished American economist, Oliver Williamson.⁷ His merger trade-off model assumed that business acquisitions have the potential to generate two consequences. Firstly, an acquisition that creates or strengthens market power for the combined entity is likely to generate detriments from a higher price (and other possible effects). Secondly, the acquisition may present opportunities for making efficiency and other gains, leading to a benefit. Thus, business acquisitions potentially generate a trade-off for economic welfare, in which the value of the benefits has to be balanced against the harmful impact of the detriments.⁸

The Commission generally classifies detriments into four categories: allocative efficiency, productive efficiency, product quality and dynamic efficiency.

4.1 Allocative Efficiency

Allocative inefficiency is measured as the net loss to society from the elevation of price above, and the fall in output below, the levels in the counterfactual (which may be the pre-merger situation). It is measured as the difference between the maximum prices which unsatisfied buyers would be willing to pay for the units of the good or service no longer produced, less the value in other uses of the inputs no longer needed. In geometric terms it is represented by a triangular area between demand and marginal cost curves, and is known as the “dead-weight welfare loss”. It is the loss to society from the price being raised above the competitive level, for which there is no compensating gain. In addition, there may also be a further loss arising if the pre-merger price already exceeds the competitive one, i.e., there is pre-existing market power.

⁷ “Economies as an Antitrust Defense: The Welfare Tradeoffs”, *American Economic Review*, vol. 58, 1968, pp. 18-36; and “Economies as an Antitrust Defense Revisited”, in: A. P. Jacquemin and H. W. de Jong (eds.), *Welfare Aspects of Industrial Markets*, Leiden: Martinus Nijhoff, 1977, pp. 237-71.

⁸ While the focus here is on business acquisitions, the same trade-off could apply with restrictive trade practices.

Apart from the loss of allocative efficiency, the post-merger rise in price leads to a redistribution of income from buyers, who pay the higher prices, to the company and its shareholders, who receive the higher profit. Since the dollars of welfare loss suffered by the buyers are balanced by the dollars of welfare gain accruing to the producers, many economists have treated this merely as a transfer of income between the two groups, in which case society as a whole is unaffected.

The Commission has taken the view that distributional changes generally should not be considered to affect social welfare and, therefore, that such changes can be ignored, subject to one significant reservation. The focus of the Act is taken to be the welfare of New Zealanders; in the *Guidelines*, the Commission defined the term “public” in “public benefit” as follows:

The ‘public’ is the public of New Zealand; benefits to foreigners are to be counted only to the extent that they also involve benefits to New Zealanders.

This raises the issue as to what constitutes a benefit to the New Zealand public. In the *AMPS-A* case, where the issue was crucial, the Commission discounted the efficiency gains and cost savings to Telecom on the grounds that “the bulk of the gain will be realised by Telecom’s largely overseas owners.” This was criticised by the High Court on appeal:⁹

We reject any view that profits earned by overseas investment in this country are necessarily to be regarded as a drain on New Zealand. New Zealand seeks to be a member of a liberal multilateral trading and investment community. Consistent with this stance, we observe that improvements in international efficiency create gains from trade and investment which, from a long-run perspective, benefit the New Zealand public.

On the other hand, if there are circumstances in which the exercise of market power gives rise to functionless monopoly rents, supra-normal profits that arise either from cost savings or innovation, and which accrue to overseas shareholders, we think it right to regard these as exploitation of the New Zealand community and to be counted as a detriment to the public.

This means that the redistribution of income associated with higher prices post-merger will not be welfare neutral where there is an international dimension to the combined firm’s operations.

4.2 Productive Efficiency

The Commission considers that experience from overseas, and with deregulation in New Zealand, across many industries suggests that firms having substantial market power are rarely as efficient as they could be if they were to face competition. A dominant firm is under less pressure to minimise costs and to avoid waste than its counterparts in a competitive market.¹⁰ In contrast, efficiency is likely to be a survival

⁹ Telecom Corp. of New Zealand Ltd. v Commerce Commission (1991) 4 TCLR 473, 531; 3 NZBLC 102.340, 102.386.

¹⁰ Useful surveys of empirical studies overseas are: J. J. Siegfried and E. H. Wheeler, “Cost Efficiency and Monopoly Power: A Survey”, *Quarterly Review of Economics and Business*, vol. 21, 1981, pp. 25-46; and R. S. Frantz, *X-Efficiency: Theory, Evidence and Applications* (2nd edition), 1997, Dordrecht: Kluwer. Alternatively, one could use the evidence of the beneficial affects of deregulation in markets to infer what the potential adverse impact of a move in the opposite direction—towards monopolisation—might. A useful assessment of deregulatory experience in the United States is to be found in C. Winston, “Economic Deregulation: Days of Reckoning for Microeconomists”, *Journal of Economic Literature*, vol. 31, 1993, pp. 1263-89.

condition in competitive markets, where buyers are able to purchase elsewhere should a more efficient firm offer a lower price. Moreover, the presence of more than one substantial company in the market helps to facilitate benchmarking comparisons of production costs and efficiency.

The extent to which costs are above the minimum necessary to produce a given output is a measure of the welfare loss caused by productive inefficiency. This loss is real in the sense that the wasted inputs could be diverted to productive use elsewhere in the economy, where they could be used to produce outputs that are foregone because of their unproductive use by the dominant firm.

The Commission has recognised that predicting losses of productive efficiency are as problematic as predicting other detriments and benefits. Approaches it has used in various cases include the following:

- calculating the potential loss as a percentage of the costs of the combined entity;
- using a wide range of percentages because of the uncertainty, with the highest figure used to date being 10%;¹¹
- using alternative percentage ranges where there are grounds for believing that certain elements of cost may be susceptible to greater levels of productive inefficiency than others;
- allowing for firm-specific or industry-specific factors in particular cases that may impact upon the level of productive inefficiency; and
- recognising that the impact from the loss of productive efficiency may build up gradually over time, rather than emerge at ‘full strength’ immediately following the completion of an acquisition.

4.3 *Product Quality*

Another common feature of dominant firms and monopolies is that they tend to have less incentive than other firms to preserve and enhance product quality, because buyers have no alternative sources of supply to which to turn. The company and its staff are likely to develop a ‘take it or leave it’ attitude to customers. This phenomenon might be expected to be pronounced in circumstances where a firm has had a statutory monopoly, or where the two remaining companies in a market join forces and entry barriers are high. Here, the combined entity would be expected to provide a product and related services of a lesser quality than in the past, and less than the optimal quality in some economic sense.

Again, predicting the magnitude of such prospective losses is difficult, but the Commission has in recent cases taken such factors as the following into account:

- the extent to which product quality or service has suffered in the past as a consequence of stunted competitive pressures on companies, sometimes as the result of industry regulation (e.g., the level of service to customers in the domestic passenger air services markets improved significantly as the result of deregulation and improved competition);

¹¹ Empirical support for such a figure is to be found in the works cited above. For example, in one study of electric power companies in the United States, it was found that after controlling statistically for a wide range of factors which influenced company costs, municipal power companies which faced competition from another company in the same city had lower unit costs—by about 11% on average—than those which were monopolies. See: Primeaux, W. J. (1977), “An Assessment of X-Efficiency Gained Through Competition”, *Review of Economics and Statistics*, vol. 59, pp. 105-108.

- the extent to which the nature of the product or service may limit the scope for a deterioration in quality (e.g., in a fertiliser case it was recognised that much fertiliser was sold in its imported form, or after only being blended by the importer);
- indications that customers value service quality and are dissatisfied with poor service levels (e.g., the low frequency and poor timing of flights);
- the extent to which a restoration of quality may be accompanied by higher costs, and *vice versa*; and
- whether the product or service quality is subject to regulatory oversight, which would be expected to help to maintain quality (e.g., air traffic control services).

Some of these points indicate that product quality and price are related, in which case care needs to be exercised in separating the two effects in order to avoid double-counting.

Again, because of the uncertainty over the magnitude of the loss, and difficulties with quantification, the Commission has used a range of percentages of cost, or a conservative overall dollar figure.

4.4 Dynamic Efficiency

Recent empirical research tends to indicate that oligopolists have stronger incentives to innovate than large monopolistic corporations, because they have the best opportunities to earn post-innovation rents by stealing a march on their rivals, and they have the wherewithal to invest by virtue of the imperfectly competitive markets in which they operate. The advantage of having more than one player in a market is that it increases the number of centres from which innovations can emerge, and raises the pressure on all players to improve their performances.

Monopolists have a reputation for being poor innovators, because of the absence of any competitive spur to take risks and embrace new ideas. The removal of competitive pressure lessens the incentive for companies to innovate in order to match or keep ahead of rivals. Lack of innovation may also arise from a conscious decision of the incumbent not to innovate in order to continue to reap returns on its investment in current products and processes.

A reduction in innovation may cause social welfare to suffer in two ways:

- buyers may be deprived of the benefit of improved products ('product innovations'); and
- the public as a whole may fail to benefit from the introduction of new and better ways of producing and distributing existing products ('process innovations'), in the form of the additional outputs produced by the saved inputs in alternative employments.

Loss of innovative efficiency is potentially large in industries that are otherwise technologically dynamic, particularly as the benefits from innovation can compound over time. However, such losses are not easy to estimate, and so far the Commission has not attempted to incorporate the compounding factor into its estimates. Assessment to date has been based on the following considerations:

- a consideration of the technological progressiveness (or innovative potential) of the industry in question, since industries vary widely in their scope for progressiveness, and hence in the potential for losses of innovative efficiency;
- an evaluation of the past innovation performance of the companies that are parties to the acquisition, and what residual competitive pressures may encourage innovation post-acquisition;

- a separate assessment where feasible of the scope for ‘product’ and ‘process’ innovations; and
- a recognition that innovations not developed or implemented result in a cost saving, which reduces the magnitude of the loss from innovative inefficiency.

Losses of innovation efficiency are notoriously difficult to estimate but have the potential to be highly significant. In recognition of this difficulty, the Commission has to date used a range of percentages of the costs of the combined entity, based on a mixture of judgement combined with evidence (where available) from empirical studies.

5. Nature of Benefits

5.1 *The General Approach*

The Act places the onus upon the applicants to satisfy the Commission that the claimed public benefits will accrue. The Commission takes the view, in the light of the potentially serious consequences for competition when a firm through an acquisition gains a substantial degree of market power in a market, that an authorisation is a privilege to be granted only sparingly. Moreover, there is an obvious asymmetry of information involved in making out the case for public benefits. Applicants have access to all of the relevant information available, whereas the Commission is, at least to some degree, reliant upon the applicants for the information supporting their arguments. A danger is that this may provide an incentive for applicants to make selective disclosures of information so as to put their case in the most favourable light.

However, this is a dangerous approach that risks undermining the credibility of the applicant’s case. The Commission has recourse to its own knowledge and experience in a wide range of industries, and can consult widely across industry participants, other interested parties, and, if necessary, overseas. It often seems to be the case that companies in an industry know a lot about each other’s business, probably because of long associations, staff interchanges, and industry gossip. The Commission will dig deep in evaluating benefit claims. Thus, the Commission is not so disadvantaged information-wise as might at first appear.

To be satisfied, the Commission needs to be reassured on a number of issues. Firstly, the benefits have to be demonstrated against the benchmark of what might otherwise happen. In other words, a realistic counterfactual must be specified. In addition, there must be a convincing nexus between the acquisition and the claimed benefits. Benefits that would accrue anyway, or could be gained without going to the lengths of an acquisition, cannot be counted.

Secondly, claims of benefits need to be supported by detailed analysis and, where possible, by quantification. Clearly, well researched benefit claims are likely to carry greater weight with the Commission. It is also advantageous if these details are submitted with the original application. The Commission sometimes receives a general statement of public benefit initially, which subsequently has to be fleshed out through investigations by Commission staff, and by requests for further information. This approach lessens the opportunities for the “testing” of claimed benefits, and thus the likelihood that the Commission will be satisfied by them.

Thirdly, where detailed costings are provided by applicants on a confidential basis, and therefore cannot be tested by disclosure to other interested parties, these would carry more weight with the Commission if the figures have been independently audited, and if an independent expert commentary is provided on the methodology and conclusions.

Fourthly, the time pattern over which the benefits are expected to accrue may be significant. For example, if a benefit is expected to flow from a major reorganisation of the combined entity, this benefit is likely to be realised only gradually. In a hostile take-over, planned rationalisation by the acquiring company may also take longer to effect because of resistance in the acquired company. Claims should make realistic allowance for likely delays in the generation of the benefit.

Fifthly, benefits accruing sooner will be accorded a greater weight than benefits accruing later. This is generally appropriate for two reasons:

- the time value of money means that benefits expected, say, in five years have to be discounted much more heavily than benefits expected next year. For example, with a discount rate of 10%, a benefit in five years would be discounted to 62% of its nominal value, whereas a benefit in one year would be discounted only to 91%; and
- the greater risk attached to benefits expected some years in the future that they may not actually accrue, or may accrue only in reduced form, because of unforeseen changes in the industry context or in the priorities of the company concerned. If correct, this would justify using a higher discount rate.

Sixthly, because benefit claims are based on assumptions about what may happen in the future, the Commission is likely to test the robustness of the claims by subjecting them to sensitivity testing, just as it does with its detriment estimates. This involves varying key assumptions to test the stability of the estimates. Benefits that are unduly sensitive to variations in underlying assumptions, especially assumptions that are likely to change in practice, are likely to be discounted accordingly.

Finally, there is a danger of benefits being double-counted, leading to an exaggeration of the overall benefit claim. Examples are given below. Double-counting must clearly be avoided.

To sum up, benefit claims must pass what might be called a ‘plausibility test’. The benefits have to be shown to flow from the proposed acquisition, and a convincing case has to be made that they will be realised within the context both of the companies involved in the proposal, and of the industry setting.

5.2 *Types of Benefits*

A wide range of benefits have been claimed by various applicants, although many have not been accepted by the Commission, usually either because of the lack of a nexus with the proposal, or because they appeared to be relatively remote possibilities or to have relatively little value. Clearly, there is an incentive for applicants to canvass for benefits as widely as possible, particularly as the wording of the Act allows for claims in respect of markets not directly implicated in the acquisition. Commonly claimed benefits include cost savings (or efficiency gains), enhanced profits, enhanced consumers’ surplus, dynamic efficiencies, and intangibles.

Savings in costs are accepted by the Commission as a public benefit because the implication is that the same output is being produced with fewer inputs, so that the cost saving to the combined entity is mirrored by the value of the inputs released, in terms of their ability to produce other socially valued outputs. Alternatively, if a greater output is produced at the same cost, the additional output is a measure of the public benefit. In either case, it is not necessary for the cost reduction to be passed on in lower prices for the efficiency gain to be accepted. However, if the input is sunk (e.g., a plant or piece of equipment is so specialised that it has no alternative use), or the labour released has skills which are not transferable to other occupations (at least without substantial retraining or change of location), the social value of the cost savings may have to be discounted accordingly.

With claims of cost savings, there is a risk of double-counting the benefit, because the benefit could be measured either as a cost saving or a profit enhancement. For example, this risk would arise in circumstances when the combined entity made cost savings and kept its price unchanged, i.e., it takes the lower costs as a gain in profits.

It has been argued that merger-induced efficiencies should be assessed in a dynamic context in which cost savings achieved by the newly merged entity will tend to diffuse at least partially to competing firms over time, thereby raising the overall cost saving. At the same time, competition between firms is expected to be enhanced, increasing the likelihood that cost savings will be passed on to consumers in the form of lower prices. However, such effects depend upon the market context, and seem difficult to predict.

Cost savings can arise in a variety of ways. Firstly, the combined entity may be able to rationalise its operations by eliminating redundant capacity, increasing throughput in existing capacity, or focusing production on lower cost plants.

Secondly, it may be able to gain economies of scale and of scope. Economies of scale arise where the combined entity is able to produce at a lower unit cost because of the scaling up of its operation in the longer term. Here, the firm is free to adjust the quantities of all of the inputs employed, including the size of its plant, so as to produce the desired level of output with the smallest call on inputs, and hence at the lowest possible unit cost. If a plant designed to produce 10,000 widgets per day has a lower unit cost than one designed to produce 5,000 per day, all else being the same, then the larger plant is said to experience economies of scale.¹²

Economies of scope arise where it is less costly to produce two or more goods or services jointly within a single firm, rather than to produce them separately in specialised firms. A multiple product firm benefiting from economies of scope would be able to produce the good at a lower cost, possibly at every scale of production, than a specialist, single product firm. Joint production of two goods is obviously cost saving where one commodity is produced as a by-product of the other, such as cheese and whey in the dairy industry. Economies may also arise where the production of two goods involves the use of shared inputs, such that using those inputs for the production of one of the goods makes them available for the production of the other, which can then be produced more cheaply.

The Commission has often received benefit claims couched in terms of the extra revenues that will accrue to the combined entity. However, to count as a public benefit, the benefit has to be valued in terms of the additional economic profit accruing to New Zealanders. In other words, it is the additional return flowing from the acquisition, after all of the additional costs of production have been covered, which is the correct measure of benefit. Where a company is partly overseas-owned, the extra profit has to be discounted to the proportion actually received by New Zealanders (including tax to the government).

Nonetheless, in extreme cases the extra or incremental revenue generated might be the appropriate measure of benefit if the incremental costs incurred are insignificant. For example, an alliance between airlines might generate additional 'feed' traffic between them. Feed traffic is highly profitable for airlines. Serving a few extra passengers from a feeder airline increases carrier costs very little, since most costs are relatively invariant with respect to the number of passengers on a flight. Here, the incremental revenues from the extra feed traffic would accrue to the carrier largely as incremental profit.

¹² This is to be contrasted with the lower unit costs which arise from increasing the output in a given size of plant. Businessmen often refer to this source of lower costs as economies of scale, but it is more accurately referred to as economies from higher capacity utilisation.

A cost saving, if passed on to consumers in the form of a lower price, would generate a benefit in the form of a larger consumers' surplus, although this would also generate a 'double counting' risk, as discussed above. A similar benefit could arise in circumstances where demand for the product increases. An example is provided by *New Zealand Rugby Football Union*. A benefit claimed for the proposed player transfer regulations was that by maintaining an even competition, the regulations would help preserve the attractiveness for spectators and television viewers of the National Provincial Championship. In the counterfactual without the regulations the richer unions would 'buy' the best players, causing the competition to become more uneven, and therefore less attractive to rugby followers. The Commission accepted that there was some nexus between the regulations and the claimed benefit. In principle, this benefit would be measured by the demand shift from the factual scenario with the regulations, to the lower demand in the counterfactual without the regulations. Under certain assumptions, this gain would be measured as the area between the two demand curves, after making allowance for costs.

As noted above, dynamic gains might arise either from the development of superior new products (product innovations), or from more efficient production techniques (process innovations). By their nature the more innovative these are, the more difficult are they to foresee. Also, whether a benefit can be thought of as being innovative, or whether it should be placed in a static benefit category, is not always clear. For example, the use of the player transfer regulations to maintain or improve the quality of the competition in the Rugby case might fall in either camp. The same might apply to the claim in a merger between two skiing operations on the same mountain that they would establish a trail between their separate ski runs; or in the case of airline mergers to replace an indirect route with a direct one.

Public benefits of an intangible nature have often been claimed. These might include any factors that contribute to the national well-being, such as in health, environmental improvement or regional development. They are often what economists call "externalities". Such benefits are usually either difficult to describe precisely, or there is no obvious framework through which their value might be assessed. Quantification is thus generally not a realistic possibility. Also, it has to be remembered that any costs incurred in achieving the benefit have to be deducted, because the benefit is measured in net terms.

Examples of intangible benefits claimed include the following. Air New Zealand claimed that the acquisition of Ansett Holdings would lead to an improvement in the diplomatic relations between Australia and New Zealand, by providing a commercial resolution to the situation following the Australian Government's unilateral suspension of the 1992 trans-Tasman accord. In *Ravensdown/SouthFert* it was claimed that a reduction in the duplication of manufacturing, storage and transport facilities would generate a public benefit through a reduction in the adverse impact of superphosphate manufacturing, distribution and storage on the environment in the Otago-Southland region. In *New Zealand Rugby Football Union* the applicant claimed that a more even NPC competition would, by better honing players' skills in a more evenly matched competition, enhance the performances of the national team.

6. Case Study – Airline Alliance

On 9 December 2002 the Commission received two interdependent applications for authorisation from Air New Zealand Ltd (Air NZ) and Qantas Airways Ltd (Qantas). These two carriers are the national carriers of New Zealand and Australia respectively. The first application, by Qantas, made under s 67(1) of the Commerce Act, related to a proposed "share purchase agreement" whereby Qantas would acquire 22.5% of the voting equity in Air NZ. The second application, by Air NZ and Qantas, made under s 58, related to the proposed implementation of a "strategic alliance arrangement" between the two airlines. This would, among other things, require the two airlines to create a "Joint Airline Operation", such that every Air NZ flight, and those Qantas flights to, from, and within, New Zealand, would effectively be run as a single operation.

The Commission's qualitative analysis and quantitative economic analysis led it to conclude that the proposed Alliance would be likely to result in a substantial lessening of competition in a range of air passenger and freight markets, including on the important domestic and trans-Tasman routes. This was expected to cause the market price (air fares and freight rates) to be increased above, and market output (number of aircraft seats and volume of freight capacity provided) to be reduced below, the level that would prevail in the absence of the proposed Alliance. The Commission's Cournot modeling led to estimated price increases of up to 17% in Year 3 of the Alliance (all the figures quoted below refer to that year).

Allocative inefficiency arose from the following: the value lost by those travellers who would have made flights but would no longer do so under the proposed Alliance; the loss of profits of the airlines by not providing those flights (although the price increase overall was profitable); and the net effect of transfers to and from New Zealanders. The Commission's economic modelling revealed that these allocative inefficiencies and transfers were likely to be in the range from \$83 million to \$110 million, with the most likely value being \$90 million.

In relation to productive inefficiency, both carriers indicated that they suffered from "legacy costs", and both had recently announced plans to substantially reduce costs. This suggested that costs had been excessive in the past, and indicated an intention by both to reduce them in the future. In addition, traditional carriers internationally appear to have suffered from rent-seeking by well-organised employee groups. The Commission also appreciated that where product market competition is weak, other forces may encourage efficiency, such as the threat of takeover (not relevant in this case), and managerial concern that career prospects and reputation could be sullied by association with a poorly managed company. Overall, the Commission considered that productive inefficiency would be likely to arise in all markets in which there would be a substantial lessening of competition, and that this could conservatively be estimated as being 1% to 5% of the estimated variable operating costs of the proposed Alliance's New Zealand-based. This gave a range of \$18 million to \$91 million for productive inefficiency, within which the most likely outcome was thought to be \$55 million.

The proposed Alliance was expected to have a negative impact on dynamic inefficiency because of the reduced incentive to innovate. Innovation in aviation markets in the past has often been stimulated by competition, often from new entrants. As aviation is a dynamic industry, the Commission was concerned that these losses could be significant. It had three particular areas of concern: the lessening of dynamic efficiency generally on the part of the Applicants through the reduction in competition; the loss caused by Air NZ's prospective switch between global alliances; and the loss resulting from the likely reduced value of accumulated air points holdings. The Commission quantified the first and last of these detriments by assuming that airline costs would be higher than they would otherwise be in the range of 0.5 to 1.5% per annum. On the basis of Air NZ's total revenues of \$3.6 billion, this gave a loss of between \$18 million and \$54 million. In addition, the Commission anticipated that there would be substantial losses arising from the transition costs when, as a result of the proposed Alliance, Air NZ would exit the Star Alliance and join the oneworld Alliance. The exact amount of this component was confidential. Overall, the Commission considered that the losses from dynamic inefficiency would be of the order of \$50 million.

The Commission examined the benefits that Air NZ and Qantas claimed would arise from the proposed Alliance. These benefits, in descending order of claimed magnitude, were as follows:

- cost savings;
- additional numbers of tourists in New Zealand;

- the continuation of Qantas's purchase of aircraft engineering and maintenance services from Air NZ at existing levels;
- improved aircraft schedules;
- improved freight services;
- new direct flights; and
- other benefits not quantified by Air NZ and Qantas.

The Commission's recognised that under the proposed Alliance the coordination of their combined aircraft fleets would provide Air NZ and Qantas with a degree of flexibility in their management of resources, over-and-above what they would possess in the counterfactual. The two airlines would be able to co-ordinate resources in such a way as to accommodate a proportion of natural market growth using their current aircraft capacity. The cost savings would likely be about \$30 million.

Air NZ and Qantas claimed that the proposed Alliance would provide an opportunity for the airlines to co-operate to increase tourism to New Zealand. The spending by these additional tourists was claimed to benefit suppliers to the tourism industry, whose own spending would induce further economic activity. The two airlines acknowledged that air fare increases as a result of the proposed Alliance would deter some inbound tourists, but that this reduction would be countered by 63,277 additional tourists, giving a net gain of more than 60,000 additional inbound tourists each year. However, the correct picture using the Applicants' figures was that the proposed Alliance would result in 24,437 fewer foreign tourists visiting the country, despite the increased tourism efforts of Air NZ and Qantas. A positive tourism effect was generated only by adding the large number of New Zealanders discouraged from holidaying abroad by higher air fares. When the Commission's larger, estimated, alliance-induced price increases were used instead, together with other factors, the impact on tourism numbers became strongly negative.

The Commission acknowledged that some benefits would arise from New Zealanders, deterred from overseas holidays by higher air fares under the proposed Alliance, nevertheless spending their "overseas tourism dollars" on either less expensive travel within New Zealand, or on other types of domestic consumption. The Commission considers the values of such benefits ranged between \$5 million and \$20 million. Nevertheless, the Commission was not able to accept the claim of the Applicants that New Zealanders being deterred from overseas travel due to increased air fares under the proposed Alliance, by itself, could be considered as leading to an overall benefit to the public of New Zealand.

Air NZ and Qantas claimed that under the proposed Alliance, Qantas would direct 80% of its externally subcontracted engineering and maintenance work to Air NZ, compared to 10% absent the proposed Alliance. The Commission accepted that strategic incentives would change under the proposed Alliance, and that this change in incentives could potentially be reflected in Qantas's external purchases of engineering and maintenance services. However, while strategic concerns might increase in importance when Qantas considered which supplier to choose, that did not mean that the importance it attached to price, proximity, quality and urgency would diminish. Further, the welfare effects of the engineering and maintenance claim was obtained by taking the estimate based on a change in gross spending and deducting resource costs.

The Commission agreed with the submissions of Air NZ and Qantas that the proposed Alliance would result in scheduling benefits arising from improved flight frequencies, enhanced connectivity and additional direct services. The airlines argued that under the proposed Alliance they would schedule

their flights more evenly throughout the day at times more suited to a significant number of travellers, rather than bunching competing flights at peak times. They claimed these travellers would benefit from being able to travel at times they preferred, rather than at times dictated by airline competition for the average passenger. The Commission assumed that on average, business and leisure travellers would receive a 20% gain (applied to an assumed opportunity cost of \$100 and \$20 per hour for business and leisure travellers respectively) as a result of more conveniently scheduled flights, resulting in an estimated benefit of about \$500,000 per annum.

Benefits were also claimed to result from proposed additional freight services, along with improved scheduling, cost savings and the possibility that the proposed Alliance could operate joint freighter services. However, the Commission considered that there was no certainty that the proposed additional freight capacity would be realised in practice, and that the reduced competition under the proposed Alliance might result in increased freight rates. Consequently, the Commission attached no weight to this claim.

Air NZ and Qantas claimed that the proposed Alliance would result in benefits from travellers' time savings from the introduction of new direct flights between Auckland and Adelaide, Auckland and Hobart, Auckland and Canberra, and Wellington and Canberra. However, the Commission considered that competition in the counterfactual would also allow one or both airlines to service these direct routes, if it were possible to do so under the proposed Alliance. Based on this uncertainty concerning the relationship between the proposed Alliance and the economic viability of these new direct services, the Commission did not accept this claim.

The Applicants claimed that the proposed Alliance could offer on-line benefits, such as more on-line flight options (which tend to be cheaper than interline flights), a more seamless travel experience for air travellers, shorter journey durations, and improved scheduling. The Commission accepted the Applicants' claim that online benefits would be positive under the proposed Alliance, but considered that their quantification was problematic. Consequently, the Commission did not ascribe an explicit welfare measure to online benefits.

The quantification of benefits and detriments in this case found, somewhat unusually, that there was no overlap in the two ranges of benefits and detriments, with the detriment range exceeding the benefit range, and so the quantification process strongly confirmed the Commission's judgment based on its qualitative assessments. The Commission therefore declined to authorise the proposed Alliance. This decision was upheld on appeal by the High Court, although it refused to endorse the Commission's Cournot-based model.

7. Conclusions

The quantification of benefits and detriments is a process designed to inform the Commission, and to assist it in the application of its judgment. The Commission's approach to the assessment and quantification of detriments and public benefits is underpinned by economic welfare analysis, as typified by Williamson's merger trade-off model. While the range of detriments and public benefits may seem large and diverse, they all share a common feature: they are concerned respectively with reductions in, and enhancements to, the welfare of New Zealand consumers and producers, as measured in monetary terms. Thus, a detriment typically arises where output is reduced below the competitive level, or where inputs are wasted or dynamic efficiencies reduced, with the result that the value of the total output of the economy is smaller than would otherwise be the case. Similarly, a public benefit arises from the opposite effect, in terms of the value of the output being expanded towards the competitive level, or inputs being used more efficiently, or dynamic effects being more pronounced. These values are inferred from the relevant demand and cost curves using a model designed to reflect the context of the particular market(s) involved.

The attempt to enumerate and quantify detriments and benefits flowing from mergers and acquisitions is, at best, an imprecise science. Predictions are always liable to error. In the end, the Commission must use its judgment to arrive at its decision, taking all relevant factors into account.

PORTUGAL

According to article 12 of the Law No. 18/2003 of 11 June, approving the legal framework for competition, the Portuguese Competition Authority must assess whether or not a concentration would create or strengthen a dominant position that results in significant barriers to effective competition in the Portuguese market or in a substantial part of it. This is the test which must be used whether one is dealing with horizontal mergers or non-horizontal mergers.

However, the same article (article 12.j) refers that the impact of the merger operation on technical and economic progress should be taken into consideration in merger analysis, as long as it benefits consumers and is not an obstacle to competition.

Efficiencies, both static and dynamic, should therefore be considered in assessing the impact of a merger, provided that they benefit consumers, and do not form an obstacle to competition. Additionally, these efficiencies should be verifiable and merger specific, i.e., not achievable by alternatives to the merger.

Generally, in what concerns static efficiencies, a greater weight is given to variable cost reductions, as they can have an impact in the short run. Furthermore, an important assessment to be made is to what extent cost savings are passed on to consumers. Usually, it is important to consider if enough competitive pressure remains in the market so as to ensure that efficiency gains benefit consumers.

As opposed to static efficiencies, a merger may encompass dynamic efficiencies when it allows for changes in innovative activity, e.g. enhancing the efficiency of R&D. As a result of the merger, duplication of R&D may be eliminated, reducing the costs of innovation, economies of scale in R&D may be attained, firms may complement themselves in their R&D activities, and the diffusion of innovation may be increased.

These types of efficiencies, resulting from a merger operation, may be particularly important in industries with short-lived high-technology, or requiring a considerable dimension in order to pursue R&D activities.

Although this sort of efficiencies may lead to considerable benefits to consumers, in terms of better quality goods, cheaper goods or greater choice, it is often difficult to predict and measure their magnitude and expected impact.

Consequently, a qualitative assessment of the alleged dynamic efficiencies is carried out, considering the particular conditions of the market being analysed, although quantitative information is taken into account, when available.

If technical progress as a consequence of the merger refers to innovation in product, these dynamic efficiencies are balanced against the harm to competition that the merger is expected to cause, although, most often, in a qualitative way.

If, instead, we are dealing with efficiencies related to innovation in process (lower costs of production), the notifying party should demonstrate that the cost reduction is significant, and would benefit consumers.

If a merger is expected to create or strengthen a dominant position, leading to a significant impediment to competition, alleged dynamic efficiencies most often are not considered sufficient to offset the harm to competition that the merger is expected to cause, although a qualitative balance may be made, which may be reflected in the set of remedies submitted by the merging parties.

1. Brief notes on the Portuguese Experience

1.1 *Via Oeste (Brisa)/AEO/AEA*

In 2006, the Portuguese Competition Authority blocked the merger between Via Oeste (Brisa) and AEO/AEA, both of the parties active in the construction, overhaul, maintenance and operation of highways, as concession companies, and operating on a parallel corridor between Lisbon and Porto.

The merging parties claimed the merger would allow the companies to obtain a number of synergies, which would, allegedly, have an impact on costs, innovation (R&D in toll management), best practices (e.g. road safety), quality of services provided and financial capacity of Brisa.

The merging parties did not provide any information on the magnitude of those alleged efficiencies, nor did they attempt to show they were merger specific. Some of the claimed efficiencies could possibly be obtained by alternatives to the merger, such as a joint-venture or contractual agreements.

The PCA concluded that the merger would eliminate competition in the relevant market, which would withdraw any incentive to pass a substantial part of those alleged efficiencies or synergies to the consumer. Hence, the efficiency gains were considered not to be adequate or proportionate to offset the anti-competitive effects, on prices and quality, caused by the strengthening of a dominant position.

1.2 *Sonaecom/PT*

In 2006, the Portuguese Competition Authority analysed a hostile take over by Sonaecom over Portugal Telecom (PT), both active in the telecommunications industry. The merger was cleared subject to remedies proposed by Sonaecom.

The proposed merger raised serious competition concerns in particular on the mobile communications market, with the creation of a dominant position which could result in increases in prices.

The notifying party submitted information on alleged synergies from the merger, anticipating efficiency gains which can be summarized in what follows: avoiding duplication of investments (particularly taking into account the current roll-out of a new technology – 3G), allowing for the launch of new innovative products; strengthening of the merged entity's buying power with respect to suppliers of equipment, software and media content, allowing for lower prices; reduction in operational costs (e.g. sharing of network resources – sites/antennas), and in general fixed costs.

During Phase II proceedings, the PCA concluded that the expected efficiency gains from the operation were verifiable, as they were quantified in detail by the notifying party, and seemed to be consistent with the synergies obtained in other merger operations in the mobile communications market. The analysis which followed evaluated whether the efficiency gains were specific to the merger and whether those gains could be passed on to consumers.

A considerable part of the synergies which would result from the merger were considered to correspond to fixed cost savings. The importance of economies of scale in the industry, as defended by the notifying party, reflect the importance of fixed cost in the cost structure of the operators in the market. It was considered unlikely that this type of savings (consolidation and network optimization from shared networks and reduced maintenance costs) could lead to reductions in price which could benefit consumers, in the short-run, only accruing to the company's profit.

Nonetheless, the notifying party defended that over 50% of the operational costs were actually variable, suggesting there would be a considerable reduction in marginal costs, as a result of the merger.

In order for efficiency gains to be considered, they ought to be specific to the merger. A considerable part of the synergies from the Sonaecom/PT takeover consisted in taking advantage of economies of scale. Normally, this type of synergies would not be considered, as there could be alternatives, such as internal expansion, which could lead to the same result. However, in this particular case, strong barriers to expansion were identified on the side of one of the merging parties, as a result of a very high penetration rate in the market (over 100%), and of switching barriers, which limit its ability to conquer new clients. In this context, the PCA considered the claimed efficiencies to be merger specific.

A thorough analysis of the data provided led to the conclusion that the greater effect of synergies was effectively expected to occur at the average fixed cost level. As such, the PCA concluded that the efficiency gains claimed by the notifying party were insufficient to reverse the merger's potential to impede competition.

The potential for efficiency gains resulting from the proposed merger were, nevertheless, taken into account as a complement to the merger remedies put forward by the notifying party, namely those which were not static in nature, but which could have an impact in the roll-out of a new technology (3G).

Given that the mobile communications industry is characterised by technological waves, where different generations of the same product or service follow each other, technological innovation plays an important role. Furthermore, the introduction of new technologies requires high network and marketing investments. Hence, the proposed merger could have a positive impact on the introduction of new technologies.

Simultaneously, in such a dynamic environment, with technological waves, present market shares do not reflect the true impact of a merger, and a dynamic approach, even if qualitative, should be pursued. In the Sonaecom/PT case, for example, matters such as the technological convergence between mobile and fixed communications were taken into account.

