BUSINESSFRANCE

France Attractiveness Scoreboard

2019

In partnership with
The French Treasury Directorate
The French Ministry for the Economy and Finance

2019

France Attractiveness Scoreboard

Preface

Bruno Le Maire
Minister for the Economy and Finance

The aim shared by the President of the Republic and the government is clear: to make France the most competitive and most attractive economy in Europe. We have therefore been focused on investing in our education system, our innovation programs, our research capabilities, our businesses' newfound ability to prepare for future economic changes and our capacity to attract foreign investors nationwide.

The 30,000 foreign companies operating in France today employ nearly two million people and account for 25% of business R&D expenditure and 31% of French exports. They make a major contribution to French economic activity and our ability to attract new business is therefore a key part of our strategy.

Despite an uncertain international climate, the French economy is showing mainly positive signs: the unemployment rate is the lowest since the financial crisis, growth prospects for 2019 are set at 1.4% and the public deficit remains under control at 2.5% of GDP.

These strong results are thanks to a series of reforms that were first rolled out in summer 2017. These included lowering labor costs, stabilizing the research tax credit, reducing corporate and income taxes, labor market reforms, the PACTE Act removing obstacles to business growth, greater support for research and technological investment, simplified administrative and regulatory procedures, modernized transport and digital communication infrastructure, measures to strengthen the Paris marketplace and steps towards a carbon-free economy, with the latter being a factor that will play an increasing role in the future when measuring the comparative attractiveness of different countries.

This latest edition of the “France Attractiveness Scoreboard”, compiled by Business France in collaboration with the French Treasury Directorate, shows that international investors have noted the efforts made by the French government.
In 2018, France was, for the first time, the most attractive country in continental Europe.

Our country is improving on many of the main attractiveness factors, as seen from its progress in various international rankings. We have seen particular improvements in innovation, cost competitiveness and corporate finance. Lastly, France has been the leading European country for hosting industrial projects for over 15 years, which serves as a useful reminder that France is a major industrial nation.

All of this goes to show the government's determination to strengthen French industry: in addition to the tax incentive for investments in robotization and digital transformation, the creation of 124 industrial regions and the ongoing simplification of administrative procedures, we have begun to develop a Pact for Full Employment, which aims to significantly increase the share of industry in our economy.

This scoreboard is made up of a number of different rankings and indicators, which remind us that attractiveness is a subject that requires continuous and decisive action. We will continue our efforts to strengthen the economy, create employment and improve French people's lives because, in the words of the famous French writer Antoine de Saint-Exupéry, “as for the future, it is not a question of foreseeing it, but of making it possible.”

Bruno Le Maire

Contents

France Attractiveness Scoreboard 2019

Pascal Cagni
Chairman of Business France,
Ambassador for International Investment

Christophe Lecourtier
CEO of Business France

In our globalized market economy, competition is fierce, even brutal. It requires every country to constantly compare itself to its rivals to evaluate its performance and adapt to a changing economic and technological situation that is often disruptive. This is the purpose of the Scoreboard, which compares France's position with that of thirteen other countries on all key economic indicators, be it market size, human capital, research and innovation, infrastructure, the administrative and financial environment, the cost of capital and labor, and quality of life.

The results that have emerged, in comparison with those of previous editions, are very positive for our country. Based on internationally recognized studies, the Scoreboard provides an objective image of France, highlighting its creativity and competitiveness, as well as points on which it can still improve.

**First positive result:
France is increasingly attractive.**

In 2018, France became the most attractive country in continental Europe and the EU country with the highest amount of investment in production and R&D activities, home to no less than one-quarter of projects identified in Europe in the pharmaceutical and biotechnology, agri-food and R&D sectors.

France also stood out in the field of higher education: with nearly 260,000 international students, France was the second leading non-Anglophone host country after Germany, while 40% of PhD students were also from overseas.

What's more, the Kantar Public survey published in January 2019 confirmed foreign entrepreneurs' confidence in the French economy: 88% consider it to be attractive, four points more than in 2017, while 61% believe that its attractiveness has improved over the last two years. It should also be noted that more than three-quarters of foreign businesses based in France have seen a positive return on their investment.

**Second positive result:
France's structural strengths have been recognized and are increasing.**

France has excellent transport, telecommunication and energy infrastructure; its airports and rail network offer fast and efficient connections with the rest of the world; the fixed broadband penetration rate is the highest among the countries surveyed; and its electricity rates are among the most competitive in Europe.

With regard to teaching, performance is often above the EU average: 44.3% of 25- to 34-year-olds have a tertiary education qualification and the percentage of young people dropping out of education and training early is declining sharply. As for the administrative and regulatory environment, it has become much more modern in recent years: France is ranked fifth in Europe for e-administration and is second in the world for online public services.

**Third positive result:
France is renowned for its buoyant entrepreneurial spirit.**

It is ranked third in terms of the enterprise startup rate, which has remained above 9% since 2008 and 7% in manufacturing over the past decade. There were nearly 200,000 net enterprise creations in 2017, up more than 5%, while the enterprise death rate is one of the lowest among European countries.

Corporate finance is improving, with France ranked second in terms of venture capital, after the United Kingdom. What's more, there has been an increase in the number of important fundraising rounds: in the last year alone, video game startup Voodoo, French unicorn Doctolib, and the flagship agritech business Ynsect have raised €172 million, €150 million and €110 million, respectively.

Businesses have also benefited from the improvement in cost competitiveness since 2008. Hourly labor productivity continues to grow at a steady pace (+2.2% in 2018) and the increase in unit labor costs was the second lowest in 2018, the lowest even in the manufacturing industry. France is also one of the countries least affected by strikes, far less than Germany or the United States.

**Fourth positive result:
France is well on the way to a carbon-free economy.**

France is Europe's second largest producer of primary energy from renewable sources, with its contribution to final energy consumption higher than that of Germany and the United Kingdom. Electricity, mainly from nuclear energy, is mainly low carbon. As for greenhouse gas emissions, they decreased by 46% in industry between 1990 and 2016.

France is therefore well on track to achieve the goal of carbon neutrality by 2050 set by the climate plan, which should boost the country's attractiveness at a time when environmental issues are moving increasingly to the fore.

Of course, the Scoreboard also points to a number of weaknesses, for example in the areas of taxation, cost of labor and the regulatory environment. However, such weaknesses are only temporary, given the recent improvements achieved in these areas thanks to the reforms carried out over the past two years.

By presenting a complete overview of the comparative performance of the French economy, this Scoreboard is a decision-making tool for both reforming public authorities and foreign companies looking to set up in France. It highlights France's diverse economic strengths and also offers a wealth of arguments to promote France and its attractiveness internationally. The Scoreboard is ultimately an indispensable resource that will appeal to a wide audience.

Christophe Lecourtier / Pascal Cagni

Chapter 01

Outcome indicators

1.1 Foreign direct investment

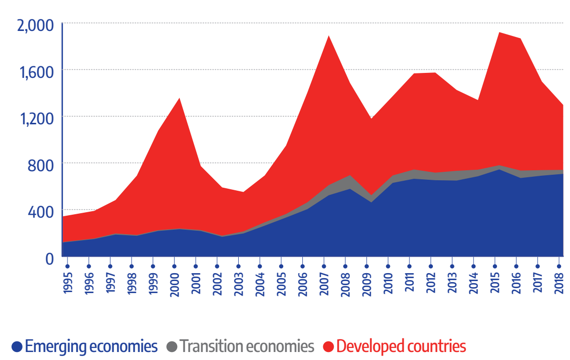
Global foreign direct investment (FDI) flows declined by 13% in 2018. The United States remained the largest recipient of foreign investment with US$268 billion, followed by China (US$204 billion) and the Netherlands (US$114 billion).

France remains attractive and open to foreign capital, with FDI inflows in 2018 amounting to €32 billion, compared with €26 billion in 2017.

France is ranked tenth in the world for inward FDI stock (fifth at the European level, after the United Kingdom, the Netherlands, Germany and Ireland), a stable level compared with 2017.

According to UNCTAD, incoming global FDI flows decreased from US$1,300 billion in 2018 to US$1,500 billion in 2017. In contrast to what was observed in 2017, global FDI flows in 2018 were mainly destined for emerging economies (+US$706 billion, or 54.4% of global flows). The United States remained the leading host country for foreign investment with US$268 billion, followed by China (US$204 billion) and the Netherlands (US$114 billion).

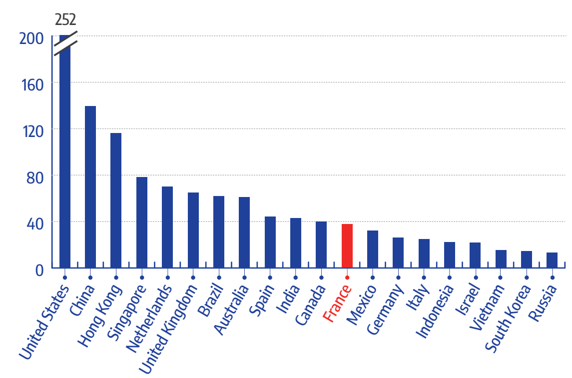
Fig. 1. FOREIGN DIRECT INVESTMENT INFLOWS (1995-2018)



Source: UNCTAD, 2019

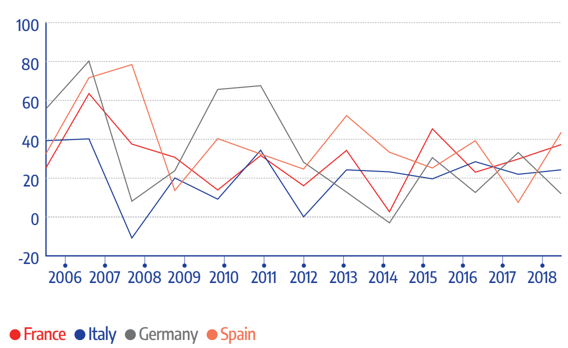
In 2018, FDI inflows to France amounted to €32 billion, up from €26 billion in 2017, against a backdrop of declining global FDI flows. France is thus the 12th country to have attracted the largest volume of FDIs in 2018, and the fourth largest in Europe (after the Netherlands, the United Kingdom and Spain).

Fig. 2. FOREIGN DIRECT INVESTMENT INFLOWS (2018)
Leading 20 recipients
Current US$ billion



Source: UNCTAD, 2019

Fig. 3. INVESTMENT INFLOWS IN LEADING EU COUNTRIES
US$ billion



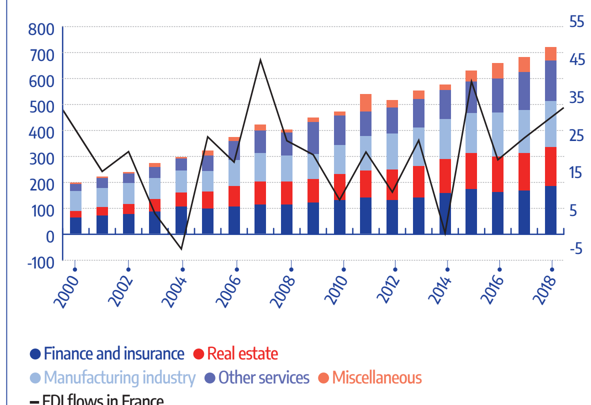
Source: OECD

Taking into consideration France's neighboring economies, the investments entering the country in 2018 came from Luxembourg (€25 billion), followed by the Netherlands (€6 billion), the United Kingdom (€5 billion) and Switzerland (€3 billion), with the main financial centers serving as access to the French market.

Then, to a lesser extent, Germany (€2 billion), Canada and Italy (both €1 billion), while flows identified from China were very low (€152 million) and into negative values from the United States (-€8 billion, which means that divestment operations exceeded capital contributions and reinvestments of profits).

Inflows into France in 2018 were mainly made up of equity, €30 billion compared with €22 billion in 2017. Reinvested earnings amounted to €7 billion, compared with €9 billion in 2017, while the balance of other foreign operations was -€5 billion, a similar level to that of 2017.

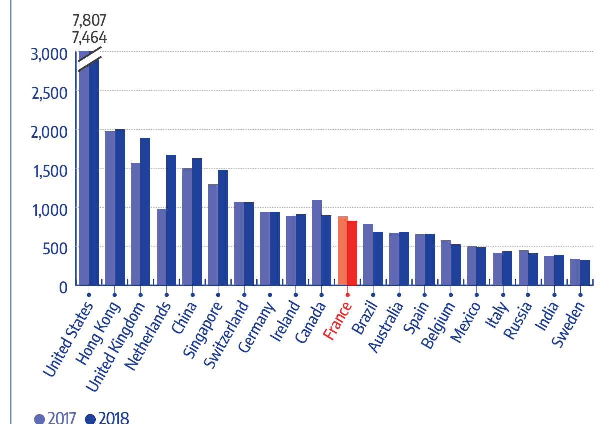
Fig. 4. FOREIGN DIRECT INVESTMENT INFLOWS IN FRANCE
Stocks and flows, € billion



Source: Banque de France

Incoming investment stock in France amounted to €721 billion in 2018, compared with €683 billion in 2017, an increase of 5.6%. France is ranked tenth in the world in terms of inward FDI stock (fifth in Europe, after the United Kingdom, the Netherlands, Germany and Ireland), a stable level compared with 2017.

Fig. 5. INWARD FDI STOCK
Leading recipients
US$ billion, top 20

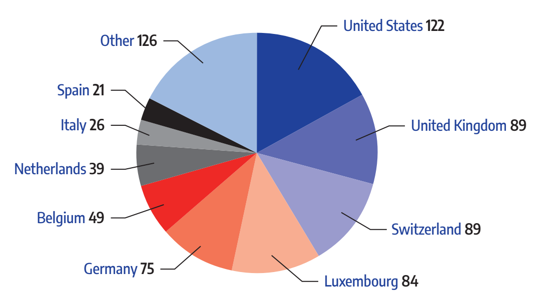


Source: UNCTAD, 2019

Just as with flows, FDI stocks entering France by country of origin came mainly from Luxembourg (€161 billion), the United Kingdom (€94 billion), the Netherlands (€94 billion) and Switzerland (€81 billion), followed by Germany (€63 billion), the United States (€47 billion) and Belgium (€33 billion).

However, by considering the FDI data in terms of ultimate investing country, the United States is the main investor in France (€122 billion in stocks in 2017 – the latest year available), ahead of the United Kingdom, Switzerland and Luxembourg (all between €85 billion and €90 billion) and Germany (€75 billion).[1]

Fig. 6. BREAKDOWN OF INWARD FDI STOCK IN FRANCE BY ULTIMATE INVESTOR COUNTRY (2017)
US$ billion



Source: Banque de France

Inward investment stock is mainly concentrated in financial and insurance activities (€186 billion, or 26% of the total incoming stock), in the manufacturing industry (€177 billion, or 25% of the total, of which 6% in the chemical industry, 4% in the food industry or 3% in the pharmaceutical industry), and in real estate activities (€151 billion or 21% of the total).

METHODOLOGY

Definition of foreign direct investment flows

Global statistics on foreign direct investment flows and stocks are collected by UNCTAD (and the IMF for stocks) from central banks, statistics agencies and national governments. At a methodological level, these organizations draw on the recommendations in the 6th edition of the IMF's Balance of Payments manual. However, some differences can be seen between data provided by different statistical organizations, inherent to data collection procedures.

A direct investment relationship is deemed to be established when an individual or company (the investor) owns 10% or more of the voting rights in the company (which is then referred to as the direct investment company) or, failing this, 10% of its share capital.

Thereafter, all financial transactions between the two entities are recorded as foreign direct investment in the financial account of the host country's balance of payments:

- Share capital operations in the strict sense of the term, including business creations, business acquisitions through the acquisition of shares or earning assets, balancing subsidies, loan consolidations, subordinated debt and bank capital.
- Real-estate investments.
- Reinvested earnings that represent the proportion of direct investment companies' operating income that is transferred to the parent company over the course of a financial year, less any dividends distributed to the parent company during that year.
- Other transactions, including short-term and long-term deposits, advances and loan transactions between affiliated companies, with the exception of commercial loans and loans and deposits between resident banks and their foreign correspondents that are recorded under "other investments."

Data reliability

- FDI flows comprise a wide variety of transactions – business creations, equity stake acquisitions, productive investments, real-estate investments (included in "share capital") and intra-group loans – which cannot be interpreted in any meaningful way at aggregate level.
- FDI flows are highly volatile and frequently subject to revision. Very sharp revisions from one year to the next, due to the technical difficulties of recording flows, may lead to substantial modifications to trends and the rankings of different countries.

Due to these methodological limitations, it is paramount to complete the analysis of FDI flows and stocks with a more micro approach, or by studying firms, so as to take into account the nature of the different investment projects. The Business France Annual Report therefore strives to follow this approach (impact study in terms of jobs, value added, and R&D created).

[1] The so-called "ultimate investor" measure enables us to identify the chain of control and thus the ultimate holder of an investment. The identification of the ultimate investor, however, is constrained by technical difficulties and is not exhaustive.

Changes in France's position in the main economic attractiveness rankings

The rankings featured in the World Economic Forum Global Competitiveness Report are based on various criteria and seek to assess the relative competitiveness of different economies. It is an important decision support tool for many international investors.

In 2018, France gained five places in these rankings, moving from 22nd to 17th, thanks to a wave of domestic reforms and an updated assessment methodology. This is the highest position occupied by France since 2011. In 2018, the United States was number one in the rankings, followed by Singapore and Germany.

The World Bank's "Ease of Doing Business" rankings measure how easy it is to do business from the point of view of each country's regulatory environment. This report, which is also taken into consideration by international investors, tends to favor countries based on a common law legal system, which is unfavorable to countries under civil law such as France, ranked 32nd in 2018 (31st in 2017), with the rankings being dominated by New Zealand, Singapore and Denmark.

1.2 Job-creating investment projects

The attractiveness of an economy can also be assessed by the number of physical job-creating foreign investment projects (new production facilities or service centers) and business expansions.

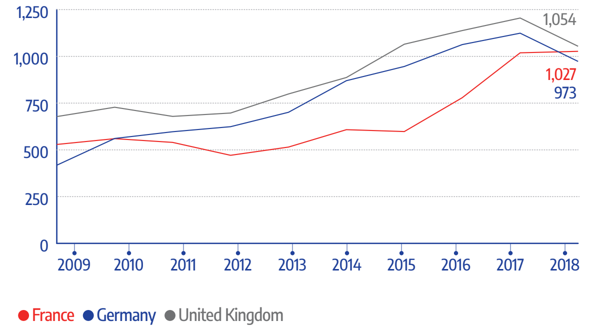
These physical foreign investments have remained buoyant in recent years, with France, after the United Kingdom but ahead of Germany, counting as one of the most attractive countries for job-creating foreign investment projects in Europe.

According to the EY France Attractiveness Survey,[1] France welcomed 16.2% of all job-creating investment projects in 2018, just after the United Kingdom. France is, for the first time in the history of this survey, in second place in the list of the most attractive European countries, now ahead of Germany.

The number of foreign investment projects in France increased by 1% in 2018, in sharp contrast with its British and German neighbors, each of whom saw their numbers fall by 13%. These results testify to the strength of France's structural advantages and the country's resistance to cyclical and political fluctuations, whether internal or external.

The attractiveness of French industry can be partly explained by the fact that the increase in hourly labor costs in the commercial sector has been more moderate in France than in the euro zone since 2012 (+5.4%, compared with +7.1% in the euro zone and +11.4% in Germany). The recent tax reforms and the reduction of employer contributions also kept the hourly cost of labor in industry in France at a lower level than in Germany in 2018.

Fig. 7. COMPARISON OF PROJECT NUMBERS (2009-2018)



Source: EY France Attractiveness Survey, 2019

The presence of research and development centers and headquarters of multinational groups has a domino effect on the rest of the economy through knowledge and technology transfers. Investment projects like these deserve to be recognized as strategic.

These activities are not investments that create the most jobs, but they contribute very strongly to France's investment attractiveness and the growth potential of the French economy. France was the leading European country for setting up R&D projects by foreign businesses in 2018.

Industry is also an important lever for the attractiveness of the French economy, which is ranked first in Europe for the number of investment projects (investments or expansions to existing industrial sites) according to the EY France Attractiveness Survey.

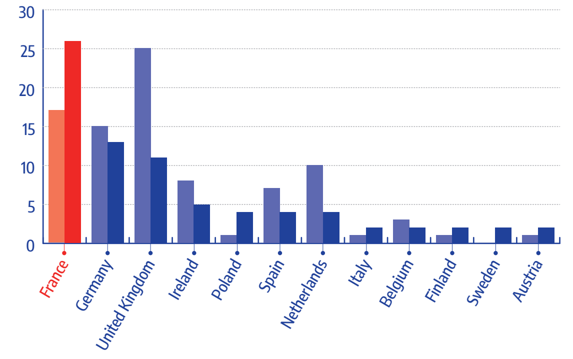
In 2018, France was the leading recipient of R&D activities in Europe, attracting one-quarter of all foreign R&D projects recorded in Europe (Europe observatory, Business France).

For 64% of foreign executives surveyed as part of the Kantar Public/Business France survey, innovation and R&D are major assets in France's attractiveness compared with other European countries.

In terms of R&D, France's attractiveness is based on its network of clusters (for 87% of executives abroad), the proximity of markets and other company activities (85%), the possibilities of collaboration with university research teams (84%), the quality of R&D personnel (82%) and access to funding (81%).

The United Kingdom remained however by far the leading country attracting corporate headquarters in 2018, receiving 25% of all such investments in Europe.

Fig. 8. MULTINATIONAL FIRM INVESTMENT DECISIONS (2018)
Multinational firm investment decisions



Source: Europe observatory, Business France

[1] France Attractiveness Survey 2019, which lists, in particular, incoming investment projects in Europe.

They chose France in 2018 for R&D investments

Uber chooses Paris for its first research and development hub outside of North America

Uber has created the Advanced Technology Center Paris (ATCP), its first research and development center outside of North America. ATCP will initially focus on artificial intelligence and airspace management systems to support large-scale urban aviation, with research into airspace management, battery life, real-time communication networks, energy storage, charging systems, and improved software security. To meet future energy demands, ATCP will also work with European urban planners and regulators to model electric transport infrastructure needs.

Uber will invest €20 million over the next five years to develop new technologies to shape the future of urban mobility.

German company SAP chooses Paris for its first incubator outside of Germany

German software giant SAP announced a €2 billion investment plan for innovation in France over the next five years.

The German company opened an incubator – its second in Europe after Berlin – in October 2018 in Paris's ninth arrondissement to support the growth of many startups. Over the next five years, SAP plans to invest €150 million per year in research and development, with all €750 million going to the three SAP research centers in France. As part of its expansion in France, SAP has also acquired French startup Recast.AI, which specializes in chatbots.

British startup Open Cosmos creates an R&D center in Paris

Open Cosmos is a British startup specializing in the production of space missions for the earth observation, telecommunications, and civil and military surveillance markets. After establishing an initial commercial presence in France in 2017, Open Cosmos decided in 2018 to create a R&D center specializing in algorithmics.

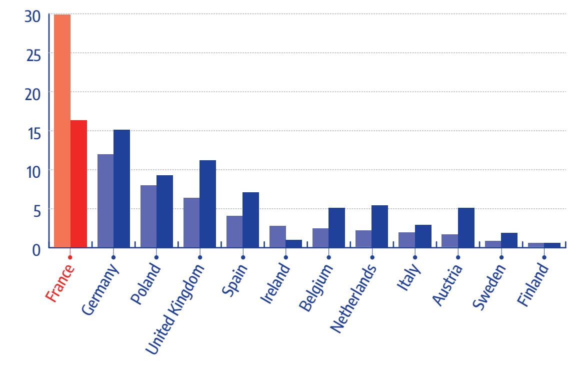
The startup has chosen Centrale Supelec's incubator in Paris to set up its research program, whose partners include Thales Alenia and CNES. The project will create around 10 jobs.

