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Mr Antonio Capobianco, Email: Antonio.CAPOBIANCO@oecd.org

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Barriers to Exit

By the Secretariat*

The benefits of competition and innovation are largely ensured by the ease of both market entry and exit. Most of the focus in relation to barriers to such entry and exit has been on barriers to entry and their effects on competition. However, for competition to be effective there must also be firm exit. Barriers to exit, like barriers to entry, weaken the market discipline mechanisms of the competitive process, which act to relocate resources from one market or firm to another according to changing conditions. This can lead to less efficient firms staying in the market. As a result, resources (both financial and human capital) become trapped in existing firms instead of being relocated to their most efficient use. This can make it more difficult for more efficient firms to expand and can crowd-out the growth of more innovative firms. Therefore, barriers to exit can have an adverse effect on the level of competition, hinder innovation and change, be an important driver of productivity slowdown, and can have an adverse impact on economic growth.

* This paper was prepared by Patricia Bascunana-Ambros, a secondee to the OECD Competition Division, and António Neto of the OECD Competition Division. The document benefitted from comments from Antonio Capobianco, Federica Maiorano and Cristina Volpin (all OECD Competition Division).

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1. Introduction

1. The benefits of competition and innovation are largely ensured by both market entry and exit. Market entry plays a key role as an equilibrium force – which competes away excess profits to an equilibrium level. Market entry helps drive competition. The threat of entry incentivises firm to keep prices low and offer what consumers demand. Actual entry helps to punish firms with higher prices or lower quality products as consumers switch away to new entrants offering better deals. Market entry also plays a key role as a disequilibrium force – which propels the industry from one equilibrium state to another due to the introduction and diffusion of innovations (Geroski, 1991^[1]), (Geroski, 1995^[2]).

2. Market exit is considered a key instrument to sanction unprofitable product and service ideas thereby renewing the industry population through a process of creative destruction (Schumpeter, 1942^[3]).

3. The close interaction between the market entry of innovative and/or more efficient new firms and the corresponding decline and market exit of less innovative and/or less efficient incumbent firms helps to ensure dynamically efficient markets.

4. The topic of barriers that impede the entry or exit process is therefore central to the study of efficient competitive markets. The focus to date has mostly been on barriers to entry and their effects on competition. However, for competition to be effective there must also be exit. Barriers to exit, like entry, weaken the market discipline mechanisms of the competitive process to relocate resources from one market or firm to another according to changing conditions. This can lead to less efficient firms staying in the market. As a result, resources (both financial and human capital) remain in existing firms instead of relocating to more efficient firms. Barriers to exit can therefore have adverse effects on the level of competition, hinder innovation and change, be an important driver of productivity slowdown, and can have an adverse impact on economic growth.

5. This paper revisits barriers to exit. Section 2 explores the different definitions of barriers to exit in the literature and identifies what these have in common. It also describes the different factors commonly referred to as barriers to exit. Section 3 then analyses the different ways in which such barriers to exit can affect allocative efficiency and competition. The paper assesses the impacts by looking at the effects of barriers to exit on market structure; competitive distortions; and type of entry. Section 4 considers how competition authorities assess barriers to exit in their enforcement and advocacy work to identify differences (or commonalities) of approaches and areas that may warrant further research and discussion. Finally, Section 5 draws out the following key initial conclusions:

- Competition authorities can play a role through their advocacy work to reduce unnecessarily high barriers to exit by advising and/or collaborating with other regulators or government agencies in the policy design to avoid, or minimise, adverse effects on competition.
- Competition authorities can also advocate transparency of the trade-offs made when policy options are chosen which create barriers to exits that adversely affect competition.
- Competition authorities have come under pressure to become more lenient in their competition enforcement policy when entire industries or sectors are under distress and facing overcapacity issues due to barriers to exit, or firms are rescued by governments (preventing them from exiting) to avoid wider economic

implications. However, the right policy response to an industry-wide issue may not be a more lenient competition enforcement policy. Other policy tools could potentially be more effective. Nevertheless, competition authorities can ensure the criteria and the process used in competition enforcement cases in such situations do not unnecessarily become a barrier to exit. Ex-post reviews of enforcement decisions can be a useful tool for this.

- Competition agencies could provide more transparency about how they assess barriers to exit in their guidelines; the analysis behind such assessments in enforcement cases, market studies or investigations including when identifying and assessing effective remedies; and whether there are any difficulties (or other issues) that would benefit from further research.

2. What are barriers to exit

2.1. Exit

6. Before reviewing how the literature defines barriers to exit, it is first useful to define and explore market exit. Very simply, a firm exits from a market when it stops producing a product or service entirely or discontinues selling it in a particular geographic area.

7. There are different reasons why a firm exits a market. Exit occurs because of actual unprofitability; exit can occur if incumbent firms expect a permanent decrease in demand or slower demand growth, therefore reducing expected profitability; and exit can also occur if existing firms are displaced by more efficient new entrants (Siegfried and Evans, 1994^[4]). Therefore firms will exit (and enter) in response to changing market conditions. Exit will be more common in a declining industry than in an expanding one. Anti-competitive behaviours such as predatory pricing could also force firms to exit.

8. There are different ways in which a firm may leave the industry: through a merger, voluntary liquidation, or bankruptcy.¹ Different forms of exit have different economic consequences. In a merger situation, much of the productive capacity may remain in the industry. In voluntary liquidation, capacity is often removed from the market; similarly, bankruptcy often leads to permanent close of production capacity (Schary, 1991^[5]).

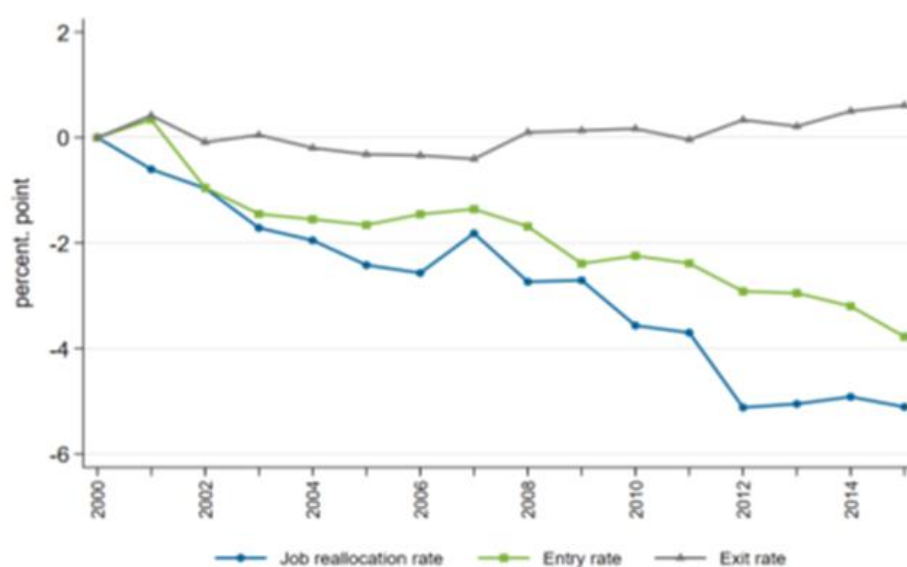
9. These different types of exit release market capacity or resources for relocation to a greater or less degree. The analysis of firm exit plays a role for competition authorities when assessing whether competition may be lessened from a firm exiting by merger, or when assessing whether incumbent firms face sufficient competitive pressure in the case of exit by a competitor (or multiple competitors at a point in time, for example in the case of recessions).

10. The point at which it is efficient for a firm to exit depends on a series of factors. A firm operating in a hypothetical perfectly competitive market faces no barriers to entry or exit. In this idealised case, a firm may decide to suspend operations in the short term if its average revenue fails to exceed its average variable costs.² If such conditions continue in the long-term, then the firm is assumed to exit the market in a costless manner.³

11. If one were to incorporate costs to the firm exiting (barriers to exit) then this hypothetical analysis would become more complex. In such a case, it is possible that the firm would choose to remain in the market despite it being unprofitable and inefficient to do so, because it is more costly to exit than to remain.

12. One indicator of barriers to exit is the decline in firm dynamism (i.e. levels of firm entry and exit). In 2018, the OECD carried out work on business dynamism showing the following Figure 1, which illustrates how, overall, firm dynamism has been steadily declining in a large set of countries (Clavino, Criscuolo and Verlhac, 2018^[6]). The figure shows common measures of firm dynamism: job relocation rates – a measure of the simultaneous job creation and job destruction occurring within an industry; and entry and exit rates. The figure shows that, on average, job reallocation rates and entry rates have declined by around 5% and 4% respectively from 2000 to 2015. Exit rates, on the contrary, have remained on average rather stable over the period, in line with existing evidence from the United States (Decker et al., 2016^[7]). A further study by the OECD on business dynamics and digitalisation also reports similar results (OECD, 2019^[8]).

Figure 1. Average trends in job reallocation, entry and exit rates from 2000 to 2015



Note: This figure reports average within-country-industry trends of job reallocation, entry and exit rates, based on the year coefficients of regressions within country-sector, for the period 2000-2015, including 14 countries: AUT, BEL, BRA, CRI, ESP, FIN, FRA, HUN, ITA, JPN, NOR, PRT, SWE and TUR. Each point represents cumulative change in percentage points since 2000.

Source: (Clavino, Criscuolo and Verlhac, 2018^[6]) using OECD DynEmp3 database, August 2018.

2.2. Barriers to exit

13. Obstacles or impediments may prevent a firm from exiting the market when it otherwise would. While barriers to entry have been studied for some time (Stigler, 1968^[9]) (Baumol and Willing, 1986^[10]) (McAfee, Mialon and Williams, 2004^[11]), barriers to exit have been under-researched.

14. This section first briefly presents how the literature defines barriers to exit and the different factors identified as constituting barriers to exit.

2.2.1. Definitions

15. Economists (Gilbert, 1989^[12]) define barriers to exit as “*costs or forgone profits that a firm must bear if it leaves the industry...Exit barriers exist if a firm cannot move its*

capital into another activity and earn at least as large a return". This definition includes both direct costs of exit as well as indirect opportunity costs of exit.

16. In the Industrial Organisation (IO) literature, barriers to exit are generally treated as an indirect form of barriers to entry, i.e. if it is costly to exit an industry there are weaker incentives for entry (Carlton and Perloff, 2004^[13]). A rational potential entrant will consider the likelihood and degree of barriers to exit when it makes its decision about whether to enter the market. This assumes that exit costs can be reasonably foreseen at entry. However, this may not always be the case for instance as a result of unforeseen structural changes in a market due to new technologies, or changes in the legal and/or regulatory requirements that occur post-entry. Rosenbaum and Lamont (1992^[14]) empirically test whether in fact barriers to entry are barriers to exit showing that while entry and exit are part of the same process, it is unclear whether entry and exit are truly causally interrelated.