The remedies proposed by the notifying party, in what concerns the mobile communications market, were designed to promote entry of a new Mobile Network Operator (MNO) and of Mobile Virtual Network Operators (MVNO), by attenuating barriers to entry and expansion, and by promoting switching between the merged entity and new operators, hence increasing contestability in the market. The PCA took into due account, besides promoting entry, when discussing and analysing the set of proposed remedies, the dynamic effects of the merger, namely on innovation, through the higher incentives to invest in networks and in marketing, necessary to introducing newer technologies.

1.3 BCP/BPI

In 2007, the Portuguese Competition Authority cleared a merger in the banking industry, consisting on the takeover of BPI by BCP, with the imposition of remedies. The analysis of the merger allowed the PCA to conclude that the proposed merger could lead to the creation or strengthening of a dominant position, raising horizontal competition concerns.

According to the information made public by the notifying party, the synergies from this merger would arise essentially as a result of cost reduction at the distribution level, shared services, information technologies and central services. A substantial share of those would be at the level of fixed costs. Savings could also be expected as a result of branch closures and in terms of personnel.

The notifying party put forward a number of academic studies pointing to the existence of economies of scale and other synergies as a result of consolidation in the banking sector, such as the paper by the ECB “Consolidation and Diversification in the Euro area Banking Sector” (May 2005) and “M&A performance in the European Financial Industry” of the Bank of Spain.

In order to assess the alleged synergies and conclude whether or not they were too ambitious, the PCA analysed, based on studies provided by the notifying party, the magnitude of those cost reductions in comparison to those obtained as result of previous mergers involving the notifying party and to those experienced in mergers which took place in other countries. Additionally, and in order to assess the scope for increased efficiency, the PCA took into account the position of the two banks involved in the merger relative to a minimum efficient scale of operations in the Portuguese banking sector, as well as the information available on the efficiency differential between the two banks.

In terms of the studies submitted by the notifying party, the PCA studied their applicability to the case under analysis and compared their results to those obtained by other studies devoted to the same topic, concluding that they were not demonstrative of the magnitude of efficiency gains which were claimed by the notifying party as a result of the merger. In fact, the academic literature concerning economies of scale and scope in the banking industry has found many different and contradictory results, which suggested caution would be necessary in the analysis of efficiencies in this particular case.

Overall, the PCA found that these synergies would not be sufficient to offset the expected impact of the increase in concentration on prices and other conditions offered to the consumers of the banking products/services.

A set of remedies was undertaken to overcome the expected anti-competitive effects of the merger in the relevant markets where concerns were identified. In the presence of such remedies, the PCA considered that the incentives for the new merged entity to pass on eventual cost efficiencies to the consumers would be higher.

TURKEY

Rules on merger control in Turkey are regulated in the Act No 4054 on the Protection of Competition (the Competition Act) and Communiqué on the Mergers and Acquisitions Calling for the Authorization of the Competition Board (Communiqué No 1997/1).¹ These constitute the basic legislation on merger control. The basic aim of merger control rules is to avoid creation or strengthening of dominance that decreases competition significantly in any market for goods or services in Turkey. Therefore, dominance test delineates the basic framework for merger review.

According to the Communiqué No 1997/1, "... the structure of the relevant market, and the need to maintain and develop effective competition within the country in respect of actual and potential competition of undertakings based in or outside the country, ...the market position of the undertakings concerned, their economic and financial powers, their alternatives for finding suppliers and users, their opportunities for being able to access sources of supply or for entering into markets; any legal or other barriers to market entry; supply and demand trends for the relevant goods and services, interests of intermediaries and end consumers, developments in the technical and economic process, which are not in the form a barrier to competition and ensure advantages to a consumer, and the other factors ..." are to be taken into consideration while assessing mergers.²

That efficiency considerations are to be taken into account during the assessment is obvious from the wording of the phrase "*... developments in the technical and economic process, which are not in the form a barrier to competition and ensure advantages to a consumer ...*". Moreover, it is obvious that efficiency considerations are only one of the factors that are considered during the overall assessment of the mergers. The wording overtly requires that efficiencies should not constitute barriers to entry and consumers should receive advantages.

To exemplify the attitude of the Turkish Competition Authority (TCA), some sample decisions may be taken into consideration.

It is explicitly stated by the TCA in one of its decision³ concerning acquisition of intellectual property rights regarding some data network products that where the market shares indicate a dominant position both in pre-merger and post-merger market setting, market shares alone are not adequate enough to

¹ According to Communiqué 1997/1, it is compulsory to take the authorisation from the Competition Board in case the combined market share of the parties exceeds 25% in the relevant product market or, even though it does not exceed this rate, their total turnover exceeds YTL twenty-five million. Privatization transactions are subject to Communiqué numbered 1998/4 on the Procedures and Principles to be pursued in Pre-Notifications and Authorization Applications to be Filed with the Competition Authority in order for Acquisitions via Privatization to Become Legally Valid. However, provisions of Communiqué No 1997/1 are also applicable to acquisitions via privatization transactions provided that they are not contrary to Communiqué No 1998/4.

² It should be noted that the criteria to assess mergers are not exhaustive and they are complemented by evaluations in the case law of the Turkish Competition Authority.

³ IBM/Cisco, 2.5.2000; 00-16/160-82.

determine the existence of dominance although they are being an important indicator of dominance and therefore all the characteristics of the market should be examined.

In line with this premise, among some other factors taken into account in this case where market shares indicate dominance are the dynamic aspects of the market in question such as rapid growth in the market attracting new entry, prediction of continuation of this growth at increasing rates, significant new developments experienced recently in the field of information technologies, efforts by producers of traditional audio equipments to offer wide range of services and reflect the cost savings to their customers, customers' benefiting from innovative practices such as services provided over multi-service networks and internet, great amount of investment in computer network technology by suppliers of telephone equipments in the form of internal research and developments as well as mergers, global competition and the expectation of increase in global competition via mergers by big suppliers of telecommunications equipments worldwide.

Emphasis on the new developments in the market, investments and past and potential mergers by global players designates the interest of the TCA in the likely future developments and prospective course of the market since the TCA openly mentioned that the acquiring party was expected to lose market power in the future vis-à-vis big players. Moreover, the TCA did not consider that nature of the market characterised by high technology constituted entry barrier as innovations in this market were mainly realised by small players. As a result of such considerations, the transaction was cleared implying that high market shares reaching as high as 70,5% may need to be backed by some other evidence in especially such dynamic markets.

In another decision⁴, the TCA took into account that the parties could create important efficiencies in terms of research and development studies and investment as a result of which development of secure cards (such as bank cards and GSM cards) suitable for new fields of application could be ensured and costs might be decreased. The parties aimed to combine their existing customers, information units and capital to be ready for the new applications and technological changes expected in the market and to be able to carry out innovative business ventures and investments in the newly developing segments of the market. The TCA, in addition to recent new entry and price reductions, considered the facts that the market was tipping in favour of the cards with microprocessors and therefore technological developments and novelties gained importance, software and product development works caused the undertakings incur important costs and the producers had to carry out intense research and development studies and investment and ensure product variety in order to cope with competition. As a result, the transaction involving two of the four biggest undertakings that would take the first place in the market was cleared.

Another case⁵ regarding an acquisition transaction involving various machines used by package producers, the TCA decided that it would be misleading to take into account only the market shares to find existence of a dominant position as there were significant fluctuations in market shares over the years. Moreover, the market was characterised with technological developments requiring the market players to accommodate to these developments and bring technical innovation. The TCA also considered customers' statements that large number of manufacturers of the relevant machines owning similar technological capabilities existed, that they could purchase relevant machines under more advantageous conditions following the acquisition as competition among manufacturers would increase in terms of technological innovations which had the primary impact in selling the machines in question.

⁴ Gemplus/Exalto, 11.5.2006; 06-33/410-107.

⁵ Valmet/Bobst; 30.12.2003; 03-84/1020-408.

A final sample decision⁶ may be granted regarding electricity distribution equipments. In this case, the parties' aim to benefit from synergies in the fields of research and development, production and marketing to be created by their complementary activities was taken into consideration by the TCA among other factors such as competitive and dynamic nature of the market, and absence of entry barriers. Moreover, it was also considered that the consumers would benefit from technical and economic developments that would arise.

It can therefore be concluded that efficiencies in general and dynamic efficiencies in particular are to be taken into account in the overall appraisal of mergers and acquisitions in Turkey that aims to prevent creation or strengthening of dominance that decreases competition significantly in the market and advantages for the consumer are also required from such efficiencies.

⁶ Legrand/Schneider, 8.10.2001; 01-48/486-121.

UNITED KINGDOM

1. Introduction

This is a joint submission by the UK Office of Fair Trading (OFT) and UK Competition Commission (CC).

The paper provides an overview of our approach to the assessment of dynamic efficiencies. Dynamic efficiencies arise from market processes that encourage investment in innovation to lower production costs, to improve production processes or to develop new and improved products.¹ Mergers may sometimes accelerate the pace of technological progress by facilitating innovations that encourage technical diffusion and/or induce competitive innovations.² Such effects may arise when a merger generates new combinations of understanding, experience or technologies or alternatively simply through the greater ability to fund research into better products or processes. When dynamic efficiencies are important, mergers may potentially result in either improved products or reduced prices to the benefit of consumers.

The key points we examine within this paper are:

- Dynamic efficiencies are most likely to be important in dynamic industry settings. These may be characterised by a few large firms due to the high fixed research and development costs that sustain innovation over time, although this is not always the case³.
- The importance of dynamic efficiencies is often not limited to the particular industry being scrutinised by competition authorities. Specifically some business model, process or product innovations will be capable of use in a wide range of applications. Computing for example is an example of a general purpose technology⁴ The rate of technological progress in such an industry may have implications far beyond the boundaries of the particular industry generating the technology.

¹ Thus we will use the term ‘dynamic efficiency’ to potentially denote dynamic effects on either the cost or demand side. Some readers may prefer to draw a distinction between efficiencies on the cost side on the one hand and dynamic effects on the demand side. We don’t emphasise the distinction for the purposes of this note since new products for example will normally affect both the demand and cost sides while the distinction is moot for many purposes.

² Gary L. Roberts and Steven C. Salop, “Efficiencies in Dynamic Merger Analysis”, 19 Offprints, World Competition Law & Economic Review, 5, 1996.

³ See Sutton, J. Technology and Market Structure: Theory and History, MIT Press, 1998. In Sutton’s terminology, High R&D industries may nonetheless be either high or low ‘alpha’ industries and since he argues concentration is bounded below by ‘alpha’ we may associate high R&D industries with either high or low concentration.

⁴ For example see Trajtenberg, M., A Time to Sow and a Time to Reap: Growth Based on General Purpose Technologies, CEPR Discussion Papers No 1080, December 1994.

- The process of rivalry between firms inherently not only incentivises price competition but also cost competition⁵. Hence when examining how mergers benefit consumers, efficiency can be an important part. More broadly, one of the benefits of a rigorous and appropriate competition regime is the promotion of greater productivity throughout the economy. Clearly efficiencies derived from mergers would be part of that⁶.
- A merger may increase the ability to achieve dynamic efficiencies but this also needs to be balanced against the incentives to achieve efficiencies that the process of rivalry provides. Without some remaining competitive threat through existing or potential rivals, it appears right that a competition authority remains dubious about the potential benefits to consumers of a merger which substantially lessens competition.
- We recognise that mergers can have a positive role to play in generating dynamic efficiencies, for example mergers may:
 - Increase diffusion of skills, knowledge and experience which can effectively transfer the ability to become more cost efficient
 - Result in better incentivised internal management
 - Result in increased returns sufficient to support higher investment levels in the fixed costs associated with research and development which in turn may result in the development of higher quality products.
- However, mergers may also be harmful both to the process of generating dynamic efficiencies and also to short run competition to win business. For example, mergers may enhance market power leading to higher prices, reduced production volumes and/or the production of lower quality products.
- For these reasons, there is a longstanding and not entirely resolved economic debate about the relationship between concentration and innovation. On the one hand, increased returns associated with market power may actively facilitate and provide incentives for investment. On the other hand, market power that can be sustained without investment removes any incentive for that investment. Competition can therefore be good for investment so that mergers that reduce competition may reduce investment.⁷
- Where competition is substantially reduced, the effect may be higher prices or reduced quality as well as potentially lower incentives to achieve dynamic efficiencies. Moreover, where such

⁵ Competition places pressure on firms' to decrease internal inefficiency often referred to as x-inefficiency in order to gain a cost advantage over its rivals and hence increase profitability. Indeed a market for buying and selling firms itself is part of that pressure.

⁶ See OFT887, 'Productivity and Competition: An OFT perspective on the productivity debate', January 2007.

⁷ There has been a debate between the Austrian (or Schumpeterian) school of economic thought which suggests that the profits derived from concentrated markets are needed to promote innovation and that there thus exists a trade off between static and dynamic efficiencies and more recent theory and empirical research which also indicates that competition within the product market can enhance dynamic efficiency.

concerns are present it will be difficult to quantify the extent of potential benefits against costs to consumers.

2. Context

Whilst all industries can benefit from the introduction of new processes, some industries' rate of change over time is greater than others⁸. Clearly dynamic efficiencies are more likely to occur in dynamic industries. In terms of assessing competition – dynamic industries can throw up differences in emphasis, in particular, new entry tends to be more likely and foreclosure is a concern which arises more often⁹. Perhaps more importantly these efficiencies can derive from new business models, better internal management incentives or other ways of reducing costs and better meeting customer demand. These innovations can be very important to a firm's ability to compete. Here assessing the process of competition becomes far more important than in traditional industries.

More generally, examining how dynamic efficiencies can occur and the overall effect on consumers inherently means examining the claimed efficiencies as part of the substantive analysis. For example if a merger created a more efficient firm this may spur non-merging firms to also achieve greater efficiency and increase rivalry within a market.

It is well understood that there does not exist a simple relationship between market power and innovation. Increased rewards ex ante (through high profits) generate greater incentives to innovate. On the other hand, if such rewards may be kept without costly innovation then the incentive to innovate may entirely dissipate. In a competitive environment, innovation is driven through the fear of losing business due to failure to innovate or greater innovation by rivals. In some industries, competition may become 'winner takes all' with the most successful innovator capturing the entire market. For innovation to continue however, the role of winner must be capable of being subsequently challenged by rival firms.

The assessment of mergers is less straightforward in those industries characterised by high levels of innovation and dynamic competition. Measures of concentration can be poor indicators of market power.

A merger may well combine knowledge, business models and technology to create a more efficient firm and innovator. It may also lead to prices going up due to a loss of rivalry¹⁰ and in turn lessen the incentives to increase efficiency or innovate. Sometimes there may be a trade off; innovation is improved whilst short term prices go up due to a loss of rivalry¹¹. In such settings predicting the net welfare implications on consumers can be particularly difficult. However, where a merger eliminates all substantive competition, the consequential elimination on incentives to continue to achieve efficiency

⁸ For example, examining the telecommunications industry and the fishing industry now and twenty years ago, both will have changed but one much more than the other.

⁹ For greater discussion see the UK's submission to the OECD roundtable on merger review in emerging high innovation markets of January 2003.

¹⁰ A distinction can be drawn between prices increasing because a firm successfully introduces a product or service more valuable to consumers and prices going up because consumers have less choice from whom to source products and services. In this example we mean the later.

¹¹ A distinction can be drawn between prices increasing because a firm successfully introduces a product or service more valuable to consumers and prices going up because consumers have less choice from whom to source products and services. In this example we mean the later.

raises the question as to whether any merger-specific efficiency savings would be achieved or could ever outweigh the impact of the loss of the process of rivalry on efficiency and prices.

Below we discuss the two ways in which dynamic efficiencies can be assessed within UK merger review:

- within the competition assessment in determining whether or not a merger gives rise to a substantial lessening of competition (SLC). These may be referred to as “rivalry-enhancing” efficiencies; and
- in the assessment of relevant customer benefits derived from the merger which could serve as an exception for the OFT from its duty to refer a merger to the CC for in-depth investigation or, in relation to second-phase CC investigations, in the selection of remedies. The assessment of such relevant customer benefits entails a balancing exercise of the net effect on consumers from increased efficiency and decreased rivalry.

3. Dynamic efficiencies and assessment of a Substantial Lessening of Competition

Under the Enterprise Act 2002, which governs UK merger control, mergers that meet the relevant jurisdictional tests are permitted unless they result, or may be expected to result, in a SLC.¹² If the merger will not result in any loss of rivalry between the merging parties, we will generally not inquire as to the benefits of the merger. If there is a loss of rivalry, then efficiencies can be relevant to our assessment of competitive effects in the substantive assessment.

Although the Enterprise Act contains no explicit provision on the analysis of efficiencies during the competition assessment stage, merger guidelines issued by the OFT and CC provide that efficiencies may be taken into account where they increase rivalry in the market, so that, in principle, no SLC would result from a merger.¹³ The assessment of this will be an integral part of the competition analysis.

3.1 *First-phase review*

The OFT carries out the first stage merger analysis within the UK. The OFT recognise that efficiencies generated by a merger may increase rivalry such that no substantial lessening of competition (SLC) occurs¹⁴. This has particular relevance for dynamic efficiencies which, through their continual effect, may well stimulate rivalry. The OFT guidelines specifically recognise efficiencies that increase rivalry and one example given is ‘...where the merger stimulates the combined firm to invest more in R&D and increase rivalry through innovation.’¹⁵

In practice, this has not had a determinative bearing on merger assessments although has been of relevance in a few cases. For example:

¹² In relation to the OFT, see Sections 22(1) and 33(1) Enterprise Act 2002 on the duty to refer completed and anticipated mergers, respectively; in relation to the CC, see Sections 35(1) and 36(1) Enterprise Act 2002 on the questions to be decided in relation to a completed and anticipated merger, respectively.

¹³ OFT, “Mergers: Substantive assessment guidance” (OFT Guidance), May 2003, para. 4.31; CC, “CC2: Merger References: Competition Commission Guidelines” (CC2), June 2003, paras. 3.26-3.27..

¹⁴ Footnote 9 OFT Guidance, paragraph 4.30.

¹⁵ Footnote 9 paragraph 4.32.

- BSKyB acquired an internet provider Easynet Group plc which allowed it to offer combined telephony, television and broadband internet services (triple play) to its customers. The OFT's assessment noted: *'Sky will through the merger acquire a position in DSL more speedily than via organic growth and facilitate its provision of triple play services in competition with other providers, from which consumers may benefit.'*¹⁶ Whilst this aspect was not conclusive in clearing the merger, it provides an example of how dynamic efficiencies can enhance rivalry.
- The acquisition of Advanta European Seed Business by Limagrain raised initial concerns in respect of reduced competition in the seed sector. The parties did advance dynamic efficiencies derived from the merger. The OFT's decision noted *'The acquisition will give Limagrain access to germplasm (specifically, germplasm associated with Advanta's varieties that are not on the National List). Combining the two breeding programmes will increase the merged parties' chances of developing better varieties.'*¹⁷

However, in both the above examples, it was the dynamic nature of competition rather than merger specific dynamic efficiencies which was determinative. Nevertheless it is possible that merger specific dynamic efficiencies could lead to more effective rivalry and therefore prevent a SLC which would otherwise have occurred.

3.2 *Second-phase review*

The CC guidelines provide that if claimed rivalry-enhancing efficiencies (which could include dynamic efficiencies) are to be taken into account, the CC will need to form an expectation that:

- They can “result within a short period of time”;
- They will “result as a direct consequence of the merger”; and
- That “the efficiencies will increase rivalry among the remaining firms in the market.”¹⁸

For a merger to result in “rivalry-enhancing” efficiencies there must be some rivalry left in the market to enhance post-merger. This is therefore not an argument that could be used to avoid an SLC finding in a merger to monopoly. The CC2 guidelines (para. 3.26) provide a simple example of rivalry-enhancing efficiencies: where the merger under consideration involves two smaller firms in a market and where that merger enables the parties to compete more effectively with larger firms.

In dynamic markets, particularly where firms compete by introducing new products, the consideration of such efficiencies is likely to be highly relevant to merger assessment. The extent to which such consideration is made explicitly may depend on whether there is significant evidence pointing to an SLC finding.

¹⁶ Office of Fair Trading, Anticipated acquisition by BSKyB Broadband Services Limited of Easynet Group plc, 13 January 2006.

¹⁷ The Office of Fair Trading, Completed acquisition by Limagrain of the Advanta European Seed Business, 7 June 2005

¹⁸ CC2 guidelines, para. 3.26-3.27. The OFT guidelines state that in order for the OFT to take into account efficiencies that are claimed to enhance rivalry, they must be “demonstrable” and merger-specific, and a reasonable share of the benefits must be likely to be passed on to consumers. See OFT Guidance, paras. 4.32-4.35 and, specifically, para. 4.34.

In the proposed merger between *Carl Zeiss/Bio-Rad Laboratories* the CC analysed carefully the effect of the merger on incentives and ability to innovate by the parties and the rest of the firms in the market. The parties in this case were producing a particular type of microscope, whose features were the result of intense R&D effort on behalf of the firms. The CC considered that the merger would not lead to an SLC because of the nature of competition in the market and also pointed out that the R&D efforts of the merging parties could lead to the exploitation of some complementarities.¹⁹

4. Dynamic efficiencies and relevant customer benefits

The Enterprise Act expressly permits the OFT, in its first-phase investigation, to take account of “relevant customer benefits” when deciding whether to make a reference to the CC or whether to accept undertakings in lieu.²⁰ Similarly, the CC, in its second-phase review, may take account of relevant customer benefits when deciding whether to implement final remedies.²¹ Such relevant customer benefits could include dynamic efficiencies.

Section 30 of the Enterprise Act identifies a number of key features of relevant customer benefits, which were intended to be 'narrowly defined' and 'not expected to arise very often.'²² They must be in the form of greater innovation, lower prices, greater choice or higher quality in a UK market. They also must be expected to accrue within a reasonable time-frame and to be merger-specific (i.e. to derive from the merger and be unlikely to arise absent the merger).²³

There is clearly an overlap between these conditions and those applied to an efficiencies analysis at the competitive assessment stage.

4.1 *First-phase review and exception to the duty to refer*

Where the OFT identifies a SLC as a result of a merger, it is under a duty to refer the merger to the Competition Commission for an in-depth investigation.²⁴

There are exceptions to the duty to refer, one of which is on the basis of customer benefits derived from the merger.²⁵ This includes efficiency savings including dynamic efficiencies. The OFT guidelines contain the following example:

'Greater innovation. A merger might, in rare cases, facilitate innovation through R&D that could only be achieved through a certain critical mass, especially where fixed (and) sunk costs are involved.

¹⁹ See CC, 2004. “Carl Zeiss Jena GmbH and Bio-Rad Laboratories Inc: A report on the proposed acquisition of the microscope business of Bio-Rad Laboratories Inc”, par. 5.38.

²⁰ Sections 22(2) and 33(2) EA 02.

²¹ Sections 35(5) and 36(5) EA 02.

²² Explanatory Notes to the 2002 Act, paragraph 122.

²³ See Section 30 Enterprise Act 2002; OFT Guidance, paras. 7.7-7.10; and CC2, paras. 4.34-4.45.

²⁴ See Sections 22(1) and 33(1) Enterprise Act 2002 on the duty to refer completed and anticipated mergers, respectively.

²⁵ Sections 22(2)(b) and 33(2)(c) Enterprise Act 2002.

Exceptionally, the benefits likely to be passed through to customers from such innovation might outweigh the substantial lessening of competition.²⁶

In assessing such customer benefits the OFT requires:

- The claimed customer benefits must be clear and in the case of cost savings quantifiable.
- The parties should be able to provide detailed and verifiable evidence.
- The claimed benefits will materialise within a reasonable period of time.
- The benefits would be unlikely to arise without the merger.
- The parties will have the incentive to pass benefits on to customers.
- These benefits outweigh the competition detriments caused by the merger.
- The benefits need not accrue to customers in the same market(s) where the substantial lessening of competition concerns have arisen but in such cases clear and compelling evidence is required.

The assessment of dynamic efficiencies in this context can be both easier (in some regards) and more difficult. Notably:

- For dynamic efficiencies that ultimately result in new products or services. The benefits directly accrue to customers and as such proving an incentive to pass benefits on is not as important.
- However, providing detailed and verifiable evidence is likely to be more difficult, by its very nature dynamic factors tend to be less quantifiable. For example gaining specific expertise in a technology is hard to quantify²⁷. As such these benefits can be easy to dismiss as too vague whereas they may be the type of improvements which can produce significant long lasting benefits to consumers.
- Requiring benefits to be merger specific does not require the merger to be the only way to achieve these benefits. The merger could make such efficiencies more likely to occur or more likely to occur quickly.

Examples where these considerations have occurred are:

- Flybe acquired the regional services of British Airways (BA Connect), the OFT identified a point to point air route (Southampton to Manchester) where an SLC may occur. The parties argued that network benefits would result from the merger whereby the low cost airline model would be introduced into a range of regional routes. This could be viewed as a dynamic efficiency resulting from the merger. The OFT could not accept this as an exception to the duty to refer under customer benefits because evidence was insufficient and provided too late²⁸.

²⁶ Footnote 9, paragraph 7.8 second bullet point.

²⁷ Contemporaneous internal business documents may play an important role here.

²⁸ See Office of Fair Trading press release 16-07, 'Flybe submitted these efficiency claims only late in the process and was not able to substantiate them. As a result, the OFT could not weigh these claims against

However, it should also be noted that an SLC was only found on one route largely because the dynamic nature of the market which allowed for entry and exit was incorporated into the assessment.²⁹

- BSKyB Hilton was a joint venture which qualified as a merger and whose aim was of improving BSKyB's provision of 'in-screen' TV betting services, a new service within the UK. It was recognised that the merger could assist in quickly bring to the market a new product. It also involved a five year exclusive contract which raised foreclosure concerns. Hence the case was referred for further investigation noting *'This proposed joint venture presents a dilemma. In some respects it may enhance innovation and competition in the wider betting market. But its exclusivity provisions pose possible risks to the development of competition in interactive betting (which is forecast to be a large market within the next few years) and in the acquisition of sports rights.'*³⁰

4.2 *Second-phase review and consideration of remedies*

Even with merger to monopoly, there is scope to take efficiencies of “relevant customer benefits”, which could be in the form of dynamic efficiencies, into account at the remedies stage of the investigation.³¹ There is, however, a high hurdle for such efficiency arguments to be accepted, although any arguments made at this stage will be carefully scrutinised and seriously considered.

The CC guidelines provide the following example of possible relevant customer benefits that could encompass dynamic efficiencies. Enhanced innovation from a merger through economies of scale, specialisation in R&D and/or the pooling of risks. “While in many industries a minimum level of expenditure or expertise may be a prerequisite for successful innovation, and this kind of synergy may be hard to achieve in the absence of the merger, the incentives to innovate may be blunted by the reduction of competition resulting from the merger.”³²

In *Dräger Medical/Hillenbrand Industries*,³³ the CC considered whether the loss of a competitor at the global level might have the effect of removing a source of innovation and of reducing the incentive on the remaining competitors to innovate. The CC thought this was a possibility (though it was not part of the CC’s reasoning for finding an SLC). On the other hand, the CC accepted that economies of scale in manufacturing and development activities might assist the merged entity to increase the effectiveness of its product development programme. Given that the CC found that in the absence of the merger, the parties’

the predicted consumer detriment arising on the Southampton-Manchester route and could not, therefore, rely on the customer benefits exception in order to avoid a reference to the Competition Commission’.

²⁹ Office of Fair Trading, Anticipated acquisition by Flybe Group Limited of the BA Connect business of British Airways plc, 15 February 2007.

³⁰ Office of Fair Trading, BSKyB Hilton Group, September 2001. The CC laid the reference aside following the abandonment of the merger by the parties.

³¹ See Section 30 Enterprise Act 2002 on “relevant customer benefits”. Section 35(5) and 36(4) Enterprise Act 2002 provide that the CC may “have regards to the effect” of “any relevant customer benefits” in relation to completed and anticipated mergers, respectively. See also CC2, paras. 4.34-4.45.

³² CC2, paras. 4.42.

³³ CC Report, Medical/Hillenbrand Industries, May 2004, para. 10.6.

investment in innovation might decline, though not enough to remove the competitive constraint they imposed on one another, the CC considered that any such increase in the effectiveness of a product development programme would be attributable to the merger. However, such evidence as the CC received during the investigation did not lead it to expect that either the positive or negative effects of the merger on innovation outweighed the other. The CC, therefore, did not expect an increase in innovation. However, in its consideration of remedies, the CC took care to avoid adopting remedies that would in any way restrict the parties' ability to invest in product development or to introduce new products in UK markets.

5. Conclusion

Dynamic efficiencies would usually be expected to enhance rivalry and as such may prevent a SLC rather than be balanced against an SLC:

- Where an SLC does occur, it is difficult for parties to demonstrate that dynamic efficiencies can outweigh the impact on consumers.
- The UK's experience in dealing with such questions in merger analysis is relatively small and we welcome the opportunity to learn from others' experiences.

UNITED STATES

The enforcement agencies in the United States have recognised that mergers may lead to “increased innovation that results in lower costs and prices or in more rapid introduction of new products that benefit consumers.”¹ Benefits from mergers of these sorts may be termed “dynamic efficiencies.” In an exceptional case such efficiencies could be decisive in the agencies’ assessment of a merger, but the vast majority of mergers likely to generate significant dynamic efficiencies would not raise significant competitive concerns in the first instance. Dynamic efficiencies, nevertheless, are important in the formulation and implementation of competition policy, especially outside the merger area, because they contribute greatly to consumer welfare.

1. Dynamic Efficiency Considerations in Competition Policy

Dynamic efficiencies produce substantial increases in consumer welfare. Research and development (R&D) by individual firms, especially basic research, has contributed significantly to increases in their productivity,² and at the macro level, technical progress has been estimated to have accounted for as much as three-quarters of the economic growth in major industrialised countries.³ During the late 1990s, improvements in information technology alone were found to have contributed more than half of the increase in industrial productivity in the United States.⁴ The people of all the OECD countries surely enjoy tremendous benefits from new and improved products, such as mobile phones and personal computers.

The most important principle for competition policy in promoting dynamic competition was simply set out more than a half century ago: “The successful competitor, having been urged to compete, must not be turned upon when he wins.”⁵ Embracing this principle, the Supreme Court of the United States recently declared: “The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices—at least for a short period—is what attracts ‘business acumen’ in the first place; it induces risk taking that produces innovation and economic growth.”⁶

¹ U.S. Department of Justice & Federal Trade Commission, *Commentary on the Horizontal Merger Guidelines* 49 (March 2006), available at <http://www.usdoj.gov/atr/public/guidelines/215247.pdf>, <http://www.ftc.gov/os/2006/03/CommentaryontheHorizontalMergerGuidelinesMarch2006.pdf>.

² See, e.g., Zvi Griliches, *Productivity, R&D, and Basic Research at the Firm Level in the 1970s*, 76 *American Economic Review* 141 (1986); Edwin Mansfield, *Basic Research and Productivity Increase in Manufacturing*, 70 *American Economic Review* 863 (1980).

³ See, e.g., Michael J. Boskin & Lawrence J. Lau, *Capital, Technology, and Economic Growth*, in *Technology and the Wealth of Nations* 17 (Nathan Rosenberg et al. eds., 1992) (During the four decades following World War II, the estimated contribution of technical progress to economic growth was: United States—49%, Japan—55%, United Kingdom—73%, France—76%, and West Germany—78%.)

⁴ See Stephen D. Oliner & Daniel E. Sichel, *The Resurgence of Growth in the Late 1990s: Is Information Technology the Story?*, *Journal of Economic Perspectives*, Fall 2000, at 3.

⁵ *United States v. Aluminum Co. of America*, 148 F.2d 416, 430 (2d Cir. 1945).

⁶ *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004). See also Thomas O. Barnett, *The Gales of Creative Destruction: The Need for Clear and Objective Standards*

Of course, competition policy also must be mindful of the fact that monopoly can hinder technical progress,⁷ but that does not mean greater competition always leads to greater innovation. Economic theory demonstrates that the incentive to innovate depends on many complex factors,⁸ and many empirical analyses find no systematic relationship between market concentration and the level of R&D.⁹

One important insight from economic theory and studies of particular industries is that the incentive to innovate depends critically on “appropriability”—the extent to which the successful innovator can capture the fruits of an innovation. Innovation typically entails a significant investment that is entirely sunk before any resulting new technologies are implemented or any new products are commercialised. Just to break even on a substantial up-front investment, a successful innovator must be sufficiently free of competition from imitators to be able to charge, for a significant period of time, a price for its new technology or products well in excess of short-run marginal cost. Because investments in innovation are risky, successes also must compensate for failures.

The pharmaceutical industry is illustrative. Most research programs do not produce marketable drugs, and those that do generally entail more than a decade of laboratory research and clinical testing. A recent study estimated that the average approved new drug in the United States was backed by investment of nearly \$900 million when failures are accounted for and the investment was capitalised to the date of the drug’s introduction.¹⁰

Intellectual property rights are key mechanisms for limiting competition from imitators,¹¹ but competition and competition policy also affect the appropriability.¹² If competition policy facilitates static

for Enforcing Section 2 of the Sherman Act, Opening Remarks for the Antitrust Division and Federal Trade Commission Hearings Regarding Section 2 of the Sherman Act (June 20, 2006), available at <http://www.usdoj.gov/atr/public/speeches/216738.pdf>.

⁷ As compared with a monopolist entirely protected from the forces of competition, a competitive firm has a significantly greater incentive to invest in cost-reducing innovations if patent law completely prevents imitation. See F.M. Scherer & David Ross, *Industrial Market Structure and Economic Performance* 637–44 (3d ed. 1990); Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Inventions, in The Rate and Direction of Economic Activity* 609 (1962).

⁸ See generally Richard J. Gilbert, *Looking for Mr. Schumpeter: Where Are We in the Competition-Innovation Debate?*, in 6 *Innovation Policy and the Economy* 159 (Adam B. Jaffe et al. eds., 2006); Jean Tirole, *The Theory of Industrial Organization* ch. 10 (1988); Jennifer F. Reinganum, *Research, Development, and Diffusion*, in 1 *Handbook of Industrial Organization* 850 (Richard Schmalensee & Robert D. Willig eds., 1989).

⁹ See generally Wesley Cohen, *Empirical Studies of Innovative Activity*, in *Handbook of the Economics of Innovation and Technological Change* 182 (Paul Stoneman ed., 1995); Wesley M. Cohen & Richard C. Levin, *Empirical Studies of Innovation and Market Structure*, in 2 *Handbook of Industrial Organization* 1060 (Richard Schmalensee & Robert D. Willig eds., 1989); Gilbert, *supra* note 8, at 187–204.

¹⁰ Joseph A. DiMasi et al., *The Price of Innovation: New Estimates of Drug Development Costs*, 22 *Journal of Health Economics* 151 (2003).

¹¹ In some industries, intellectual property rights are not the major force in providing appropriability. See Richard C. Levin, et al., *Appropriating the Returns from Industrial Research and Development*, *Brookings Papers on Economic Activity (Microeconomics)* 783 (1987).

¹² Some theoretical and empirical literature finds an “inverted-U” relationship between market concentration and innovation, such that both too little and too much competition retard innovation. See, e.g., Scherer & Ross, *supra* note 8, at 646–47; Philippe Aghion et al., *Competition and Innovation: An Inverted-U Relationship* (unpublished paper, Mar. 20, 2005), available at http://www.econ.brown.edu/fac/Peter_Howitt/publication/ABBGH.pdf.

competition with successful innovators, it may undermine dynamic competition by reducing appropriability. Consumer gains from enhanced price competition could come at the cost of far greater consumer harm from retarded technical progress. As a leading judge and antitrust commentator in the United States has explained: “An antitrust policy that reduced prices by 5 percent today at the expense of reducing by 1 percent the annual rate at which innovation lowers the cost of production would be a calamity. In the long run a continuous rate of change, compounded, swamps static losses.”¹³

2. Dynamic Efficiencies from Mergers¹⁴

Mergers are part of the process through which markets allocate resources. Companies recognising an opportunity to realise efficiencies by combining their complementary assets often propose to merge, and companies operating inefficiently often are taken over by those who perceive the potential for gains by replacing incumbent management. Mergers, thereby, can promote dynamic efficiency. For example, small start-up companies that have made significant inventions may find that they can best commercialise their inventions by partnering with well-established companies that have the necessary resources and expertise. In some cases, the best arrangement may be a merger between the two companies. In this way, mergers combining complementary assets can facilitate the introduction of new products and the diffusion of new technologies.

