OECD Economics Department Working Papers No. 720

The Challenge of Restoring French Competitiveness

Rafal Kierzenkowski

https://dx.doi.org/10.1787/222054166088

OECD

Unclassified **ECO/WKP(2009)61**

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **28-Aug-2009**

English - Or. English

ECONOMICS DEPARTMENT

ECO/WKP(2009)61
Unclassified

Cancels & replaces the same document of 06 August 2009

THE CHALLENGE OF RESTORING FRENCH COMPETITIVENESS

ECONOMICS DEPARTMENT
WORKING PAPER N° 720

By
Rafal Kierzenkowski

JT03268860

English - Or. English

ABSTRACT/RESUME

The challenge of restoring French competitiveness

Since the beginning of the decade, France has seen a marked decline in its export performance, leading to growing concerns on the part of the authorities and of civil society about the economy's capacity to adapt to the intensified globalisation of trade and investment in goods and services. The poor foreign trade performance of recent years is related to a series of factors, rather than to any single cause. It cannot be explained by external determinants alone, such as the exchange rate, the trade inroads of emerging countries with strong export potential or the sharp rise in oil prices in 2007-08. Indeed, it is not so much the loss of market share itself that is of concern (many countries have experienced this), but rather the extent of that loss, which reflects problems in responding to the acceleration in global demand earlier this decade, before the apparition of the current crisis. An analysis of the deterioration in competitiveness points to supply-side factors such as the relative inability of French firms to service foreign markets, and the pursuit of industrial strategies of offshoring the entire production process. Restoring competitiveness will require steps to strengthen the country's growth potential and to address the main long-term determinants of that potential, such as fostering research and development, promoting innovation, reducing the tax burden, boosting competition and creating favourable conditions for businesses to grow rapidly. The lack of competitiveness is more often a symptom than the cause of one or more underlying economic weaknesses. What is called for, then, is a comprehensive policy response that addresses the sources of the competitiveness problem, rather than targeted interventions designed directly to remedy the growing trade deficit. This Working Paper relates to the *2009 OECD Economic Survey of France* (www.oecd.org/eco/surveys/France).

JEL codes: F10, F14, I23, I28, O31, O38.
Keywords: OECD, France, competitiveness, export performance, trade deficit, market share, globalisation, growth potential, R&D, innovation, tax burden, firms, SMEs.

Table of contents

Boxes

Figures

The challenge of restoring French competitiveness

By
Rafał Kierzenkowski[1]

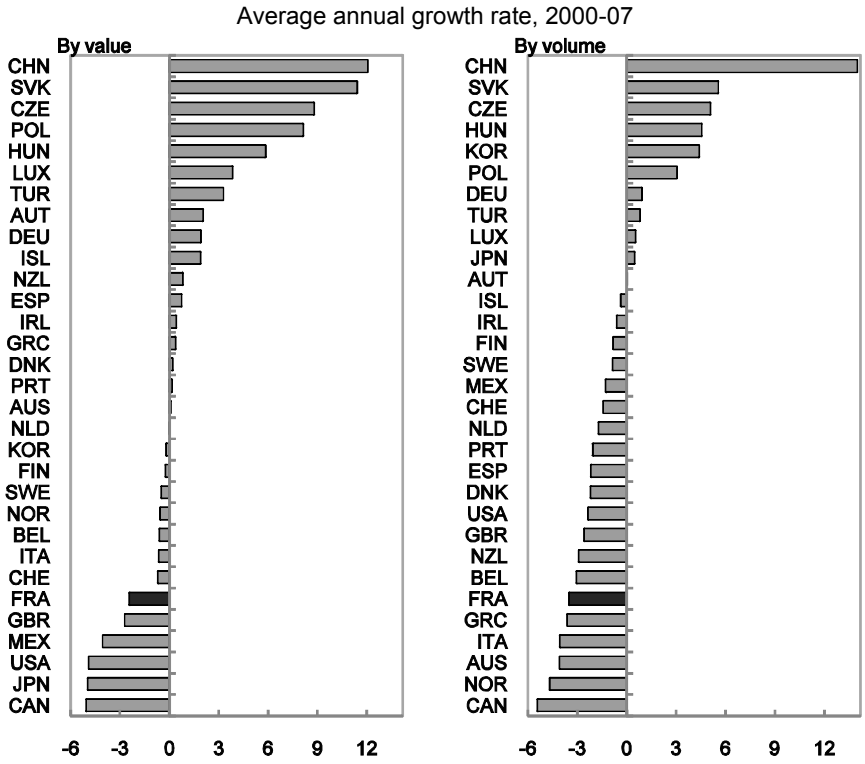
France's export performance has deteriorated significantly during this decade. The balance of trade in goods and services weakened rapidly, though the growing role of export-oriented emerging countries in world trade, the appreciation of the euro, and the worsening of the energy balance cannot by themselves explain this pattern (see below). The latter has been accompanied by pronounced losses of export market share. At the same time, and in an identical economic and monetary setting, other euro-area countries have also incurred losses in market shares, though to a smaller extent, while Germany has been an exception with its shares rising in value and volume terms (Figure 1). Yet, existing empirical evidence shows that the performance gap between France and Germany does not seem to be related to differences in geographic and sectoral specialisation.

From the macroeconomic viewpoint, the French productive apparatus seems to be having trouble serving the export markets it already has, rather than suffering from any lack of opportunities. More generally, in the context of a relatively sustained domestic demand, French industry experienced difficulties in taking advantage of the pick-up in growth of external demand during the decade (before the emergence of the current crisis), and this would seem primarily to bespeak problems on the supply side. The origin of these supply bottlenecks can be traced back to a lack of innovation and research, to the difficulties that SMEs have in growing and achieving critical size for export, and to the deliberate decision of some French groups to offshore production plants. At the same time, in close price competition with French firms, wage moderation and the strategy pursued by German firms, which have been subcontracting a growing portion of the value chain to Eastern Europe, have brought a clear improvement in their cost competitiveness, making up in this way for the losses of competitiveness occasioned by reunification in the early 1990s, and the appreciation of the euro since 2002. On the other hand, French manufacturing firms have lost part of the cost competitiveness gains won through the competitive disinflation strategy of the 1990s, even though they retained a much better control over unit labour costs than did their Italian and Spanish counterparts. Finally, strong profitability in the construction industry, fed by rising house prices, might have diverted a portion of capital and labour resources away from export activity.

---

1. This paper was originally produced for the OECD Economic Survey of France, published in April 2009 under the authority of the Economic and Development Review Committee. Rafał Kierzenkowski is an economist in the OECD Economics Department. The author is thankful to Hervé Boulhol, Andrew Dean, Alain De Serres, Balázs Égert, Robert Ford and Peter Jarrett and for their valuable comments on previous drafts. The author also thanks Sylvie Foucher-Hantala, Mee-Lan Frank, Anne Legendre and Patrizio Sicari for research assistance and to for excellent technical preparation. This paper has also benefited from valuable discussions with French economists and researchers.

Figure 1. **Market shares by value and volume in world exports of goods and services**



Source: OECD, *Economic Outlook No. 84 database*.

The authorities have recently introduced a variety of structural policies to encourage innovation efforts. To the extent that these policies succeed in reinforcing non-price competitiveness, enhancing profitability in the export sector and, more generally, raising the economy's potential growth rate, they will also serve to improve export performance (Figure 2, upper panel). Also, by creating conditions for a well oriented international specialisation, they will help to stabilise or recover the country's world market share (Figure 2, lower panel). A reduction in the corporate tax burden, financed notably through a rationalisation of targeted support schemes to firms, could also help in this respect. Likewise, faced with the foreign-trade problems France has encountered, the authorities have introduced a large number of tools to encourage firms to seek out international opportunities, and to support them in export markets. These policies may have had positive microeconomic effects in some cases. They are currently undergoing reform to enhance their effectiveness. Finally, microeconomic reforms such as strengthening knowledge of foreign languages or alleviating certain regulatory constraints on businesses would also contribute to the effort of restoring French competitiveness.

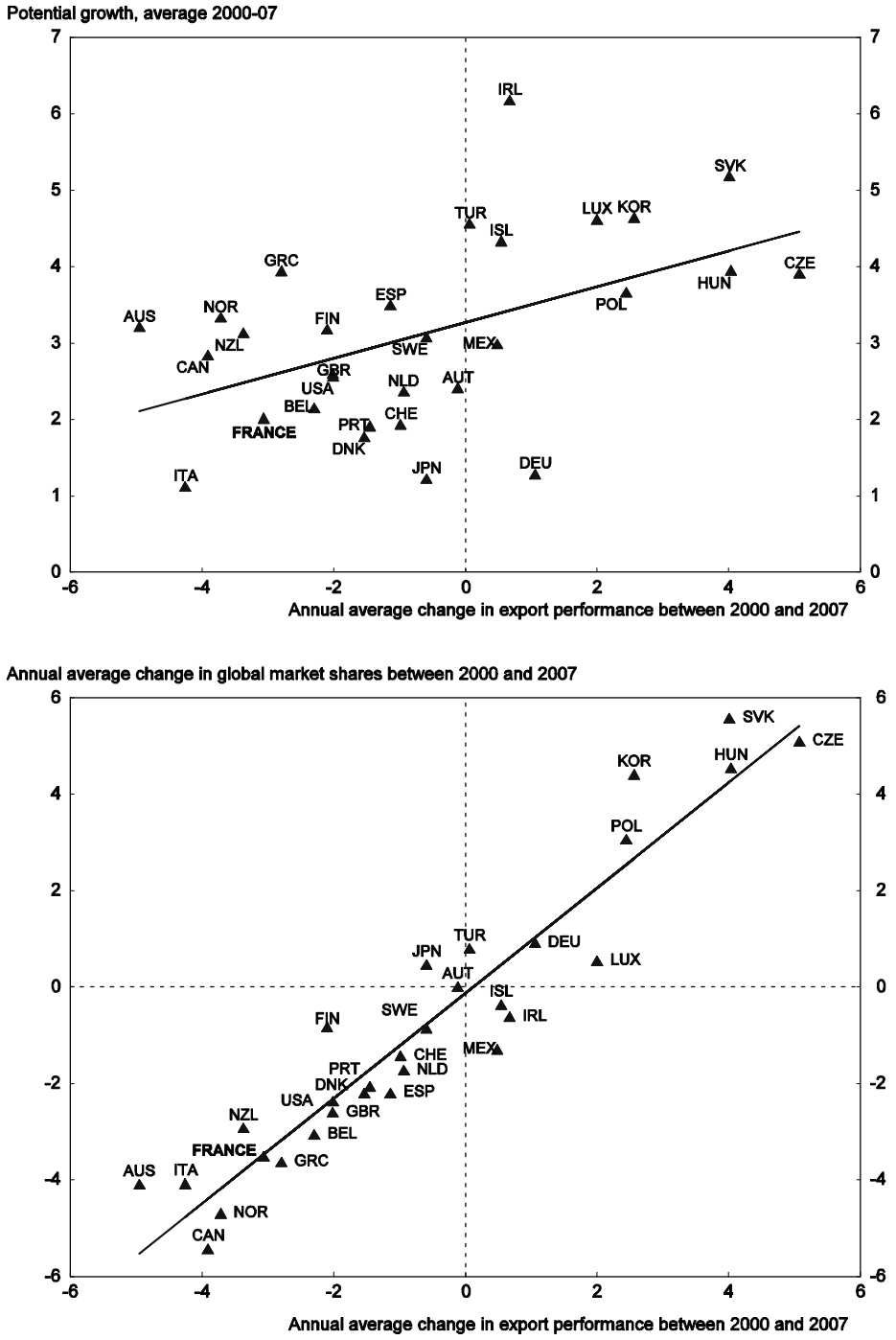
The scope and characterisation of the competitiveness problem

A deteriorating trade balance in goods and services

France plays a leading role in international trade. It ranks fifth in world exports of goods and fourth in global service exports, while it is sixth in world imports of goods and services. In addition, it holds third place for foreign direct investment (FDI), both inward and outward. Despite this position, and the country's strong integration into world trade flows, the trade balance in goods and services has swung from an average surplus of 2% of GDP in the second half of the 1990s to a deficit of nearly 2% of GDP in 2007. This evolution is in contrast with that of the best-performing industrialised countries. Over the same period, Germany's trade surplus rose sharply, from 1% to 7% of GDP, while other euro area countries

moved from a surplus of 2% to virtual equilibrium. In 2007, among OECD countries, half recorded a surplus, though eight others had bigger deficits than France (Figure 3).

Figure 2. **The relationship between potential growth, export performance, and market share**[1]

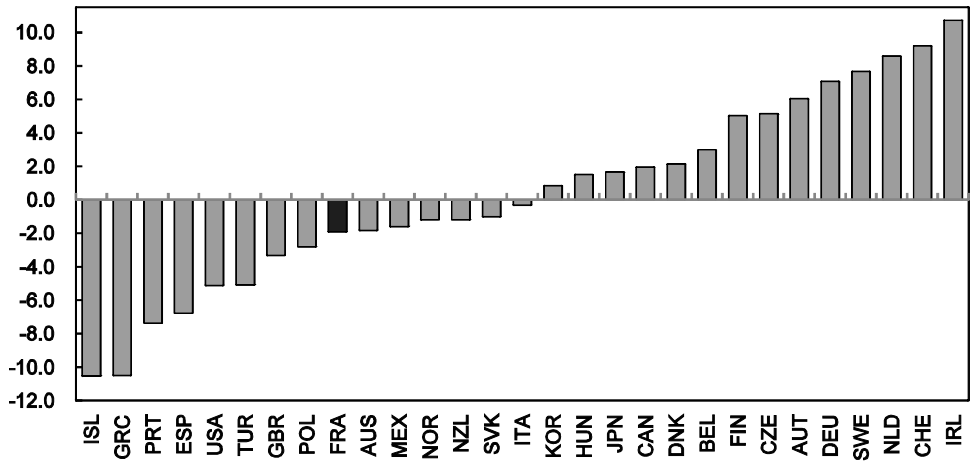


1. Export performance is defined here as the ratio between a country's exports of goods and services and its export market. The export market measures the worldwide demand addressed to a country and is defined as domestic exports that would be expected if its market shares by volume remained at their value for the reference year, here 2005. A country's global market share is the ratio of its exports relative to total worldwide exports.

Source: OECD*, Economic Outlook No. 84 database.*

Figure 3. **Trade balance in international comparison in 2007**

Goods and services, FOB-FOB, in percentage of GDP



Source: OECD, *Economic Outlook No. 84 database*.

A breakdown of the structure of trade sheds additional light on the performance of French exports. Despite the traditional underpinning supplied by the tourist sector, the surplus in services has fallen by nearly half since 2002. The CIF-FOB merchandise trade balance went from a surplus of around EUR 2 billion in 2002 to a deficit of EUR 52 billion in 2007, thus reaching 2.7% of GDP. The contribution of energy products played a large part in the deterioration. While buffered by the appreciation of the single currency, the energy bill soared (as the price per barrel of Brent crude rose from EUR 27 to EUR 53 between 2002 and 2007), reaching EUR 46 billion (Figure 4, upper panel), and this trend has since continued with the price per barrel reaching more than EUR 60 on average in 2008, with an energy trade deficit of nearly EUR 60 billion. The merchandise trade balance excluding energy has also pursued a downward trend since 2002 and became negative in 2007. More specifically, while trade in agro-food products has remained stable over all, the balance on manufactured goods has behaved unfavourably, almost without interruption. It declined from a structural surplus in the second half of the 1990s and the early years of this decade to a deficit in 2007. That slippage was accompanied by a declining surplus in capital goods, the virtual disappearance of the automotive surplus, and a downturn in the balance of intermediate products and consumer goods (Figure 4, lower panel), even if the latter rebounded somewhat in 2008.

An analysis of the trade balance excluding energy shows that since 2002 its deterioration has been mainly driven by a few product categories (Usciati, 2008). These include automotive products, under the combined effect of falling exports and rising imports; consumer electronic goods, for which Asian imports rose sharply; and non-ferrous metals and organic chemicals and mining products, where rising raw material prices pushed up the price of imports.