US pharmaceutical company Allergan invests €48 million in its Pringy-Annecy production facility in Auvergne-Rhône-Alpes

The US pharmaceutical group Allergan, a specialist in wrinkle-filling products employing more than 500 people in France, announced in January 2018 an investment of €48 million at its Pringy-Annecy site. This investment is expected to increase the production capacity of the site by 40%, which currently produces 12 million hyaluronic gel syringes per year. The site now employs more than 300 people, including some 40 researchers, and generates revenues of around €400 million.

France was also Europe's leading recipient of investment projects in industry. These projects were split mainly into the four following sectors: machinery and mechanical equipment (12% of projects), agri-food (11%), chemicals/plastics (10%) and the automotive industry (10%).

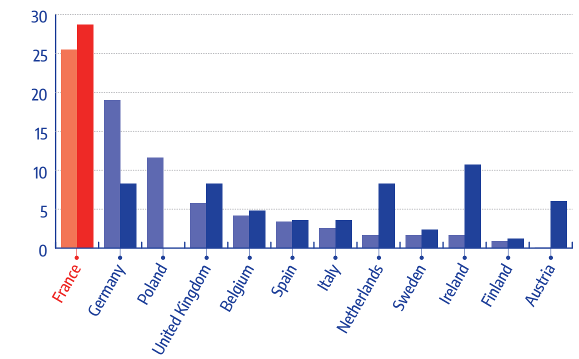
Fig. 9. MULTINATIONAL FIRM INVESTMENT DECISIONS (2018)
European market share (%)



● Production / Manufacturing ● Logistics
Source: Europe observatory, Business France

France is a **preferred destination** for foreign investment in the pharmaceuticals and biotechnologies sector, attracting more than one-quarter of foreign investment projects in Europe in 2018.

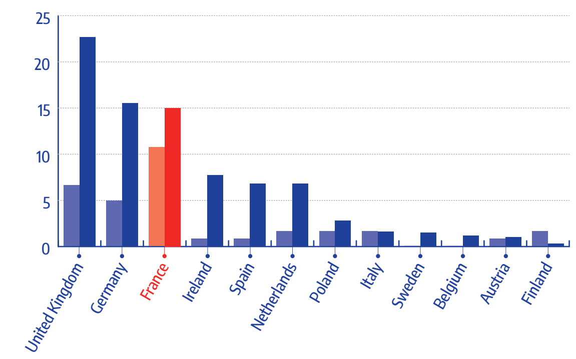
Fig. 10. MULTINATIONAL FIRM INVESTMENT DECISIONS (2018)
European market share (%)



● Chemicals, plastics ● Pharmaceuticals & biotechnologies
Source: Europe observatory, Business France

In 2018, France attracted 15% of foreign investments in the software and IT services sector, a similar level to Germany.

Fig. 11. MULTINATIONAL FIRM INVESTMENT DECISIONS (2018)
European market share (%)



● Electronic components ● Software & IT services
Source: Europe observatory, Business France

They chose France in 2018 for R&D investments

US company PostProcess Technologies chooses Sophia Antipolis for its first site in Europe

PostProcess Technologies is an American company specializing in the post-processing of industrial parts and additive manufacturing, which enables automated production of ready-to-use 3D parts. The Sophia Antipolis technology park, located near Nice in the Provence-Alpes-Côte d'Azur region, was the preferred location for the company's first site in mainland Europe.

Garnica opens a new production facility in Grand Est

Spanish company Garnica, which specializes in the manufacture of plywood panels, decided to open a new 40,000-sq. m. factory near Troyes in the Grand Est region. There will be an initial investment of €40 million, with possible expansion projects in the coming years.

German company Merck continues to grow in France

Millipore, which specializes in filtration, purification and microbiological control for the pharmaceutical industry, is based near Strasbourg (Grand Est region). In 2010, Millipore was acquired by German company Merck, which has since pursued an ambitious development policy for the site. In 2018 it announced plans to transfer a cassette production line from its overcrowded Eppenheim site in Germany. This €24 million investment in buildings and equipment will create 130 jobs.

German company Knauf Insulation opens new rock wool production site in Grand Est

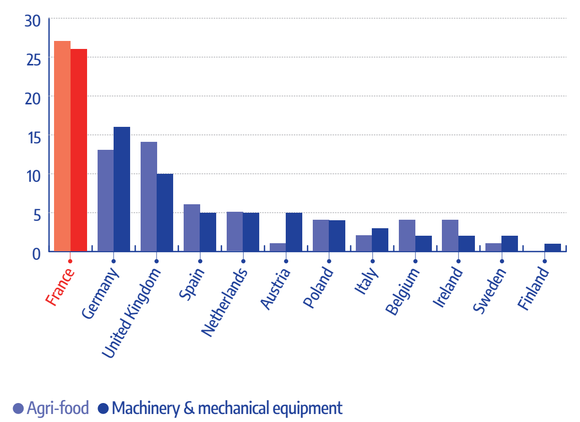
This German company has chosen Illange in the Grand Est region for its new rock wool production site. Knauf Insulation will invest €110 million in its new premises, which will extend over 13 hectares, creating 120 jobs on permanent contracts and three to four times as many indirect and induced jobs. The new plant is expected to reach a capacity of 110,000 tonnes of materials, mainly for the French and German markets.

Swedish car manufacturer Volvo expands its Normandy site

The Swedish company decided to locate the production and marketing of its 100% electric vehicles at its Blainville-sur-Orne site in Normandy, where it has invested in an electric vehicles workshop.

France attracted one-quarter of foreign investments in the machinery and mechanical equipment sector in 2018.

Fig. 12. MULTINATIONAL FIRM INVESTMENT DECISIONS (2018)
European market share (%)

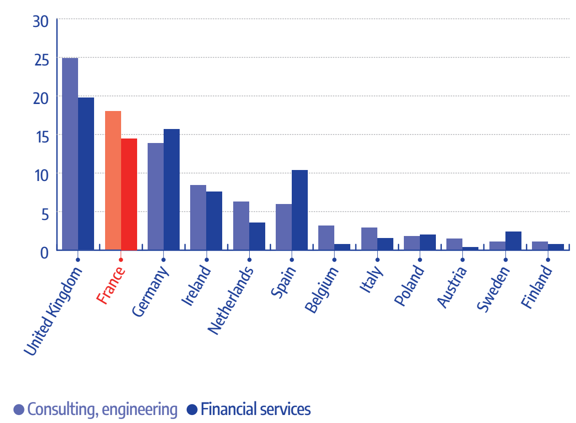


Source: Europe observatory, Business France

Finally, in highly value-added services, such as consulting and financial services, France is ranked second among investment recipients, after the United Kingdom.

Paris will host the seat of the European Banking Authority from 2019 onwards, after it quit London following Brexit. Paris is already home to the European Securities and Markets Authority.

Fig. 13. MULTINATIONAL FIRM INVESTMENT DECISIONS (2018)
European market share (%)



Source: Europe observatory, Business France

Restrictions on foreign investments

The French market is characterized by its openness to foreign investors.

This openness finds its source in the legal and regulatory framework, which explicitly states that "France is free to conduct financial relations with other countries" (article L.151-1 of the French Monetary and Financial Code.)

On the founding on international and European standards, France has a policy of control that is strictly governed, an which is limited, as in other countries, in its implementation.

Indeed, many European countries (including Germany, the United Kingdom, Italy) and elsewhere in the world (such as the United States, Canada, Australia) use legislation to restrict foreign investment in sectors deemed to be strategic.

The provisions of articles L.151-3 and R.153-1 and following of the Monetary and Financial Code establish a set of restrictions for foreign investments subject to prior authorization in two ways:

- A control of investments made by investors from European Union or European Economic Area Member States and those from third-party countries, in order to comply with European Union treaties.
- A control of foreign investments carried out in a limited number of sensitive sectors laid down by statutory restriction, as they are considered to have the potential to disrupt public order, public security and national defense.

The risk control framework for foreign investments has been reformed legislatively, which is continuing through regulatory channels. This comprehensive reform has many plans, including:

- Greater transparency through the annual publication of aggregate statistics relative to procedure (number of requests received, sectors controlled, nationality of investors) and the implementation of parliamentary control of the government's action, notably concerning the regulation of foreign investment.
- Improved processing of operations carried out without prior authorization by the introduction of a possibility for the minister responsible for the economy to order the investor to file a request subsequent to the operation being completed.
- Passing into law the practice enabling the conditions to be revised, subject to certain authorizations, so as to ensure their adequation to the economic realities of the businesses concerned and thus preserve and ensure the continuity of their activities.
- The extension to companies targeted by foreign investments of the possibility of requesting that the authorities request an opinion, so as to anticipate as early as possible the need for a future investor to have an authorization request.
- The expansion of the list limiting sectors considered as sensitive to sectors of the future.
- Increasing policing power and the minister for the economy's power of sanction, combined with more effective consideration of guarantees attached to principles of proportionality and contradiction.

Investment projects database

Business France Annual Report

Every year since 1993, the Annual Report, published by Business France (and historically by the Invest in France Agency) in association with France's regional economic development agencies, has recorded the number of job-creating investment projects in France initiated by foreign companies.

It includes a census of the jobs created in the first three years of each project, as well as detailed statistics categorized by business sector, investment type, business activity, source country and host region.

Types of job-creating investment recorded:

- Creations (greenfield projects), which reflect the number of jobs created at a new site.
- Expansions, which generate new jobs at an existing site.
- Takeovers, which include jobs saved when a foreign company acquires an ailing company.
- Expansions through takeovers, where the jobs counted are those created after a foreign investor acquires a non-ailing French company.
- Expansions following buyouts, which include jobs saved when a foreign company acquires a company with no financial difficulties.

Data gathering

The data in the Business France Annual Report are compiled from three sources:

- Investment projects identified and supported by Business France.
- Projects directly monitored by Business France's regional partners in France.
- The Business France "France Observatory", which monitors the international financial press to identify foreign companies that may wish to make an investment in France. Every year, over 700 foreign investment projects are added to this observatory.

Business France Europe Observatory

Since 2007, this Observatory has tracked job-creating foreign investment projects in Europe that have received media coverage.

Sources include press releases, newspapers and the specialized press, trade publications and company websites.

Every investment decision is attributed to the investing company's parent company. Two types of investments are recorded: new sites and expansions of existing sites. The Observatory does not cover mergers and acquisitions, equity interests or strategic alliances.

EY European Investment Monitor

The EIM database includes all publicly announced job-creating foreign direct investment projects which are either new site creations or expansions such as production facilities, logistics platforms, back office centers, shared service centers, headquarters, R&D centers, sales and marketing offices, etc.

Crossborder Investment Monitor, fDi Markets

Since 2003, the Crossborder Investment Monitor database, generated by fDi Markets using the same techniques as observatories, as been providing data on the investment projects of foreign firms around the world. Only "greenfield" projects (site creations) and expansions are counted, while mergers and acquisitions, capital interests and strategic alliances are excluded.

1.3 Contribution of foreign subsidiaries to the French economy

Foreign businesses bring a substantial contribution to the French economy, which can be measured using the IFATS (Inward Foreign Affiliates Statistics) European survey, conducted in France by INSEE and standing on responses made by group headquarters (2016, last year available).

The large share of foreign investors in the market capitalization of French companies is further proof of the openness and attractiveness of France's economy.

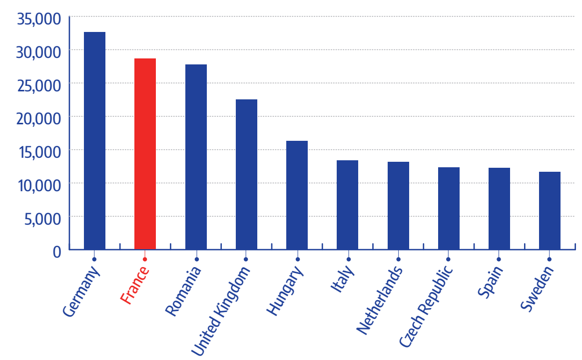
The number of foreign subsidiaries in France stands at nearly 29,000, which is second in Europe, just after Germany, which is home to nearly 33,000 foreign subsidiaries, but ahead of Romania (28,000), and the United Kingdom (22,000).

These subsidiaries generate revenues of around €760 billion – compared with around €1,500 billion in Germany and €1,400 billion in the United Kingdom – and employ around 1.8 million people, the third largest in Europe, after Germany (3.7 million) and the United Kingdom (3.2 million). This represents about one-fifth of the salaried workforce in the French industrial sector.

The internationalization of the economy can also be measured by comparing the contribution made by foreign subsidiaries to R&D expenditure. The total amount of R&D expenditure spent internally by these subsidiaries in 2015 was €5.4 billion in France, the third highest in Europe, after €12 billion in Germany and €5.9 billion in the United Kingdom but ahead of €2.5 billion in Austria. Foreign subsidiaries therefore accounted for around 25% of business enterprise R&D expenditure in France.

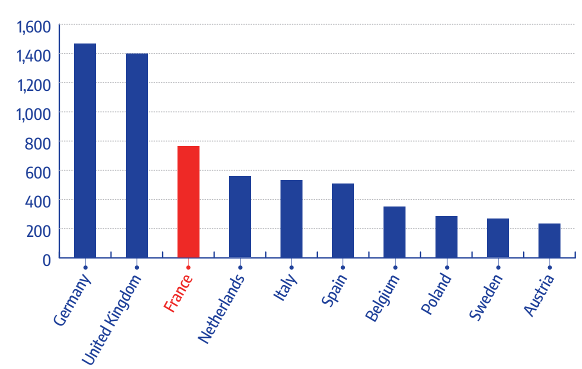
In terms of value added, the contribution of foreign subsidiaries was €56 billion in the manufacturing industry, where France is ranked fourth in Europe, after Germany (€169 billion), the United Kingdom (€93 billion) and Ireland (€77 billion) and was €96 billion in services, after Germany and the United Kingdom, but ahead of the Netherlands, excluding financial services.

Fig. 14. NUMBER OF FOREIGN SUBSIDIARIES (2016)



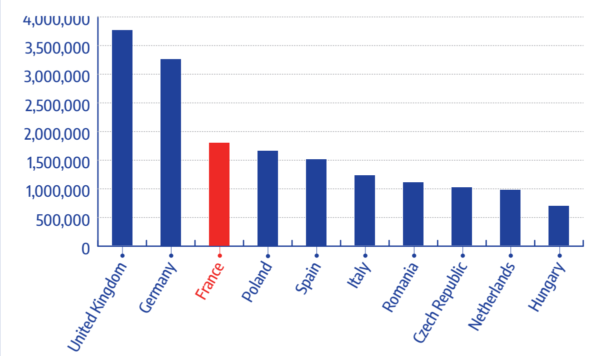
Source: IFATS – Eurostat

Fig. 15. REVENUES GENERATED BY FOREIGN SUBSIDIARIES (2016)
€ billion



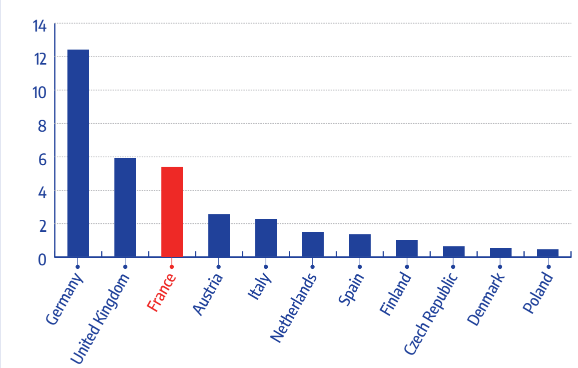
Source: IFATS – Eurostat

Fig. 16. EMPLOYMENT GENERATED BY FOREIGN SUBSIDIARIES (2016)



Source: IFATS – Eurostat

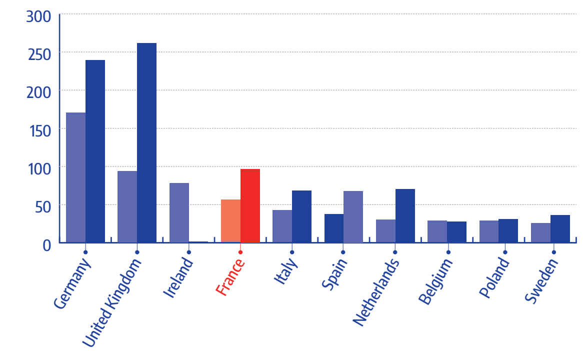
Fig. 17. R&D EXPENDITURE CARRIED OUT BY FOREIGN SUBSIDIARIES (2016)
€ billion



Source : IFATS – Eurostat

Foreign shareholders continued to hold a major share of market capitalization in the Paris marketplace further proof of the openness and attractiveness of the country. However, their presence has tended to decline since 2014 and is lower than levels observed in other European countries.

Fig. 18. VALUE ADDED BY FOREIGN SUBSIDIARIES (2016)
€ billion

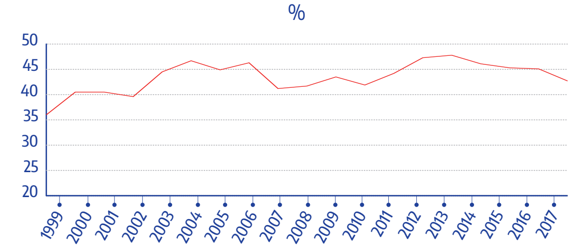


Source: IFATS – Eurostat

According to the Banque de France (cf. Bulletin de la Banque de France no. 219 September 2018), non-resident equity holdings in French companies on the CAC 40 amounted to 42.7% (down 2.4 percentage points) on December 31, 2017, or €569 billion. This proportion, while lower since 2014, is still up on 10 years (41.2% in 2007). Non-resident equity holdings in the CAC 40 were split between portfolio investments (91%) and direct investments (participations over 10% of the share capital), which made up the remaining 9%.

A total of nearly 45% of non-resident investors were from the euro zone, compared with 33% from the United States, 8% from the United Kingdom and less than 15% from the rest of the world.

Fig. 19. NON-RESIDENT EQUITY HOLDINGS IN CAC 40 COMPANIES
%



Source: Banque de France

1.4 Foreign skills

The ability to train foreign-born talent enhances as much as it determines a country's international reputation and attractiveness.

With nearly 260,000 international students enrolled in tertiary education in 2017, France was the fourth most popular destination in the world after the United States, the United Kingdom and Australia, and was the second leading non-Anglophone nation.

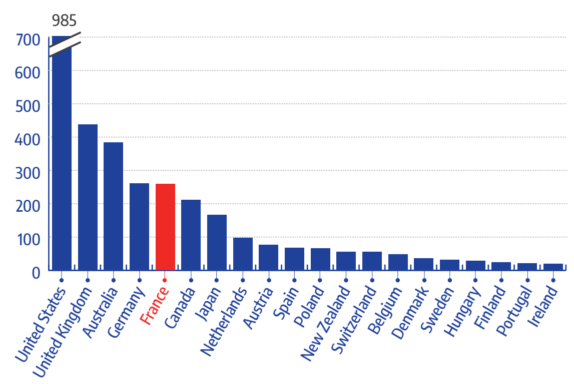
A very high proportion of foreign students are enrolled in advanced research programs in France, accounting for 40% of PhD students, which leaves France the third leading country for welcoming international PhD students.

The number of students in tertiary education abroad has increased significantly in the last few decades, from two million in 1998 to 5.3 million in 2017. Of these, 3.7 million students are in an OECD country, 6% more than in 2016.

The 23 OECD countries that are also EU members welcome 1.7 million international students. After the United Kingdom, Germany and France are the main destinations for these students, with each country welcoming nearly 260,000 students.

The number of foreign students in France grew by +5.3% in 2017. With nearly 260,000 international students, or 6% of all international students in member and partner countries of the OECD, and around 5% of all international students worldwide, France is ranked fifth in the world. **It is the second leading non-Anglophone nation for welcoming students after Germany.**

Fig. 20. NUMBER OF INTERNATIONAL STUDENTS
By host country - top 20 (2018)



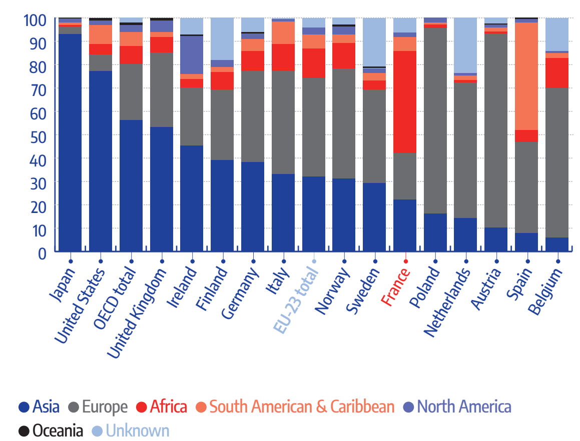
Source: OECD, Education at a Glance, 2019

France attracts students from every continent. Similarities between countries, including shared languages, historic ties, geographic proximity, and political agreements (such as the European Higher Education Area) all have a significant influence on the destination choices made by international students.

The reputation of the French language, French culture and the excellent reputation of the French tertiary education system are key advantages to attract foreign students to France. Countries where teaching establishments achieve high positions in international league tables are among the most sought-after destinations by international students.

Thus the highest proportion of international students at institutions in France were from African countries (43%), while most of those studying in Germany were from other European countries (39%). Asia was the second leading source region of foreign students France (22%), followed by Europe with 20% of students.

Fig. 21. GEOGRAPHIC ORIGIN OF INTERNATIONAL STUDENTS
%



Source: OECD, Education at a Glance, 2019

National strategy to attract international students

In November 2018, the Prime Minister presented a national strategy to attract international students to come to France. The objective was to increase the number of new international students in France through a simplification of the visa policy, an increase in French as a Foreign Language (FFL) courses and the introduction of programs taught in English.

The strategy also provided for an increase in tuition fees, with the amount payable dependent on a particular student's qualifications and their family's income.

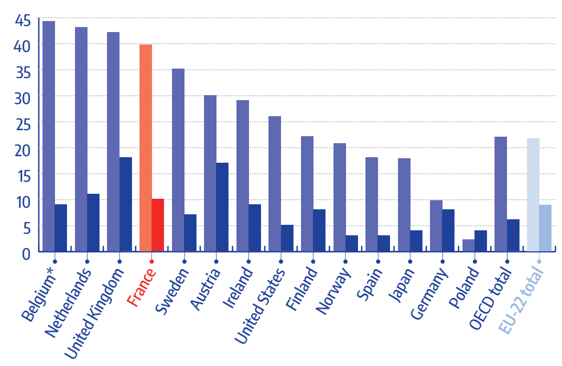
Lastly, the plan sought to improve and standardize the living conditions for international students by creating a quality label and to triple the number of scholarships available.

Students are more internationally mobile at higher levels of higher education. In tertiary education, internationally mobile students accounted for only 3% of the class size in short cycles and 4% of class size at degree level, but 14% at PhD level.

In 2017, foreign students accounted for 10% of all students enrolled in tertiary education in France, compared with 18% in the United Kingdom and 8% in Germany.

France stands out for its very high proportion of international students following advanced research programs[1] : 40% of its PhD students are from overseas. Conversely, in Germany, only 9% of doctoral-level students are foreign.

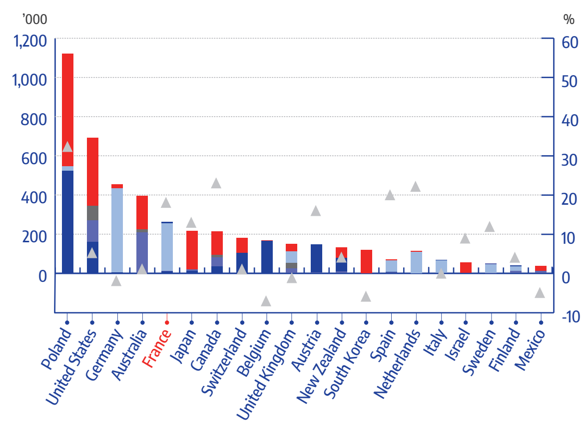
Fig. 22. PROPORTION OF INTERNATIONAL STUDENTS IN HIGHER EDUCATION
%



● Proportion of international students in higher education (2018)
● All higher education
Source: OECD, Education at a Glance, 2019

For the second year in a row, Poland was the leading destination of temporary work migrants in the OECD, with 1.1 million new authorizations delivered to workers who were non-EU nationals and 21,000 posted employees within the EU. France was the fifth most attractive destination, with 262,269 new temporary workers in 2017, up 18%.

