

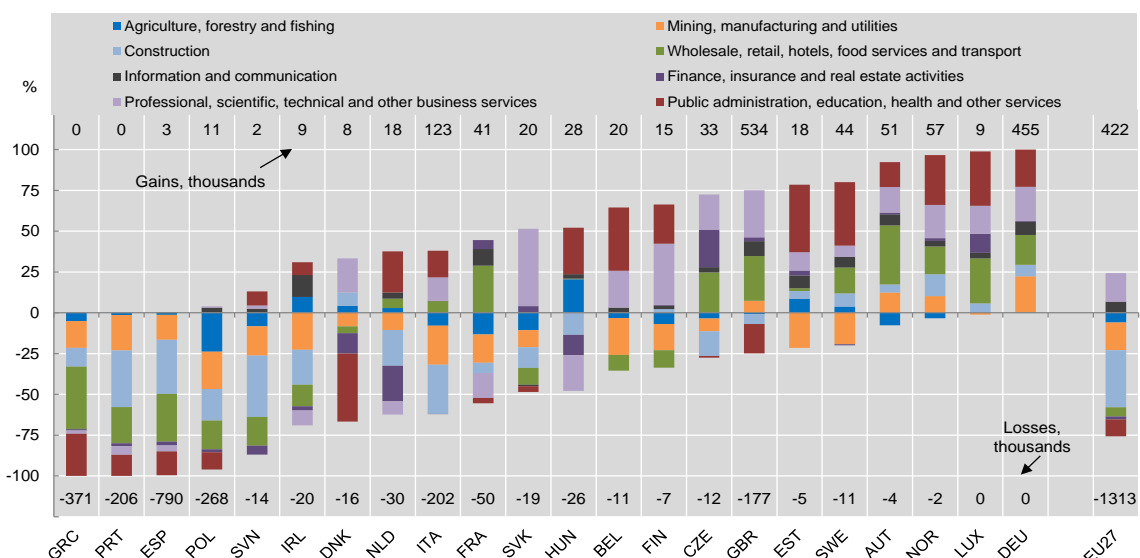
OECD Science, Technology and Industry Scoreboard 2013

FRANCE HIGHLIGHTS

- France has had relatively weak employment performance since the 2008 economic crisis, shedding jobs in several sectors of the economy, including the manufacturing sector. Employment was supported by strong job creation in young firms, however, with over 60% of job creation occurring in firms of 5 years old or less.
- France has experienced little growth in business R&D over the past decade, despite having the most generous tax incentives for R&D of all OECD countries.
- France is slightly behind leading OECD and EU countries as regards the impact of its scientific research. It has a relatively high rate of international mobility of researchers, compared with other large EU countries, such as Germany.
- In 2011, France was the world's ninth largest manufacturing producer and the fifth largest exporter of manufactured goods in gross terms. In value added terms, it is the world's sixth largest exporter of manufacturing, behind the United States, Germany, China, Japan and Italy. Over 50% of the value of French exports now involves services value added.

France was among the weaker performers on employment growth in Europe in 2011-2012, shedding jobs in several sectors of the economy (Figure 1). From 2008 to 2011, most job losses occurred in the manufacturing sector, whereas most job gains occurred in public administration, education, health and other services.

Figure 1. Where people lost or gained their jobs in Europe, 2011-2012
Relative contribution to change in total employment by major sectors of economic activity