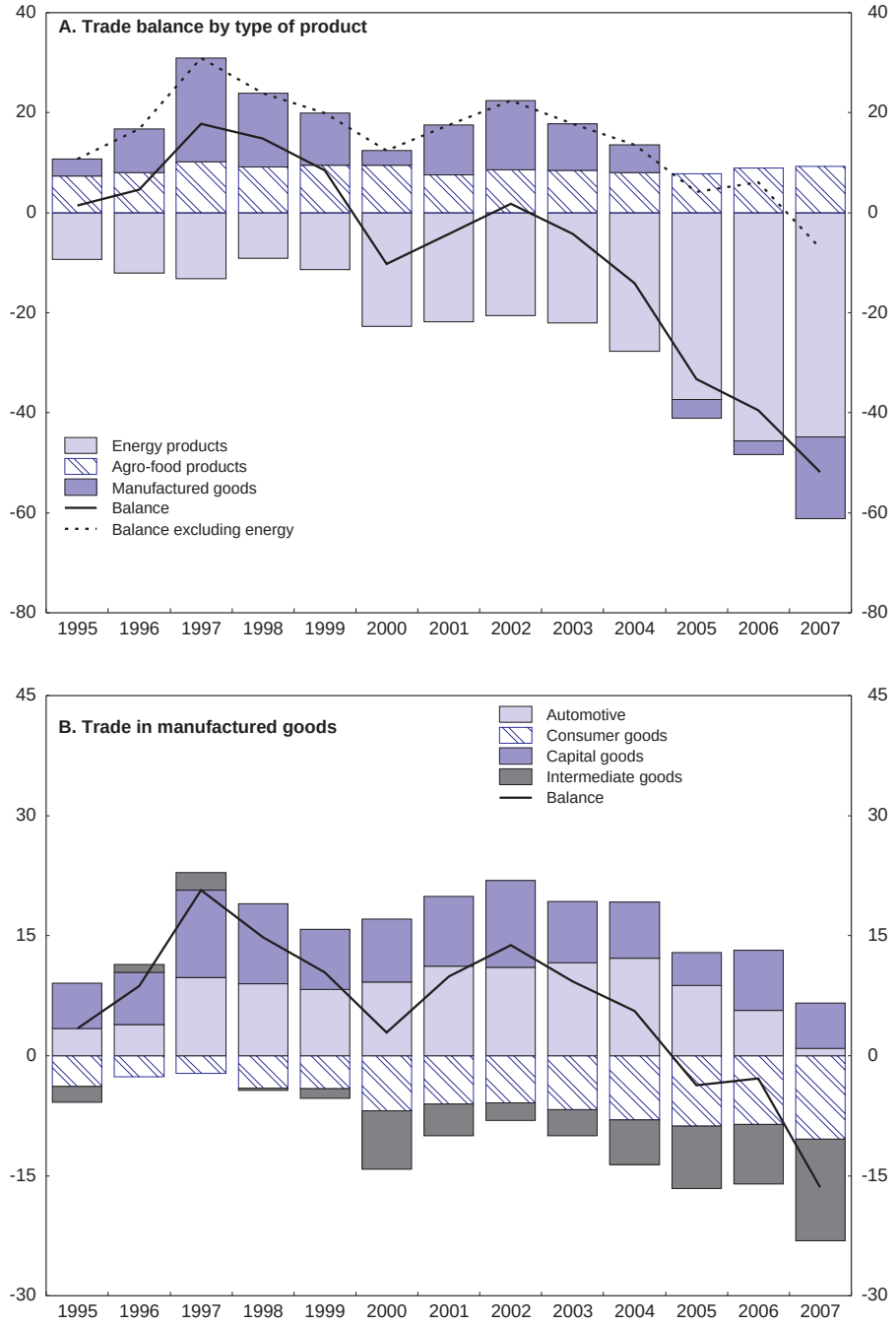
Falling export market shares and the nature of specialisation

The pattern of export performance raises a question about French specialisation in world trade. An initial approach is to calculate revealed comparative advantages (Coe-Rexecode, 2007).[2] Covering a long period of time, this analysis reveals a degree of inertia in French specialisation. France may be

2. The revealed comparative advantage is an indicator which provides, for a given product and country, the contribution of this product to the trade balance, adjusted for changes which are not specific to the country, but which come from the evolution of the weight of the product in the worldwide economy.

Figure 4. **French merchandise trade balance**

In billions of euros, CIF-FOB



Source: Ministry of Economy, Industry and Employment.

classified as a "generalist" country, more oriented towards "mid-tech" products. Five industries – the aeronautics industry, pharmaceuticals, private cars, toiletries and beverages – have demonstrated steady comparative advantage in terms of international trade performance, while energy, textiles, wood, paper, computers and consumer electronics have shown fairly consistent weakness. This relative stability of specialisation can be explained in part by the functioning of the labour market. Indeed, Cuñat and

Melitz (2007) find that the emergence of comparative advantage is influenced not only by factor endowments but also by labour market regulations. Thus, the exports of countries with more flexible labour markets are biased towards more volatile sectors, where the capacity to adjust to idiosyncratic productivity and demand shocks is more important. These shocks are likely to occur more frequently in newer industries.

Despite a "generalist" export profile that offers diversification for dealing with the risk of demand fluctuations, a merchandise market share analysis shows that French export growth is lagging behind global export expansion. It is true that the appearance on the world trade scene of export-oriented emerging countries such as China has mechanically contributed to this situation, not only in France but also in the other major OECD countries. Yet the market share losses identified have not been systematic or equally distributed among countries. The French share in global exports of goods and services by value has retreated on average by around 2.5% each year (Figure 1). In addition, the comparison of changes in market share by volume shows that the 3.5% average annual loss of French market share since 2000 was one of the steepest of all OECD countries, with the exception of major raw-material exporters such as Canada, Australia and Norway (Figure 1). At the same time, the Euro-12 area (excluding France and Germany) also recorded an average annual loss, but that was more than 1 percentage point less than France's.

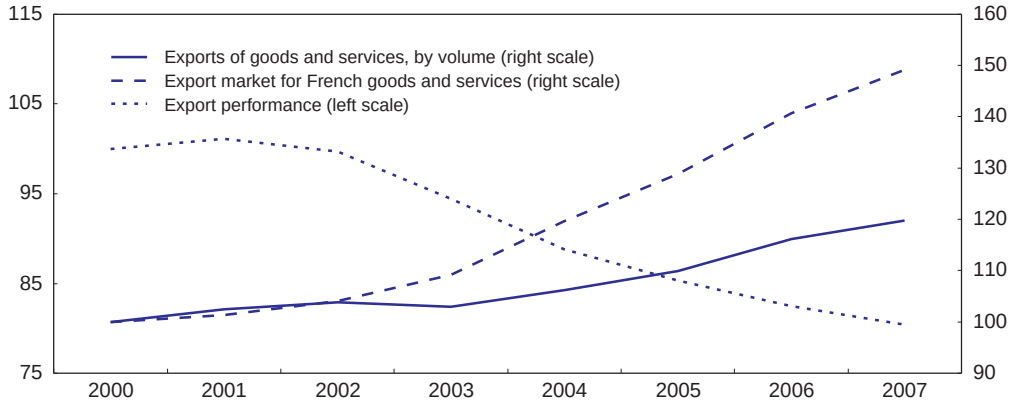
An analysis of disaggregated data for France shows virtually across-the-board losses of market share, in several dimensions. On the most important external markets, the retreat between 1995 and 2005 was most noticeable within the European Union (which represents around 65% of France's exports), followed by Africa (17% of exports), but also in China and Russia, and to a lesser extent Japan and the United States. Nevertheless, France managed to preserve its position in India and to strengthen its presence in Brazil. In sectoral terms, French manufacturers were able to maintain or increase their market shares for only 17 out of 72 products (Coe-Rexecode, 2007). A classification of exports according to their technological content (following the OECD-Eurostat classification) shows that, between 1995 and 2005, the French market share in high-tech products fell by around a third in absolute terms, *versus* 15% for the EU-15 and slightly more than 10% for the EU-25 (Cheptea *et al*., 2008). Compared to the largest OECD countries, the French loss was less pronounced than Japan's (more than half), comparable to that of Italy and the United Kingdom, but higher than those of the United States (more than a quarter) and Germany (virtually stable). In terms of positioning by market segment, the French losses seem to have been more modest in low-end goods, but more significant in high-end goods, in particular on the European market (Fontagné and Gaulier, 2008). Between 1995 and 2004, among the leading industrialised countries, only Germany saw its market shares progress in high–end goods (Cheptea *et al.*, 2008).

The gap in export performance between leading OECD countries and Germany is significant. However, the sectoral structure and geographic orientation of trade, at various levels of disaggregation, do not reveal any major differences between France and Germany in terms of specialisation (Boulhol and Maillard, 2006; Fontagné and Gaulier, 2008). More precisely, using the methodology of Cheptea *et al*. (2005), the change in market shares can be broken down econometrically into three contributions: a geographic structure effect, a sectoral structure effect and a pure performance effect. The results show that, while Germany may have been more oriented toward more dynamic geographic zones, France has also positioned itself in good markets. Moreover, the French sectoral structure actually appears to be very slightly better than that of Germany, being more in phase with the products for which there is growing world demand. Yet these structural differences are of secondary importance in comparison to the pure performance effect, which indicates a country's capacity to gain (or lose) export market share. That effect may be attributable in part to an economy's ability to adapt its sectoral and geographic specialisation and, in a residual manner, to the effects of price and non-price competitiveness. Thus, the pure performance effect would explain most of the discrepancy in the two countries' export outcomes.

Overall, the generalised losses of export market share would result not from an inopportune international specialisation but from a relative inability to satisfy foreign demand. French industry has not been able to respond fully to the accelerating worldwide demand for its products (*i.e.* its export market) since 2003 (Figure 5).[3] In fact, that export market was growing at around 7.5% annually until 2007, versus only 3% for actual exports. The existence of a supply constraint in the context of a relatively sustained domestic demand can explain the difficulty of serving overseas markets in the French case (Cochard, 2008). This has not been the case with all other OECD countries (Figure 2, lower panel). Some have lost global market share, even if they were able to satisfy demand in their own export markets (Mexico, Iceland), suggesting that those countries are specialised in relatively unpromising niches. Others have also had troubles with their export performance since 2000, but have been able to increase their global market share (Japan) or at least to slow down its decline (Finland). In still other cases (Canada, Norway), global market shares have fallen more sharply than expected, perhaps because of a "Dutch disease" problem.[4]

Figure 5. **France's export performance**

2000 = 100



Source: OECD, *Economic Outlook No. 84 database*.

Analysis of price and cost competitiveness indicators

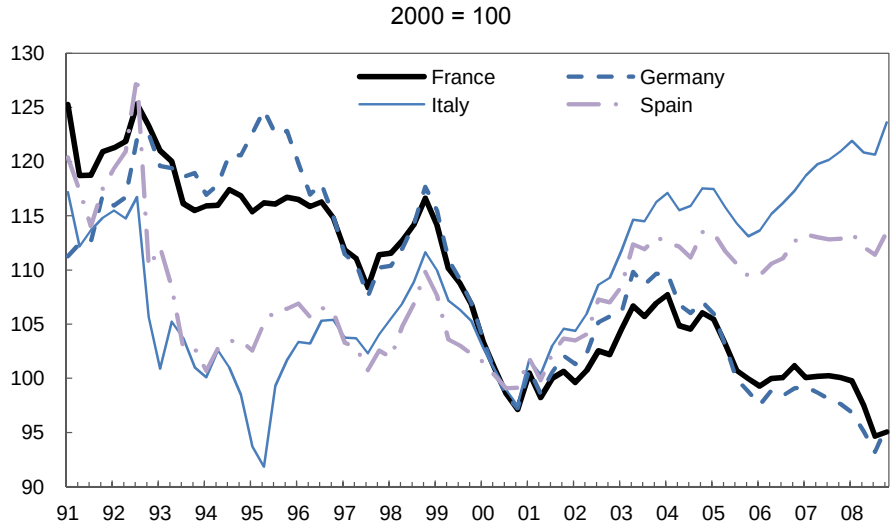
The analysis of price and cost competitiveness indicators usually makes it possible to better work out a diagnosis of export performance. France has very good price competitiveness, similar to that of Germany and significantly better than the positions held by Italy and Spain (Figure 6). However, when introduced into an export equation, this variable cannot explain the decline in export market shares in the current decade (Villetelle and Nivat, 2006; Cochard, 2008). Several explanations have been suggested for interpreting the loss of explanatory power of the price competitiveness indicator (Fontagné and Gaullier, 2008). First, it gives a very imperfect reflection of ex ante performance, to the extent that there is a selection effect prior to export. In fact, this variable captures only the prices of "surviving" exporters, i.e. those who are more efficient or who face less competition in their markets. Second, French exporters,

3. The export market for goods and services is defined as a country's exports that would be expected if its market shares by volume remained at their value for the reference year, here 2005.

4. However, for a raw-material exporting country such as Norway, the contraction of market shares in volume could result from a fall in volumes in reaction to the rise in world prices, thus making it possible to stabilise market shares in value terms (see Figure 1).

who are obliged to "price to market", are constrained in their ability to reflect changes in costs or exchange rates in their prices, making the adjustment rather through lower margins.

Figure 6. **Price competitiveness: export prices relative to all competitors**



Source: OECD, *Economic Outlook No. 84 database*.

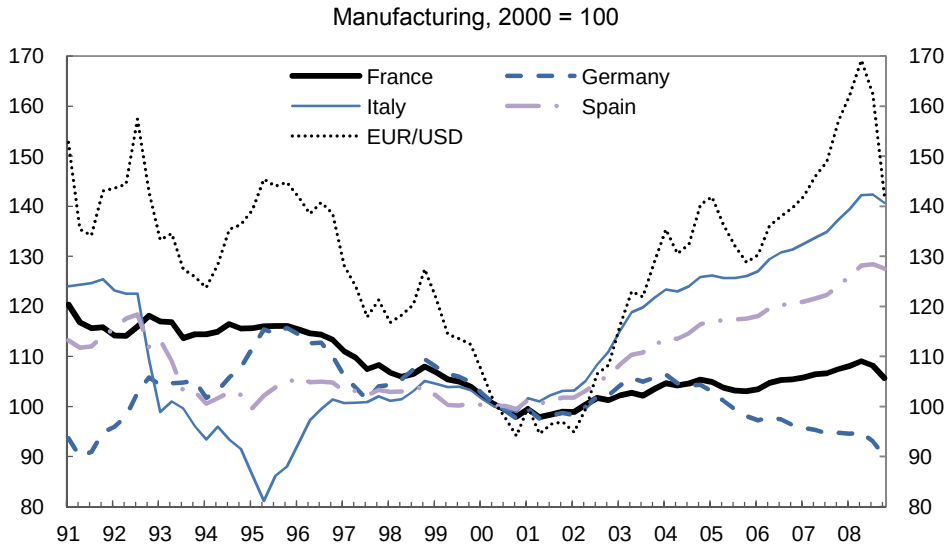
Because their sectoral specialisation and the geographic orientation of trade are so similar, France and Germany would be in direct competition not only in their own domestic markets but also on export markets. In 2005, Germany was France's prime competitor on the market for goods, followed by the United States, Italy, the United Kingdom and Spain, with China appearing only in ninth position (IMF, 2008a). In 2004, competitive pressure was less severe in the case of services, with Germany ranking fourth among the main competitors. Overall, these elements help to explain why the two countries pursue noticeably comparable export pricing policies, as evidenced by the great similarity of their respective price competitiveness indicators.

Given the limitations of the price competitiveness indicator, it is useful to examine cost competitiveness factors as potentially better determinants of export performance. On this score, Germany has improved its position significantly since 2004, while some erosion has happened in France, but to a much smaller extent than in the case of Italy and Spain (Figure 7).[5] This boost to German competitiveness was made possible by very significant cuts in unit labour costs, under the combined effect of wage moderation and the development of a "bazaar economy", aimed at breaking up the value chain so that activities that make more use of unskilled labour could be subcontracted to Eastern European countries (see Box 1). Such an offshore outsourcing strategy has also improved firms' margins through a lower cost of intermediate inputs. Indeed, in the context of an appreciation of the exchange rate, although export margins have remained stable in the German case, French exporters have had to trim their margins significantly in order to offset the upward pressure from their relative unit labour costs and simultaneously maintain their price competitiveness. This may have dampened investment spending in general, and on

5. Germany's enhanced cost competitiveness and the tendency to erosion incurred by France must be viewed in perspective (Figure 7). Indeed, the 1990s saw the competitiveness of the two countries diverge, under the impact of the competitive disinflation strategy in France and the wage inflation that took place in Germany in the wake of reunification. Over the long term, however, cost competitiveness patterns would tend to even out. By the end of 2008, Germany had restored its cost competitiveness to pre-unification levels, while France still benefited from a net advantage compared to the situation in 1991.

R&D in particular, in the export sector, thus leading to tighter supply-side constraints and an insufficient non-price competitiveness. In particular, the investment rate of the manufacturing industry declined in the first half of the decade and this for various sizes of firms (Conseil économique et social, 2008a).