17. The business strategy literature (Porter, 1976^[15]) (Harrigan, 1981^[16]) defines "exit barriers" (the wording is different to that used in the economic literature) as "*adverse structural, strategic and managerial factors that keep firms in business even when they earn low or negative returns.*"

18. This diversity of definitions illustrates the absence of one common approach to define barriers to exit. However, what these definitions have in common is that barriers to exit are obstacles that may force a firm to continue operating in a market as the economic costs of leaving might be higher than those incurred if it stays in the market. For the purposes of this paper, the term barriers to exit is taken to denote a factor that is relevant to exit analysis because it tends to delay or prevent exit.

2.2.2. Types of barriers to exit

19. There is a variety of factors that can affect the ease of exit. This part of the paper describes the different kinds of factors commonly referred to as barriers to exit in the literature. The purpose here is not to create a comprehensive checklist, but instead to provide enough examples to illustrate how different factors can affect a firm's decision to exit.

Direct exit costs:

These are costs directly attributable to the firm exit; they include:

20. ***Labour related exit costs*** such as staff redundancy costs, and estimated liabilities to employees from pensions and insurance benefits. These costs serve the policy goal to protect employees' contractual rights. However, if high enough these costs can be a major part of the costs of closing. If a firm cannot afford them, they can prevent it from exiting acting therefore as a barrier to exit.

21. ***Regulatory exit requirements*** can also impose direct costs of exit on firms. These are requirements firms must comply with in order to exit, such as site remediation costs due to environmental regulations. These requirements can make it harder for firms to leave a market quickly or can specify how exit is to take place. Typically, such requirements serve other policy goals. For example, regulators/policy makers try to address the negative externalities arising when firms make exit decisions, such as from a disorderly exit of an insurer by ensuring continuity of supply and service to the exiting firm's policyholders, or arising from environmental risks, such as toxic sites when energy firms leave. However, though such requirements aim to achieve such policy goals, some may unduly deter exit by

not being effective or proportionate. The point of interest, therefore, is the extent of such barriers in the market, and more specifically, whether they are unnecessarily high.

Indirect opportunity costs of exit:

22. These costs relate to the inability of a firm to move its capital into another activity and earn at least the same return. Below are the main types of indirect opportunity costs of exit.

23. **Sunk costs:** these are investments that are fully committed to the market once they are made. A firm cannot recover these if it exits a market before these have been recouped. In the absence of sunk costs, a firm earning less than it could elsewhere would be incentivised to liquidate its assets (exit) and start in another industry. However, it is in the nature of the sunk costs to prevent the firm from cashing in to recoup these costs. Hence, a firm with sunk costs may continue in business even when its operating profit is well below that earned in another industry (Caves and Porter, 1976^[17])

24. Sunk costs are often confused with fixed costs, but the two are not necessarily the same. Fixed costs are costs that do not vary with the level of output,⁴ but some of them may be recoverable by ceasing production and selling or redeploying the related assets. Selling or redeployment are not options with sunk cost assets.

25. Examples of sunk costs include:

- Asset specificity: a firm that has built a manufacturing plant that is highly specialised for a given product will not be able to sell those assets in another industry.
- Advertisement campaigns and promotions: such costs are not directly salvable or reusable in case of exit.
- Losses that firms experience during their start-up phase, such as losses due to promotional pricing necessary to attract consumers to try new products, or losses from operating inefficiently low initial output levels.
- Spending on research and development that does not yield results with alternative uses.

26. **Long-term contracts (LTCs)** with buyers or suppliers and any penalty costs incurred from cutting short the agreement can act as a barrier to exit. For instance, a range of industries, from the energy sector to airports, use LTCs to stabilise revenues or costs and to mitigate risks associated with market dynamics. The literature generally treats LTCs as a barrier to entry where competition authorities will assess the risks of foreclosure⁵ against their positive effects on investment⁶ (Aghion and Bolton, 1987^[18]). However, LTCs can also be a barrier to exit by locking in the firm. Take a LTC that requires the firm to pay for a contractually specified minimum quantity, even if the delivery is not taken. If, say, an electricity generator has entered into that type of LTC for its fuel, and that purchasing commitment cannot be traded to another party, then the cost of fuel is no longer avoidable, regardless of whether the firm exits or not. In other words, the costs of fuel is sunk. Accordingly, a non-transferable LTC contract of this type would increase the opportunity costs of exit and thereby raise the barrier to exit.

27. **First mover disadvantage:** some literature refers to strategic considerations such as 'first mover disadvantage' as a barrier to exit. First mover disadvantage refers to a firm's expectation that in an environment where firms cannot affect price unilaterally, the exit of

one firm –by reducing supply– can make the remaining firms more profitable. The notion of first-mover disadvantage may seem to emphasise the discouragement to exit (instead of obstructing exit) arising from the positive impact if a firm exits on its remaining rivals. However, if firms believe that another firm will exit if they do not, it could add to their expected opportunity costs of exit. Such considerations would also therefore fall within the definition of barriers to exit in Gilbert (1989^[12]) (see Section 2.2.1).

28. Government intervention can also result on barriers to exit by keeping inefficient firms in the market, discouraging entry by efficient firms or encouraging entry by inefficient firms. Reputational or lobbying reasons may also stop governments from closing underperforming industry ventures.

29. **Government interventions** can have a range of purposes. They can be used to address market failures and encourage economic growth and employment, or as a means of distributing money from one sector to another. They can also have adverse effects on exit and competition. Competition authorities in some jurisdictions such as Australia (at national level), and the World Trade Organisation and the European Union (at supranational level) have specific rules and guidance governing the provision of government aid. These aim to minimise the competition distortions that may arise while taking into account their policy goals such as to promote regional development, financial stability, and address social issues.

30. There are different types of government intervention:

- *Rescue and re-structure*: when firms run into difficulties and are threatened with closure, governments often come under pressure to grant aid to enable them to survive. Such aid is often referred to as rescue aid when the purpose is merely to keep the firm in business, and as restructuring aid when the objective is to re-organise and re-store long-term viability. Such aid raises competition concerns, as it can shift the burden of structural adjustment to changing market conditions and the attendant social and sector specific problems to other firms who are managing without the aid. During the crisis, many governments aided the financial sector in their countries on an unprecedented scale –and some non-financial sectors on a lesser scale. Section 3 analyses in more detail the competition effects that such aid had in the rescue of firms considered too-big-to-fail (TBTF).
- *Government subsidies*: the availability of a subsidy will affect a firm’s decision to leave the market. If a firm is making a loss, it will consider whether it would be financially better to stay and battle on, or to cut its losses and exit. This decision will partly depend on the extent of the losses. A subsidy would reduce the size of its losses and enable it to stay in the market for longer –which may mean that other, more efficient firms that do not get the subsidy, would be forced to exit instead (Pursell, 1990^[19]).
- *Government intervention in M&A transactions*: most of the economic literature examines the impact of State restrictions to M&A in terms of market access, international trade, and foreign direct investment (Heinemann, 2012^[20]). However, government intervention in the early bargaining process between the parties and the government can create barriers to exit for one (or both) of the parties and constrain the amount of concessions that competition authorities can obtain from the parties if competition concerns appear. Petit (2015^[21]) analyses the competitive effects of this type of government intervention using the takeover of the French company Alstom by the US conglomerate General Electric. The analysis suggests

government intervention might have locked Alstom behind exit barriers, by preventing it from leaving the energy markets it intended to exit.

31. **Bankruptcy regimes** can facilitate the exit of failing firms in an orderly fashion to realise the competitive and productivity gains from firm exit. These regimes, when effective, can affect the competitive process of entry/exit and productivity growth through a variety of channels (McGowan and Andrews, 2016^[22]). First, to the extent that bankruptcy regimes can distinguish ex-ante between non-viable and viable firms, they can strengthen the market selection by facilitating exit of the former and successful internal restructuring of the latter. Second, they can reduce the likelihood that scarce resources are trapped in inefficient firms and in turn improve the ease and speed at which such resources are reallocated to more productive uses. Third, bankruptcy regimes that do not unduly penalise entrepreneurial failure can spur firm creation and incentivise innovation. However, when these regimes do not work effectively, they may also affect the timely initiation of more productive firms. In those cases, bankruptcy regimes create barriers to the firm exit or restructure.

32. In addition to the barriers to exit above, the business strategy literature also considers **managerial barriers to exit**. This type of barrier is created, for example, by a conflict between the goals of the owners and managers (principal-agent type problems) giving rise to managerial obstacles to exit, such as prioritisation of maximising market share, loyalty to staff, behavioural biases such as procrastination of closing operations, or over-optimism about the future. These barriers are often referred to by (Harrigan, 1982^[23]), (Bower, 1986^[24]) and (Wood, 2009^[25]). Managerial barriers to exit are certainly reasons that may lead firms to choose not to exit (or delay exit) and can affect some firms in every industry. This type of barrier does not seem to stem from inherent product, production, market characteristics, or the framework within the market firms operate to affect inherently market dynamics. Nevertheless, these could be relevant for exit analysis if found to be significantly affecting a market.

3. Impact on allocative efficiency and competition

33. Barriers to exit can contribute to resources staying longer in existing firms instead of being relocated to use that is more efficient. Increased misallocation is linked with reduced firm dynamics where the least productive are able to remain in the market, hindering entry of more efficient firms (Decker et al., 2016^[26]).

34. This section sets out the main potential allocative efficiency and competition impacts that may arise from barriers to exit. The impacts are assessed by looking at the effects on market structure, competitive distortions, and type of entry.

3.1. Impact from barriers to exit on market structure

35. The economic literature in industrial organisation (IO) establishes generalised cross-industry empirical predictions regarding market structure. This literature mainly focuses on the impact from sunk costs on market structure. As in Sutton (1991^[27]), here we divide the market structure impacts from sunk costs as barriers to exit depending on whether the sunk costs are exogenous or endogenous.

36. Exogenous sunk costs are entry costs not recoverable at exit where the firm has no discretion. They are determined solely by the technology of production (e.g. plant size,

start-up working capital, etc.). Endogenous sunk costs are those that arise from the behaviour of the incumbent firm competing in the industry, such as advertisement and investment in research and development (R&D). The firm has discretion over these costs and can decide how much to sink in these costs. Whether sunk costs are exogenous or endogenous will have different impacts on market structure.

3.1.1. Exogenous sunk costs as barriers to exit can contribute to overcapacity, low profitability, and underinvestment.

37. The neoclassical prediction for a competitive industry facing a reduction in demand is that high cost plants will exit, leaving the lowest costs plants to produce in the long-term. In practice, however, exogenous sunk costs can lock firms for a time into a low-profit making activity if large losses are incurred when capital is transferred to new activities. Provided variable costs are covered,⁷ a firm will continue to operate an existing plant that has costs that must be paid whether the firm is open or closed.

38. This links with Sutton's research (Sutton, 1991^[27]), which examines what happens to market structure as market size grows (i.e. whether the market becomes more or less concentrated). He finds when the level of sunk costs is determined exogenously then as the market size grows –other things being equal– the equilibrium number of firms rises and the market does not become more concentrated. Given that the topic of this paper is on barriers to exit, we consider this result instead when the market size is decreasing (where firms are more likely to exit).⁸ In this case, Sutton's result suggests that –other things being equal– the equilibrium number of firms would not fall as quickly as market size shrinks because firms remain in the market to defer exit costs.