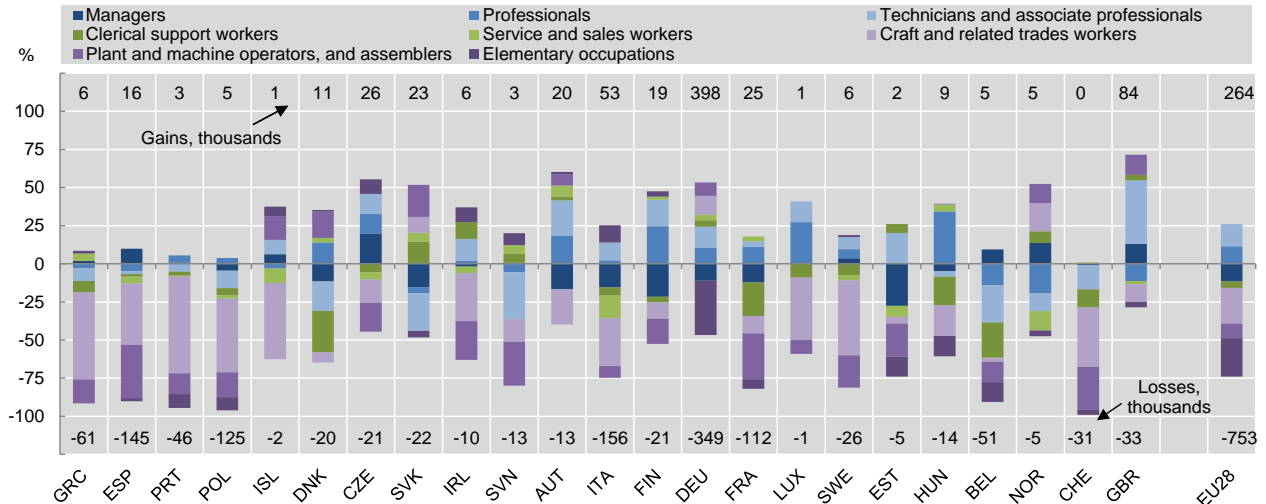


StatLink  : <http://dx.doi.org/10.1787/888932889459>

Source: OECD (2013), OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

Over 2011-2012, France performed better than several other European countries, such as Greece, Portugal and Spain, where employed fell by more than 4% from 2011, but not as good as Germany, where employment grew in almost all sectors of the economy. France's employment performance over this period also reflects changes in the mix of occupations. In manufacturing, jobs declined for managers, clerical support workers, craft and related trade workers, plant and machine operators, and elementary occupations (Figure 2).

Figure 2. Changes in the skill mix in Europe, manufacturing, 2011-2012
Relative contribution to changes in total employment by major occupation groups

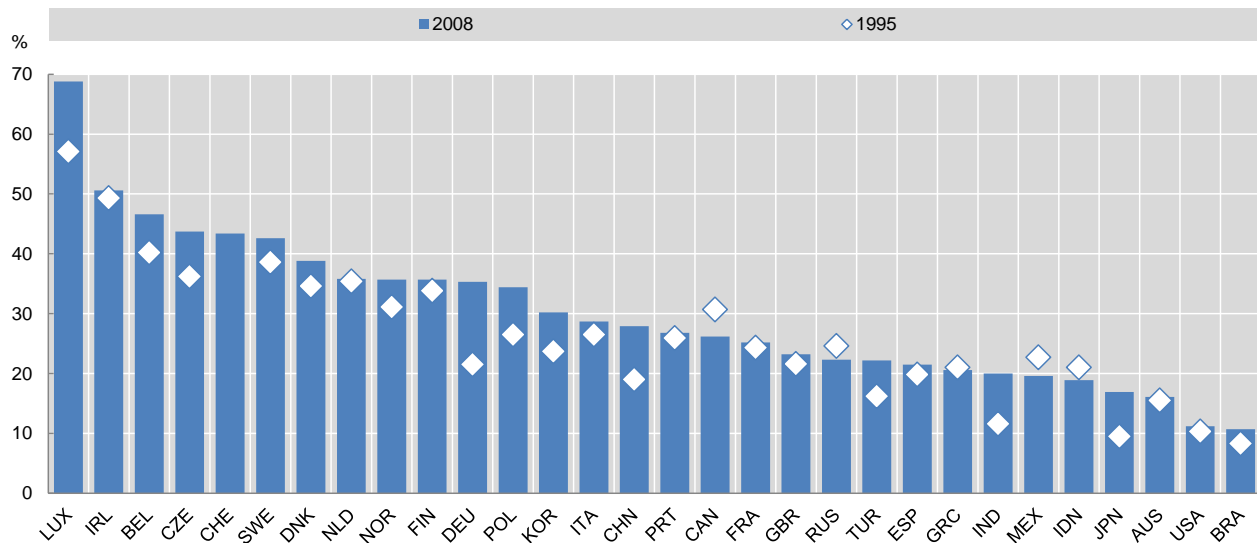


StatLink : <http://dx.doi.org/10.1787/888932889497>

Source: OECD (2013), OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

Preliminary estimates suggest that in 2008, 20% to 45% of business sector jobs in most European economies were sustained by final consumers in foreign markets, and about one quarter of business sector jobs in France. Compared to 1995, these shares increased only little in France in contrast to Germany where the share rose by more than 10 percentage points (Figure 3).