Mergers creating dynamic efficiencies need not involve companies that compete significantly and thus need not threaten to lessen competition. An interesting recent study focused on thirty-one mergers in which the two merging firms operated in the same general sector of the economy. The study found significant increases in R&D performance only when the merging firms were neither direct competitors nor operated in the same technological field.¹⁵

The enforcement agencies in the United States do not focus on the possible benefits from a merger unless they first find that the merger raises significant competitive concerns. Non-horizontal mergers only rarely raise significant competitive concerns, but such mergers may be the most likely to combine complementary assets in a manner that generates dynamic efficiencies. Thus, the agencies may never focus on the efficiency aspects of the particular mergers that contribute most to dynamic efficiency.

3. Cognisable Dynamic Efficiencies in Merger Enforcement

If a merger does raise significant competitive concerns, the enforcement agencies in the United States investigate both the ways in which the merger might lessen competition and ways in which the merger might enhance competition, including through both static and dynamic efficiencies. The guidelines issued by the agencies state that they “will not challenge a merger if cognisable efficiencies are of a character and magnitude such that the merger is not likely to be anticompetitive in any relevant market.” In this regard,

¹³ Frank H. Easterbrook, Ignorance and Antitrust, in *Antitrust, Innovation, and Competitiveness* 119, 122–23 (Thomas M. Jorde & David J. Teece eds., 1992).

¹⁴ On the competitive effects of mergers on innovation, see generally Michael L. Katz & Howard A. Shelanski, *Mergers and Innovation*, 74 *Antitrust Law Journal* 1 (2007).

¹⁵ Bruno Cassiman et al., *The Impact of M&A on the R&D Process: An Empirical Analysis of the Role of Technological- and Market-Relatedness*, 34 *Research Policy* 195 (2005). Similarly, an unpublished study of mergers involving large pharmaceutical companies found that mergers were likely to have an adverse impact on innovation (as measured by expenditures related to research and development) when the merging firms were closely related technologically. Carmine Ornaghi, *Mergers and Innovation: The Case of the Pharmaceutical Industry* (University of Southampton), available at <http://www.economics.soton.ac.uk/staff/ornaghi/sub-pages/contents/Pharmaceuticals.pdf>.

the guidelines indicate that the agencies consider, among other things, efficiencies “in the form of new or improved products . . . even when price is not immediately and directly affected.”¹⁶ The guidelines, however, make clear that the agencies take efficiencies into account only if they are merger-specific, in that they are “likely to be accomplished with the proposed merger and unlikely to be accomplished in the absence of either the proposed merger or another means having comparable anticompetitive effects,” and also only if the agencies have sufficient information to be able to “verify by reasonable means the likelihood and magnitude of” the efficiencies.¹⁷

Experience suggests claims relating to dynamic efficiencies are often “vague or speculative” or otherwise are of a sort that “cannot be verified by reasonable means.” The agencies’ guidelines indicate that such claims are given no weight.¹⁸ For example, a general, unsupported claim that a merger will allow the realisation of economies of scale would be given no weight, and this is true no matter whether the claimed economies would be in production, distribution, or R&D.

Claims of dynamic efficiencies are most likely to be merger-specific and verifiable when the merging firms point to specific complementary assets that would be combined by their merger and explain why combining those assets accomplishes specific objectives that, in turn, have a predictable salutary effect. For example, a merger that combines one firm’s strength in distribution and marketing with another firm’s strength in product development may bring consumers significant benefits from more rapid introduction or diffusion of new products.

Specific plans for reducing cost following a merger assure that efficiencies claims are not “vague or speculative,” but the agencies do not uncritically accept such plans. Rather, the agencies examine closely both the plans and the accompanying estimates of savings. As noted by the agencies’ guidelines, one issue in this examination is whether the savings “arise from anticompetitive reductions in output or service.”¹⁹ The elimination of one of the merging firms’ research programs could produce a significant cost reduction, but that cost reduction normally should be viewed as an anticompetitive reduction in research rather than as a dynamic efficiency benefit from the merger. Projected savings associated with reductions in personnel from combining two research programs would be examined closely to determine whether the savings stem from economies of scale or from reducing research effort.

The enforcement agencies in the United States do not anticipate making an explicit, quantitative trade off between dynamic efficiency gains from a merger and its effect of lessening competition, for example, in the form of short-term price increases. The agencies expect that occasions to attempt such a calculation would be extraordinarily rare; moreover, performing the calculation likely would be infeasible if the occasion did arise.

Economists can estimate the contribution of past innovations to increased consumer welfare, including the benefits from additional choices and from lower prices.²⁰ Notable in the economic literature

¹⁶ U.S. Department of Justice & Federal Trade Commission, Horizontal Merger Guidelines § 4 (1992, revised 1997), available at <http://www.usdoj.gov/atr/public/guidelines/hmg.pdf>, <http://www.ftc.gov/bc/docs/horizmer.htm>.

¹⁷ Id.

¹⁸ Id.

¹⁹ Id.

²⁰ Significant contributions in this area are: Jerry Hausman, Valuation of New Goods under Perfect and Imperfect Competition, in *The Economics of New Goods* 209 (Timothy F. Bresnahan & Robert J. Gordon eds., 1997); Jerry A. Hausman & Gregory K. Leonard, The Competitive Effects of a New Product Introduction: A Case Study, 50 *Journal of Industrial Economics* 237 (2002); Aviv Nevo, New Products,

are analyses of the consumer benefits of the introduction of direct satellite broadcasting and the minivan.²¹ But the sort of studies that economists have conducted are made possible only by observing the actual responses over time of consumers to the new products. Economists are not nearly as good at predicting how consumers would respond to a new product, or at predicting when new products will be introduced. Thus, a quantitative trade-off is not anticipated.

3. One Illustrative Merger

A merger that raised some of the foregoing issues is Genzyme Corp.'s acquisition of Novazyme Pharmaceuticals, Inc. The acquisition combined the world's only firms engaged in developing the first enzyme replacement therapy (ERT) to treat Pompe disease, a rare, fatal disease, and thus left Genzyme as the only firm engaged in developing Pompe ERT treatments. The merger was investigated by the Federal Trade Commission (FTC) several years after consummation, at which time it was still unclear whether either firm's Pompe drug would ever make it to market. Genzyme asserted that, even without competition from Novazyme, it had the incentive to bring its Pompe product to market in the fastest possible time frame. Genzyme also asserted that the acquisition had resulted in significant efficiencies. Genzyme claimed that each firm had unique skills and expertise, and that, by combining them, the merged firm was able to accelerate development. Genzyme asserted that it possessed certain unique capabilities and technologies that it was applying to Novazyme's Pompe drug. The FTC voted to close its investigation of the merger due, in part, to the evidence supporting the claim that the merger would accelerate development of the drug.²² In a separate statement by the FTC's chairman, he observed that Genzyme had continued both the Genzyme and Novazyme research programs after the acquisition and that the acquisition had helped avoid delays in the Novazyme program.²³

Quality Changes, and Welfare Measures Computed from Estimated Demand Systems, 85 *Review of Economics & Statistics* 266 (2003); Manuel Trajtenberg, *The Welfare Analysis of Product Innovations, with an Application to Computed Tomography Scanners*, 97 *Journal of Political Economy* 444 (1989).

²¹ See Austan Goolsbee & Amil Petrin, *The Consumer Gains from Direct Broadcast Satellites and the Competition with Cable TV*, 72 *Econometrica* 351 (2004) (consumers gained an estimated \$7 billion per year); Amil Petrin, *Quantifying the Benefits of New Products: The Case of the Minivan*, 110 *Journal of Political Economy* 705 (2002) (consumer gained an estimated \$2.8 billion over five years).

²² Materials on the case are available at <http://www.ftc.gov/opa/2004/01/genzyme.htm>. On April 28, 2006 the Food and Drug Administration granted marketing approval for Genzymes' Myozyme for use in patients with Pompe disease.

²³ Statement of Chairman Timothy J. Muris in the matter of Genzyme Corporation / Novazyme Pharmaceuticals, Inc. (Jan. 13, 2004), available at <http://www.ftc.gov/os/2004/01/murisgenzymestmt.pdf>.

EUROPEAN COMMISSION

The EC Merger Regulation¹ explicitly assigns a role to efficiencies in the assessment of mergers. Recital 29 of the Regulation states that "[i]n order to determine the impact of a concentration on competition in the common market, it is appropriate to take account of any substantiated and likely efficiencies put forward by the undertakings concerned."² Article 2(1) of the Regulation lists factors that the Commission shall take into account when appraising mergers. Among these factors is "the development of technical and economic progress provided it is to consumers' advantage and does not form an obstacle to competition".

The general approach of the European Commission to the analysis of efficiencies in merger assessments is described in the Commission's horizontal merger guidelines.³ The full text of the guidelines section on efficiencies is presented in an annex to this paper. Also the recently issued draft guidelines on non-horizontal mergers⁴ discuss the analysis of efficiencies. Besides referring to the section on efficiencies in the horizontal merger guidelines, the draft guidelines on non-horizontal mergers also contain some issues specific for efficiency analysis in this type of mergers⁵.

The guidelines do not express any "preference" for either "static" or "dynamic" efficiencies, and indeed do not define either of the two terms. The guidelines rather set out a general framework that allows for the analysis of both types of efficiencies in a pragmatic way taking account of the specificities of each case. However, it is also clear that the nature of dynamic efficiencies may make it harder for merging parties to live up to the standards set out in the guidelines than would be the case for static efficiencies. The horizontal merger guidelines explain in para. 83 that "[i]n general, the later the efficiencies are expected to materialise in the future, the less weight the Commission can assign to them". The fact that dynamic efficiencies may be expected to take longer time to materialise than static efficiencies may therefore in itself diminish the weight that the Commission can give them in its analysis.

As mentioned above there is no official Commission definition of static and dynamic efficiencies. However, in a 2003 study for the Commission Damien Neven and Paul Seabright defined the terms in the

¹ Council Regulation (EC) No 139/2004 of 20 January on the control of undertakings, OJ L 29.01.2004 pp. 1-19.

² The recital continues: "It is possible that the efficiencies brought about by the concentration counteract the effects on competition, and in particular the potential harm to consumers, that it might otherwise have and that, as a consequence, the concentration would not significantly impede effective competition, in the common market or in a substantial part of it, in particular as a result of the creation or strengthening of a dominant position."

³ Commission Notice – Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 31, 05.02.2004, pp. 5-18.

⁴ Draft Commission Notice - Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings: (http://ec.europa.eu/comm/competition/mergers/legislation/merger_guidelines.html).

⁵ See, for instance, paras 52-56 and 113-116.

following way⁶: "Static efficiencies are those that give rise to *one-off* improvements in production possibilities of the merging parties (for instance an improvement in the *level* of their productivity). Dynamic efficiencies are those that give rise to improvements in the growth of production possibilities (for instance, an increase in the growth rate of productivity)."

They went on to explain that "unlike static efficiencies that affect the process of production of the firm's ordinary output, dynamic efficiencies affect the process of innovation within the firm. All firms undertake innovation, even if it is sometimes confined to rather humble processes of internal organisation; for some firms, though, a very large proportion of time, effort and resources is devoted to innovation rather than to ordinary production."

Following Farrell and Shapiro⁷, Neven and Seabright distinguish between "technical efficiencies" and "synergies". Technical efficiencies result from the "recombination of firms' assets which do not affect firms' joint production capabilities" while synergies "expand the firm production capabilities beyond the joint production capabilities of the merging entity." Neven and Seabright argue that, "even though an ongoing process of improvement in efficiency should not be confused with a one-off improvement that is merely taking some time to materialise, it is worth noting that efficiencies which are not associated with synergies are likely to be realised within a short period of time, whereas synergies will take more time. Efficiencies which are not associated with synergies can be achieved merely by combining the physical assets of the merging parties, or possibly by applying well known improvements in management practices. They will be ones that are foreseeable without difficulty prior to the transaction and to which the merging parties can realistically commit themselves. Precisely because such improvements can be foreseen and made subject to prior commitments they will usually be realised within a short period (say one year) after the transaction."

At the same time, it should be noted that technical efficiencies may often not be merger specific because they could also be realised by each firm separately absent a merger, especially when the market concerned is competitive pre-merger. Conversely, Farrell and Shapiro argue that it may be an indication of the existence of market power pre-merger if available technical efficiencies have not already been realised by firms independently. Some of the implications of these arguments may be useful in the assessment of efficiencies. For example, competition agencies may want to pay more attention to scale economies when they are associated with a recent change in technology or production techniques.

Neven and Seabright further argue that, in contrast to technical efficiencies, "the recombination of intangible assets associated with synergies will typically involve changes in the incentives of stakeholders in the merging parties (workers, managers, shareholders or creditors) in new ways. They will be ones that cannot be foreseen with the same degree of confidence, and to which the merging parties cannot make credible commitments, because they will not materialise without a complementary change in the behaviour of the stakeholders concerned. Such improvements will typically not be realised until some time after the transaction."

Neven and Seabright provide a table illustrating the different categories of efficiencies. The table shows that rationalisation and scale economies tend to be of a static nature while synergies are likely to more dynamic in nature.

⁶ Synergies and Dynamic Efficiencies in Merger Analysis, final report to DG ECFIN.

⁷ Farrell J. and C. Shapiro, "Horizontal mergers: an equilibrium analysis", *American Economic Review*, 1990, 80, 107-126; and "Scale economies and synergies in horizontal merger analysis", *Antitrust Law Journal*, 2001, 68, 685-70.

	Static	Dynamic
Rationalisation and scale economies	Reallocation of production between plants of merging firm Closure of loss making activities Merger of retail networks Improved production control methods	Implementation of systematic investment appraisal methods
Synergies	Exploitation of complementary brands	Pooling of R&D divisions Complementarities between one firms' marketing and another firms' design skill Deployment of a firm's reputation to the assets of the other Deployment of a firm's organisational assets to the operation of the other.

As outlined above, dynamic efficiencies in principle can result in either marginal or fixed cost reductions. However, to the extent that they relate to fixed costs and dynamic effects, they tend to be not only difficult to verify, but the effect on consumer welfare is also less certain.

The Commission applies a consumer welfare standard in its merger assessment. Thus, efficiencies that result in a reduction of marginal costs are *à priori* more likely to affect the outcome of an investigation because marginal cost reductions create immediate incentives for a firm to set lower prices than absent the efficiency. By contrast, the effect of fixed cost reductions on market outcomes is less immediate and subject to a number of potential obstacles.

Fixed cost reductions, particularly where the costs are associated with sunk investment, reduce the minimum mark-up on marginal costs required for a firm to profitably compete in a market. Lower fixed costs, thus, tend to induce firms to expand existing operations or enter into new markets and thereby intensify competition. In principle, fixed cost reductions therefore have the potential to benefit consumers. However, especially with respect to entry, the consumer benefit is likely to occur only in the long-run (i.e., over more than one investment cycle). In addition, market inefficiencies may prevent the increased entry and, hence, consumer benefit from materialising even in the long run. Such potential inefficiencies include, for example, externalities, asymmetric information and imperfect capital markets. Hence, while the link between lower fixed costs and incentives to invest is straightforward in principle, the effect on long-term market performance is dependent on a number of parameters and, thus, uncertain.

As a result, the Commission's assessment of efficiencies, especially in merger cases, has tended to concentrate on potential reductions in marginal costs. By contrast, reductions in fixed costs (such as overheads, research & development or financing) have not normally been invoked as an efficiency in the Commission's decision practice. The same applies to dynamic efficiencies. The rationale of this approach is that predictions about longer-term market outcomes are notoriously difficult, especially within the time

limits of a merger investigation. In addition, for dynamic effects, the theoretical basis is less developed and difficult to apply empirically. Moreover, the European courts have recently applied a high burden of proof for predictions about future market outcomes that depend on a chain of successive events.

The Commission's reluctance to assess efficiencies that are relatively distant and uncertain is mirrored by its analysis of potential competitive harm in merger investigations. Here, too, the Commission tends to limit itself to well-established theories of harm that can be verified within the time limits of the EU Merger Regulation and that allow the competition authority to establish a direct link between a merger and consumer harm (or the absence thereof). In particular, the Commission would not normally find competitive harm based on dynamic effects that cannot be empirically verified or where there is no firmly established economic theory to support a finding of significant impediment of effective competition. The Commission's assessment is thus symmetric with regard to the pro- and anti-competitive effects of a merger.

However, it is true that by disregarding entirely dynamic efficiencies a competition agency may forego the potential consumer benefits from these effects. Where a forward-looking analysis of future effects is particularly complex, an ex-post analysis of past events may provide clues towards a better understanding of the link between mergers and dynamic efficiencies. Some basic analysis is possible on a case-by-case basis and the Commission has regularly applied it and orientated its enforcement policy accordingly. For example, volatile market shares and frequent entry and exit often point to dynamic industries where no firm enjoys sustained market power. The opposite is true where large incumbents have enjoyed stable, high market shares and significant profits over extended periods of time. A large proportion of cases prosecuted by the Commission fall in the latter category, so a degree of caution towards long-run or dynamic efficiency claims appears not unreasonable in these settings. It would therefore in general seem appropriate that merging parties provide the necessary evidence for an efficiency defence involving dynamic efficiencies or fixed cost reductions in a specific case.

Another approach is to assess (ex-post) the performance of individual industries that are likely to be the subject of regulatory review in the future. If an industry has a history of reverting quickly to competitive outcomes following structural shocks (such as mergers, new entry, new technology), one might expect it to also do so in the future, increasing the likelihood that dynamic efficiencies will benefit consumers. This is an area where additional empirical research could enhance our understanding of medium and long-run merger effects. The Commission has begun for this purpose to evaluate more systematically ex-post the development of markets in which it has adopted decisions under the Merger Regulation with a view to assessing appropriate enforcement tools and intervention thresholds. It intends to report on its findings when more systematic evidence is available.

Conclusion

Neglecting the dynamic effects of regulatory intervention on competition can lead to welfare losses. The Commission's merger guidelines in principle recognise any efficiencies that prevent a merger from harming consumers. However, dynamic efficiencies in practice tend to be difficult to verify and have therefore not so far played a decisive role for the outcome of merger investigations. It is therefore important to better understand the dynamic effects of mergers, which can be both pro- and anti-competitive. Because a prospective empirical assessment of long-run effects in individual cases is even more complex than the traditional analysis, an ex-post analysis of selected industries is a possible first step to better understand the impact of factors such dynamic efficiencies and fixed costs reductions on long-term market performance.

ANNEX

Efficiencies section in the Commission's horizontal merger guidelines

VII. EFFICIENCIES

76. Corporate reorganisations in the form of mergers may be in line with the requirements of dynamic competition and are capable of increasing the competitiveness of industry, thereby improving the conditions of growth and raising the standard of living in the Community.¹ It is possible that efficiencies brought about by a merger counteract the effects on competition and in particular the potential harm to consumers that it might otherwise have². In order to assess whether a merger would significantly impede effective competition, in particular through the creation or the strengthening of a dominant position, within the meaning of Article 2(2) and (3) of the Merger Regulation, the Commission performs an overall competitive appraisal of the merger. In making this appraisal, the Commission takes into account the factors mentioned in Article 2(1), including the development of technical and economic progress provided that it is to the consumers' advantage and does not form an obstacle to competition³.
77. The Commission considers any substantiated efficiency claim in the overall assessment of the merger. It may decide that, as a consequence of the efficiencies that the merger brings about, there are no grounds for declaring the merger incompatible with the common market pursuant to Article 2(3) of the Merger Regulation. This will be the case when the Commission is in a position to conclude on the basis of sufficient evidence that the efficiencies generated by the merger are likely to enhance the ability and incentive of the merged entity to act pro-competitively for the benefit of consumers, thereby counteracting the adverse effects on competition which the merger might otherwise have.
78. For the Commission to take account of efficiency claims in its assessment of the merger and be in a position to reach the conclusion that as a consequence of efficiencies, there are no grounds for declaring the merger to be incompatible with the common market, the efficiencies have to benefit consumers, be merger-specific and be verifiable. These conditions are cumulative.

Benefit to consumers

79. The relevant benchmark in assessing efficiency claims is that consumers⁴ will not be worse off as a result of the merger. For that purpose, efficiencies should be substantial and timely, and should, in principle, benefit consumers in those relevant markets where it is otherwise likely that competition concerns would occur.
80. Mergers may bring about various types of efficiency gains that can lead to lower prices or other benefits to consumers. For example, cost savings in production or distribution may give the merged

1 See Recital 4 of the Merger Regulation.

2 See Recital 24 of the Merger Regulation.

3 Cf. Article 2(1)(b) of the Merger Regulation.

4 Pursuant to Article 2(1)(b), the concept of 'consumers' encompasses intermediate and ultimate consumers, i.e. users of the products covered by the merger. In other words, consumers within the meaning of this provision include the customers, potential and/or actual, of the parties to the merger.

entity the ability and incentive to charge lower prices following the merger. In line with the need to ascertain whether efficiencies will lead to a net benefit to consumers, cost efficiencies that lead to reductions in variable or marginal costs⁵ are more likely to be relevant to the assessment of efficiencies than reductions in fixed costs; the former are, in principle, more likely to result in lower prices for consumers⁶. Cost reductions, which merely result from anti-competitive reductions in output, cannot be considered as efficiencies benefiting consumers.

81. Consumers may also benefit from new or improved products or services, for instance resulting from efficiency gains in the sphere of R & D and innovation. A joint venture company set up in order to develop a new product may bring about the type of efficiencies that the Commission can take into account.
82. In the context of co-ordinated effects, efficiencies may increase the merged entity's incentive to increase production and reduce prices, and thereby reduce its incentive to coordinate its market behaviour with other firms in the market. Efficiencies may therefore lead to a lower risk of coordinated effects in the relevant market.
83. In general, the later the efficiencies are expected to materialise in the future, the less weight the Commission can assign to them. This implies that, in order to be considered as a counteracting factor, the efficiencies must be timely.
84. The incentive on the part of the merged entity to pass efficiency gains on to consumers is often related to the existence of competitive pressure from the remaining firms in the market and from potential entry. The greater the possible negative effects on competition, the more the Commission has to be sure that the claimed efficiencies are substantial, likely to be realised, and to be passed on, to a sufficient degree, to the consumer. Efficiencies are therefore more likely to make a difference in the assessment of a merger when they are substantial and the possible anti-competitive effects that might otherwise occur are small. It is highly unlikely that a merger leading to a market position approaching that of a monopoly, or leading to a similar level of market power, can be declared compatible with the common market on the ground that efficiency gains would be sufficient to counteract its potential anti-competitive effects.

Merger specificity

85. Efficiencies are relevant to the competitive assessment when they are a direct consequence of the notified merger and cannot be achieved to a similar extent by less anticompetitive alternatives. In these circumstances, the efficiencies are deemed to be caused by the merger and thus, merger-specific⁷. It is for the merging parties to provide in due time all the relevant information necessary to demonstrate that there are no less anti-competitive, realistic and attainable alternative of a non-concentrative nature) e.g. a licensing agreement, or a cooperative joint venture) or of a concentrative nature (e.g. a concentrative joint venture, or a differently structured merger) than the notified merger which preserve the claimed efficiencies. The Commission only considers alternatives that are reasonably practical in the business situation faced by the merging parties having regard to the established business practices in the industry concerned.

Verifiability

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- 5 Variable costs should be viewed as those costs that vary with the level of production or sales over the relevant time period. Marginal costs are those costs associated with expanding production or sales at the margin.
 - 6 Generally, fixed cost savings are not given such weight as the relationship between fixed costs and consumer prices is normally less direct, at least in the short run.
 - 7 In line with the general principle set out in paragraph 9 of this Notice.

86. Efficiencies have to be verifiable such that the Commission can be reasonably certain that the efficiencies are likely to materialise, and be substantial enough to counteract a merger's potential harm to consumers. The more precise and convincing the efficiency claims are, the better the Commission can evaluate the claims. Where reasonably possible, efficiencies and the resulting benefits to consumers should therefore be quantified. When the necessary data are not available to allow for a precise quantitative analysis, it must be possible to foresee a clearly identifiable positive impact on consumers, not a marginal one. In general, the longer the start of the efficiencies is projected into the future, the less probability the Commission may be able to assign to the efficiencies actually being brought about.
87. Most of the information, allowing the Commission to assess whether the merger will bring about the sort of efficiencies that would enable it to clear a merger, is solely in the possession of the merging parties. It is, therefore, incumbent upon the notifying parties to provide in due time all the relevant information necessary to demonstrate that the claimed efficiencies are merger-specific and likely to be realised. Similarly, it is for the notifying parties to show to what extent the efficiencies are likely to counteract any adverse effects on competition that might otherwise result from the merger, and therefore benefit consumers.
88. Evidence relevant to the assessment of efficiency claims includes, in particular, internal documents that were used by the management to decide on the merger, statements from the management to the owners and financial markets about the expected efficiencies, historical examples of efficiencies and consumer benefit, and pre-merger external experts' studies on the type and size of efficiency gains, and on the extent to which consumers are likely to benefit.

BRAZIL

The Treatment of Efficiencies in Mergers: the Brazilian Case

1. Background

According to Kolasky and Dick (2003) - “There is a widening consensus among jurisdictions with competition laws that ‘the basic objective of competition policy is to protect competition as the most appropriate means of ensuring the efficient allocation of resources—and thus efficient market outcomes—in free market economies.’ As this statement indicates, it is efficiency, not competition, that is the ultimate goal of the antitrust laws.”

Although this vision is considered among almost all jurisdictions (including the Brazilian one), the practice of merger control policy in Brazil has taken efficiency defence into consideration only in very few cases. In Brazilian tradition, until recently, competition was viewed as the main objective of antitrust policy. As in other jurisdictions most part of the reviewed mergers and acquisitions does not raise competition concerns. 75% of the cases are included in a fast track procedure and less than 10% are approved with some restriction.

Efficiencies are considered only in complex cases where current and potential rivalry are not able to contest the post merger market power and where there is a strong probability of higher prices and lower quantities, affecting negatively the social welfare.

There are three main other reasons for not considering efficiencies as a defence. The first is the information asymmetry, creating some kind of distrust on the data presented by the merging parties. The second is that the merging parties do not quantify the cost savings and productivity gains appropriately. Antitrust analysis lacks a wide accepted methodology to assess efficiencies. The third one is related to the fact that there are very few quantitative studies for the anticompetitive impacts of mergers (merger simulation for example) to contrast to efficiencies. For those reasons, efficiencies were taken into consideration very seldom.

In the last few years, the Brazilian Competition Policy System (BCPS)’s view over efficiencies has been changing. Since the merger involving the Nestlé and Garoto firms in the chocolate industry in 2004, efficiencies have been treated in a more serious manner. In the cases involving Vale do Rio Doce Company (CVRD) efficiencies were also discussed. These cases will be discussed in another section.

If the question involving efficiencies (mainly static) is complicated, the treatment of dynamic efficiencies is even more difficult and is a very recent topic in antitrust litigation. Brazil, as other jurisdictions such as the US and the European Union, is studying the best way to treat them. Dynamic efficiencies are directly linked to the innovation process. In industries characterised by an intense and continuous innovative process, market concentration does not necessarily cause anticompetitive effects. Katz and Shelanski (2006) argue that:

“Some scholars and policy makers argue that merger enforcement must be active in markets characterised by high levels of actual or potential innovation. They assert that the existing framework

for merger analysis can be applied to dynamic markets or, alternatively, that incorporating innovation into merger review can be accomplished by modifying the Standard approach to merger analysis.

An opposing set of observers argues that, as a practical matter, “innovation markets” are so difficult to define that they cannot be the basis for rational enforcement decisions. More fundamentally, some of these opposing observers also argue that innovation provides a rationale for a more permissive merger policy. One argument advanced in support of this line of reasoning appeals to what is known as “Schumpeterian competition,” in which temporary monopolists successively displace one another through innovation.”

In this paper, the role and the use of efficiencies in the Brazilian merger review process is presented and discussed. In the next section, the kinds of efficiencies that can be achieved by mergers are presented and the relation between efficiencies and competition. In section III, there is a brief presentation of the BCPS and the merger review legislation. In section IV, some Brazilian cases are discussed. Finally, in the fifth section the conclusion is presented.

2. Efficiencies

In this section, we will briefly present the types of efficiencies that can be generated in merger cases, and also the standards to compare these efficiencies and the anticompetitive effects (mostly, price increases).

2.1 Types of Efficiency

There are four kinds of efficiencies that arise in mergers' analysis:

- productive efficiency;
- allocative efficiency;
- dynamic efficiency;
- transactional efficiency.

Productive efficiency refers to the ability of firms to get the most output from the least input. This kind of efficiency can be achieved by the merged firm benefiting from economies of scale through longer production runs or the sharing of fixed assets. Additionally, the merging firms may be complementary with respect to outputs in the sense that the merged firm will enjoy economies of scope, which arise when it is less costly to provide a set of products than to provide the products individually. Mergers that allow firms to offer more complete product lines and so to economise on marketing and distribution costs would create these kinds of benefits. Cost subadditivity (see Jacquemin, 1987) is the essential concept underlying productive efficiencies out from a merger.

Mergers could also reduce productive efficiency. Inefficiencies can arise if the incentives to the merged firm to keep costs down are reduced due to its higher market power. Roughly speaking, the inefficiencies that arise when firms with market power get lazy with respect to cost control.

Allocative efficiency is achieved when firms produce any units for which consumers are willing to pay the marginal cost of production and when whatever quantity is produced is allocated to the highest value buyers.

Mergers can improve or impair the achievement of allocative efficiency. The greater concern is that they will damage allocative efficiency by creating market power, permitting firms to raise price by reducing the quantity produced below the socially optimal level. On the other hand, some mergers may have positive implications for allocative efficiency. As example, vertical mergers can improve efficiency is removing the double mark-up.

Dynamic efficiency requires that sufficient resources be devoted, and efficiently employed, to support innovation leading to lower costs and new/better products. With increased recognition of the importance of dynamic efficiencies merger analysis has become even more complicated, requiring us to predict a merger's impact on markets not only in the short term, but also in the future. Traditional antitrust analysis is concerned to assess market power in current markets, even in projections and prospective exercises. The focus is always the consequences of mergers in the future. Dynamic efficiencies are related to innovations and creation of new markets, frequently a risky process. Available information on past performance is not sufficient and sometimes misleading to foresee the effects of mergers in industries subject to rapid technological change. As example, Hartman et al. (1993) shows that leading firms in image analysis equipment for medical diagnosis markets were unable to keep their market positions as new image technologies were developed.

As with the previous cases, mergers can improve or retard dynamic efficiencies. A merger of two firms with sub-efficient research and development groups might allow the R&D groups to benefit from economies of scale, scope and network effects. However, if mergers reduce the vigour with which firms undertake risky and costly research programs, the result could be less total research done and eventually a slower rate of technical progress in the market. Technological lock-in effects of mergers are also a source of antitrust concerns, since firms endowed with significant market power can block the diffusion of new and/or more efficient technologies. Bundling and blocking interoperability practices can arise from mergers.

Finally, Beaton (2006) says that transactional efficiencies occur where a firm is able to reduce costs associated with business transactions through business practices, contracts, and organisational forms. Costs associated with business transactions include, but are not limited to, information costs and exposure to possible hold-up. There are several ways in which a firm can obtain transactional efficiencies. With respect to vertical mergers, firms in the distributional chain are often repeated players, and they incur in expenses each time the firms negotiate a new deal. However, if the firms merge, such costs can be avoided. As a result of the possibility of transactional efficiencies, firms have an incentive to expand up to the point where the cost of organising an extra transaction within the firm equals the cost of engaging in the same transaction outside of the firm.

2.2 *Efficiency gains X competition losses*

The assessment of mergers supported by efficiencies claims is based on a balance between efficiency gains and losses due to expected reduced competition. Such an exercise is not trivial and needs methodological choices, among them a rule or standard to decide whether a merger passes or fails. Mainly, there are four different standards:

- (i) Price standard
- (ii) Consumers' surplus standard
- (iii) Total surplus standard
- (iv) Weighted surplus standards

- (i) Under a price standard, a merger is approved if the price will not increase as a result. In such an approach, efficiencies can be considered, but they will only save a merger if they are of such a magnitude that price actually falls (or does not rise) post merger.
- (ii) The **consumers'** surplus standard is very similar to the price standard, but it allows for other changes brought about by the merger that impact upon the surplus derived by consumers. Differences between the consumers' surplus standard and the price standard can also arise due to a deterioration of the quality of the product post-merger. This could be due, for example, to a reduction in variety as firms trim the number of brands produced.
- (iii) The total surplus standard is also very easy to describe. Under this standard a merger is approved if the sum of consumers' plus producers' surplus (or profits) increases after the merger.

The total surplus standard has broad (but not universal) support among economists who recognise that other standards will sometimes sacrifice social surplus. It is essentially the standard described by Williamson (1968). It has the advantage of relative simplicity – surpluses are simply added up with no special weighting attached to any particular groups. This means that we do not have to know anything about the consumers and producers except the effects on them of the merger – for example, we do not need to know if they are rich or poor buyers, or if the firms are large or small.

- (iv) Finally, under weighted surplus standards, the various effects of the merger are added together, as under the total surplus standard, but in this case each gets multiplied by some sort of “social weight” reflecting the importance attached to that group's welfare by the reviewing body.

Some jurisdictions consider other effects of mergers than on consumers' and producers' surpluses. Effects on employment and local or regional development are often taken in account. The introduction of multiple policy objectives tends to increase the complexity of merger analysis and reduces the predictability of competition authorities' decisions.

Brazilian competition law, nowadays under revision in Congress, refers explicitly to absence of consumers' losses as a condition to a merger approval and to the “fair” distribution of efficiency gains, but this statement does not impose the adoption of any specific standard. Standards have been recurrently discussed in cases involving efficiency arguments, mainly because the proposition of remedies is close related with standards used to assess the welfare effects of a merger. A standard reflects at some extent the way in which authorities conceive the competition policy and its objectives. As Jenny (2003) stated:

“If merger control is aimed at promoting economic efficiency, when faced with an anticompetitive merger having efficiency benefits, the competition authority will be tempted to use remedies to alleviate the competition problem while at the same time enabling the parties to go through with the merger, and thus allowing the realisation of the efficiency benefits associated with it..... If the merger control is solely aimed at promoting competition (or preventing the creation or reinforcement of a dominant position) one would expect the competition authority to have fewer qualms about blocking a merger having anticompetitive effects (even if the merger has efficiency benefits) or imposing more sweeping remedies...”

3. Merger Review Process in Brazil

The BCPS is composed by two investigative bodies, the Secretariat for Economic Monitoring of the Ministry of Finance (SEAE) and the Secretariat of Economic Law of the Ministry of Justice (SDE), and the Administrative Council for Economic Defence (CADE).

The Brazilian Antitrust Law (Law no. 8.884/94), states that “any acts that may limit or otherwise restrict free competition, or that result in the dominance of relevant markets for certain products or services, shall be submitted to CADE for review” (Article 54).

Article 54 (Law 8.884/1994) does not contain any language providing the substantive standard to be employed in reviewing submitted acts. Paragraph 1 of the article, however, provides that a transaction submitted for review may be approved if it meets the following conditions: (1) It is intended to “increase productivity; improve product or service quality; or cause an increased efficiency,” or “foster technological or economical development.” (2) It generates benefits that are equitably allocated between the merging parties and consumers. (3) It does not eliminate “a substantial portion of the relevant market for a product or service.” (4) Its provisions are no more restrictive than necessary to obtain the beneficial effects. The Horizontal Merger Guideline states (paragraph 2) that “the rule of reason [is] the fundamental principle in the control of mergers,” attributing this proposition to the statement of objectives set out in Article 1 of Law 8884. This language, along with that of Article 54 itself, could be interpreted to place the burden on the merging parties of showing that their transaction is economically beneficial. In practice, however, CADE has not imposed such a requirement, intervening only when it concludes that, on balance, there would be a significant lessening of competition. Thus, paragraph 1 of Article 54 is considered to establish an efficiencies defence, to be applied only in the case of mergers that are otherwise deemed anticompetitive.

The 2001 Horizontal Merger Guidelines, issued jointly by SEAE and SDE, describe a five-step analytical process employing concepts found in similar guidelines published by other countries. The elements of the process include (1) defining the relevant markets; (2) determining whether the market share of the merged entity is sufficiently large to permit the exercise of market power; (3) assessing the probability that market power will be exercised post-merger; (4) examining the efficiencies generated by the transaction; and (5) evaluating the net effect of the transaction on economic welfare.