39. This explains why capacity falls slowly even though industry profits are sub-normal. During this period, the firm will not make any major investments; instead, it will disinvest from the capital in place. Therefore, these barriers can also explain why an industry fails to modernise some plants, even though these increasingly inefficient plants continue to operate. Thus, in a contracting industry with sunk durable specific capital, firms will delay closing plants.

40. This situation provides incentives for the industry to become more concentrated in order to retain profits. This potential increase in concentration would be scrutinised by competition agencies as it may result in price increases in the long-term. Mergers could, however, potentially play a role (assuming they do not lead to a lessening of competition) to help reduce firm's share of inefficient capital and facilitate shutdown of inefficient plants (Liebman, 2018^[28]).

41. The steel industry is a good illustration of a mature oligopoly characterised by this type of exit barrier. Other industries with similar features include investment intensive industries in manufacturing, such as car manufacturing or shipbuilding, and in network industries such as telecommunication network provision.

42. Box 1 describes the case of the steel industry (Deily, 1991^[29]), (Geroski and Jacquemin, 1985^[30]) as an example of exogenous sunk costs trapping firms in a market faced with structural reductions in demand and changes in technology. Other barriers that delayed exit identified by Deily in a presentation to the OECD Steel Committee (OECD, 2015^[31]) were: weaker enforcement of pollution regulations for financially distress firms; the renegotiation of contracts during a bankruptcy postponing a plant's closing; and the lack of assistance for relocation and retraining of specialised skilled force. These other

factors are also examples of other barriers to exit described in section 2 such as regulatory, bankruptcy and labour related exit costs.

Box 1. Barriers to Exit in the US Steel Industry

The U.S steel industry performed poorly during 25 years. Profits for the industry were low compared to the average manufacturing return during the period. Structural changes in steel demand greatly reduced the growth of the market. However, not all steel firms fared the same. The industry mainly consisted of two types of firms: integrated mills (that produce steel from iron ore and which make up the traditional steel industry) and mini-mills (that produce steel products by recycling steel scrap which were the innovative newcomers). The integrated mills part of the industry performed poorly while the mini-mills flourished.

Mini-mills produced steel on a much smaller scale than integrated plants, considerably reducing the size of the required investment at entry. Given the slow growth of the market, there was a need to cut integrated steel capacity by closing plants. In fact, the industry did close plants but the contraction took a long time, even though capital was earning subnormal profits for many years. This is because the optimal closing point will not occur until the net revenue, which is the return to continue operation of the capital in place, equals the return that could be earned on the salvage value. A consequence of allowing the market to allocate resources from an industry with high exit barriers is that capacity will contract slowly with old, excess capacity lingering on.

Source: (Deily, 1991^[29]), (Geroski and Jacquemin, 1985^[30])

3.1.2. Exogenous sunk costs as barriers to exit can lead to a wasteful “war of attrition”

43. In an economic downturn, a number of firms in an industry may seek to merge or engage in crisis cartels in the presence of overcapacity problems to ensure their long-term survival. Based on the 2011 OECD Background paper on the Roundtable on Crisis Cartel, a Crisis Cartel can be interpreted as “*situations where a government has permitted, even fostered, the formation of a cartel among firms during severe sectoral, national, or global economic downturns, or when national competition law allows for the creation of cartels during such downturns*” (p. 21).⁹ Competition authorities have rightly scrutinised these as they can restrict competition and lead to an increase in prices for consumers.

44. The paper analyses below the economic problem –wars of attrition– that may justify such mergers and crisis cartels, and where competition authorities may permit them.

45. There are economic reasons explaining why in situations of structural overcapacity market forces and competition mechanisms alone cannot always remedy the problem. The concept of ‘war of attrition’ best explains this. This refers to a situation where the object of the firm is to induce its rivals to exit and, consequently, they would wait and suffer economic losses until their rivals would effectively exit the market. In such a context, firms try to avoid closing plants and losing market share to prevent incurring the costs of exit. This situation is especially likely to occur in industries characterised by increasing returns to scale and/or high fixed or sunk costs (i.e. industries with high barriers to exit as well as entry). (Ghemawat and Nelebuff, 1985^[32]) and (Fundenbreg and Tirole, 1986^[33]) model how barriers to exit in the form of sunk costs can lead to ‘wars of attrition’.

46. The firms involved in a ‘war of attrition’ expect that sooner or later some firms will leave the market and therefore, they may not want to close their unused capacity as they would hope to be able to utilise it for future production. In such situations, firms face a prisoners’ dilemma – even though a unilateral or coordinated reduction of overcapacity would be generally beneficial, firms individually would prefer not to make the move of reducing their own capacity.¹⁰

47. The waste of resources caused by a war of attrition may significantly impair the industry’s competitiveness that would ultimately result in a welfare loss. In this type of situation, which tend to be rare, competition authorities might provide exemptions from competition rules in the following two situations.

1. **Agreements falling under the notion of “crisis cartels”.** Such agreements usually involve scenarios where a significant number of industry players get together to find a joint solution to their common difficulties by, for example, reducing capacity and/or by agreeing on a “fair” price level to protect revenue. For example, the European Commission exempted from the competition rules two schemes to reduce structural overcapacity in the synthetic fibres sector (1984) and the Dutch bricks sector (1994). The factors it took into consideration included: the measures were temporary; market forces failed to achieve the same outcome; and the arrangements would ensure security of supply. Section 4 offers a more detailed analysis on how competition authorities analyse such crisis cartels in general and the assessment carried out for those specific cases in particular.
2. **Mergers applying the “failing firm defence” (FFD) test.** Many markets are characterised by significant upfront investments, often sunk, which can only accommodate a handful of players. When demand falls, firms may fail to earn a positive return on their employed capital. The market is left with overcapacity and, as previously explained, a price war may erupt leading one or more firms to incur losses. These firms will be incentivised to argue to competition authorities that the market is unsustainable in its current form and consolidation should be allowed to restore a long-term equilibrium.

48. However, to ‘restore long-term equilibrium’ in this context effectively means a price increase. When prices are unsustainably low, it is expected that one or more firms would exit the market. The avenue for applying this argument in a merger case is the ‘failing firm defence’ test, which allows firms to consolidate in circumstances where one of them would otherwise be forced to exit. The rationale is that there can be no loss of competition if, in a counterfactual world without the merger, one of the firms would not be there to compete at all. (Section 4 offers a more detailed analysis on how competition authorities analyse such FFD cases and a review of the criteria used as part of an OECD Roundtable on FFD (OECD, 2009^[34])).

49. Competition authorities have been under pressure to become more lenient in merger control and crisis cartels during economic recessions when entire industries may be in distress. However, the right policy response to an industry-wide overcapacity issue due to the locking of firms by barriers to exit may not be a more lenient competition enforcement policy.

50. Distinguishing between structural (long-term) and cyclical (shorter-term) changes in demand can be very difficult. This distinction is extremely important here since a change in market structure may have a negative long-term effect on consumer welfare (Shapiro, 2009^[35]).

51. Other policy tools could potentially be more effective, for instance, temporary industrial policies designed to smooth the closure of inefficient plants and retrain specialised labour to facilitate reallocation.

52. Box 2 summarises a study on the airline industry to illustrate how barriers to exit can lead to overcapacity, wars of attrition, and prevent capacity from being reduced to adjust to changing conditions (Wojahn, 2012^[36]).

Box 2. The Airline Industry

The airline industry is characterised by barriers to exit in the form of sunk costs, labour related exit costs and long-term contracts preventing capacity adjustment during a downturn.

In terms of sunk costs, while aircrafts are sometimes understood as highly mobile assets, this mobility is not perfect as part of the investment is specific to the airline. Moreover, unprofitable airlines will want to cut capacity when economic conditions deteriorate. However, this will have an impact on all airlines, depressing residual values and making part of the investment irreversible. Even if aircrafts could be mothballed without costs or sold at book value, there are costs associated with severance payments to workers, costs of long term contract violations for example for leases of gates, hangars and office space, and the costs of abandoning valuable slots.

Even in the case of bankruptcy because of a war of attrition (common in airline industries during periods of reduced demand), capacity is not necessarily forced out of the market or the distressed airline. For example, in the US Bankruptcy Code under Chapter 11 reorganization plan, bankrupt carriers may continue to operate as a going concern.

Barriers to exit are further raised in the airline industry due to uncertainty regarding future prices and demand conditions. In this case, the airline might continue to operate while incurring losses in excess of sunk costs. The intuition is that once the firm has invested in an aircraft, there is an option value of keeping it in operation even if prices fall below variable costs. This is because mothballing the aircraft and resuming service later is costly, and there is a chance prices will recover.

Some of the policy options considered in this study include increasing capacity flexibility by for example, increasing the share of short-term lease agreements for aircraft or gates, a higher share of temporary employment in non-critical functions and the ability to trade slots as ways to facilitate capacity adjustment in a downturn.

Source: (Wojahn, 2012^[36]),

3.1.3. Endogenous sunk costs as barriers to exit can create barriers to entry leading to higher concentration

53. In an industry with endogenous sunk costs, the firm's strategic decision to sink certain costs (e.g. advertisement) is important in determining its competitive position as an entry deterrent by increasing entry costs for potential entrants given the losses the firm would had to face if it had to exit because of a more competitive entrant. In these industries, if endogenous sunk costs are large enough concentration rises as market size grows. This is because once market size reaches some critical value, the incumbent firms begin to intensify competition in quality by escalating expenditures in advertisement, research and

development (R&D), and activities to raise consumer's willingness to pay and attract consumers away from rivals. This contrasts with the case of exogenous sunk costs. If incumbents cannot exit without considerable losses, then this threat of aggressive post entry behaviour is more credible, which deters entry and earns them higher profits. Thus, endogenous sunk costs lead to high concentration, which depending on the intensity of competition in the sector, may lead to higher prices¹¹ (Sutton, 1991^[27]).

54. High concentration, particularly in large markets, attracts the attention of competition agencies: is the higher concentration resulting from quality competition good or bad for consumer welfare? The reduced welfare of consumers from higher prices due to higher concentration (under some assumptions of competitive interaction –cournot assumption) may be offset by consumers' willingness to pay for better quality products and services (i.e. the rate of increase in quality outweigh the higher market price (Ford and Stern, 2011^[37])).

55. However, the reduced welfare effect can also be bad if it encourages incumbents to increase their endogenous exit sunk costs by investing in an effort to deter just entry (as opposed to deter lower quality entry). Such investments can result in an increase in price not reflective of a real increase in quality but perceived increase in quality. This may be more prevalent in markets where consumers cannot easily test the characteristics of the product before purchase such as in the case of experience¹² and credence¹³ goods.

56. A range of industries with investment decisions that involve endogenous sunk costs investments have been analysed using Sutton's endogenous sunk costs model. For example, the packaged goods industry (Bronnenberg, Dhar and Dube, 2006^[38]), banking (Dick, 2007^[39]), restaurants and newspapers (Berry and Waldfogel, 2003^[40]), and supermarkets (Ellickson, 2008^[41]). Software is another industry for which firms must decide how much money to invest in R&D to improve their product and add new features. Box 3 summarises the case of supermarkets to illustrate the impact of endogenous sunk costs on market structure.