Figure 7. **Cost competitiveness: unit labour costs relative to all competitors**



Source: OECD, *Economic Outlook No. 84 database*.

Box 1. **The "bazaar economy"**

It was partly by internationalising its productive system that Germany was able to improve its cost competitiveness and to boost its exports so strongly. More precisely, according to the "bazaar economy" theory developed by Sinn (2006), it is the growing reliance on offshore outsourcing that underlies this improvement. In pursuit of that strategy, German industry has specialised increasingly in downstream activities that make intensive use of physical and human capital, and that stand at the end of the value-added chain (assembly, finishing, packaging, marketing and consulting services). On the other hand, the initial, upstream activities of the production cycle, which make greater use of unskilled labour, are outsourced to low-wage countries (Central and Eastern Europe in the automobile industry, Asia for computer components). They are then re-imported as intermediate goods. The result is less value added in production and a higher import content in exports, but also an improvement of margins of German firms. The Porsche Cayenne car illustrates this phenomenon: while it bears the "Made in Germany" label, many of its parts are manufactured in Eastern Europe, to the point where only one-third of the car's value is actually produced in Germany.

According to Sinn (2006), German entrepreneurs adopted this strategy in response to growing competition from low-wage countries, in a setting where domestic wages were too high and inflexible. Offshore outsourcing led to the loss of unskilled jobs in domestic manufacturing and, because labour was not reallocated to other sectors, unemployment rose steadily. In the end, domestic demand was depressed by the stripping of domestically produced intermediate content from exports, and hence a loss of jobs, compounded by a domestic "investment strike". Domestic demand has in fact grown much more slowly in Germany than in the rest of the euro area since 2000. More generally, the German economy's growth potential over that time has lagged behind its export performance (Figure 2).

This theory has sparked intense debate over its validity, although a number of elements tend to corroborate it.* Yet the issue calls for several remarks. *First*, the domestic employment impact of offshore outsourcing needs to be viewed in perspective. While capital intensity has certainly increased significantly since 1991, most of the job-shedding in manufacturing took place in the first half of the 1990s, followed by smaller cuts since 2003 (Coe-Rexecode, 2007). Moreover, offshore outsourcing does not necessarily mean job losses (European economic advisory group, 2008). In fact, the outsourcing of certain tasks allows firms to deepen the division of labour. A stronger specialisation increases labour productivity in manufacturing industry for the less labour-intensive activities maintained in Germany. The

resulting cost savings imply, in turn, favourable economies of scale effects, boosting demand for local labour to perform operations that are less readily outsourceable. Consequently, offshore outsourcing should affect the demand for labour in the same way as labour-augmenting technological progress. Finally, the number of domestic jobs directly dependent on exports was estimated at slightly more than 8 million in 2007, or one job in five (Schneider, 2007). In addition, even if the "bazaar economy" generates a fall in the share of value-added in production, the total value-added (in absolute terms) should rise with the increase in the number of units produced, if part of the falling manufacturing costs is reflected in prices. *Second*, the linkage between offshore outsourcing, exports and domestic demand would depend on the time horizon used. Erkel Rousse and Sylvander (2007) and Blot and Cochard (2008) argue that it is the sluggishness of domestic markets that would have driven German entrepreneurs to seek new external outlets. In a more in-depth study, however, Erkel Rousse and Sylvander (2008) show that this is only a short-term effect, as in the medium term the effect would be indirect, so that offshore outsourcing would explain the relative sluggishness of German domestic demand. Finally, in the long term, growth in the economy would be unchanged or even slightly higher than in the absence of offshore outsourcing.

* See Boulhol (2006), Gaulier (2008) and Erkel Rousse and Sylvander (2008) for a review of the literature.

From an economic viewpoint, the effects of offshore outsourcing are equivalent to a positive supply shock. Consequently, they do not necessarily lead to a reduced growth and employment over the long term (see Box 1). Moreover, manufacturing employment in France could, ultimately, be penalised by inadequate outsourcing of industrial inputs, insofar as the factories that remain in France do not benefit from this positive shock (Fontagné and Gaulier, 2008). The percentage of intermediate inputs imported from emerging or transition countries was only around 8% for France in 2006 (Erkel-Rousse and Sylvander, 2008). The figure was twice as high for Germany, although the two countries were in a comparable situation in the early 1990s. In the 1980s, French offshore outsourcing was largely to Spain (and primarily in the automotive industry), but the relative cost advantage of Spanish labour has since been much reduced. Consequently, French firms could potentially improve their competitive position by making greater use of this strategy. However, the distance from foreign markets has an impact on the competitive position of firms (Boulhol and de Serres, 2008) and, in comparison with Germany, France has a less advantageous geographical location *vis-à-vis* Eastern European countries. More generally, offshore outsourcing is subject to certain constraints. It is difficult to extend it beyond a certain limit, at which point the unity and continuity of the production system would be jeopardised (through problems of quality control, sensitivity to late delivery of supplies, etc.). Other constraining factors include exposure to exchange-rate risk and rising transport costs in the wake of higher fuel prices (Gaulier, 2008).

In contrast to Germany, France has opted for a strategy of offshoring the entire production process. In 2006, the two French carmakers for the first time produced more vehicles abroad than in France (Fresson-Martinez, 2007). This policy was intended not only to serve growing foreign markets more readily, but also to supply the domestic market, while benefiting from reduced production costs. Between 2004 and 2007, automobile imports from countries where the main French carmakers have set up shop (Central and Eastern Europe, Turkey and Spain) accounted for around 60% of the average growth of total vehicle imports to France (Usciati, 2008). Hence, it is likely that when the trade balance is "corrected" using the methodology proposed by Schaff *et al*. (2008), where the criterion is the ownership rather than the location of firms, the trade deficit would have been lower. Viewed from that angle, market share losses may have been smaller than the geographic definition of trade would suggest.[6] If this is the case, it would

6. Schaff *et al.* (2008) define a "corrected" trade balance for the United States, taking into account the strategies of American firms. To do so, they treat as exports the local sales of American subsidiaries abroad and consider as imports the purchases they make locally. Conversely, sales made by subsidiaries of foreign groups to Americans are recorded as imports for the United States, while the purchases they make locally are treated as exports. According to authors' calculations, such a methodological change reduces the US current account deficit by one-third.

indicate that firms are suffering not so much from poor performance per se as from the poor competitiveness of the French territory where they have to operate. However, carmakers have also lost domestic and foreign market shares due to the competition of major industrialised countries (Italy, the United Kingdom, and especially Germany). These difficulties suggest supply-side problems relating to the production of models that are at the end of their life cycle or that are not in tune with demand (Bauer, 2008). If this is the case, it raises the question of non-price competitiveness and, more generally, the role of innovation policies in strengthening French industry's product range.

Streamlining export support policies

In the face of a deteriorating French trade balance, the authorities have introduced various export support policies. The number of available products and services has in fact expanded as firms' perceived needs have grown, and efforts have been made to improve co-ordination among the various export promotion institutions. Yet, despite the progress made, the tools and mechanisms now in place for supporting foreign trade could usefully be streamlined further. The result could be significant gains in terms of efficiency, transparency and budgetary savings.

The support available to firms seeking to "go international" presents a very complicated picture, with a profusion of agencies and "one-stop shops", and inadequate co-ordination among different networks (Comité national des conseillers du commerce extérieur de la France, 2007; Cousin, 2007). Prior to the 2008 reforms, this was also the case with the official government assistance system, which comprised several entities. *First*, there were 145 economic missions in 113 countries, covering a total of 155 countries, making it one of the densest networks in the world. Those missions, run by the Ministry of economy, finance and industry, were tasked with gathering intelligence on the whole range of international economic, trade and financial questions and sending it back to the Ministry, local government bodies and businesses. Yet the central government was in fact the primary recipient of this information, and much less went directly to businesses. *Second*, the regional foreign trade offices (*Directions régionales du commerce extérieur*, DRCE) served as the relay points throughout the country for the delivery of official export assistance. Their job was to prospect for new exporters, to manage export assistance and to co-ordinate local initiatives in the area of foreign trade. Yet they were chronically under-endowed with resources. For example, in 2005 the DRCE for Ile-de-France employed only 16 people (including five receptionists) for a region that accounts for nearly 20% of French exports and is home to 680 000 firms. *Third*, the year 2004 saw the creation of Ubifrance, the French agency for international business development, which was supposed to provide information and coaching to French firms in foreign markets. That agency, however, lacked a permanent presence in the regions of France and also abroad, making it difficult to establish linkages between France-based firms and export markets.

Apart from the government networks listed above, there are a great number of other players in export assistance, comprising the regions and certain local governments, business organisations (such as MEDEF International), the Chambers of commerce and industry (Chambres de commerce et d'industrie, CCI), the French chambers of commerce abroad (Chambres de commerce françaises à l'étranger, CCI FE), of which there are 114 in 75 countries, the foreign trade counsellors (Conseillers du commerce extérieur de la France, CCEF) – they number some 3 800 volunteers, but their dedication is secondary to their professional occupation – as well as specialised agencies such as SOPEXA in agro-food and COFACE, a private company that manages official export insurance backed up by a government guarantee (see Box 2). This great variety of services leads occasionally to competition among the players in ways that are potentially counterproductive and suboptimal for attaining in terms of the objectives. The multiplicity of networks is such that in major Chinese cities such as Beijing or Shanghai there may be almost a dozen French agencies jostling each other (Cousin, 2007). Indeed, a recent survey of CCEF counsellors showed that one of their primary concerns was to ensure better co-ordination and co-operation among the various

agencies that support exporters (Comité national des conseillers du commerce extérieur de la France, 2008).

Box 2. **Main forms of support for business internationalisation**

The main forms of support for business internationalisation have several components. Some are delivered directly by the government or the French agency for international business development (Ubifrance), while export insurance products are managed by COFACE, a private company, on the government's behalf. In the former category are the following tools:

- The labelling procedure for group initiatives (French pavilions at fairs and trade shows, presentations of products and know-how, encounters with buyers and partners and commercial promotions) organised by a third party with government financial backing was launched in 2003. The procedure was bolstered in 2005 and 2008 as part of the *Cap Export* plan. Labelling consolidates the adherence of export partners (professional organisations, private operators, chambers of commerce and industry etc.) to government priorities, focusing their efforts on countries with high export potential.
- International Business Volunteers (*Volontariat international en entreprise*, VIE): this programme recruits young professionals between the ages of 18 and 28 for a stint of 6 to 24 months abroad, in return for a basic allowance free of all social contributions. Since January 2006, this allowance has been an eligible expense for the tax credit for market prospecting expenses. The number of international volunteers has risen sharply, from 2 600 at year-end 2004 to 6 300 at the end of 2008. The goal is to reach 10 000 VIEs in 2011.
- The tax credit for market prospecting expenses (*crédit d'impôt pour dépenses de prospection commerciale*) equals 50% of eligible expenses and is available to SMEs (up to EUR 40 000) or consortia of SMEs (EUR 80 000) that hire a person assigned to export development or that make use of a VIE (triggering event). The tax credit may be used during the 24 months following recruitment. Six categories of market prospecting expenses to promote exports of services, goods and merchandise are now eligible. The tax credit is non-recurrent, *i.e.* a firm may claim it only once. Since January 2006, it has been expanded to include market prospecting within the European Economic Area.
- The Individualised Support to Exporting (*Soutien Individualisé à la Démarche Export*, SIDEX) provides tailored support for export efforts and is targeted at French SMEs and very small enterprises. It covers travel and accommodation expenses, foreign market prospecting costs, etc., up to a ceiling of EUR 7 500.

At the government's request, COFACE offers a range of guarantees designed in principle to cover exporters against various types of risk:

- The primary guarantee, in terms of amounts covered, is credit insurance. Here, exporters are insured against the risks of contractual default or non-payment as a result of political or catastrophic events, government acts or decisions, transfer problems, debtor insolvency or arbitrary cancellation of contract. The guarantee applies irrespective of the nature of the buyer (public or private). The premium is set as a function of the risks covered. In 2007, the volume of cover was EUR 15 billion, but, in accordance with the OECD Arrangement rules, the procedure is managed on a long-term break-even basis.
- Canvassing or scouting insurance (*assurance prospection*): the purpose is to support market prospecting efforts, in one or more countries, by SMEs with annual sales of below EUR 150 million. It offers firms significant cash facilities, amounting to 65% (80% for firms meeting the criteria for innovative firms or firms with proven export success with this vehicle) of the difference between scouting costs incurred and a percentage of the resulting revenues (7% for goods, 14% for services, 30% for licenses, royalties and other rights). In return, the firm pays an annual premium of 3% of the prospecting budget under guaranty. The premium is raised to 5% in the case of advance payouts for innovative firms or those whose annual sales total EUR 1.5 million or less. Moreover, the export risk is limited to the amount of the premiums actually paid since, when the contract expires (after the guarantee period and the amortisation period, *i.e.* generally seven years), if revenues do not fully cover the compensation received, the firm may keep all or a portion of it. The budgetary cost of this measure was EUR 31 million in 2008. Banks are authorised to distribute the subsidy under certain conditions.
- Exchange rate insurance: in return for a premium, this insurance covers the exchange rate risk that exporters face when responding to international calls for tender, spanning the time between submission of a bid and signature of the potential contract, as well as the payment period. In addition, firms can keep 50% to 70% of a currency's increase during the commercial negotiation stage in the case of a "profit-sharing" guarantee (*avec intéressement*). At the end of 2007, total cover stood at EUR 2.1 billion, with

the US dollar accounting for the predominant portion (80%), followed by the Swiss franc (6.5%), the yen (3.5%), the pound sterling (2.5%), and the Canadian dollar (2%). This procedure follows a long-term financial break-even rule through risk pooling and coverage arranged in the market. In 2006 and 2007, the outcome was positive in the amount of EUR 1.5 million.

- Surety and preliminary financing insurance: this covers all forms of conventional surety required by the foreign buyer (return of down payments, for example) as well as preliminary financing needed to fulfil export contracts (purchase of machinery and parts, hiring, etc.). It also offers cover for the bank, up to 85%, against the risk of non-recovery of all or a portion of its claim on an exporter that finds itself in a situation of financial default.
- Foreign investment insurance: this guarantees investments against political risks involving expropriation and non-recovery of property. The programme produced a surplus in 2006 and 2007, but the volume of guarantees outstanding has declined over the last four years. Reforms over the course of 2008 have expanded the guarantee base by eliminating the EUR 15 million floor for projects, extending the maximum term of the guarantee and allowing for restatement of the investment's value.
- The FASEP guarantee fund supports firms with annual sales not exceeding EUR 460 million in their efforts to establish themselves and grow internationally. This procedure, which is very limited in terms of the number of contracts and amounts outstanding, covers the risk of failure of foreign subsidiaries in all countries outside the European Economic Area and Switzerland. In 2005, the guarantee fund's geographic zone was extended, and the procedure was made more accessible to SMEs.

In light of this finding, reforms have been launched to make the current arrangements more transparent and useful. Launched in February 2008, one reform made Ubifrance the centrepiece of a government mechanism to support international business development. *First*, a framework convention for partnership between Ubifrance and consular networks (chambers of commerce and industry) in France and abroad established a new organisation and a redistribution of tasks.[7] This framework document will be supplemented gradually as Ubifrance signs agreements with its other partners. *Second*, it was decided to strengthen the role of Ubifrance by having it gradually take over the running of economic missions providing services to companies in the 44 leading countries for business development assistance. In addition, agencies are now being encouraged to negotiate co-operation agreements and local country-specific conventions and to work together abroad as part of a "Programme France", as well as to establish a catalogue of common products and services. Yet the authorities should consider reinforcing these streamlining efforts, with special attention to consolidating the "one-stop shop" approach centred on Ubifrance. Such a move would make it even easier for exporters to access information and would help reduce their compliance costs. This would seem especially useful, given the official objective of turning 10 000 new firms into steady exporters over the next five years. At the same time, such a reform would make it easier to track the assistance provided and to make public spending more effective.

There are various types of assistance available for entering new markets, and most of them have been bundled together under the "Cap Export" programme that was introduced in 2005 and reformulated in 2008 (see Box 2). In principle, COFACE provides guarantees against commercial and political risks that cannot be insured by the market. It charges premiums for these guarantees and should operate on a long-term break-even basis by pooling risks. This is the case, for example, with export credit insurance. Exchange-rate risk insurance also respects the rule of long-term break-even financial management. Even if 80% of the underlying risk in outstanding contracts relates to the euro/dollar exchange rate, and nearly 95% to parities vi-à-vis the world's major currencies, it is justified that the authorities propose the same type of guarantee as the market. However, it is necessary to make sure that the terms and conditions are not more favourable than those potentially available in the market. One principle that should be maintained, for example, is that while an exporter can in some cases keep from 50 to 70% of any rise in a

7. See the framework partnership agreement (*Convention cadre de partenariat*) of 23 April 2008 signed by the DGTPE, ACFCI, Ubifrance and the UCCIFE.

currency during the period of commercial negotiation, that benefit should be offset by an increase in the premium reflecting the total cost of the particular financial instruments to be put in place.