Figure 3. Jobs in the business sector sustained by foreign final demand, 1995 and 2008
As a percentage of total business sector employment

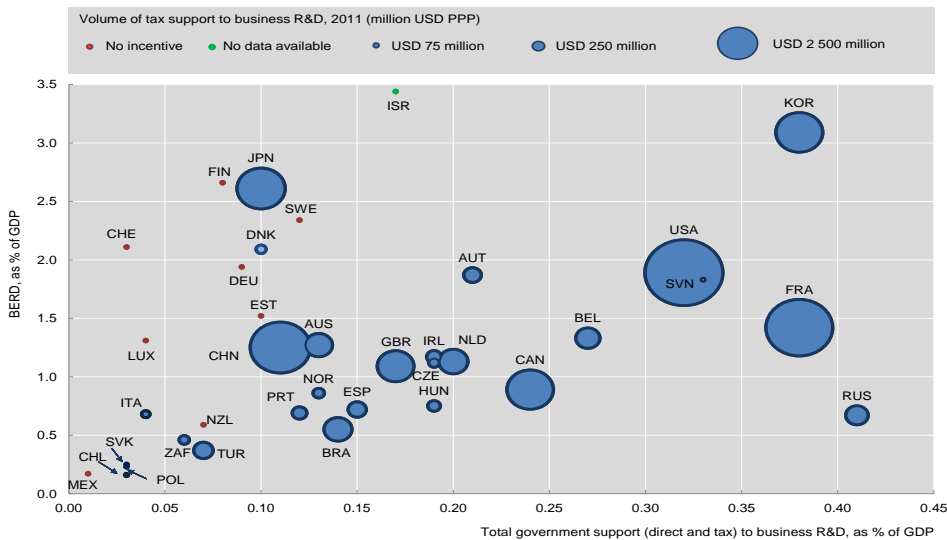


StatLink : <http://dx.doi.org/10.1787/888932904469>

Source: OECD (2013), OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

France is the world’s 6th largest performer of R&D, behind the United States, Japan, China, Germany and Korea. However, growth in the intensity of business R&D has been limited over the past decade, remaining at about 1.4% of GDP. This is despite the fact that France has the most generous tax incentive for business R&D of all OECD countries, and spends the largest amount on this incentive of all OECD countries after the United States (Figure 4). France’s combined support for business R&D – involving both R&D tax incentives and direct support through grants, contracts and loans – was the second highest in the OECD as a percentage of GDP, behind Korea.

Figure 4. Business R&D intensity and government support to business R&D, 2011
As a percentage of GDP



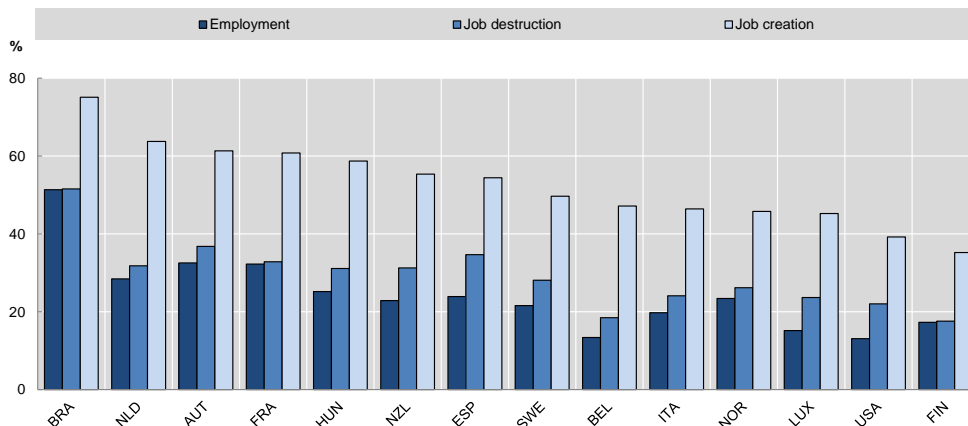
StatLink : <http://dx.doi.org/10.1787/888932890143>

Note: This is an experimental indicator. International comparability may be limited. See www.oecd.org/sti/rd-tax-stats.htm.