Box 3. Supermarkets and Concentration – An Example

Ellickson analyses the impact of endogenous sunk costs on the supermarket industry's market structure. Instead of focusing on endogenous sunk cost associated with advertising and R&D, the analysis looks at the role of endogenous sunk costs at the store level of building a large store and at the firm level of having the expertise and distribution systems to provide a wide variety of brands. The analysis considers these costs important to differentiate between high and low quality stores.

The study examines the concentration ratio for supermarkets across 320 different metropolitan statistical areas (MSAs) in the US. Regardless of the size of the MSA, four or five firms that typically own multiple stores account for 70 to 80 percent of sales within each MSA. Moreover, the analysis finds concentration at the metropolitan level remained high both over time and as the market grew. Ellickson empirically tests a model of supermarket competition in which the escalating pressure to provide a wider variety of products limit the number of firms that can profitably enter a market. Instead of encouraging entry, increases in market size yield a concentrated industry with better products, perhaps explaining the high premiums people pay.

Source: (Ellickson, 2008^[41])

3.2. Impact from government and regulatory barriers to exit on competition

3.2.1. Government rescue and re-structure: the case of too-big-to-fail as a barrier to exit

57. The failure of a large banking organisation poses significant risks to other institutions from contagion, to the financial system as a whole from panic induced bank runs, and potentially to the economic and social order. Because of such fears, governments and authorities tend to intervene in the normal process of market exit during financial crises and to bailout banks to protect uninsured creditors of banks from losses they would otherwise face. Banks that would be saved by governments in this way have been described as ‘too-big-to-fail’ (TBTF) (Stern and Feldman, 2004^[42]).

58. Preventing firms from exiting because they are too big to let fail distorts how markets price securities issued by TBTF firms, which encourages them to borrow too much and take too much credit. TBTF also encourages financial firms to grow, leading to an uneven playing field and potential misallocation of credit. In the wake of the last Financial Crisis (2007-2008), for example, it appears that increased concentration in the financial industry had worsened the TBTF problem (Strahan, 2013^[43]), (OECD, 2019^[44]).

59. Preventing the market exit of TBTF firms can be viewed as the imposition of an extremely high barrier to exit. Competition may weaken as a result if the inefficient incumbents are not allowed to exit the market, thus reducing incentives and the ability of more efficient firms to engage in rivalry.

60. Government help during the last financial crisis included direct interventions, including to the capital levels of some banks, outright nationalisation, injections of liquidity to encourage banks to continue lending to industry, state guarantees of banks deposits and lending, and brokering by governments of mergers between financial institutions¹⁴.

61. In particular, government aid to prevent the exit of TBTF banks can distort competition in several ways (OECD, 2010^[45]):

- Aid may advantage the bank over an unaided bank in a given market, frustrating the expansion of the unaided banks, with possible negative impacts on price, quality, variety, and innovation.
- Distortions may also occur between two or more aided banks within a given market. If some received a significantly larger amount of aid or received the aid under conditions that were more advantageous than their aided competitors.
- Aid may also delay structural adjustments and the presence of inefficient banks may be detrimental to consumers in the longer term.
- Aid to banks raises significant moral hazard issues. Before the crisis, the lack of market discipline combined with bank supervision and regulation issues allowed certain banks to gain market shares relative to their rivals by taking excessive risks. The fact that such banks then received aid to absorb the resulting losses created two competition issues. First, the aid allowed non-viable banks to stay on the market when in normal circumstances market forces would have sanctioned their excessive risk taking practices and forced them to exit. Second, such aid distorts incentives to compete (encouraging more aggressive competition) if the aided banks only reap the benefits of their risk-taking but do not have to carry the burden of the losses. In fact, aid may have reinforced the market power of the aided firm that may have

resulted from excessive risk-taking decisions prior to the crisis. The ensuing moral hazard was an important feature of the last financial crisis, because some banks, which relied on cheap but unstable short-term wholesale funding, may have been able to increase or maintain market share compared to banks funding themselves on the basis of more stable (and expensive) retail deposits.

62. Because of potential impacts of competition, government aid was often accompanied by competitive restrictions on the aided firms to minimise distortions. In most OECD countries, even where the competition agencies had no specific powers to design the emergency measures, their advocacy and experience were drawn upon, or offered by them, to help plan and implement those measures in ways that would be less harmful to competition (OECD, 2017^[46]).

63. Box 4 summarises an example of a merger between the UK Lloyds Banking Group (LBG) and Halifax Bank of Scotland (HBOS). The merger took place amid fears that HBOS would nevertheless collapse without some form of external support. Indeed the UK government had to provide support post-merger, raising EU concerns regarding the impacts of such aid on competition. The European Commission addressed such impacts by requiring a divestiture.

Box 4. The Lloyds TSB (Trustee Savings Bank) divestiture

The Trustee Savings Bank (TSB) business comprises assets divested from the Lloyds Banking Group (LBG) as part of a restructuring plan approved by the European Commission. This followed the UK government aid in January 2009 upon the merger between Lloyds TSB and HBOS.

Lloyds TSB and HBOS, already large banking institutions, merged amid serious concerns that HBOS would collapse without some form of external support. In fact, this merger proved insufficient and the enlarged banking group required an injection of GBP 20.6 billion of taxpayer's funds. This intervention gave rise to EU concerns as regards to state aid and its impact on competition.

The European Commission noted that the combined entity had a large market share of personal current accounts (PCAs) of 20% to 30% and that in Scotland it was even larger (40% to 50%). It showed that Lloyds TSB's share of the PCA and the mortgage markets had been strongly reinforced by the acquisition of HBOS, which had a share of 10% to 20% and 20% to 30% in these markets respectively. In addition, the Commission noted that not only had the acquisition allowed LBG to increase its market share, particularly in PCAs, but it had also allowed it to eliminate a 'challenger' in particular on certain segments of the market which were already concentrated and featured low switching rates among customers. Consequently, measures were necessary to remedy this distortion of competition created by the aid.

LBG was required to create and divest a ring-fenced business entity. After discussion with LBG and the UK Authorities, on 9 June 2014, the Initial Public Offering (IPO) completed with the listing of an initial 38.5% of TSB shares. TSB became an independently managed, stand-alone 'challenger bank', with 4.5 million customers, 8,600 staff, 631 branches, GBP 23 billion of customer lending and deposits of GBP 23.3 billion. A further tranche of 11.5% was sold in September 2014 such that LBG ownership of TSB was reduced to 50.001%.

Source: EU State Aid No. N428/2009 – United Kingdom Restructuring of Lloyds Banking Group.

64. It is challenging to assess how Government aid granted during the financial and economic crisis distorted competition in the ways described above: between aided and unaided banks; across aided banks; and through raising moral hazard. Measuring the intensity of competition in banking markets is in itself complex, mainly because the banking sector is characterised by numerous product markets with different regulatory requirements (e.g. current accounts, loans, mortgages, and cash-savings). In addition, even when a change in the level of competition can be identified, it is generally difficult to connect it to a specific distortion of competition linked to the government aid rather than to another market development.

65. However, some studies have investigated the effects of Government aid on competition in banking. For instance, Berger and Roman (2015^[47]) investigate whether the Troubled Assets Relief Program (TARP), one of the largest government interventions in the United States during the last financial crisis, gave recipients competitive advantages. They find that TARP recipients did gain competitive advantages and increased both their market shares and market power. They find that these results may be primarily driven by TARP banks being perceived as safer; but that this advantage is partly off-set by TARP funds being relatively expensive. TARP banks that repaid early are the ones that benefited most from these competitive advantages, suggesting that repaying early the costs of TARP funds helped these banks benefit, overall, from the competitive advantage of being considered safe.

66. Following the financial crisis, important changes in financial regulation as well as in the financial architecture across many jurisdictions were introduced. A recent OECD roundtable (OECD, 2017^[46]) discussed the role of competition policy and competition authorities in the banking industry post the financial crisis. Such roundtable discussed how the widely discussed trade-off between financial stability and competition has now become more nuanced, e.g. by showing that regulation which realigns risk-taking can create an environment within which competition can flourish. Moreover, effective competition can decrease risk-taking by borrowers, thus aligning the objectives of regulation and competition.

67. In light of the complex relationship between competition and financial regulation in banking, and given the level of regulatory complexity after the financial crisis, the roundtable recommended the establishment of optimum and transparent models of co-operation between competition and financial regulators to alleviate tensions between regulations (that are financial stability focused) and competition policy.

68. In this respect, competition authorities can play a key role in assessing competition in banking markets including the impact of regulation through market studies and investigations, and followed by the implementation of remedies where competition concerns are identified. Engagement between competition authorities and financial regulators can so facilitate the introduction of effective targeted measures at removing inefficiencies, including barriers to exit.

69. For example the then UK Office of Fair Trading (OFT, 2010^[48]) carried out a study on barriers to entry, expansion, and exit in retail banking. This study explicitly identified the absence or inappropriateness of regulation around the process of dealing with failing firms and their deposits as a barrier to exit. It stated that this might make it harder for inefficient incumbents to exit the market.

70. In 2014, the OFT referred retail banking (i.e. the market for personal and SME current accounts) for an investigation to the Competition and Market Authority (CMA)

which was carried out in 2015-2017 (CMA, 2016_[49]). Subsequently, remedies were imposed that sought to increase competition in such market. In addition, the UK Financial Conduct Authority (FCA, 2019_[50]) carried out a study on whether UK major retail banks had competitive advantages over smaller banks and building societies. Although the purpose of this study was not to assess the competition impact of the Government aid during the crisis, it found that major retail banks did have competitive advantages over other banks. This was interpreted to explain why market shares have remained high and stable over a sustained period, which meant that major banks could generate higher underlying profits than other banks and building societies. Underlying profits, measured on a return on equity (ROE) basis, for major banks' UK retail banking activities were found to be 28% compared to 6% and 11% for small retail banks and building societies respectively in 2017.

3.2.2. Government subsidies – the case of industrial policies to protect declining industries as a barrier to exit

71. Government subsidies can create barriers to exit by protecting ailing firms or declining industries in order to protect the jobs and demand created by the firm or industry, for example.

72. Subsidies give rise to competitive distortions. These arise because the subsidised firm changes its behaviour. Because subsidies alter costs and revenues, they change the level of profits the firm makes from various activities. In response, the firm may adjust its level of output, change price, or alter its levels of R&D, thus altering the process and outcome of rivalry between competitors. At the extreme, an efficient competitor might leave (or not enter) that market if it is unable to compete with a less efficient firm that is receiving the subsidy. Therefore, subsidies can create barriers to exit for less efficient firms creating competitive distortions, which can result in three effects:

- *allocative inefficiency* by drawing resources into less valuable uses and the ability of subsidised inefficient firms to gain market share;
- *productive inefficiency* by resulting in less efficient production of goods. This could occur for a number of reasons including from a reduction in downward pressure on costs, and by discouraging entry of more efficient firms; and
- *dynamic inefficiency* by disrupting the process of creative destruction arising from innovative/efficient entry.

73. Arguably, consumers can benefit from subsidies, as the short-term effect may be to reduce prices. However, in the long-term, if the subsidy distorts competition the inefficiencies created can make consumers worse off.