After surveying the literature, Wagner (2007) and Greenaway and Kneller (2007) conclude that selling abroad would be limited primarily to the most productive firms, which self-select according to profit expectations after paying the fixed costs inherent in exports. "*Assurance prospection*" (canvassing or scouting insurance) is not really a guarantee as such, but rather financial support in the form of an advance aimed at compensating such costs for SMEs, which are relatively steeper than for large groups (which may explain why exporting increases with firm size). Indeed, it gives businesses cash facilities. In order for this measure not to appear weak in light of international competition laws, it ought to be managed on a long-term break-even basis and thus not entail any net subsidisation. Indeed, while such assistance is repayable, depending on sales revenue, the indemnities a firm receives may be kept if sales are insufficient. For this reason, it could theoretically generate sporadic exports in order to benefit from such support, or lead to "last-chance exports" designed to stave off bankruptcy rather than to durably conquer new markets. Nevertheless, and in contrast to an approach based on particular, one-off assistance, this mechanism is part of a comprehensive export-support policy.

Other measures are designed to bolster export-oriented employment, especially for young people. This is the main feature of the International Business Volunteers (VIE) programme, which helps overcome cultural and linguistic barriers (key considerations when it comes to exporting) and which should therefore be pursued and enhanced (see below). On the other hand, the export tax credit does not seem to be used very much for market prospecting expenses: according to a recent survey, slightly less than 70% of CCEF counsellors make no use of it, and around 15% of others are dissatisfied with it (Comité national des conseillers du commerce extérieur de la France, 2008). The authorities could consider eliminating this tax credit. In addition, the fact that the tax credit for market prospecting expenses was extended to the European Economic Area in 2006[8] raises the more general question of whether assistance for exports to nearby markets is appropriate. Crozet *et al*. (2008) show that, in contrast to long-distance exporting, exports to EU-15 markets generate almost no productivity gains in comparison with serving only the French market. On the other hand, exporting to nearby markets can be important because of a learning effect, especially for first-time exporters (Bouyoux, 2008). The combination of these two arguments suggests that, while exporting to neighbouring markets may be useful, official assistance for such exports should be time-bound. Otherwise, there is a risk of undermining the incentives needed to tackle dynamic markets that are geographically distant. Overall, while export support tools have been in constant flux for several years, the authorities would do well to reconsider them further: first, with a view to simplifying and clarifying them, as recommended by nearly 60% of CCEF counsellors (Comité national des conseillers du commerce extérieur de la France, 2008), and secondly with a view to rationalising them in economic terms while avoiding net subsidisation.

Increase incentives to promote innovation

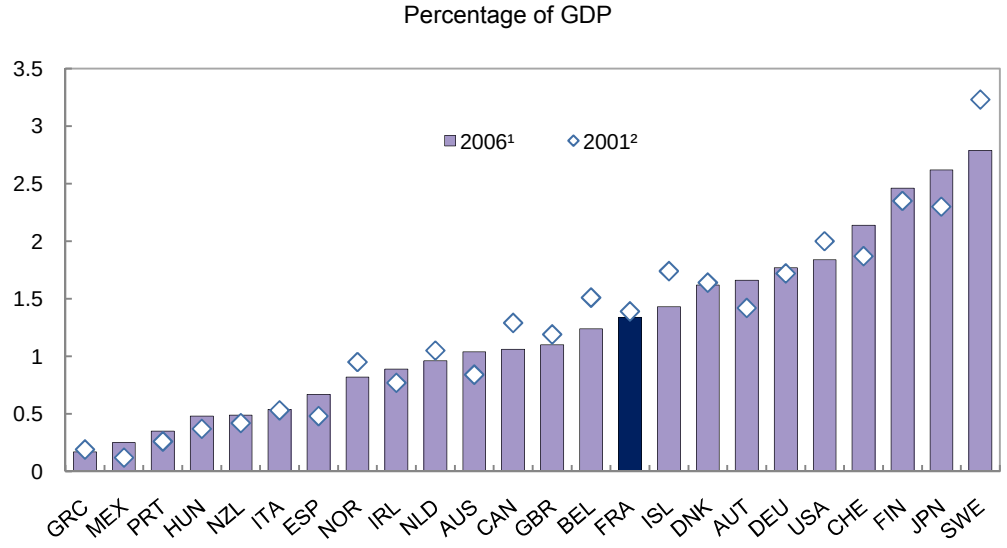
According to an "image" survey conducted by Coe-Rexecode, French goods provide good value for money (Coe-Rexecode, 2006, 2007 and 2008). On the other hand, the non-price aspect such as the technological innovation content of both consumer and capital goods lags behind that of German, Italian and Japanese products. Moreover, the evolution of this criterion over time suggests that competitiveness has declined. This weakness may reflect a framework and conditions that are not propitious for promoting the rapid development of innovation, even though the erosion of export margins may have dampened R&D efforts over the last years. In this context, the strong productivity gains achieved by French industry were more defensive (obtained by closing the least profitable activities and laying off the least productive

8. The European Economic Area is an agreement of association between the countries of the European Union, Iceland, Norway and Liechtenstein.

employees) than offensive, i.e. generated by a wave of technological innovation (Saint-Etienne, 2008). Yet, recent empirical studies show that the innovation deficit, as measured by a relatively low level of R&D expenditure as a percentage of GDP, has been a drag on the country's foreign trade performance (Cochard, 2008). In 2006, with a ratio of 2.1% of GDP, France's R&D intensity was higher than that of the 27-country European Union (1.8%), but lower than in the best-performing OECD countries.

Industrial innovation in France is marked by structural weaknesses, as revealed by several indicators (Conseil économique et social, 2008b). Not only are there too few innovative SMEs, there is little private R&D performed in comparison with leading countries in Scandinavia, Japan, the United States and Germany (Figure 8), even if the number of patents taken out by SMEs has risen by 9.3% over the past six years. Another characteristic feature is weak private-sector involvement in public research. Government R&D contracts are concentrated in a small number of sectors, and there is little mobility or interaction between researchers in the public and private sectors. As a result, research is not very productive (for instance when measured by the number of scientific articles published in relation to the amounts invested) in comparison with the other major OECD countries (Observatoire des sciences et des techniques, 2008), and the overall framework for promoting research is too fragmented. Even if the ranking produced by Shanghai's Jiao Tong University is imperfect, it reveals nevertheless a deficient position held by French universities. To a large extent, this reflects a dispersion of higher education and research institutions, but also the low productivity of research. A number of policies have been introduced or further developed in recent years to deal with these insufficiencies. In line with the Lisbon strategy, these include the promotion of "competitiveness clusters", changes to the research tax credit, and a general reform of universities, and of university research in particular.

Figure 8. **Private investment in R&D**



1. 2005 for Australia, Iceland, Mexico and New Zealand; 2004 for Switzerland.
2. 2002 for Austria and 2000 for Switzerland.

Source: OECD, *Science, Technology and Industry Outlook 2008*.

Reinforcing the effectiveness of the "competitiveness clusters" policy

In 2004, the authorities launched an ambitious programme of "competitiveness clusters" (*pôles de compétitivité*), which aims at promoting clusters. The general objective is to enhance the competitiveness of the French productive apparatus by encouraging greater innovation, spurring regional development

within the country, and constituting a critical mass to face international competition and to win new export markets. On this last point, empirical studies confirm that geographical proximity among different exporters tends to increase the likelihood that a firm will be able to sell abroad (Koenig *et al*., 2008). More specifically, a competitiveness cluster brings together in a single place firms, research centres and training and education facilities belonging to the same sector of activity. The goal of this "triple-thrust" approach is to foster collaboration among these different players through the joint pursuit of innovative projects. The designated clusters involve a variety of fields and include emerging high-tech sectors (nanotechnology, biotechnology), more mature sectors (automobiles, aeronautics, rail, textiles) as well as low-tech ones (meat processing, construction). They are divided into three categories: there are seven "global competitiveness" clusters (among world leaders in their industries); ten clusters with global ambitions (having the potential to become leaders but lacking sufficient size); and fifty-four domestically oriented clusters (that have no immediate prospects of an international profile, but are striving to develop exports and produce positive fallout for the economy of their regions).

Significant funding is being allocated to develop these competitiveness clusters: EUR 1.5 billion for the period 2006-08, and a similar envelope for the period 2009-11. The primary focus is on financing applied and innovative research projects to develop products or services that can be brought to market in the short or medium term. Subsidies are provided both by the central authorities (through a single inter-ministerial fund) and also by specialised government agencies (*Agence nationale de la recherche* – National research agency; *l'Agence de l'innovation industrielle* – Industrial innovation agency; and OSEO, which supports innovation and growth for SMEs), as well as the *Caisse des dépôts et consignations* (the national savings administrator). Participating firms are also eligible for tax exemptions on research positions, and they can obtain additional financing from local governments.

The success of this competitiveness clusters policy is conditional on several factors (OECD, 2008a). The efforts must be more concentrated. When the programme was launched, the plan was to designate 15 clusters only, but the desire to spread the benefits won out over the intention to focus on a few large clusters, with the result that 67 were selected in 2005, and their number now stands at 71. In other words, instead of targeting the system exclusively on technological innovation in leading-edge industries, the clusters policy also contains a territorial development component. The risk of spreading funds too thinly is limited, however, in view of the evaluation carried out in May 2008, insofar as global or potentially global clusters are using roughly four-fifths of the funding, and some 55% of projects undertaken since the mechanism was launched are concentrated in 10 of the 71 clusters (Boston consulting group, 2008). This portends a certain tension, however, between the search for efficiency through concentration of resources on the one hand and the desire to promote regional development by expanding the number of clusters on the other.

It is also advisable to get SMEs closely involved and to take account of their R&D requirements, notably in high-tech clusters. The presence of large firms can discourage SMEs from submitting their own, more modest proposals. At first glance, the proportion of SMEs in the clusters, at 85%, is high. However, the clusters are still organised primarily around large firms. In fact, nearly half of all establishments are subsidiaries of conglomerates, and it is the large firms that do most of the R&D. On this basis, it might be that the competitiveness clusters have assembled essentially those firms that have the least need for R&D support (Conseil économique et social, 2008b). This fear needs to be qualified, however, since 60% of projects already involve independent SMEs. Above all, the primary objective of the clusters policy is in fact to develop partnerships and synergy between all parties to innovation. The authorities need to conduct in-depth evaluation and monitoring to prevent the system from being turned into direct support for corporate R&D (for which the research tax credit is already in place). Moreover, while the subsidies benefit firms of all sizes when they collaborate with one or more research laboratories, international experience shows that it is important that independent SMEs benefit from a broader dissemination of information regarding possible opportunities, and that they be well represented in governance structures

(OECD, 2007f). Nevertheless, more than one out of ten SMEs that have taken out patents at the national level have been integrated into a competitiveness cluster (Abitbol *et al*., 2009).

Public research institutions should do more to publicise the results of their work and the techniques they have developed, through effective communication and dissemination policies. Creation of the "Institut Carnot" label, which has been awarded to 33 public institutes working with the private sector, is a step in the right direction.[9] In addition, 13 Advanced thematic research networks (*Réseaux Thématiques de Recherche Avancée*, RTRA) have been created with State financial assistance, embracing research centres in a given geographic area, so as to produce a critical mass of high-level researchers with a common scientific objective, and this has led in some cases to work on themes that intersect with those of the competitiveness clusters. Finally, the establishment of ten clusters for research and higher education (*Pôles de Recherche et d'Enseignement Supérieur*, PRES), combining universities and research establishments and, in seven cases, a *grande école*, should enhance the outlook for closer ties between the academic world and the private sector and, more generally, should encourage greater empirical spin-offs from research. Yet, it has been underlined that there could be problems of positioning and task sharing between the RTRA and the PRES, particularly when it comes to co-operating with the competitiveness clusters (Lefebvre and Pallez, 2008). Without a clear definition of their respective roles (which could be difficult to achieve), it would be advisable to merge the RTRA and the PRES operating in a given territory.

The clusters' institutional framework needs to be simplified and the process for accessing funds streamlined. The administrative structures should be better co-ordinated and made lighter as well as more flexible in order to preserve an innovation-friendly environment. In addition, the time that elapses between the submission of projects and the receipt of funds should be reduced to the minimum, as delays in bringing products to market can undermine the firms' competitive advantage. Finally, giving the clusters a greater international dimension, for instance by allowing a wider participation of foreign partners in projects, would favour new opportunities for co-operation as well as greater responsiveness to market trends.

Quite apart from measures that could improve the way the competitiveness clusters function, the clusters policy itself involves several risks that need to be taken into account (OECD, 2007a). Public-sector officials are less well equipped than the private sector to select and nurture "winning" industries at a time when markets are highly competitive and rapidly evolving. This is particularly true for sectors undergoing constant technological change in the context of increased globalisation, which requires a flexible approach, allowing the specialisations of clusters to evolve beyond the fields initially defined. Thus, the existing device, based on business initiatives but on elements of more-fundamental research as well, seeks to alleviate this risk. There is also a risk of capture of administrative authorities by key firms when they become the central focus of government action. Finally, if regions become too specialised, they could be vulnerable to sector-specific shocks, which are more likely in a globalised context. This would be all the more problematic if inter-sectoral labour mobility is low.

The geographic concentration of activities in the form of clusters can produce localised economies of scale, reduce transaction costs and boost the productivity of firms.[10] Yet these effects are non-linear: they

9. The Carnot label is a label of excellence allotted by the National Research Agency to support researching partnerships. The designated institutions (called "Carnot Institutes") receive funding from the Agency, calculated according to the volume of receipts resulting from research contracts led with their partners, businesses in particular.

10. There are a number of phenomena behind the economies of scale generated by clusters. They may result from a more efficient sharing of equipment and facilities, lower provisioning costs, a better matching of employers and employees or of buyers and suppliers, greater ease in learning new technologies, wider dissemination of knowledge, and better tracking of market trends.

follow an inverted U-curve because of the congestion effects that materialize beyond a certain threshold. Duranton *et al.* (2008) and Martin *et al.* (2008) emphasise that firms may, on their own for the most part, internalise the benefits induced by clustering effects in their choice of location, doing so prior to any public intervention. Their estimations would suggest that the establishment in the late 1990s of "local productive systems" (*Systèmes productifs locaux*, SPLs) had little impact on the productivity of the firms concerned, insofar as to raise it by 5% they would have needed to double their degree of specialisation in an activity and in a given zone. These studies show clearly that government policies must also seek to eliminate the obstacles to the "natural" emergence of clusters of optimal size. Those obstacles have to do, among other things, with constraints on the mobility of labour (such as high transaction costs on the housing market, local regulations that reduce the housing supply, rising real estate costs) and congestion in local transportation networks. For instance, negative externalities in terms of congestion and house price increases were observed in the case of the Grenoble business cluster (OECD, 2007f), which underscores the need for companion measures aimed at tackling such challenges.

However, the findings of this research as for the effectiveness of government initiatives to enhance the productivity gains of clusters cannot be generalised insofar as there are differences to be noted between the former SPL policy and the more recent policy of promoting competitiveness clusters. While the budgets allocated to the SPLs were modest, the clusters are much more amply funded. Thus, even if the risk of potential windfall effects could be more important, a more pronounced leverage effect of governmental intervention could also occur. Indeed, in contrast to the clusters policy, there is no requirement for the SPLs to co-operate with research and training centres as a condition for financing. Consequently, the stress that the clusters policy places on linkages among firms, R&D centres and universities could produce greater spin-offs and economic benefits, for example, by creating a better match between students' fields of expertise and the needs of businesses, or a more effective transmission of technological innovations resulting from research activities.