Fig. 23. INFLOWS OF TEMPORARY WORK MIGRANTS THE 20 LEADING RECIPIENT COUNTRIES (2017)



● Seasonal workers ● Active holiday-makers ● Intra-company transfers
● Posted employees (within the EU/EFTA)
● Other temporary workers (including interns)
▲ Total change 2016-17 (right axis)
Source: International Migration Outlook, OECD, 2019

Paving the way for foreign talent

After a reform of the law safeguarding the rights of foreigners in France in 2016, the country continued in 2017 with the implementation of the provisions relating in particular to economic migration (creation of multi-year residence permits, new residence permits for foreign talent – "Talent Passport", etc.) with the publication of numerous decrees for the application of the Act of March 7, 2016 safeguarding the rights of foreigners in France.

It also worked to implement the EU Directive 2016/801 of May 11, 2016 for the purposes of research, studies, training, volunteering and exchange programs involving students and au pairs.

In 2017, the "French Tech Visa" scheme, aimed at attracting innovative companies, startups and foreign investors, was launched. The France-Visas portal went live in October 2017 to facilitate online visa applications.

The "Talent Passport" aims to allow highly qualified employees, researchers, entrepreneurs and artists to settle more easily in France and work in the country for a period of more than three months.

In terms of taxation, a special scheme exists for immigrants to France, which could see them exempt from paying income tax or eligible for a relocation or professional residence grant.

Under the same scheme, 50% of income from foreign investment is exempt from tax, as is 50% of capital gains on the sale of foreign securities. This plan applies for eight calendar years following the company's official opening in France.

[1] Advanced research program = degree equivalent to a PhD.

Chapter 02

Attractiveness criteria

2.1 Market size and strength

The size of a country's market (measured notably by nominal GDP) and its strength are often decisive criteria for multinational firms deciding where to locate.

In 2018, France was the world's sixth largest economy after the United States, China, Japan, Germany and the United Kingdom.

France's location and high quality, multimodal transport infrastructure makes it a potential hub for Europe.

France has every reason to be confident about its future, thanks to its strong population growth and a fertility rate that is amongst the highest in Europe. For companies, the business environment remains stable and investors are renewed in their confidence.

In 2018, **France was the world's sixth largest economy**, with a GDP of US$2,775 billion, after the United States (US$20,494 billion), China (US$13,407 billion), Japan (US$4,972 billion), Germany (US$4,000 billion) and the United Kingdom (US$2,829 billion) (cf. Fig. 25).

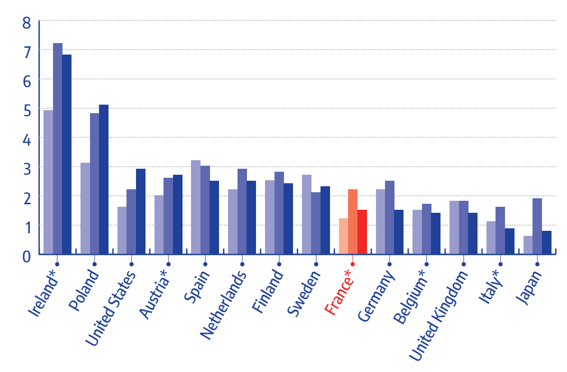
Moreover, the European Union was the world's second largest market: EU-28 GDP was estimated to be US$19,613 billion at 2018 prices, compared with US$22,310 billion in North America.

French growth continued to be buoyant in 2018 (+1.7%), after a remarkable performance in 2017 (+2.4%). In 2017, a solid rebound in exports and investment from both businesses and households pushed growth to +2.4%, unequalled in 10 years. The darkening of the global outlook, with its collection of uncertainties, fed into a slowdown of activity in 2018, amid a context of social movements in France.

However, foreign trade resisted in 2018 and contributed positively to growth for the first time since 2012 (+0.7 percentage points). With respect to its leading European partners, the French economy was relatively resilient to the slowdown in global activity and France should continue to grow at a rate higher than the euro zone.

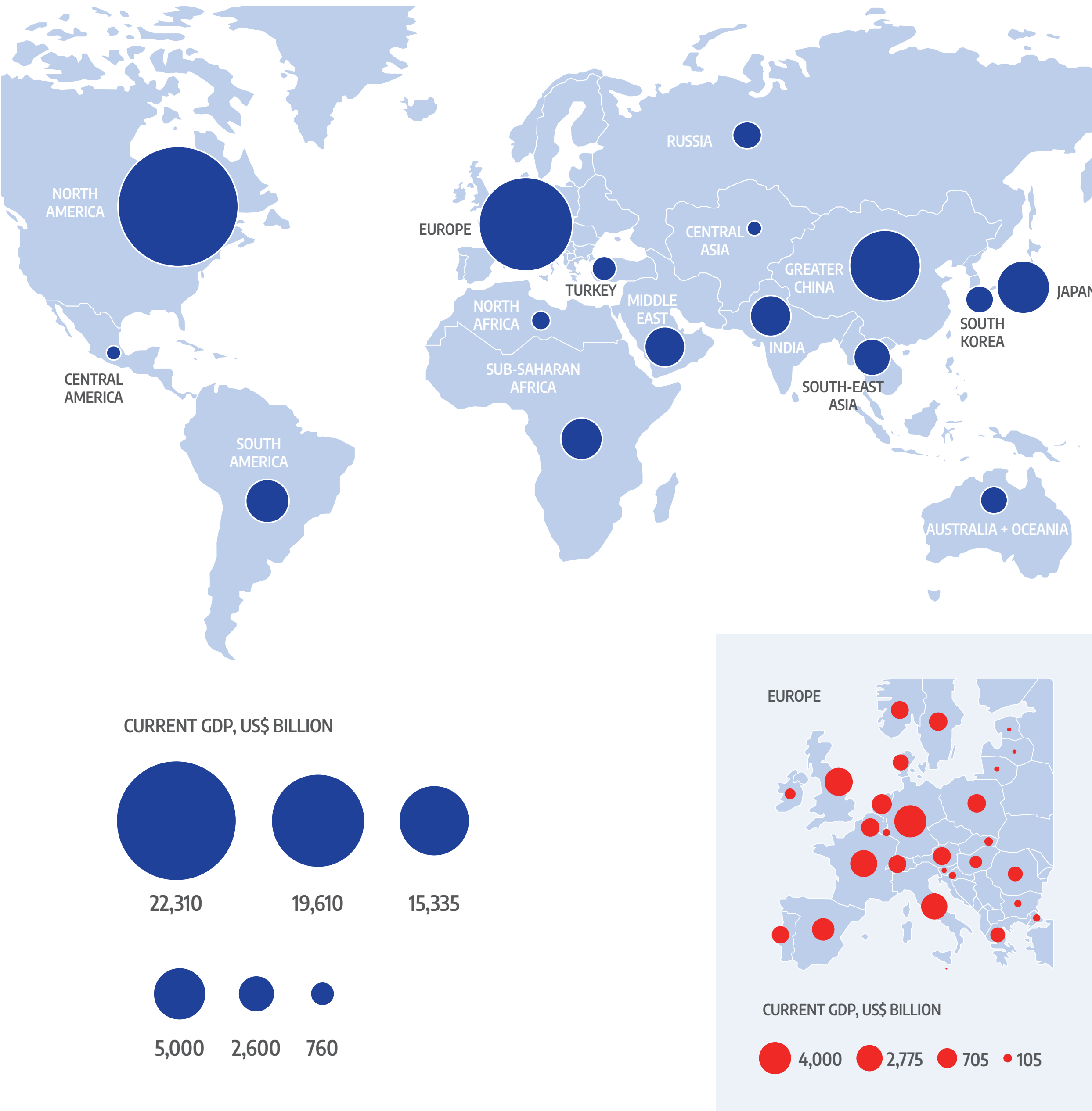
The lightening of capital taxation and reforms to the labor market should help investment growth and employment, producing in time greater productivity and competitiveness gains, while the strong trend for corporate investment will lead to a progressive modernization and expansion of French production facilities.

Fig. 24. COMPOUND ANNUAL RATE OF REAL GDP GROWTH
%



Source: IMF, World Economic Outlook Database, April 2019; Business France calculations from data series in local currencies at constant prices; * Estimation for 2018

FIG. 25. DISTRIBUTION OF GLOBAL WEALTH (2018)
Current GDP, US$ billion

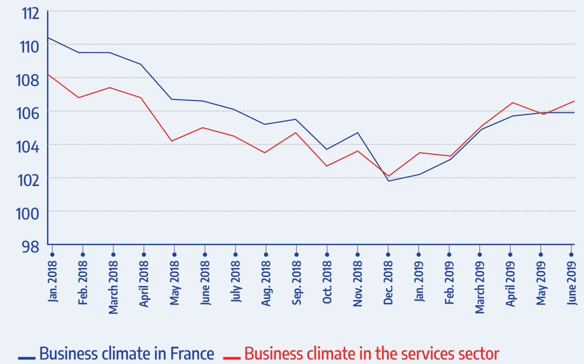


Source: IMF, World Economic Database, April 2019

Business climate in France

In June 2019, the business climate in France was stable. The indicator for the main market activity sectors and the economy as a whole was above its long-term average (100).

Fig. 26. EVOLUTION OF THE BUSINESS CLIMATE IN FRANCE

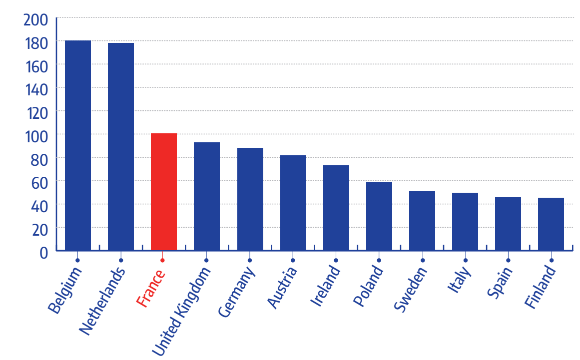


Source: French National Institute for Statistics and Economic Studies (INSEE)

France's location at the heart of Europe and the size of its domestic market mean that it has high market potential. Within the European Union, market potential of a country is defined as the sum of the GDPs of all the countries weighted by the inverse of the bilateral distance.

According to this "access to EU-28 markets" criterion, France was ranked third in 2018, ahead of Germany and the United Kingdom. A foreign company will be minded to set up in France, where domestic demand is high and where it can enjoy easy access to other European markets.

Fig. 27. ACCESS TO EU-28 MARKETS (2018)
In comparison with France
Index France = 100



Source: IMF, World Economic Outlook Database, October 2018; Mayer, T. & Zignago, S. (2011), Notes on CEPII's distances measures: the GeoDist Database, CEPII Working Paper 2011-25; Business France calculations

METHODOLOGY

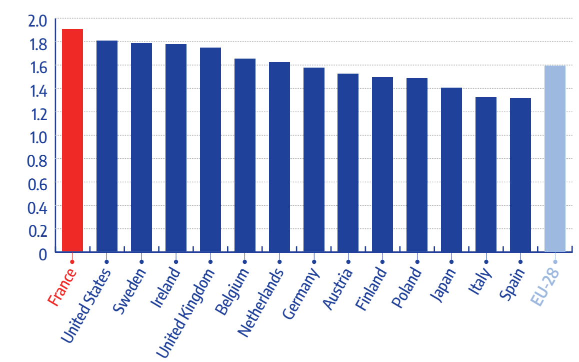
Access to external markets

The access to external markets variable is based on a broader concept than GDP. It is similar to the concept of trade potential and takes a country's external demand into consideration.

This indicator is calculated for EU-28 markets. A country's trade potential is defined as the sum of the GDP of its neighboring countries weighted by the distance between them.

France also enjoys a vibrant demographic profile, and has **Europe's highest fertility rate, with nearly two children per woman (1.92) in 2017**.

Fig. 28. FERTILITY RATE (2017)
Children per woman, all age groups

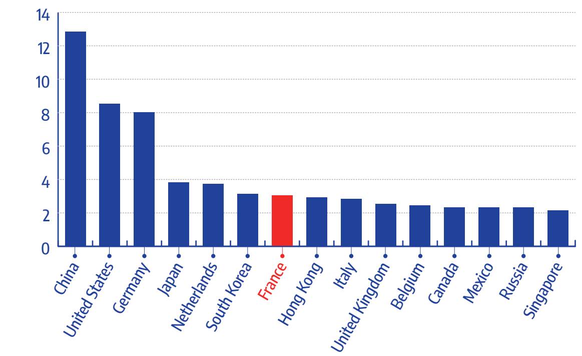


Source: Eurostat (EU-28) and World Bank (United States and Japan)

Forecasts looking ahead to 2080 (excluding migration) emphasize that France's high fertility rate will enable it to stabilize its population, while most other major European nations are due to see falls.

In 2018, with 3% of global goods export sales revenues, France is ranked seventh in the world and third in Europe, after China (12.8%), the United States (8.5%), Germany (8%), Japan (3.8%), the Netherlands (3.7%) and South Korea (3.1%).

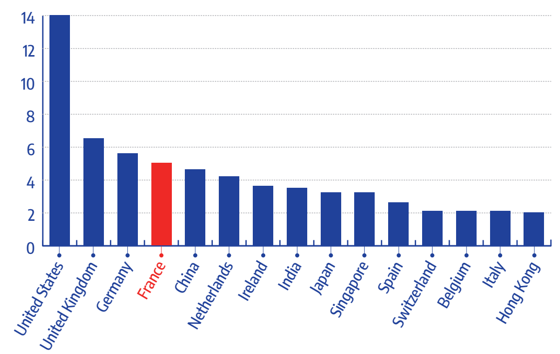
Fig. 29. GOODS EXPORTS (2018)
Market share of 15 leading economies
% of global exports



Source: WTO; Business France calculations

France maintains its position as the world's fourth leading economy for exports of services, with a market share of 5%, equivalent to US$287 billion in exports. The United States (14%) is top, followed by the United Kingdom (6.5%) and Germany (5.6%).

Fig. 30. SERVICES EXPORTS (2018)
Market share of 15 leading economies
% of global exports

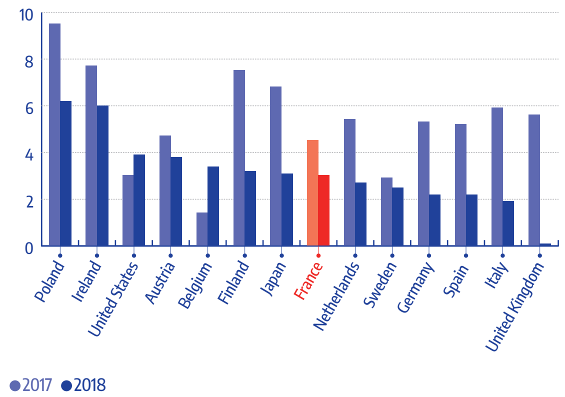


Source: WTO; Business France calculations

The flattening out of France's share of world trade revenues observed since 2012 continued into 2018.

Foreign trade contributed more to activity in France in 2018 than in 2017 (+0.7 percentage points, versus -0.1 points). French exports reflect renewed competitiveness and have resisted better than those of other countries to the current economic slowdown.

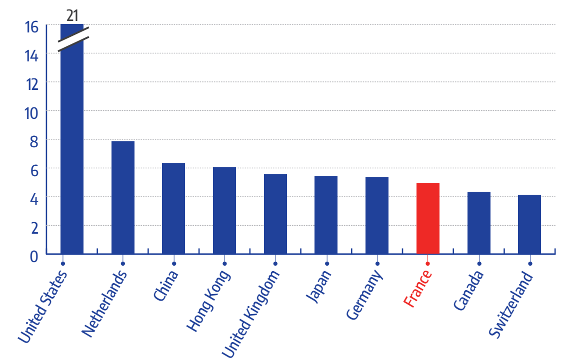
Fig. 31. COMPOUND ANNUAL RATE OF GOODS AND SERVICES EXPORT GROWTH
%



Source: IMF, 2019; Business France calculations

France fully embraces globalization and is **one of the world's leading investor countries. In 2018, France was the eighth largest economy in terms of outward foreign direct investment (FDI) stocks (4.9% of global stocks)**, after countries such as the United States (21%), the Netherlands (8%), China (6.3%), Hong Kong (6%), the United Kingdom (5.5%), Japan (5.4%) and Germany (5.3%).

Fig. 32. MARKET SHARE OF FDI OUTFLOWS (2018)
10 leading economies
% of global FDI outflow stock



Source: UNCTAD, World Investment Report 2019

The competitiveness of the French economy

France's cost competitiveness compared with the rest of the euro area has improved since the end of 2013 (+3.1% up to the fourth quarter of 2018), thanks to the measures to reduce labor costs introduced from 2014 onwards.

Price competitiveness has increased more moderately (+0.3%) due to the recovery of their margins by exporting companies, following important efforts implemented since 2000.

Since early 2018, France's price and cost competitiveness in relation to the euro area have changed little.

Since the end of 2013, France's price and cost competitiveness have also strengthened compared with its OECD partners. While they fell slightly during 2017, due to an appreciation in the exchange rate, they have since recovered due to the stabilization of the euro.

Price competitiveness has improved +1.4% between the fourth quarter of 2017 and the fourth quarter of 2018.

Definition : Export price competitiveness is defined as the ratio between exports prices for foreign goods or services and French goods or services. The foreign export price is the combined average for all countries by their trade-weighted share in France's different export markets. This weighting is based on the importance of the market to France (proportion of total French exports) and the share held by the competitor country in this market.

Source: French Treasury Directorate

2.2 Education and human capital

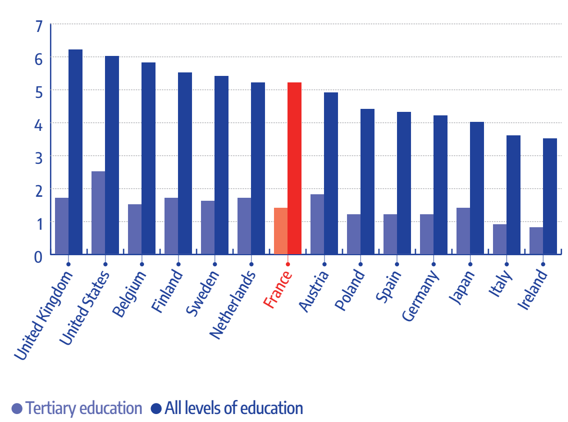
France has a highly qualified and productive workforce and continues to invest in education (including tertiary education) to maintain its competitive advantage and consolidate its scientific skills base.

Training, tertiary education and research are all key drivers of a country's competitiveness and investment attractiveness. Tertiary education provision enables students to acquire a broad range of knowledge, skills and attitudes to build the society of the future. This results in a more productive workforce and a stronger economy.

Investment in education and training for the younger generation determines an economy's future productivity.

Keen to consolidate its position as a global economic power, France invests heavily in education: **expenditure on education in France equated to 5.2% of GDP in 2016**, with 1.4% of GDP invested in tertiary education.

Fig. 33. TOTAL EXPENDITURE ON EDUCATION (2016)
% of GDP



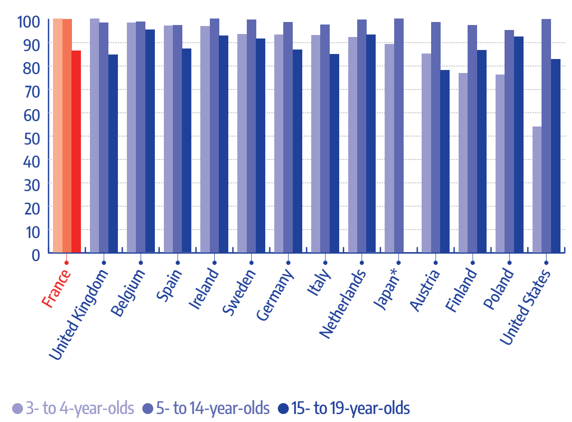
Source: OECD, Education at a Glance, 2019

Increasing a country's human capital through education is a priority for the government. France's commitment is reflected in statistics on schooling, participation in education, and educational achievement.

Levels of schooling in France were very high in 2017. The 3- to 4-year-olds age category achieved a 100% enrollment rate in 2017; the rates for 5- to 14-year-olds and 15- to 19-year-olds were 99.9% and 86.4%, respectively.

The lower rate for 15- to 19-year-olds is a result of schooling being compulsory in France up to the age of 16. The government recently introduced a minimum age for leaving education and training of 18.

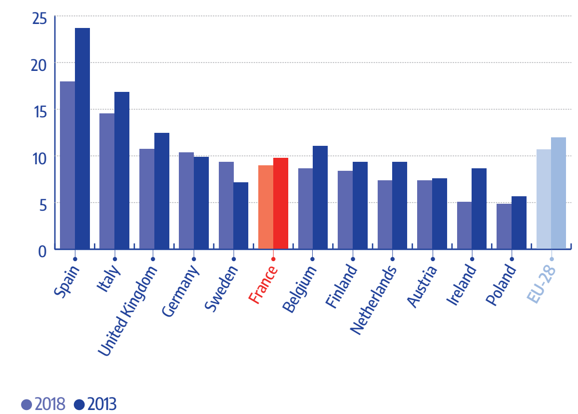
Fig. 34. ENROLMENT RATE (2017)
% of age category



Source: OECD, Education at a Glance, 2019; * Data for 2015 for the 15- to 19-year-old group

The percentage of young people dropping out of education and training early is falling sharply in France: having been in excess of 11% until 2012, this percentage had fallen to 8.9% in 2017, lower than in Germany (10.1%) and the United Kingdom (10.6%), and below the EU-28 average (10.6%).

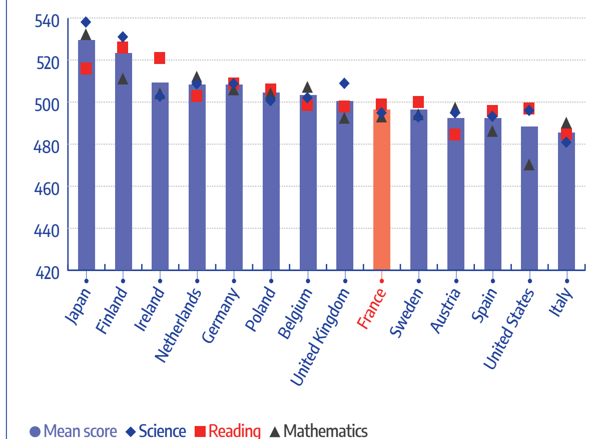
Fig. 35. EARLY LEAVERS FROM EDUCATION AND TRAINING
% of 18- to 24-year-olds



Source: Eurostat, 2019

An assessment of the performance of 15-year-old students (PISA survey) puts France in line with the average, similar to the United Kingdom and Sweden.

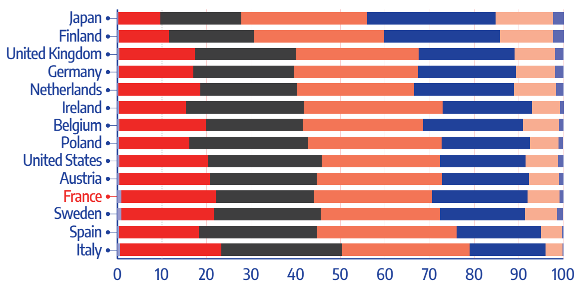
Fig. 36. PERFORMANCE LEVELS OF 15-YEAR-OLD PUPILS (2015)
Rankings in diminishing order of mean score



Source: OECD 2018, PISA results 2015 (Volume I)

As regards scientific literacy students, 8% of 15 year-old students achieved the two highest levels in 2015. This is a similar level to Austria (7.7%), Sweden (8.5%) and the United States (8.5%), but lower than Germany (10.6%), the United Kingdom (10.9%), Finland (14.3%) and Japan (15.3%).