Source: OECD (2013), OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

France has benefited from relatively strong entrepreneurial activity in recent years. As in most countries for which data are available, France owes a large share of its job growth from 2001 to 2011 to young firms: on average, firms of 5 years old or less accounted for only about 20% of non-financial business sector employment over the past decade, but generated nearly half of all new jobs, and for over 60% in France. These figures are similar in the non-financial services sector (Figure 5) and the manufacturing sector. Moreover, during the crisis, most of the jobs destroyed were the result of old businesses downsizing, while net job growth in young firms remained positive.

Figure 5. Employment, job creation and job destruction in young firms, non-financial services
2001-2011, percentage shares

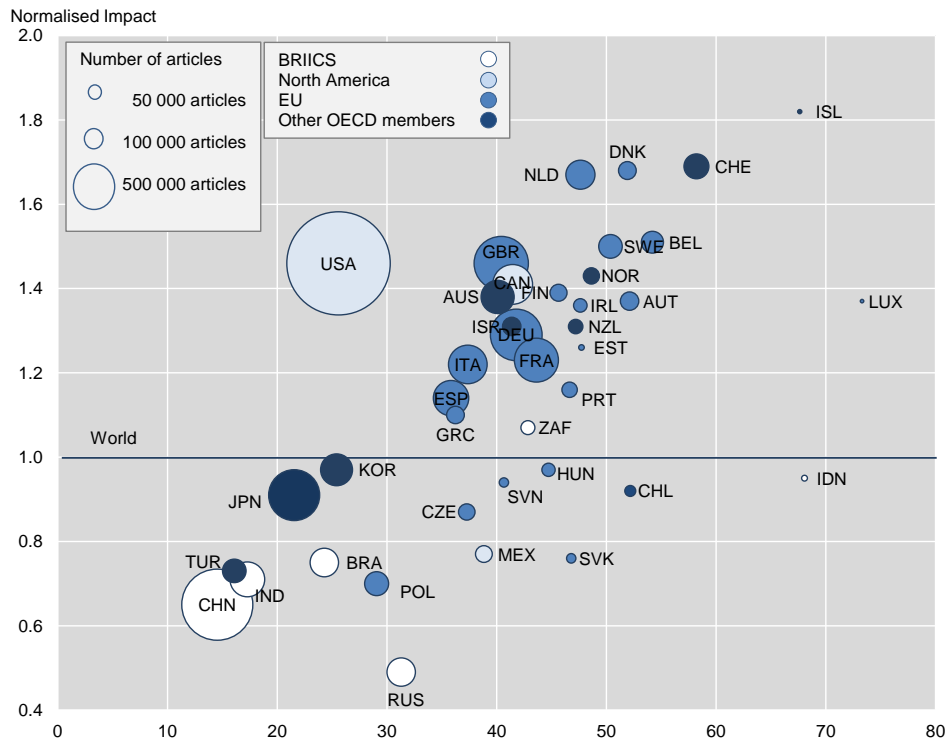


StatLink : <http://dx.doi.org/10.1787/888932892955>

Source: OECD (2013), OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

France is somewhat below the leading EU and OECD countries as regards the impact of its scientific research (Figure 6). Cross-country evidence shows that because they draw on larger pools of expertise, international research collaborations are more likely to have a bigger impact in terms of citations. Such collaborations are more common in smaller economies that need to overcome their small scale by participating in global networks. Compared with the United Kingdom, France has a slightly lower rate of international mobility of researchers, although it is higher than Germany (Figure 7). Returning researchers and new inflows tend to publish in journals with higher quality than researchers that have not engaged in international mobility.