74. A further problem may occur if firms devote time and effort competing for bigger subsidies from governments instead of devoting effort on competing on the merits of their product to the benefit of consumers. This “rent seeking” behaviour is wasteful as it produces nothing of value to the economy and may lead to the relocation of production to less efficient firms.

75. Time-limited support to declining industries that are concentrated in specific local areas may be beneficial if it helps to smooth a decline by allowing the re-training of workers that might be needed to avoid a collapse in local demand. However, it does not offer a long-term solution to the decline and should therefore have a clear end-date from the start (OECD, 2018_[51]).

76. Extended support of declining industries also disrupts the process of creative disruption that drives productivity. For example, Foster et.al (2000_[52]) find for the US that one-third to one-half of total productivity growth is caused by the reallocation of production from less efficient firms to more efficient firms. This suggests that although some incumbent firms might be efficient, governments should not prevent less efficient ones from being displaced by new competitors.

77. It appears that since the financial crisis there is a renewed interest in active industrial policies (Stiglitz, Yifu and Monga, 2013_[53]). If such policies go beyond addressing market failures effectively and proportionally these could have adverse effects on competition.

78. Competition authorities can play a key role through their advocacy work to encourage governments to consider other more competitive options to achieve the same goals; to be transparent about the trade-offs made when a less competitive option is chosen; and to ensure that such policies do not facilitate anti-competitive behaviours.

3.2.3. Impact from regulatory barriers to exit on competition

79. Regulatory exit requirements can impose direct costs on firms raising barriers to exit. These are requirements firms must comply with in order to exit. These requirements can make it harder for firms to leave a market quickly. As discussed in Section 2, although such requirements aim to achieve other policy goals, some may unduly deter exit by not being effective or proportionate. This can weaken competition, reduced productive efficiency, and lead to higher prices. The point of interest, therefore, is whether they are unnecessarily high. To illustrate this, Box 5 presents examples of regulatory barriers to exit identified in OECD Competition Assessment projects and their expected competition impacts.

Box 5. Examples of regulatory barriers to exit from OECD Competition Assessment Projects

Over the past 6 years, the OECD Competition Division has conducted Competition Assessment Projects in four countries: Greece (2013, 2017), Romania (2016), Mexico (2018) and Portugal (2018). These projects follow the Competition Assessment Toolkit, which helps governments to eliminate barriers to competition by providing a method for identifying unnecessary restraints on market activities and for developing alternative, less restrictive measures that still achieve government policy objectives. Some of the barriers to competition found in the legislation were identified as barriers to exit.

Greece (2013)

1. Within the capital region, industries are required to have been in operation for at least three years prior to a physical unification of separate industrial production units. In addition, the separation of an industrial production unit is only allowed if the resulting units are distinctive and operate in completely separate locations.

This provision restricts the ability of companies to organise and operate. It also creates a barrier to exit as companies cannot leave market for the first three years. This can lead to inefficient operations and potentially higher prices.

2. Centres of athletic and coaching tourism are obliged to operate all year round.

This provision limits the ability of exit as it prevents companies from operating only in specific periods of the year. This limits the range of potential suppliers and can lead to higher prices charged to consumers since companies cannot freely exit the market.

3. Additional fees are set on the transfer and sale of hotels, and generally in case of change of the person legally liable for the hotel.

This provision contains multiple fees for the same activity with different applicable criteria each time. It may cause a significant burden to businesses and potentially barriers to entry/exit.

Greece (2017)

4. Tenants with a lease agreement for the premises leased to wholesalers can only transfer their rights to a company if the shareholders of the company agree to hold their participation for at least one year after the transfer has taken place, without falling below a minimum of 30% of the total capital.

This provision works as an exit barrier since tenants may have difficulties in finding buyers willing to commit to hold their position for at least one year. As a result, this can lead to lower efficiency and higher prices for consumers.

Portugal (2018)

5. To transfer a licence to operate a truck rental (without a driver) company, the buyer must agree to acquire the entire company, including labour contracts, lease contracts, and the minimum number of required vehicles to operate.

All of these requirements significantly raise the cost of exit since companies are required to find a buyer willing to acquire the entire company, including labour contracts, lease contracts, and the minimum required vehicles to operate. Indeed, there might be a buyer willing to buy just the licence, and another one just willing to buy the vehicles or the contracts. This can also prevent companies from entering into the market by anticipating the costs of exit. Hence, this decreases the number of operators and the level of competition within the market and, as such, these may not be adequate, necessary or proportional.

6. Ship owners who carry out regular transport of general or containerised cargo between the mainland and the Autonomous Regions must ensure continuity of service for at least two years.

The provision increases exit costs as firms can only leave the market after the initial two-year period. This also reduces the incentives of ship operators to enter the market and, at the same time, restricts the entry of some types of ship operators that could provide transport services only in specific periods of the year (depending on weather conditions, ship availability or cargo transport demand). In addition, the provision prevents the number of suppliers from adjusting to demand, potentially leading to inefficient outcomes such as a lack (or excess) of transport operators. This is likely to reduce competition in the market and increase prices for the final consumers.

Source: at <https://www.oecd.org/competition/assessment-toolkit.htm>

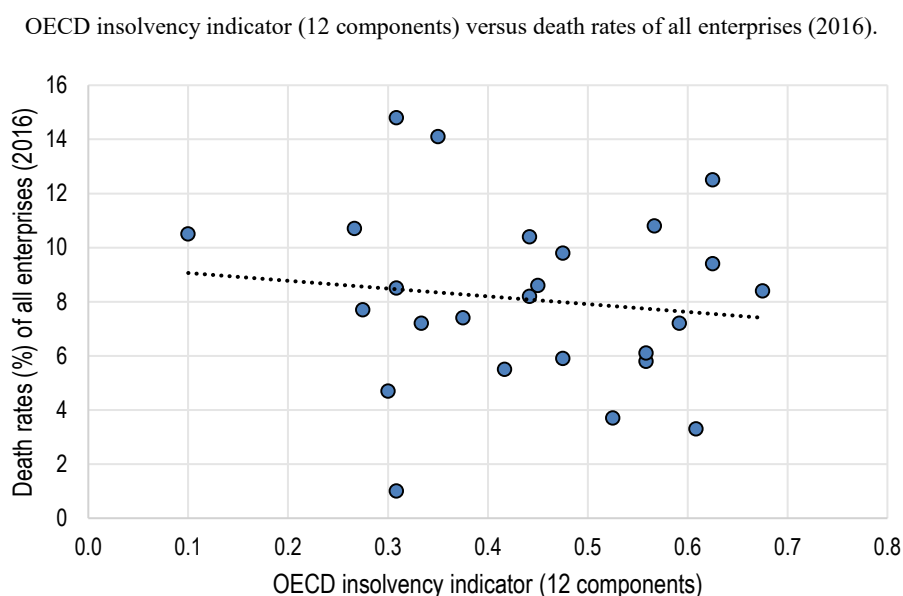
3.3. Impact from barriers to exit on type of entry

80. Barriers to exit can deter innovative entry and the adoption of more innovative strategies by new entrants. These innovative entries typically entail exploring novel combinations that have higher failure rates than follower strategies that trace established products and processes. High exit costs lead to more entrants choosing stable (and thus less productive) follower strategies. They also lead to higher delay of exit, so that resources remain trapped longer in existing firms (Bartelsman, Perotti and Scarpetta, 2008^[54])

81. Bankruptcy regimes, as described in Section 2, can facilitate the exit of failing firms in an orderly fashion. However, when these regimes do not work effectively, they may also affect the timely initiation of proceeding to restrict or divest the firm preventing the timely relocation of resources to more productive and innovative firms.

82. Figure 2 shows, using the OECD bankruptcy indicator, how more stringent bankruptcy regimes can contribute to a lower exit rate (also referred to as death rate). This relationship, although it appears relatively weak in Figure 2, is supported by several rigorous microdata econometric studies conducted by the OECD Economics Department (Fontaura and Osterhold, 2018^[55]) and highlights how ineffective bankruptcy regimes can become barriers for firms to exit.

Figure 2. Stringent bankruptcy regimes delay firm's exit



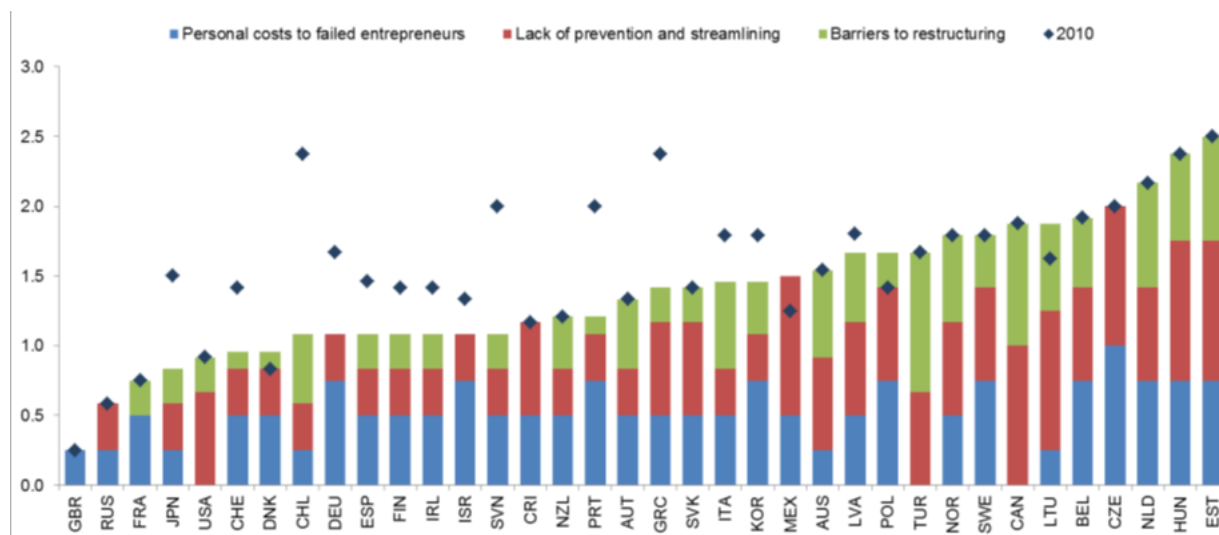
Note: Higher values indicate stringent insolvency regimes. Insol12 (Composite indicator based on 12 components of the Insolvency indicator) was chosen over Insol13 (Composite indicator based on 12 components of the Insolvency indicator) to include more countries in the analysis. Values for 2016 or latest available.

Source: OECD statistics, dataset SDBS Business Demography Indicators (ISIC Rev. 4); OECD Insolvency Indicators, available at <https://www.oecd.org/eco/growth/policies-for-productivity-the-design-of-insolvency-regimes-across-countries-2018-going-for-growth.htm>

83. In addition, analysis of bankruptcy regimes across OECD countries (OECD, 2018^[56]) shows significant cross-country variation in regimes (Figure 3), and that these

differences are associated with variation in less efficient firms not leaving the market (OECD, 2017^[57]).