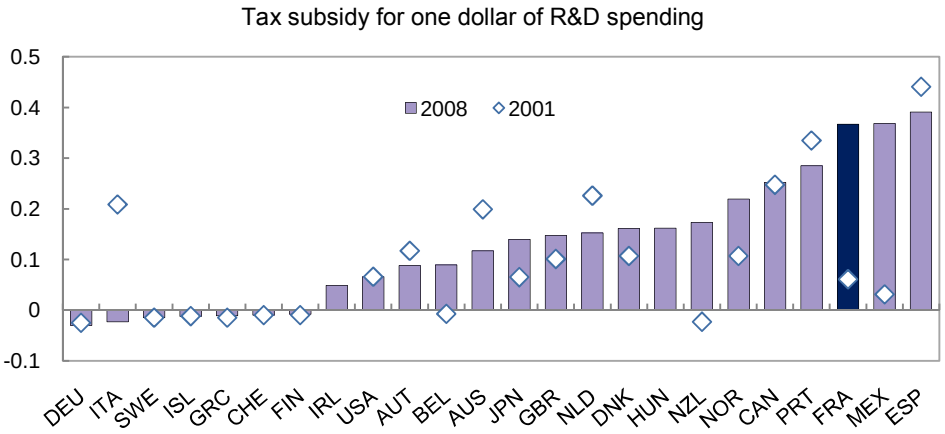
Overall, if it is to be effective in promoting innovation and minimising related risks, the policy for supporting clusters must be active and adaptable. First of all, by involving the private sector to the greatest extent possible in the different stages of establishing of a cluster programme (design, selection of targeted activities, implementation). Next, the eligibility for future financing should be dependent on the results of regular evaluations and, more specifically, the achievement of predetermined objectives and performance indicators. If those are not met, then further government funding should be denied. It should be noted that, according to an evaluation submitted to the government in June 2008, 13 out of the 71 clusters had not fully achieved their objectives (Boston Consulting Group, 2008). No immediate penalties were imposed, and the clusters concerned were given another year to prove themselves. The French authorities, however, are also planning to introduce performance contracts for three years for all the clusters, and this is a move in the right direction. Finally, international experience shows that support programs for clusters are not only often conditioned by the achievement of a certain number of objectives, but also that they can be amended in time, or even possibly stopped (OECD, 2007a). Once launched, the collaboration between different actors leading to a process of self-sustaining technological dynamics and a rise in firms' own R&D spending, government subsidies should not last indefinitely. A situation where firms regard State intervention as a given is likely to be both ineffective and costly, notably due to risks of a possible capture of the authorities by the beneficiaries of such financial support. To derive maximum efficiency from their current action, the authorities should make the subsidies temporary by setting and indicating in advance a sunset date for their payment. A greater role of private financing (banks, venture capital) that in due course could replace public funding thus appears desirable.

Establishing appropriate tax incentives for R&D

Another aspect of the reorganisation of innovation and research policies involves a reform of the research tax credit (*crédit d'impôt recherche*, CIR). This is a horizontal tax benefit in support of R&D

(with no restriction as to size or sector) that allows firms to claim research and development expenses as a deduction under the corporate tax (*impôt sur les sociétés*, IS) or a fiscal refund. It has been modified through several amendments over time. From 1983 to 2003, the basis for calculating the tax credit was limited to the increment in R&D spending, 50% of the increase in a given year over the average of the two previous years, and there was a ceiling on the annual tax credit for each firm. However, the scope of the measure was broadened in 2004. A growing portion of this tax relief was based on the volume of committed expenditure (and not only on the change), and both the annual ceiling per firm and the rate of tax credit applied on volumes were raised. A further major amendment was made in January 2008, in light of the Lisbon strategy, with the declared aim of encouraging R&D spending by local firms and enhancing the international attractiveness of French territory in this area. Indeed, the subsidy for one dollar of R&D expenditure nearly doubled between 2006 and 2008, from 19% to 37%, making France one of the most attractive countries in terms of R&D assistance (Figure 9). The amendment completely eliminated the portion calculated on the basis of incremental spending, it raised the tax credit rate applicable to the volume of expenditure significantly, and it eliminated the ceiling. The rate was raised to 30% of R&D spending up to EUR 100 million and stands at 5% for all investments beyond that. In addition, the rate for new participants in the programme was increased to 50% for the first year and to 40% for the second year.

Figure 9. **Tax treatment of R&D in OECD countries**[1]



1. Tax subsidy to R&D calculated as 1 minus the B-index, defined as the present value of before-tax income necessary to cover the initial cost of R&D investment and to pay corporate income tax. Positive values indicate a subsidy; negative values indicate a tax burden, when the expenditure cannot be deducted the same year.

Source: OECD, *Science, Technology and Industry Outlook (2004 and 2008)*.

The changes to the research tax credit, notably due to the gradual shift from an incremental to an absolute base, have been accompanied by a sharp jump in total annual claims under this scheme. While they ranged between EUR 0.4 billion and EUR 0.5 billion until 2003, they jumped to nearly EUR 1 billion in 2005, EUR 1.6 billion in 2006, and EUR 3.9 billion in 2008.[11] The new scheme can be expected to mean larger research tax credits for large firms and SMEs alike. Nevertheless, it is likely to go proportionately more to large, R&D-intensive companies (Chertok *et al*., 2008). Generally speaking, as might be expected, firms that already spend a great deal on R&D tend to prefer a volume-based, rather than an incremental approach (OECD, 2003). More importantly, taking into account the total level of R&D expenditure rather than only incremental spending has the disadvantage of subsidising investments that companies would

11. The fiscal liability in year *n* corresponds to the amount of the firm's tax credit for year *n*. It does not reflect the immediate budgetary cost, as it is imputed to corporate tax due over the next three years, and the residual portion becomes refundable in the fourth year. One of the measures of the stimulus plan adopted at the end of 2008 consisted of an acceleration of the refunding of this tax credit.

have made anyway, without any tax relief. This implies that a portion of the expense incurred by the government has no impact as an incentive for businesses to do more R&D, and consequently it entails a significant windfall.

Tax credits based on incremental spending are generally more complicated to develop, and some of the methods used for defining the base periods (such as a rolling average base over two years that was previously employed in France) can distort incentives in R&D activities (Bloom *et al*., 2001). To the extent that the period of reference can be properly defined, however, incremental systems can be more efficient in promoting research at the margin while minimising perverse incentives and guaranteeing the efficient use of public funds (OECD, 2003). In particular, this is the case with fixed-base systems, or when a firm's all-time maximum R&D expenditure is taken as the base for calculating eligible incremental investments (Bloom *et al*., 2001). Overall, in light of the high budgetary cost of the scheme now in effect, the authorities would be well advised to carry out regular assessments of its effectiveness so as to adjust for the best its configuration and scope of application.

As can be seen from a comparison of Figures 8 and 9, while Spain and Portugal have introduced mechanisms that are also very advantageous for promoting R&D, the corresponding private investment has been very modest. Conversely, the R&D effort is very strong in Finland and Sweden, whereas these countries have not established any specific tax incentives to promote it. It is therefore important to ensure that rising CIR expenses are actually giving a tangible boost to firms' innovation and competitiveness. The risk of a windfall is increased insofar as a significant increase in R&D intensity will probably be difficult without a modification of the industrial structure. Consequently, opportunistic behaviour can develop such as wrongly classifying ordinary expenditures as R&D spending or diverting the benefit of this measure into higher salaries for scientific staff without any necessary increment in the volume and productivity of their research. The findings of empirical studies evaluating the impact of horizontal tax measures such as the research tax credit are contrasting and difficult to compare because of differences in the data and methodologies used (Mohnen, 1999; Hall and Van Reenen, 2000). The OECD's empirical studies show that horizontal tax measures such as the research tax credit have only a weak impact on R&D spending levels and on total factor productivity in the private sector, even if the impact is larger than in the case of direct subsidies and is more pronounced in R&D-intensive industries (Jaumotte and Pain, 2005a and 2005b; Johansson *et al*., 2008). Other studies find more substantial effects, with a EUR 1 tax credit feeding through to a rise in private outlays of between EUR 2 and EUR 3.60 (Klassen *et al*., 2004; Hall, 1993; and, on French data, Mairesse and Mulkay, 2004). Estimates by the Directorate-General for the Treasury and Economic Policy of the long-term impact of CIR reform are based on an intermediate assumption of a multiplier of 2 on private research outlays, which should generate an increase in GDP of nearly 0.05% per year on average over fifteen years – equivalent to a multiplier of 4.5 on GDP for each euro spent by the government (Cahu *et al.*, 2009).

Besides the CIR, other measures have also been sought to reduce the cost of R&D and to spark positive externalities for the economy as a whole. The "Aid for Projects of Innovative Young Businesses" subsidy (Aide aux projets des jeunes entreprises innovantes, APJEI), introduced in 2004 for a ten-year run, is designed to foster the growth and development of high-tech SMEs through different tax exemptions. It applies to innovative young enterprises (Jeunes entreprises innovantes, JEI) that have been in existence for less than eight years, are independent, and highly R&D intensive (i.e. R&D spending must account for at least 15% of eligible costs).

To encourage the dissemination of scientific knowledge and promote research work in higher education, the 2008 budget law extended the benefit of JEI status to "Young University Enterprises" (*Jeunes entreprises universitaires*, JEU), owned or run by students or by academic researchers. Other measures could also be considered. Technology transfer and licensing offices, for example, could be created in universities to promote spill-over effects from research. This would be consistent with recent

recommendations from the OECD and other international organisations that regard the transfer of knowledge from public research agencies as a strategic consideration (OECD, 2007b; European Commission, 2008). This would also represent an extension of the "business incubators" policy linked to public research that has been in place since 1999. Indeed, although France is the leader among G7 countries for the share of higher education institutions in the total number of patents filed by inventors living in the country, few of these patents are actually commercialised (OECD, 2008a). At the same time, France leads the G7 in the proportion of inventions that are held by domestic enterprises but were created in another country. Generally speaking, having universities commercialise inventions or become shareholders in private firms in exchange for licenses to exploit patents would help foster an entrepreneurial culture and strengthen resources in higher education, as the UK example illustrates (Cercle d'outre-Manche, 2008). It would also serve to overcome the scant involvement of the private sector in public research. The proportion of university R&D that is financed by businesses in France is among the lowest in the OECD. It was less than 2% in 2006, *versus* an OECD average of 6%, and 14% for Germany (OECD, 2008b).

Further reforms to universities and public research

A number of significant reforms have been recently launched to boost fundamental and empirical public research in France. The authorities have used the financing lever to this end and have also initiated a broad programme to reform the governance of research. The year 2006 saw the creation of agencies to provide strategic guidance (the High Council for Science and Technology – *Haut conseil pour la science et la technologie*, HCST) and to perform evaluations (Research and Higher Education Evaluation Agency – *Agence d'évaluation de la recherche et de l'enseignement supérieur*, AERES). In the latter case, the first round of evaluations of research units was conducted in 2007-08. The publication of delivered scores (A+, A, B or C) and the evaluation reports marked a significant step forward in terms of transparency and information. As from 2009, 20% of the funding for research units is from now on a function of the evaluation operated by the AERES. It is important that this link between financing and performance be gradually tightened. It would be desirable that the same approach be adopted and extended to universities and tertiary courses. Moreover, the creation in January 2007 of the National Research Agency (*Agence nationale de la recherche*, ANR) opened another channel of public financing for research projects. Its role in financing public R&D is still minor, but it deserves to be developed further. Indeed, the purpose of the agency is to increase the number of research projects emanating from the scientific community or in response to calls for tender, financed on the basis of competition and peer evaluation. It is also important that the selection of projects be as transparent as possible and that involves more foreign experts (OECD, 2008a). A greater attribution of credits using such criteria would help strengthen the governance of public research institutions and create conditions for a better allocation of resources.

The Universities Freedom and Responsibility Act (Liberté et responsabilité des Universités, LRU), promulgated in August 2007, lays the groundwork for greater autonomy for French universities, which should boost the quality and efficiency of higher education. Twenty universities have now signed up for the new operating mode, and the others are to follow suit within five years. With this new law, the internal governance of universities has been revised, increasing the powers of the university president and reinforcing the position of the Board of Directors within the administrative structure. The number of board members has been reduced to facilitate decision-making. At the same time, the proportion of outside members has been increased slightly, and at least one member must be a corporate CEO.[12]

The LRU law has also enabled the transfer of movable and immovable property to the universities and has given them responsibility for their budgets, which comprise an overall government subsidy and their

12. University governing boards currently include representatives from more than 100 firms of different sizes and sectors.

own internal resources. There has also been an emphasis on generating new resources through the creation of foundations, and encouraging philanthropic donations to universities by extending various tax mechanisms or making them more flexible. However, this financial autonomy is not complete, as can be seen in the fact that tuition fees are still regulated by the State. Moreover, universities are still not allowed to select their incoming students, although there are plans to provide students with better information on the quality of universities through the publication of statistics on the numbers of candidates passing examinations, receiving degrees, pursuing further studies, finding professional employment, and the implementation of an active guidance mechanism. This mechanism, which was generalised in 2009, imposes a mandatory pre-registration procedure during which the university provides applicants with a considered opinion on their intended course of study, inviting them, as the case may be, to shift the focus of their applications to a field in which their prospects for success would be greater. Lastly, an initial draft of the law called for the selection of Masters' degree candidates, but this was unfortunately abandoned under pressure from student organisations.

In the wake of the officially commissioned Schwartz (2008) and Hoffman (2008) reports, an ambitious plan was proposed in October 2008 to make scientific careers more attractive.[13] This is an important step, given the growing brain drain that France is experiencing, particularly to the United States (Tritah, 2008). Even if its implementation encounters difficulties, this plan goes in the right direction by stipulating, in return, a strengthening of performance requirements of the research staff. As well, the National Scientific Research Centre (*Centre national de recherche scientifique*, CNRS) is being reformed following the adoption of the "Horizon 2020" plan in July 2008. Under that plan, the Centre will be divided into six institutes (mathematics, physics, chemistry, engineering, human and social sciences, and ecology and biodiversity), which could be tasked by government with national co-ordination duties in their field of specialisation. The idea is to bring greater openness to the CNRS by strengthening co-operation in research fields shared with universities and other national research agencies. Finally, in February 2008 the government launched "Operation Campus" to renovate and modernise the physical facilities of ten existing campuses, financed through the transfer of 3% of EDF's capital, in the amount of EUR 5 billion. This renovation policy should also help make the universities more attractive to French and foreign students, teachers and researchers. In the end, it is important that the effort to reinforce university autonomy be pursued, particularly in the areas of budgeting and the hiring and remuneration of personnel. In this respect, giving universities the freedom to select students on entry and to set tuition fees would contribute to it and should be paired with an expansion of the system of students loans recently introduced.

Promoting the growth of enterprises

The probability that a firm will become an exporter rises with its size, as measured by the number of employees (Ceci and Valersteinas, 2006). Nearly 70% of French firms with more than 250 employees make sales abroad, *versus* slightly more than 20% of SMEs with between 10 and 249 employees, and only 2% of very small enterprises. In the absence of sufficient numbers of manufacturing-sector SMEs, as compared with Germany in particular, the French export sector is highly concentrated: large firms with more than 250 employees are responsible for the majority of trade (55%), but they represent barely 3% of exporters. At the other extreme, very small enterprises with fewer than 20 employees account for more

13. With EUR 250 million over three years (2009-11), in addition to the EUR 750 million allocated to pay increases at the national level, this plan contains many provisions that go in the right direction. In particular, it offers newly appointed assistant professors a pay increase of 12 to 25%. It also creates common chairs between universities and research agencies, thereby promoting mobility for their holders, giving them supplementary resources and reducing their teaching load; increased and targeted bonuses for teaching responsibility and for scientific excellence in return for more systematic evaluation; enhanced bonuses for the most outstanding researchers; and accelerated career paths with greater possibilities for promotion.

than 70% of exporters, but only 20% of total export sales. A major challenge for strengthening competitiveness, then, is to create conditions that will help small and medium-sized businesses to grow and develop and expand their size. A number of recent reforms have moved in the right direction, particularly by alleviating the tax burden somewhat, improving the financing of firms, and reducing the regulatory burden. However, further progress is needed in several of these areas.

Reducing the tax burden and restructuring targeted business support schemes

The competitiveness of export firms and their growth prospects depend, among other things, on the tax system. Steps have recently been taken to reduce the tax burden to some extent. The annual minimum tax (IFA), aimed at guaranteeing a minimum tax payment of the corporate income tax, is to be eliminated by 2011, with a budgetary cost of EUR 1.2 billion.