Fig. 37. SCIENTIFIC LITERACY OF 15-YEAR-OLD STUDENTS (2015)
In descending order of mean score
% of pupils ranked by level



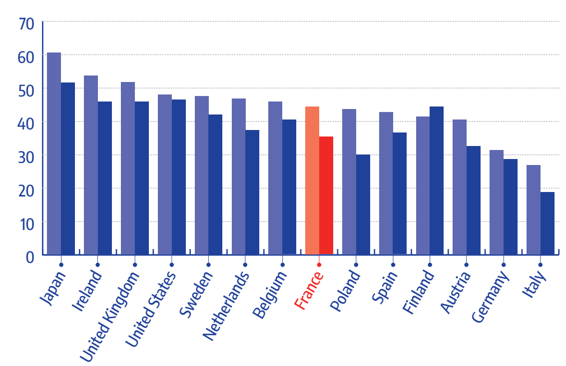
< Level 1 · Level 1 · Level 2 · Level 3 · Level 4 · Level 5 · Level 6

Source: OECD 2018, PISA results 2015 (Volume I)

In 2017, 35.2% of 25- to 64-year-olds in France had tertiary education qualifications, lower than in the United States (46.4%) and the United Kingdom (45.7%), but higher than in Germany (28.6%). This difference is due to access to tertiary education being democratized later in France, which has since caught up.

Consequently, **the population of 25- to 34-year-olds is particularly highly qualified in France:** 44.3% of people in this age category gained a tertiary education qualification in 2017, similar to the level in Belgium (45.7%) and the Netherlands (46.6%), but lower than in the United Kingdom (51.6%) and the United States (47.8%), and higher than in Germany (31.3%).

Fig. 38. TERTIARY EDUCATION GRADUATES (2017)
% of age category



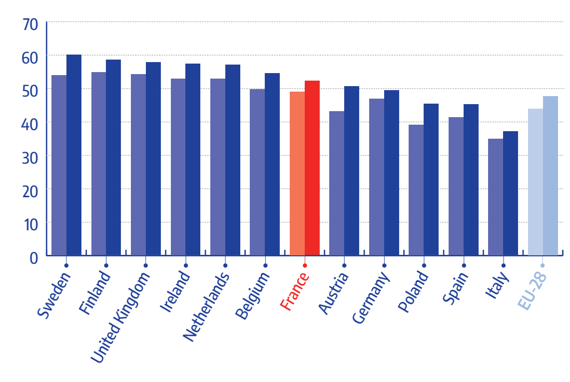
25- to 34-year-olds · 25- to 64-year-olds

Source: OECD, Education at a Glance, 2019

Human resources in science and technology (HRST) are one of the key drivers of knowledge-based economies. In addition to tertiary education graduates, they include people in scientific and technological occupations requiring advanced qualifications.

In France, HRST accounted for over half the working population in 2018 (52.1%). France is one of the countries where human resources in sciences and technology account for a significant proportion of the working population, after the United Kingdom (57.6%) but ahead of Germany (49.3%).

Fig. 39. HUMAN RESOURCES IN SCIENCE AND TECHNOLOGY (2018)
Persons employed in science and technology and/or tertiary education graduates
% of economically active 25- to 64-year-olds

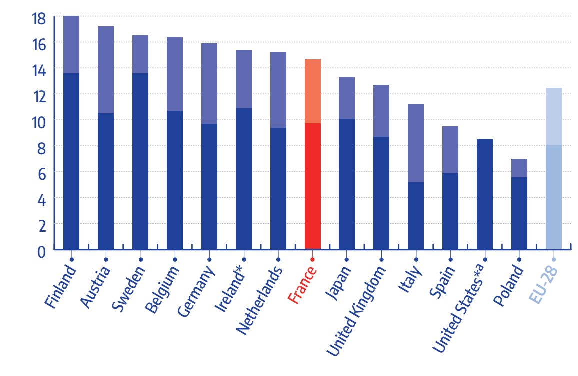


2013 · 2018

Source: Eurostat, 2019

France is also well placed for numbers of researchers, with 9.7 researchers per 1,000 members of the working population in 2017, a similar level to Germany, and better than the United Kingdom (8.7) and the United States (8.5).

Fig. 40. R&D PERSONNEL (2017)
Per thousand labor force



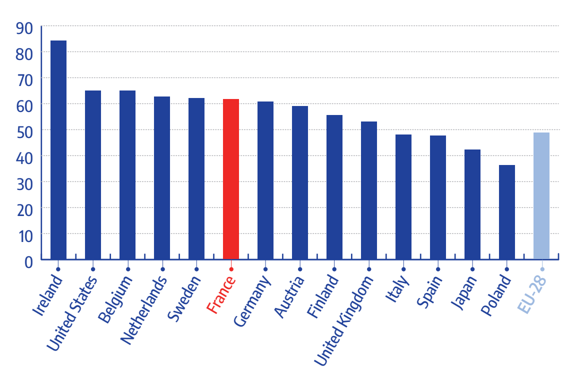
Technicians and support personnel · Researchers

Source: OECD (MSTI); * Data for 2016; a Data only available for the number of researchers

Thanks to this highly qualified workforce, France has one of the world's highest levels of productivity, with the sixth-highest hourly productivity rate among sample countries and the ninth-highest in the world in 2018. Thanks to the capacity to adapt of a well-educated active population, businesses can invest more in new technologies, which are an essential requirement for productivity growth.

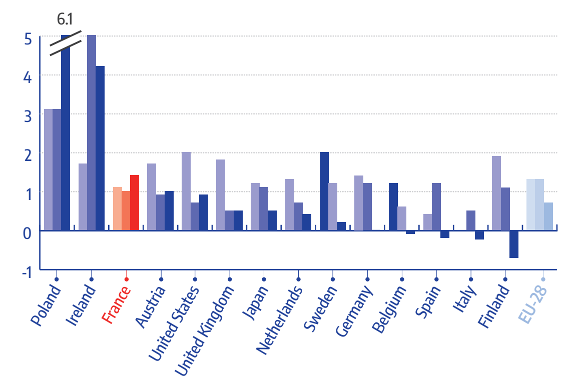
Since the 1990s, growth in hourly productivity has gradually slowed in France, as it has in many developed countries: after growing at between 1.5% and 2% per year in the 1990s, hourly productivity declined to 1% during the crisis years (2007 to 2008). In 2018, it grew in France by +1.4%, more than in the United Kingdom (+0.7%) and Germany (+1.1%) (cf. VII. Costs and taxation).

Fig. 41. HOURLY LABOR PRODUCTIVITY* (2018)
Total economy - US$ at 2018 PPP



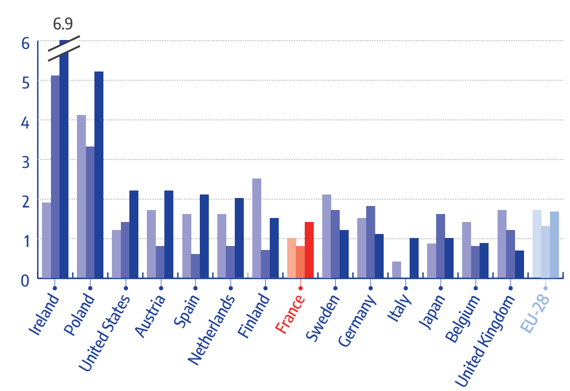
Source: OECD, April 2019; * GDP per hour worked

Fig. 42. TRENDS IN HOURLY LABOR PRODUCTIVITY*
Compound annual rate of growth - Total economy
%



Source: OECD, April 2019; Business France calculations; * GDP per hour worked

Fig. 43. TRENDS IN LABOR PRODUCTIVITY PER EMPLOYEE*
Compound annual rate of growth - Total economy
%



Source: OECD, April 2019; Business France calculations; * GDP per hour worked

2.3 Research and innovation

Investing in knowledge, innovation and high tech is at the crux of stiff competition between developed economies. Productivity gains achieved through innovation and the dissemination of new technology is supporting growth and competitiveness in the economy.

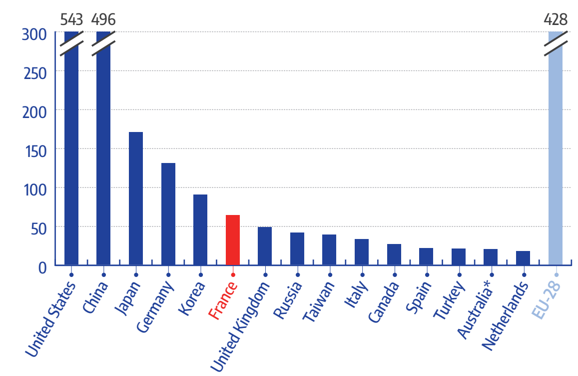
Dynamic research and innovation operations are yielding growth and ultimately value creation. They are also key factors in attracting international mobile technology and/or knowledge-intensive investment projects.

France shows good performances in technological innovation activity: France is ranked sixth in the world for R&D expenditure, and fourth in our sample for patents filed, as well as for trademark applications and registrations of industrial designs.

Gross domestic expenditure on R&D (GERD) is a key indicator of a country's efforts in the areas of research and development and innovation. In 2017, France spent US$64.7 billion on R&D, placing it **sixth in the world** and fourth in our sample. The world's leading countries are the United States (US$543.2 billion), China (US$496 billion), Japan (US$170.9 billion), Germany (US$131.3 billion) and South Korea (US$91 billion).

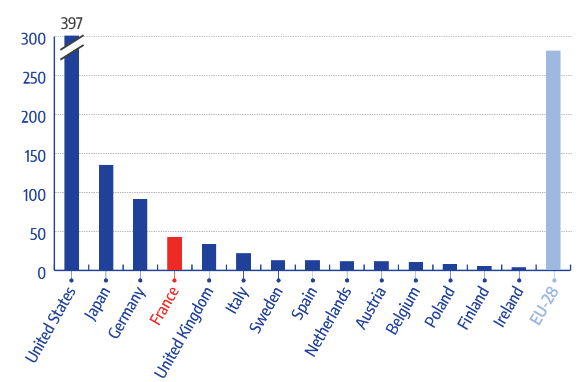
Businesses play a decisive role in financing R&D. **In France, contributions from businesses accounted for 65% of the total gross domestic expenditure on R&D in 2017** (65.7% on average among the EU-28). Business enterprise R&D expenditure (BERD) amounted to US$42 billion in France in 2017, ranking it fourth in our sample.

Fig. 44. GROSS DOMESTIC EXPENDITURE ON R&D (2017)
15 leading economies
US$ billion at current prices and PPP



Source: OECD; * Data 2015

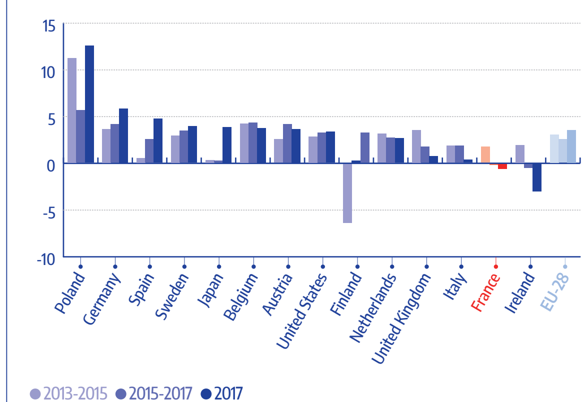
Fig. 45. BUSINESS ENTERPRISE R&D EXPENDITURE (BERD) (2017)
US$ billion at current prices and PPP



Source: OECD

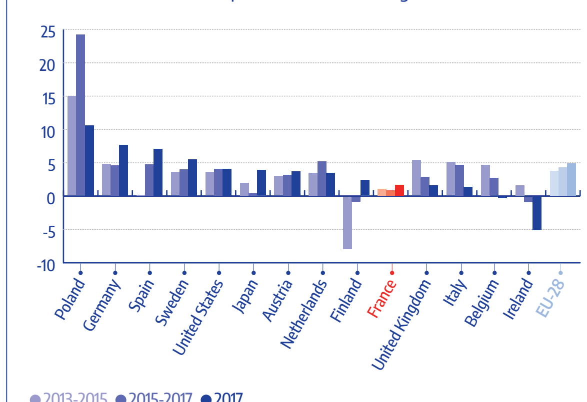
Gross domestic expenditure on R&D in France fell slightly in 2017 (-0.5%), while business enterprise R&D expenditure rose by 1.6%. This is the strongest increase in recent years, a sign of businesses' buoyant efforts in research and innovation activities. Among the EU-28, GERD was up 3.5% in 2017, while BERD was up 4.8%.

Fig. 46. TRENDS IN GROSS DOMESTIC EXPENDITURE ON R&D
Real compound annual rate of growth



Source: OECD; Business France calculations

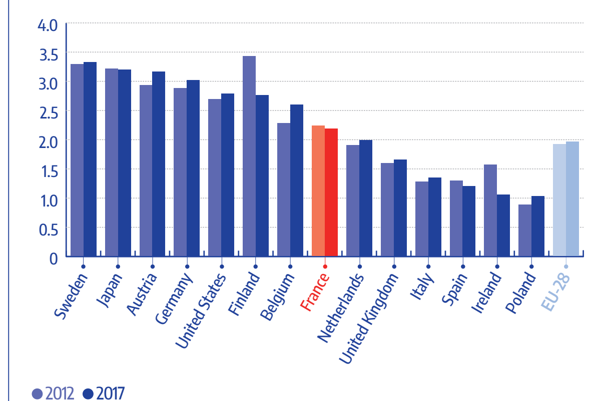
Fig. 47. TRENDS IN BUSINESS ENTERPRISE R&D EXPENDITURE
Real compound annual rate of growth



Source: OECD; Business France calculations

R&D intensity (GERD/GDP ratio) has decreased slightly in France since 2015, after several years of growth. **In 2017, gross domestic expenditure on R&D accounted for 2.2% of GDP in France**, higher the EU-28 average (2%). France is ranked ahead of the United Kingdom (1.7%), Italy (1.3%) and Spain (1.2%), but after Germany (3%) and the United States (2.8%).

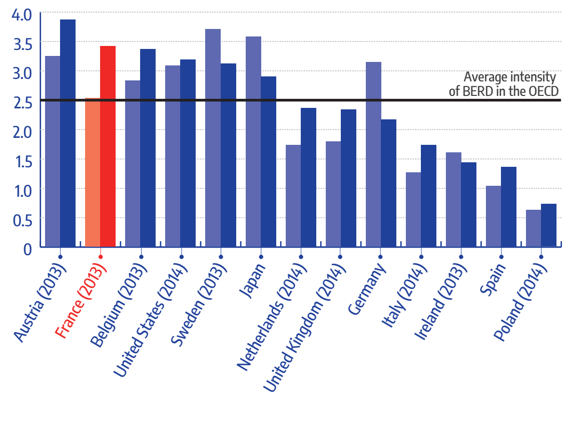
Fig. 48. INTENSITY OF R&D OPERATIONS (GERD/GDP)
% of GDP



Source: OECD

The average position of France in the intensity of R&D operations reflects above all the sector-based structure of the French economy, which is less geared towards medium-high technology than the leaders of the rankings, such as Germany and Japan. However, **if we neutralize the effect of industrial structure on the economy, France becomes the second leading country in the OECD for R&D intensity after Austria**, which shows the extent of R&D efforts by French businesses.

Fig. 49. INTENSITY OF BERD ADJUSTED FOR INDUSTRIAL STRUCTURE (2015)
% of value-added in industry



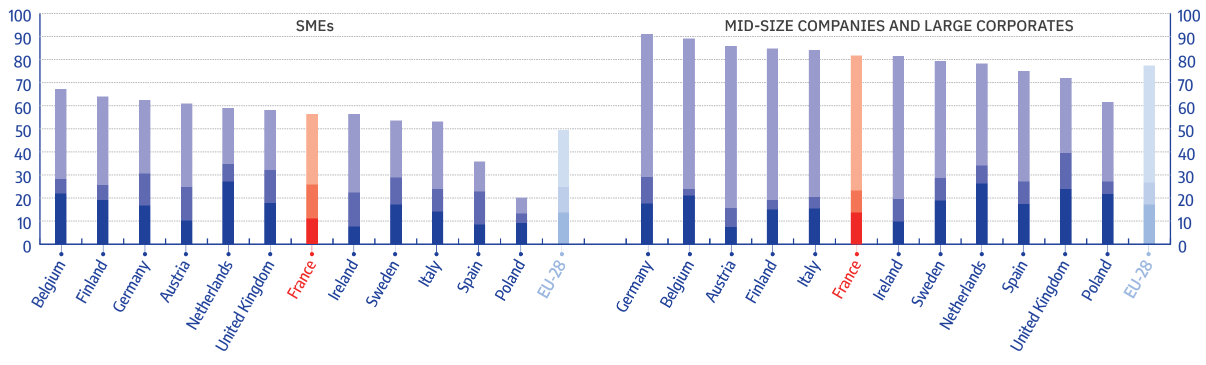
● BERD ● BERD adjusted for industrial structure
Source: OECD, Science, Technology and Industry Scoreboard 2017

SMEs (with between 10 and 249 employees) have a lower capacity for innovation than mid-size companies and large corporates (with more than 250 employees) in all the sample countries. France is ranked in the middle of the sample, with 56.4% of SMEs and 81.9% of mid-size companies and large corporates reporting innovations in 2016.

Government support for business enterprise R&D expenditure, both directly (in the form of subsidies) and indirectly (in the form of tax incentives), is 0.39% of GDP in France, the second-highest level of support in the OECD (cf. II. Education and human capital).

This figure appears all the more important when it is compared with the share of BERD in GDP, which is weaker in France that in leading countries such as Germany. This French position reflects the orientation taken by successive governments in the last fifteen years to provide firm innovation support, using a large panel of tools, notably the research tax credit, but also "innovative new company" (*jeune entreprise innovante* – JEI) status, support from Bpifrance, and the measures of the French government's Major Investment Plan, among others (cf. inset "Government measures to promote innovation in France").

Fig. 50. INNOVATION STRATEGIES BY BUSINESS SIZE (2016)
All sectors - %



● Non-technological innovations only (marketing or organizational) ● Technological and non-technological innovations ● Technological innovations only (products or processes)
Source: Eurostat; Business France calculations

Government measures to promote innovation in France

France's research tax credit

is a tax-incentive scheme to support research that is open to companies of any size and from any sector. The tax credit amounts to 30% of R&D expenses up to €100 million and 5% of expenditure above this threshold. **Eligibility for the research tax credit was extended in 2013 to encompass innovation spending by SMEs claimed back through the innovation tax credit** (20% rate up to €400,000): the expenses in question must go towards the design of prototype or pilot versions of new products.

The "innovative new company" (*jeune entreprise innovante* – JEI) status,

introduced in 2004, offers a variety of tax and social security relief (such as partial exemption from corporate tax and capital gains, and complete exemption from certain employer social security contributions) to SMEs that are less than eight years old and devote at least 15% of their total spending to R&D. In parallel, the "new university company" status was brought in to encourage business creation by any individuals involved in research within higher education establishments.

The 2030 Innovation Commission,

chaired by Anne Lauvergeon, the former head of French nuclear giant Areva, has identified a finite number of major opportunities with great potential for the French economy. Eight key sectors for the future have been selected: energy storage, recycling of metals, development of marine resources, plant proteins and plant chemistry, personalized medicine, big data, the silver economy, as well as public security and protection against threats.

It gave rise to the launch of the Worldwide Innovation Challenge, financed out of the second "National Investment Program", and now from the innovation competition of the third "National Investment Program".

These competitions offer subsidies and repayable advances allowing innovative businesses with excellence projects within the key sectors to carry them out.

Bpifrance

is a public investment bank offering a wide variety of financial solutions in various forms (subsidies, reimbursable advances, guarantees, loans and equity capital) for SMEs and startups throughout the development path. It acts as an operator for most state aid for innovation and as a one-stop shop for businesses.

"La French Tech"

is a major initiative intended to stimulate France's most vibrant regional ecosystems and support the growth of their startups and digital companies. It is financed by the French government's "National Investment Program".

- Accelerator programs: €200 million invested in private-sector initiatives to help digital companies grow faster and succeed internationally.
- International investment attractiveness: €15 million to support fab labs and attract foreign talent, entrepreneurs and investors.

The Major Investment Plan (*Grand plan d'investissement* – GPI)

takes on the work of the National Investment Program (PIA 3) focusing on innovation, such as the innovation contest, support for collaborative research, and several funds operated by Bpifrance to strengthen the French venture capital market in certain segments (National Startup Fund, Multicap Growth Fund).

With the creation of **innovation clusters** in 2005 and **several successive stages of the National Investment Program**, emphasis has been placed on technology and knowledge transfers between public-sector research and business.

The €10 billion Fund for Industry and Innovation (FII)

will be based around breakthrough innovation and will enjoy €250 million per year. It includes a deep tech plan aimed at tech-savvy startups and plans to launch major initiatives on issues with major impacts on the economy and society, including the first, launched in 2018, in artificial intelligence.

Patent indicators reveal a lot about a country's performance in technological innovation, particularly the number of patent applications filed under the PCT (Patent Cooperation Treaty) international patent procedure.

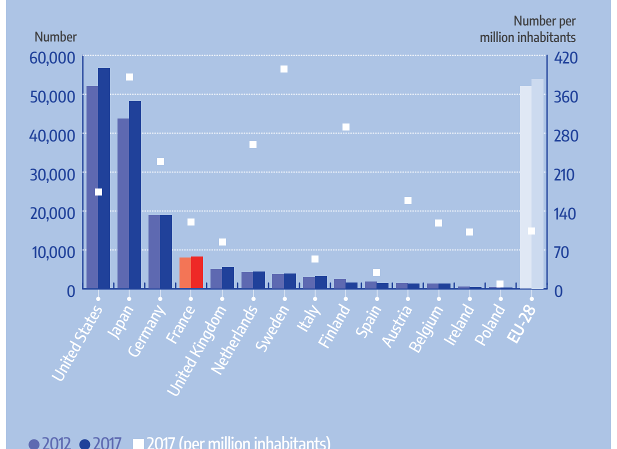
In 2017, France filed 8,014 PCT applications, or 123.1 applications per million inhabitants, placing it fourth in our sample after the United States (56,684), Japan (48,206), and Germany (18,951), but ahead of the United Kingdom (6,439) and the Netherlands (3,727).

Trademark applications are used to measure marketing innovations. **In 2017, France registered 379,513 trademarks**, or 5,679 trademarks per million inhabitants, placing it in fourth place. The United States came top (973,870) and was followed by Germany (741,877) and the United Kingdom (420,924).

In France, trademarks are principally registered in research and technology sectors (19.8%), leisure and education (15%) and business services (12.9%). Moreover, according to WIPO,[1] **French brand L'Oréal was the leading company in the world for filing trademarks in 2017** (according to the Madrid system) for the second consecutive year.

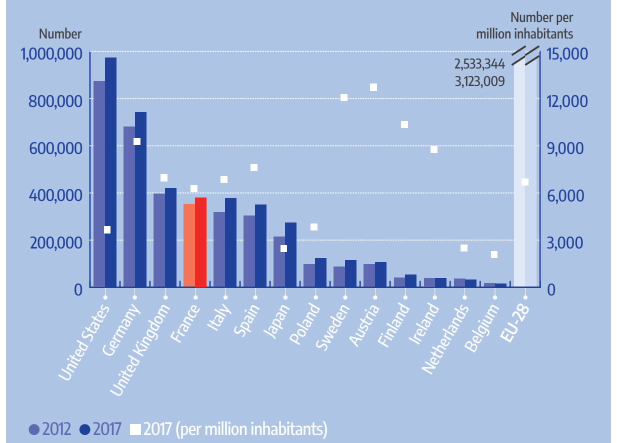
Registrations of models and industrial designs are a third useful intellectual property indicator. **In 2017, 66,017 models and industrial designs were registered by French nationals**, or 988 per million inhabitants. France was ranked after the United States (125,351), Germany (122,676), Japan (71,726), but was ahead of the United Kingdom (62,719).