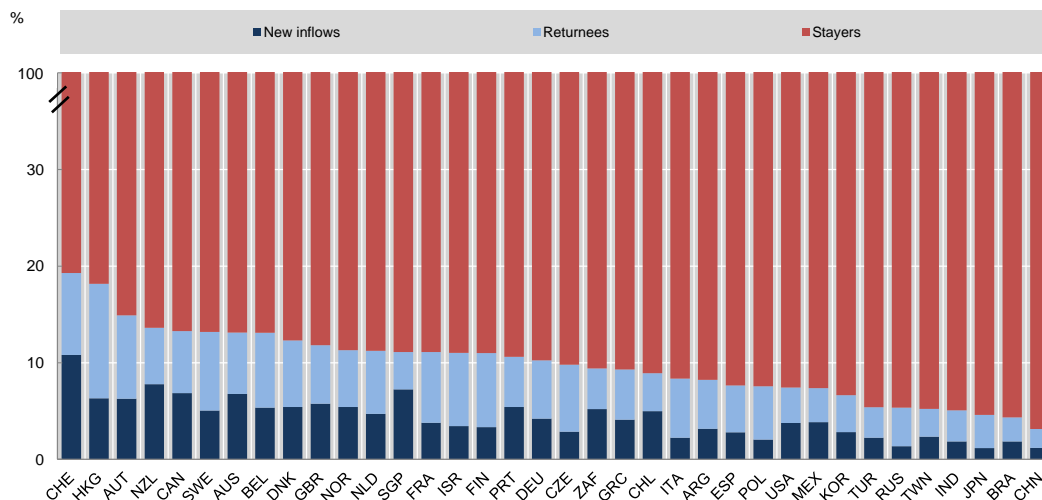
Figure 6. The impact of scientific production and the extent of international collaboration, 2003-11
Whole counts of internationally co-authored documents



StatLink : <http://dx.doi.org/10.1787/888932890314>

Source: OECD (2013), *OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth*, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

Figure 7. International mobility of scientific authors, 1996-2011
As a percentage of authors with two or more publications, by last reported affiliation

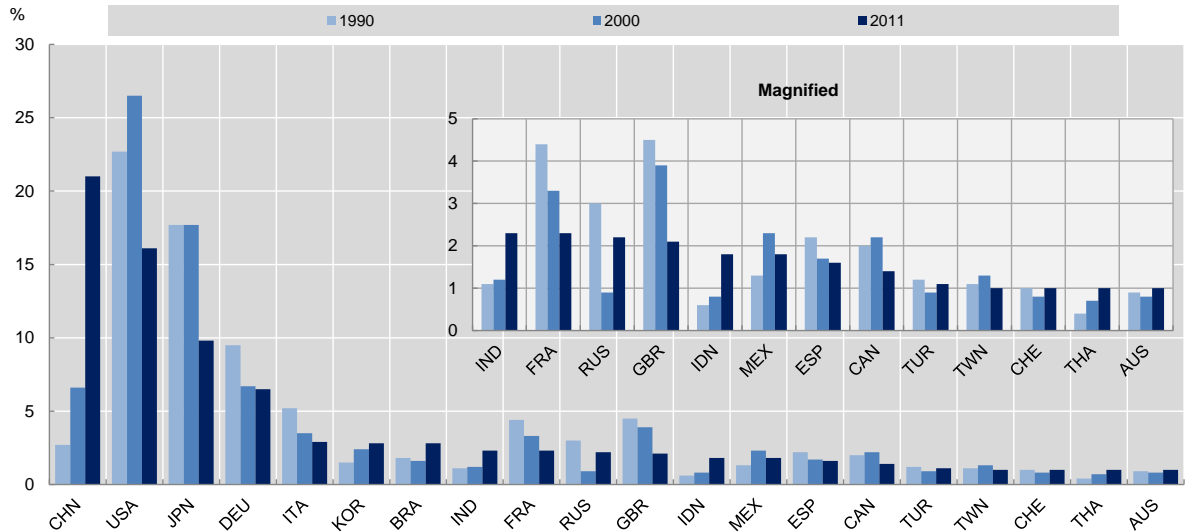


StatLink : <http://dx.doi.org/10.1787/888932891530>

Source: OECD (2013), *OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth*, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

The declining strength of France’s manufacturing sector is a source of concern. France was the world’s ninth largest manufacturing economy in 2011, having fallen from the sixth position in 1990 and 2000, due to a stronger decline in the share of its sector in global manufacturing than other EU countries such as Germany and Italy, though comparable to the United Kingdom (Figure 8). France is the fifth largest exporter of manufacturing goods, behind China, Germany, the United States and Japan. However, in value added terms (based on the OECD-WTO TiVA database) France drops to sixth place, after Italy (Figure 9).