Figure 3. OECD indicator of bankruptcy regimes across countries



Note: The stacked bars correspond to three subcomponents of the insolvency indicator in 2016. The diamond corresponds to the value of the aggregate insolvency indicator based on these three subcomponents in 2010. Only countries for which data are available for the three sub-components in 2016 are included
Source: OECD ECO/WKP(2018)52, Design of Insolvency Regimes Across Countries, available at: [https://one.oecd.org/document/ECO/WKP\(2018\)52/en/pdf](https://one.oecd.org/document/ECO/WKP(2018)52/en/pdf)

84. The financial sector can also play a role in deterring innovative entry that is more productive. Some have argued that recessions can have a “cleansing” effect on economies whereby the inefficient methods of production being forced out of the market is accelerated, freeing resources to be used more productively (Caballero and Hammour, 1994^[58]). However, there is also literature increasingly showing how frictions in the banking sector such as information asymmetries can deter the exit of less productive firms and can harm the most vulnerable firms –i.e. those with higher refinancing risk, higher debt overhang and/or lower collateral– that are not necessarily the least productive (Duval, Hong and Timmer, 2017^[59]). Frictions in the banking sector may dampen this cleansing effect through two channels.

85. The first channel is when credit market frictions reverse the “cleansing” effect of recessions by leading to the misallocation of credit where highly productive firms are forced to exit because they are unable to access finance (Barlevy, 2003^[60]).

86. A second channel through which a crisis can dampen the exit process of recessions is through increased forbearance of banks. Weak banks may be unwilling to realise losses on loans to low productivity firms and may have incentives to continue funding these firms (Caballero, Hoshi and Kashyap, 2008^[61]).

87. These incentives arise because banks need to comply with the international standards governing their minimum level of capital.¹⁵ Banks calling non-performing loans would mean that the bank has to write-off the debt, thus pushing the bank closer to breach its minimum regulatory capital requirement. Caballero et.al (2008^[61]) finds in the case of Japan, that fears of falling below regulatory capital standards led many banks to continue

to extend credit to insolvent borrowers, gambling that somehow firms would recover or that the government would bail them out.

88. The description of the Japanese experience is similar to the diagnosis used to describe the early phases of the transition of economies to become market oriented. In these economies the depressing effects on the private sector of the continued operation of state-owned enterprises (SOEs) (typically funded by state banks) is often noted; discussion of the situation in China in the 2000s would be a later example of this (Caballero, Hoshi and Kashyap, 2008_[61]). These experiences would also be examples of how government barriers to exit (described in section 3.2) distort the level playing field between SOEs and private enterprises operating in the same market.

89. In addition, bankruptcy regimes and frictions in financial markets play an important role in zombie firms congesting markets. In economic terms, a zombie is a firm that is not viable and therefore when competitive forces are at play, should be compelled to exit the market or, to restructure where feasible.

90. Recent work by the OECD studies the presence of zombie firms for a sample of OECD countries over the period 2003-2013 and the role of these barriers to exit (McGowan et al., 2017_[62]). The study shows that the share of zombie firms has increased in several OECD countries, which coupled with the fact that zombies are, on average, larger than non-zombies are, means high shares of capital sunk in none-viable firms. The capital sunk in zombies reduces employment growth and investment for the average non-zombie in relation to zombies, and more so for the more productive firms, harming the process of resource allocation (McGowan et al., 2017_[62]). The reduced investment by non-zombie firms stifles innovation and technology advances (McGowan et al., 2017_[62]). Zombie firms distort competition in product and input markets by congesting markets, depressing prices, increasing wages above productivity and reducing the market share available for viable firms to grow (Caballero, Hoshi and Kashyap, 2008_[61]), (McGowan et al., 2017_[62]), (Schivardi, Sette and Tabellini, 2017_[63]).

4. How competition agencies assess barriers to exit

91. This section reviews, based on a sample of jurisdictions, how competition agencies identify and assess the competitive effects of barriers to exit in their enforcement and advocacy work to identify differences (or commonalities) or approaches, and areas that may benefit from further research.

4.1. Competition Enforcement

4.1.1. Competition authorities guidelines on mergers

92. Guidelines issued by competition authorities describe and explain the circumstances in which the authority is likely to take action and the criteria that will use to assess the merger. These guidelines increase the predictability, accuracy and effectiveness of the enforcement programme. In this regard, we reviewed the guidelines of eight different jurisdictions (Australia, Canada, France, Germany, Japan, Korea, the United States, the United Kingdom and the European Union) and all guidelines include a discussion of exit analysis.

93. However, the expression “barriers to exit” or “exit barriers” is seldom mentioned in these guidelines. Instead, all guidelines consider *exit* or the *exiting phenomenon* when

studying the dynamics of the relevant market or analysing barriers to entry.¹⁶ For example, the United States Horizontal Merger Guidelines (2010) highlights that exit and exit rates are an important source of information to consider when analysing the relevant market, as exit costs cannot be recovered outside the relevant market¹⁷. On the other hand, the Australian Merger Guidelines (2017) establishes a clear relationship between barriers to entry and exit: “*some barriers to entry may technically be barriers to exit. Nevertheless, the effect is the same if such barriers to exit increase the risk to prospective entrants and ultimately discourage entry*” (p. 36).¹⁸

94. The German Guidance on Substantive Merger Control (2012, pp. 26-27) is the only one of the eight jurisdictions providing somehow a definition of barriers to exit:¹⁹

[exit] costs can arise e.g. from government regulations imposing additional obligations when closing down facilities or business activities. Equally, long-term contracts can also delay an exit from the market. (...) A barrier to exit can be, for example, environmental impact assessments that may be required in case of a shutdown of storage sites. Another example can be building approvals for sales locations that are sometimes tied to a specific range of products. As a consequence the designated use cannot be changed.

95. Based on this sample of guidelines, we have identified four main areas where competition authorities mention barriers to exit as playing a rather important role due to their potential impact on competition. These areas are:

- the role of barriers to exit when defining and analysing the relevant market;
- the role of barriers to exit when assessing market access; and
- the role of barriers to exit when assessing the Failing-firm defence test in mergers

96. Note that competition authorities usually consider “exit” when analysing cases of abuse of dominance (e.g., foreclosure, tying and bundling, refusal to supply, predatory pricing, exclusionary price discrimination, loyalty rebates, etc.). For example, when analysing foreclosure, competition authorities take into account whether this can lead to exit of competitors from the market. Exit is also considered when analysing tying and bundling, “*since the dominant firm may through tying force the exit from the tied market of a product which is or may become itself a threat to the dominant product in the tying market*” (European Commission, 2005, p. 55_[64]). Although these cases refer to situations where the behaviour of firms can lead to exit of competitors from the market, none of them creates barriers to exit. Hence, the focus of this section is on how barriers to exit are considered in the competition analysis performed by competition authorities (instead of exit per se).

The role of barriers to exit when defining and analysing the relevant market

97. Barriers to exit are a key factor when analysing how contestable a relevant market is, as they help competition authorities identifying how fast a firm can move from one market to another. As pointed out by the Canadian Merger Enforcement Guidelines (2011, p. 17), a firm is considered to be “*a participant in a relevant market when it does not require significant sunk investments to enter or exit the market and would be able to rapidly and profitably divert existing sales or capacity to begin supplying the market in response to a SSNIP [small but significant and non-transitory increase in price]*”.²⁰ Additionally, exit rates provide information on market structure, concentration and, ultimately, market efficiency.

98. Barriers to exit are also considered when analysing the potential and the intensity of competition faced by incumbents within a relevant market, as exit barriers can particularly deter uncommitted entrants. Additionally, high barriers to exit can influence the structure of the relevant market itself. When firms cannot leave the market easily, inefficient firms, or under-sized companies (i.e. firms that cannot achieve their efficient size due to the high number of small inefficient companies in the market), ended up staying in the market with high average costs, as they do not face the necessary competitive pressure to innovate and be more efficient. These factors lead to higher prices and are usually correlated with the creation of restrictive agreements among companies, such as marking sharing or price fixing (Iannoni, 2018^[65]). On the other hand, due to changes in market conditions, barriers to exit can also lead to overcapacity overall, as firms cannot easily move part of their capacity to another more profitable market.

The role of barriers to exit when assessing market access

99. Most guidelines link exit barriers to entry barriers, as exit costs can deter entry if firms can anticipate them before entering. As stated above, the Australian Merger Guidelines (2017) states that barriers to exit can work as barriers to entry and discourage potential entrants from starting operating in the market. The United States Horizontal Merger Guidelines (2010) also notes that exit costs can slow the entry into a market, as the entrant will not be able to recover these costs if later exit the market.

100. Barriers to entry themselves are an important factor in competition as they can delay or even prevent a new competitor from joining the market. They need to be considered “*when assessing dominance, when determining whether unilateral conduct might deter new firms from participating in a market, and when analysing the likely competitive effects of mergers*” (OECD, 2007, p. 2^[66]).

101. Competition authorities often treat barriers to exit as barriers to entry when analysing a merger case, as it helps them understand how the competitive environment will change if the merger is clear. As an example, in the merger decision by the Bundeskartellamt (BKartA, decision of 5.12.2007, B9-125/07 – Globus/Hela), licencing requirements and operational permits needed to change the main activity purpose of a building were considered important barriers to exit from the market and, consequentially, important barriers to entry. To guarantee the clearance of the merger, the merging companies agreed to partially exit in some markets to reduce their market share and to allow for new competitors in the market.

Box 6. BKartA, decision of 5.12.2007, B9-125/07 – Globus/Hela

In 2007, the Bundeskartellamt cleared the acquisition by Globus to take over the building supplies and do-it-yourself (DIY) business of its competitor Distributa group subject to the obligation that the former would sell four DIY stores to another independent store operator.

The acquisition concerned the takeover of 31 large building suppliers and DIY markets with a turnover higher than 350 million EUR. While this merger case did not raise specific concerns under merger control law, the merger would produce overlaps between Globus and Distributa DIY markets in four regional markets, which could create a dominant position in those regions.

In this regard, the analysis of exit barriers was important to understand how easy it was to leave the market and, consequentially, how these barriers could affect the incentive to enter

in the first place. The main barrier to exit identified was the building approvals needed to change the activity of a building, as these approvals are often linked to a specific range of products. Therefore, they cannot be changed. As mentioned in the merger decision, para. 76 (own translation from German):

Finally, from an economic point of view, there are also exit barriers, which in turn have an inhibiting effect on market access. For the resettlement of a new construction, markets always pose a risk for the investor regarding the future, i.e., uncertain demand and sales development. A market exit is not economically feasible in the short term if the reuse of the property and the real estate cannot be guaranteed. This situation is not uncommon in the case of DIY stores, as the operating permit is associated to certain specifications for the range to be managed. However, if DIY assortments cannot be sold at a location (for a longer period of time) at a profit, then reuse is usually only possible with other assortments. However, a rededication of the use of a hardware store location, for example in a hypermarket with a range relevant to the centre, is often not permitted by the competent licensing authorities, especially in the case of large, non-integrated urban locations.

To guarantee the clearance of the merger, the companies agreed to sell one store in each of the regional markets concerned, with the aim to reduce market share of the merged companies and, at the same time, to allow for new competitors in the market.