In February 2009, the authorities also announced the elimination in 2010 of the *taxe professionnelle*, the local business tax, at least the part based on productive investments.[14] This is an important decision in order to strengthen the competitiveness of firms. The *taxe professionnelle* has no equivalent in Europe or other Western countries: it works to the detriment of attractiveness and growth of the French economy, while posing risks of driving productive activities abroad. According to a recent INSEE survey, it is regarded as a real handicap by more than 85% of business people (Bardaji and Scherrer, 2008). It is a very complex tax, with a host of exemptions, and the effective tax base is far removed from the theoretical base (OECD, 2007c). In reality, the tax is effectively calculated on a base comprising value added, the value of fixed assets, and the gross value of equipment and movable capital (industrial materials and tools, vehicles, office equipment and furnishings). Consequently, the *taxe professionnelle* applies to all factors of production but imposes a greater burden on firms in the most capital-intensive sectors, *i.e.* industry, energy and transportation, which account for a third of national value added but pay two-thirds of its burden. Even if the total burden of this tax has been reduced somewhat in recent years, in particular with the introduction of rebates for new capital investment, it remains very high, EUR 25 billion in 2008, equivalent to about 15% of government revenues at the sub-national level (regions, departments and communes). Consequently, the issue of restructuring the *taxe professionnelle* raises the broader question of local taxation reform and the financing of local governments (OECD, 2007c), at a time when the authorities are preparing a more thorough overhaul of local government structures. When that happens, a greater use of the real property tax (*taxe foncière*) and a complete overhaul of local government aid to businesses could represent a significant source of financing (see below).

Corporate profits in France are subject to a progressive tax system. The standard tax rate on businesses is 33.33%, but, since 2001, some firms have been eligible for a reduced rate of 15% on a portion of their taxable profits (capped at EUR 38 120). To qualify for this lower rate, a company must meet a certain size limit (before-tax sales below EUR 7.63 million), and it must be independent (not part of a larger group) in order to avoid artificial splitting of businesses in order to benefit from the preferential rate.[15] Generally speaking, lessening the tax burden through the reduced corporate tax rate cuts the cost of equity financing and in this way facilitates access to bank credit for firms of modest size. Nevertheless, its scope of application seems too limited to spark the emergence of companies capable of achieving a critical size for exporting. While one out of every two companies subject to corporate tax actually benefits from this measure, the main beneficiaries are "very small enterprises" (TPEs), rather than "small and

14. This announcement followed measures taken in October 2008 in order to support business investment in view of the recession. Accordingly, all new investments made before 1 January 2010 are exempt from this tax over their entire amortisation. The cost of the amendment is estimated at around EUR 1 billion for a full year.

15. The independence rule stipulates that at least 75% of the corporate capital of the enterprise must be entirely paid up and held continuously by individuals or legal persons that themselves meet these conditions.

medium-sized enterprises" (SMEs): 80% have fewer than 10 employees and only 1% more than 50 (Raspiller, 2007).[16] Moreover, it is primarily the sectors that do little or no exporting and are characterised by weak productivity-construction, retail trade, real estate, personal services—that reap the main advantage, as opposed to industrial sectors. More generally, while many tax distortions can hamper the creation and development of SMEs in OECD countries (OECD, 2009), reduced rates of corporate tax for small firms do not seem to enhance growth (Johansson *et al*., 2008).

With the creation in 2007 of the status of "growth SME" (*PME de croissance*), the authorities were seeking to use tax relief to "gazelles" – firms of intermediate size with strong growth potential. This status applies to firms that employ between 20 and 250 workers, that have seen their payrolls increase by at least 15% in each of the last two fiscal years, and that meet the European definitions of SMEs.[17] However, while this programme represents progress in terms of overcoming the shortage of mid-sized companies in France, it tends to help those firms (some 4 000) that have already been growing rapidly for two years, rather than creating the initial conditions for such growth. In this respect, a generalised reduction of the various social contributions and taxes (with the priority to the *taxe professionnelle*, but also social security contributions and the turnover tax) would give a boost to the entire industrial fabric, in particular for mid-sized firms where growth has lagged. Social security contributions are perceived as being the principal handicap of "France incorporated" by the professionals involved in export activities (Comité national des conseillers du commerce extérieur de la France, 2008).

Knowing that large companies in France are subject to a tax surcharge of 3.3%, the adjusted legal maximum rate of corporate tax was 34.43% in 2008.[18] This is the highest rate of any country in the European Union, other than Malta, and it is one of the highest among OECD countries (Figure 10). While it has remained relatively unchanged, some significant gaps have recently appeared or have grown to the statutory tax rates prevailing in France's main trading partners.

Yet the fact is that the high rate of corporate tax in France does not reflect the effective tax burden (OECD, 2008a). France has some advantageous provisions relating to capital depreciation allowances, which makes the effective average (Figure 11) and marginal (at 25% and 20%, respectively, in 2005), comparable to the unweighted average of the industrialised countries of the OECD (OECD, 2007d). However, when considering all the measures that affect the tax base (and not only depreciation allowances), it would seem that the implicit tax base in 2006 was one of the narrowest among the major developed countries (IMF, 2008b).[19] The recent move to make the research tax credit more generous has undoubtedly accentuated this feature (see above).

16. In France, there is no single official definition, but the term "very small enterprise" (TPE) is most often applied to firms with fewer than 10 or 20 employees, while those with up to 250 or 500 employees are regarded as "small and medium-sized enterprises" (SMEs).

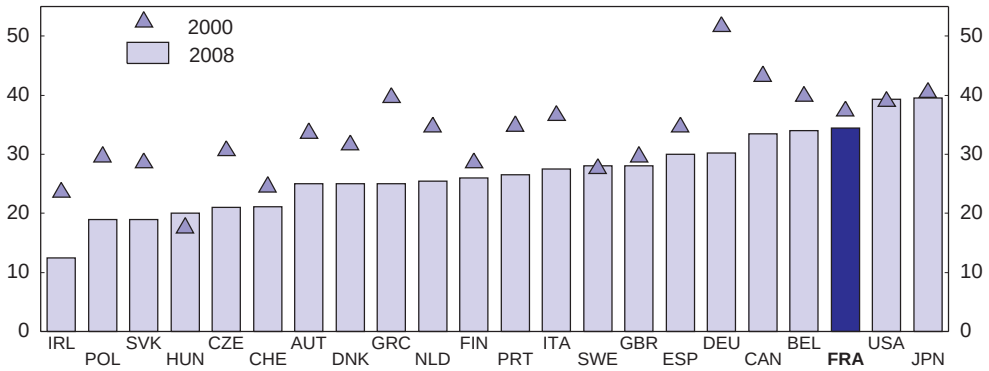
17. The European definition of "micro, small and medium-sized enterprise" (SME) is as follows: a firm which employs fewer than 250 persons, with an annual turnover not exceeding EUR 50 million, or total assets not exceeding EUR 43 million, and which is not more than 25%-owned by one or more enterprises not meeting the definition of an SME.

18. The surcharge applies to firms with turnover exceeding EUR 7.63 million and taxable income over EUR 2.289 million. It is levied on the fraction of the aggregate tax exceeding EUR 763 000.

19. The implicit tax base is calculated by dividing corporate tax revenues by the maximum statutory rate.

Figure 10. **Statutory corporate tax rates in international comparison**

Combined rate, per cent

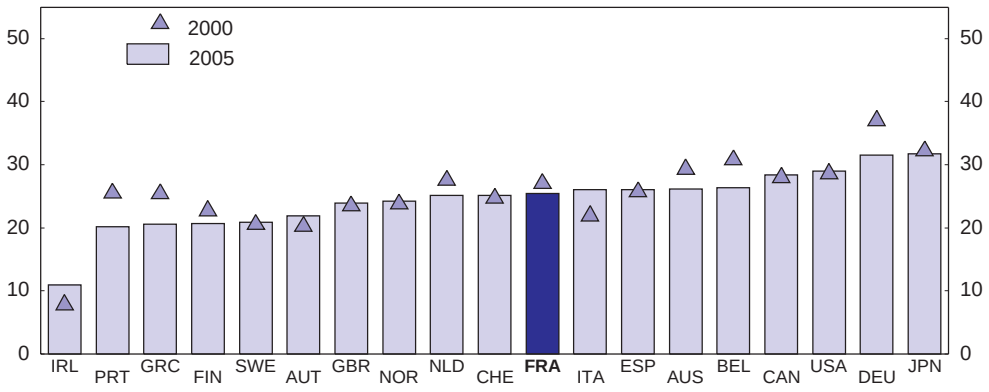


1. Basic combined central and sub-central (statutory) corporate income tax rate.

Source: OECD, *Tax database*.

Figure 11. **Effective average corporate tax rates in international comparison**

Base case, per cent



Source: Institute of Fiscal Studies.

The authorities should simplify the system of corporate taxation by carrying out a reduction of the statutory rate in return for base broadening. The generous depreciation allowances could be reviewed to bring them more into line with an economic concept, and the deductibility rules could be tightened with respect to provisions (e.g. for risks and expenses) and losses (OECD, 2008a). In addition, the principle of territoriality (regarding, for example, the deduction of interest payments or doubtful claims on foreign investments) could also be applied more strictly. Such an ex ante revenue-neutral reform would have the advantage not only of reducing the distortions that different exemptions generate inevitably (for example related to the fact that certain firms can be better informed than others as to the various existing tax reliefs), but also to reduce administrative burdens as well as to improve France's attractiveness. As to the latter element, recent studies show that tax competition among countries to preserve or attract capital tends to focus more on the statutory rates of corporate taxes than on the breadth of the corporate tax base (Devereux *et al*., 2008). Finally, there could even be an ex post increase in tax revenues. While recent work by Clausing (2007) has shown that there was a Laffer curve for 36 countries of the OECD and the

European Union over a long period of time, Brill and Hassett (2007) find that the revenue-maximising tax rate in the wealthiest OECD countries has declined from around 34% in the second half of the 1980s to 26% in the first half of this decade. Higher corporate tax revenues could, however, partly result from bigger incentives to incorporate, leading to lower aggregate personal income tax receipts (de Mooij and Nicodème, 2008).

A powerful lever for reducing the tax burden weighing on the productive apparatus could come from reforming the broad array of targeted business support schemes for which, in some cases, the number of principal recipients can be limited. Two recent governmental reports have offered a particularly critical assessment of current instruments (Cour des Comptes, 2007; Audit de Modernisation, 2007): the amounts involved are very substantial, including schemes targeting SMEs and particular industries (EUR 26 billion). There are at least 6 000 different schemes, and, according to those reports, many of them are virtually identical in their mechanisms or objectives (for example, there are no fewer than 120 different programmes for creating enterprises), while contradictions among the various measures are not necessarily avoided.[20] Moreover, some practices can, in fact, be considered at variance with national rules and/or with European competition law. For instance, France was recently condemned by the authorities of the European Union for failure to abide by its obligations to refund aids granted for the rescue of the companies in difficulty, which were delivered between 1989 and 2004 (Junghans, 2008). In addition, while impact assessments have been performed in some cases, quantifiable and measurable performance indicators are rare or improperly used, and there is no follow-up action for bringing greater co-ordination and efficiency to the system. Indeed, it is to some extent regulated by the firms themselves: by picking and choosing among the various instruments available, they can obtain a pure windfall. Apart from mechanisms that operate at the national level (such as reduced social contributions for low-wage workers), it is likely that the aids are of benefit only to a relatively small number of firms. In the case of support from local governments, they were used in 2005 by only 2% of newly created firms and by 1% of those already established. Yet the Cour des Comptes report shows that, between 2000 and 2005, up to 40% of beneficiary businesses in some regions drew upon at least two different types of support. The search for windfalls would seem, then, to be a persistent phenomenon, and one that benefits only a limited number of firms. Finally, the administrative cost of managing the schemes administered by local governments is very high, on the order of one-quarter of the amounts disbursed. In sum, the bulk of targeted business support schemes should be reallocated to finance the cut in different tax burdens weighing on firms, so as to eliminate windfalls and enhance the competitiveness of the productive economy as a whole.

Reducing threshold effects and improving financing

A number of measures have recently been adopted to reduce obstacles to business development. Under the Economic Modernisation Act (Loi de modernisation de l'économie, LME), promulgated in August 2008, progress has been made in reducing the financial impact of exceeding certain size thresholds, in trying to improve firms' cash flows, and in allowing them to strengthen their equity positions.

To facilitate the growth of enterprises, the costs of exceeding one of the 10- or 20-employee thresholds have been alleviated temporarily, but this measure could eventually be extended at the end of 2010. More specifically, the law provides for a three-year freeze and a four-year adjustment period of the financial consequences linked to such a crossing: higher contribution rates for vocational training, a contribution to the national housing fund, and the loss of eligibility for reduced contributions on low-wage workers or on overtime. Generally speaking, the thresholds were designed to favour SMEs over larger firms, while avoiding the concentration of new provisions around a single threshold, which explains why there are so many of them (Camdessus, 2004). In fact, there are numerous thresholds (for 10, 11, 20, 50,

20. Indeed, the report of the Modernisation Audit (2007) had concluded that a gain of EUR 4 billion was achievable within one year, with the same or enhanced effectiveness.

150, 200, 250, 300, 500 and 1 000 employees), and the associated obligations become heavier and more constraining as each one is crossed. Nor are those obligations solely financial: they also have implications for the firm's corporate governance. For example, a firm must arrange for election of a staff delegate if it has more than 11 employees; beyond 50 employees, it must establish a "works council" (*comité d'entreprise*, CE) and a hygiene, safety and working conditions committee (*comité d'hygiène, de sécurité et de conditions de travail*, CHSCT); if it has 150 employees, there are supplementary obligations relating to meetings of the CE, etc..

Thus, rather than favouring SMEs over large groups (the static vision), it is far more likely that the legal thresholds hamper their growth, when viewed in light of economic dynamics. Consequently, some employers prefer not to hire rather than to cross a new threshold, or they create new business structures as they approach the threshold, rather than grow the existing firm (Amiot, 2008). This effect is perceptible in the data. For example, when looking at the universe of firms with up to 80 employees, a threshold effect can be detected already for 10 employees, but it is more pronounced for 50 employees (Camdessus, 2004; Cahuc *et al.*, 2005). The move from 49 to 50 employees leads to a reduction of 500 firms. This is hardly surprising: crossing the 50-employee's threshold now invokes 34 additional laws and regulations, the cost of which amounts to about 4% of payroll (Attali Commission, 2008). More generally, an in-depth reform is needed to simplify and lighten substantially the number of statutory thresholds. This would help to overcome the shortage of mid-sized firms in France. To begin with, it would be very useful to carry out a harmonisation of the various social functions and trade union representation in the companies of less than 250 employees. For instance, as recommended by the Attali Commission, this could be done by establishing a single representative council in all SMEs with fewer than 250 employees, as a negotiating body that would fulfil the functions of the CE, staff delegates, union delegates and the CHSCT.

The LME reduced payment times in the private sector to 60 days (as from the date of emission of the invoice) starting in January 2009. The average waiting times for payment in France are significantly above the European average (68 days versus 57 days). With large retailers, they can be as long as 120 days. However, this law also authorised temporary dispensations with this rule that can be applied by January 2012, established on the basis of inter-professional branch agreements. Several branches have already signed such agreements, and this generates the risk that a heterogeneity in the reduction of payment times negatively affects cash-flows of other inter-connected sectors not benefiting themselves from any particular exemptions. From this point of view, it would have been preferable to smooth the shift to payment times of 60 days in a progressive way until 2012 for all firms. In addition, it is not certain that the reduction of payment times is beneficial for export businesses insofar as foreign customers are not subject to this rule, whereas simultaneously the French producers are in the obligation to respect it with respect to their domestic suppliers. Overall, even if their reduction is desirable as such, it would be preferable that the payment times be determined on the basis of contractual agreements between purchasers and suppliers in a context of more vigorous competition.

The growth prospects of SMEs depend on the extent of their capitalisation and, more generally, on their capacity to access external funding sources (OECD, 2002). Previous provisions that offered exemption from the wealth tax (impôt de solidarité sur la fortune, ISF) in return for an equity investment in an SME proved to be weak incentives. The Law to Promote Work, Employment and Purchasing power (Loi en faveur du travail, de l'emploi et du pouvoir d'achat, TEPA) of August 2007 instituted a new tax advantage. It allows ISF taxpayers to reduce their tax liability by subscribing directly to the capital of SMEs (exemption of 75% to a limit of EUR 50 000), or indirectly by subscribing to shares of certain investment funds (exemption of 50% to a limit of EUR 10 000). Over the first year these tax measures raised nearly EUR 1 billion for investment in SMEs. Finally, with the LME, the authorities took steps to modernise venture-capital instruments, by creating specialised funds that invest in unlisted "early-stage" start-ups or growing SMEs, as well as by simplifying the venture-capital measures established at the EU level.