The methodology for defining the relevant product and geographic markets, contained in step 1 of the Guidelines, focuses on determining the smallest market in which a hypothetical monopolist could impose a small but significant and non-transitory price increase. In step 2, the Guidelines consider two contexts (unilateral action by a single firm and coordinated action by multiple firms) in which certain levels of market concentration will be deemed to raise a significant prospect of post-merger market power. Where the focus is the power exercised by a single firm, the threshold for concern is a merged entity with a market share of at least 20 per cent.

Where the focus is the coordinated action by multiple firms, the threshold is a four-firm concentration ratio of at least 75 per cent coupled with a merged entity market share of at least 10 per cent. If either set of thresholds is met, analysis proceeds to step 3, which entails an assessment of the probability that post-merger market power will actually be exercised. Such exercise will be considered improbable if (a) imports are an effective remedy against the exercise of market power, (b) new entry is “probable, timely, and sufficient,” or (c) rivalry in the market is such that existing firms would have both the capacity and the motivation to resist attempts by the merged entity to exercise market power. If step 3 demonstrates the prospect of anticompetitive effects from a transaction, the analysis proceeds to the step 4 for consideration of efficiencies that the merger may generate, and ultimately to step 5 for evaluation of the net economic effect of the transaction. A transaction will be rejected if, after accounting for efficiencies, it will produce a

net decrease in economic surplus. If surplus will increase because anticompetitive effects are outweighed by efficiencies, further analysis is required. Under Article 54 paragraph 1 of the statute, efficiencies defence will be accepted only if the economic benefits of the transaction are equitably allocated between the merging parties and consumers or end users.

However, the application of the Brazilian Horizontal Merger Guidelines regarding efficiencies has faced some challenges.

1. How to empirically apply the criteria of specificity of the alleged efficiencies, such as economies of scale and scope, introduction of new technologies, etc. The absolute majority of them can be achieved by green investments provided the proper time horizon, though the Guideline establishes a two years time perspective.
2. How to identify the cost reductions that result from mere transference due to the increase of bargaining power of the merged firm and the ones which result from real efficiency gains? If there are reduction in logistic costs or in transaction costs related to the volume of transactions that are translated in lower prices of inputs it can be easily interpreted as transference and not as a real efficiency gain. Though it is not difficult to conceptually separate the two phenomena, in the concrete case it is not so clear.
3. If the efficiency defence is only accepted on a consumer-surplus criteria (price-standard, e.g.) only the efficiency related to variable costs will be considered. However, the Guideline recognises the reduction in fixed costs as a source of efficiency. In developing countries, such as Brazil, which have experienced strong productive restructuring processes in a very short period of time, the reduction in fixed costs are really important and it will be not considered.
4. The Guideline establishes that the alleged efficiencies must be quantifiable and verifiable. This criterion raises especial difficulties to consider dynamic efficiencies related to the innovation capacity and technological changes. However, speculative “efficiencies” must be avoided.

The Table below demonstrates that only 4,5 % of the mergers reviewed by the Brazilian competition authorities received any kind of restriction, most of them on companies’ behaviour.

Table 1: CADE Decisions in Merger Cases: 2000-2006¹

Year	Transactions Reviewed*	Approved without conditions	Approved with conditions	Approved with conditions		Disapproved
				Structural	Behavioural	
2006	402	352 (87,6%)	20 (4,9%)	1 (0,24%)	19 (4,72%)	0
2005	497	345 (69,4%)	37 (7,4%)	7 (1,41%)	30 (6,04%)	0
2004	618	574 (92,9%)	43 (6,9%)	2 (0,32%)	41 (6,63%)	1 (0,16%)
2003	491	484 (98,6%)	7 (1,4%)	1 (0,20%)	6 (1,22%)	0

¹ This figure is net of filings that were not reviewed by CADE because the transaction did not meet the notification filing thresholds or because the parties withdrew the notification. Source: BCPS, January 2007

Year	Transactions Reviewed*	Approved without conditions	Approved with conditions	Approved with conditions		Disapproved
				Structural	Behavioural	
2002	485	474 (97,7%)	11 (2,2%)	0	11 (2.27%)	0
2001	571	559 (97,9%)	12 (2,1%)	0	12 (2.10%)	0
2000	507	490 (96,6%)	15 (2,9%)	1 (0.20%)	14 (2.76%)	2 (0.39%)
Total	3571	3278 (91,8%)	144 (4%)	4 (0.15%)	84 (3.14%)	3 (0.11%)

4. Cases

In this section three important merger cases where efficiency defence was alleged by the merging parties, are presented.

4.1 NESTLÉ / GAROTO

One of the most emblematic cases in the Brazilian Merger review process, in which the transaction was blocked by CADE, is the chocolate case in which Nestlé tried to acquire Garoto. In fact, Garoto was the third biggest Brazilian chocolate company and Nestlé alternated the leadership with Kraft Foods (Lacta) in the Brazilian chocolate market. The merger increased the horizontal concentration in the market of chocolates and sweets. This market was subdivided in other relevant markets and a very high concentration was verified in most of them even prior to the acquisition.

CADE's decision defined the relevant market as chocolates of all forms, excluding the homemade chocolates, in the Brazilian market. CADE's explanation was that econometrical studies had demonstrated high crossed elasticity of the demand among the several segments of chocolates and between the different brands. CADE also based its decision on the existence of low importance of imports and on barriers due to the wholesale distribution. For the first time a merger case used economic simulation methods to predict post-merger consequences on prices and quantities and also to estimate the reduction in marginal costs needed to compensate the increase in market power, adopting a "price-standard" rule, and a consumer surplus criterion.

Also, for the first time, a deep analysis of efficiencies was provided for the petitioners based on a study developed by an independent auditing company and discussed by CADE under the antitrust perspective.

The efficiencies alleged by the parties and analysed by the Brazilian Antitrust authorities were: 1) Reduction of Costs with Closing of Deposits; 2) Gain with Reduction of Location of Warehouses; 3) Reduction of Costs with Packing; 4) Reduction of Costs with Alterations in Formulas and Ingredients; 5) Advantage of utilisation of Garoto's Formula in Nestle's Chocolates Toppings; 6) Gain with Reduction of Overweight; 7) Aligning of input prices; 8) Transferring of the Production of Chocolate products and Comfits for Nestle' 9) Absorbing Chocolate Easter Egg Production of Chocolates Garoto; 10) Gain with Renegotiation of Freight; 11) Gain optimising distribution; 12) Gain with Renegotiation of Packaging Items; 13) Gain with Purchases of Derivatives of cacao

From this efficiencies listed above, CADE accepted only three, numbers 1, 3 and 10. If all of them were accepted the variable cost reduction would be of 13%. Considering only these 3 accepted efficiencies, this number reduced to around 2%. Two main reasons were given for dismissing the alleged efficiencies: they were not specific to the acquisition, or they were pecuniary gains originated from the increase in bargaining power not from real cost reductions, following the recommendation of the Brazilian merger guidelines. No dynamic efficiency was alleged.

CADE understood that the transaction could not be approved, since the reduction in variable costs was not enough to hinder the increases of prices and consequently the conditions foreseen in §§ 1º and 2º of article 54, of Law 8,884/94 had not been satisfied. CADE concluded that, neither rivalry among current competitors and barriers to entry, nor enough efficiency were shown to allow the merger approval and no structural remedies were available to reduce the negative effects of the higher concentration. CADE decided that Nestlé should sell Chocolates Garoto for a competitor who had a market share under 20% of the relevant market. The decision was suspended in the Judiciary.

4.2 CVRD X Ferteco/Caemi/Socoimex/Samitri

In a 2000 transaction CVRD acquired four iron ore mining companies and their associated railroads in the southeast region of Brazil. CADE decided to jointly analyse the seven merger operations involving CVRD.

CVRD is, nowadays, the world leader on production and export of iron grains and iron pellets and also one of the most important companies in the world when it comes to mining and metals. For its size and position in the country's productive structure, its strategies may substantially affect the allocation of national productive resources.

The parties presented two studies on the associated efficiencies obtained from the transactions. The most relevant alleged efficiencies were: (i) those related to the quality of raw materials employed in pellet production as well as those attending the use of the product previously discarded; ii) those related to improvement on the use of assets (intensity of mine exploitation, postponement of expansion projects, reduction of logistic costs); iii) reduction on commercialisation expenditures, including fees for delay on the accomplishment of export contracts, elimination of intermediates and enlargement of merchandise portfolio; (iv) those resulting from the sharing of administrative costs, such as the human-resource costs; (v) those related to joint purchase of materials, supplies and services, including financial ones; vi) those referring to the elimination of taxes brought by the vertical integration with the railway, also controlled by CVRD

The competition authority criticised the efficiencies alleged dismissing (i) those not directly related to the operation; (ii) those that could be obtained through other organisational arrangements, apart from integration; (iii) pecuniary efficiencies consisting on transfers among agents. Regarding the reduction on taxes due to vertical integration of railway transport, only the tax's deadweight losses were accepted as efficiency, dismissing the avoided tax amount.

The alleged efficiency of the postponement of the investment project in Brucutu Mine, due to the acquisition of Socoimex, was strongly disputed. It was argued that the mere delay in investing did not constitute efficiency in itself, but only the replacement of one mineral supplier for another. On the other hand, it was considered that a gain was generated from the improvement on the natural resources exploitation allocation throughout time, as the market was first supplied with low-costs minerals. Thus, the analysis should not confine itself to examining the allocation, as to time, of the minerals in a certain mine, but consider the whole universe of mines. It was also taken into consideration that minerals hailing from different mines presented different degrees of iron and impurities, so that integration would enhance the

value of top-quality minerals. As a consequence, the prolonging on the exploration of top-quality mines was regarded as efficiency.

It was recognised as directly-related to the acquisition of Samitri the additional delay on investments to the Brucutu Mine, as well as the reduction of costs brought about by the merger.

One economic study estimated in US\$ 118,4 millions the efficiencies emerging from the acquisition of Ferteco. Those gains would be related to (i) the replacement of small miners on the supply of minerals to the pellet-producer plant, (ii) the replacement of road transport by railway transport, which would provide non-quantified positive external effects for the environment, besides the reduction of freight costs, (iii) absorption of Ferteco's technology on the production of pellets by CVRD.

It was argued that the suppliers' substitution and the change on transport modal could have been obtained through contracts, being unnecessary the vertical integration between miner and pellet-producer companies. As to technology absorption, its character as a "once and for all process".

Efficiencies related to the optimisation on the use of railways and ports were also admitted. Those regarded as specific to the acquisition of Ferteco were estimated in US\$ 73 millions.

The efficiencies allegedly attributed to Caemi's acquisition were related to optimisation on the supply chain, to suppliers' replacement, to economies derived from the joint purchase of materials and to the reduction on the acquired company's financial costs. None of them were regarded as specific-related to the operation.

In order to justify the mergers conducted by CVRD welfare effects were introduced in the discussion. Prices in domestic and international markets are strongly correlated. A hypothetical significant and non-transitory price increase would raise CVRD profits in both markets. According to total surplus standard, domestic welfare loss is identical to the dead weight in domestic relevant markets. The increase in producers' surplus would be larger than domestic consumers' surplus losses, since CVRD exports 85% of its iron ore production. Increased profits would be more than sufficient to compensate dead weight losses and even domestic losers. Net welfare reduction in the rest of the world is beyond of the scope of Brazilian antitrust law.

Under the consumer surplus point of view, two arguments supported the mergers. Iron ore is at the upstream of a complex productive chain, made of successive stages dominated by strong oligopolies (steel industry, automotive industry, home appliances, etc). In such an environment, price pass through is mitigated. Moreover, as the demand for iron ore is inelastic, the deadweight loss would be small, as quantities do not change in the same proportion of prices. Consumer prices are expected to increase less than raw material prices. Major effects of the mergers would be related to distribution of surplus between successive links of productive chain. The other argument takes in account the fact of important iron ore consumers are also exporters of steel and steel products. If iron ore price in international market is increased in a significant and non-transitory way, steel prices are also expected to raise, partially offsetting raw material consumers' losses.

Modest expected effects on final consumers' prices supported the proposition of minimal antitrust remedies.

The recognition of considerable efficiency gains recommended the adoption of remedies that could alleviate the monopoly in the iron supply in Brazil, but preserve the efficiencies. After mergers, CVRD became the only iron supplier for the Brazilian market that can be classified as "world class" mining company. As iron ore business is an international business by its very nature, a small company, operating only in the Brazilian market could not be considered an option for Brazilian industry, such as steel sector.

Therefore the mergers were approved conditioned to the divestiture of one of the acquired mines (Ferteco) or to the abandonment of the preference clauses in the Casa de Pedra mine, owned by CSN, one of the largest steel companies in Brazil. In any case, there would be at least one “world class” iron company in Brazil that could run the business independently to CVRD.

4.3. Ambev

The Companhia Antarctica Paulista Indústria Brasileira de Bebidas e Conexos (Antarctica) and Companhia Cervejaria Brahma (Brahma) decided to merge into a new joint-stock company named Companhia de Bebidas das Américas (Ambev).

The two merged parties, Brahma and Antarctica, controlled approximately 50% and 25%, respectively, of the national sales of beer. The third largest brand in Brazil was Kaiser, which was indirectly controlled by the Coca-Cola Company, and whose market share was about 15%. There were several other small, regional brewers operating in the country. The market shares and concentration resulting from the merger were clearly very high, and raised serious competitive concerns. The main issue in the case involved entry barriers, which had three major components: the establishment of a consumer brand, access to an effective distribution system and access to retail points of sale (the great bulk of beer sold in Brazil is consumed on premises at retail establishments rather than at home).

Rivalry was not considered as a restriction on parties to the merger’s market power since the main merger effect was the decrease of rivalry among brands and consequential creation of Ambev’s market power.

The parties alleged some efficiencies such as: 1) reduction of fixed costs and workforce; 2) reduction of fixed cost by closing plants; 3) reduction and optimisation of freight costs; 4) reducing variable costs; 5) reducing raw material costs; 6) reduction of costs with packing; 7) reduction of cost by the management unification; 8) renegotiation of Antarctica’s debts; 9) unification of computer systems; 10) aligning of input prices; 11) implementation of a productivity program at the distributors’ facilities; 12) reduction and unification of regional directors; 13) release of new brands; 14) creation of financial capacity for the company internationalisation.

Although SEAE and SDE accepted some of the efficiency claims made by the parties, both of them concluded that the transaction was competitively harmful, so they recommended that it would be approved only if some restrictions to the merger were imposed.

It was concluded that the net effect, in terms of efficiency, of the operation on the market was positive. CADE defended its decision as a compromise that sufficiently dealt with the merger’s anticompetitive effects by providing the opportunity for a new entry, while also permitting the merger’s efficiency gains to be realised (6,9% of reduction of costs estimated by SEAE, which will be reflected on price reduction) and its adverse effects on employment to be improved. The remedy adopted was the divestiture of one of the brands and five plants, besides the compromise to not require exclusivity of the distributors (wholesalers and retailers).

5. Conclusion

In this paper, we have discussed the treatment of efficiencies in some Brazilian merger reviews. The efficiencies considered and assessed in the cases listed in last section were basically productive and allocative efficiencies. Brazil does not have experience in assessing dynamic efficiencies. As other jurisdictions, the BCPS is studying the best way to do it, especially because many cases in high technology sector will be notified to the System.

Efficiency analysis has been given a more important role in merger review in Brazil in the last three or four years. It is a factor to be considered in cases with high probability to generate anticompetitive impacts. In the Brazilian experience it has never changed the conclusions over the anticompetitive effects of a merger. It possibly occurred because efficiencies defense was always used in complicated cases, which generated high concentration and in markets characterised by low rivalry and high entry barriers. However, as efficiency has been the ultimate goal of merger review, even if constrained by a consumer perspective, the Authority has strived for finding remedies (structural or behavioral) in order to address the competition concerns, while preserving the potential efficiency gains.

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CHINESE TAIPEI

1. Background

The Fair Trade Act of Chinese Taipei (hereinafter the “Law”) was amended in 2002, and at that time, the part of merger control was modified, with the previous application system being replaced by a notification system. Thus, for any merger that meets specified thresholds of market share or sales amount, a notification shall be made to the Fair Trade Commission of Chinese Taipei (hereinafter the “Commission”) prior to the implementation of the merger.

According to Article 12 of the Law, the Commission shall not prohibit any merger proposal that is filed provided that the “overall economic benefits” of the merger outweigh the “disadvantages arising from competitive restraints” brought about by the merger. But, it should be pointed out that, for the review of merger proposals, the test identified under the Law is neither the typical substantially lessening competition test (the SLC test) nor purely the market dominance test (the Dominance test) that are widely used in other countries.

In its review of merger proposals, six major factors will be taken into consideration by the Commission when assessing the “disadvantages arising from competitive restraints”: 1) whether a monopoly would be created; 2) whether entry barriers would be imposed; 3) whether the concentration ratio would change; 4) whether there would be a decrease in the number of competitors; 5) whether the products would be homogeneous or heterogeneous; or 6) whether there would be adverse effects on the degree of market openness. In short, most of the factors used to evaluate the disadvantages that could result from competitive restraints are the very measurements that the Commission uses to assess market structure.

However, the definition and assessment of the “overall economic benefits” prescribed in Article 12 of the Law are not as easy to specify as the “disadvantages arising from competitive restraints.” The “overall economic benefits” of a merger are usually considered to be those factors that could facilitate the accomplishment of the policy goals of economic stability and prosperity, as are prescribed in the provisions of Article 1.

Over the years, the Commission had gained a great deal of experience through merger review to eventually enable it to compile, based on efficiency consideration, the factors it employed to assess the “overall economic benefits” into the following three categories: 1) the scale of economy (i.e., the synergy effect): in terms of production efficiency, management, finance etc., as a result of an increase in the scale of production brought about by the merger; 2) technological efficiency: the extent to which technological standards are upgraded through technology transfers or joint research and development in technology because of the merger; or 3) other factors, such as the degree to which the costs of production and the selling prices will decrease following the merger, the welfare effects from conglomerate integration and the likelihood that one of the enterprises involved in the proposed merger is a failing enterprise.

In acknowledging that such case-by-case evaluations of all notifications of proposed mergers may overly consume the Commission’s resources, the Commission enacted the Guidelines on Handling Merger Filings (hereinafter the “Guidelines”) in June 2006 in order to make such evaluations of merger filings

clearer and more streamlined and also to make it easier for enterprises to comply with the required procedures.

According to the Guidelines, a merger can be regarded as justifiable where the overall economic benefits of such merger clearly outweigh the disadvantages arising from competitive restraints. And, in order to eliminate extensive, time-consuming and resource-depleting evaluations when assessing the overall economic benefits of a proposed merger, the Commission may shorten the waiting period of a merger notification by applying the more simplified procedures outlined in the Guidelines. The requirements for the application of such procedures are as follows:

- (1) The combined market shares of a horizontal merger would be less than 15 percent, when the combined market shares of the top two enterprises in a relevant market would be not more than two-thirds, or when the combined market shares of the top three enterprises in the a relevant market would be not more than three-quarters;
- (2) In a vertical merger, the combined market shares in each individual market would be less than 25%; or
- (3) In the case of a conglomerate merger, the merger would not have any potential and significant competitive restraints; or
- (4) With respect to the following mergers between controlling and subordinate enterprises that will change their existing structures of control:

One of the enterprises participating in the merger directly owns more than one-third but less than one-half of the voting shares or paid-up capital of the other merging party; or

The parent company merges with a subsidiary company of the same company. The above-mentioned 'subsidiary company' refers to a company in which the parent company holds fifty percent or more of its voting shares or paid-up capital; or

A company merges with a subsidiary company of another company, and both companies would be subsidiary companies of that same company.

With regard to a filed merger revealing noticeable potential of competitive restraints, the filing parties may submit the following information relevant to the review of the factors concerning overall economic benefits for the Commission's deliberation:

- (1) The reasons that the proposed merger would be in the best interests of consumers;
- (2) An explanation to support the fact the merging parties are originally in relatively weaker positions in terms of trading;
- (3) An explanation to support the fact one of the merging parties is a failing enterprise. The failing enterprise shall meet all of the following criteria:
 1. The failing enterprise is unable to pay back its debt within a short period;
 2. The failing enterprise is not able to survive in the market by competitively less restraining means other than merger;

3. The failing enterprise will inevitably have to withdraw from the market if it cannot merge with other firms;

- (4) Other positive results related to the overall economic benefits from the proposed merger.

Chinese Taipei's approach might suggest that the standards for merger efficiencies tend to vary on a case-by-case basis. But it is important to note that in markets where concentration and market shares are relatively high, entry is more difficult, and as a consequence, anticompetitive effects become more perceivable would likely require greater benefits in terms of efficiency to offset the increased likelihood of there being real adverse anti-competitive effects.

In that a dynamic efficiency analysis may require that efficiencies be merger-specific and that it may involve a number of measurement issues that are best analysed by economists as opposed to regular employees of the competition authority, the Commission has not applied a dynamic efficiency analysis before. In certain cases, nevertheless, to obtain complete information so as to facilitate the decision-making process, the Commission requests that relevant regulators provide information on certain criteria for a merger analysis. These include detailed descriptions of the market and the industrial policies that are in place as well as a forecast of and their expectations about the post-merger market. This process has proven to be most helpful and effective for the Commission though it is not, by any means, a prerequisite for the Commission when it comes to making its decision with regard to a merger proposal.

2. Definition of Efficiency

Although the Commission is truly concerned about issues related to efficiency resulting from merger activities, none of the above merger analysis has set up concrete criteria for the assessment of "dynamic efficiency." In fact, the dynamic efficiency analysis involves a number of thorny measurement issues that would possibly result in increased difficulties both for applicants when they prepare their merger notification materials and for the staff of the Commission when they attempt to analyse different merger proposals.

1. According to Article 46 of the Law, "Where there is any other law governing the conducts of enterprises with respect to competition, such other law shall govern provided that it does not conflict with the legislative purposes of this Law." Thus, the actions of an enterprise that are related to competition regulations must still be in compliance with the Law even if such actions are in response to or affected by specific economic policies; only if the basis of such actions is set out expressly in other applicable laws and does not conflict with the legislative purposes of the Law, can other applicable laws have precedence.

2. The factors that the Commission considers when it evaluates whether such actions conflict with the legislative purposes of the Law, as stipulated in Article 1, are as follows:

- (1) the way of competing;
- (2) the scope of the market;
- (3) the number of competitors in the market and market performance;
- (4) the concentration of the market;
- (5) barriers to enter the market;
- (6) economic efficiencies, which include production efficiencies, allocation efficiencies and dynamic efficiencies;

- (7) consumer welfare;
- (8) trading cost; and
- (9) other relevant factors.

Thus, any actions that result in an increase in dynamic efficiency can be deemed as behaviour that is in compliance with the Law. Being a new, small, emerging economy in a global world, Chinese Taipei has had to overcome many problems in its implementation of the Law. Over the course of Chinese Taipei's economic development, the government has always given high priority to the continuous upgrading of the industrial structure and has continually pushed forward to strengthen its comparative advantages, particularly in R&D, innovation, logistics and management, among others, -- and all this in a concerted effort to raise the overall level of national competitiveness. From the efficiency point of view, any short-run price increases should be balanced against longer-run consumer benefits. A myriad of benefits from lower prices caused by enhanced competition through R&D activities are expected to occur in the long run.

3. Efficiency Analysis in Concerted Actions

The issue as to how to regulate joint venture activities has been the subject of considerable debate. Article 14 of the Law prohibits enterprises from partaking in concerted actions, save for specific stipulated exceptions that are beneficial to the economy as a whole and are in the best interests of the public at large. Only for the following purposes shall parties apply to the Commission to seek approval for concerted actions.

- (1) to unify the specifications or models of goods for the purposes of reducing costs, improving quality or increasing efficiency;
- (2) to conduct joint research on and jointly develop goods or markets for the purposes of upgrading technology, improving quality, reducing costs or increasing efficiency;
- (3) to individually develop separate and specialised areas for the purpose of rationalising operations;
- (4) to enter into agreements concerning exclusively competition in foreign markets for the sole purpose of securing or increasing exports;
- (5) to undertake joint acts in regards to the importation of foreign goods for the purpose of strengthening trade;
- (6) to undertake joint acts to limit the quantity of production and sales, equipment, or prices for the purpose of meeting the demand in an orderly way, while in an economic downturn when the market price of products is lower than the average production costs such that enterprises in a particular industry have difficulty maintaining their business or encounter a situation of overproduction; or
- (7) to undertake joint acts for the purposes of improving operational efficiency or strengthening the competitiveness of small-medium enterprises.

In light of the above list of permissible exceptions, it can be inferred that two major policy concerns are inherent in the phrase, "beneficial to the economy as a whole and in the best interests of the public at

large.” These are: the element of efficiency, as seen in the 1st, 2nd, 4th, 5th and the 7th exceptions listed in Article 14, and the element of industrial development, as noted in the 3rd and 6th exceptions above.

According to Articles 13 and 25 of the Implementing Rules to the Law, with respect to the application for exceptions for concerted actions, all participating enterprises must prepare and submit the relevant materials for the application of approval to the Commission prior to execution. In granting the approval of these “exceptions”, the Commission may attach along with its approval conditions or obligation that need to be met or undertaken by participating enterprises to ensure the maintenance of market competition. However, the Commission must specify a time limit for each approval. Article 16 further states that should the cause or reason for approval no longer exist, should the economic conditions change, or should the enterprises involved engage in any conduct beyond the scope of the approval, the Commission may revoke the approval, alter the contents of the approval, or order the enterprises involved to cease from continuing the conduct, to rectify its conduct, or to take necessary corrective actions. Clearly, the intention here is to prevent any harm from being inflicted upon market competition with such approved concerted actions.

Furthermore, assessment reports on proposed concerted actions that are prepared by the participating enterprises shall specify cost structure data before and after the proposed concerted action and analytical data on any changes that are forecast. The determination of cost savings may imply the application of a dynamic efficiency analysis, although the applicants can hardly propose quantitative assessment data.

With respect to concerted action, one case involving a joint R&D endeavour that recently came before the Commission is particularly worthy of discussion. The applicants in this case were two horizontal competitors that rank among the top three manufacturers, with a combined 65% share of the local notebook market. Their intention was to jointly develop and apply new standard specifications for the D-tray of computer notebooks. To be sure, this would likely affect future trade with upstream suppliers in notebook component markets. Thus, the Commission sent letters to collect the opinions of notebook component manufacturers to avoid the risk of negatively affecting the demand for notebook components and to request relevant policy comments on the notebook industry from other government agencies.

The Commission is in favour of knowledge-based economic policies which encourage creation and innovation in the technology industry brought about by such joint R&D projects, and further takes into consideration its positive spill-over effects, such as cost reduction and quality improvements when reviewing this case. Since these benefits were likely to occur with the implementation of this proposed concerted project, the Commission approved it, but at the same time, it did include certain requirements in its approval in order to prevent the applicants from excluding competition. The specific requirements are as follows:

- (1) the future licensing contract of the standard specifications developed in the joint R&D project shall be compliant with the regulations of the “Fair Trade Commission Guidelines on Technology Licensing Arrangement,” and made on a non-exclusive and non-discriminatory basis;
- (2) the standard specifications and the related patent information shall be non-exclusive and shall be disclosed to all relevant manufacturers; and
- (3) the royalties paid to future licensors for the standard specifications shall be reasonably charged.

Given that dynamic efficiencies could possibly be brought about through either innate growth or mergers, enterprises in the technology industry in Chinese Taipei have long tended to develop R&D

programs by using limited cooperative contracts rather than mergers. This is one of the reasons that the Commission, despite all its experience in handling joint R&D cases in Chinese Taipei, has not had many cases involving a merger notification for the purpose of joint R&D.

Another prominent and frequently cited case concerns a CD-R patent pool. In 1999, several CD-R manufacturers filed a complaint with the Commission, alleging that three major CD-R patent owners had been pooling their CD-R patents in one single package and had jointly licensed the patent pool to local CD-R producers. The licensors' conduct enabled them to monopolise the CD-R technology market, and it was soon to become abundantly clear that this was a breach of the Law. After almost 4 years of investigation, the Commission determined that the licensors had abused their joint monopolistic position as a result of including non-essential, invalid and substitute patents in their license, of improperly maintaining the royalty rate and of failing to provide information related to the patents, which altogether constituted a concerted action and an abuse of dominance.

In April 2007, however, the Highest Administrative Court reversed the Commission's decision, contending that the pool was not a horizontal agreement because the technologies involved in the pool are complementary not substitutive in nature. As a result, the Commission had lost the case which made filing for a retrial based on patent errors committed by the court in the application of law the only legal option remained for the Commission to resort to. The Commission had determined to pursue that option and had timely filed for the retrial.

The ratio of R&D spending to GDP in Chinese Taipei is approximately 3%. In 2004, the government implemented its Advanced Technology Programs with an aim to boost R&D spending by nearly 11%, thereby helping Chinese Taipei strengthen its innovative and forward-looking R&D and industrial results. The Commission has enacted the Guidelines on Technology Licensing Arrangement and made plans to revise the relevant provisions of the Law to ease the current restrictions on joint R&D projects among enterprises, and the reason is simple: jointly developing R&D projects with competitors can indeed increase companies' incentives to create and can, in all likelihood, significantly reduce the costs of innovation.

4. References

Statement of Steven C. Salop, Efficiencies in Dynamic Merger Analysis, Federal Trade Commission Hearings on Global and Innovation-Based Competition, November 2, 1995.

BIAC

1. Introduction

The Business and Industry Advisory Committee (BIAC) to the OECD appreciates the opportunity to submit the following comments to the OECD Competition Committee for its roundtable on “Dynamic Efficiencies in Merger Analysis.”

While static efficiencies result from enhancing existing products and capabilities, dynamic efficiencies result from developing new ways of doing business. Joseph Schumpeter described dynamic efficiency as “competition from the new commodity, the new technology, the new source of supply, the new organization . . . competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives.”¹

Dynamic (or innovative) efficiency arises through the development of new technologies, the development of innovations that improve existing technologies, and the diffusion of new productive technologies to other firms and sectors in the economy. The development of a new process for manufacturing televisions, for example, can result either in a superior, previously non-existent product, or it can reduce the cost of producing current-technology televisions. In both instances, social welfare is improved. With respect to new products, consumers are able to derive utility from previously unavailable goods and services, while with respect to innovations in the production of existing products, goods and services can be produced using fewer real resources. Diffusion affects dynamic efficiency because the faster a process or technology is diffused among industry producers (and producers in other industries), the greater the economy-wide resource savings brought about by the innovation.²

It is widely acknowledged that dynamic efficiency gains play a critical role in enhancing long-term consumer welfare and contributing to economic growth. For example, a 2006 report for DG Enterprise and Industry of the EC Commission notes that “efficiency gains from innovation may be the most economically significant source of efficiency gains.”³ Similarly, the U.S. submission for this roundtable concludes that “Dynamic efficiencies produce substantial increases in consumer welfare. Research and development by individual firms, especially basic research, has contributed significantly to increases in

¹ Joseph Schumpeter, *Capitalism, Socialism and Democracy* 84 (1942).

² For more on dynamic efficiencies, see Brian A. Jackson, *Innovation and Intellectual Property: The Case of Genome Patenting*, 22 *J. Pol. Anal. Manage.* 5 (2003); Patrick Llerena and Vanessa Oltra, *Diversity of Innovative Strategy as a Source of Technological Performance*, 13 *Struct. Change Econ. Dynam.* 179 (2002); Geske A. Dijkstra, *Trade Liberalization and the Industrial Development in Latin America*, 28 *World Devel.* 1567 (2000); and Richard J. Gilbert, *Exclusive Dealing, Preferential Dealing and Dynamic Efficiency*, 16 *Rev. Ind. Organ.* 167 (2000).

³ See Copenhagen Economics, *Practical Methods to Assess Efficiency Gains in the Context of Article 81(3) of the EC Treaty 70-74, 85-88* (2006), available at http://ec.europa.eu/enterprise/library/lib-competition/doc/efficiency_guidance.pdf.

their productivity, and at the macro level, technical progress has been estimated to have accounted for as much as three-quarters of the economic growth in major industrialised countries.”

In a similar vein, Chairman Deborah Platt Majoras of the U.S. Federal Trade Commission (FTC) has observed that “competition’s role in spurring innovation -- what we often refer to as maintaining dynamic efficiencies -- has secured a central position in antitrust analysis Not so long ago, antitrust largely focused only on static efficiencies. The learning of recent decades, however, has made it clear that a broader lens, reaching issues of innovation and progress over time, is essential. Today, we care enormously about innovation and the competitive forces that drive it.”⁴

The corollary of this insight -- namely, that innovation is a significant engine of economic growth -- is that restraints on innovation may cause considerably greater social harm than restraints on price.⁵ Thus, a merger regime that ignores the potential for dynamic efficiencies and consequently precludes mergers that are net efficiency-enhancing is likely to dampen macro-economic growth.

Despite the importance of efficiencies in expanding economic growth and increasing long-term consumer welfare, no consensus exists among competition authorities with respect to the treatment of efficiencies generally, much less with respect to dynamic efficiencies specifically. In Canada, for example, promoting “the efficiency and adaptability of the Canadian economy” is one of the objectives informing the Competition Act. Canada’s 2004 Merger Enforcement Guidelines acknowledge the importance of dynamic efficiencies, stating that “attaining dynamic efficiency is crucial to both the general evolution of competition and the international competitiveness of Canadian industries.” Competition authorities in the United Kingdom, the Czech Republic, and Turkey also appear to have considered the importance of dynamic efficiencies when deciding to permit transactions to proceed.

In other jurisdictions, efficiencies play less of a role in assessing the competitive effects of mergers. For example, German merger control rules make no mention of efficiencies, no formal efficiency defence exists under German merger control law, and Germany states in its submission for this roundtable that “there is no reliable empirical evidence that mergers actually create such efficiencies on average.” Similarly, the Japanese submission for this roundtable states that “Japan has seen no case of business combination in which the concerned companies claimed that their business combination would serve to improve efficiency, including static efficiency, and the JFTC made a judgment in light of improved efficiency.”

Given their welfare-enhancing potential, BIAC believes that both static and dynamic efficiencies should be evaluated when analysing structural and non-structural transactions. BIAC also supports further study of dynamic efficiencies, including the actual (quality-adjusted) price effects of dynamic efficiencies; the distribution of efficiency gains among different interest groups and the passing on of efficiency gains to consumers; and the most appropriate methodology to employ when evaluating dynamic efficiencies.

In practice, difficulties may arise in seeking to quantify with precision the magnitude of projected efficiencies, and particularly dynamic efficiencies. BIAC is concerned that these difficulties may lead competition authorities to dismiss too easily these type of efficiencies, instead applying a static analysis that results in challenges to efficiency-enhancing mergers and an attendant loss of welfare gains. BIAC

⁴ Deborah Platt Majoras, Welcoming Remarks: FTC Patent Reform Conference, Competition Policy, Patent Law, and Innovation 3 (June 9, 2005).

⁵ See, e.g., Herbert Hovenkamp, Signposts of Anticompetitive Exclusion: Restraints on Innovation and Economies of Scale, in *International Antitrust Law & Policy: Fordham Competition Law 2006* 414 (Barry Hawk, ed., 2007).

notes that similar imprecision is accepted, however, when evaluating the potential for and the magnitude of likely anticompetitive effects, and it urges competition authorities to grant efficiencies the same consideration.

Furthermore, BIAC anticipates that these difficulties will decrease as competition authorities gain more experience in this field and exchange acquired know-how, as the field of economics continues to evolve, and as better methods are developed to assess more accurately the likelihood and magnitude of efficiencies. Competition authorities can advance this learning process by seeking to develop a more refined and rational approach to evaluating dynamic efficiencies, by encouraging merging parties to submit detailed explanations of expected efficiencies, and by conducting retrospectives on the efficiencies from consummated mergers.

These comments first provide an overview of the treatment of efficiencies in merger analysis by the United States, the European Commission, and Canada. The comments then identify and respond to common criticisms regarding the inclusion of (dynamic) efficiencies in merger review. The comments conclude with recommendations.

2. History of Efficiencies Analysis in US Merger Review

For many years, US courts and antitrust agencies responded with hostility to claims of efficiencies in merger review. This hostility appears to have stemmed, in part, from the belief that the antitrust laws were created to preserve small businesses. A merger producing significant efficiencies could enable the merged entity to compete more effectively against its smaller rivals, perhaps driving some of them out of business, a result inconsistent with the goal of preserving many firms in the market.