Source: BKartA, decision of 5.12.2007, B9-125/07 – Globus/Hela, available at https://www.bundeskartellamt.de/SharedDocs/Entscheidung/EN/Fallberichte/Fusionskontrolle/2007/B9-125-07_B9-165-08.pdf?__blob=publicationFile&v=2

The role of barriers to exit when assessing the Failure-firm defence

102. Exiting and the impact of exit barriers are often referred to when analysing a failing-firm defence (FFD) within a merger case analysis. The failing-firm defence is invoked when one of the merging firms is said to be failing financially and, therefore, it is likely to exit the market in the foreseeable future absent the merger. This implies that competition is not worse off as a result of the merger. As described the United States Horizontal Merger Guidelines (2010), “*if the relevant assets would otherwise exit the market, customers are not worse off after the merger than they would have been had the merger been enjoined*” (p. 32). This defence mechanism is more often invoked during periods of economic crisis as adverse economic conditions (e.g., a rapid decline of demand) can put additional financial pressure on firms. As previously mentioned, when firms are facing significant barriers to exit such as substantial sunk costs, firms will be incentivised to argue to competition authorities that the market is unsustainable in its current form and consolidation should be allowed to restore long-term equilibrium (see section 3.1.2)

103. The FFD criteria were developed in the decisional practice of competition authorities. The first US case where a merger was accepted on the basis of the FFD is International Shoe in 1930:

In its judgment, the Supreme Court established two requirements, which the parties had to show in order for the defence to be accepted: (1) the failing company should be facing severe financial difficulties, and (2) there should be no alternative purchaser for the failing firm’s assets. These requirements remained unchanged

for almost four decades until the Supreme Court further developed the doctrine in *Citizen Publishing*.²⁴⁴ This judgment added a third criterion, which a merger should satisfy in order to be accepted on the basis of the defence: (3) the chances of restructuring the failing company through bankruptcy should be assessed unlikely (Ranta, 2016, p. 43_[67]).

104. In Europe, the first time the European Commission accepted a FFD was in the Kali & Salz-merger case in mid-90s. Box 7 summarises the OECD background note for the 2009 Roundtable on the Failing Firm Defence on the three cumulative conditions that are usually required by competition authorities before accepting a failing firm defence (OECD, 2009, p. 11_[34]). Two of them include the analysis of exiting.²¹

Box 7. Conditions before accepting a Failing-Firm Defence

Although there are small differences between the approaches adopted by different competition authorities when applying the FFD, they all require three cumulative conditions before accepting a failing firm defence:

- Absent the merger, the failing firm will exit the market in the near future as a result of its financial difficulties;
- There is no feasible alternative transaction or reorganisation that is less anti-competitive than the proposed merger; and
- Absent the merger, the assets of the failing firm would inevitably exit the market

Source: (OECD, 2009, p. 11_[34])

105. It has also been raised whether the difficulty in successfully applying the failing-firm defence creates a barrier to exit in itself, as there are only a few recent cases of this mechanism being used successfully (OXERA, 2014_[68]), (Perpiñà, 2015_[69]). As highlighted by (Fountoukakos and Geary, 2013_[70]), “[t]he [European] Commission’s approach to the FFD has been notoriously strict and the defence has been a real rarity. It has previously been invoked successfully only on a handful of occasions in more than two decades of EU merger control.”

106. This low applicability raises the question of whether the conditions for a successful failing-firm defence might be too stringent. While the OECD Roundtable on FFD stated that the criteria should not be relaxed, it also concluded that the reviewing process might be too lengthy (OECD, 2009, p. 13_[34]). Additionally, as pointed out by (Komninou and Jeram, 2014, p. 615_[71]): “a too-stringent application of the failing firm defence may lead to unintended consequences, by erecting barriers to exit and ultimately discouraging investment and more competition, thus harming consumers”. More flexibility in the application of the failing-firm defence seems particularly relevant in markets where only a limited number of competitors can operate, as the passenger air transport market (Perpiñà, 2015_[69]). Indeed, “an overly narrow application of the FFD may lead to the creation of barriers to market entry and exit that might turn out to be counterproductive by deterring investment and thus harming competition and consumers” (Perpiñà, 2015, p. 115_[69]).

107. In the end, following the theory of contestable markets, stringent application of the FFD increases exit barriers, which in turn can decrease the willingness of companies to invest, as it would be more difficult to recuperate the money if the investment proves to be

unprofitable. “If exiting the market is not easy, it is likely that there is less enthusiasm towards entering risky markets” (Ranta, 2016, p. 18_[67])

4.1.2. Competition authorities guidelines on crisis cartels

108. The OECD Recommendation on hard-core cartels defines a hard-core cartel as a “an anticompetitive agreement, anticompetitive concerted practice, or anticompetitive arrangement by competitors to fix prices, make rigged bids (collusive tenders), establish output restrictions or quotas, or share or divide markets by allocating customers, suppliers, territories, or lines of commerce”.²² It is well established in the literature that cartels harm consumers and are welfare decreasing (Baker, 2003_[72]), (Levenstrein and Suslow, 2007_[73]), (Hyytinen, Steen and Toivanen, 2018_[74]). Nevertheless, due to structural issues or severe economic downturns, some industries can face overcapacity issues and be forced to compete at a sub-optimal output level. In this regard, competition authorities might consider exceptionally to permit a crisis cartel agreement to reduce overcapacity.

109. Following the 2011 OECD Background paper on the Roundtable on Crisis Cartel, a Crisis Cartel can be interpreted as “situations where a government has permitted, even fostered, the formation of a cartel among firms during severe sectoral, national, or global economic downturns, or when national competition law allows for the creation of cartels during such downturns” (p. 21).²³ Even though crisis cartels are considered a way to distort competition, as they are, *de facto*, a cartel, some argue that they can be an option to deal with overcapacity issues because they help maintaining a larger number of competitions in the market (Perpiñà, 2015_[69]). A crucial element in a crisis cartel is that inefficient firms agree to exit the market to reduce the existing overcapacity in the industry. If successful, the crisis cartel agreement can promote efficiency and avoid a “war of attrition”, where firms, at costs of short-term economic losses, would induce rivals to give up and exit the market.

110. Nevertheless, in an overcapacity situation, the difficult applicability of a crisis cartel agreement might itself constitute a barrier to exit since it can prevent a coordinated exit of (inefficient) firms from the market. (Kokkoris and Olivares-Caminal, 2010, p. 467_[75]) argues that:

“crisis cartel agreements should not be automatically prohibited and the financial constraints defence should be taken into consideration during periods of crisis. Intuitively, given a choice between a market with a small number of remaining firms and a market with a significant number of firms which have decided to co-ordinate capacity reduction during the crisis, the latter alternative may be more beneficial to the market in the long term. We should note that in the latter scenario, as soon as the adverse conditions in the market under the crisis cease to exist, the structure of the resulting market is likely to have a greater potential to return to pre-crisis competition levels due to the survival and existence of a larger number of firms.”

Box 8. The Irish Beef case in the 1990s

Due to a demand fall for Irish beef during the 1990s, the Irish beef industry proposed the creation of the Beef Industry Development Society (BIDS). The aim of the scheme was to facilitate exit and reduce the number of players by ensuring that the remaining companies would compensate the exiting ones by paying a levy. Ultimately, the goal was to reduce the industry capacity by 25% within one year.

The Irish Competition Authority did not grant to the BIDS scheme an exemption from the national competition law because the claimed efficiency gains were not substantial and market forces seemed to be able to correct the excess supply and overcapacity in the sector.

The case was brought to the Irish court, which referred it to the ECJ. The ECJ held that the BIDS agreement to reduce capacity constituted a restriction of competition. Notwithstanding, the ECJ “*did not rule out the possibility that the scheme could bring about economies of scale that could outweigh the negative effects associated with it*” (Perpiñà, 2015, p. 124[70]).

Source: OECD Policy Roundtables: Crisis Cartels (2011), available at <http://www.oecd.org/daf/competition/cartels/48948847.pdf>

Box 9. Crisis Cartel Agreements: Examples

There are only a few examples where the European Commission exempted crisis cartel agreements from competition law under Article 101(3) TFEU. In all those agreements, efficiency increased through the exiting of inefficient firms from the market.

Commission decision of 4 July 1984 in Case IV/30.810 Synthetic Fibres (OJ 1984, L 207/17)

During the 1970s, several European synthetic-fibres companies faced some difficulties due to an imbalance between supply and demand. The cause was an increased import penetration and weak demand. At the same time, to lower costs and gain economics of scale, these companies started to design larger plants, which contributed to an overcapacity situation and low prices. By the end of the 1970s, plants were operating on average at 70% of capacity and profitability had decreased substantially. Facing a continuous reduction in demand and to avoid an additional increase in the overall capacity, the companies signed several agreements to reduce capacity, aiming to promote the long-term conditions needed for research and development in order to offer consumers improved products and face third-country competitions. Although the Commission refused several times to exempt these agreements from competition law, the 1982 agreement was accepted since: “*The Agreement (...) ensures that the shake-out of capacity will eliminate the non-viable and obsolete plant that could only have survived at the expense of the profitable plant through external subsidies or loss financing within a group, and will leave the competitive plants and businesses in operation*” (paragraph 39);

Commission decision of 29 April 1994 in Case IV/34.456 Stichting Baksteen (Dutch Bricks) (OJ 1994, L 131/15)

At the beginning of the 1990s, most of the Dutch brick producers faced a structure fall in demand due to a decline in the consumption of bricks relative to other building materials, which were cheaper and obtained better technical results. Utilization rate dropped by 10% between 1990 and 1991, and the average return had fallen by around 30% since 1980. To decrease overcapacity and restore the balance between supply and demand, in 1992, 16 Dutch brick firms proposed an agreement to restructure and reorganised the industry (the Commission rejected the 1991 agreement). The Commission approved this agreement in 1994, and overcapacity was tackled: “*As the capacity closures concern production units that are the least suitable and least efficient because of obsolescence, limited size or*

outdated technology, production will in future be concentrated in more modern plants which will then be able to operate at higher capacity and productivity levels” (paragraph 26).

Source: (European Commission, 2011^[77]), available at http://ec.europa.eu/competition/international/multilateral/2011_feb_crisis_cartels.pdf

4.2. Competition authorities guidelines on advocacy

111. Exit barriers are considered in market studies and market investigations conducted by competition authorities under the section “Barriers to entry and expansion”. Even though exit barriers are often analysed as a deterrent factor to entry, they are seen as a commitment by companies not to exit the market. Additionally, as stated in the United Kingdom Guidelines for market investigations (2013), “[b]arriers to entry or exit can interact with and magnify each other’s effects” (p. 46).²⁴

112. Competition authorities also alert for the fact that high exit barriers can prevent less efficient firms from leaving the market, which contribute to lower rates of labour productivity rates, investment and innovation (Cincera and Galgau, 2005^[76]).