Fig. 51. PATENT APPLICATIONS VIA THE PCT PROCEDURE
Priority year, inventor's country of residence



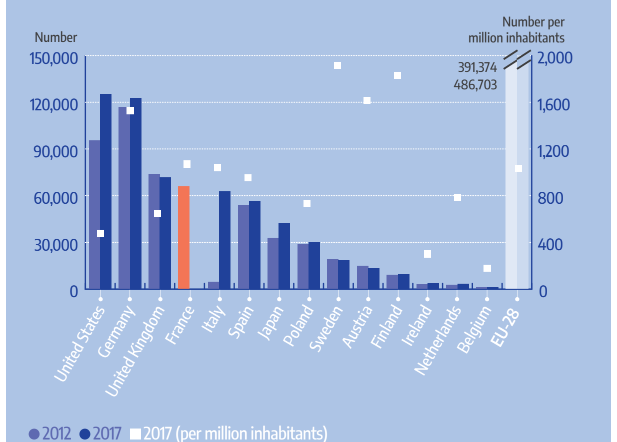
Source: WIPO statistics database; OECD; Business France calculations

Fig. 52. TRADEMARK APPLICATIONS
By source country; total direct applications and applications via the Madrid system



Source: WIPO statistics database; OECD; Business France calculations

Fig. 53. MODELS AND INDUSTRIAL DESIGNS BY SOURCE COUNTRY
Total direct applications + applications via the Hague system



Source: WIPO statistics database; OECD; Business France calculations

METHODOLOGY

Patents, trademarks, models and industrial designs as indicators of innovation activity

A patent is an intellectual property title which confers on its holder an exclusive right of use to the patented invention, for a limited period (normally 20 years) and in a specified territory. Patent applications may be for a single country or for a much wider area (European Union Member States, for example, in the case of an application to the European Patent Office). A patent may also be filed under the **Patent Cooperation Treaty (PCT) procedure**.

By filing one international patent application under the PCT, "applicants can simultaneously seek protection for an invention in a very large number of countries". Since March 2017, 152 member states have ratified the treaty, placing the PCT at the heart of international cooperation on intellectual property. Another advantage of this procedure is that it improves international comparability.

According to the INPI (French Patent and Trademark Office): "As intellectual property is defined, **a trademark** is a 'sign' used to accurately distinguish the products or services of a company from its competitors' products or services."

Filing a trademark gives the holder exclusive rights of use in the form of intellectual property protection. It is used as a sign that something is new (innovations in products, marketing and services) and imparts advantages on the innovations when new products are introduced on the market.

The Madrid System enables the owner to have their trademark protected in several countries at once by filing a single application directly with their own national or regional trademark office.

An industrial design or model conveys an object's ornamental or aesthetic aspects. It adds to a product's market value and enhances its commercial potential. In most countries, industrial designs or models must be registered so as to be protected by law. Depending on national legislation and the type of design or model, it may also be protected by copyright as a non-registered design or model, or as a work of art.

The Hague System for the international registration of industrial designs and models enables owners to protect their work in several countries at a time by filing a single international application.

[1] Intellectual property: Facts and figures from WIPO Magazine 2018

France's innovation capacity

International rankings confirm the momentum of innovative French firms.

France outstripped all its European counterparts in the latest Deloitte Technology Fast 500 EMEA for the **number of fast-growing technology companies** in Europe, the Middle East and Africa. The **top 10 French companies in the 2017 Technology Fast 500 EMEA** were: Ubitransport, Adikteev, Adomik, Actility, Interactiv-Group, Delair, Quantmetry, Beam, Voip Telecom and Biosynex.

Similarly, **France was ranked first in Europe and third in the world** in the latest Clarivate Analytics "Top 100 Global Innovators". Seven French organizations were among the 100 leading global innovators in 2017: one R&D center (CEA) and six firms (Alstom, Arkema, Safran, Saint-Gobain, Thales, and Total). Out of these companies, three have been in the top 100 for seven years in a row.

Outstanding international recognition of the French tech ecosystem.

Founded with the ambition of opening the largest and most ambitious startup campus in the world, Station F opened in spring 2017 in Paris's 13th arrondissement. This campus, wholly financed by Xavier Niel, the founder of Free, École 42, and the investment fund Kima Ventures, is home to around 1,000 innovative startups and 3,000 workstations split into 30 international support programs, including incubators (HEC, Edhec, Insead, IFM, Ponts et Chaussées), accelerators (Ventes Privées, Facebook, Microsoft, Havas, TF1, LVMH, Thalès, etc.) and international networks.

Each one specializes in its own field of expertise: BNP Paribas on FinTech, Ventes Privées for FashionTech and retail, Facebook with data, Microsoft with artificial intelligence, Havas with Adtech, etc. Station F also has 30 investment funds present on site (Kima, Ventech, Daphni, Accel, etc.).

France's innovation capacity has been in full view in the last two years at the *Consumer Electronics Show* (CES) in Las Vegas, the largest of its kind in the world. Held from January 8-11, 2019, it showcased a wide range of French tech startups.
A record 410 French startups were in attendance, and more than 330 of them, grouped together at Eureka Park under the "French Tech" cockerel banner, were supported by French regions, institutions such as La Poste and Le Village by CA, and Business France.

Innovation Awards were given this year to 57 products from French companies, with two even receiving a Best of Innovation Award. Some hope to revolutionize traditional areas such as perfumes or cosmetics, while others are concerned with daily well-being and environmental protection.

Fundraising in France is evolving along with the ecosystem, with increasingly larger amounts being raised. Some companies have even made it to the big leagues, with amounts exceeding €100 million: in 2018, French video game startup Voodoo secured the biggest fundraising round of recent years in France, with amounts reaching US$200 million, or €172 million. Meanwhile, French unicorn Doctolib, founded in 2013, raised €150 million in 2019; e-commerce site ManoMano, which specializes in DIY and gardening, raised €110 million; and French agritech flagship brand Ÿnsect raised €110 million in the C series.

2.4 Infrastructures

Network infrastructures are essential to economic activity. The most strategic sectors relating to the network economy are transport, telecommunications and energy (cf. IX. Energy and green growth). The quality of these infrastructures is a key factor for business competitiveness and the attractiveness of a country.

As an investment location, France boasts high-quality transport infrastructure, providing fast, cost-effective connections with the rest of the world, especially Europe, Africa and the Middle East. This component in its investment attractiveness is a key advantage for the geographical distribution of manufacturing activities and for the movement of goods and people.

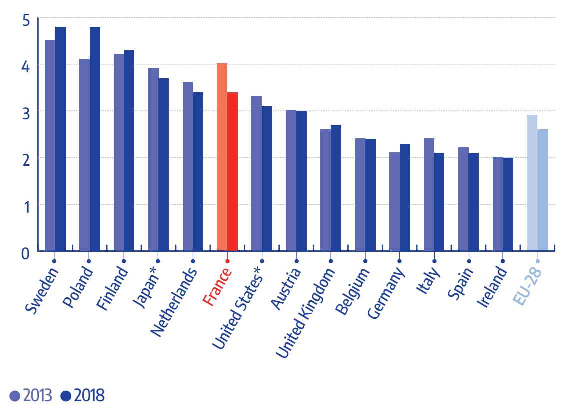
Businesses operating in France also gain from first-class communication infrastructure, an extensive broadband network, and electricity available at very competitive and stable rates over time.

TRANSPORT INFRASTRUCTURE

French public bodies invest heavily in order to develop and maintain high-level infrastructure. France has high levels of state investment (3.4% of GDP in 2018), higher than in the United States (3.1% in 2017), the United Kingdom (2.7% in 2018) and Germany (2.3% in 2018).

Nevertheless, the ratio of gross fixed capital formation to GDP in public services has fallen in France since 2013 (down 0.6 percentage points).

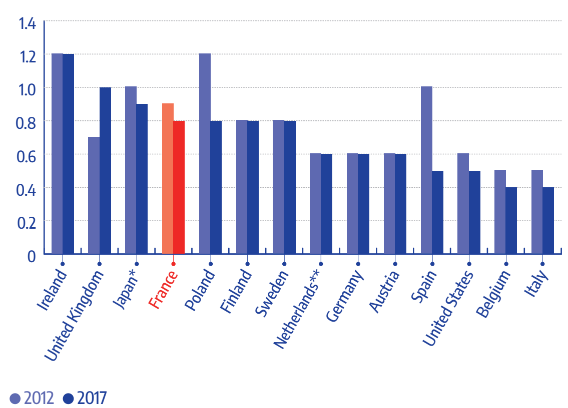
Fig. 54. GROSS FIXED CAPITAL FORMATION IN PUBLIC SERVICES
% of GDP



Source: OECD; Business France calculations; * Data for 2017

Investments in transport infrastructure in 2017 were equivalent to 0.8% of France's GDP, and have been in decline in recent years. This level is higher than in the United States (0.5%) and Germany (0.6%), and lower than in the United Kingdom (1%).

Fig. 55. INVESTMENT IN INLAND TRANSPORT INFRASTRUCTURE
Gross investment as a % of GDP



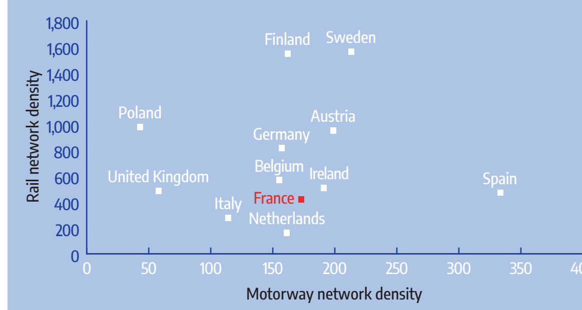
Source: OECD; * Data for 2016; ** Latest year available: 2011

France has an extremely dense domestic transport network, with nearly 11,000 km (nearly 7,000 miles) of motorways, as well as a rail network of nearly 30,000 km (over 18,000 miles) and 5,000 km (2,700 nautical miles/3,100 miles) of navigable waterways.

Transport infrastructure capacity is calculated using the volumes transported by each means of transport (road, rail, sea, air). France is still very active in this area.

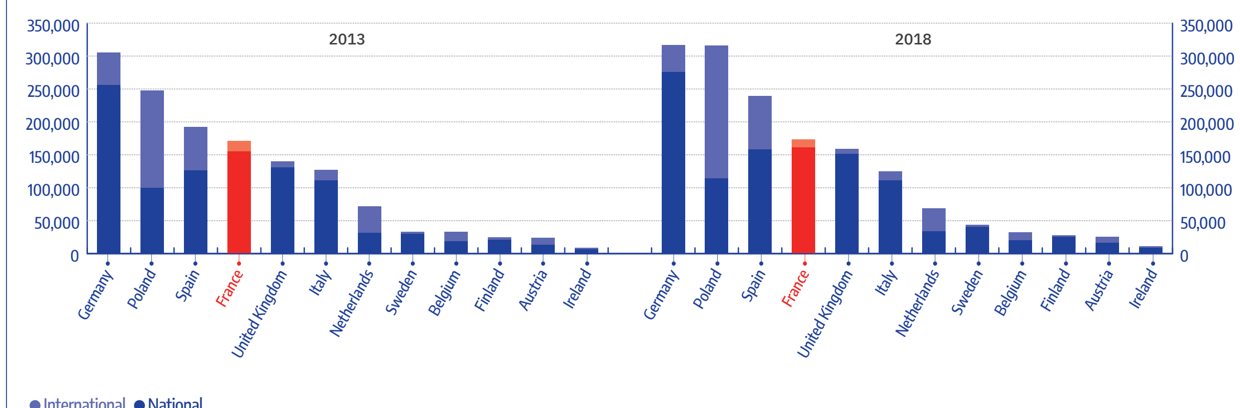
The volume of road freight is considerable. With 173,000 million tonne-km in 2018, France was ranked fourth among the European countries in the sample, after Germany, Poland and Spain.

Fig. 56. LAND TRANSPORT INFRASTRUCTURE DENSITY (2017)
Km per million inhabitants



Source: Eurostat; Business France calculations

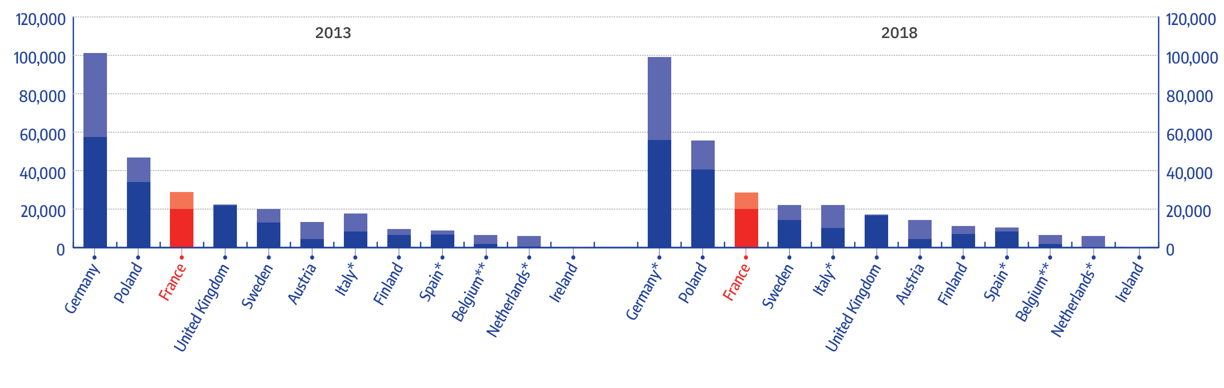
Fig. 57. ROAD FREIGHT TRANSPORT
Total load, million tonne-km



Source: Eurostat; Business France calculations

Rail freight is also extensive in France. With nearly 33,000 million tonne-km transported in 2018, France was ranked third among the European countries in the sample, after Germany and Poland.

Fig. 58. RAIL FREIGHT TRANSPORT
Total load, million tonne-km



● International ● National
Source: Eurostat; * Data for 2017; ** Latest year available: 2011

Rail reform in France

The Rail Reform Act of June 28, 2018 set out a **new rail pact** in France, consisting of the modernization of the current system and the opening up of the network to competition.

France's national state-owned railway company SNCF will be completely reorganized on January 1, 2020, with the aim of making it more consistent and efficient. The three current state-controlled entities (EPICs) will be placed into a single unified group, in the form of a state-owned corporation, whose capital will remain wholly owned by the state. The management of railway stations will also be handled by a single entity.

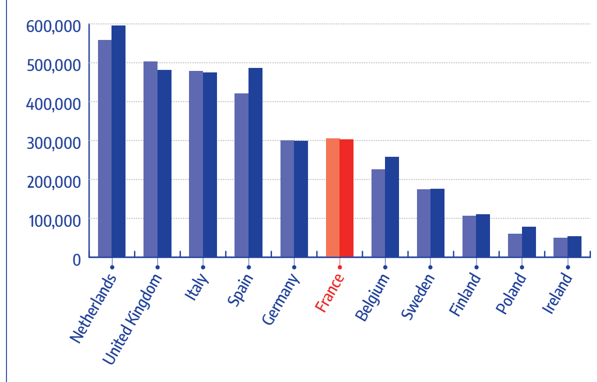
The timetable for the opening of the network up to competition has been confirmed: From December 2020 for the TGV high-speed services; from December 2019 for TER regional trains (the pace to be decided by each region, which can continue to award contracts to SNCF until December 2023, valid for up to 10 years); and between 2023 and 2039 for the Transiliens and Île-de-France RER lines.

The opening up of the network to competition comes with assurances: employees, in the event of their jobs being transferred elsewhere, will keep their pay and benefits; services will continue to operate; and discounted fares (people from large families, disabled, etc.) will be maintained.

Source: www.gouvernement.fr/action/sncf-pour-un-nouveau-pacte-ferroviaire

France also boasts a number of advantages in maritime transport. The country has 66 commercial maritime ports and more than 500 decentralized ports, is flanked by Europe's three large coastlines (the Atlantic, the Mediterranean, and the English Channel/North Sea) and enjoys access to three oceans (the Atlantic, the Indian, and the Pacific). In 2017, freight handled by French mainland ports totaled 300 million tonnes, ranking France sixth among the European countries in the sample.

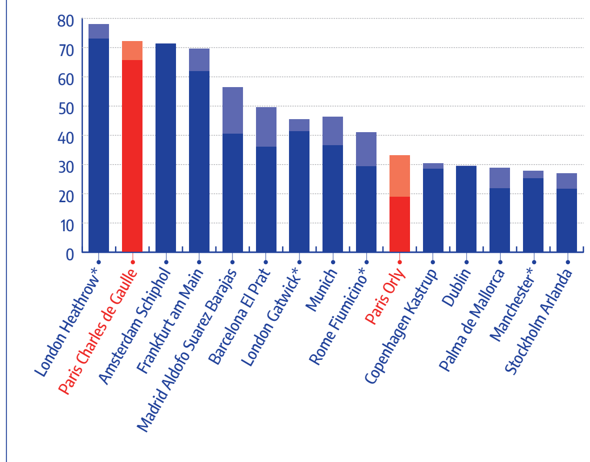
Fig. 59. MARITIME FREIGHT TRANSPORT
Gross weight, thousand tonnes



● 2012 ● 2017
Source: Eurostat

These land and maritime transport networks are supplemented by excellent airport infrastructure. France has 59 airports that each record more than 100,000 passenger movements per year. In 2018, two of Paris' airports were ranked in the top 15 airports in the EU-28: **Paris-Charles de Gaulle was ranked second by passengers carried** after London Heathrow, while Paris Orly was ranked 10th for passenger numbers.

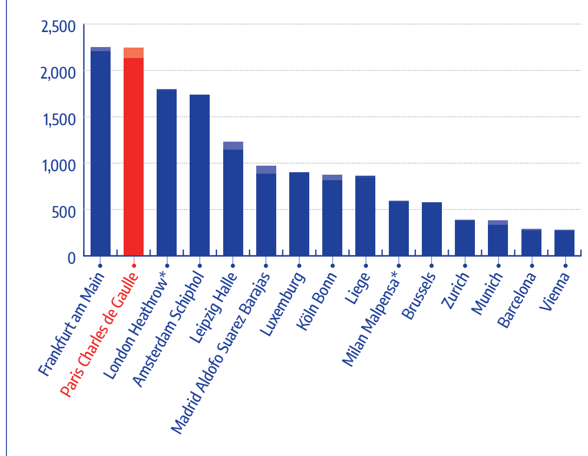
Fig. 60. 15 LEADING AIRPORTS IN THE EU-28 (2018)
Million passengers carried



● National ● International
Source: Eurostat; * Data for 2017

Concerning cargo transport, **Paris-Charles de Gaulle was ranked second among EU-28 airports in 2018**, after Frankfurt airport but ahead of London Heathrow.

Fig. 61. 15 LEADING AIRPORTS IN THE EU-28 (2018)
Thousand tonnes of cargo and mail



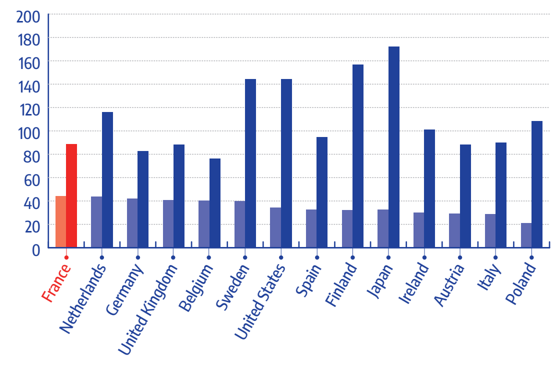
● National ● International
Source: Eurostat; * Data for 2017

TELECOMMUNICATIONS INFRASTRUCTURE

The broadband penetration rate is a good indicator of a country's "connectivity". France had the highest fixed broadband penetration rate among the countries in the sample, with 43.3 subscribers per 100 inhabitants. This rate is higher than in Germany (41.2), the United Kingdom (40), and the United States (33.8).

The disparities were more pronounced for wireless broadband connections, with 88.5 subscribers per 100 inhabitants in France.

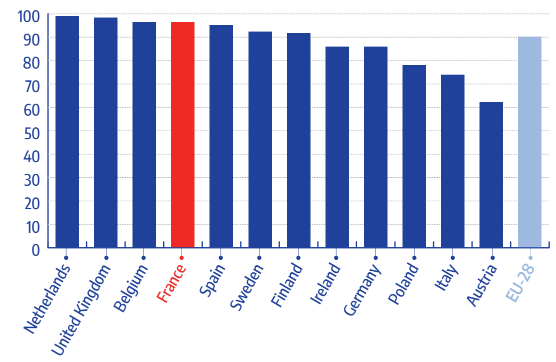
Fig. 62. BROADBAND PENETRATION RATE
Subscribers per 100 inhabitants (December 2018)



Source: OECD, Broadband Statistics

In 2018, fixed broadband subscriptions greater than or equal to 10 Mbps amounted to 96% of all subscriptions in France, higher than the EU-28 average (90%) and Germany (86%).

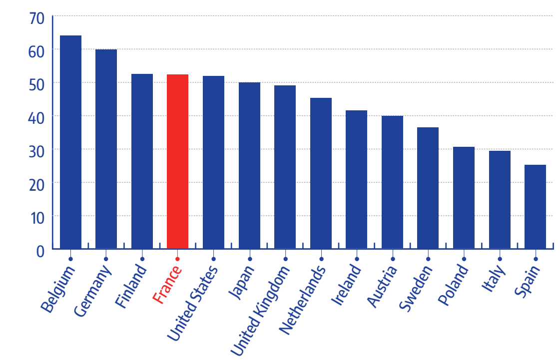
Fig. 63. SHARE OF FIXED BROADBAND
Subscriptions >= 10 Mbps (June 2018)
%



Source: European Commission, Digital Scoreboard, 2019

France is making good progress rolling out IPv6 technology. According to Cisco, its IPv6 deployment ratio was 52% in July 2019, which places France fourth among the sample countries.

Fig. 64. IPV6 DEPLOYMENT* (JULY 2019)



Source: Cisco; * Ratio calculated by Cisco to measure the deployment of IPv6 technology taking into account the percentage of IPv6 prefixes, traffic, content and internet users.

METHODOLOGY

IPv6

IPv6 is the latest identification protocol for internet-connected devices, and is set to replace the previous system, IPv4. The latter remains in widespread use and has enabled some four billion addresses to be used. During the current transition period, due to last several years, the two identification systems will operate in tandem. Running IPv6-enabled infrastructure readies countries ahead of the upcoming exhaustion of IPv4 addresses.

For end users to be able to use IPv6, the websites they visit, their server and their internet service provider need to undergo a number of modifications. Cisco has devised a ratio to monitor the deployment of the protocol, which ranges from 0 (IPv6 not deployed) to 100. This ratio is a function of traffic, content and end users, and is calculated using the following formula:

$$\text{Deployment Ratio} = \frac{\%\text{TransitAS} + 3 \times \sqrt{\%\text{content} \times \%\text{user}}}{4}$$

High-Speed Broadband France Plan

The High-Speed Broadband France Plan *(France très haut débit)* is a national investment strategy to bring high-speed broadband (greater than 30 Mbits/s) to the entire country by 2022. Launched in spring 2013, the decade-long program will receive investment of €20 billion, with the burden being shared between private operators, local authorities, and central government. The intermediate target of reaching 50% of the population by 2017 was met by the end of 2016 (51.2%).

Source: www.gouvernement.fr/action/le-plan-france-tres-haut-debit

BUSINESS OFFICES

The French business real-estate market is one of the most dynamic in Europe: Paris (center) was ahead of all major European cities in terms of transaction numbers in 2018, while four other French cities are in the league table (Lyon, Lille, Toulouse and Marseille).