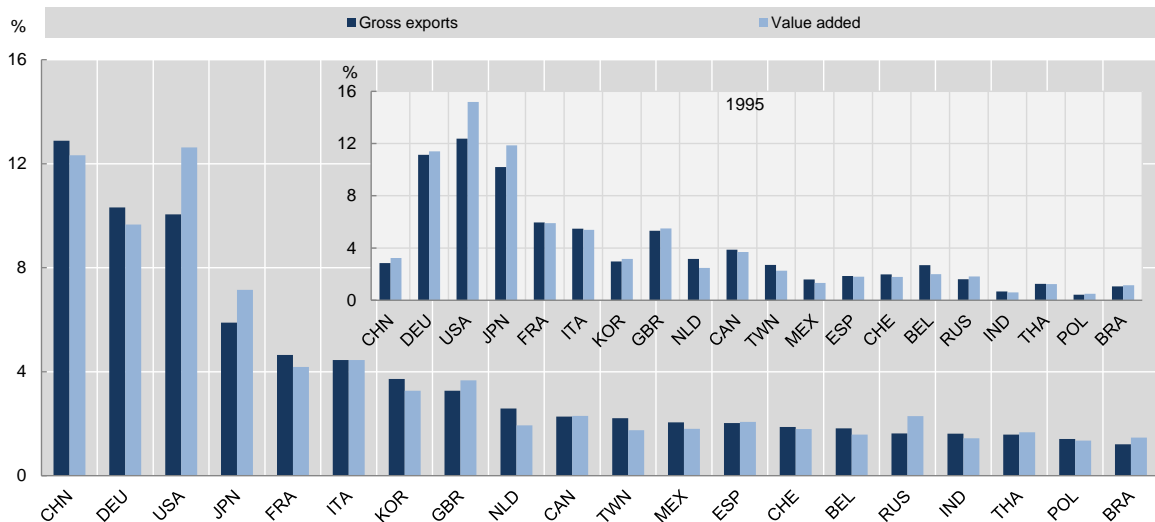
Figure 8. Top manufacturers, 1990, 2000 and 2011
Percentage share of total world manufacturing value added



StatLink : <http://dx.doi.org/10.1787/888932890048>

Source: OECD (2013), *OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth*, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

Figure 9. Top 20 exporters of manufactured goods, in gross and value added terms, 1995 and 2009
Percentage shares of total world manufacturing goods

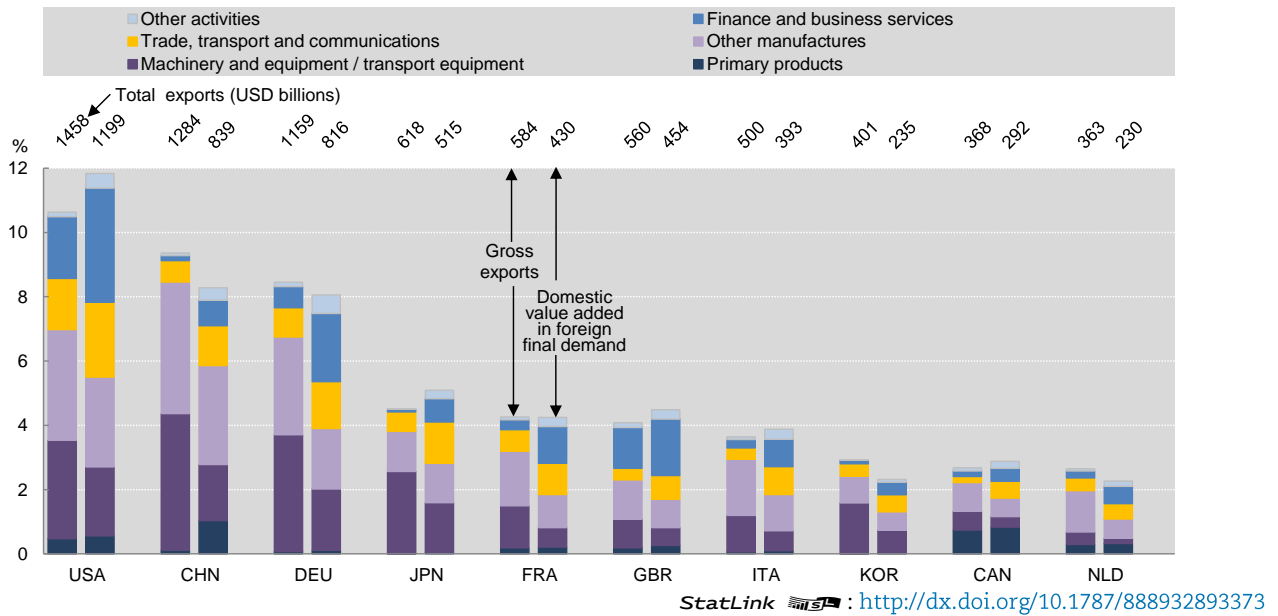


StatLink : <http://dx.doi.org/10.1787/888932890067>

Source: OECD (2013), *OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth*, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