In 1962, in declaring a merger unlawful, the U.S. Supreme Court stated in *Brown Shoe Co. v. U.S.* that “We cannot fail to recognize Congress’ desire to promote competition through the protection of viable, small, locally owned business. Congress appreciated that occasional higher costs and prices might result from the maintenance of fragmented industries and markets. It resolved these competing considerations in favour of decentralization.”⁶

In 1968, two notable events occurred. First, Oliver Williamson published *Economies as an Antitrust Defense: The Welfare Tradeoffs*, in which he argued that efficiencies should be considered seriously in merger analysis.⁷ Second, based in part on Williamson’s work, Assistant Attorney General Donald Turner incorporated a limited efficiencies defence into the 1968 Department of Justice (DOJ) Merger Guidelines. Despite these milestones, though, the earlier concept of efficiencies as anticompetitive in the merger context persisted.⁸

⁶ 370 U.S. 294, 344 (1962). See also *FTC v. Proctor & Gamble Co.*, 386 U.S. 568 (1967) (finding that merger-induced reductions in advertising costs would “entrench” merged entity’s dominant position in bleach market and holding merger unlawful); *U.S. v. Philadelphia National Bank*, 374 U.S. 321 (1963) (stating that a merger whose effect “may be substantially to lessen competition” is not saved because, on some ultimate reckoning of social or economic debits and credits, it may be deemed beneficial”).

⁷ Oliver Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 *Am. Econ. Rev.* 18 (1969).

⁸ One commentator reviewed FTC merger cases during the 1970s and found “arguments that efficiencies created by the merger should be counted against its legality or that the apparent absence of such efficiency creation should be counted for its legality” in 8 of 18 cases litigated to disposition at the Commission level. See Wesley J. Liebler, *Bureau of Competition: Antitrust Enforcement Activities*, in *The Federal Trade*

Relatively contemporaneously, the U.S. courts began to recognise the importance of efficiencies in antitrust analysis generally. In *Continental T.V., Inc. v. GTE Sylvania, Inc.*, the Supreme Court held that non-price vertical restraints should be evaluated under the rule of reason because they “promote interbrand competition by allowing the manufacturer to achieve certain efficiencies in the distribution of his products.”⁹ Similarly, in *Broadcast Music, Inc. v. CBS, Inc.*, the Supreme Court held that a horizontal agreement among competitors should not be characterised as *per se* unlawful unless “the practice facially appears to be one that would always or almost always tend to restrict competition and decrease output” and is not “designed to ‘increase economic efficiency and render markets more rather than less competitive.’”¹⁰

The DOJ took a significant step forward in recognising the importance of efficiencies in merger analysis in the 1984 Merger Guidelines, stating that “the efficiency-enhancing potential of mergers can increase the competitiveness of firms and can result in lower prices to consumers,” and that “the primary benefit of mergers to the economy is their potential to generate . . . efficiencies.”¹¹ The DOJ moved efficiencies from the “defences” to the “competitive effects” section, further integrating efficiencies into the core merger analysis framework. The DOJ still required parties to prove their efficiencies through “clear and convincing evidence,” an onerous burden later removed in 1992.

In 1997, the FTC and DOJ jointly issued a revised efficiencies section of the Merger Guidelines that provided useful guidance on the government’s analysis of efficiencies and signalled greater receptivity to efficiencies arguments. In the ensuing three years, though, a series of mergers seemed to indicate little change in the agencies’ receptivity to efficiencies claims, at least in litigated cases. For example, in *FTC v. Cardinal Health*,¹² the FTC sought to enjoin two mergers among the nation’s four largest wholesale drug distributors. The court found that the parties “sufficiently proved significant efficiencies would likely result from the proposed merger,” and that they “clearly would not have chosen to merge in the absence of tremendous savings.”¹³ Despite these findings, the court ruled in favour of the government.

Some observers attributed the continuing scepticism of the agencies regarding efficiencies to a “chicken and egg” phenomenon. Historically, the agencies were sceptical of efficiencies claims because merging parties rarely devoted the resources to rigorously analyse potential efficiencies. This scepticism

Commission Since 1970: Economic Regulation & Bureaucratic Behavior 65, 94 (Kenneth Clarkson & Timothy Muris, eds., 1981).

⁹ 433 U.S. 35, 54 (1977).

¹⁰ 441 U.S. 1, 20 (1979).

¹¹ U.S. Dep’t of Justice Merger Guidelines § 3.5 (1984).

¹² 12 F. Supp. 2d 34 (D.D.C. 1998).

¹³ *Id.* at 63. See also *United States v. Long Island Jewish Medical Center*, 983 F. Supp. 121 (E.D.N.Y. 1997) (court ruled for parties and found that annual cost savings would total \$25-30 million after government attempted to discount parties’ claimed efficiencies almost entirely); *FTC v. Tenet Healthcare Corp.*, 17 F. Supp. 2d 937 (E.D. Mo. 1998) (district court accepted FTC’s argument that parties’ claimed efficiencies were speculative, not merger specific, and would not be passed on to consumers), *rev’d on appeal*, 186 F.3d 1045 (8th Cir. 1999) (court of appeals reversed but did not address efficiencies); *FTC v. Staples, Inc.*, 970 F. Supp. 1066 (D.D.C. 1997) (court enjoined merger after FTC challenged parties’ ever-increasing projected cost savings on verifiability and merger specificity grounds); and *FTC v. H.J. Heinz Co.*, 246 F.3d 708 (D.C. Cir. 2001) (circuit court reversed district court’s ruling to permit merger between two of three U.S. baby food producers, recognising trend among lower courts to recognise efficiency defence but requiring proof of extraordinary efficiencies to rebut high concentration levels).

fuelled merging parties' continuing reluctance to undertake time consuming and expensive efficiencies analyses because they concluded that their efficiencies claims, however meritorious, were unlikely to be taken seriously by the agencies.¹⁴

In recent years, the U.S. agencies have worked to break this cycle by opening a dialogue on efficiencies with the business community and by encouraging merging parties to present efficiencies analyses. In 2002, for example, the FTC's Bureau of Economics hosted a roundtable on mergers¹⁵ that included a discussion of efficiencies in merger analysis. In 2006, the FTC and DOJ jointly issued the Commentary on the Merger Guidelines, which provides additional guidance on this issue. And in recent years, agency officials have encouraged parties, through speeches and interviews, to present well-documented efficiencies stories.

These efforts appear to be succeeding. In 2005, the DOJ approved Verizon Communications, Inc.'s proposed acquisition of MCI, Inc. on the condition that the companies divest portions of certain local fibre-optic network facilities. In a press release, Assistant Attorney General Tom Barnett stated that "the transaction will not harm competition and will likely benefit consumers, due to existing competition, emerging technologies, the changing regulatory environment, *and exceptionally large merger-specific efficiencies.*"¹⁶

In 2006, the DOJ approved Whirlpool Corp.'s proposed acquisition of Maytag Corp. The presumption of illegality was significant, as the combined company was projected to possess approximately 70% of the market for washers and dryers in the U.S. Despite the staff's recommendation that DOJ seek to enjoin the merger, AAG Barnett allowed the transaction to proceed, based in part on asserted efficiencies.¹⁷

In 2001, the FTC approved the merger of the third- and fourth-ranked drug wholesalers. The FTC emphasised projected efficiencies as a factor in its decision, stating that "the proposed transaction likely will give the merged firm sufficient scale so that it can become cost-competitive with the two leading firms and can invest in value-added service desired by customers. Furthermore, we believe that the combined firm will be able to initiate these improvements more rapidly than either could do individually, and that this timing advantage will be significant enough to constitute a cognisable merger-specific efficiency."¹⁸

¹⁴ See, e.g., Timothy J. Muris, Opening Remarks, Understanding Mergers: Strategy and Planning, Implementation, and Outcomes (Dec. 9, 2002), available at <http://www.ftc.gov/speeches/muris/mergers021209.shtm>; Steven C. Salop, Statement: Efficiencies in Dynamic Merger Analysis, FTC Hearings on Global and Innovation-Based Competition (Nov. 2, 1995), available at <http://www.ftc.gov/opp/global/saloptst.shtm>.

¹⁵ Materials from the FTC roundtable are available at <http://www.ftc.gov/be/rt/mergerroundtable.shtm>.

¹⁶ Press Release, U.S. Department of Justice, Justice Department Requires Divestitures in Verizon's Acquisition of MCI and SBC's Acquisition of AT&T (Oct. 27, 2005) (emphasis added), available at http://www.usdoj.gov/atr/public/press_releases/2005/212407.htm.

¹⁷ Press Release, U.S. Department of Justice, Department of Justice Antitrust Division Statement on the Closing of Its Investigation of Whirlpool's Acquisition of Maytag (Mar. 29, 2006), available at http://www.usdoj.gov/atr/public/press_releases/2006/215326.htm.

¹⁸ Statement of the Federal Trade Commission, AmeriSource Health Corporation/Bergen Brunswig Corporation, File No. 011-0122 (Aug. 24, 2001), available at <http://www.ftc.gov/os/2001/08/amerisourcestatement.pdf>.

Perhaps the seminal U.S. transaction involving dynamic efficiencies was a joint venture, not a merger. After scrutinising the proposed General Motors/Toyota joint venture, the FTC in 1984 relied on efficiencies as one of its primary reasons for approving the transaction. Most notably, the FTC determined that the joint venture would provide “a valuable opportunity for GM to complete its learning of more efficient Japanese manufacturing and management techniques. Moreover, to the extent the [joint] venture demonstrates the Japanese system can be successfully adapted to the United States, the venture should lead to the development of a more efficient and competitive U.S. industry.”¹⁹ Thus, the FTC explicitly recognised the benefit to GM of learning more efficient manufacturing and management techniques, and also recognised that other U.S. auto manufacturers could copy this learning, making the industry more competitive.

Professor Steven Salop and Gary Roberts advanced a similar argument in their 1996 paper, *Efficiencies in Dynamic Merger Analysis*. Salop and Roberts wrote that “Mergers can speed the pace of technical progress and reduce prices by facilitating innovations that initiate technological diffusion and induce competitive innovations. . . . Mergers can also lead to diffusion of cost savings over time through the broader process of inducing competitive innovation. Competitive pressure may spur rival firms to increase their independent investments in order to keep up with the newly merged entity. When rivals fall behind, they may be forced to redouble their efforts in order to catch up with the merged firm by reducing their own costs and improving their products.”²⁰ The existence of this phenomenon provides strong support for the consideration of dynamic efficiencies in merger analysis.

In 2001, the FTC investigated but declined to challenge Genzyme Corp.’s consummated acquisition of Novazyme Pharmaceuticals, Inc. At the time of the acquisition, both companies were conducting pre-clinical studies for a treatment for Pompe disease, a life-threatening medical condition affecting infants and young children. The FTC examined the transaction's impact on the pace and scope of R&D. The FTC’s Chairman wrote that “[t]he merger made possible comparative experiments and provided information that enabled Novazyme to avoid drilling dry holes. By accelerating the Novazyme program, the merger may have increased its odds of success. Moreover, the merger made possible synergies that will help avoid a delay in the Novazyme program.”²¹ He concluded that “rather than put patients at risk through diminished competition, the merger more likely created benefits that will save patients' lives.”

Earlier this year, the U.S. Antitrust Modernization Commission (AMC), in its report and recommendations to Congress and the President, recognised the importance of dynamic efficiencies in benefiting consumers. The AMC wrote, “As the nation’s economy moves toward an increasing role for goods and services involving intellectual property . . . it becomes even more important for U.S. consumers that the value of efficiencies and innovation that can result from mergers in such industries be realised where possible. A failure by the agencies to take into account fully the benefit of such efficiencies in evaluating whether a merger will harm or benefit consumers could deprive consumers of significant benefits and value.”²²

¹⁹ 103 F.T.C. 374 (1984). The FTC also concluded that the joint venture would result in an “increase [in] the total number of small cars available in America, thus allowing consumers a greater choice at lower prices,” and in lower production costs.

²⁰ Gary L. Roberts & Steven C. Salop, *Efficiencies in Dynamic Merger Analysis*, 19 *World Competition L. & Econ. Rev.* 5 (1996).

²¹ Statement of Chairman Timothy J. Muris, *In re Genzyme Corp./ Novazyme Pharmaceuticals, Inc.*, File No. 021-0026 (Jan. 13, 2004), available at <http://www.ftc.gov/os/2004/01/murisgenzymestmt.pdf>.

²² Antitrust Modernization Committee, *Report and Recommendations* 59 (2007).

3. The EU Perspective

In the past, the European Commission has been conservative in its treatment of -- and, on some early occasions, has been outright hostile to -- merger efficiencies.²³ On other occasions, its approach has been ambiguous. For example, in Mercedes-Benz/Kassboher, the Commission acknowledged that the merger would lead to synergies in R&D, production, and administration, but deemed their importance limited. It ultimately remained unclear how these synergies, if deemed significant, would have influenced the Commission's position.²⁴ A similar debate emerged from the GE/Honeywell decision regarding the extent to which the Commission may view efficiencies negatively. Even when analysing static efficiencies, the Commission appears most comfortable with analysing productive cost improvements that can be directly measured in terms of lower marginal production costs that will, through some fairly mechanistic formula, be translated to lower prices.

In recent years, the Commission has made significant advances toward a greater appreciation of the competitive effects of structural and non-structural transactions. This trend has accompanied a growing recognition of the importance of efficiency gains, including dynamic efficiency gains, at least in theory. Dynamic efficiency gains are now explicitly mentioned in the Notice on the application of Article 81(3),²⁵ the Guidelines on Horizontal Mergers²⁶ and the draft Guidelines on Non-Horizontal Mergers.²⁷ These guidelines suggest that parties have a meaningful opportunity to present efficiencies arguments to the Commission.²⁸

The former Chief Economist, Professor Roeller c.s., acknowledges the importance of (dynamic) efficiencies and the need for further study. He suggests a more rigorous treatment of (dynamic) efficiencies and the possible publication of a Notice that discusses the circumstances in which efficiencies are considered.²⁹ BIAC believes this approach may help discipline the evaluation of dynamic efficiencies and create a deeper understanding of them. Some observers have characterised the Commission's approach as overly focused on static (price) efficiencies.³⁰

²³ For instance, in its Danish Crown/ Vestjyske Slagterier decision, the Commission held that "The creation of a dominant position in the relevant markets identified above, therefore, means that the efficiencies put forward by the parties cannot be taken into account in the assessment of the present merger." Danish Crown/ Vestjyske Slagterier 198 (Mar. 3, 1999).

²⁴ Mercedes-Benz/Kassboher 66-67 (July 25, 2001).

²⁵ Guidelines on the application of Article 81(3), available at [http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52004XC0427\(07\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52004XC0427(07):EN:NOT).

²⁶ Guidelines on the assessment of horizontal mergers, available at [http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52004XC0205\(02\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52004XC0205(02):EN:NOT).

²⁷ Draft Commission Guidelines on the assessment of non-horizontal mergers.

²⁸ The stringent conditions that govern when efficiencies will be cognisable, however, appear to greatly limit the practical relevance of these provisions. Moreover, it remains to be seen if and to what extent the Commission will consider these conditions binding when it examines efficiencies itself.

²⁹ See Roeller, Stennek and Verboven, Efficiency Gains from Mergers, available at http://ec.europa.eu/comm/competition/speeches/index_2005.html.

³⁰ See, e.g., Andreas Strohm, Efficiencies in Merger Control: All You Always Wanted to Know and Were Afraid to Ask, available at <http://ec.europa.eu/dgs/competition/strohm3.pdf>.

The Commission's draft guidelines on non-horizontal mergers provide some useful guidance with respect to allocative cost efficiencies (*i.e.*, efficiencies arising from better alignment of pricing incentives, bringing them closer to marginal costs). These guidelines identify allocative efficiency benefits (*e.g.*, from eliminating double marginalisation) but, unfortunately, do not propose any mechanism for incorporating them into merger analysis.

With respect to dynamic efficiencies, it remains doubtful whether the Commission will seriously contemplate such arguments as an offset to a likely anticompetitive effect. The requirement that parties prove that efficiencies are quantifiable and timely makes the task of incorporating dynamic efficiencies into merger analysis a particularly difficult one. Additionally, there appears to be a deep-seated view at the Commission that preserving myriad firms in the market is the best catalyst for dynamic efficiency, which seems an unpromising basis for trade-offs between anti- and pro-competitive influences.³¹

BIAC notes that the difference between the treatment of dynamic efficiencies under U.S. and EC competition law may be attributable in part to different perceptions regarding the importance of these efficiencies. It also may result from the requirements incumbent on the Commission to articulate its (clearance) decisions. BIAC believes that a more fully developed analytical framework for the treatment of dynamic efficiencies may produce a more transparent treatment of them, as well as a convergence of methodologies among jurisdictions.

4. The Canadian Perspective

As noted above, Canada has recognised the importance of efficiencies in merger review in its Competition Act. Promoting "the efficiency and adaptability of the Canadian economy" is one of the policy objectives informing the Competition Act, and the merger provisions of the Act explicitly set forth trade-off analysis between the harms and efficiency gains resulting from a merger. Specifically, under the Act, mergers must be allowed to proceed where the likely efficiency gains are greater than and offset likely anticompetitive effects.

The Competition Act does not explicitly identify the types of efficiencies to be considered in merger review. Rather, the decisions of the Competition Tribunal and the Federal Court of Appeal in *Superior Propane* (the definitive case on the application of the efficiency defence under the Competition Act),³² the

³¹ The EC Commission's stance is best summarised in its Notice on the Application of Article 81(3). Paragraph 92 provides: "If the agreement has both substantial anti-competitive effects and substantial pro-competitive effects a careful analysis is required. In the application of the balancing test in such cases it must be taken into account that competition is an important long-term driver of efficiency and innovation. Undertakings that are not subject to effective competitive constraints -- such as for instance dominant firms -- have less incentive to maintain or build on the efficiencies. The more substantial the impact of the agreement on competition, the more likely it is that consumers will suffer in the long run." Next, paragraph 105 provides: "According to the fourth condition of Article 81(3) the agreement must not afford the undertakings concerned the possibility of eliminating competition in respect of a substantial part of the products concerned. Ultimately the protection of rivalry and the competitive process is given priority over potentially pro-competitive efficiency gains which could result from restrictive agreements. The last condition of Article 81(3) recognises the fact that rivalry between undertakings is an essential driver of economic efficiency, including dynamic efficiencies in the shape of innovation. In other words, the ultimate aim of Article 81 is to protect the competitive process. When competition is eliminated the competitive process is brought to an end and short-term efficiency gains are outweighed by longer-term losses stemming inter alia from expenditures incurred by the incumbent to maintain its position (rent seeking), misallocation of resources, reduced innovation and higher prices."

³² The Commissioner of Competition v. Superior Propane Inc., 2000 Comp. Trib. 15 (Reasons and Order); appeal allowed, [2001] 3 F.C. 185 (F.C.A.); 2002 Comp. Trib. 16 (Reasons and Order Following the

Competition Bureau's 2004 Merger Enforcement Guidelines (MEGs) and policy statements and speeches of the Commissioner of Competition and the Bureau provide guidance on this issue. However, Section 93 of the Competition Act does highlight the importance of innovation in merger review. Specifically, it states that "the nature and extent of change and innovation in a relevant market" is a factor to be considered when examining the effects of a merger.

The MEGs provide additional guidance on the importance of dynamic efficiencies. Given the inherent difficulty in measuring dynamic efficiencies, the MEGs state that such efficiencies should be examined from a qualitative perspective. For example, Section 8.15 of the MEGs state: "The Bureau also examines claims that the merger has or is likely to result in gains in dynamic efficiency, including those attained through the optimal introduction of new products, the development of more efficient productive processes, and the improvement of product quality and service. It is recognised that attaining dynamic efficiency is crucial to both the general evolution of competition and the international competitiveness of Canadian industries. Because dynamic efficiency is ordinarily extremely difficult to measure, the Bureau generally relies on documents prepared in the ordinary course of business to assess the validity of such claims. Such efficiencies are generally considered from a qualitative perspective."

Canada uses a weighted surplus or balancing weights approach in evaluating efficiencies claims. Under the current standard, relevant factors include productive, distributive, administrative, and dynamic efficiency gains, consumers' and producers' deadweight loss, socially adverse wealth transfers, and other socioeconomic effects stemming from either the anticompetitive accumulation of market power or the efficiencies that a transaction is expected to generate. Weights are allocated to gains and losses based on best estimates of their true welfare implications to determine whether net socio-economic well-being is enhanced. This standard is sufficiently flexible that if the adverse welfare effects of a price increase are significant enough, the Tribunal is free to vary the weights ascribed to different relevant factors so that the analysis accurately reflects a proposed merger's real-world implications.

This assessment involves consideration of whether any of the claims should be excluded or reduced on the basis that the likelihood of their attainment has not been established on the balance of probabilities; they likely would not be achieved if the order sought by the Commissioner were made; and they will not result solely from a redistribution of income between two or more persons. In addition, the costs of achieving claimed efficiencies must be calculated and deducted from the aggregate amount claimed. Furthermore, to account for differences between the points in time when quantifiable anticompetitive effects are likely to occur and when quantifiable efficiency gains are likely to be realised, the present value of the former (and ultimately the latter) can be calculated,³³ although *Superior Propane* employed a different approach. There, the Competition Tribunal simply calculated the efficiencies and anticompetitive effects over ten years without applying a discount.³⁴

After the present value of the "cognizable" efficiency gains is calculated, the "effects of any prevention or lessening of competition that will result or is likely to result from the merger" must be calculated. This calculation begins with a determination of the likely price increase that could be imposed post-merger by the merging parties (or by the industry in the case of coordinated effects) based on

Reasons for Judgment of the Federal Court of Appeal Dated April 4, 2001); appeal dismissed, [2003] 3 F.C. 529.

³³ This calculation involves making an assumption as to the appropriate discount rate, which can have a substantial impact on the overall assessment.

³⁴ *The Commissioner of Competition v. Superior Propane Inc.*, 2002 Comp. Trib. 16 (Reasons and Order Following the Reasons for Judgment of the Federal Court of Appeal Dated April 4, 2001).

available evidence (*e.g.*, history and econometric analysis). This estimate, together with an estimate of the demand elasticity of the relevant product, is used to determine the reduction in output likely to result from the merger. From this, the deadweight loss (the adverse effects from a reduction in output and consumption) and any wealth transfer can be determined.

Based on the FCA's initial decision in *Superior Propane*, one must then determine how to treat the wealth transfer from customers to producers. As the Tribunal observed in its redetermination decision in *Superior Propane*, this will require "a value judgment and will depend on the characteristics of [the affected] consumers and shareholders," and will "rarely [be] so clear where or how the redistributive effects are experienced." In general, the exercise "will involve multiple social decisions," and "[f]airness and equity [will] require complete data on socio-economic profiles on consumers and shareholders of producers to know whether the redistributive effects are socially neutral, positive or adverse."

If it is found that the merger likely will result in a socially adverse transfer of wealth from one or more identified lower income group(s) to higher income shareholders, a decision must then be made as to how to weigh the relevant part(s) of the wealth transfer. (If the entire wealth transfer will involve a socially adverse transfer, then it would be necessary to decide how to weigh the full transfer.) If the income effect on some purchaser groups would be more severe than on others, different weightings among the groups presumably would be required.

At this point, the balancing weights approach can be of some assistance. As proposed by Professor Peter Townley, one of the Commissioner's experts in *Superior Propane*, this simply involves determining the weight that would have to be given to the aggregate reduction in consumer surplus (*i.e.*, the sum of the deadweight loss, including any deadweight loss attributable to pre-existing market power, plus the wealth transfer) in order for it to equal the increased producer surplus that would result from the merger (*i.e.*, the sum of the efficiency gains and the wealth transfer), if the value of the producer surplus is multiplied by 1.

Shortly after the decisions in *Superior Propane*, a bill was introduced to Parliament that proposed to replace the net economic benefit test with a consumer benefit test. In his role as Acting Commissioner, Gaston Jorré noted that "Section 96 has been interpreted in a way where it is permissible to create a monopoly, or virtual monopoly. We believe that result is unacceptable . . . [because] [t]his means an anti-competitive merger can survive if it generates sufficient efficiencies even if it results in substantial harm to consumers."³⁵ This bill ultimately died with the dissolution of Parliament.

Subsequently, the Competition Bureau launched a comprehensive consultation process on efficiencies under the administration of Commissioner Sheridan Scott. A discussion paper was released by the Competition Bureau,³⁶ numerous written submissions were received from stakeholders, roundtable discussions were held, and summaries were published. On October 31, 2005, the Advisory Panel on Efficiencies released its Final Report.³⁷ The Advisory Panel determined that Canadian economic productivity continued to lag behind other countries, and recommended, among other things:³⁸ (i) retaining

³⁵ Comments of Gaston Jorré, Acting Commissioner of Competition before the Senate Standing Committee on Banking, Trade and Commerce, November 5, 2003.

³⁶ Competition Bureau, Treatment of Efficiencies in the Competition Act: Consultation Paper, September 2004.

³⁷ Report of the Advisory Panel on Efficiencies, Submitted to Sheridan Scott, Commissioner of Competition, August 2005; available at http://www.competitionbureau.gc.ca/PDFs/FinalPanelReportEfficiencies_e.pdf.

³⁸ For a summary of the Advisory Panel's recommendations, see Blake, Cassels & Graydon, LLP, "Blakes Bulletin on Competition: Advisory Panel on Efficiencies Issues Final Report – Confirms the Importance of

an efficiency defence for those rare but important cases where the trade-off may be justified; (ii) including efficiencies as a factor to be considered when assessing the competitive effects of a merger; and (iii) limiting the applicability of the efficiency defence such that it would not apply to mergers to monopoly or “near-monopoly.” The Advisory Panel did not, however, provide any analysis or take any position regarding the appropriate standard for balancing efficiencies against anticompetitive effects, other than stating that the current balancing weights approach is cumbersome and unpredictable.

Canada has also commissioned an independent third-party report from an economics firm for the specific purpose of developing further policy related to dynamic efficiencies. The report may provide a basis for developing a framework for collecting and analysing information related to dynamic efficiencies.

5. Criticisms of a Greater Role for Dynamic Efficiencies in Merger Analysis

Some commentators have counselled competition authorities against evaluating dynamic efficiencies during merger review because of quantification difficulties. While uncertainty with respect to the projected magnitude of dynamic efficiencies may justify discounting them, it is not a reason to dismiss them entirely. Competitive effects generally are difficult to quantify, but antitrust authorities, economists, and academics have nonetheless developed methods and models for doing so. Even with advances in economics, however, the estimated market power effects of many mergers often involve a likelihood, not a 100% certainty. Nevertheless, merger challenges are based on these estimations. Given the importance of innovation to economic growth and increased consumer welfare, it seems appropriate to accord dynamic efficiencies the same consideration.

The U.S. AMC has stated that the lack of a clear framework for assessing dynamic efficiencies should not prevent the agencies from recognising their value. Indeed, the AMC wrote that “While analytical methods to assess a merger’s likely anticompetitive effects are relatively well developed, methods for analysing whether a merger will encourage innovation are far less advanced. *Nonetheless, the agencies should endeavour to weigh more heavily the potential for welfare-enhancing innovation that a merger will create.*”³⁹

While the precise *amount* of efficiency projected to flow from a transaction may be difficult to quantify, the *fact* of likely efficiency is usually easier to demonstrate. Competition authorities frequently make this distinction when assessing the likelihood of consumer harm.⁴⁰ One promising way to prove likely benefits is by demonstrating that one of the merging parties has a track record of innovation or generating other relevant types of efficiencies.

BIAC anticipates that continued evolution in the field of economics will lead to sound methods for analysing the impact of dynamic efficiencies. As the AMC observed, “Merger law and policy -- as it has

an Efficiencies Defence for Canada,” November 8, 2005, available at http://www.blakes.com/english/publications/comp/nov2005/Advisory_Panel_on_Efficiencies.pdf.; for the complete text of the Report of the Advisory Panel on Efficiencies (August 2005), see http://www.competitionbureau.gc.ca/PDFs/FinalPanelReportEfficiencies_e.pdf.

³⁹ Antitrust Modernization Committee, Report and Recommendations 60 (2007) (emphasis added).

⁴⁰ In a similar vein, Professor Salop has observed that “The fact that diffusion may occur some time after the merger does not render the likelihood of diffusion speculative. For example, the certainty of one’s death is not speculative, despite uncertainty over the date.” Professor Steven C. Salop, Statement: Efficiencies in Dynamic Merger Analysis, FTC Hearings on Global and Innovation-Based Competition (Nov. 2, 1995), available at <http://www.ftc.gov/opp/global/saloptst.shtm>.

developed through both agency guidelines and case law -- has incorporated new or improved economic learning. Industries characterised by innovation, intellectual property, and technological change will continue to evolve and economic learning will progress.”⁴¹ Indeed, the history of antitrust enforcement in the U.S. is replete with examples of conduct once viewed as anticompetitive but now largely viewed as usually procompetitive, thanks to developments in economic thinking (*e.g.*, vertical non-price restraints, sharply reduced prices in response to new entry).

At least one attempt to model the impact of dynamic efficiencies has already been proposed. Salop and Roberts have developed formulae that balance any likely consumer harms “flowing from short-run price increases with the consumer benefits from price decreases, in the longer run, resulting from diffusion of the merger-induced cost reductions to other competitors. Application of an appropriate discount rate to future time periods would ensure that greater weight is given to relatively more certain, short-run effects.” The Salop/Roberts approach is just one example of a method for giving proper consideration to dynamic efficiencies.

Another concern that appears to underlie some jurisdictions’ unwillingness to consider efficiencies justifications is that a competitive advantage gained by the merged entity may disadvantage smaller or less efficient rivals. This concern, which mirrors U.S. antitrust jurisprudence of the 1960s and 1970s, ultimately was rejected when protection of the competitive process (judged according to sound economic principles) became the sole touchstone of American antitrust policy. Many jurisdictions, however, use their competition laws to achieve non-competition goals. Before the global community can achieve a consensus on the treatment of dynamic efficiencies in merger review, it must first agree on the basic proposition that sound economic principles should form the basis for all merger review.

6. Conclusion/Recommendations

BIAC is concerned that competition authorities in many jurisdictions accord too little consideration to efficiencies in merger review, and that jurisdictions willing to assess efficiencies gear their analysis too much towards static (price) effects. Both of these approaches may result in overly interventionist policies that foreclose efficient transactions. Efficiencies, and particularly dynamic efficiencies, provide an important source of consumer benefits and should constitute an integral part of competitive effects analysis.

Competition authorities should strive to develop more robust and transparent methodologies to analyse dynamic efficiencies, and also should encourage merging parties to develop and submit robust analyses of merger efficiencies. When competition agencies demonstrate a greater willingness to assess, verify, and quantify efficiency claims, companies will be more likely to invest their time and resources to develop persuasive efficiencies analyses.

Dynamic efficiencies, although sometimes difficult to quantify, should not be dismissed summarily by enforcement agencies. Rather, enforcement agencies should work to develop methods for quantifying dynamic efficiencies and a framework for incorporating them into competitive effects analysis.

BIAC appreciates that the choice of the welfare standard (for example, the difference in standards applied in the U.S. and Canada) has an impact on whether efficiencies are characterised as relevant, and would welcome further debate on this matter. Other efficiencies-related issues also deserve further exploration, including the passing on of efficiencies to consumers, the question of whether (dynamic) efficiencies in one market should be permitted to offset competitive harms in other markets, and the extent

⁴¹ Antitrust Modernization Committee, Report and Recommendations 55 (2007).

to which dynamic efficiency claims by dominant firms should be cognisable. BIAC suggests that a further roundtable be conducted to explore these issues.

BIAC respectfully submits that strict evidentiary requirements for static (cost) efficiencies (timely, verifiable, merger-specific) may not be suitable for capturing the magnitude of dynamic efficiencies, and may result in focusing too narrowly on the static price effects of mergers. Consequently, BIAC believes that competition agencies should apply a rigorous but more flexible framework of analysis in terms of the standard of proof. The Canadian approach of encouraging qualitative assessment of dynamic efficiencies is instructive. BIAC also submits that it would be useful for competition agencies to identify more clearly the types of information sources (*e.g.*, strategic plans, internal studies) they would consider and the weight they would attach to those company data.

BIAC believes that the burden of proving negative effects should be commensurate with the establishment of (dynamic) efficiencies.

BIAC believes it would be instructive for enforcement agencies to perform retrospective studies of merger enforcement decisions to assess the impact of dynamic efficiencies. Such retrospectives help to assess the efficacy of merger policy generally, and would be particularly useful in assessing the impact of dynamic efficiencies, given that benefits from such efficiencies may accrue over extended periods of time.

SUMMARY OF DISCUSSION

Chairman Frédéric Jenny opened the discussion by expressing some discouragement, in view of the written contributions, over the difficulty that competition authorities have in finding evidence of dynamic efficiencies. Private parties are typically unable to show that such efficiencies exist, and even when they do, the authorities tend to discount that evidence. Nevertheless, the contributions do raise a variety of interesting issues. The Chairman proposed to arrange the discussion in 5 parts:

1. The definition of merger-induced static and dynamic efficiencies.
2. The standard of admissibility of claims concerning static and dynamic efficiencies in merger review.
3. Dynamic efficiencies linked to possible rationalisation of R&D, especially in the pharmaceutical industry.
4. Whether mergers really tend to create static and dynamic efficiencies, including economists' pessimistic views on the subject.
5. New proposals on how to look at efficiencies.

1. The definition of static and dynamic efficiencies.

The Chairman noted that the EC's contribution is nearly entirely focused on how to define static and dynamic efficiencies. He invited the delegation from the EC to share its views on this subject.

A delegate from the EC began by concurring with the Secretariat's paper and most of the other contributions that the key difference between static and dynamic efficiencies lies in the distinction between one-off versus potentially continuous long-term effects on costs and other parameters such as product quality. This has important implications for applying the Commission's horizontal merger guidelines with respect to the verifiability and the timeliness of the benefits. Fortunately, it is likely that the vast majority of efficiency-enhancing mergers fall below the safe harbours provided by most merger guidelines. In particular, that applies to mergers that combine firms with complementary as opposed to overlapping assets. The EC delegation therefore believes that the number of cases in which dynamic efficiencies are impeded by regulatory intervention is rather limited.

The EC's contribution also mentions the distinction between marginal and fixed cost efficiencies to highlight a category of cost reductions that can be static by their nature, but whose effect on consumer welfare plays out in a dynamic process. Fixed cost reductions may reduce the level of sunken investment required to enter and expand in a market and that would tend to increase competition and benefit consumers. Fixed cost reductions can often be well-documented by merging parties. Yet under many current efficiency regimes, these types of efficiencies may fail the consumer benefit test because no marginal cost reductions can be shown. At the same time, the cost categories affected by fixed cost reductions often concern items such as R&D and innovation. It would be useful to develop better analytical tools to make such static fixed cost efficiencies more relevant in merger investigations.

The Chairman then turned to the contribution from Chinese Taipei, noting that it seems to put more emphasis on the importance of dynamic efficiencies than other contributions. He asked whether Chinese Taipei's competition authority was giving special priority to dynamic efficiencies and, if so, whether that is intended to help the country's economy to continue developing. He also asked whether the authority, when it considers the possible efficiencies accruing from mergers, takes a long-term view or if instead it discounts future benefits very rapidly?

A delegate from Chinese Taipei first noted that the Fair Trade Commission does not have a specific statutory provision that requires it to conduct an evaluation of dynamic efficiencies. Typically, it considers dynamic efficiencies under a general clause that allows the FTC to balance the overall economic effects from a merger. The FTC therefore tends to evaluate dynamic efficiencies on a case by case basis. The agency never imposes a time limit during which the merging firms are required to achieve dynamic efficiencies. It is fully aware that dynamic efficiencies can be rather difficult to predict and quantify. Another reason for not imposing a time limit is that firms engaged in R&D usually need time to estimate the fixed costs they have devoted to the R&D activity and how much the merger will save them due to economies of scale from combining the two firms' R&D activities. Of course, that does not mean that any harmful short-term effects are unimportant. To take a completely hands-off approach, *i.e.*, to just let the market decide what is best, could reflect an attitude that is too optimistic with respect to technological development.