Fig. 65. INDICATORS FOR LEADING EUROPEAN OFFICE PROPERTY MARKETS

	Transactions (sq. m.)		Vacancy rate (%)	
	2018	2017	Q4 2018	Q4 2017
Paris (center)	**2,159,027**	**2,365,788**	**5.5%**	**6.5%**
London (center)	1,400,461	1,177,744	5%	6.2%
Munich	975,000	995,000	2.3%	3.3%
Berlin	831,000	913,000	1.7%	2%
Frankfurt am Main	678,000	796,000	7.4%	8.9%
Warsaw	648,000	600,000	8.6%	12%
Hamburg	563,000	613,000	4.5%	5.1%
Madrid	538,465	552,982	9.6%	10.2%
Milan	389,530	353,984	10.6%	11.7%
Amsterdam	381,077	407,379	7.2%	10.3%
Barcelona	378,337	304,345	8.9%	10.1%
Dublin	370,811	354,883	6.4%	8.1%
Brussels	361,423	400,347	7.9%	8.3%
Lyon	**330,571**	**270,426**	**5.7%**	**6%**
Lille	**280,216**	**212,747**	**N/A**	**N/A**
Vienna	270,000	175,000	5.3%	5.2%
Lisbon	201,985	166,980	8.8%	8.6%
Stockholm	185,000	215,000	5%	6%
Toulouse	**177,888**	**161,773**	**4.9%**	**5.6%**
Roma	172,529	217,854	8.7%	8.1%
Manchester	163,649	112,227	11.7%	14.3%
Marseille	**124,127**	**145,287**	**N/A**	**N/A**
Glasgow	86,146	46,155	9.5%	11%
Birmingham	70,155	93,374	12.4%	13.5%
Edinburgh	65,447	93,898	7.5%	8.8%

Source: BNP Paribas Real Estate, European Office Market 2019
Transactions = surface areas for which a lease or a contract of sale has been signed.

2.5 Administrative and regulatory environment

France's administrative and regulatory environment has become much more modern in recent years, following major reforms that are still ongoing. Thanks to its modern and efficient e-government services, the French government can now support private key players and individuals' projects more easily.

According to the World Bank's *Doing Business* report, France holds a middle-ranking position among the major economies for business environments. France has seen very good scores in a number of important categories, including enforcing contracts, starting a business, trading across borders, and obtaining a construction permit.

Buoyant levels of enterprise creation reflect this environment, whether in the economy as a whole, or in manufacturing industry. France is ranked first among our sample countries for net enterprise creation.

The World Bank evaluates the ease of doing business in 190 economies every year in analysis that appears in the Doing Business report. In the 2019 edition, France is ranked 32nd in the world (9th among our sample countries).

The ranking is based on analysis of regulations in 10 categories: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency.

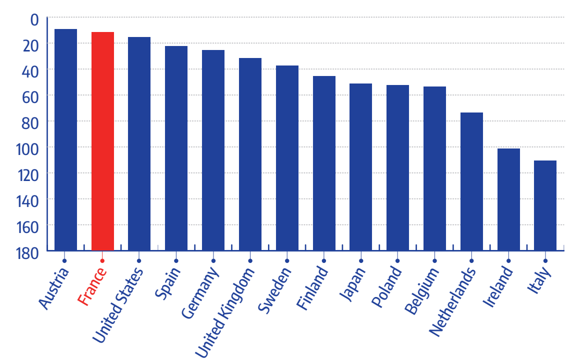
The report mainly examines costs and transaction times. It does not provide an accurate picture of a country's attractiveness, insofar as it fails to consider all the benefits received, for example through the provision of high-quality public services.

France's best performances are in enforcing contracts (index based on the number of procedures, time they take in days, and the cost as a percentage of the claim), **obtaining a construction permit** (index based on the delay, the cost as a share of the value of the construction, and the quality control), **and starting a business** (index based on the number of procedures, time they take in days, their cost, and the minimum paid-in capital requirement as a percentage of per capita income).

France also achieves good results in terms of trading across borders, protecting minority investors, and getting electricity.

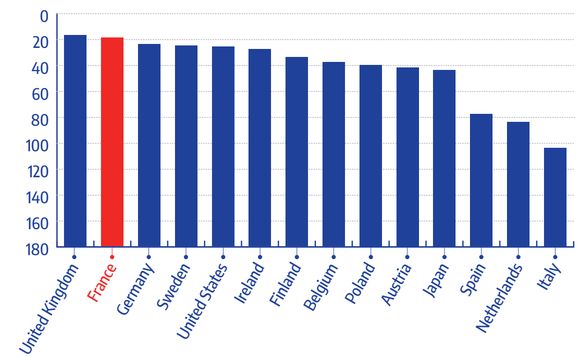
However, France performs less well when it comes to registering property (index based on the number of procedures, the time they take in days, and their cost as a percentage of asset value).

Fig. 66. EASE OF ENFORCING CONTRACTS
Global rankings



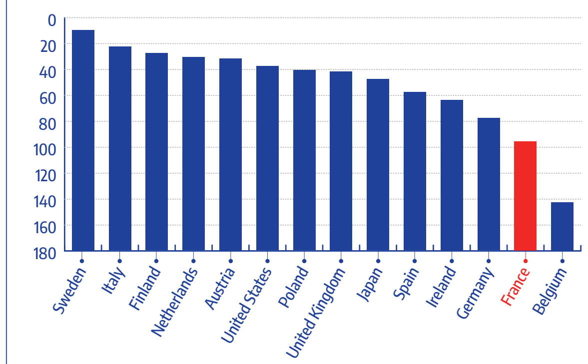
Source: World Bank, Doing Business 2019

Fig. 67. EASE OF OBTAINING A CONSTRUCTION PERMIT
Global rankings



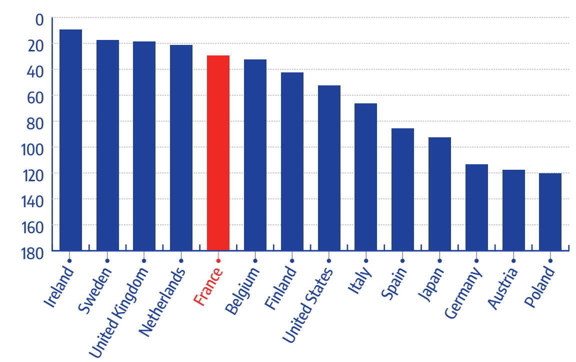
Source: World Bank, Doing Business 2019

Fig. 69. EASE OF REGISTERING PROPERTY
Global rankings



Source: World Bank, Doing Business 2019

Fig. 68. EASE OF STARTING A BUSINESS
Global rankings



Source: World Bank, Doing Business 2019

The modernity and effectiveness of public administration plays an essential role in France's attractiveness and the economic development of each region. As such, the development of e government (electronic or digital government) is another strength for modern economies.

According to the United Nations E-Government Survey 2018, **France is ranked ninth in the world for e-government (fifth in Europe)**, and fourth in our sample. France performs particularly well in online services, for which it is ranked second in the world.

METHODOLOGY

The methodology of international rankings does not always reflect economic reality in the countries affected

The best-known rankings studying competitiveness and economic attractiveness are the World Economic Forum's *Global Competitiveness Index*, the IMD Business School's *World Competitiveness Yearbook*, and the World Bank's *Doing Business*, all of which combine statistical indicators with the results of opinion surveys.

France's performances vary from 17th place (WEF) to 31st place (IMD) and 32nd place in the World Bank's report.

Nearly half the criteria used to calculate the composite index in the IMD *World Competitiveness Yearbook* are derived from surveys. Aside from the inherent difficulty of measuring competitiveness through a single composite indicator, the overwhelming reliance on opinion poll data to calculate the index means that its results should be treated with caution.

Received wisdom has long since been prejudicial to a France, often perceived as overly bureaucratic and reluctant to embrace globalization, despite being entirely open to foreign investment as the world's ninth largest recipient of inward FDI stock, the world's seventh largest investor, and Europe's leading destination for foreign investment in industry.

In the WEF Global Competitiveness Index, France was ranked 68th under the indicator reflecting perceptions of "pay and productivity", despite being the ninth leading country in the world for hourly labor productivity, according to The Conference Board.

These rankings, which generally look more kindly upon the common law found in English-speaking countries, and only provide limited insight into the various aspects of the business environment and the attractiveness of the countries being evaluated. The business environment cannot be assessed by examining only administrative procedures and regulations, and the World Bank's *Doing Business* fails in this regard to examine competitiveness components such as security, economic stability, corruption, infrastructure quality, and workforce qualifications.

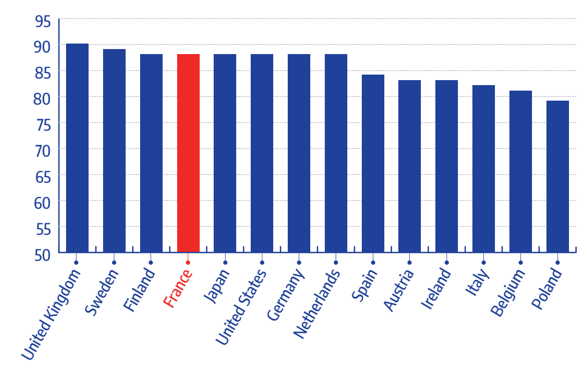
Furthermore, it fails to consider the robustness and regulation of the financial system, despite the fact that these are two important factors in understanding the causes of the financial crisis that also have an impact on the business environment.

These failings can be explained by the fact that the Doing Business league tables should firstly be considered as an incentive to conduct reforms in developing countries, in connection with the mandate of the World Bank to fight extreme poverty and to promote shared prosperity in poor countries. Yet applied to developed economies and legal systems, the *Doing Business* league tables suffer from important methodological limitations. By nature limited to measure targeted and theme-based quantitative effects, they cannot properly take into account the above elements, which nevertheless constitute fundamental components of the attractiveness of a country.

Due to these methodological limits, these league tables and their results must be exploited and interpreted with caution.

The French government has carried out a number of reforms to improve the business environment in recent years and has been engaged in a wide-ranging administrative simplification program since 2012, whose recommendations have become law through the Corporate Simplification Act (December 2014), and the Growth, Economic Activity and Equal Economic Opportunity Act (August 2015), the introduction in 2016 of a single social security contributions statement, as well as reform of the public sector (2019). Finally, the recommendations from the CAP 2022 report will mark the next stage to these reforms.

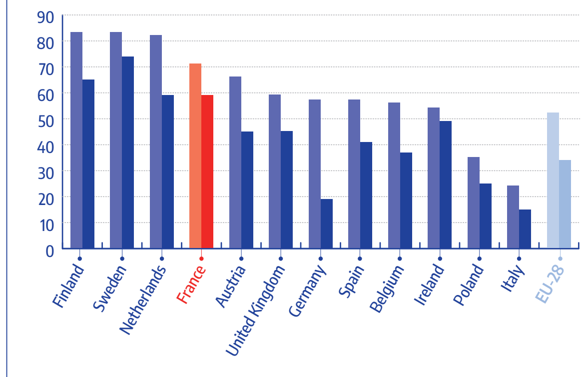
Fig. 70. E-GOVERNMENT DEVELOPMENT INDEX (2018)
%



Source: E-government survey 2018, UNPACS (United Nations Public Administration Country Studies)

The rate of online interactions between individuals and public authorities reveals the degree of modernity of public services: **in 2018, 71% of individuals in France used the internet to interact with public authorities** (versus only 48% in 2008). France was ranked ahead of the United Kingdom (59%) and Germany (57%), and was ahead of the EU-28 average (52%). Moreover, 59% of French citizens submitted completed forms to public authorities in 2018, ahead of the United Kingdom (45%), Germany (19%) and the EU-28 average (34%).

Fig. 71. INDIVIDUALS USING THE INTERNET TO INTERACT WITH PUBLIC AUTHORITIES (2018)
%

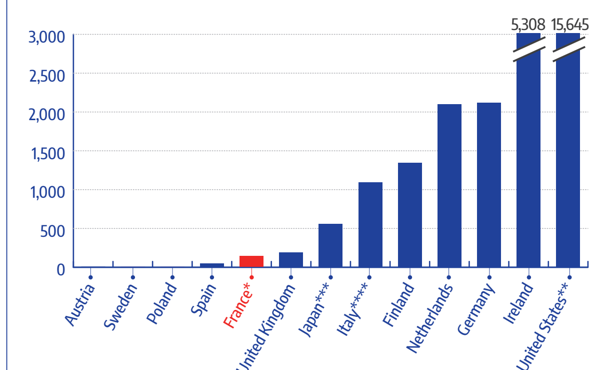


- Interaction with public authorities (last 12 months)
- Submitting completed forms (last 12 months)

Source: Eurostat

Perceptions are often very far from reality. In France's case, its reputation would have it that the French economy is frequently prone to strikes and other blockages. However, quantitative indicators tell a different story. According to data from the International Labour Organization (ILO), France is one of the countries least affected by strikes, with only 131 working days (per 1,000 workers) lost to strike action in France in 2016, versus 178 days in the United Kingdom (2017), 2,106 days in Germany (2017) and 15,645 days in the United States (2015).

Fig. 72. WORKING DAYS LOST PER YEAR DUE TO STRIKES AND LOCKOUTS (2017)
Per thousand workers



Source: ILOSTAT, International Labour Organization (ILO)
Data: * 2016, ** 2015, *** 2013 and **** 2008

Labor, Social Dialogue Modernization and Career Security Act of August 8, 2016

The Labor Act of August 8, 2016 is a reform of French employment laws, modernizing the labor market in three ways: through better social dialogue, greater flexibility and visibility for businesses, and greater safeguards protection for employees, especially those who lack job security.

The Act strengthens the role of employee representatives in defining organization and working time regulations, and recognizes the primacy of company-wide agreements over industry-wide agreements in all aspects of working hours. It gives the responsibility for defining organization and working time regulations to employee representatives at company level. Companies can therefore now adapt more easily to peaks in the business cycle through exemptions to statutory legal provisions.

This approach is based on making social dialogue more efficient via three major reforms:

- Significantly reducing the number of professional sectors ('branches' for collective bargaining), with a target of 200 within three years.
- Enhancing the legitimacy of company-wide agreements by generalizing majority-backed agreements, i.e. those signed by trade unions that have garnered at least 50% of the votes cast for union representatives.
- Making social dialogue more effective by encouraging employee representatives to agree on a negotiating method, and by empowering these stakeholders.

By providing businesses with greater visibility, the Act reduces barriers to permanent employment, notably clarifying what constitutes economic grounds for dismissal. The aim is to make sure that the criteria determining whether or not the economic grounds provide sufficient justification can be understood readily and universally, including by SMEs without legal advisors or human resources departments.

The Act also introduces new safeguards for both employed and self-employed workers. It creates a personal employment account (*compte personnel d'activité* – CPA) which aims to provide career security, facilitate career transitions, and give everyone a better understanding of their statutory rights. All employees now have better access to lifelong professional development, enabling them to adapt and improve their qualifications, thereby increasing productivity.

With regard to young people under 26 who lack job security and are neither employed nor in training, a **"Youth Guarantee"** was introduced nationwide in 2017, providing them with customized support and financial assistance to help them find work.

The Act also establishes **corporate social responsibility for digital platforms** and a right to disconnect for employees, and paves the way for further **dialogue on the development of teleworking** with employee and employer representatives.

Act of September 15, 2017, enabling the government to issue decrees to introduce measures enhancing social dialogue

The French government has chosen to issue decrees, a procedure provided for by France's Constitution, in order to pursue reforms to employment laws. Upon authorization from Parliament, and for a limited time period, this procedure allows the government to use decrees to adopt measures normally subject to statutory law as a way of ensuring the rapid implementation of its program. **Five decrees, developed in close consultation with employee and employer representatives, were issued by the Council of Ministers on September 22, 2017,** and published in the Official Journal on September 23, 2017.

The reform is based on three elements: safeguarding collective bargaining; simplifying and consolidating economic and social dialogue by empowering its stakeholders; and making working relations between employees and employers more secure.

The decrees place an emphasis on collective bargaining, facilitating its development in micro-enterprises and SMEs through specific measures (possibility of negotiating directly with an elected employee representative in companies with fewer than 50 personnel; access to clear, digitized employment laws; a standardized form for dismissals; specific provisions for micro-enterprises and SMEs included in industry-wide agreements).

Social dialogue has been simplified and rendered more operational by merging representative bodies into a single structure, the Social and Economic Committee (*Comité social et économique* – CSE), for all companies with at least 11 employees. The agenda for collective bargaining (frequency, content, and level of consultations) can also be defined by the companies for up to three years.

To enhance their participation in the trade union, those involved in social dialogue now have further access to vocational training and skills assessments to enable them to progress in their careers while being actively involved in the trade union.

In order to quickly adapt to changing market conditions, **companies can now seek a majority agreement to make any necessary adjustments to working time, pay, and mobility to ensure their operational effectiveness and competitiveness.** If an employee refuses to comply with these adjustments, the employer can now resort to dismissal. This will not constitute dismissal on economic grounds, but will be a termination for cause. The employee will then receive a contribution of 100 hours to their personal training account from the employer.

To reflect more accurately the specificities of different industry sectors, **their branches have been assigned new powers.** The branches can now define the hiring and working conditions of employees as well as the guarantees that apply to them, in particular with regard to gender equality in the workplace. They can also specify the regulations governing fixed-term contracts, temporary contracts, and project-based contracts.

Employment tribunal damages for unfair dismissal are now capped to provide greater security and visibility concerning the costs of potential litigation, while the period allowed for appeals has been reduced to one year. Moreover, **statutory compensation for dismissal has been increased by 25%.**[1]

Several measures also aim to make it easier to restructure companies and enhance France's attractiveness to foreign investors. **Recognized economic grounds for collective dismissals will now be defined at national level.** The presentation of redeployment offers has been simplified, thereby making redeployment procedures fairer and more transparent. Finally, **collective contract termination agreements have been introduced,** allowing a common framework for voluntary redundancies to be defined through a collective company-wide agreement, thus avoiding the need to resort to job preservation plans and dismissals.

In order to take into account new working methods arising from new digital technologies, **it will now be possible to telework in a secure and flexible manner, promoting a better work-life balance.**

[1] Decree of September 25, 2017 on the re-evaluation of statutory severance pay.

Enterprise creation is buoyant in France, thanks to its more modern administrative and regulatory environment.

In 2017, the enterprise startup rate across the whole French economy was 10%, with the rate having remained above 9% since 2008. In manufacturing, this rate was 7.3%, with the rate having remained above 7% since 2009.

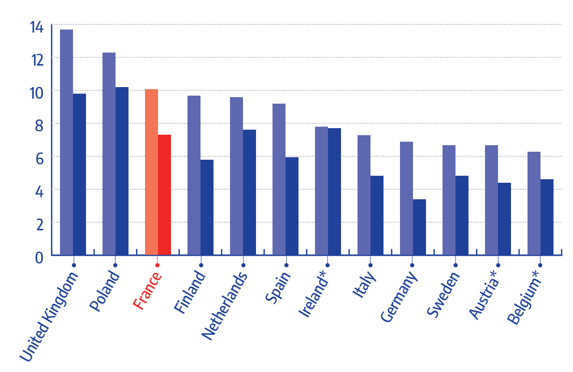
The United Kingdom came top of our sample in terms of enterprise creation rates (13.6% in the economy as a whole and 9.8% in the manufacturing industry). Germany performed less well in this area (6.8% and 3.4%, respectively).

The total number of active enterprises in France grew strongly by 5.4% in 2017, with a net increase of 191,425 across the entire economy. The average 2017 growth figure for the EU-28 as a whole rose by 1.6%.

In the manufacturing sector, the total number of active enterprises grew by 3.1% in 2017, equivalent to 7,999 net enterprise creations. This growth rate was similar to that of the EU-28 (0.9%).

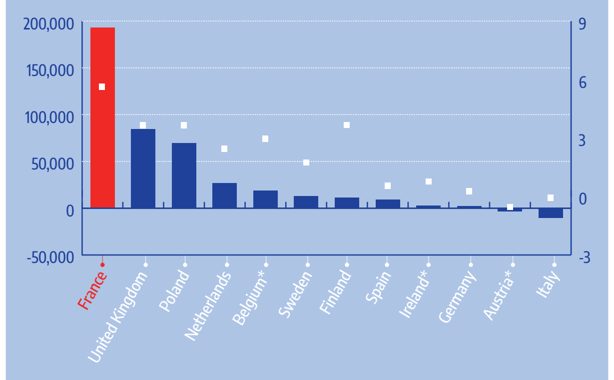
France also boasted one of the sample's lowest enterprise death rates (4.9%) in European countries in 2017, versus 7.6% in Germany and 12.5% in the United Kingdom.

Fig. 73. ENTERPRISE START-UP RATE (2017)
%



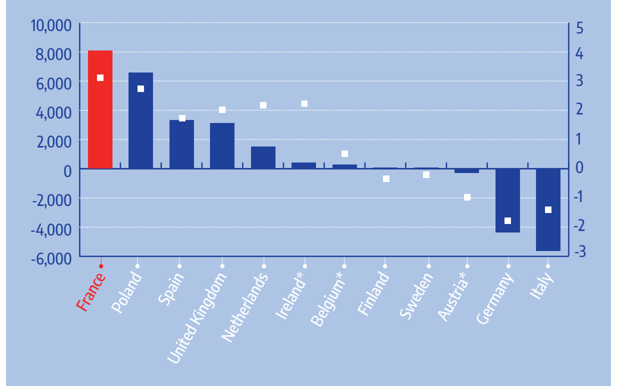
● Total economy
● Manufacturing industry
Source: Eurostat; * Data for 2016

Fig. 74. NET GROWTH IN ACTIVE ENTERPRISES (2017)
Total economy



● Net enterprise creation (2017)
■ Growth 2017 (%) (right axis)
Source: Eurostat; * Growth and net creation for 2016

Fig. 75. NET GROWTH IN ACTIVE ENTERPRISES (2017)
Manufacturing sector



● Net enterprise creation (2017)
■ Growth 2017 (%) (right axis)
Source: Eurostat; * Growth and net creation for 2016

Action Plan for Business Growth and Transformation (PACTE)

The Action Plan for Business Growth and Transformation (PACTE) was definitively adopted by parliament on April 11, 2019 and the law was promulgated on May 22, 2019.

The PACTE is an act that aims to modernize companies' day-to-day operations, how they are funded and their role in society.

The ambition of this law is to alleviate obstacles to growth of businesses at every stage of their development, from creation to transmission, passing by their financing.

Businesses also need to be placed in the center of society, and a modification of the Civil Code will look to do just that. Employees will be better associated with results.

The main aims of this law are as follows:

- **To simplify the thresholds applicable to SMEs.**
- **To facilitate incentive agreements** for businesses with fewer than 250 employees by eliminating the corporate contribution on voluntary and mandatory profit-sharing.
- **To rethink businesses' place in society.**
- **To set up a company 100% online** at less cost.
- **To facilitate judicial liquidation,** in terms of deadlines for and costs.
- **To bring public research closer to the business world** by renewing links between the public and private sectors.
- **To facilitate business transfers.**
- **To simplify and ensure the portability of pension savings products** throughout citizens' professional lives.
- **To support SMEs' export initiatives** through the creation of single regional windows.
- **To protect strategic national companies.**

Source : https://www.economie.gouv.fr/plan-entreprises-pacte

Act to Transform Public Service

The Act to Transform Public Service was adopted by parliament on July 23, 2019.

This reform aims to "build a 21st century public service, making it more agile, open and attractive, with more efficient public services operating closer to each region."

The main objectives of this text are:

- To promote more strategic social dialogue in respect of guarantees of public agents.
- To develop managerial levers to make public action more reactive and more efficient.
- To simplify and guarantee transparence and equity in the management framework of public agents.
- To promote mobility and support professional transitions for public agents in public service and the private sector.
- To step up professional equality in public service.

The flagship measures adopted included merging the social dialogue bodies, creating a "project" fixed-term contract, recruiting by contract for permanent jobs (categories A, B and C) of the *Fonction Publique d'État* (FPE), and harmonizing working time to 35 hours per week.

Source : https://www.fonction-publique.gouv.fr/projet-de-loi-de-transformation-de-la-fonction-publique

2.6 Financial environment

Paris' success as a financial center, along with French financial expertise and the large number of corporate issuers, constitute a major component of France's investment attractiveness.

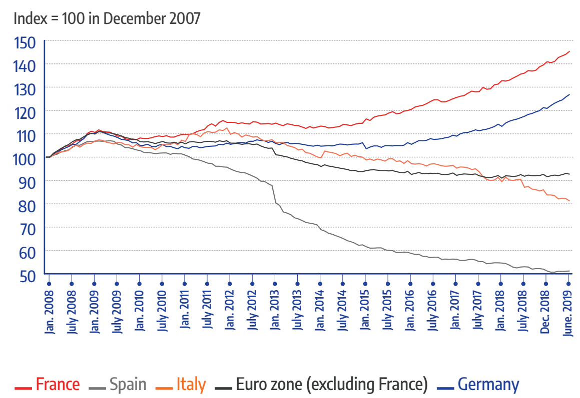
The Paris market is largely characterized by strong financial intermediation: banks, insurance and asset managers. In addition, France has internationally recognized private equity players, and its venture capital industry, which plays a fundamental part in creating new companies in innovative technology sectors, is particularly strong. Moreover, France boasts leading market (and post-market) infrastructures with Euronext, the LCH SA clearing house, and Europe's leading depository bank, Euroclear.