In order to give SMEs preferential access to procurement, the French authorities have adopted a mechanism similar to the US small business act (SBA) so as to spur SME growth and innovation by awarding such companies a first government contract and making their turnover expand. More specifically, the LME instituted the principle whereby governments at all levels are authorised to reserve 15% of their so-called "technology" purchases (high-tech, R&D, and technological studies) for innovative SMEs. The 15% limit is slightly higher than actual practice for the year 2006 (12%). However, although the measure was intended to be applied for an experimental period of five years, the idea of establishing quotas for SMEs in the award of procurement contracts has run into opposition from the European Commission, which argues that some 40% of government procurement is already awarded to SMEs in the European Union, and that this percentage rises to 60% when subcontracting is included (Maillet, 2008). These figures from the European Commission should be compared with those of the French Economic Observatory of Public Procurement (*Observatoire économique français de l'achat public*, OEAP), according to which, in 2007, French SMEs, as defined by the Community, obtained 35% of government contracts in terms of nominal value whereas they accounted for 42% of market value added. Most countries deem this strategy discriminatory, and the approach preferred in the proposed European SBA is to institute a "code of good conduct" that would focus on providing SMEs with better information about procurement opportunities, reducing the capital base and qualifications requirements, and strengthening legislation governing payment times.

Other structural determinants of business competitiveness

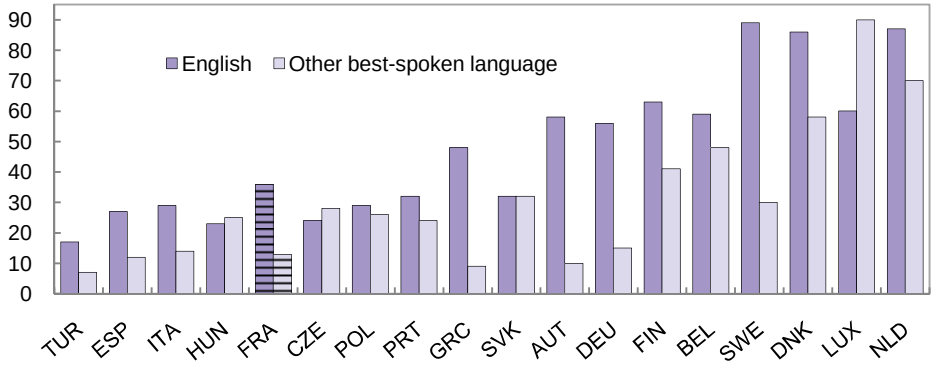
Enhancing knowledge of foreign languages and entrepreneurship

The access of SMEs to overseas markets is conditioned by a set of factors, among which a sufficient financial standing, coupled with a capacity to identify and analyse business opportunities (OECD, 2007e). Yet an important factor for competitiveness is also the knowledge of foreign languages. A report commissioned by the European Commission reveals that, in a sample of 2 000 SMEs in the European Union, 11% had lost a contract because of inadequate language skills (Centre for innovative learning technologies, 2006). Over three years, losses would have amounted to some EUR 325 000 per firm. That study also found that English is the most widely used language in exporting and that the English language can be a determinant in making an initial breakthrough in new markets. Finally, sensitivity to the issues involved in learning foreign languages, and in the use of English in particular, is more prevalent in large firms than in SMEs. For the sake of efficiency, many large French groups actually encourage the use of English and even stipulate it as the language of business. This may help to explain why large groups are more successful than SMEs at exporting.

However, knowledge of foreign languages in general, and of English in particular, is fairly weak in France. Another survey by the European Commission (Eurobarometer, 2006) found that just over a third of the French population was able to conduct a conversation in English, compared to 56% of Germans and more than 85% of Swedes, Danes and Dutch (Figure 12). Moreover, French universities offer only a limited number of courses in English (OECD, 2008c). Finally, an international assessment of English skills in 2002 among 15 year-old students in seven European countries placed France in last position. In the face of this finding, the Ministry of National Education recently issued proposals and took a first set of measures to strengthen students' linguistic knowledge. Those proposals call for generalising the teaching of languages in early primary education; promoting video conferencing with speakers of English; teaching English after-hours in lower secondary school (in the form of coaching sessions) and during vacation times for upper secondary school students (in the form of internships); and giving high school students the chance to take the Test Of English as a Foreign Language in their final year. While these ideas go in the right direction, they will take time to have any impact on export performance. On the other hand, the authorities could move immediately to introduce a broader measure that would boost the knowledge of foreign languages in the general population. Following the example of countries in Northern Europe, they

could encourage the public television networks to carry reports and films in their original version, with subtitle – this could be a powerful learning tool. The reorganisation of the public audiovisual service, which the authorities recently launched, offers a fine opportunity to introduce such an approach on one or more channels. In time, this could have a favourable impact not only on the geographic orientation of trade (toward the more dynamic zones, which are generally not French-speaking), as well as on tourism, where the traditionally positive balance has dropped in recent years.

Figure 12. **Percentage of the population able to converse in foreign languages**



Source: European Commission, Eurobarometer (2006).

In 2007, France saw a record number of enterprises created, raising the total to more than 320 000, up by 50% from the year 2000. However, this dynamism does not necessarily reflect a strong entrepreneurial spirit. According to an INSEE survey, more than 60% of entrepreneurs who created a business in 2006 were essentially trying to ensure their own employment (Kerjosse, 2007). In fact, 40% of these new entrepreneurs were unemployed when they created their business. Moreover, the percentage of new entrepreneurs who received public support in establishing the business rose sharply, from just under 30% in 2002 to around 45% in 2006. The spirit of entrepreneurship and innovation is, however, a determining factor in the survival rate and the growth prospects of enterprises. On this point, having higher education and, more generally, the development of managerial skills are certainly major determining factors. The problem in France is that the engineering and management schools do not sensitise students sufficiently to the potentialities of entrepreneurship, nor do they create enough "bridges" among themselves to offer supplementary training for developing a strong entrepreneurial culture. Consequently, graduates of the *grandes écoles* tend to gravitate towards large corporations or the public service, rather than take up the challenge of a career in the SME world. Yet this risk aversion and lack of entrepreneurial drive could also be explained by the extremely strict company law, which until recently prevented an entrepreneur to take up a new business activity following a bankruptcy. The LME has changed this state of affairs by offering a "second chance" to such people by leaving it to the bankruptcy court to determine in each case whether a person can avoid *incapacité commerciale* (disqualification from doing business).

Avoiding support for non-exporting sectors related to real estate activities

Between 2000 and 2007, the number of exporting firms declined by 10 000 (or 10%), and this has coincided with pronounced market share losses. In addition to a "selection effect" resulting from international competition, it would seem that exporting has become less attractive overall. Among the various factors affecting France's export performance in the first decade of the new century, it is possible that existing resources have been reallocated between tradable and non-tradable sectors of the economy, to the detriment of the manufacturing sector and to the benefit of construction, among others. Following the steep rise of real estate prices until 2007 the latter sector enjoyed very high margins and could offer more advantageous compensation terms, thus attracting fresh capital and labour respectively. Empirical studies

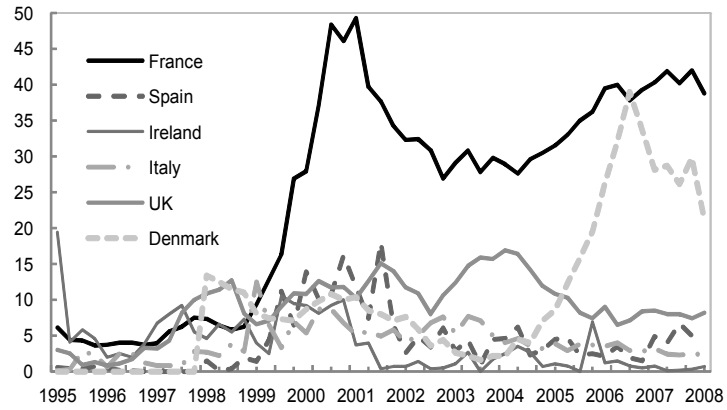
on OECD countries confirm that higher real estate prices can trigger an intersectoral reallocation of labour (Bover and Jimeno, 2007).

Since 2000, the French construction sector has faced a very tight labour market, and this situation has very likely been reinforced by the introduction of the 35-hour week. France has in fact had one of the most severe labour shortages in this sector among the major EU countries (Figure 13), in particular because of the temporary restrictions on labour mobility imposed on the new member countries of the European Union. This caused wages to rise more quickly in the construction industry than elsewhere in the economy (Figure 14), but it did not reflect any corresponding productivity gains. Between 2000 and 2007, the construction industry's share of aggregate employment rose by nearly one percentage point, with the sector accounting for a quarter of the French economy's new job creation over that period. Nevertheless, the high productivity of the manufacturing sector helped free up some labour with no detrimental effect on output. Likewise, the construction industry might have been also able to draw labour from the primary and tertiary sectors and not solely from manufacturing.

The labour factor would not be able to shift significantly towards a given sector if the capital factor had not already done so. INSEE data on the creation of enterprises seem to confirm the key role that housing and construction activities play in channelling capital: between 2000 and 2007, on average, slightly more than one-fourth of new enterprises were created in these two sectors, whereas manufacturing (excluding agribusiness) accounted for only 5%. It would seem that the profit outlook had a decisive role. Picart (2004) has shown that construction offered very high net operating profit margins (28%) – the highest of any French sector, while at the same time, other sectors had an average net operating profit margin of 10.5%. Although these figures relate only to the year 2001, it is very likely that, until recently at least, construction has remained in the lead among the most profitable sectors of the French economy. Indeed, like the pattern observed in a number of other countries, real estate prices trended sharply upwards relative to manufacturing-sector production prices in the 2000s (Figure 15). Moreover, according to OECD estimates, real estate prices have diverged significantly from their long-term trend relative to household income and rent growth rates (OECD, 2008d).

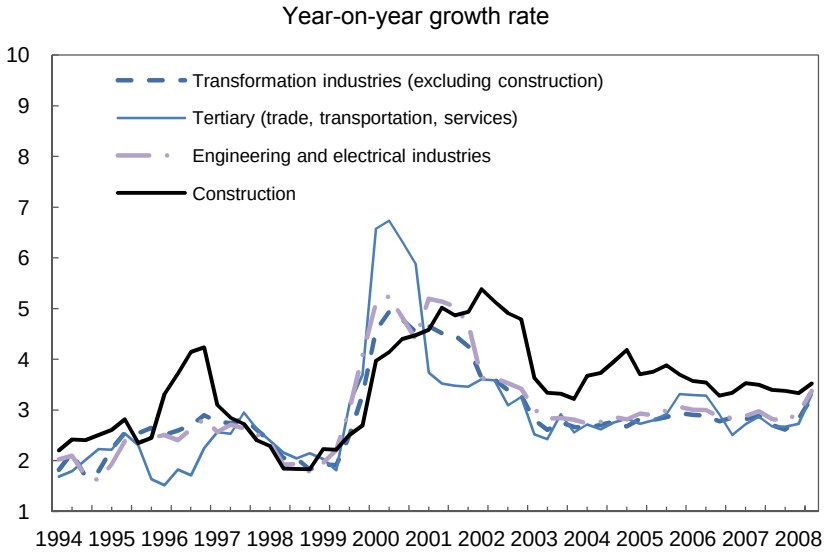
Figure 13. **Labour availability as a constraint on activity**

Construction industry survey



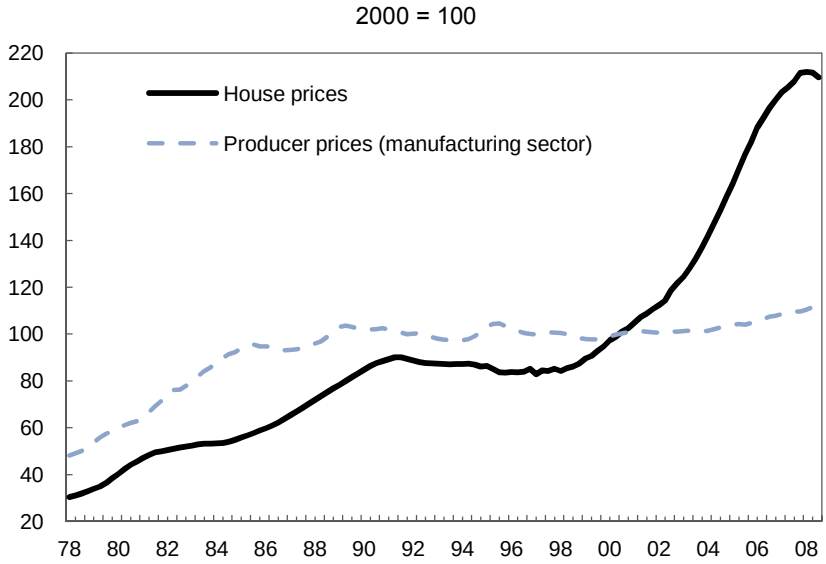
Source: European Commission.

Figure 14. **Basic hourly wages of manual workers in France**



Source: ACEMO Quarterly Survey.

Figure 15. **House prices and producer prices in the manufacturing sector**



Variations in real estate prices can affect the allocation of production factors, especially if capital and labour are scarce and growth potential low. The main economic policy implication that follows from this is to avoid creating distortions that could have counterproductive effects on price movements (amplifying rises or impeding declines), thereby negatively impacting the export sector. The risk of such effects is induced by schemes to promote home ownership (such as the tax deductions for mortgage interest adopted in mid-2007 as part of the TEPA law) or more-direct support for the construction sector. This includes the creation of specific new tax incentives, and in particular those that would prove difficult to remove afterwards.

Box 3. **Main recommendations for strengthening French competitiveness**

Policies to promote the development of research and innovation

- To make the "competitiveness clusters" policy more effective, the maintenance of state aids should be contingent on results, notably by creating mechanisms that stop funding in the event of failure to achieve predetermined performance objectives; in due course, establish a sunset date for subsidies while gradually replacing them with private financing.

- Promote project-based public research financing by giving a greater role to the National Research Agency (ANR). For the financing of research units, universities and tertiary courses, establish a progressively tighter relationship between performance and financing by consolidating the role of the Agency for the Evaluation of Research and Higher Education (AERES).

- Pursue efforts to make the universities more autonomous, particularly in terms of budgets, hiring and staff compensation. Greater freedom to select incoming students and to set higher tuition fees would contribute to this objective and should be paired with an expansion of the recently introduced system of students loans.

- Carry out regular assessments of the effectiveness of the research tax credit so as to adjust for the best its configuration and scope of application.

- In order to enhance the spill-over effects of public research, create technology transfer and licensing offices in the universities.

Policies to make France more attractive and expand the size of firms

- Lower the statutory rate of corporate tax while simultaneously broadening the base of the tax. Reduce fiscal, social and administrative burdens weighing on the productive apparatus, notably via a thorough overhaul of targeted support schemes to businesses. Implement the decision to eliminate the *taxe professionnelle* in 2010.

- Ease the regulatory burden on firms that cross the 50-employee threshold, in particular by creating a single works council to perform the various social and union representation functions.

Other policies

- Prevent distortions in the allocation of labour and capital between tradable and non-tradable sectors, especially towards the construction sector, but towards export activities as well.

- Consolidate the "one-stop shop" approach centred on Ubifrance to make it even easier for exporters to access information.

- Increase knowledge of foreign languages, in particular by arranging for public television to carry reports and films in their original version, with subtitles.

Bibliography

Abitbol, L., H. Mouzaoui and L. Joly (2009), *Les PME déposantes de brevets en France : caractéristiques et évolutions récentes*, OSEO and INPI, January.

Amiot, M. (2008), "Seuils sociaux : l'État allège les contraintes des PME", *Les Échos*, 28 October.

Attali Commission (2008), *Commission pour la Libération de la Croissance Française,* La Documentation française.

Audit de Modernisation (2007), *Rapport sur les aides publiques aux entreprises*, La Documentation française.

Bardaji, J. and P. Scherrer (2008), "Mondialisation et compétitivité des entreprises françaises. L'opinion des chefs d'entreprise de l'industrie", *INSEE Première*, No. 1188, May.

Bauer, A. (2008), "La fierté bafouée de Renault-Sandouville", *Les Échos*, 25 September.

Bloom, N., R. Griffith and A. Klemm (2001), "Issues in the Design and Implementation of an R&D Tax Credit for UK Firms", *Briefing Note*, No. 15, Institute for Fiscal Studies, London.

Blot, C. and M. Cochard (2008), "L'énigme des exportations revisitée : que faut-il retenir des données de panel?", *Revue de l'OFCE*, No. 106, July.

Boston Consulting Group (2008), *Évaluation des pôles de compétitivité*, Synthèse du rapport d'évaluation, June.

Boulhol, H. (2006), "Le bazar allemand explique-t-il l'écart de performance à l'export par rapport à la France ?", in P. Artus and L. Fontagné, *Évolution récente du commerce extérieur français*, Conseil d'analyse économique.