Moreover, the delegate continued, even if a merger is expected to stimulate R&D, the FTC must still pay attention to whether the fruits of that R&D are likely to be externalised to the public. In other words, there are questions about whether the merged firm will have a position similar to that of a monopolist and whether it would be likely to abuse that position so as to dampen the competitive process. The safest approach adopted by the FTC to balance the long-term effect and the short-term concern is to impose certain conditions on mergers. For example, merging parties may be asked to license the results of their research on a non-exclusive and non-discriminatory basis with reasonable royalties. That reflects a balancing of the short-term and long-term effects. One may wonder how the FTC determines what kind of conditions to impose. The answer is that those conditions may come from a competitor of the merging parties. Before making a decision on certain types of mergers the FTC holds a public hearing to which all the affected parties are invited. This turns out to be a very good starting point for considering the conditions that should be imposed. Therefore, the FTC does not intervene directly by telling firms engaged in R&D what kind of dynamic efficiencies should happen or how they should achieve them. Instead, the FTC attempts to foster an environment that will facilitate or even accelerate the realisation of dynamic efficiencies.

The Chairman then read a quotation of Judge Easterbrook, which was mentioned in the US contribution: "An antitrust policy that reduced prices by 5 percent today at the expense of reducing by 1 percent the annual rate at which innovation lowers the cost of production would be a calamity." That seems to be a pretty strong indication that we should pay more attention to dynamic efficiencies even at the expense of static efficiency. The Chairman asked whether the US agencies give a positive weight to dynamic efficiencies even if they are expected to occur only in the long-term. If so, he asked, how is that consistent with the view that when reviewing mergers one should discount almost completely any effects that will occur beyond a time frame of 2 years?

A delegate from the US replied that the weight American agencies give to particular costs and benefits from a merger is determined primarily by the discounted value of their impact on consumer welfare. Speculative costs and benefits are given no weight at all. Effects expected to occur far in the future may be speculative or may not count much because they are discounted over a large time period. The US agencies count whatever they can figure out. If the agency concluded that a merger would produce future benefits outweighing immediate costs, then the merger would not be challenged. Nevertheless, the

delegate added that he would not expect dynamic efficiencies to play a significant role in the assessment of many mergers. One reason is that the mergers that are most likely to yield dynamic efficiencies are not the ones that are most likely to generate anti-competitive effects, so they tend not to attract the agencies' scrutiny in the first place. Vertical and conglomerate mergers usually combine complementary assets in a way that is conducive to dynamic efficiencies, which horizontal mergers may not do.

A second reason that the US agencies are not apt to give much weight to dynamic efficiencies is that they credit efficiencies only when they can be verified. Verification tends to require a specific merger plan in which there are mechanisms through which efficiencies can be expected. Those mechanisms are likely to be absent in the case of dynamic efficiencies or they may point in the opposite direction. The elimination of competing R&D programs isn't likely to be viewed as an efficiency, although it could be; it would probably be viewed as an anti-competitive effect. To promote dynamic efficiencies, agencies should not adopt a policy of lax enforcement against horizontal mergers. There is no systematic reason to believe that large horizontal mergers systematically produce dynamic efficiencies. Rather, competition policy toward single firm exclusionary conduct rather than mergers is an area where dynamic efficiencies are important. It's important not to prioritise static competition if that means denying the most successful innovators the reward for their success. Innovation tends to be expensive and risky and large rewards are necessary to attract large investments in innovation. In addition, in single firm conduct cases it is also important not to impose remedies that constrain opportunities for innovation or that undermine the rewards for innovation.

The delegate continued, noting that with regard to the quotation from Judge Easterbrook, the judge wasn't talking about mergers. Instead, he was talking about competition policy in general and was giving a rationale for a relatively non-interventionist competition policy. The rationale has merit but it is difficult to evaluate on a case by case basis. Yet we know beyond any question that dynamic efficiency gains are crucial in economic growth and in generating consumer benefits. Easterbrook's idea is to vastly minimise the role of antitrust intervention and in certain areas the US agencies follow his suggestions, as in the area of vertical and conglomerate mergers where intervention is exceptionally rare. In single firm conduct cases intervention is not common and the agencies worry quite a bit about remedies that would stifle innovation or deny the rewards of innovation. The delegate expressed doubt that US agencies have the ability to identify particular mergers that create dynamic efficiencies, although they are open to that possibility in each case.

The Chairman then read a passage from Brazil's contribution, which states that "it is efficiency, not competition, that is the ultimate goal of the antitrust laws" and that "efficiency analysis has been given a more important role in merger review in Brazil in the last three or four years." The contribution also discusses the problem of whether one should consider efficiencies only when they lower marginal costs or if efficiencies that lower fixed costs should be taken into account, as well. Brazil's Horizontal Merger Guidelines recognise reductions in fixed costs as a source of efficiency. In particular, they state that "[I]n developing countries, such as Brazil, which have experienced strong productive restructuring processes in a very short period of time, the reduction in fixed costs is really important and it will be considered." On the other hand, the same guidelines establish a two year time horizon for assessing efficiencies. The Chairman asked Brazil to expand on the statement that in developing countries efficiencies that reduce fixed costs are very important. He also asked how the guidelines' very short timeframe can be reconciled with the desire to take such efficiencies into account. Finally, he asked Brazil to discuss its review of the *Ambev* merger, which also was mentioned in the contribution.

A delegate from Brazil noted that the Brazilian merger guidelines explicitly mention reductions in fixed costs as a possible source of efficiencies. The efficiencies must be specific to the operation, verifiable, and not speculative. On the other hand, the Brazilian competition law explicitly adopts a consumer welfare perspective, stating that an efficiencies defence may be accepted only if there is no harm

to consumers. In addition, the law requires that the savings from efficiencies be equitably shared by the merging parties and consumers, meaning that one should expect prices to be reduced. Consequently, reductions in fixed costs are not considered during the assessment of the merger's net impact on consumer welfare.

The delegate noted that *Ambev* was a case in which the two largest Brazilian beer companies merged and the parties alleged a reduction of fixed costs as an efficiency. CADE's final decision did not evaluate each alleged efficiency separately and even though it recognised that some efficiencies would be achieved, they were insufficient to avoid the finding that the merger would have a net negative effect due to the increased power of the merged firm. Ultimately, a structural remedy was imposed.

The delegate added that from a developing country's perspective, Brazil finds that some problems result when efficiencies that accrue in the form of fixed cost savings are ignored. For countries that have faced restructuring due to big institutional changes toward a market-like environment in a very short period of time, many efficiencies were accomplished as a result of reductions in fixed costs. Brazil's industry structure suffered from a great deal of inefficiency. Many mergers that occurred after deregulation, privatisation and other reforms brought about reductions in fixed costs. Therefore, the efficiency gains would be very much underestimated if one paid attention only to efficiency gains related to variable costs.

Turning to the UK's contribution, the Chairman noticed its observation that sometimes when a merger creates a more efficient firm it also spurs non-merging firms in the market to achieve greater efficiencies, as well, increasing rivalry. He asked the UK delegation whether it takes such efficiency externalities into account.

A delegate from the UK expressed support for distinguishing within-firm efficiencies from efficiencies that arise because of effects that a merger or joint venture has on other firms. These are the kinds of dynamic efficiencies that enforcers are most likely to be able to consider because they fundamentally change the pace or process of competition itself because rivals respond and reduce their own costs. OFT considers these efficiencies as part of the competitive effects analysis and not as a defence to a substantial lessening of competition. So OFT does not confine itself to thinking only about innovation and new products, but it also considers cost reduction.

Another UK delegate mentioned that, in general, cases in which the parties come forward with evidence on efficiencies are rare. The agencies could be receptive to them but would require good, verifiable evidence of both the efficiencies themselves and the likelihood that they would be passed on to consumers. The farther out into the future the prediction of benefit is, the harder it will be to provide the evidence.

Next, a delegate from BIAC pointed out that there was an example in the US of a transaction that involved the diffusion of innovation to competitors. In 1984's General Motors/Toyota joint venture, the FTC relied primarily on efficiencies in deciding not to challenge it. Specifically, the FTC determined that the JV would enable GM to improve its understanding of Japanese manufacturing and management techniques. It also anticipated that, to the extent that the Japanese system could be successfully adapted to the US, it would lead to greater efficiency and competition in the auto industry. Thus in this case the FTC recognised that these innovative techniques would be imitated by other American automobile manufacturers, so the entire industry would benefit from the JV.

The delegate added that concerns are frequently raised about taking dynamic efficiencies into account because they are difficult to quantify. He pointed out that in two recent instances experts in the US have cautioned that just because it is difficult to quantify dynamic efficiencies, that does not mean they should be ignored. Prof. Salinger, Director of the FTC's Bureau of Economics, has said that while enforcers

cannot accept efficiencies uncritically, it is too much to ask parties to demonstrate them beyond all doubt. Agencies make enforcement decisions based on the assessment of the probability not the certainty of anti-competitive effect. The delegate urged that the same be done with respect to the probability of efficiencies. Furthermore, the US Antitrust Modernization Commission found that the lack of a clear framework for assessing dynamic efficiencies should not prevent the agencies from recognising their value. One of the difficulties that agencies confront is determining how to quantify and factor into their analytical frameworks the dynamic efficiency assertions that parties present to them. Only 15 years ago we did not have merger simulation models as we do today. The field of economics continues to develop.

With that in mind, the delegate said, BIAC has some specific recommendations on what competition agencies can do to help develop more rigorous frameworks for evaluating dynamic efficiencies. First, conduct retrospectives of mergers that have already taken place. Dynamic efficiencies can take a number of years to show up, so retrospectives might be useful. Second, continue to work with economists and academics to develop methodologies.

At this point a delegate from the UK intervened to say that even if one finds a case where this type of effect occurs, it is important to look more rigorously at the evidence. The best paper on this is probably one by Nick Bloom and John Van Reenen on technological diffusion and rivalry. But it presents weak evidence, if any, of this effect on an economy-wide basis.

2. The standard of admissibility for efficiency claims in merger reviews

The Chairman opened the next topic by focusing on France's contribution, which mentions several conditions that must be met before efficiency claims by merging parties will be accepted. These conditions are in effect in many other jurisdictions, as well: The efficiencies must be quantifiable, verifiable, merger-specific, and at least some of them must be passed on to consumers. The Chairman asked about the Dolisos/Boiron merger, in which the parties claimed that the transaction would lead to a doubling of their R&D budget and thus to a higher probability of successful innovation, which would benefit consumers. In particular, he asked whether that case is a good example of the principles of admissibility for efficiency claims, especially the merger-specificity condition.

A delegate from France noted that the Competition Council has very limited experience with dynamic efficiencies. It is more difficult for dynamic efficiency claims to meet the necessary criteria than it is for static efficiency claims to do so. The Dolisos/Boiron case involved a merger between two companies that produced homeopathic products. It affected 2 markets: generic and branded homeopathic drugs. The Council did not find competition problems in the generic market, but the transaction was expected to cause anti-competitive effects with respect to several classes of branded drugs and there was also a potential conglomerate effect for both branded and generic drugs. The parties alleged that the operation would increase the merged firm's financial capacity for making R&D investments, which would inevitably benefit consumers.

The Council did not examine the parties' efficiency claims in great detail because the competition problems that were identified were resolved by undertakings. Accordingly, the alleged efficiencies did not need to be verified in order to authorise the merger. The Council nevertheless found that the increase in financial resources devoted to R&D activity was likely to increase the probability of achieving innovation. The Council did not, however, conclude that the higher probability would suffice by itself to clear the merger. It also did not examine the veracity of the parties' claims about when they would make their R&D investments and how long it would take them to yield innovations.

With respect to the issue of merger specificity, the parties claimed that the merger would make it possible for each of them to specialize in a type of research. One company would specialize in

fundamental research and the other company would specialize in clinical studies. That specialization, in turn, would make it possible for the merged company to reach a critical mass in each of those essential fields.

The Chairman remarked that most contributors say they look for quantifiable predictions about efficiencies gains, merger-specific efficiencies gains, and that they usually rely on documents— if possible, ones that were created before the merger – provided by the firms to evaluate those factors. That raises the question: What happens in hostile mergers? In such cases it is often difficult for the acquirer to get the kind of information it would need to support and quantify its efficiency claims. Portugal’s contribution discusses a hostile merger, the PT/Sonocom case. The Chairman asked for more information about that merger generally, and in particular on how the competition authority took into consideration that the merger was taking place in a technologically dynamic industry.

A delegate from Portugal stated that Portugal Telecom/Sonocom was the largest merger that has ever taken place in Portugal. It involved a 17 billion euro operation that encompassed the entire telecom sector. It was also an atypical merger because much of it was really a break-up of a company into 3 parts, so some of the results might be counterintuitive. The remedies would break up a quasi-monopoly incumbent, correct a history of soft regulation, and leapfrog the industry to the best practices technology. A number of studies were done, including one by New York University which showed that the potential efficiencies of having more competition in telecom would be up to 30% of total cost. Of course not all of those savings would be realised in the short term. But the figure shows how significant the potential efficiencies were because of the quasi-monopoly.

Problems arose in the mobile market because the largest company would merge with a smaller company whose main activity was in the mobile sector and there would be a reduction from three to two operators. This was a major concern because econometric simulation work showed a potential price increase of about 6% in the short term. However, a dynamic analysis of the mobile networks subject to intense technological change had to be carried out. The remedies therefore tried to compensate for the loss in real competition by creating more potential competition via lowering entry barriers. Furthermore, because the two merging networks covered most of the country and the smaller company had almost no investment in 3G, the merger would entail a substantial improvement in the service provided to consumers. In addition, other remedies opened access to the copper network for smaller telecoms to compete, so several companies would then be able to compete fully in what is called “quadruple play.” The authority concluded in gross terms that the merger with these remedies had a potential improvement in consumer welfare (estimated present value) of about 4 to 5% of GDP over the long-term. That figure was considered to be relatively well-grounded on today’s methodologies. Ultimately, the takeover did not succeed because a minority of owners blocked it.

Next, the Chairman turned his attention to Germany’s contribution, which states: “In the absence of practical problems in assessing these [dynamic] efficiency gains, one might conclude that they should have even more weight in the assessment of a merger than static efficiencies.” It also states that “[e]ven if the merging parties seem largely unsuccessful in predicting merger-specific efficiency gains, they may find out some years after the merger whether the merger was successful in creating efficiencies. If the merger did not create efficiencies, they can de-merge. Taking such spin-offs into account could thus change the empirical results mentioned above.” The implication is that dynamic efficiencies are very important and they may ultimately happen even if the parties don’t know in advance that they will.

Yet the Chairman also noted that when it comes to the admissibility of efficiency claims in Germany, rather strict standards apply. The contribution states: “In a world of limited agency resources that can be invested in case investigation, there is a trade-off to be made between investigating expected efficiency gains or other aspects of a proposed merger. . . . Typically high standards of proof must be met by the

merging parties: Claimed efficiencies need to be merger-specific, passed on to consumers, verifiable and should be supported by convincing evidence and quantified wherever possible.” The Chairman asked how one can reconcile this if one admits that long-term efficiency gains are hard to establish and may not even be known by the merging parties. Does it make sense to have very high standards for dynamic efficiency claims?

A delegate from Germany responded that in his view the statements are complementary rather than contradictory to each other. Nearly all experts agree that mergers have significant potential with regard to both static and dynamic efficiency, but nearly all experts also agree that the assessment of efficiencies is uncertain in most cases and that it is the most speculative element of merger review. The key questions are: What do competition authorities do in such a difficult situation? Should otherwise anti-competitive mergers be cleared on the basis of speculative efficiencies? The Bundeskartellamt’s answer is simple and practical: While efficiencies are important, the way to make the best of the situation is to focus on those facts that the authority can assess relatively well. This means that efficiencies might be important in some cases but it also means that efficiencies that merging firms hope to gain but which cannot be specified and proven to the competition authority cannot be taken into consideration. Efficiency predictions by the merging parties are highly error-prone and that is even more so with respect to efficiency predictions by the competition authority. So it comes as no surprise that among published merger review decisions from around the world there is an obvious lack of cases that were cleared primarily or exclusively due to the efficiency prediction. The notable exceptions are Canada’s propane case and the satellite case referred to in Germany’s submission.

Having said all that, the delegate clarified that he was not saying that competition authorities should not thoroughly review efficiencies. They are important, but in the Bundeskartellamt’s day to day practice they have mattered in very few cases. Efficiencies have merited a detailed analysis only in exceptional cases. Furthermore, efficiencies claims are seldom supported by convincing evidence. Nevertheless, the authority does thoroughly review efficiencies and their effects on competition if they can actually make a difference.

Finally, with respect to whether a high standard of proof is justified, it may be misleading to say that the standard for credible efficiencies is “high” because that might suggest that the standard is higher than the standards of proof for other aspects of merger analysis. However, a very high standard of proof is also in place for the other aspects such as market definition, entry barriers, and buyer power. The delegate added that authorities should not be presumptuous about their ability to make predictions. A high standard of proof is justified.

Turkey’s submission states that “efficiencies in general and dynamic efficiencies in particular are to be taken into account in the overall appraisal of mergers and acquisitions and . . . the benefits of these efficiencies must be passed on to the consumer.” The Chairman observed that this is a fairly standard position. In the Gemplus/Exalto case, two firms argued that they could rationalise their R&D spending if they were allowed to merge. In this case all of the competition authority’s criteria were met. The Chairman asked what kind of evidence the parties presented and whether there was any concern that there could be an offsetting drawback to the combination of two previously competing R&D divisions, *i.e.*, less stimulation for innovation.

A delegate from Turkey said that technological change and innovation were very important market characteristics in that case. The parties argued that innovation was increasing constantly, that there were no significant barriers to entry, and that there was increasing demand, which attracted new local and international firms to the market. In addition, the parties’ main rivals were able to exert downward price pressure on market prices. The competition authority also considered the fact that the market was tipping in a way that made technological development extremely important, so producers had to carry out intense

R&D studies and ensure product variety in order to cope with competition. With those market characteristics in mind there was no concern that R&D and innovation would decrease. Moreover, the competition authority consulted the rivals and customers of the merging firms regarding the likely competitive effects of the merger. The customers stated that they could benefit from better services that might arise from increased R&D as a result of the merger, and they did not state that there would be a decrease in R&D.

3. Dynamic efficiencies from rationalising R&D through mergers in the pharmaceutical industry

The Chairman then raised the issue of how competition authorities evaluate claims that mergers in the pharmaceutical industry bring about dynamic efficiencies due to a rationalisation of R&D programs. The Czech Republic's contribution is different from some of the others in that it considers quantification of efficiencies to be unnecessary in many cases. It also discusses the merger between *Léčiva* and *Slovakofarma*, the two most important generic drug producers in the Czech Republic and Slovakia. The contribution states: "The Office accepted the argument that the completion of the merger would bring a certain rationalisation in the research and development of generic products, especially in those areas where the activities of the merging companies overlap in the market, and that some of the drugs currently being developed will not in fact be brought to market, or that their development will be terminated. The financial resources thereby released can be divided across the research and development of more products and drugs, bringing a positive effect for the end consumer." The Chairman asked whether each of the firms could have separately terminated R&D on programs that were leading nowhere and then have redeployed the associated financial resources toward developing other products. In other words, he asked why the merger was necessary for a reallocation of R&D to take place.

A delegate from the Czech Republic responded that the Czech competition authority did consider the possibility that the merger of two competing generic drug producers would reduce competition in R&D, but in this case it found that the merger could lead to greater competition. The two companies had been part of one integrated company that was artificially divided in connection with the division of Czechoslovakia. That was one of the reasons why the production and R&D activities of the two companies were more complementary than overlapping. In most areas, therefore, those companies were not competing. Still, the investigation showed that in five markets the companies' R&D activities did overlap. However, the companies faced fierce competition from bigger firms abroad. Those firms also produced generics and were very active in R&D related to new generics. The foreign companies had more financial strength and were engaged in more areas of R&D. The merging parties were active in R&D for only 40 products out of 300 in the pharmaceutical sector. This problem was quite minor and R&D overlap existed only on five markets.

Although the authority was fully aware that the merger could lead to some decrease in R&D in those five markets, it was discovered that the greater financial resources of the combined firm would be used to engage in more extensive R&D of generics. So maybe on these five markets the R&D will not be so intensive but it would be more extensive. That would lead to better competition in R&D and in general to a higher level of innovation. The authority expected that the outcome of the merger would be more generics competing in more markets, which is beneficial for consumers in the end.

The Chairman then observed that one case was treated differently by two competition authorities who analysed it. First he pointed out that Canada's contribution states that conclusions can more easily be drawn when short term consequences are considered. "The Competition Bureau typically uses a two-year time frame when examining the potential effects of a merger. The longer the time horizon under consideration, the more difficult it is to come to any conclusions regarding expected price levels and whether firms will likely enter or compete effectively. This is the case with respect to dynamic efficiency

considerations.” The contribution discusses the Aventis Crop Science/Bayer merger, which occurred in the pharmaceutical industry. It also notes that at the time of the merger, both parties were active in R&D as well as in the manufacture and sale of crop protection products. Canada states that the Competition Bureau found that in certain product markets where either Bayer or Aventis was the incumbent firm, the other merging party had a pipeline of product that was expected to have the same or better efficacy rate (since it was based on the same new chemistry of active ingredient) and was expected to come to market within a two-year time frame. The Bureau concluded that the level of change and innovation was not likely to discipline the exercise of market power by the merged entity in the relevant time frame, and in fact the pace of innovation would be hindered by the proposed transaction.

The Chairman found that interesting in light of a passage in the contribution from the Czech Republic, which looked at the same merger at the same time and came to a different conclusion. The contribution states that the Czech competition authorities accepted the assertion that this merger would lead to greater investment in R&D, which would allow the parties to innovate more frequently. It also states: “The office at the same time took into account the difficulty and average development time for new products – 5 to 10 years.” The Chairman asked Canada what is missed by having a very short time frame for examining efficiencies if products take 5 to 10 years to develop. Should competition authorities take a longer view?

A delegate from Canada replied that a key issue in pharmaceutical industry mergers is to determine without much probative or reliable evidence what the net impact on innovation is going to be. On the one hand, one explores whether there is a reasonable basis on which to conclude that a new product or a new process will be developed within some reasonable time frame because of the merger. If so and if credited, that would be a dynamic efficiency. On the other hand, one must explore whether a foreclosure of rivalry in innovation will be likely.

Next, the delegate explained the Bureau’s analytical process in cases where dynamic efficiency claims are made. First, the Bureau assesses the merger’s anti-competitive impact, exploring in general the limits to the merged firm’s ability to exercise market power. That would be done within the two-year time frame indicated in the merger guidelines. In the Bayer/Aventis matter, it was not a question of disregarding or rejecting the dynamic efficiencies claim per se because of a limited time frame or otherwise, but rather recognising the importance of innovation in this market to competition and the loss of Aventis products in the pipeline as an anti-competitive impact. So in that case, as in others, if there is an anti-competitive impact the next step is to consider efficiency claims. Generally, with respect to dynamic efficiencies, the Bureau starts with a two-year time frame, and then the further and further out in time that one goes, the more difficult it is to be confident that those efficiencies will be realised, so their imputed value and scope diminishes. Accordingly, the Bureau would not necessarily restrict its analysis to a 2-year timeframe. It may be appropriate to extend the window in some circumstances when considering a claim of dynamic efficiencies. In other words, one should not simply shrug one’s shoulders and give up. Dynamic efficiencies in many senses defy measurement and are very challenging to incorporate in a competitive effects assessment, but they are also vital for driving economic growth and ultimately consumer welfare.

The Chairman then shifted to the US’s contribution, expressing some confusion about it. The contribution refers to an ex post study of 31 mergers in which the merging firms operated in the same general sector of the economy. The study found that significant increases in R&D performance occurred only when the merging firms were neither direct competitors nor in the same technological field. The contribution also states that “the agencies examine closely both the plans and the accompanying estimates of savings... one issue in this examination is whether the savings arise from anticompetitive reductions in output or service. The elimination of one of the merging firms’ research programs could produce a significant cost reduction, but that cost reduction normally should be viewed as an anticompetitive reduction in research rather than as a dynamic efficiency benefit from the merger.” But in giving an example of its practice, the US mentions a merger case which combined the world’s only firms engaged in

developing the first enzyme replacement therapy (ERT) to treat Pompe disease, noting that the FTC examined the deal but did not object to it. Given the other points already discussed in the contribution, the Chairman said, he would have expected that the FTC would have had some objection. He requested an explanation.

He also noted that the German contribution contains a statement that is directly related to this issue. The Bundeskartellamt says that neither static nor dynamic efficiencies should be taken into account when they are speculative, and it gives an example that happens to fit the FTC's case perfectly. Merging parties might argue that by pooling their two lines of research, they will produce more innovations or better innovations than each party would have produced separately. However, the opposite might also be true. One of the merging parties could unwittingly be pursuing a line of research that will result in a dead end, while the other party may unwittingly be pursuing a line of research that will result in a successful innovation. If they merge and then pursue only one of these lines of research, how can one predict whether they will choose the right line?

A delegate from the US said that the US does not disagree with Germany's point and that it is, in fact, consistent with the case. The matter being referred to is the Genzyme case. The FTC reviewed it after the fact because the transaction was not subject to pre-merger notification requirements. The case study proposed that the relationship between concentration and innovation is unclear. It also proposed that the relationship between a particular merger and the incentives of the parties to innovate and the way in which they go about their innovation is unclear. That is true even in what is arguably a merger to a monopoly, as the Genzyme case was. This is not a new view on the part of the US; it is a position that the US has held for approximately two decades.

When a decision was reached in the Genzyme case in 2004, the FTC had been able to observe the merged parties' R&D practices and market behaviour, as well as market development, for about three years. The efficiencies from the merger were quite weak, but evidence of an adverse competitive effect was even weaker. Competition was quite speculative in nature because the products were at an early stage in the pharmaceutical pipeline. It is entirely possible that, when viewed from 2004, it appeared that neither party's drug would ever get to market. Given the regulatory environment in which the parties were operating in the US, one certainty was that if one party got to market the other party almost certainly would not, due to the "Orphan Drug" Act. Furthermore, the parties' observed conduct was not consistent with an effort to delay or reduce R&D efforts. Both lines of R&D work were maintained, not shut down. That fact, the fact that there was no treatment available for what was considered a fatal disease, and the fact that litigation is distracting and would mean having to take the researchers out of their labs and into the courtroom – together, all of those considerations led the FTC to conclude that challenging the merger would not be good for patients or the public interest.

4. The reality of static and dynamic efficiencies arising from mergers

Opening a new area of enquiry, the Chairman acknowledged the contributions may make one wonder whether we are chasing something that exists or not. Is there any way to establish the reality of dynamic efficiencies? Are the standards that we use to screen efficiency claims too high? Korea's contribution indicates that its merger review system accommodates dynamic efficiencies as well as static efficiencies as a defence. The KFTC will only consider efficiencies that are merger-specific, do not result from the use of anticompetitive means, such as decreases in output or reductions in service or quality, are realised in the near future, are verified, and are substantial. The contribution also states that "there are few cases approved on the grounds that efficiency gains outweigh the potential anticompetitive effects. In particular, dynamic efficiencies have never appeared in real cases." The Chairman asked Korea whether efficiency claims are so rare because the standards that the KFTC applies are too high, so that firms are discouraged

from even presenting claims, or whether it is simply the case that not many efficiencies accrue from mergers.

A delegate from Korea clarified that in the KFTC's experience, merging parties make static efficiencies claims in nearly all of the cases where the KFTC finds an anti-competitive effect. Only dynamic efficiencies claims are rarely made. The delegate continued, noting that in general the more serious the anti-competitive effects are, the lengthier are the efficiencies claims put forward by merging parties. Merging firms have paid little attention to dynamic efficiencies so far. Most claimed efficiencies claims fall into the category of productivity efficiencies such as cost savings arising from economies of scale or scope. A possible explanation for that is that the rationale for the proposed mergers may have nothing to do with dynamic efficiencies. Instead, they might be motivated by a desire to reduce competitive pressure or to achieve static efficiencies.

Another observation offered by the delegate was that although merging parties did claim efficiencies with regard to R&D activities in a couple of cases, they didn't claim them in relation to things like improving their R&D capabilities or introducing new products. Instead, they focused on cost savings in running R&D activities, which is really a static efficiency. The limited prospect of success for dynamic efficiencies claims (due to practical difficulties) may be keeping parties from claiming them. In the merging parties' point of view, it may be a wiser strategy to argue static efficiencies, which are easier to prove.

The delegate added that Korea's merger guidelines are silent or relatively brief regarding the standards for an efficiencies defence. For instance, the guidelines don't comment on whether efficiencies claims should be quantified or not or whether efficiencies to be realised later in the future should be considered and if so, whether they should be discounted. It is quite important to provide more guidance in the chapter on the efficiencies defence, hopefully through the revision of the guidelines in the near future.

The Chairman pointed out that Ireland's contribution directly asks whether there should be a revision in the standards that are imposed on parties when they claim efficiencies. The background to this is that only 14 mergers out of 310 in Ireland have raised a competition issue. In 8 of those 14, no evidence regarding efficiencies was offered. Ireland's merger guideline states that efficiency claims must be verifiable, quantifiable, and timely. Furthermore, any efficiency must be achieved directly by the merger and cannot be achievable by less restrictive means. Finally, it must be achieved "within a reasonable time frame and with sufficient likelihood." The Chairman asked Ireland's delegation to discuss why there are so few efficiencies claims and whether the standards should be changed.

A delegate from Ireland said that he did not think the reason for the dearth of efficiency claims in Ireland is that the standards are too high. Ireland's competition authority is well-known for engaging in economic analysis, he said, and its merger team has a reputation of relishing the challenge of looking at economic arguments however obscure they may be. The delegate also did not think that the reason is that mergers are not actually yielding any efficiency gains. Merger submissions frequently contain arguments about other things that don't exist, so this is probably not the explanation for the lack of argumentation on efficiencies. A more likely explanation is that the competition authority has only been reviewing mergers for about 4 and one half years. Second, Ireland's merger regime can be fairly characterised as non-interventionist.

A delegate from Belgium intervened to say that there can be substantial dynamic efficiencies that are more relevant than static efficiencies but extremely difficult to verify *ex ante*. So if the standard is "verifiable," we will have to apply it with flexibility if we want to see any dynamic efficiencies arguments put forward. Few indeed have been put forward, but that is also because it is generally assumed that the environment is not welcoming for them either at the EC or at the majority of competition authorities. The

path towards a reliable, verifiable, predictable approach will be long. What is certainly not making things easier is the continued tendency of a number of advisors to promote potential transactions to the parties – not so much to the authorities – on the basis of efficiencies, the parties start to believe in them, sometimes rightly sometimes wrongly. There is also a tendency to underestimate the need for post-transaction management.

The Chairman then invited the Japanese delegation to discuss the results of two efficiencies studies undertaken by the JFTC.

A delegate from Japan said that the Competition Policy Research Centre studied merger efficiencies and published a report in 2003. It was an analysis of financial data in 13 mergers, aimed at assessing the efficiencies from a post-merger perspective. The mergers occurred in 4 product fields: petroleum, cement, carbon, and paperboard products. The study reached the following conclusions: First, a questionnaire revealed that mergers were designed to ensure the efficiency of business activities by cutting costs in response to intensifying global competition and a decline in the domestic market. Second, a statistical analysis of the level of improvement (based on financial data) of merging firms showed no outstanding improvement in efficiency attributable to the merger in multiple major cases. Third, few cases were found in which the merged company achieved any significant improvement compared with its competitors.

Future technical innovation resulting from strengthened systems of research and technical development is one effect of improving dynamic efficiencies. Nearly 50% of the companies surveyed said that the purpose of their merger was to boost their research and technical development. But few gave specific examples of long-term improvement in productivity as a result of enhancing achievement in research and technical development. One might conclude, therefore, that it is not easy to realise dynamic efficiencies through merger-specific effects in technologically dynamic industries.

In March 2007 the JFTC held a symposium focussed on mergers and acquisitions and competition policy issues. Professor Odagiri's presentation made the following points: First, positive effects of mergers on profit rates or growth rates were not found. Second, mergers actually had negative effects, especially when the merging partners had similar sales levels. Third, there is a possibility of an employment-reducing effect. Consequently, the implication for competition policy is that although theoretical results suggest that a substantial efficiency increase is needed in order to accept mergers on the grounds of efficiency improvement, empirical results suggest that such a substantial efficiency increase is uncommon. The JFTC has re-examined the guidelines concerning the review of business combination and published amended guidelines on March 28, 2007. The amended guidelines stipulate that the impact of a business combination shall be determined in consideration of dynamic efficiencies as well as static efficiencies, such as economies of scale and reductions in transportation costs. They also state that 3 factors determine how efficiencies are to be considered: Efficiency should be improved as an effect that is specific to the business combination; the efficiencies improvement should be materialised; and the efficiencies improvement should enhance consumer welfare.

The Chairman added that the Japanese studies' results are consistent with research that he had done with Prof. Odagiri 25 years ago. That research also aimed to figure out whether there were efficiency benefits to mergers, and it found that there were none across the whole world. Mergers had absolutely no impact on efficiencies. It therefore appears that that historical research remains valid today.

5. New Developments in the assessment of static and dynamic efficiencies

Next, the Chairman observed that New Zealand's and Canada's contributions proposed methodologies for studying efficiencies in merger cases. The New Zealand Commerce Commission has placed an increased emphasis on efficiencies recently and was encouraged to do so by the courts. The

Chairman invited the New Zealand delegation to describe the framework it developed and to talk about the Air New Zealand/Qantas merger.

A delegate from New Zealand explained that merging parties may take two approaches to obtain permission for mergers. Under the first one, the parties approach the Commission and ask for clearance on the basis that there is no substantial lessening of competition. If the Commission finds that to be the case then it will clear the merger, thereby protecting it from attack in the courts. Of course, if there is a substantial lessening of competition then the merger will not be cleared. The second approach is one of authorisation. This is a situation in which the parties believe that there is a risk that the merger would lead to a substantial lessening of competition, but they claim an authorisation on the grounds that the net public benefits that will be realised through the merger will exceed the harm from the loss of competition. Only the second approach involves efficiencies.

Although New Zealand's merger guidelines mention that there is an efficiency defence available as part of the clearance process, the Commission has had no real experience of firms claiming that defence as a way of getting a clearance. Instead, if they felt that there is a substantial benefit from efficiencies to be gained then they would take the authorisation route. For a number of years there have been very few applications for authorisations -- on average it would be one every three or four years. So the Commission's experience in applying the efficiencies analysis is very limited.

As to the efficiencies analysis itself, the delegate continued, the Commission applies an economic efficiencies standard. This involves incorporating all of the efficiencies effects, both beneficial and detrimental, but ignoring any transfers of income that may arise as a result of innovation or price changes. In terms of the detriments, the agency considers the efficiency losses resulting from the decline of competition. That involves several elements: the allocative inefficiencies (i.e., the deadweight loss resulting from higher prices); the losses of productive efficiencies from the weakening of competitive pressures that would otherwise force firms to be more efficient (sometimes called x-inefficiencies); and also, potentially, the loss of dynamic efficiencies insofar as competition would otherwise encourage firms to undertake more risk in their R & D projects.

Although the Commission has emphasised that it is willing to consider a wide range of potential benefits, firms typically have claimed a relatively limited range. The greatest focus has been on claimed productive efficiencies, usually by the rationalisation of production in some way, or by gaining economies of scale. The Commission has had no authorisation yet involving 'high tech' industries, such as electronics or software design, where the scope for dynamic efficiencies is likely to be greater. This may largely explain why the focus of the Commission's authorisation decisions has been on static rather than dynamic effects. The sorts of examples that come closest to dynamic efficiency gains are claims involving the provision of new products if a merger were to be authorised. For example, in a merger in the fertiliser industry, the firms claimed that they would be able to develop new fertilisers to suit different soil types. Similarly, two ski companies that operated on the same mountain claimed that a merger would allow them to link their two fields by a run along the contours, so that skiers could try both fields on the same day. In the case of Air NZ/Qantas, the airlines claimed that they would likely replace some indirect New Zealand/Australia city-pair routes with new direct routes, which would convenience passengers.