On the Brexit front, the Paris marketplace has confirmed its attractiveness for financial services: from the arrival of the European Banking Authority in the city's La Défense business district, to the relocation of subsidiaries and highly qualified staff from some of the largest global banks (HSBC, Bank of America, JP Morgan etc.), as well as asset management companies such as BlackRock.

The capacity for non-financial companies to access diversified funding easily at the best price is a major factor in France's attractiveness. In this respect, the data from the Banque de France, along with the results of surveys with businesses, confirms the good performances of the French economy, in terms of price, the volume of funding and accessibility. As such, according to the Banque de France's quarterly corporate bank lending survey for the second quarter of 2019, **bank lending to SMEs and micro-businesses has reached its highest level ever** (cf. inset hereafter).

Data from the Banque de France confirm the availability of bank credit. **Corporate lending in France has on the whole remained buoyant**, with a solid rise in early 2014 gathering momentum since 2015. This trend, albeit at a slower pace and somewhat delayed, can also be seen in Germany. Conversely, corporate lending has remained flat, or in some cases declining, in other leading euro zone economies, particularly Spain and Italy.

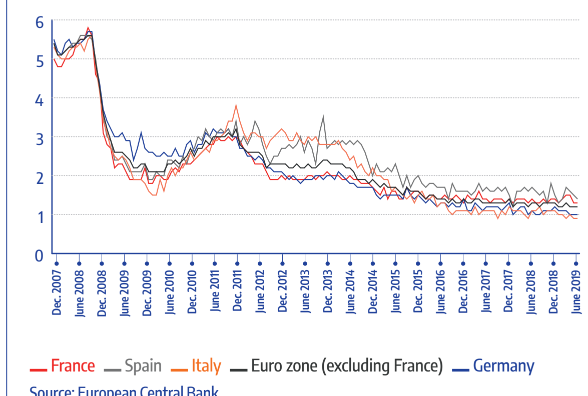
Fig. 76. CHANGE IN LENDING TO NON-FINANCIAL COMPANIES IN THE EURO ZONE (2007-2019)



Source: Banque de France, Business France calculations

This favorable environment for French non-financial companies is also reflected across the costs of banking and bond finance, which have followed a very favorable evolution in recent years, both for SMEs and larger businesses.

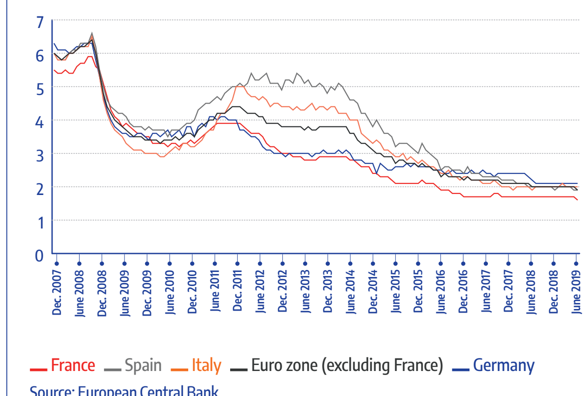
Fig. 77. INTEREST RATES FOR LOANS TO NON-FINANCIAL COMPANIES
Loans over €1 million



Source: European Central Bank

Today's historically low yields in the corporate bond markets, particularly in France and Germany, are prompting bond issues to rise.

Fig. 78. INTEREST RATES FOR LOANS TO NON-FINANCIAL COMPANIES
Loans up to and including €1 million



Source: European Central Bank

Quarterly corporate bank lending to businesses survey

The Banque de France surveys companies every three months about their access to bank finance; approximately 4,000 SMEs and 500 mid-size companies took part in the latest survey, as did 2,500 microenterprises, through a partnership with the French Accredited Business Management Center Federation (*Fédération des centres de gestion agréés* – FCGA).

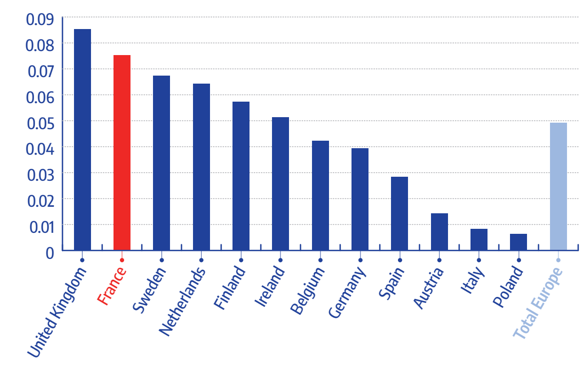
For SMEs as for micro-enterprises, **demand for new loans diminished very slightly, as the demand for new investment credits remained stable.** The anticipation of a refusal from banks was marginal: only 1% of companies reported self-censorship during their application.

Lending to SMEs was up by three percentage points from the first quarter of 2019, reaching its highest level ever: 92% of SMEs obtained all or most of the cash advances they applied for. Applications for investment loans remained very largely satisfied (96%). **Capital expenditure loan requests** were also almost entirely granted as well (91%).

Cash advances to micro-enterprises continued to advance for the third consecutive quarter, reaching 74%, the highest level registered in the survey. At the same time, **investment loans** also grew by two percentage points from the first quarter of 2019: a total of 90% of micro-enterprises received all or most of the credit they asked for. Successful **capital expenditure loan requests** were stable at 86% (versus 87% in the previous quarter).

Furthermore, **venture capital is a key strength for France, ranked second among the countries in our sample:** venture capital investment amounted to 0.075% of GDP in 2018, a little less than in the United Kingdom (0.085%), but more than in the rest of the sample, including Germany (0.039%).

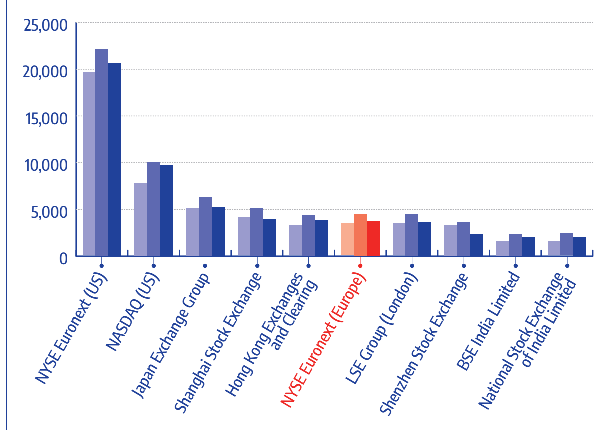
Fig. 79. VENTURE CAPITAL INVESTMENT (2018)
% of GDP



Source: European Private Equity Activity 2018, Invest Europe (ex-European Venture Capital Association – EVCA); Data based on Industry Statistics

Concerning financial markets, Euronext, bringing together the marketplaces in Paris, Amsterdam, Brussels, Dublin, Lisbon and Oslo, **is the leading marketplace in Europe** by market capitalization.

Fig. 80. MARKET CAPITALIZATION OF THE 10 LEADING STOCK EXCHANGES
US$ billion



● Dec. 2016 ● Dec. 2017 ● Dec. 2018
Source: World Federation of Exchanges (WFE)

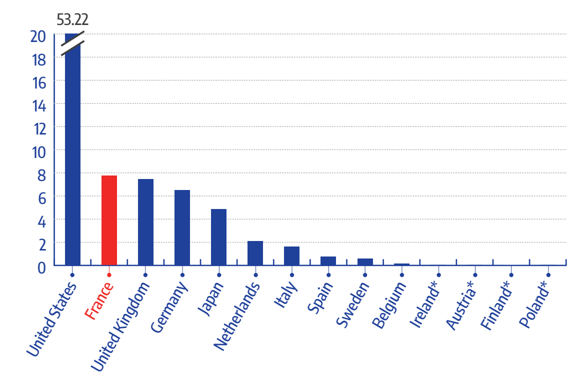
Asset management plays an important role in financing the economy, notably by reinforcing the diversity of funding sources for businesses, and by promoting innovation by bringing in equity financing which is more appropriate to it.

France is one of the leading countries in Europe for asset management. According to Willis Towers Watson, France concentrates 7.7% of the total of assets managed by the 500 largest investment funds in the world, and is ranked second in the world, after the United States (53.2%) and ahead of the United Kingdom (7.4%).

Moreover, France was ranked fourth in Europe in 2018 for net assets managed by investment funds domiciled in Europe (after Luxembourg, Ireland and Germany), with a market share of 11.6% (ranked third among countries in the sample).

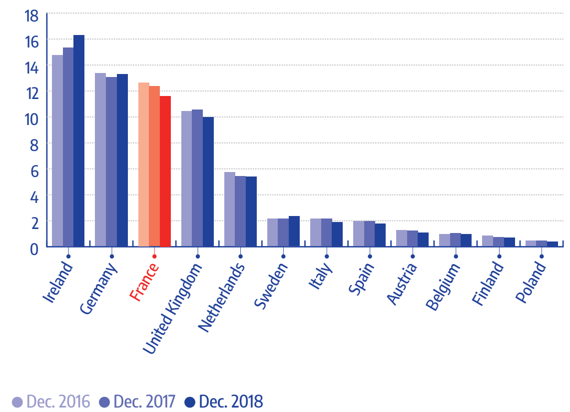
In 2017, France had four asset managers in the global top 25 (AXA Group, Amundi, BNP Paribas and Natixis Global-Ostrum AM), including two in the top 10. In addition to these are the dozens of "specialty shops", whose investment thesis centers on innovative topics, such as socially responsible investment.

Fig. 81. SHARE OF ASSETS UNDER MANAGEMENT (2018)
Country of domiciliation of investment funds
% of total assets under management
by the 500 largest investment funds



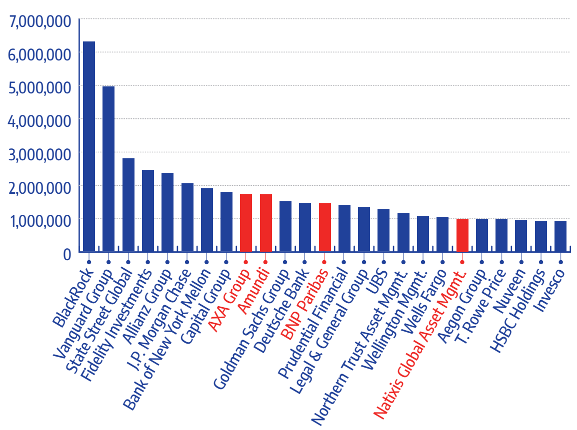
Source: The World's 500 Largest Asset Managers, Willis Towers Watson; * Less than 0.1%, exact data unavailable

Fig. 82. MARKET SHARE IN EUROPEAN INVESTMENT FUNDS
By country of domicile
% of all net assets managed by funds domiciled in Europe



Source: European Fund and Asset Management Association (EFAMA)

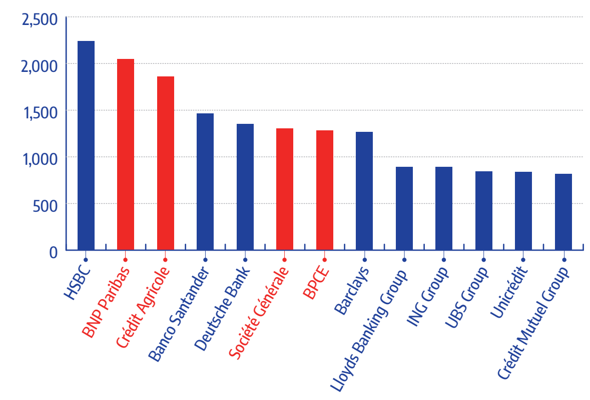
Fig. 83. WORLD RANKINGS OF ASSET MANAGEMENT COMPANIES (2017)
Total assets being managed in US$ billion, top 25



Source: The World's 500 Largest Asset Managers, Willis Towers Watson

Furthermore, the French model of universal banking, bringing together a wide range of jobs within the same institution, has proven its worth. France is home to four of the 10 largest players in Europe[1] (BNP Paribas, Crédit Agricole, Société Générale and BPCE), including two in the top three.

Fig. 84. EUROPEAN BANKING GROUPS
Total assets in € billion (December 2018)



Source: Top Global Banks 2017, S&P Global Market Intelligence

[1] According to Top Global Banks 2018, S&P Global Market Intelligence.

New laws to facilitate lending to businesses

In recent years, a number of laws have been passed to facilitate and support venture capital investment in France, and investment in SMEs in particular:

- **The 2015 Amended French Government Budget Act, which was revised in 2018,** extended the "Madelin" incentive, which offers income tax relief following equity investment in non-listed SMEs: subject to certain conditions, the law provides for a reduction in income tax equivalent to 18% of the amounts invested (25% for investments made in 2018), up to €50,000 a year for a single person (or €100,000 a year for a couple); however, if the investment is made in an SME via a proximity or innovation mutual fund (FIP or FCPI), a single person can invest no more than €12,000 a year (or €24,000 for a couple). These tax breaks also count towards the overall cap on tax exemptions.
- **The 2014 Crowdfunding Act** defined a simplified legal framework for crowdfunding. The main measures included the introduction of a crowdfunding investment advisor status (*conseil en investissement participatif* – CIP) for two types of existing operators (lenders and equity investors), loans from individuals limited to €2,000, no threshold for equity investments, and regulatory disclosures concerning the investors.
- **The Corporate Venture Investment Amendments** enabled companies investing in innovative SMEs, or in mutual funds mostly invested in innovative SMEs, to write off their investments as tax, subject to certain asset limits, by acquiring an equity stake of up to 20% in the SME.
- **The PACTE Act,** promulgated on May 22, 2019, aims to give French businesses the means to innovate, transform themselves, grow and to create jobs.

France has 5,800 mid-size companies, compared with 12,500 in Germany. To make up for this difference, the PACTE act contains a range of measures responding to the needs of businesses, particularly funding. French businesses often lack the equity capital they require for their development.

The PACTE act also facilitates access to a diverse range of funding (stock market listing, capital investment, but also crowdfunding and initial coin offerings) and will steer the savings of French people into equity capital for businesses to fund innovation and growth tomorrow (whereas today, only 11% of these savings are invested in company shares).

The PACTE act plans a major reform of retirement savings. In addition to these measures, the PACTE act contains legal provisions to simplify business creation, enabling an upturn for entrepreneurs, and will help to better distribute value created, all of which will help strengthen the attractiveness of the French economy.

According to estimates from the French Treasury Directorate, this law should help bring in a surplus of nearly one percentage point of GDP in the long term, including 0.3% by 2025.

2.7 Cost of labor and taxation

The growth and profitability of an economic activity are largely dependent on the cost of labor and the prevailing taxation regime.

Labor costs in France, while higher than the average across our sample, nevertheless correspond to one of the world's highest hourly productivity levels (ninth, according to the Conference Board; sixth according to our OECD sample).

Furthermore, France has significantly improved its cost competitiveness since 2009 and growth in unit labor costs has been firmly under control since 2012, notably in industry, thanks to the introduction of the competitiveness and employment tax credit (CICE) and the Responsibility and Solidarity Pact.

As regards taxation, France is noteworthy for its relatively high level of social security contributions, which fund the country's system of public services. Lastly, France offers businesses the world's most beneficial tax treatment for research and development expenditure thanks to the research tax credit.

COST OF LABOR

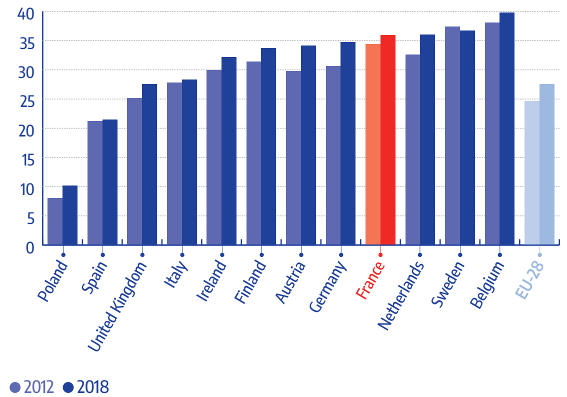
Labor costs are one of the determinants of an economy's attractiveness for international investment. This cost is part of a set of factors, including labor productivity, which makes up an economy's productive capacity.

Higher labor costs can lead to greater productivity, which is the case in France. Changes in these indicators over time is of paramount importance in the competition that national economies are engaged in globally.

In 2018, labor costs in France were relatively higher than in the other countries in our sample: in the economy as a whole, the hourly labor costs reached €35.80 in France, compared with €34.60 in Germany and €27.40 in the EU-28.

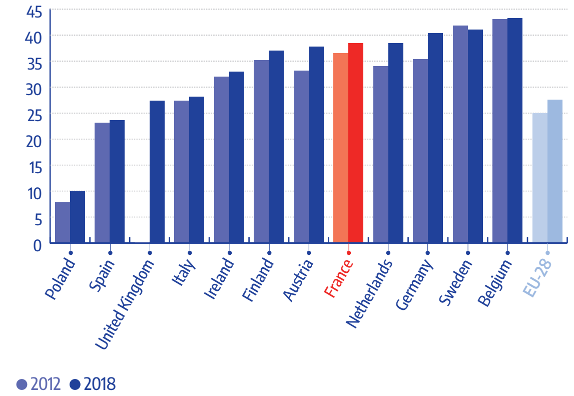
In industry, hourly labor costs were €38.30 in France, compared with €40.20 in Germany and €27.40 in the EU-28. In our sample, France was ranked ninth and eighth, respectively, for labor costs in the economy as a whole and in industry.

Fig. 85. HOURLY LABOR COSTS
€ - Total economy



Source: Eurostat; historical data revised by Eurostat

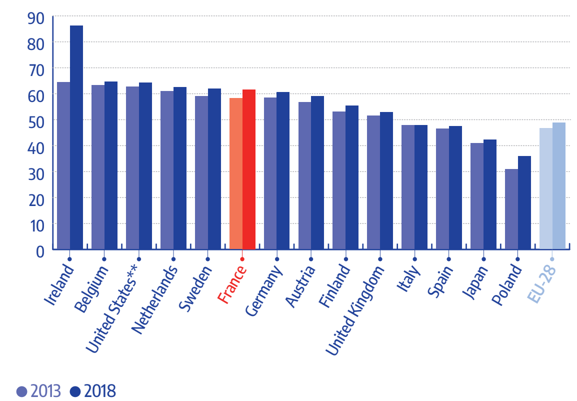
Fig. 86. HOURLY LABOR COSTS
€ - Industry



Source: Eurostat; historical data revised by Eurostat

Hourly labor productivity is high in France. In 2018, it was €61.50, compared with €60.50 for Germany and €48.60 for the EU-28. France is thus ranked sixth in our sample for labor productivity. In addition, hourly labor productivity continued to grow at a sustained pace in France: +2.2% in 2018 and +1.9% on average per year from 2009-2017.

Fig. 87. HOURLY LABOR PRODUCTIVITY* (2018)
US$ at PPP - Total economy



Source: OECD; * GDP per hour worked; ** Data for 2017

Often considered as a global measure of international price competitiveness, unit labor costs correspond to the average cost of labor per unit produced.

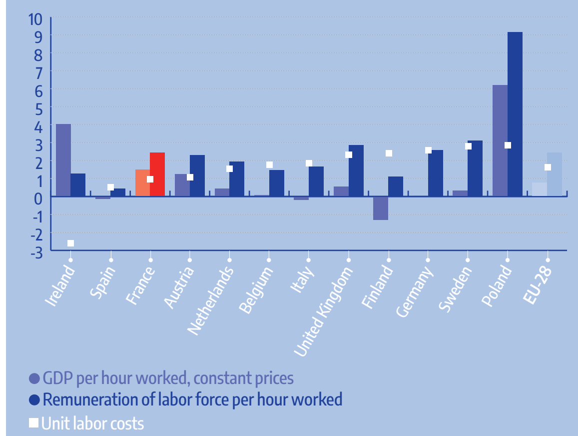
A breakdown of the growth of unit labor costs shows that France benefited simultaneously from growth in productivity and wage cost control. Thus, labor productivity increased more strongly in France than in Germany and in the United Kingdom, with the more limited increase in labor costs in France over the period resulting in a much more measured increase in unit labor costs in France.

Unit labor costs were limited by a succession of decreases in employer social security contributions on low salaries, as well as by the introduction in 2015 of the competitiveness and employment tax credit.

In 2018, France recorded the second smallest increase in unit labor costs of the countries in our sample, with them only rising +0.9% in France in 2018, after Spain (+0.5%), but ahead of the United Kingdom (+2.3%), Germany (+2.6%) and the EU-28 (+1.6%). This result can be explained by a growth in hourly labor productivity in France (+0.9%), which is higher than that observed in the United Kingdom (+0.5%) and Germany (0%).

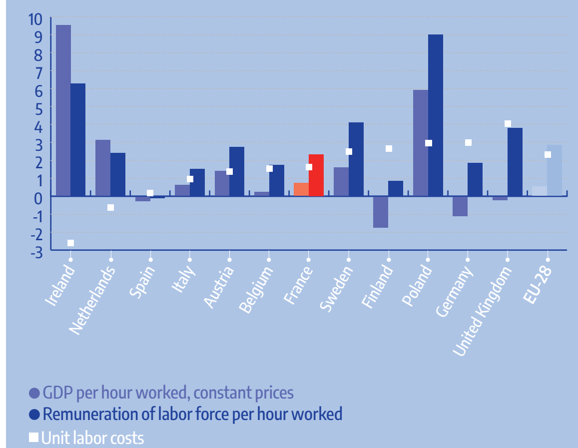
In the manufacturing industry, France had the lowest increase in unit labor costs of the entire sample in 2018 (+0.1%). In comparison, unit labor costs in the manufacturing industry grew by +3% in Germany, +4% in the United Kingdom and +2.3% among the EU-28.

Fig. 88. BREAKDOWN OF TRENDS IN UNIT LABOR COSTS
Compound annual growth rate (2018) - Total economy



Source: OECD, Business France calculations

Fig. 89. BREAKDOWN OF TRENDS IN UNIT LABOR COSTS
Compound annual growth rate (2018) - Manufacturing



Source: OECD, Business France calculations

METHODOLOGY

Breakdown of trends in unit labor costs

Unit labor costs correspond to the cost of labor weighted by productivity. Unit labor costs are a measure of labor costs per unit of value added produced. As such, they provide a way to assess an economy's competitiveness in terms of labor costs.

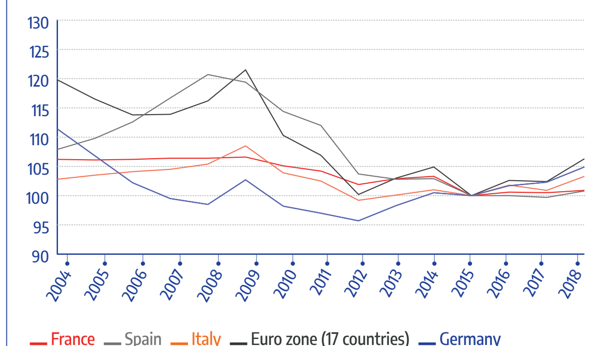
Changes in unit labor costs are determined by fluctuations in both workers' compensation, an increase in which causes unit labor costs to rise, and productivity, an increase in which causes unit labor costs to fall. If productivity increases more quickly than workers' compensation, unit labor costs decrease.

The rate of growth of unit labor costs equals the difference between the rate of growth of workers' compensation and that of productivity. The chart shows the annual rate of growth in unit labor costs and its components between 2013 and 2018 in a number of economies. Such a chart can be used to measure the contribution to growth in unit labor costs made by workers' compensation and productivity.