In value added terms, a large share of France’s exports involve services (Figure 10): comparing a country’s shares in gross world exports of different industries with its shares of domestic value added in final demand reveals the greater weight of services in global markets, and particularly of financial and business services in France, Germany, the United States and the United Kingdom. Shares of manufactured output are lower for most countries in value added terms because the multiple counting of manufactured intermediates reported in “gross” trade statistics is eliminated.

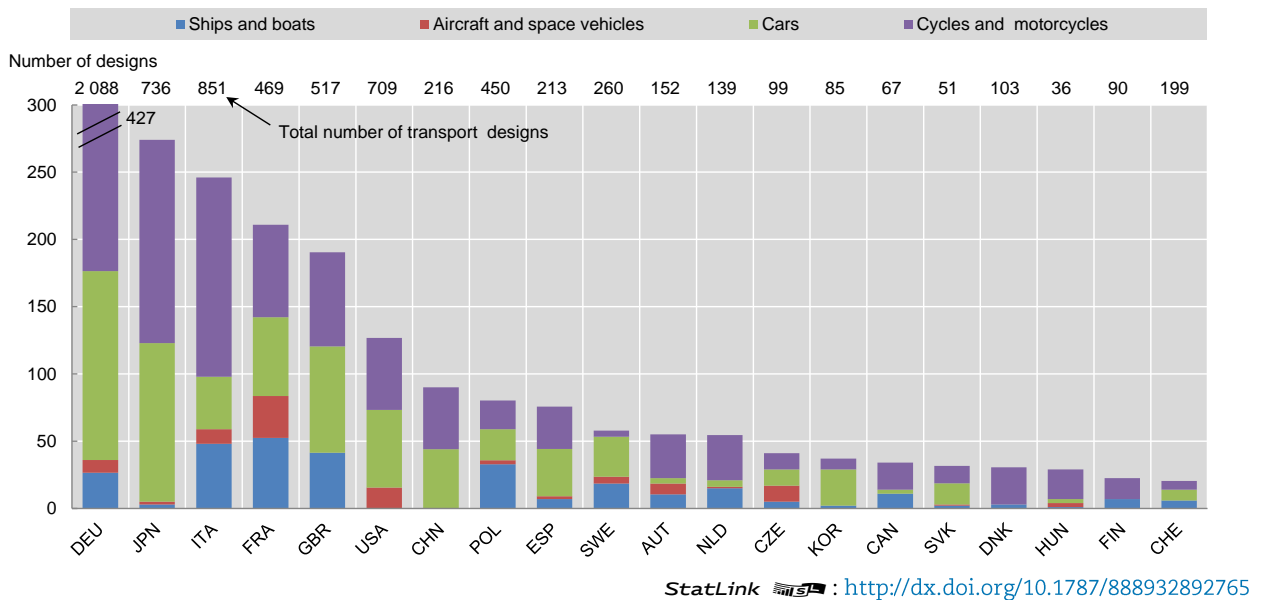
Figure 10. Top ten exporting countries in gross and value added terms, 2009
As a percentage of total world exports in gross and value added terms



Source: OECD (2013), OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

Investments in R&D and other knowledge-based assets contribute to a wide range of intellectual property rights. For example, in transport-related registered Community designs (RCD), France plays an important role in the design of aircraft and space vehicles, and also in ships and boats (Figure 11).

Figure 11. Transport-related designs, 2010-2012
Registered community designs, top 20 applicants



Source: OECD (2013), OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth, OECD Publishing, www.oecd.org/sti/scoreboard.htm.

Note: The information included in this note is based on the October 2013 release of the OECD Science, Technology and Industry Scoreboard. The data can be accessed from www.oecd.org/sti/scoreboard.

For more information

OECD Directorate for Science, Technology and Industry
STI.contact@oecd.org

Subscribe to OECD News on Innovation, Science, Technology and Industry: <http://oe.cd/stinews>