The delegate said that the Commission had not had much opportunity to quantify dynamic efficiencies because of the small numbers of authorisations received, of which few if any had involved significant dynamic efficiencies claims. It remains to be seen how the Commission would deal with an authorisation involving 'full-blown' dynamic efficiency claims, especially in light of the sorts of problems that have been encountered in other countries. He thought that one approach the Commission could take would be to conduct a very fact-specific inquiry along the lines suggested by Japan in its submission. This is regarded as essential because of the difficulty of relying on generalisations from economic principles alone; rather,

these principles would have to be applied to the particular circumstances of the market in question, and to the incentives that would apply to the firms involved in the merger.

Finally, the Chairman noted that Canada's Competition Bureau commissioned a report on dynamic efficiencies from an independent economics firm and the firm advocated using an analytical framework that is different from the one in the Merger Enforcement Guidelines. He called on Canada to discuss the substance of the report in terms of methodology and asked whether the framework could be used in other countries, too.

A delegate from Canada explained that the Bureau commissioned the independent report to stimulate debate regarding how to approach the role of dynamic efficiencies in the longer term. The report was received only recently, and the Bureau will study the recommended framework to evaluate whether there are elements that could be wisely adopted in evaluating mergers in industries where innovation and technological change are particularly important and powerful.

The report advocates using an analytical framework that focuses on a future goods market. The authors define a "future goods market" as a market as it will be at some future date, which may include existing goods as well as products that come into existence in the future. The most notable departure from the enforcement approach in the Guidelines is that the report focuses on a more distant future. The report recommends asking five principal questions and it identifies a number of factors that should be taken into account under each inquiry. The report repeatedly draws attention to the need for reliable evidence, highlighting a very practical consideration that may limit the utility of the theoretical model.

The first question is whether innovation is important in the industry. It is suggested that analyst reports or industry studies may be a useful source of qualitative information, particularly if they contain evidence that consumer demand is driven by product attributes. The report suggests that quantitative evidence of innovation may also be readily available, citing the following examples: (i) R&D spending by industry participants; (ii) scientific research activity as indicated by publications in scientific journals; and (iii) an observation of frequent change in market share. While such sources may be useful to some degree, practical limitations exist to robust findings, and indeed to admissibility.

The second question is whether firms and products in future goods markets can be identified. Analyst reports and the parties' internal documents are two sources of information that may prove useful in answering this question. The report also recommends considering certain economic and technological factors regarding innovation. For example, it calls for distinguishing between innovations that "arrive unpredictably from outside sources, or from firms or individuals that are only peripherally involved in the industry at present" (e.g., computer software) and those that "arrive in a relatively systematic fashion as a result of R&D efforts conducted within established firms" (e.g., pharmaceuticals). In the first scenario, prediction of future competitors is virtually impossible; in the second scenario, future innovative competitors are more readily predictable.

Once the future market and participants are identified, the third question is whether the merging firms would compete against one another in an identifiable future market *but for* the merger. The report cautions against prematurely assuming the merging parties would be competitors simply by virtue of the fact that both firms are engaged in R&D activities related to that market. Rather, it recommends considering a number of elements. For example, the issue of uncertainty must be examined as many R&D projects are not successful and, as a result, firms involved in similar R&D projects may not compete in the future goods market stemming from the innovation project. The authors recommend using a probability measure of sorts. One might also consider whether, even if both firms' innovation efforts prove successful, intellectual property rights may pose a barrier to competition. Finally, consideration must also be given to whether the innovating firms have the assets necessary to commercialise their products.

The fourth question is whether, assuming the parties would have competed in the future market, the merger would result in fewer R&D resources being allocated to innovation. The report recognises that, given the lack of a clear theoretical or empirical connection between increased concentration and reduced innovation, a fact-specific analysis is required. The report suggests that a number of factors be taken into account, such as information available from parties regarding the resources devoted to R&D, planned expenditures, indications that the first firm to innovate would collect a disproportionate share of the rewards, and information on the degree of overlap between participating firms' R&D programmes.

Finally, the fifth question is whether the merger would lead to higher prices. The report acknowledges that this question is difficult to answer, as there is likely to be no pre-merger price or output benchmark for the future goods market. Therefore, it proposes an indirect paradigm that treats the merger's effect on innovation and its effect on pricing as a single inquiry. The report sets out four possible cases of interest to examine, defined by whether the merger materially reduces the level of innovation and whether the combined company has a high share of the post-innovation market and sets forth the likely conclusions in each case.

The delegate emphasised that the Bureau believes that the report is a helpful contribution to the inquiry and debate with respect to the challenging exercise of measuring the effects of dynamic efficiencies. It has not adopted or endorsed the approach suggested, but it does consider the report to have value in articulating some creative, if in some respects perhaps overly ambitious, ideas regarding approaches that may prove helpful.

COMPTE RENDU DE LA DISCUSSION

Ouvrant les débats, le Président, M. Frédéric Jenny, note avec un certain découragement, au vu des contributions écrites, les difficultés rencontrées par les autorités de la concurrence pour documenter les gains d'efficacité dynamique. Les parties privées ne sont généralement pas en mesure de montrer que ces gains existent et, même lorsqu'elles le font, les autorités tendent à ne pas tenir compte des éléments de preuve qu'elles apportent. Néanmoins, les contributions soulèvent plusieurs questions intéressantes. Le Président propose d'organiser les débats en cinq parties :

1. La définition des gains d'efficacité statique et dynamique induits par les fusions ;
2. Les critères d'admissibilité des allégations de gains d'efficacité statique et dynamique dans l'examen des fusions ;
3. Les gains d'efficacité dynamique liés à une éventuelle rationalisation de la R-D, en particulier dans l'industrie pharmaceutique ;
4. La question de savoir si les fusions tendent véritablement à se traduire par des gains d'efficacité statique et dynamique, eu égard notamment aux vues pessimistes des économistes sur le sujet ;
5. Les nouvelles propositions sur la façon de prendre en compte les gains d'efficacité.

1. La définition des gains d'efficacité statique et dynamique

Le Président note que la contribution de la CE est presque entièrement consacrée à la façon de définir les gains d'efficacité statique et dynamique. Il invite la délégation de la CE à partager ses vues sur la question.

Un délégué de la CE souscrit au point de vue présenté dans le document du Secrétariat et dans la plupart des autres contributions selon lequel la principale différence entre les gains d'efficacité statique et dynamique tient à la distinction qui peut être faite entre les effets exceptionnels et les effets à long terme potentiellement continus sur les coûts et d'autres paramètres comme la qualité des produits. Cet aspect a des implications importantes pour l'application des lignes directrices de la Commission relatives aux fusions horizontales qui concernent la vérifiabilité des gains et le délai à l'intérieur duquel ceux-ci se matérialisent. Heureusement, il est probable que la grande majorité des fusions qui améliorent l'efficacité sont inférieures aux seuils de concentration prévus par la plupart des lignes directrices relatives aux fusions. Cela vaut en particulier pour les fusions associant des entreprises qui ont des actifs qui sont et ne font pas double emploi. La délégation de la CE estime en conséquence que le nombre de cas dans lesquels les gains d'efficacité dynamique sont entravés par des interventions réglementaires est assez limité.

La contribution de la CE mentionne également la distinction entre gains d'efficacité au niveau des coûts marginaux et au niveau des coûts fixes pour mettre en lumière une catégorie de réductions des coûts qui peuvent être statiques par nature, mais dont l'effet sur le bien-être des consommateurs s'inscrit dans un processus dynamique. Les réductions des coûts fixes peuvent diminuer le niveau des investissements à fonds perdus qui sont requis pour entrer sur un marché et s'y développer et tendront à accroître la concurrence et à bénéficier aux consommateurs. Elles peuvent souvent être facilement documentées par les

parties qui fusionnent. Pourtant, dans un grand nombre des régimes actuels, ces types de gains d'efficacité ne satisfont pas au critère de l'avantage pour le consommateur car aucune réduction des coûts marginaux ne peut être démontrée. En outre, les catégories de dépenses touchées par les réductions des coûts fixes concernent souvent des éléments comme la R-D et l'innovation. Il serait utile de mettre au point de meilleurs outils analytiques pour prendre davantage en compte les gains d'efficacité statique se répercutant sur les coûts fixes dans les enquêtes sur les fusions.

Le Président passe ensuite à la contribution du Taipei chinois, notant qu'elle semble mettre davantage l'accent sur les gains d'efficacité dynamique que les autres contributions. Il demande si l'autorité de la concurrence du Taipei chinois accorde une priorité particulière aux gains d'efficacité dynamique et, dans ce cas, si cela vise à aider l'économie du pays à continuer de se développer. Il demande également si l'autorité, lorsqu'elle examine les gains d'efficacité pouvant éventuellement découler de fusions, s'inscrit dans une perspective à long terme ou, plutôt, si elle écarte très rapidement les avantages futurs.

Un délégué du Taipei chinois note tout d'abord que la Commission de la concurrence n'est pas tenue expressément par ses statuts de procéder à une évaluation des gains d'efficacité dynamique. Généralement, elle prend en compte ces gains au titre d'une disposition générale qui lui permet de dresser un bilan global des effets économiques d'une fusion. La Commission de la concurrence tend donc à évaluer les gains d'efficacité dynamique au cas par cas. Elle n'impose jamais de délai limite pour la matérialisation de ces gains dans les entreprises, car elle est pleinement consciente des difficultés de prévision et de quantification à cet égard. Une autre raison de la non imposition d'une limite temporelle tient au fait que les entreprises réalisant des activités de R-D ont généralement besoin de temps pour estimer les coûts fixes qu'elles ont consacrés à ces activités et déterminer combien la fusion leur permettra d'économiser grâce aux économies d'échelle découlant de l'association de leurs activités de R-D respectives. Bien évidemment, cela ne signifie pas que les effets négatifs à court terme ne sont pas importants. Opter pour une totale neutralité, c'est-à-dire laisser le marché décider ce qui est le mieux, pourrait refléter un trop grand optimisme quant au progrès technologique.

Le délégué souligne en outre que, même si elle attend d'une fusion qu'elle stimule la R-D, la Commission de la concurrence doit néanmoins prêter attention à l'externalisation éventuelle de cette R-D. Autrement dit, elle cherche à déterminer si l'entreprise qui résulte de la fusion ne risque pas d'occuper une position de monopole et d'exploiter abusivement cette position pour peser sur le processus concurrentiel. L'approche la plus sûre adoptée par la Commission de la concurrence pour équilibrer l'effet à long terme et les préoccupations à court terme est d'imposer certaines conditions aux fusions. Par exemple, les parties qui fusionnent peuvent être invitées à négocier des licences pour les résultats de leurs recherches sur une base non exclusive et non discrétionnaire, moyennant des redevances raisonnables. Cette approche permet de concilier les effets à court terme et les effets à long terme. On peut se demander comment la Commission de la concurrence détermine les types de conditions à imposer. En fait, ces conditions peuvent être suggérées par un concurrent des parties qui fusionnent. Avant de prendre une décision sur certaines formes de fusion, la Commission de la concurrence tient des audiences publiques auxquelles toutes les parties intéressées sont invitées. Il s'agit là d'un mécanisme très satisfaisant pour commencer l'examen des conditions qui doivent être imposées. Ainsi, la Commission de la concurrence n'intervient pas directement en dictant aux parties réalisant des activités de R-D quels types de gains d'efficacité dynamique elles doivent enregistrer ou comment elles doivent procéder pour ce faire. Elle s'emploie plutôt à encourager un environnement qui facilitera, voire accélérera, la réalisation de ces gains.

Le Président lit ensuite une citation du Juge Easterbrook, qui est reprise dans la contribution des États-Unis : « Une politique antitrust qui réduit les prix de 5 % aujourd'hui en contrepartie d'une baisse de 1 % du rythme annuel de diminution des coûts de production imputable à l'innovation serait une calamité ». Ce point de vue montre de façon assez nette, semble-t-il, qu'il est préférable de prêter une plus grande attention aux gains d'efficacité dynamique même aux dépens des gains d'efficacité statique. Le Président

demande si les organismes des États-Unis pondèrent positivement les gains d'efficacité dynamique même s'il est probable que ceux-ci n'apparaîtront qu'à long terme. Dans l'affirmative, il s'interroge sur le point de savoir si cette position est compatible avec l'opinion selon laquelle, lorsqu'on examine les fusions, il ne faut presque pas tenir compte des effets qui interviendront au-delà d'un délai de deux ans.

Un délégué des États-Unis répond que la pondération que les organismes américains attribuent aux coûts et gains particuliers d'une fusion est déterminée essentiellement par la valeur actualisée de leur incidence sur le bien-être des consommateurs. Les coûts et gains de caractère spéculatif sont totalement ignorés. Les effets devant intervenir à une date lointaine revêtent nécessairement un caractère spéculatif et peuvent ne pas entrer beaucoup en ligne de compte car ils sont actualisés sur une période plus longue. Les organismes des États-Unis prennent en compte tous les aspects qu'ils peuvent concevoir. S'il est conclu qu'une fusion devrait avoir à l'avenir des avantages supérieurs à ses coûts immédiats, l'opération n'est pas remise en cause. Néanmoins, le délégué ajoute qu'il ne pense pas que les gains d'efficacité dynamique jouent un rôle significatif dans l'évaluation d'un grand nombre de fusions. En effet, les fusions qui ont le plus de chances de produire des gains d'efficacité dynamique ne sont pas celles qui risquent le plus de générer des effets anticoncurrentiels, de sorte qu'elles tendent à ne pas attirer d'emblée l'attention des organismes. Les fusions verticales et de conglomerats combinent généralement des actifs complémentaires d'une manière compatible avec des gains d'efficacité dynamique, ce qui n'est sans doute pas le cas des fusions horizontales.

Une deuxième raison pour laquelle des organismes des États-Unis n'attribueront probablement pas une grande pondération aux gains d'efficacité dynamique est qu'ils ne créditent que les gains qui peuvent être vérifiés. La vérification exige en général un plan de fusion spécifique prévoyant des mécanismes permettant d'escompter des gains d'efficacité. Ces mécanismes seront vraisemblablement absents dans le cas de gains d'efficacité dynamique ou même peuvent donner des indications inverses. L'élimination de programmes de R-D concurrentiels ne sera vraisemblablement pas considérée comme un gain d'efficacité, encore qu'elle puisse l'être ; elle sera vraisemblablement considérée comme un effet anticoncurrentiel. Pour encourager les gains d'efficacité dynamique, les organismes ne devraient pas adopter une politique de mise en œuvre laxiste des dispositions contre les fusions horizontales. Il n'y a pas de raison de croire que les grandes fusions horizontales conduisent systématiquement à des gains d'efficacité dynamique. C'est plutôt au niveau de la politique de la concurrence visant les pratiques d'exclusion d'une seule entreprise et non les fusions que les gains d'efficacité dynamique jouent un rôle important. Il est essentiel de ne pas accorder la priorité à la concurrence statique si cela aboutit à refuser de récompenser les innovateurs les plus performants. L'innovation tend à être coûteuse et risquée et d'importantes retombées positives sont nécessaires pour attirer les gros investissements nécessaires. En outre, dans les cas des pratiques attribuables à une seule entreprise, il importe aussi de ne pas imposer des mesures correctives qui freinent l'innovation ou qui empêchent de récompenser l'innovation.

Le délégué note ensuite que, pour ce qui est de la citation du Juge Easterbrook, ce dernier ne faisait pas référence aux fusions. En fait, il parlait de la politique de la concurrence en général et défendait le bien-fondé d'une politique de la concurrence relativement non interventionniste. L'argument avancé est intéressant, mais il est difficile de l'évaluer au cas par cas. Pourtant, nous n'avons aucun doute sur le fait que les gains d'efficacité dynamique sont indispensables à la croissance économique et à la génération d'avantages pour les consommateurs. L'idée d'Easterbrook est de minimiser dans une large mesure le rôle des interventions antitrust et, dans certains domaines, les autorités américaines suivent ces suggestions, notamment dans le domaine des fusions verticales et de conglomerats où les interventions sont exceptionnelles. Dans les cas de comportements imputables à une seule entreprise, les interventions ne sont pas courantes et les autorités veillent à ne pas utiliser des mesures correctives qui feraient obstacle à l'innovation ou empêcheraient de la récompenser. Le délégué a quelques doutes quant à la capacité des organismes des États-Unis d'identifier expressément les fusions pouvant créer des gains d'efficacité dynamique, même s'ils prennent en compte cette possibilité dans chaque cas.

Le Président lit ensuite un passage de la contribution du Brésil où il est déclaré que « C'est l'efficacité, pas la concurrence, qui est l'objectif ultime des lois antitrust » et que « L'analyse de l'efficacité se voit accorder un rôle plus important dans l'examen des fusions au Brésil depuis trois à quatre ans ». Cette contribution examine aussi la question de savoir si l'on ne doit tenir compte des gains d'efficacité que lorsqu'ils diminuent les coûts marginaux ou bien s'il faut prendre en compte aussi ceux qui diminuent les coûts fixes. Les lignes directrices du Brésil relatives aux fusions horizontales reconnaissent que les réductions peuvent être à l'origine de gains d'efficacité. Elles déclarent en particulier que « Dans les pays en développement, comme le Brésil, qui ont connu un solide processus de restructuration des activités de production dans un délai très court, la réduction des coûts fixes est très importante et sera prise en compte ». En revanche, les mêmes lignes directrices établissent un horizon temporel de deux ans pour évaluer les gains d'efficacité. Le Président demande au Brésil de commenter la déclaration selon laquelle, dans les pays en développement, les gains d'efficacité qui réduisent les coûts fixes sont très importants. Il demande aussi comment le délai très court fixé par les lignes directrices peut être concilié avec la volonté de prendre en compte ces gains. Enfin, il invite le Brésil à échanger des vues sur son étude de la fusion *Ambev*, qui est aussi mentionnée dans la contribution.

Un délégué du Brésil note que les lignes directrices du Brésil en matière de fusions mentionnent expressément les réductions des coûts fixes en tant que source possible de gains d'efficacité. Ces gains doivent être spécifiques à l'opération, vérifiables et non spéculatifs. En revanche, le droit de la concurrence brésilien adopte expressément la perspective du bien-être du consommateur, déclarant que les gains d'efficacité ne peuvent être invoqués pour défendre une fusion que dans les cas où il n'y a pas d'effets négatifs pour les consommateurs. En outre, les économies découlant des gains d'efficacité doivent être équitablement partagées entre les parties qui fusionnent et les consommateurs, ce qui signifie que l'on s'attend à des réductions des prix. En conséquence, les réductions des coûts fixes ne sont pas prises en compte dans l'évaluation de l'incidence nette de la fusion sur le bien-être du consommateur.

Le délégué note que, dans le cas d'*Ambev*, les deux plus grandes brasseries du Brésil ont fusionné, les parties ont allégué de gains d'efficacité sous la forme de réductions des coûts fixes. Dans sa décision finale, la CADE n'a pas évalué séparément chaque gain d'efficacité supposé et, même si elle a reconnu que certains gains d'efficacité devaient intervenir, a jugé ceux-ci insuffisants pour ne pas confirmer sa conclusion selon laquelle la fusion aurait un effet négatif net en raison d'un pouvoir de marché accru de l'entreprise issue de la fusion. Au bout du compte, une mesure corrective structurelle a été imposée.

Le délégué ajoute que, en tant que pays en développement, le Brésil considère qu'ignorer les gains d'efficacité permettant de réaliser des économies sur les coûts fixes peut entraîner certains problèmes. Dans les pays qui ont dû se restructurer en un bref laps de temps de façon à mettre en œuvre de gros changements institutionnels propres à favoriser le jeu des mécanismes du marché, beaucoup de gains d'efficacité ont été enregistrés sous la forme de réductions des coûts fixes. La structure industrielle du Brésil souffre d'un grand nombre d'inefficiences. Les multiples fusions qui sont intervenues après la déréglementation, la privatisation et d'autres réformes se sont traduites par une baisse des coûts fixes. Les gains d'efficacité seront donc très sous-estimés si l'on ne prête attention qu'à ceux liés aux coûts variables.

Passant à la contribution du Royaume-Uni, le Président note qu'il y est observé que, parfois, lorsqu'une fusion crée une entreprise plus efficiente, elle incite aussi les entreprises qui ne fusionnent pas et qui opèrent sur le même marché à rechercher de plus gros gains d'efficacité, renforçant la concurrence. Il demande à la délégation du Royaume-Uni si ces externalités sont prises en compte.

Un délégué du Royaume-Uni se déclare favorable à la distinction entre les gains d'efficacité au sein de l'entreprise et ceux qui découlent des effets qu'une fusion ou une coentreprise a sur d'autres entreprises. Ce sont là les types de gains d'efficacité dynamique que les organismes chargés de faire appliquer le droit de la concurrence ont le plus de chances de prendre en compte car ils modifient fondamentalement le

rythme ou le processus de concurrence lui-même du fait que les entreprises concurrentes réagissent et réduisent leurs propres coûts. L'OFT prend en compte ces gains d'efficacité dans l'analyse des effets de la concurrence et non en tant qu'arguments pour défendre un recul sensible de celle-ci. Ainsi, il ne limite pas sa réflexion aux innovations et aux nouveaux produits, mais y intègre également la réduction des coûts.

Un autre délégué du Royaume-Uni mentionne que, de manière générale, il est rare que les parties présentent des éléments documentant des gains d'efficacité. Les autorités de la concurrence pourraient s'intéresser à ces éléments mais il faudrait qu'ils soient de bonne qualité et vérifiables à la fois pour ce qui est des gains d'efficacité eux-mêmes et de la probabilité selon laquelle ils seront répercutés sur les consommateurs. Plus les prévisions portent sur une période éloignée, plus il sera difficile de fournir ces preuves.

Ensuite, un délégué du BIAC souligne qu'il y a un exemple aux États-Unis d'une opération ayant impliqué la diffusion de l'innovation aux concurrents. Ainsi, en 1984, la FTC a invoqué essentiellement la réalisation de gains d'efficacité pour décider de ne pas remettre en cause la fusion entre General Motors et Toyota. Plus précisément, elle a déterminé que cette opération permettrait à GM d'améliorer sa compréhension des techniques japonaises de gestion et de fabrication. Elle a aussi considéré que, dans la mesure où le système japonais pouvait être adapté avec succès aux États-Unis, il s'ensuivrait un renforcement de l'efficacité et de la concurrence dans le secteur automobile. Dans ce cas, la FTC a donc reconnu que des techniques novatrices seraient imitées par d'autres constructeurs automobiles aux États-Unis, de sorte que l'ensemble du secteur d'activité bénéficierait de la fusion.

Le délégué ajoute que des préoccupations sont fréquemment exprimées à propos de la prise en compte des gains d'efficacité dynamique du fait des difficultés que pose leur quantification. Il souligne que, dans deux cas récents, des experts des États-Unis ont formulé une mise en garde en estimant qu'il ne fallait pas ignorer les gains d'efficacité dynamique, simplement parce qu'ils étaient difficiles à quantifier. Le Professeur Salinger, directeur du Bureau of Economics de la FTC, a indiqué que si les organismes chargés de faire appliquer le droit de la concurrence ne peuvent accepter les gains d'efficacité sans les soumettre à une analyse critique, ce serait beaucoup trop demandé aux parties d'en apporter la preuve irréfutable. Les organismes concernés prennent des décisions sur la base de l'évaluation de la probabilité d'un effet anticoncurrentiel et non de la certitude d'un tel effet. Le délégué demande instamment que l'on fasse la même chose pour ce qui est de la probabilité de gains d'efficacité. En outre, la Antitrust Modernization Commission des États-Unis a constaté que l'absence d'un cadre précis pour l'évaluation des gains d'efficacité dynamique ne doit pas empêcher de reconnaître l'intérêt de ces gains. L'une des difficultés rencontrées par les autorités de la concurrence est de déterminer comment quantifier et prendre en compte dans le cadre analytique dont elles disposent les hypothèses de gains d'efficacité dynamique que les parties leur présentent. Il y a seulement 15 ans, nous n'avions pas de modèle de simulation des fusions comme il en existe aujourd'hui. La science économique est un domaine qui continue de se développer.

Compte tenu de ce qui précède, le délégué indique que le BIAC a quelques recommandations spécifiques à formuler sur ce que peuvent faire les organismes de la concurrence pour contribuer à développer des cadres plus rigoureux pour l'évaluation des gains d'efficacité dynamique. Premièrement, mener des études rétrospectives des fusions qui ont déjà eu lieu. Les gains d'efficacité dynamique peuvent mettre plusieurs années à se manifester, de sorte qu'une étude rétrospective peut se révéler utile. Deuxièmement, continuer à travailler avec les économistes et les universitaires pour mettre au point des méthodes.

À ce stade, un délégué du Royaume-Uni intervient pour signaler que, même s'il peut y avoir des cas où ce type d'effets intervient, il importe d'examiner plus rigoureusement les éléments de preuve. Le meilleur document sur ce sujet est probablement celui de Nick Bloom et John Van Reenen, concernant la

diffusion des technologies et la concurrence. Mais les données qui y sont présentées, le cas échéant, sur ces effets au niveau macroéconomique sont peu convaincantes.

2. Les critères d'admissibilité des allégations de gains d'efficacité dans l'examen des fusions

Le Président ouvre les débats sur le point suivant en mettant en avant la contribution de la France, qui mentionne les différentes conditions qui doivent être remplies avant que ne puissent être acceptées les allégations de gains d'efficacité présentées par les parties qui fusionnent. Ces conditions s'appliquent dans un grand nombre d'autres juridictions également : les gains d'efficacité doivent être quantifiables, vérifiables, spécifiques à la fusion et, pour au moins quelques-uns d'entre eux, se répercuter sur les consommateurs. Le Président pose une question sur la fusion Dolisos/Boiron, pour laquelle les parties ont prétendu que l'opération conduirait à un doublement de leur budget de R-D et donc à une plus grande probabilité d'innovations performantes, devant bénéficier aux consommateurs. En particulier, il demande si ce cas est une bonne illustration des principes d'admissibilité des allégations de gains d'efficacité, en particulier la condition selon laquelle ces gains doivent être spécifiques à la fusion.

Un délégué de la France note que le Conseil de la concurrence a une expérience très limitée des gains d'efficacité dynamique. Il est plus difficile de respecter les critères requis pour les allégations de gains d'efficacité dynamique que pour les allégations de gains d'efficacité statique. Le cas Dolisos/Boiron a impliqué une fusion entre deux sociétés fabriquant des produits homéopathiques. Deux marchés étaient affectés : celui des médicaments génériques et celui des médicaments homéopathiques. Le Conseil n'a pas constaté de problèmes de concurrence sur le marché des génériques, mais s'est attendu à ce que l'opération ait des effets anticoncurrentiels pour plusieurs catégories de médicaments de marque, envisageant aussi un effet potentiel de conglomerat à la fois pour les médicaments génériques et pour les médicaments de marque. Les parties ont avancé que l'opération augmenterait les moyens financiers dont disposerait l'entreprise fusionnée pour réaliser des investissements dans la R-D, ce qui aurait inévitablement des effets positifs pour les consommateurs.

Le Conseil n'a pas examiné très en détail les allégations de gains d'efficacité présentées par les parties car les problèmes de concurrence identifiés ont été résolus par les engagements pris. Dans un tel cas, les gains d'efficacité supposés n'ont pas besoin d'être vérifiés pour autoriser la fusion. Le Conseil a constaté néanmoins que l'augmentation des ressources financières consacrées à l'activité de R-D accroîtrait vraisemblablement la probabilité de réaliser des innovations. Il n'a pas toutefois conclu que cette plus grande probabilité suffisait en elle-même à cautionner la fusion. Il n'a pas non plus cherché à vérifier les allégations des parties concernant le calendrier de leurs investissements dans la R-D et les délais nécessaires pour que ces investissements aboutissent à des innovations.

Pour ce qui est du critère de spécificité, les parties ont avancé que la fusion permettrait à chacune d'entre elles de se spécialiser dans un type de recherche. Une entreprise se spécialiserait dans la recherche fondamentale alors que l'autre se consacrerait aux études cliniques. Cette spécialisation permettrait à son tour à l'entreprise issue de la fusion d'atteindre une masse critique dans chacun de ces deux domaines essentiels.

Le Président fait remarquer qu'il est dit dans la plupart des contributions que les autorités cherchent à disposer de prévisions quantifiables sur les gains d'efficacité spécifiques aux fusions et qu'elles s'appuient généralement à cet effet sur les documents communiqués par les entreprises— si possible des documents établis avant la fusion. Mais qu'arrive-t-il lorsqu'il s'agit d'une fusion hostile ? Dans ce cas, il est souvent difficile pour l'acquéreur d'obtenir le type d'informations dont il a besoin pour étayer et quantifier ses allégations de gains d'efficacité. La contribution du Portugal examine une fusion hostile, le cas

PT/Soneacom. Le Président demande davantage d'informations sur cette fusion de manière générale et, en particulier, des informations sur la façon dont les autorités de la concurrence ont pris en compte le fait que la fusion intervenait dans un secteur technologiquement dynamique.

Un délégué du Portugal indique que la fusion entre Portugal Telecom et Soneacom aurait représenté la plus grande opération de ce type jamais intervenue au Portugal, 17 milliards EUR étant en cause et l'ensemble du secteur des télécoms se trouvant concerné. Il s'agissait d'une fusion atypique consistant plutôt à diviser une compagnie en trois parties, de sorte que certains résultats sont sans doute contre-intuitifs. Les mesures correctives visaient à scinder les activités de l'opérateur historique en situation de quasi monopole, corriger des précédents de réglementation laxiste et propulser le secteur dans un domaine technologique représentant les meilleures pratiques. Plusieurs études ont été réalisées, y compris par l'Université de New York, qui ont montré que les gains d'efficacité potentiels d'une plus grande concurrence dans les télécoms pouvaient représenter jusqu'à 30 % du coût total. Bien évidemment, toutes ces économies ne seraient pas réalisées à court terme. Mais le chiffre montrait l'importance des gains d'efficacité potentiels face à une situation de quasi-monopole.

Des problèmes se sont posés sur le marché de la téléphonie mobile car la plus grande entreprise devait fusionner avec une entreprise de plus petite taille dont la principale activité se situait dans le secteur de la téléphonie mobile et on passait de trois à deux opérateurs. C'était là un problème majeur car les simulations économétriques ont fait apparaître une hausse éventuelle du tarif d'environ 6 % à court terme. Cependant, une analyse dynamique des réseaux mobiles, sujets à d'intenses évolutions technologiques, a été réalisée. Les mesures correctives cherchaient à compenser la perte de concurrence réelle en créant davantage de concurrence potentielle par un abaissement des barrières à l'entrée. En outre, étant donné que les réseaux fusionnés devaient couvrir la majeure partie du pays et que les petites sociétés n'avaient pratiquement pas investi dans la troisième génération de téléphones portables, la fusion devait se traduire par une amélioration sensible des services fournis aux consommateurs. En outre, d'autres mesures correctives étaient destinées à ouvrir l'accès au réseau de cuivre pour les plus petites compagnies de télécoms, de façon que plusieurs entreprises puissent se concurrencer pleinement dans un « jeu quadruple ». L'autorité a conclu que, globalement, la fusion et les mesures correctives pouvaient se traduire par une amélioration du bien-être des consommateurs (en valeur actualisée estimée) d'environ 4 à 5 % du PIB à long terme. Ce chiffre a été jugé relativement bien fondé eu égard aux méthodes de calcul disponibles. Pour finir, l'OPA a échoué en raison du blocage d'actionnaires minoritaires.

Ensuite, le Président appelle l'attention sur la contribution de l'Allemagne qui déclare ce qui suit : « En l'absence de problèmes pratiques dans l'évaluation des gains d'efficacité dynamique, on peut conclure qu'une pondération encore plus importante devrait leur être attribuée dans l'examen d'une fusion que les gains d'efficacité statique ». Il y est aussi déclaré que « Même si les parties qui fusionnent sont incapables dans une large mesure de prévoir les gains d'efficacité spécifiques à une fusion, elles peuvent déterminer quelques années après l'opération si celle-ci a bien conduit à des gains d'efficacité. Si ce n'est pas le cas, les entreprises peuvent se dissocier. La prise en compte de ces retombées pourrait donc modifier les résultats empiriques mentionnés plus haut ». Il en ressort que les gains d'efficacité dynamique sont très importants et qu'ils peuvent en fin de compte intervenir même si les parties n'en sont pas conscientes à l'avance.

Pourtant, le Président note aussi que, pour ce qui est de l'admissibilité des allégations de gains d'efficacité en Allemagne, des règles assez strictes s'appliquent. La contribution déclare : « Les ressources que les organismes peuvent investir dans l'investigation des cas étant limitées, il faut choisir entre enquêter sur les gains escomptés d'efficacité ou sur d'autres aspects de la fusion envisagée : généralement, des conditions strictes doivent être remplies par les parties qui fusionnent en ce qui concerne les éléments de preuve à apporter : les gains d'efficacité allégués doivent être spécifiques à la fusion, répercutés sur les consommateurs, vérifiables et, si possible, corroborés par des données convaincantes et quantifiées si

possible ». Le Président s'interroge sur la façon de concilier cet impératif avec la proposition selon laquelle les gains d'efficacité à long terme sont difficiles à établir et peuvent même ne pas être connus des parties qui fusionnent. Est-il justifié d'appliquer des critères très stricts pour les allégations de gains d'efficacité dynamique ?

Un délégué de l'Allemagne répond que, à son avis, les propositions sont complémentaires et non contradictoires. Quasiment la totalité des experts conviennent que les fusions peuvent contribuer dans une large mesure à des gains d'efficacité statique et dynamique mais presque tous conviennent également que l'évaluation de ces gains est incertaine dans la plupart des cas et qu'il s'agit de l'élément le plus spéculatif dans l'examen des fusions. Les principales questions sont les suivantes : Que font les autorités de la concurrence dans une telle situation ? Des fusions autrement anticoncurrentielles doivent-elles être admises sur la base de gains d'efficacité supposés ? La réponse de la Bundeskartellamt est simple et pratique. Aussi importants les gains d'efficacité soient-ils, il appartient à l'autorité, pour tirer le plus grand parti possible de la situation, de prêter essentiellement attention aux faits qu'elle est en mesure d'apprécier relativement bien. Dans ces conditions, si les gains d'efficacité peuvent être importants dans certains cas, il ne lui est pas possible de prendre en compte les gains que les entreprises qui fusionnent espèrent dégager mais qui ne peuvent être ni précisés ni prouvés. Les prévisions des parties en matière de gains d'efficacité sont sujettes à beaucoup d'erreurs et c'est encore plus le cas des prévisions établies par l'autorité de la concurrence. Il n'est donc pas surprenant que, parmi les décisions publiées des examens des fusions partout dans le monde, il y ait à l'évidence très peu de cas d'opérations validées essentiellement ou exclusivement sur la base des gains d'efficacité prévus. Les exceptions notables sont le cas du propane au Canada et le cas des satellites mentionné dans la contribution de l'Allemagne.

Cela étant, le délégué précise qu'il ne veut pas dire par là que les autorités de la concurrence ne doivent pas examiner de manière approfondie les gains d'efficacité. Ceux-ci sont importants, mais dans la pratique journalière du Bundeskartellamt, ils n'ont que très rarement joué un grand rôle. Les gains d'efficacité n'ont fait l'objet d'une analyse détaillée qu'à titre exceptionnel. En outre, les gains supposés de ce type ne sont que rarement étayés par des preuves convaincantes. Néanmoins, l'autorité les examine bien de manière approfondie de même que leurs effets sur la concurrence pour déterminer s'ils peuvent effectivement faire une différence.

Enfin, pour ce qui est de la question de savoir si le niveau élevé de preuve exigé est justifié, il peut être trompeur de dire que l'exigence de crédibilité applicable aux gains d'efficacité est « stricte », car cela peut donner à penser qu'elle est plus stricte que celle applicable à d'autres aspects de l'analyse des fusions. Or, un niveau élevé de preuve est aussi requis pour d'autres aspects, comme la définition du marché, les obstacles à l'entrée et la puissance des acheteurs. Le délégué ajoute que les autorités ne doivent pas trop préjuger de leur capacité de faire des prévisions. L'exigence d'un niveau élevé de preuve est justifiée.

Dans sa contribution, la Turquie déclare que « les gains d'efficacité en général et les gains d'efficacité dynamique en particulier doivent être pris en compte dans l'évaluation globale des fusions et acquisitions et... les retombées positives de ces gains d'efficacité doivent bénéficier aux consommateurs ». Le Président fait observer qu'il s'agit là d'une position assez classique. Dans l'affaire Gemplus/Exalto, deux entreprises ont prétendu qu'elles pourraient rationaliser leurs dépenses de R-D si elles étaient autorisées à fusionner. Dans ce cas, tous les critères imposés par l'autorité de la concurrence ont été respectés. Le Président demande quels types d'éléments de preuve les parties ont présentés et si l'on s'est préoccupé du fait qu'il pouvait y avoir un inconvénient à l'association de deux divisions de R-D se faisant précédemment concurrence, c'est-à-dire moins de stimulation en faveur de l'innovation.