Boulhol, H. and A. de Serres (2008), "Have Developed Countries Escaped the Curse of Distance?", *Economics Department Working Papers*, No. 610, May, OECD, Paris.

Boulhol, H. and L. Maillard (2006), "Analyse descriptive du décrochage récent des exportations françaises", in P. Artuis and L. Fontagné, *Évolution récente du commerce extérieur français*, Conseil d'analyse économique.

Bouyoux, P. (2008), "Commentaire", in L. Fontagné and G. Gaulier, *Performances à l'exportation de la France et de l'Allemagne*, Conseil d'analyse économique.

Bover, O. and J. Jimeno (2007), "House Prices and Employment Reallocation: International Evidence", *Bank of Spain Working Papers,* No. 0705 and *CEPR Discussion Paper*, No. 6543.

Brill, A. and K. Hassett (2007), "Revenue-Maximizing Corporate Income Taxes: The Laffer Curve in OECD Countries", *AEI Working Paper*, American Enterprise Institute for Public Policy Research, July.

Cahu, P., L. Demmou and E. Massé (2009), "Les effets économiques de la réforme du Crédit d'Impôt Recherche de 2008", *Lettre Trésor-Éco*, No. 50, January.

Cahuc, P., F. Kramarz and S. Perez-Duarte (2005), "Seuils de taille et emploi", *Droit Social*, No. 12, December.

Camdessus, M. (2004), *Le sursaut – Vers une nouvelle croissance pour la France*, La Documentation française.

Ceci, N. and B. Valersteinas (2006), "Structure et comportement des entreprises exportatrices françaises", *Diagnostics Prévisions et Analyses Économiques*, No. 102, March.

Cercle d'outre-Manche (2008), *Du « brain drain » au « brain gain », le triangle d'or université, recherche, entreprise*.

Cheptea, A., L. Fontagné and S. Zignago (2008), "Performances à l'exportation de l'UE et de ses États membres", in L. Fontagné and G. Gaulier, *Performances à l'exportation de la France et de l'Allemagne*, Conseil d'analyse économique.

Cheptea, A., G. Gaulier and S. Zignago (2005), "World Trade Competitiveness: A Disaggregated View by Shift-Share Analysis", *CEPII Working Paper 2005/23*, Centre d'études prospectives et d'informations internationales, December.

Chertok, G., P. de Malleray and P. Pouletty (2008), "Le financement des PME", Conseil d'analyse économique.

Centre for Innovative Learning Technologies (2006), *ELAN: Effects on the European Economy of Shortages of Foreign Language Skills in Enterprise*, The National Centre for Languages.

Clausing, K. (2007), "Corporate Tax Revenues in OECD countries", *International Tax and Public Finance*, Vol. 14.

Cochard, M. (2008), "Le commerce extérieur français à la dérive ?", *Revue de l'OFCE*, No. 106, July.

Coe-Rexecode (2006), "La compétitivité française en 2006", *Document de travail*, No. 1, December.

Coe-Rexecode (2007), "La compétitivité française en 2007", *Document de travail*, No. 3, December.

Coe-Rexecode (2008), "La compétitivité française en 2008", *Document de travail*, No. 6, January.

Comité national des conseillers du commerce extérieur de la France (2007), *Comment améliorer les performances des PME françaises à l'international*, Rapport de la Commission PME, CNCCEF, September.

Comité national des conseillers du commerce extérieur de la France (2008), *Enquête compétitivité : l'activité des entreprises françaises à l'international*, CNCCEF, April.

Conseil économique et social (2008a), *Dynamiser l'investissement productif en France*, Conseil économique et social, March.

Conseil économique et social (2008b), *Les pôles de compétitivité : Faire converger performance et dynamique territoriale*, Conseil économique et social, June.

Cour des Comptes (2007), *Les aides des collectivités territoriales au développement économique*, La Documentation française.

Cousin, A. (2007), *Le dispositif public d'appui à l'export*, Rapport d'information No. 3703, Assemblée Nationale, February.

Crozet, M., I. Méjean and S. Zignago (2008), "Plus grandes, plus fortes… plus loin : Performances relatives des firmes exportatrices françaises", in L. Fontagné and G. Gaulier, *Performances à l'exportation de la France et de l'Allemagne*, Conseil d'analyse économique.

Cuñat, A. and M.J. Melitz (2007), "Volatility, Labor Market Flexibility, and the Pattern of Comparative Advantage", *NBER Working Papers*, No. 13062, April.

De Mooij, R. and G. Nicodème (2007), "Corporate tax policy and incorporation in the EU", *International Tax and Public Finance*, Vol. 15, No. 15, August

Devereux, M., B. Lockwood and M. Redoano (2008), "Do countries compete over corporate tax rates?", *Journal of Public Economics*, Vol. 92, June.

Duranton, G., P. Martin, T. Mayer and F. Mayneris (2008), *Les pôles de compétitivité. Que peut-on en attendre ?*, CEPREMAP collection, Rue d'Ulm Editions.

European Economic Advisory Group (2008), *Report on the European Economy 2008*, European Economic Advisory Group at CESifo, February.

Erkel-Rousse, H and M. Sylvander (2008), "Externalisation à l'étranger et performances à l'exportation de la France et de l'Allemagne", in L. Fontagné and G. Gaulier, *Performances à l'exportation de la France et de l'Allemagne*, Conseil d'analyse économique.

Erkel-Rousse, H. and M. Sylvander (2007), "Performances à l'exportation exceptionnelles et faiblesse de la demande intérieure : l'apparent paradoxe allemand", *L'Économie Française, Comptes et Dossiers, Edition 2007-2008*, INSEE-Références, June.

European Commission (2008), *Recommendation on the management of intellectual property in knowledge transfer activities and Code of Practice for universities and other public research organizations*.

Eurobarometer (2006), *Europeans and their Languages*, European Commission, February.

Fontagné, L. and G. Gaulier (2008), *Performances à l'exportation de la France et de l'Allemagne*, Conseil d'analyse économique.

Fresson-Martinez, C. (2007), "L'industrie automobile française en perte de vitesse en 2006", *INSEE Première*, No. 1149, July.

Gaulier, G. (2008), "L'essor des importations européennes de biens intermédiaires depuis des pays à bas salaires. Des modèles différents d'externalisation au « Sud », *Bulletin de la Banque de France*, No. 173, May-June.

Greenaway, D. and R. Kneller (2007), "Firm Heterogeneity, Exporting and Foreign Direct Investment", *Economic Journal*, Vol. 117, No. 517, February.

Hall, B. (1993), "R&D Tax Policy During the 1980s: Success or Failure?", *Economics Working Papers,* No. 93-208, University of California at Berkeley.

Hall, B. and J. Van Reenen (2000), "How effective are fiscal incentives for R&D? A review of the evidence", *Research Policy*, Vol. 29, No. 4-5, April.

Hoffmann, J. (2008), *Attractivité des carrières de la recherche*, Académie des Sciences, July.

IMF (2008a), "Competitiveness in the Southern Euro Area: France, Greece, Italy, Portugal, and Spain," *IMF Working Paper 08/112*, International Monetary Fund, April.

IMF (2008b), "France: Selected Issues", *IMF Country Report* No. 08/74, International Monetary Fund, February.

Jaumotte, F. and N. Pain (2005a), "From Ideas to Development: The Determinants of R&D and Patenting", *OECD Economics Department Working Papers*, No. 457.

Jaumotte, F. and N. Pain (2005b), "Innovation in the Business Sector", *OECD Economics Department Working Papers*, No. 459, OECD, Paris.

Johansson, A., C. Heady, J. Arnold, B. Brys and L. Vartia (2008), "Taxation and Economic Growth", *OECD Economics Department Working Papers*, No. 620.

Junghans, P. (2008), "Matignon inquiet après un jugement européen obligeant à rembourser les aides aux entreprises", *La Tribune*, 11 December.

Kerjosse, R. (2007), "Créer son enterprise : assurer d'abord son propre emploi", *INSEE Première*, No. 1167, December.

Klassen, K., J. Pittman and M. Reed (2004), "A cross-national comparison of tax incentives and R&D expenditure decisions: The case of Canada and the United States", *Contemporary Accounting Research*, Vol. 21, No. 3.

Koenig, P., F. Mayneris and S. Poncet (2008), "Local Export Spillovers in France", *mimeo*, July.

Lefebvre, Ph. and F. Pallez (2008), *Quelle articulation entre PRES, RTRA, et Pôles de compétitivité ?*, Étude pour la DIACT – Rapport final, Mines Paris – ParisTech, May.

Maillet, F. (2008), "l'UE veut favoriser l'accès des PME aux marchés publics", *Chef d'entreprise Magazine*, No. 31, September.

Mairesse, J. and B. Mulkay (2004), "L'Effet du Crédit d'Impôt Recherche sur la R&D en France", *Revue d'Économie Politique*, Vol. 6, No. 114, November-December.

Martin, P., T. Mayer and F. Mayneris (2008), "Spatial Concentration and Firm-Level Productivity in France", *CEPR Discussion Papers*, No. 6858, June.

Mohnen, P. (1999), "Tax Incentives: Issue and Evidence", *CIRANO Working Papers*, No. 99s-32.

Observatoire des sciences et des techniques (2008), *Indicateurs de sciences et de technologies.*

OECD (2002), *High-Growth SMEs and Employment*, OECD publishing, Paris.

OECD (2003), *Tax Incentives for Research and Development: Trends and Issues*, OECD publishing, Paris.

OECD (2007a), *Competitive Regional Clusters. National Policy Approaches*, OECD publishing, Paris.

OECD (2007b), *OECD Principles and Guidelines for Access to Research Data from Public Funding,* OECD publishing, Paris.

OECD (2007c), *OECD Economic Surveys: France 2007,* OECD publishing, Paris.

OECD (2007d), *Fundamental Reform of Corporate Income Tax,* OECD Tax Policy Studies, OECD publishing, Paris.

OECD (2007e), *Removing Barriers to SME Access to International Markets*, OECD publishing, Paris.

OECD (2007f), *Pôles de Compétitivité et Entrepreneuriat : Comparaisons internationales*, OECD publishing, Paris.

OECD (2008a), *Le pari de la croissance: Contribution du Secrétaire général de l'OCDE aux travaux de la Commission Attali*, OECD publishing, Paris.

OECD (2008b), *OECD Science, Technology and Industry Outlook 2008*, OECD publishing, Paris.

OECD (2008c), *Education at a Glance 2008: OECD Indicators*, OECD publishing, Paris.

OECD (2008d), *Economic Outlook*, No. 84, OECD publishing, Paris.

OECD (2009), *Working Party on SMEs and Entrepreneurship – Draft Report on Taxation of SMEs*, OECD publishing, Paris.

Picart, C. (2004), "Rentabilités d'exploitation sectorielles : La construction et l'industrie pharmaceutique en tête en 2001", *INSEE Première*, No. 989, October.

Raspiller, S. (2007), "Le taux réduit d'impôt sur les sociétés pour les PME", *Lettre Trésor*-Éco, No.°23, November.

Saint-Etienne, C. (2008), "Reconstruire un État fort", *Sociétal*, No. 62, 4th Quarter.

Schaff, C., O. Passet and K. Lemoine (2008), "Réalités et apparences du déficit extérieur américain", *La note de veille*, No. 94, Centre d'Analyse Stratégique, March.

Schneider, S. (2007), "World export champion Germany – regional development warrants optimism", *Deutsche Bank Research*, March.

Schwartz, R. (2008), *Commission de réflexion sur l'avenir des personnels de l'Enseignement supérieur*, June.

Sinn, H.-W. (2006), "The Pathological Export Boom and the Bazaar Effect – How to Solve the German Puzzle", *The World Economy*, Vol. 29, No. 9, September.

Tritah, A. (2008), "Fuite des cerveaux européens : que nous disent les statistiques américaines ?", *La Lettre du CEPII*, No. 278, May.

Usciati, B. (2008), "D'où vient la dégradation du solde commercial français hors énergie ? Une analyse par types de produits", *Bulletin de la Banque de France*, No. 173, May-June.

Villetelle, J.-P. and D. Nivat (2006), "Les mauvaises performances du commerce extérieur de la France sont-elles liées à un problème de demande ?", *Bulletin de la Banque de France*, No. 146, February.

Wagner, J. (2007), "Exports and productivity: A survey of the evidence from firm-level data", *The World Economy*, Vol. 30, No. 1, January.

WORKING PAPERS

The full series of Economics Department Working Papers can be consulted at www.oecd.org/eco/working_papers/

719. *Improving the functioning of the Slovenian labour market*
(August 2009) Isabell Koske

718. *What drives sovereign risk premiums? An analysis of recent evidence from the Euro Area*
(July 2009) David Haugh, Patrice Ollivaud, and David Turner

717. *The English National Health Service: an economic health check*
(July 2009) Peter Smith and Maria Goddard

716. *Financial stability in the United Kingdom: Banking on prudence*
(July 2009) Philip Davis

715. *Economic growth and the role of taxation- disaggregate data*
(July 2009) Gareth D. Myles

714. *Economic growth and the role of taxation – Aggregate data*
(July 2009) Gareth D. Myles

713. *Economic growth and the role of taxation – Theory*
(July 2009) Gareth D. Myles

712. *The effectiveness of education and health spending among Brazilian municipalities*
(July 2009) Luiz de Mello and Mauro Pisu

711. *The bank lending channel of monetary transmission in Brazil: A VECM approach*
(July 2009) Luiz de Mello and Mauro Pisu

710. *How does decentralised minimum-wage setting affect unemployment and informality? The case of Indonesia*
(July 2009) Margherita Comola and Luiz de Mello

709. *Intergenerational social mobility in European OECD countries*
(July 2009) Orsetta Causa, Sophie Dantan and Åsa Johansson

708. *Equity in student achievement across OECD countries: an investigation of the role of policies*
(July 2009) Orsetta Causa and Catherine Chapuis

707. *Intergenerational social mobility*
(July 2009) rsetta Causa and Åsa Johansson

706. *Taxes or grants: what revenue source for sub-central governments?*
(July 2009) Hansjörg Blöchliger and Oliver Petzold

705. *The spending power of sub-central governments: a pilot study*
(July 2009) Steffen Bach, Hansjörg Blöchliger and Dominik Wallau

704. *Price and volume elasticities of Brazilian foreign trade: A profit function approach*
(July 2009) Luiz de Mello and Mauro Pisu

703. *Current account sustainability in Brazil: A non linear approach*
(July 2009) Luiz de Mello and Matteo Mogliani

702. *The incentives to participate in and the stability of international climate coalitions: a game-theoretic approach using the WITCH Model*
(July 2009) Valentina Bosetti, Carlo Carraro, Enrica De Cian, Romain Duval, Emanuele Massetti and Massimo Tavoni

701. *The economics of climate change mitigation: how to build the necessary global action in a cost-effective manner*
(June 2009) Jean-Marc Burniaux, Jean Chateau, Rob Dellink, Romain Duval and Stéphanie Jamet

700. *Capital inflows, household debt and the boom bust cycle in Estonia*
(June 2009) Zuzana Brixiova, Laura Vartia and Andreas Wörgötter

699. *The effect of financial crises on potential output: new empirical evidence from OECD countries*
(May 2009) Davide Furceri and Annabelle Mourougane

698. *Employment - productivity trade-off and labour composition*
(May 2009) Hervé Boulhol and Laure Turner

697. *Labour market flexibility in Estonia: what more can be done?*
(May 2009) Zuzana Brixiova

696. *Structural policies to overcome geographic barriers and create prosperity in New Zealand*
(April 2009) Yvan Guillemette

695. *Ten years of product market reform in OECD countries – insights from a revised PMR indicator*
(April 2009) Anita Wölfl, Isabelle Wanner, Tomasz Kozluk and Giuseppe Nicoletti

694. *Structural reforms and the benefits of the enlarged EU internal market*
(April 2009) Jens Arnold, Peter Höller, Margaret Morgan and Andreas Wörgötter

693. *Co-benefits of climate change mitigation policies: literature review and new results*
(April 2009) Johannes Bollen, Bruno Guay, Stéphanie Jamet and Jan Corfee-Morlot

692. *The impact of monetary and commodity fundamentals, macro news and central bank communication on the exchange rate: Evidence from South Africa*
(April 2009) Balázs Égert

691. *Assessing the impacts of climate change: a literature review*
(April 2009) Stéphanie Jamet and Jan Corfee-Morlot

690. *The determinants of employment and earnings in Indonesia: a multinomial selection approach*
(April 2009) Margherita Comola and Luiz de Mello