113. Several competition authorities also conduct other advocacy studies based on the OECD Competition Assessment Toolkit, which aims to help competition authorities identifying barriers to competition within the legislation and to find less anti-competitive alternative measures. The Toolkit also considers exit barriers as an important factor to take into account when reviewing laws and regulations. High exit barriers, for example in the form of high exit costs, can deter entry and, thus, reduce the number of players within the market: “*If market success is risky for new entrants anyway, then facing high exit costs [a proxy of exit barriers] will act as an additional entry barrier and deter market entrance*” (OECD, 2017, p. 40^[77])

Box 10. Market Studies – An Example

Report on Competition and Regulation of Public Passenger Transport Services by Car Hire (from the Portuguese Competition Authority)

In 2016, the Portuguese Competition Authority reviewed the regulatory framework of occasional for-hire passenger services with driver. At the time, this activity included the provision of: 1) taxi services; 2) car hire with driver; and 3) other services (such as tourism services).

The taxi services in Portugal are strictly regulated: there is a maximum quota of licences to provide taxi transport services (i.e. a quantitative entry barrier) within a certain area (i.e. a geographical restriction). One of the economic arguments put forward to impose a quota system is to avoid overcapacity: taking into account the low costs of entering into the taxi market, a free entry scenario could lead to an excess number of taxis, which would reduce the average occupancy rate per taxi and, therefore, increase the average cost.

The existence of low exit barriers (in the form of low sunk costs) were one of the arguments used to invalidate this overcapacity issue. Since market players can exit the market with relative ease (e.g. taxi cars can be used in other activities), the risk of excess capacity is low. In light of this, the Portuguese Competition Authority recommended reassessing the

necessity and proportionality of quotas, with the aim of introducing a less restrictive regulatory framework.

Source: (Portuguese Competition Authority, 2016^[78])

114. In addition to market studies and market investigations, competition authorities can also issue opinions or carry out other advocacy initiatives to bring to light where barriers to exit (or potential barriers to exit) are (or could be) harmful to competition to other policy making authorities. For example, Box 11 summarises a review by the then UK Office of Fair Trading (OFT, 2010^[48]) of two regulatory mechanisms introduced post the last financial crisis as potential barriers to exit. These two mechanisms aimed at reducing the moral hazard risks posed by to-big-to-fail firms. Although the OFT did not find these mechanisms to be acting as barriers to exit at the time, the authority encouraged the UK financial regulator, the government, and the central bank to consider competition issues during the operation of these mechanisms going forward to avoid, or at least minimise, adverse effects to competition.

Box 11. Advocacy Work on Barriers to Exit– An Example

Office of Fair Trading (OFT) Review of the Special Resolutions Regime (SRR) and the Financial Compensation Scheme (FSCS) as barriers to exit in the UK banking sector

The Banking Act 2009 established the Special Resolutions Regime (SRR) to provide a permanent statutory regime for dealing with failing deposit-taking institutions in the UK in an orderly manner. Broadly, one of the key elements of the SRR consists of three stabilisation options:

- the transfer of the failing bank or banking business to a private sector purchaser;
- the transfer of the failing bank into a bridge bank; and
- the transfer into a temporary public ownership.

The potential competition concerns raised were around the SRR process. In particular, whether the need for such a takeover of a failing bank by another bank rapidly was likely to favour large institutions who have an understanding of the market and the funds. Further, whether a potential entrant was likely to be invited, or considered, to participate in the process. If not, the SRR process could increase market concentration and adversely affect competition.

The OFT did not receive evidence at the time to suggest the SRR was acting as a barrier to exit. However, the OFT encouraged for competition issues to be considered during the operation of the SRR regulatory mechanism and recommended to the financial regulator, the government, and the central bank to use approaches that minimised detrimental effects to competition.

The Financial Compensation Scheme (FSCS) is the UK deposit insurance scheme to reduce the risks of bank runs, as depositors gain certainty that some, or all, of their funds will be repaid in the event of a bank failure. The FSCS is funded through a levy on firms authorised by the UK financial regulator. The OFT raised concerns around the proposed changes at the time by the financial regulator to introduce an exit levy that applied to firms leaving the sector in respect of liabilities incurred while being authorised. Such levy, was argued, could create barriers to exit through the creation of an additional legacy cost. The OFT raised that

such concerns would need to be addressed as part of any revision to the deposit insurance scheme by the financial regulator

Source: (OFT, 2010^[48])

5. Conclusion

115. Much of the discussion on how barriers to entry and exit can hinder the benefits of competition and innovation has focused on barriers to entry. However, for competition to be effective there must also be exit. Barriers to exit (like entry) distort the market discipline mechanisms of the competitive process, which act to allocate resources to their most efficient use according to changing conditions. Barriers to exit can lead to structural overcapacity issues, wasteful wars of attrition, competitive distortions, and reduce innovative and efficient entry. Competition authorities have a role to play when such barriers to exit adversely affect competition and innovation.

116. Competition authorities can play a role through their advocacy work to reduce unnecessarily high barriers to exit by advising and/or collaborating with other regulators or government agencies in the policy design to avoid, or minimise, adverse effects on competition. The past financial crisis was an example where the advocacy and experience of many competition agencies in OECD countries were drawn upon to plan and implement rescue measures in ways that would be less harmful to competition. Given the renewed interest in active industrial policies, competition authorities can play a role if these policies go beyond addressing market failures effectively and proportionally as these could have adverse effects on competition.

117. Competition authorities can also advocate transparency of the trade-offs made when policy options are chosen which create barriers to exits that adversely affect competition.

118. Competition authorities have come under pressure to become more lenient in competition enforcement policy when entire industries or sectors are under distress and facing overcapacity issues due to barriers to exit, or firms are rescued by governments (to prevent them from exiting) to avoid wider economic implications. However, the right policy response to an industry-wide issue may not be a more lenient competition enforcement policy. Other policy tools could potentially be more effective.

119. Competition authorities can also ensure the criteria and process used in competition enforcement cases, such as the FFD test in mergers and crisis cartels do not become a barrier to exit unnecessarily. Ex-post reviews of enforcement decisions might be one way to achieve this.

120. Our sample review of how competition authorities assess barriers to exit has not found so far many guidelines in relation to barriers to exit, or many examples in enforcement and advocacy work to illustrate how these barriers are considered in practice. This does not imply that barriers to exit are not appropriately considered. However, it raises the following questions for discussion:

- whether competition agencies could provide more transparency in their guidelines about how they assess barriers to exit to ensure the predictability and effectiveness of their enforcement programme;

- the analysis behind such assessments in enforcement cases, market studies or investigations including when identifying and assessing effective remedies; and
- whether there are any difficulties (or other issues) that would benefit from further research.

Endnotes

¹ From an economic perspective, a change of ownership is not considered exit. We note that in some jurisdictions if, for example, a convicted cartel member changes ownership, the liability is not transferred and may therefore be considered as exit.

² Average revenue fails to exceed its average variable costs at the point at which its marginal revenue equals its marginal costs.

³ If the firm can earn average revenue in excess of its average variable cost but below its average total costs, it will continue to operate in the short term but will exit in the long term if such conditions persist.

⁴ Definition available at <https://stats.oecd.org/glossary/detail.asp?ID=3219>

⁵ A key concern with LTC is the lock-in of buyers to particular suppliers, since this may deter entry by firms that can no longer compete for those buyers. By locking itself into a LTC, a buyer decreases the size of a potential entrant's market, thereby reducing the probability of entry.

⁶ LTCs may favour investments by providing a more stable flow of returns, thereby reducing the risk premium that would have to be paid to investors in order to raise the required funds for a given project.

⁷ If the business were no longer profitable, however, the firm would not have an incentive to continue production.

⁸ Section 3.1.3 discusses the impacts of sunk costs when determined endogenously on concentration

⁹ OECD Policy Roundtables: Crisis Cartels (2011), available at <http://www.oecd.org/daf/competition/cartels/48948847.pdf>

¹⁰ This situation is generally only sustainable in stable, transparent and symmetric markets. This is because if the expectation is that one of the firms will suffer more than its competitors from the persistence of overcapacity problems, its incentives to reduce capacity would be higher and it would be more likely to reduce capacity first. Moreover, where there is no symmetry in size and competitiveness, the weaker firms could foresee that they will have to exit first (as soon as they empty their pockets) and therefore it is unlikely that they would remain in a wasteful "war". Thereby in heterogeneous market structures with firms of different sizes and costs structures, the problem of overcapacity would normally not persist as the long-term equilibrium.

¹¹ The endogenous sunk costs model prediction for higher concentration relies on the assumption that consumers agree on their ranking of products. If consumers differ in their preferred choice of product, industries are naturally fragmented instead of concentrated.

¹² Experience goods are those whose quality can only be evaluated after the product has been experienced (e.g. restaurant).

¹³ Credence goods are those whose quality are difficult or impossible to evaluate even after consumption (e.g. medical treatment).

¹⁴ The last financial crisis showed that mergers could be allowed for the sake of stability. Example of UK cases were the acquisition of the mortgage bank Bradford & Bingley by Abbey National in December 2008 and the creation of the retail banking giant Lloyds group resulting from the merger between Lloyds TSB and HBOS in January 2009. Both operations were cleared under EU Merger Regulation and the EC treaty of state aid rules. These are examples of exceptional measures taken to rescue two ailing institutions (Bradford & Bingley and HBOS) in the context of the last financial crisis.

¹⁵ The Basel Capital Standards

¹⁶ For a discussion on Barriers to Entry, see the OECD Roundtable on Barriers to Entry (2005), available at <https://www.oecd.org/regreform/sectors/36344429.pdf>

¹⁷ Horizontal Merger Guidelines: U.S. Department of Justice and the Federal Trade Commission (2010), available at <https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf>

¹⁸ Merger Guidelines: Australian Competition & Consumer Commission (2017), available at <https://www.accc.gov.au/system/files/Merger%20guidelines%20-%20Final.PDF>

¹⁹ Guidance on Substantive Merger Control: Bundeskartellamt (2012), available at https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Leitlinien/Guidance%20-%20Substantive%20Merger%20Control.pdf?__blob=publicationFile&v=6

²⁰ Merger Enforcement Guidelines: Competition Bureau Canada (2011), available at [https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/cb-meg-2011-e.pdf/\\$FILE/cb-meg-2011-e.pdf](https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/cb-meg-2011-e.pdf/$FILE/cb-meg-2011-e.pdf)

²¹ See <https://www.oecd.org/competition/mergers/45810821.pdf>

²² Definition available at <https://www.oecd.org/daf/competition/recommendationconcerningeffectiveactionagainstharcocartels.htm> .

²³ OECD Policy Roundtables: Crisis Cartels (2011), available at <http://www.oecd.org/daf/competition/cartels/48948847.pdf>. Following the 2011 OECD Background paper on the Roundtable on Crisis Cartel, “*the term crisis cartel is used in at least two ways in the existing economic literature. First, a crisis cartel can refer to a cartel that was formed during a severe sectoral, national, or global economic downturn without state permission or legal sanction. A second use of the term crisis cartel has been to refer to situations where a government has permitted, even fostered, the formation of a cartel among firms during severe sectoral, national, or global economic downturns, or when national competition law allows for the creation of cartels during such downturns*” (p. 21). From the two definitions, we focus on the second as competition authorities are directly involved in the formation of such cartels.

²⁴ United Kingdom Guidelines for market investigations: Their role, procedures, assessment and remedies (2013), available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284390/cc3_revised.pdf

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