Un délégué de la Turquie indique que le progrès technologique et l'innovation ont joué un rôle très important dans ce cas. En outre, les parties ont avancé que des innovations intervenaient constamment, qu'il n'y avait pas de barrières importantes à l'entrée et que la demande augmentait, ce qui attirait sur le

marché de nouvelles entreprises locales et internationales. En outre, les principaux concurrents des parties étaient en mesure d'exercer une pression à la baisse sur les prix du marché. L'autorité de la concurrence a aussi pris en compte le fait que l'évolution du marché rendait le progrès technologique extrêmement important et obligeait les producteurs à mener d'intenses études de R-D et assurer la diversification des produits afin de faire face à la concurrence. Compte tenu de ces caractéristiques du marché, on ne pouvait pas craindre une diminution de la R-D et de l'innovation. De plus, l'autorité de la concurrence a consulté les entreprises rivales et les clients des entreprises fusionnantes pour déterminer les effets probables de la fusion sur la concurrence. Les clients, en particulier, ont déclaré qu'ils pourraient tirer parti de l'amélioration des services à attendre d'une augmentation de la R-D induite par la fusion.

3. Les gains d'efficacité dynamique liés à une éventuelle rationalisation de la R-D, en particulier dans l'industrie pharmaceutique

Le Président soulève ensuite la question de la façon dont les autorités de la concurrence évaluent les allégations selon lesquelles les fusions dans l'industrie pharmaceutique suscitent des gains d'efficacité dynamique liés à la rationalisation des programmes de R-D. La contribution de la République tchèque est différente de certaines des autres en ce sens qu'elle considère que la quantification des gains d'efficacité est inutile dans nombre de cas. Elle examine aussi la fusion entre *Léčiva* et *Slovakofarma*, les deux plus importants producteurs de produits génériques en République tchèque et en Slovaquie. La contribution déclare : « L'Office accepte l'argument selon lequel la fusion se traduira par une certaine rationalisation de la recherche et développement sur les produits génériques, en particulier dans les domaines où les activités des compagnies qui fusionnent font double emploi sur le marché. Elle admet également certains des médicaments actuellement mis au point n'arriveront pas en fait sur le marché ou que leur développement sera stoppé. Les ressources financières ainsi libérées pourront être réparties entre la recherche-développement de davantage de produits et de médicaments, avec un effet positif pour le consommateur final ». Le Président demande s'il n'était pas envisageable que chacune des entreprises pût mettre fin séparément à la R-D sur les programmes ne conduisant nulle part et redéployer les ressources financières correspondantes vers le développement d'autres produits. Autrement dit, il demande pourquoi la fusion a été jugée nécessaire à un redéploiement des activités de R-D.

Un délégué de la République tchèque répond que l'autorité de la concurrence tchèque a bien pris en compte le risque que la fusion de deux producteurs concurrents de médicaments génériques ne réduise la concurrence en matière de R-D, mais a considéré que, dans ce cas, la fusion pouvait conduire à une plus grande concurrence. Les deux entreprises faisaient partie d'un groupe qui a été artificiellement divisé dans le cadre de l'éclatement de la Tchécoslovaquie. C'est l'une des raisons pour lesquelles leurs activités de production et de R-D étaient plus complémentaires que superfétatoires. Dans la plupart des domaines, il n'y avait donc pas de concurrence entre elles. Pourtant, l'enquête a montré que, sur cinq marchés, leurs activités de R-D faisaient bien double emploi. Mais la concurrence des plus grosses entreprises étrangères était très vive. Ces entreprises produisaient aussi des génériques et étaient très actives dans le secteur de la R-D sur les nouveaux génériques. Elles étaient en outre plus solides financièrement et réalisaient davantage d'activités de R-D. Les parties à la fusion réalisaient de leur côté des activités de R-D pour seulement 40 produits sur les 300 du secteur pharmaceutique. Le problème était donc assez mineur puisque les activités de R-D ne se chevauchaient que sur cinq marchés.

Bien que l'autorité ait été pleinement consciente du fait que la fusion risquait de conduire à une certaine diminution des activités de R-D sur cinq marchés, elle a estimé que les ressources financières supplémentaires dont disposerait l'entreprise issue de la fusion pourraient être utilisées pour élargir la R-D sur les produits génériques. Ainsi, la perte d'intensité de la R-D sur ces cinq marchés devait être compensée par une extension des activités de recherche, susceptible de renforcer la concurrence en matière de R-D et, de manière générale, de conduire à un niveau plus élevé d'innovation. L'autorité s'attendait à ce

que la fusion favorise la production de davantage de produits génériques concurrentiels sur davantage de marchés, dans l'intérêt final des consommateurs.

Le Président observe ensuite qu'un cas a été traité différemment par deux autorités de la concurrence qui l'ont analysé. Premièrement, il rappelle que la contribution du Canada souligne qu'il est plus facile d'arriver à des conclusions lorsque les conséquences à court terme sont prises en compte. « Le Bureau de la concurrence utilise généralement un cadre temporel de deux années lorsqu'il examine les effets potentiels d'une fusion. Plus l'horizon est lointain, plus il est difficile d'arriver à des conclusions concernant les niveaux de prix escomptés et la question de savoir s'il y a des chances que les entreprises entrent sur le marché ou s'y concurrencent efficacement. C'est le cas pour ce qui est des considérations relatives aux gains d'efficacité dynamique ». La contribution examine la fusion entre Aventis Crop Science et Bayer, intervenue dans l'industrie pharmaceutique. Elle note aussi qu'au moment de la fusion, les deux parties étaient actives dans la R-D ainsi que dans la fabrication et la vente de produits de protection des cultures. Le Bureau de la concurrence a constaté que, sur certains marchés de produits, où soit Bayer soit Aventis était l'entreprise en place, l'autre partie à la fusion avait une ligne de produits en préparation dont on attendait qu'ils aient le même taux d'efficacité voire un taux d'efficacité supérieur (car fondés sur la même nouvelle concentration d'ingrédients actifs) et arrivent sur le marché d'ici à deux ans. Le Bureau a conclu que le rythme du changement et de l'innovation ne déterminerait probablement pas l'exercice d'un de marché par l'entité fusionnée dans le cadre temporel pertinent et que, en fait, le rythme de l'innovation serait freiné par l'opération envisagée.

Le Président trouve cette observation intéressante eu égard à un passage de la contribution de la République tchèque, qui examine la même fusion au même moment et arrive à une conclusion différente. Cette contribution déclare que les autorités de la concurrence tchèques ont accepté l'affirmation selon laquelle la fusion se traduirait par de plus gros investissements dans la R-D, ce qui permettrait aux parties d'innover plus fréquemment. Elle déclare également : « Le Bureau a tenu compte à la fois des difficultés de développement de nouveaux produits et du délai moyen nécessaire — 5 à 10 ans ». Le Président demande au Canada d'expliquer les conséquences d'un cadre temporel très court pour l'examen des gains d'efficacité eu égard au fait qu'il faut 5 à 10 ans pour développer des produits. Les autorités de la concurrence devraient-elles se placer dans une perspective plus longue ?

Un délégué du Canada répond qu'un problème central rencontré d'agissant des fusions dans l'industrie pharmaceutique tient à la nécessité de déterminer sans données ni très probantes ni très fiables quelle sera l'incidence nette sur l'innovation. D'une part, l'on doit se demander s'il existe des motifs raisonnables de conclure qu'un nouveau produit ou un nouveau procédé sera développé dans un délai correct du fait de la fusion. Dans l'affirmative, il y aura un gain d'efficacité dynamique. De l'autre, il faut chercher à déterminer s'il existe un risque de gel de la concurrence en matière d'innovation.

Enfin, le délégué explique le processus analytique appliqué par le Bureau dans les cas où des allégations de gains d'efficacité dynamique sont formulées. Premièrement, le Bureau évalue l'incidence anticoncurrentielle de la fusion, passant en général en revue les contraintes à l'exercice d'un pouvoir de marché par l'entreprise issue de la fusion. Cet examen s'inscrit dans le délai de deux ans indiqué dans les lignes directrices relatives à la fusion. Dans l'affaire Bayer/Aventis, il n'a pas été question d'ignorer ou de rejeter les prétentions à des gains d'efficacité dynamique proprement dites en raison d'une perspective d'évaluation trop courte ou pour d'autres raisons, mais plutôt de reconnaître l'importance que revêt l'innovation pour la concurrence sur ce marché et de peser l'incidence anticoncurrentielle de la perte des produits d'Aventis en cours de préparation. Ainsi dans ce cas, comme dans d'autres, c'est l'existence d'un effet anticoncurrentiel qui a amené à prendre en compte les allégations de gains d'efficacité. En règle générale, pour ce qui est des gains d'efficacité dynamique, le Bureau part d'un cadre temporel de deux années et plus ce délai est repoussé, plus il est difficile d'être sûr que ces gains se concrétisent, de sorte que leur valeur et leur portée imputée diminuent. Le Bureau ne limite donc pas toujours son analyse à un cadre

temporel de deux années, car il peut juger approprié de prolonger ce délai dans certains cas lorsqu'il examine des allégations de gains d'efficacité dynamique. Autrement dit, il ne faut pas se contenter de hausser les épaules et d'abandonner. Les gains d'efficacité dynamique sont souvent difficiles à mesurer et à intégrer dans une évaluation des effets sur la concurrence, mais ils sont aussi indispensables à la croissance économique et, en fin de compte, au bien-être des consommateurs.

Le Président passe ensuite à la contribution des États-Unis, faisant part d'une certaine confusion à son propos. La contribution fait référence à une étude a posteriori de 31 fusions dans laquelle les entreprises fusionnantes opéraient dans le même secteur général de l'économie. L'étude constate qu'il n'y a eu une progression significative de la performance en matière de R-D uniquement dans les cas où les entreprises fusionnantes n'étaient ni des concurrents directs ni actives dans le même secteur technologique. La contribution déclare aussi que « les organismes concernés examinent de manière approfondie aussi bien les plans que les économies estimées correspondantes ... Une question posée dans le cadre de cet examen est celle de savoir si les économies découlent de réductions anticoncurrentielles de la production ou des services. L'élimination de l'un des programmes de recherche des entreprises fusionnantes pourrait réduire sensiblement les coûts, mais cette réduction des coûts devrait normalement être considérée comme un recul anticoncurrentiel de la recherche et non comme un gain d'efficacité dynamique à mettre au crédit de la fusion ». Cependant, donnant un exemple pratique, les États-Unis mentionnent un cas de fusion associant les seules entreprises du monde s'occupant du développement de la première thérapie enzymatique de substitution pour traiter la maladie de Pompe, notant que l'autorité de la concurrence a examiné l'opération mais n'y a pas fait objection. Compte tenu des autres points déjà examinés dans la contribution, le Président indique qu'il se serait attendu à ce que l'autorité de la concurrence formule une objection. Il demande une explication.

Il note aussi que la contribution de l'Allemagne contient une déclaration qui est directement liée à cette question. Le Bundeskartellamt indique que ni les gains d'efficacité statique ni les gains d'efficacité dynamique ne peuvent être pris en compte lorsqu'ils revêtent un caractère spéculatif et donne un exemple qui correspond parfaitement au cas de la FTC. Les parties qui fusionnent peuvent avancer que, en regroupant leurs deux lignes de recherche, elles produiront davantage d'innovations ou de meilleures innovations que chacune séparément. Or, le contraire est également vrai. L'une des parties qui fusionnent pourrait sans le vouloir poursuivre une ligne de recherche qui aboutira nulle part, alors que l'autre partie pourrait sans le vouloir poursuivre une ligne de recherche qui conduira à une innovation performante. Si elles fusionnent et ne poursuivent qu'une de ces lignes de recherche, comment peut-on être sûrs qu'elles choisiront la bonne ligne ?

Un délégué des États-Unis indique que son pays n'est pas en désaccord avec le point soulevé par l'Allemagne et que, en fait, il y souscrit. L'affaire à laquelle il est fait référence est le cas de Genzyme. La FTC l'a examinée après coup car l'opération n'était pas assujettie à des obligations de notification préalable. L'étude de cas a avancé que la relation entre la concentration et l'innovation n'est pas claire. Elle a aussi souligné que la relation entre une fusion déterminée et les incitations des parties à innover et leur comportement en matière d'innovation doit aussi être précisée. Cela est vrai même lorsqu'il s'agit d'une fusion avec un monopole, comme c'est le cas pour Genzyme. Cette opinion n'est pas nouvelle de la part des États-Unis ; ceux-ci la défendent depuis environ deux décennies.

Lorsqu'une décision a été prise dans le cas Genzyme en 2004, la FTC avait été en mesure d'observer les pratiques de R-D et le comportement sur le marché des entreprises concernées ainsi que le développement des débouchés pendant environ trois ans. Les gains d'efficacité résultant de la fusion étaient assez peu marqués, mais les données corroborant un effet négatif sur la concurrence étaient encore moins probantes. La concurrence revêtait un caractère assez spéculatif car les produits se situaient à une phase préliminaire du processus d'élaboration pharmaceutique. Il est tout à fait possible que, compte tenu de la situation prévalant en 2004, il soit apparu que le médicament d'aucune des deux parties n'avait une

chance d'arriver un jour sur le marché. Eu égard à l'environnement réglementaire dans lequel les deux parties opéraient aux États-Unis, il était certain en tout cas que si le médicament de l'une des parties arrivait sur le marché, celui de l'autre n'y parviendrait certainement pas, en raison de la loi sur les médicaments orphelins (« Orphan Drug »). En outre, le comportement observé des parties n'était pas compatible avec une volonté de retarder ou de réduire les activités de R-D. Les deux lignes de R-D ont été maintenues, et n'ont pas fermé. Ce fait, le fait qu'il n'y avait pas de traitement disponible pour ce qui était considéré comme une maladie mortelle et le fait que le litige aurait distrait les chercheurs de leurs recherches en laboratoire pour les traduire devant les tribunaux sont autant de considérations qui ont amené la FTC à conclure que remettre en cause la fusion ne serait ni satisfaisant pour le patient, ni dans l'intérêt public.

4. La réalité des gains d'efficacité statique et dynamique découlant des fusions

Ouvrant un nouveau domaine de discussion, le Président reconnaît que les contributions peuvent conduire à se demander si nous ne sommes pas à la recherche de quelque chose qui n'existe pas. Y a-t-il un moyen d'établir la réalité des gains d'efficacité dynamique ? Les critères appliqués pour juger du bien – fondé des allégations de gains d'efficacité sont-ils trop rigoureux ? Dans sa contribution, la Corée indique que son système d'examen des fusions tient compte des gains d'efficacité dynamique comme des gains d'efficacité statique en tant que moyen de défense de la fusion. L'autorité coréenne de la concurrence ne tient compte des gains d'efficacité que s'ils sont spécifiques à la fusion, ne découlent pas de mesures anticoncurrentielles, comme une diminution de la production ou une réduction du service ou de la qualité, se concrétiseront dans le proche avenir, sont vérifiés et sont substantiels. La contribution déclare également que « peu de fusions ont été validées sous prétexte que les gains d'efficacité dépassaient les effets potentiellement anticoncurrentiels. En particulier, on n'a jamais observé de gains d'efficacité dynamique dans la réalité ». Le Président demande à la Corée si la rareté des allégations de gains d'efficacité tient au fait que les critères appliqués par l'autorité coréenne de la concurrence sont si stricts que les entreprises ne sont guère incitées à présenter de telles revendications, ou simplement si peu de gains d'efficacité découlent des fusions.

Un délégué de la Corée précise que, d'après l'expérience de l'autorité coréenne de la concurrence, les parties qui fusionnent présentent des allégations de gains d'efficacité statique dans presque tous les cas où l'autorité constate un effet anticoncurrentiel. Il est rare que seules des allégations de gains d'efficacité dynamique soient présentées. Le délégué note ensuite que, de manière générale, plus les effets anticoncurrentiels sont marqués, plus les allégations de gains d'efficacité formulées par les parties sont nombreuses. Les parties qui fusionnent ont accordé peu d'attention aux gains d'efficacité dynamique jusqu'ici. La plupart prétendent à des gains d'efficacité en matière de productivité, comme les réductions de coûts découlant d'économies d'échelle ou de gamme. Une explication possible est que le bien-fondé des fusions envisagées n'a vraisemblablement rien à voir avec les gains d'efficacité dynamique. Ces fusions sont sans doute davantage motivées par la volonté de réduire les pressions de la concurrence ou de réaliser des gains d'efficacité statique.

Le délégué observe en outre que, si les parties fusionnantes présentent des allégations de gains d'efficacité au niveau des activités de R-D dans quelques cas, elles ne formulent jamais de telles prétentions en relation avec des aspects comme l'amélioration de leurs capacités de R-D ou l'introduction de nouveaux produits. En fait, elles se focalisent sur les économies de coûts dans la gestion des activités de R-D, qui représentent en fait un gain d'efficacité statique. La perspective limitée d'aboutissement des revendications de gains d'efficacité dynamique (due à des difficultés pratiques) dissuade sans doute les parties de les formuler. Du point de vue des parties à une fusion, il est plus sage sans doute d'alléguer de gains d'efficacité statique, qui sont plus faciles à documenter.

Les lignes directrices de la Corée en matière de fusions ne parlent pas ou ne parlent que relativement brièvement des critères à appliquer lorsque les gains d'efficacité sont présentés comme moyen de défense. Par exemple, elles ne précisent pas si les gains d'efficacité allégués doivent être quantifiés ou si ceux qui interviendront plus tard dans le futur doivent être pris en compte et, dans l'affirmative, s'ils doivent être actualisés. Il serait assez important de fournir davantage d'indications pratiques dans le chapitre sur les allégations de gains d'efficacité, peut-être dans le cadre de la révision des lignes directrices qui interviendra dans le proche avenir.

Le Président souligne que, dans sa contribution, l'Irlande demande directement s'il doit y avoir une révision des critères qui sont appliqués lorsque les parties revendiquent des gains d'efficacité. On rappellera à cet égard que seulement 14 fusions sur 310 en Irlande ont soulevé un problème de concurrence. Dans huit de ces 14 cas, aucune donnée prouvant l'existence de gains d'efficacité n'a été fournie. Les lignes directrices de l'Irlande concernant les fusions soulignent que les allégations de gains d'efficacité doivent être vérifiables, quantifiables et présentées en tant voulu. En outre, tout gain d'efficacité doit se concrétiser directement du fait de la fusion et ne peut être réalisable par des moyens moins restrictifs. Enfin, il doit se concrétiser « dans un délai raisonnable et avec une probabilité suffisante ». Le Président demande à la délégation irlandaise d'expliquer pourquoi il y a si peu d'allégations de gains d'efficacité et de s'interroger sur la nécessité de modifier les critères.

Un délégué de l'Irlande indique qu'il ne pense pas que la rareté des allégations de gains d'efficacité en Irlande soit due au caractère trop strict des critères. L'autorité de la concurrence est réputée pour ses analyses économiques et son équipe chargée des fusions paraît aimer relever le défi de la prise en compte d'arguments économiques, aussi obscurs soient-ils. Le délégué ne pense pas non plus que la raison de cette rareté des allégations soit que les fusions n'aboutissent pas effectivement à des gains d'efficacité. Les dossiers concernant les fusions contiennent fréquemment des arguments sur d'autres aspects qui n'existent pas, de sorte que ce n'est probablement pas là qu'il faut chercher l'explication de l'absence de revendications de ce type. Une explication plus probable est que l'autorité de la concurrence n'examine les fusions que depuis quatre ans et demi environ. Deuxièmement, le régime des fusions de l'Irlande peut être à juste titre qualifié de non interventionniste.

Un délégué de la Belgique intervient pour dire que les gains d'efficacité dynamique peuvent être importants et plus pertinents que les gains d'efficacité statique mais extrêmement difficiles à vérifier ex ante. De sorte que le critère de « vérifiabilité » doit être appliqué avec souplesse si l'on veut que des allégations de gains d'efficacité puissent être présentées. Peu d'arguments de ce type ont effectivement été formulés jusqu'ici, mais c'est aussi parce que l'on suppose généralement que l'environnement ne leur est pas très favorable, que ce soit à la CE ou dans la majorité des autorités de la concurrence. Il faudra encore beaucoup de temps pour qu'une approche fondée sur la fiabilité, la vérifiabilité et la prévisibilité puisse être mise en place. Ce qui ne rend certainement pas les choses plus faciles est la tendance persistante de nombre de conseillers à encourager les parties — plus que les autorités — à réaliser des opérations potentielles sur la base des gains d'efficacité. Les parties commencent à écouter ces conseils, parfois à raison, parfois à tort. On observe aussi une tendance à surestimer la nécessité d'une gestion postérieure à l'opération.

Le Président invite ensuite la délégation japonaise à examiner les résultats de deux études sur les gains d'efficacité entreprises par la Commission japonaise de la concurrence (JFTC).

Un délégué du Japon indique que le Centre de recherche sur la politique de la concurrence a étudié les gains d'efficacité résultant des fusions dans un rapport publié en 2003. Il s'agit d'une analyse des données financières concernant treize fusions, qui visait à évaluer les gains d'efficacité observés après les fusions. Celles-ci sont intervenues dans quatre domaines d'activité : pétrole, ciment, carbone et produits en carton. L'étude est arrivée aux conclusions suivantes : premièrement, un questionnaire a fait apparaître que les

fusions étaient conçues pour assurer l'efficacité des entreprises en réduisant les coûts face à une intensification de la concurrence mondiale et à un recul du marché intérieur. Deuxièmement, une analyse statistique de l'amélioration de l'efficacité enregistrée (d'après les données financières) dans les entreprises ayant fusionné montre l'absence de gains sensibles attribuables à la fusion dans de multiples cas importants. Troisièmement, il a été constaté que c'est seulement très rarement que l'entreprise fusionnée parvient à renforcer de manière significative son efficacité par rapport à ses concurrents.

Les innovations techniques futures résultant d'une rationalisation des systèmes de recherche et du progrès technique sont un effet de l'amélioration des gains d'efficacité dynamique. Près de 50 % des entreprises étudiées indiquent que l'objectif de leur fusion était de doper leurs activités de recherche et leur évolution technique. Mais rares sont celles qui donnent des exemples spécifiques d'une amélioration à long terme de la productivité imputable aux résultats plus satisfaisants de la recherche et du progrès technique. On peut donc conclure qu'il n'est pas facile de réaliser des gains d'efficacité dynamique directement comme suite à une fusion dans les secteurs technologiquement dynamiques.

En mars 2007, la JFTC a organisé un colloque consacré aux fusions et acquisitions et à la politique de la concurrence. Dans sa présentation, le Professeur Odagiri a souligné les points suivants : premièrement, on n'a pas constaté d'effets positifs des fusions sur les taux de profit ou les taux de croissance. Deuxièmement, les fusions ont eu en fait des effets négatifs, en particulier lorsque les partenaires avaient des ventes de même niveau. Troisièmement, il existe le risque d'un effet de réduction d'emploi. Du point de vue de la politique de la concurrence, on peut donc en déduire que, si les résultats théoriques donnent à penser qu'une progression sensible de l'efficacité est un élément nécessaire à la validation des fusions sur cette base, une telle progression se produit rarement. La JFTC a réexaminé les lignes directrices concernant l'examen des fusions et en a publié une version modifiée le 28 mars 2007. Ces lignes directrices modifiées stipulent que l'incidence d'une fusion est déterminée eu égard aux gains d'efficacité dynamique et aux gains d'efficacité statique, comme les économies d'échelle et les réductions des coûts de transport. Elles soulignent aussi que trois facteurs déterminent la façon dont les gains d'efficacité sont pris en compte : ils doivent être un effet spécifique à la fusion ; ils doivent pouvoir se concrétiser ; et ils doivent renforcer le bien-être des consommateurs.

Le Président ajoute que les résultats des études menées au Japon sont compatibles avec les recherches qu'il a réalisées avec le Professeur Odagiri il y a 25 ans. Ces recherches, qui visaient aussi à déterminer si les fusions pouvaient avoir un effet positif sur l'efficacité, ont amené à conclure que ce n'était le cas dans aucun pays du monde. Les fusions ne contribuaient absolument pas aux gains d'efficacité. Il semble donc que les recherches faites dans le passé soient toujours valables aujourd'hui.

5. Nouvelles évolutions dans l'évaluation des gains d'efficacité statique et dynamique

Le Président fait ensuite observer que les contributions de la Nouvelle-Zélande et du Canada proposent des méthodes pour étudier les gains d'efficacité en cas de fusion. La Commission du commerce de la Nouvelle-Zélande a mis de plus en plus l'accent récemment sur les gains d'efficacité et a été encouragée à le faire par les tribunaux. Le Président invite la délégation néo-zélandaise à décrire le cadre qu'elle a mis au point et à donner des informations sur la fusion Air New Zealand/Qantas.

Un délégué de la Nouvelle-Zélande explique que les parties à une fusion peuvent opter pour deux approches afin d'obtenir une autorisation. Dans le cadre de la première approche, les parties contactent la Commission et demandent son approbation sur la base d'arguments tels que l'absence d'incidence majeure sur la concurrence. Si la Commission juge que c'est bien le cas, elle validera la fusion et protégera ainsi celle-ci de toute attaque par les tribunaux. Bien évidemment, si la fusion conduit à une réduction sensible de la concurrence, la fusion ne sera pas validée. La deuxième approche consiste à demander une autorisation. Il s'agit d'une situation dans laquelle les parties estiment qu'il y a un risque que la fusion

conduise à une réduction sensible de la concurrence, mais demandent une autorisation en présentant l'argument selon lequel les effets positifs nets pour le public qui seront observés du fait de la fusion dépassent les effets nets négatifs liés à la dégradation de la concurrence. Seule la deuxième approche implique des gains d'efficacité.

Bien que les lignes directrices de la Nouvelle-Zélande relatives aux fusions mentionnent la possibilité de présenter des allégations de gains d'efficacité dans le cadre du processus de validation, la Commission n'a pas eu véritablement l'expérience d'entreprises présentant ce type d'arguments comme moyen d'obtenir une approbation. En fait, si les entreprises pensaient qu'il pouvait y avoir une amélioration sensible des gains d'efficacité, elles opteraient pour la demande d'une autorisation. Ces dernières années, il n'y a eu que très peu de demandes d'autorisation — en moyenne une tous les trois ou quatre ans. Aussi l'expérience de la Commission dans l'analyse des gains d'efficacité est-elle très limitée.

Pour ce qui est de l'analyse des gains d'efficacité elle-même, le délégué précise ensuite que la Commission applique un critère d'efficacité économique. Il s'agit d'intégrer tous les effets, positifs et négatifs, sur l'efficacité, mais d'ignorer tous les transferts de revenu pouvant découler de l'innovation ou de variations de prix. Pour ce qui est des effets négatifs, la Commission prend en compte la dégradation de l'efficacité résultant du recul de la concurrence. Plusieurs éléments sont en cause : les inefficiences allocatives (c'est-à-dire la perte sèche résultant de la hausse des prix), les pertes d'efficacité productive résultant de l'affaiblissement des pressions de la concurrence (appelées parfois inefficiences-x) ; et également la perte potentielle de gains d'efficacité dynamique, dans la mesure où la concurrence encouragerait autrement les entreprises à prendre plus de risques dans leurs projets de R-D.

Bien que la Commission ait souligné qu'elle était prête à prendre en considération un large éventail d'effets positifs potentiels, les entreprises ont généralement revendiqué un nombre relativement limité d'effets de ce type. Elles ont surtout invoqué des efficacités productives, obtenues généralement grâce à la rationalisation d'une manière ou d'une autre de la production, ou à la réalisation d'économies d'échelle. La Commission n'a pas encore donné d'autorisation impliquant des industries de haute technologie, comme l'électronique ou les logiciels, dans lesquelles les possibilités de gains d'efficacité dynamique sont vraisemblablement plus grandes. Cela explique dans une large mesure pourquoi l'essentiel des décisions d'autorisation de la Commission ont porté sur des effets statiques et non sur des effets dynamiques. Les arguments se rapprochant le plus d'allégations de gains d'efficacité dynamique sont ceux selon lesquels de nouveaux produits seront fournis si une fusion est autorisée. Par exemple, dans une fusion concernant l'industrie des engrais, les entreprises ont soutenu qu'elles seraient en mesure de mettre au point de nouveaux engrais adaptés à différents types de sols. De même, deux entreprises exploitant des remontées mécaniques sur la même montagne ont prétendu qu'une fusion leur permettrait de joindre leurs deux domaines skiables grâce à une piste les contournant de façon que les skieurs puissent essayer les deux domaines le même jour. Dans le cas de la fusion Air Nouvelle-Zélande/Qantas, les compagnies aériennes ont soutenu qu'elles remplaceraient probablement quelques liaisons indirectes entre des villes de la Nouvelle-Zélande et de l'Australie par de nouvelles liaisons directes, ce qui serait avantageux pour les passagers.

Le délégué indique que la Commission n'a pas eu beaucoup l'occasion de quantifier les gains d'efficacité dynamique en raison du faible nombre de demandes d'autorisation reçues, dont peu, voire aucune, ne faisait référence à des gains d'efficacité dynamique importants. Il reste à voir comment la Commission traitera une demande d'autorisation faisant état de véritables gains d'efficacité dynamique, eu égard en particulier aux types de problèmes qui ont été rencontrés dans les autres pays. Le délégué estime que, dans une telle situation, la Commission pourrait mener une enquête très factuelle comme l'a suggéré le Japon dans sa présentation. Ce type d'enquête est considéré comme indispensable en raison de la difficulté de s'appuyer sur des généralisations fondées sur les seuls principes économiques ; ces principes

devraient plutôt être appliqués aux circonstances particulières du marché considéré et aux incitations auxquelles seraient soumises les entreprises impliquées dans la fusion.

Enfin, le Président note que le Bureau de la concurrence du Canada a demandé à un cabinet indépendant d'établir un rapport sur les gains d'efficacité dynamique, qui a prôné l'utilisation d'un cadre analytique différent de celui prévu dans les lignes directrices relatives aux fusions. Il demande au Canada de passer en revue les aspects fondamentaux des méthodes préconisées dans le rapport et souhaiterait aussi savoir si ce cadre peut être utilisé dans d'autres pays.

Un délégué du Canada explique que le Bureau a fait établir ce rapport indépendant pour stimuler un débat sur la façon d'aborder le rôle des gains d'efficacité dynamique dans une perspective à long terme. Le rapport n'a été reçu que récemment et le Bureau doit encore étudier le cadre recommandé pour déterminer s'il contient des éléments qu'il pourrait être judicieux d'adopter pour l'évaluation des fusions dans les secteurs industriels où l'innovation et le progrès technologique sont particulièrement importants et puissants.

Le rapport prône l'utilisation d'un cadre analytique axé sur un « marché de marchandises futur ». Il s'agit pour les auteurs d'un marché dans la forme qu'il aura à une date ultérieure donnée et sur lequel pourront être échangés des marchandises existantes de même que les produits qui feront leur apparition à l'avenir. L'écart le plus notable par rapport à la politique de mise en application prônée par les lignes directrices est que la perspective est plus lointaine. Le rapport recommande de poser cinq questions essentielles et identifie différents facteurs devant être pris en compte dans chaque enquête. Il appelle à plusieurs reprises l'attention sur la nécessité de disposer de données fiables, mettant ainsi l'accent sur une considération très pratique qui pourrait limiter l'utilité du modèle théorique.

La première question est celle de savoir si l'innovation joue un rôle important dans le secteur considéré. Il est suggéré que les rapports d'analystes ou les études sectorielles peuvent contenir des renseignements de caractère qualitatif qui peuvent se révéler précieux, surtout s'ils aident à comprendre si les caractéristiques des produits novateurs alimentent la demande des consommateurs. Le rapport suggère que des données quantitatives sur l'innovation peuvent aussi être facilement disponibles, citant les exemples suivants : (i) dépenses en R-D des entreprises du secteur ; (ii) activité de recherche scientifique dont témoignent les articles publiés dans les revues scientifiques et (iii) observation des changements fréquents des parts de marché. Si ces sources peuvent être utiles dans une certaine mesure, on est encore loin de conclusions robustes, et de fait de l'admissibilité des données en question.

La deuxième question a trait à la possibilité de repérer les entreprises et les produits qui seront présents sur les marchés de marchandises futurs. Les rapports des analystes et les documents internes des parties sont deux sources d'information qui peuvent se révéler utiles pour répondre à cette question. Le rapport recommande aussi de prendre en compte certains facteurs économiques et technologiques concernant l'innovation. Par exemple, il demande de faire une distinction entre l'innovation qui « peut surgir de façon imprévisible de sources extérieures ou provenir d'entreprises ou de personnes qui, à l'heure actuelle, ne jouent qu'un rôle marginal dans l'industrie » (par exemple, industrie des logiciels) et les innovations qui « peuvent survenir de façon relativement systématique du fait des activités de R-D menées dans les entreprises établies » (par exemple, produits pharmaceutiques). Dans le premier scénario, il est pratiquement impossible de prévoir les concurrents futurs ; dans le deuxième, les concurrents futurs sont plus facilement prévisibles.

Une fois que le marché des marchandises futur et les participants sont identifiés, la troisième question consiste à déterminer si les entreprises qui souhaitent fusionner seraient susceptibles de se faire concurrence sur un marché futur qu'il est possible de cerner, si la fusion n'a pas lieu. Le rapport met en

garde contre le risque de supposer prématurément que les parties à la fusion seront concurrentes eu égard simplement au fait que les deux entreprises réalisent des activités de R-D sur ce marché. Il recommande plutôt de prendre en compte plusieurs éléments. Par exemple, la question de l'incertitude doit être examinée car nombre de projets de R-D ne sont pas performants et, de ce fait, des entreprises impliquées dans des projets de R-D identiques peuvent ne pas se trouver en concurrence sur un marché des marchandises futur qui découlerait du projet d'innovation. Les auteurs recommandent l'utilisation d'une mesure de probabilité d'un type ou l'autre. On peut aussi se demander si, dans le cas où les efforts d'innovation des entreprises se révèlent performants, les droits de propriété intellectuelle ne risquent pas de faire obstacle à la concurrence. Enfin, il faut s'interroger également sur le point de savoir si les entreprises innovantes ont les actifs nécessaires pour commercialiser leurs produits.

Quatrièmement, on doit se demander, en supposant que les entreprises innovatrices se feront concurrence sur un marché de produits futur, si la fusion ne risque pas d'entraîner une diminution des ressources de R-D consacrées à l'innovation. Le rapport reconnaît que, compte tenu de l'absence d'un net lien théorique ou empirique entre le renforcement de la concentration et la réduction de l'activité innovatrice, une analyse axée sur les faits particuliers est requise. Le rapport suggère de prendre en compte plusieurs facteurs, comme les informations que l'on peut obtenir des parties concernant les ressources consacrées à la R-D et les dépenses prévues à l'avenir, les indications selon lesquelles la première entreprises qui innove recueillerait une part disproportionnée des avantages et des informations quant au degré de chevauchement des programmes de R-D des entreprises du marché.

Enfin, la cinquième question est celle de savoir si l'entreprise issue de la fusion serait en mesure d'augmenter les prix. Le rapport reconnaît qu'il est difficile d'y répondre, car il n'existera probablement pas de niveaux de prix ou de production de référence pour comparer la situation avant la fusion et celle sur le marché de produits futur. Une des façons de procéder, en conséquence, consiste à traiter les effets de la fusion sur l'innovation et ses effets sur les prix comme un seul objet de recherche. Dans cette optique, le rapport propose quatre cas méritant d'être examinés, selon que la fusion réduit ou non de façon importante le degré d'innovation et selon que l'entreprise issue de la fusion possède une proportion importante du marché après l'innovation, et présente les conclusions probables dans chaque cas.

D'après le délégué, le Bureau estime que le rapport est une contribution précieuse à la réflexion et au débat sur le difficile exercice qu'est la mesure des effets des gains d'efficacité dynamique. Il n'a ni adopté ni approuvé la méthode suggérée, mais a reconnu son intérêt dans l'articulation d'idées originales, bien qu'à certains égards peut-être un peu trop ambitieuses, sur les approches qu'il pourrait être utile d'adopter.