Labor costs and productivity can both be used to estimate an economy's competitiveness relative to the rest of the world. According to OECD competitiveness indicators,[1] the euro zone's cost competitiveness decreased in 2018 after a slight improvement in 2017. This trend is reflected in the main countries of the euro zone, including Germany, which has seen its cost competitiveness deteriorate since 2013.

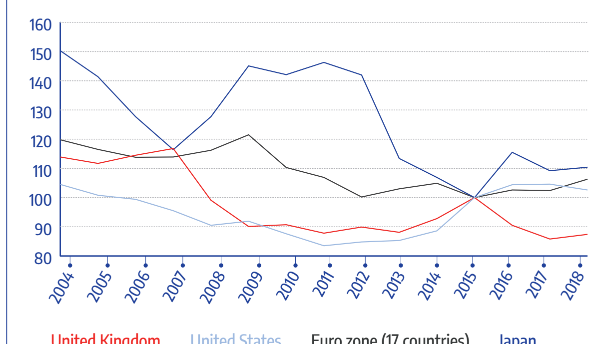
France's cost competitiveness increased significantly relative to the pre-crisis period, showing better resistance than the other major economies in the euro zone in 2018. France benefits from the controlled evolution of its labor costs, notably thanks to the research tax credit and the increase in labor productivity.

Fig. 90. TRENDS IN COST COMPETITIVENESS (2004-2018)
Indices (base 100 = 2015)



Source: OECD; Business France calculations
NB: Increases in the indices represent declining cost competitiveness.

Fig. 91. TRENDS IN COST COMPETITIVENESS (2004-2018)
Indices (base 100 = 2015)



Source: OECD; Business France calculations
NB: Increases in the indices represent declining cost competitiveness.

[1] *"Competitiveness indicators are calculated using a weighting system that takes into account the structure of competition in both export markets and import markets in 53 countries", OECD Stat.*

Labor costs: competitiveness and employment tax credit and responsibility pact

The competitiveness and employment tax credit (*crédit d'impôt pour la compétitivité et l'emploi* – CICE), introduced by Supplementary Budget Act No. III for 2012 and effective from January 2013, is a deferrable tax credit deductible against corporate income tax.

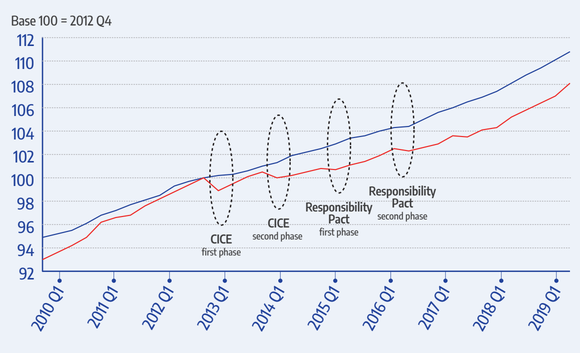
The tax credit was initially calculated at 4% of gross salaries up to 2.5 times the statutory national minimum wage, rising to 6% in 2014 and 7% in 2017, before falling back to 6% in 2018. With effect from January 1, 2019, the competitiveness and employment tax credit was abolished and replaced by a 6% reduction in social security contributions for salaries below 2.5 times the statutory minimum wage, with a greater reduction for salaries below 1.6 times the statutory minimum wage starting on October 1, 2019.

The responsibility and solidarity pact, introduced in 2015,[2] includes a range of measures aimed at reducing the cost of labor and the tax burden on businesses. Under the cost of labor component, an initial tranche was introduced in January 2015 targeting low salaries below 1.6 times the statutory national minimum wage, followed by a second tranche from April 2016 targeting salaries between 1.6 and 3.5 times the statutory national minimum wage. This component of the pact also included a reduction in self-employed social security contributions from 2015.

The rise in French hourly labor costs has slowed significantly since 2013 relative to the euro zone, thanks to the introduction of the competitiveness and employment tax credit and the responsibility pact. Between the fourth quarter of 2012 and the first quarter of 2019, the increase in labor costs in France was below the average increase for the euro zone as a whole, coming in at 8.1% in France, compared with 10.8% for the euro zone.

Looking at the level of labor costs in industry, it can be seen that the hourly cost of labor in France remains high relative to the main euro zone countries. French hourly labor costs came in at €38.30 in 2018, higher than the euro zone average (€33.20) and the figures for Italy (€28) and Spain (€23.50), but still lower than in Germany (€40.20).

Fig. 92. LABOR COST INDEX
Industry, construction, services



Source: Eurostat; Business France calculations

Fig. 93. HOURLY LABOR COSTS (€)
Manufacturing (excluding construction)

	2000	2004	2008	2012	2016	2017	2018
Germany	28	30.3	32.5	35.2	38.4	39.5	40.2
France	23.7	29.5	33.1	36.4	36.8	37.3	38.3
Italy	18.4	22.3	24.2	27.2	27.5	27.5	28
Spain	15.4	17.9	20.8	23	23.2	23.3	23.5
Euro zone (19 countries)	-	24.3	26.9	30.5	31.9	32.6	33.2

Source: Eurostat

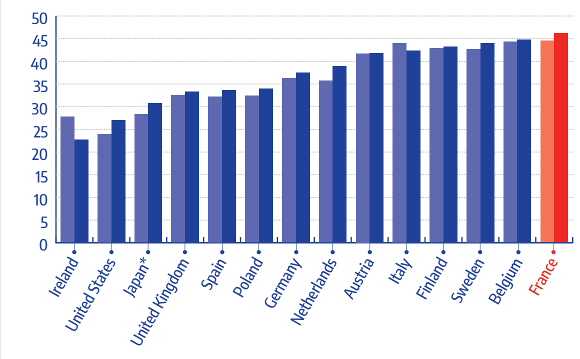
[2] Provision included in the 2015 Social Security Funding Act.

TAXATION

The French tax system is noteworthy for the burden of social security contributions in compulsory deductions, reflecting the French public services model that they help to finance (cf. VIII. Quality of life).

Social security contributions amounted to 46.2% of GDP in France in 2017, compared with 37.5% Germany and 33.3% in the United Kingdom. However, the wide range of benefits funded by these taxes – infrastructure (transport, energy, telecommunications), healthcare, education, welfare benefits, culture, etc. – should be factored in when assessing these receipts (cf. IV. Infrastructure, VIII. Quality of life and IX. Energy and green growth).

Fig. 94. TAX RECEIPTS
% of GDP

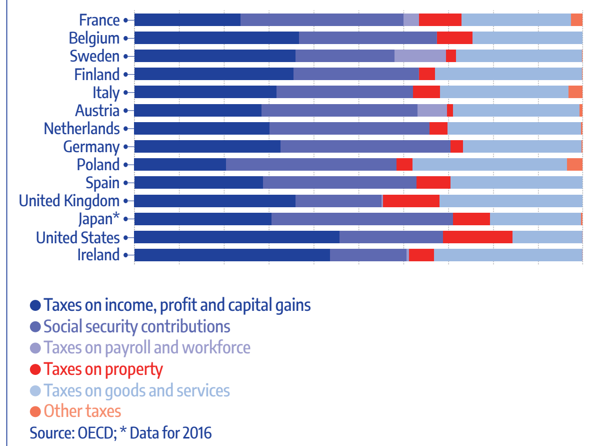


Source: OECD; * Data for 2016

In terms of structure, social security contributions represent the largest share (36.4%) of the sources of French tax revenue in 2017. This share, although similar to that of Germany (37.9%), corresponds to 16.8% of French GDP (14.5% in Germany).

In terms of income tax, profits and capital gains (for individuals and companies), France offers one of the lowest rates of imposition in the sample countries: 23.6% of total receipts in 2017, or 10.9% of GDP, which is less than in Germany (12.2% of GDP) and the United Kingdom (11.9%).

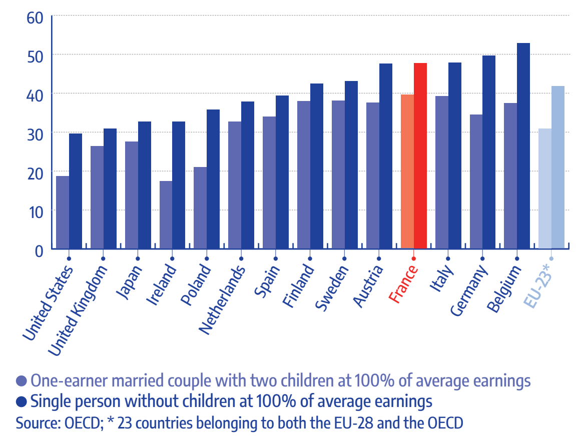
Fig. 95. STRUCTURE OF TAX RECEIPTS (2017)
% of total receipts



Source: OECD; * Data for 2016

Concerning taxation of labor,[3] **Belgium, Germany and Italy imposed a higher tax burden than France** on a single person without children earning 100% of average earnings in 2017. For a one-earner married couple with two children at 100% of average earnings, France imposed the largest tax burden, just higher than Italy, Sweden, Finland and Austria.

Fig. 96. AVERAGE TAX WEDGE (2018)
% of labor costs



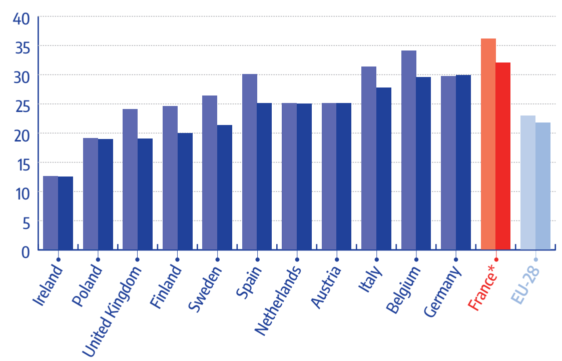
Source: OECD; * 23 countries belonging to both the EU-28 and the OECD

[3] The 'tax wedge' on labor is equal to the difference between gross labor costs for employers and employees' take-home pay. Above, it is equal to the sum of income tax plus employee and employer social security contributions, less social protection benefits, as a percentage of total labor costs.

The statutory highest marginal rates of corporate tax placed France in a high position in 2014. However, this indicator notably took into account the exceptional contribution for very large companies from 2013-2015.

The French government has committed to lowering the corporate tax rate to 25% in 2022, which would take France to fourth place in our sample, after Germany, Belgium and Italy.

Fig. 97. HIGHEST MARGINAL RATE OF CORPORATE TAX
Including exceptional surcharges

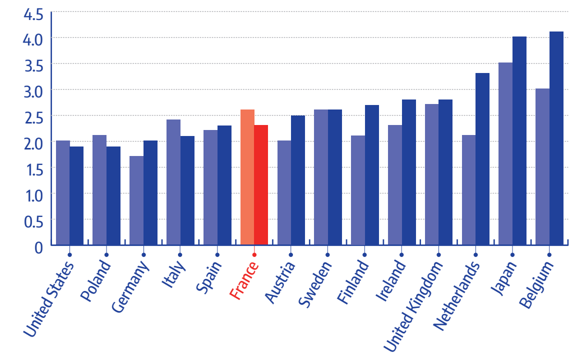


● 2014 ● 2019
Source: Eurostat, Taxation Trends in the European Union; * Including the exceptional contribution for very large businesses in 2013-2015

The statutory highest marginal rates need to be put into perspective when considering revenues related to corporate tax. **In 2017, corporate tax receipts represented only 2.3% of GDP in France,** close to the level seen in Germany and below that of the United Kingdom (2.8%).

This is a result of special treatment for SMEs in France: they receive **reduced tax rates of 15% and 28% according to the amount of profits**[4] (from €0 to €38,120, and from €38,120 to €500,000). France is renowned for having a high rate of corporate tax on large groups, but a narrow base, reduced by waivers and exemptions.

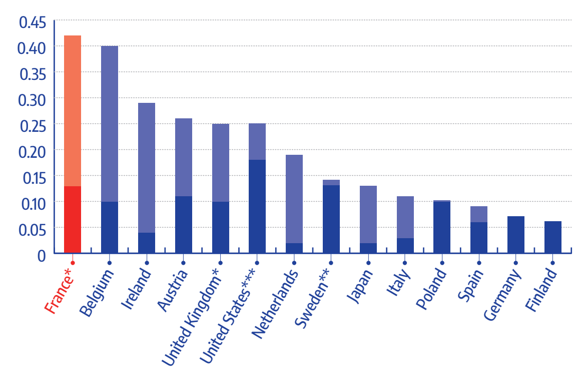
Fig. 98. CORPORATE TAX RECEIPTS
% of GDP



● 2012 ● 2017
Source: OECD

Since reforming its research tax credit in 2008, France has offered businesses the most generous R&D tax treatment, leading the way among OECD members for government funding of business enterprise R&D expenditure and R&D tax incentives, contributing an amount equivalent to 0.41% of GDP in 2015.

Fig. 99. GOVERNMENT FUNDING OF BUSINESS ENTERPRISE R&D EXPENDITURE AND R&D TAX INCENTIVES (2016)
% of GDP



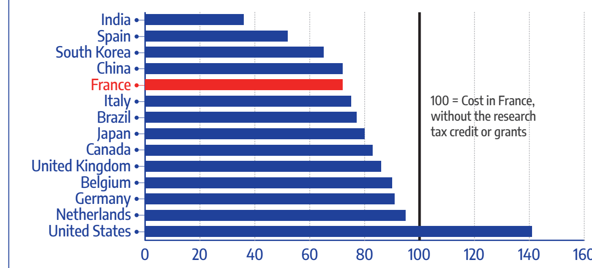
● Government funding of BERD ● R&D tax incentives
Source: OECD; * Data for 2015; ** Data for 2014; *** Data for 2013

[4] Pre-tax revenues lower than €7.63 million and capital gains entirely distributed and held on at least 75% by private individuals (or by a company fulfilling this criteria) (service-public.fr).

Thanks to the research tax credit, the average cost of employing a researcher is lower in France than in the United States, the United Kingdom, Germany, Australia, Canada and Japan, according to the French National Research and Technology Association.

Based on the companies examined, these estimates suggest that the research tax credit and associated grants reduce the cost of employing a researcher in France by 28% in 2018. Meanwhile, the component of the research tax credit incentivizing the employment of junior final-year doctoral and post-doctoral research personnel (*jeunes docteurs*) reportedly results in 1,300 hires every year (ANRT, 2016).

Fig. 100. AVERAGE COST OF EMPLOYING A RESEARCHER AFTER INCENTIVES (2018)



Source: International comparison of the cost of a researcher - French National Research and Technology Association (ANRT), 2019

Reform of France's research tax credit makes it the most effective R&D tax incentive in OECD countries

The research tax credit (*crédit d'impôt recherche* – CIR) is France's flagship tax measure to encourage companies to expand their R&D operations.

All businesses with R&D operations located in France, regardless of their size or business sector, are eligible.

The French Government Budget Act for 2008 enhanced the research tax credit, transforming it into a very generous incentive and simplifying its administration.

- The research tax credit is calculated solely on the basis of total R&D spending (after the abolition of the "increase-based" component, previously determined on the basis of the increase in a company's R&D spending).
- The research tax credit rate is set at 30% of eligible R&D expenditure up to €100 million, and 5% above this threshold.
- The amount of research tax credit awarded to companies rose from €1.8 billion in 2007 to €5.9 billion in 2014.

In 2013, the innovation tax credit extended eligibility for the research tax credit to encompass innovation spending by SMEs.

- For expenditure incurred after January 1, 2013, SMEs (as per the European Union definition) spending on innovation to fund projects to design prototypes, create new products or install pilot equipment are eligible for an innovation tax credit of 20%.
- Eligible innovation expenditure is capped at €400,000 annually. Accordingly, the maximum tax credit a company can receive is €80,000 per year (400,000 x 20%).

It has also been made easier to obtain tacit approval: an advance ruling procedure (*rescrit*) can be initiated once R&D operations have begun but must be submitted at least six months before the research tax credit declaration is made.

2.8 Quality of life

Quality of life is one of the things that helps make an economy attractive. Whether by attracting highly mobile skilled workers or convincing international investors that their projects will attract such people, local quality of life is a decisive factor when companies are deciding where to establish themselves.

A range of factors can be taken into consideration when seeking to measure quality of life. A few key factors that help clarify the concept include life expectancy, access to healthcare, safety and the availability of cultural activities. The level of public services provided (education, healthcare, housing, transportation, culture, etc.), which can be measured through expenditure, is also telling.

In France, the public system offers a range of free, high-quality services, notably in education and healthcare, while supporting household living standards. This means France is one of the world's leading countries for access to healthcare, leisure time and personal time.

One of the primary determinants of quality of life is health and access to healthcare. Countries offering an environment conducive to a long, healthy life will always be very attractive.

According to OECD data, life expectancy in France is among the highest in the world. In 2017, France boasted life expectancy at birth of 82.6 years, ahead of the United Kingdom (81.3), Germany (81.1) and the United States (78.7). In France, life expectancy at age 60 for women (27.9 years) and men (23.4 years) is the second-longest of any country in our sample.

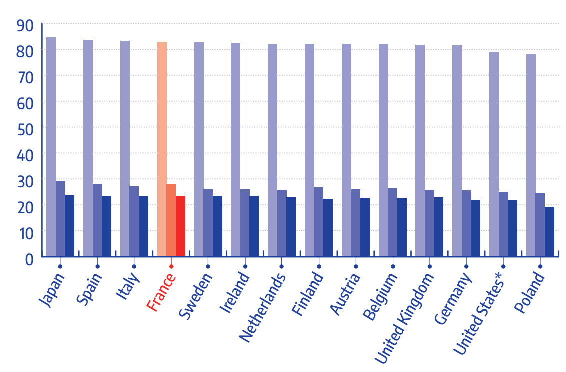
Healthy life expectancy becomes even more important as the average lifespan lengthens, issues of autonomy and dependence come to the fore and living conditions deteriorate in many regions of the world. **In 2016, France enjoyed the fifth-best healthy life expectancy in the world** (73.4 years, the third-best in our sample).

France was ranked first for access to healthcare among the countries in our sample in 2017.

Access to the healthcare system is a good indicator of the extent to which France's national health targets are financially supported by the authorities. A system that is hard to access can delay decisions to consult medical professionals, with significant health-related and financial consequences arising from delayed hospitalization. Access to healthcare can be measured by private out-of-pocket expenses for health services, which are particularly low in France.

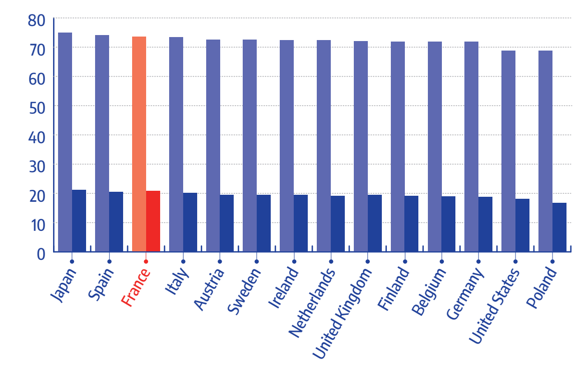
This very moderate level of individual out-of-pocket expenses for health services in France is explained by the high level of financial commitment by the public sector: **in 2018, public healthcare expenditure in France equated to 9.3% of GDP, accounting for 83.4% of total healthcare spending.**

Fig. 101. LIFE EXPECTANCY (2017)
In years



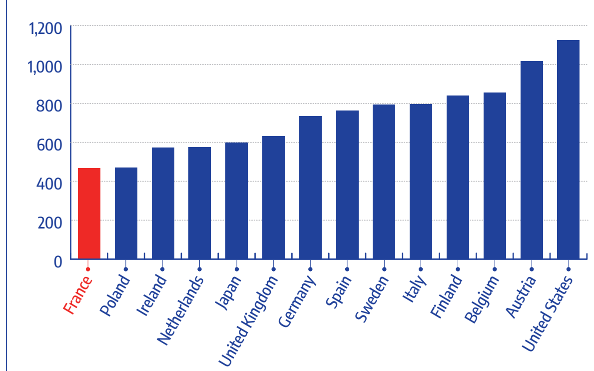
Source: OECD; * Data for 2016

Fig. 102. HEALTHY LIFE EXPECTANCY (2016)
In years



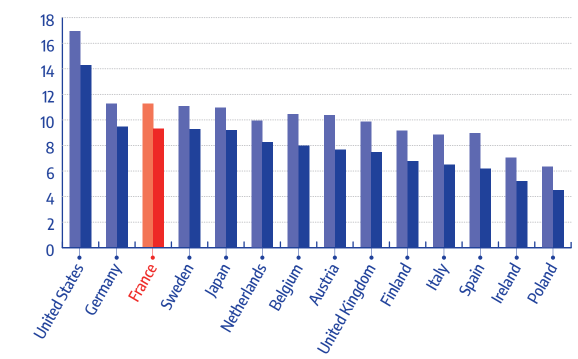
Source: World Health Organization (WHO)

Fig. 103. ACCESS TO HEALTHCARE (2017)
Private out-of-pocket payments per capita (US$ PPP)



Source: OECD

Fig. 104. HEALTH SPENDING (2018)
% of GDP



Source: OECD

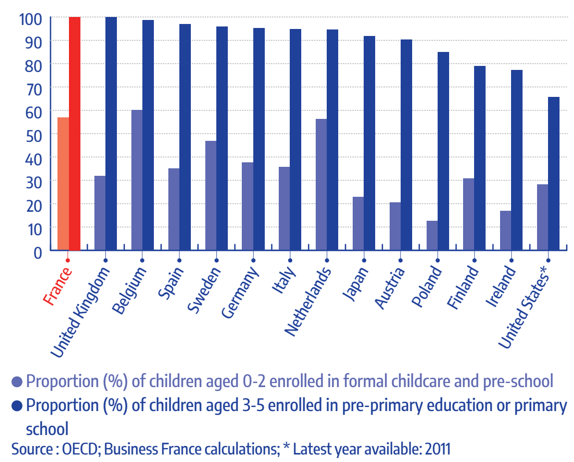
Education and collective childcare provision are another facet of the quality of life a country offers. An effective education system signals a determined commitment to the future (cf. II. Education and human capital).

In 2016, **100% of three- to five-year-olds were in pre-primary or primary education in France,** in line with the United Kingdom and ahead of Germany (94.9%) and the United States (65.6%), according to OECD data. Meanwhile, 56.7% of children up to two years old are registered for formal pre-school childcare in France, putting the country second in our ranking, behind Belgium (59.8%).

Childcare is affordable in France. In 2018, net expenditure for a household consisting of a couple and two children aged two and three years old using childcare came to 12.3% of net household income in France (for a couple where both members earn income equal to 67% of the average wage), behind Germany (3.9%) but ahead of the United States (26.1%) and the United Kingdom (29.2%).

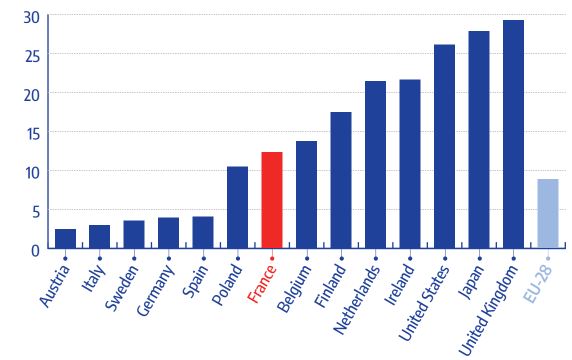
France's public sector commitment to education is substantial: **in 2017, 6.7% of French GDP was dedicated to education (including higher education)**, with 84% of this amount publicly funded. Domestic expenditure on education totals €8,690 per student, broken down into €6,550 for a primary school student, €8,710 for a secondary school student, €11,190 for a high school student and €11,670 for a university student.[1]

Fig. 105. SCHOOL AND PRE-SCHOOL FOR CHILDREN AGED 0-5 (2016)
% of the total of each age category



Source : OECD; Business France calculations; * Latest year available: 2011

Fig. 106. NET CHILDCARE COST FOR PARENTS USING CHILDCARE (2018)
For a couple with two children with an income equal to the average wage
% of net household income



Source: OECD

The social protection a country offers its residents takes a variety of forms: family allowances, paid leave, housing aid, unemployment benefits, disability pensions, etc. One of the most telling indicators is the amount of public spending associated with these arrangements.

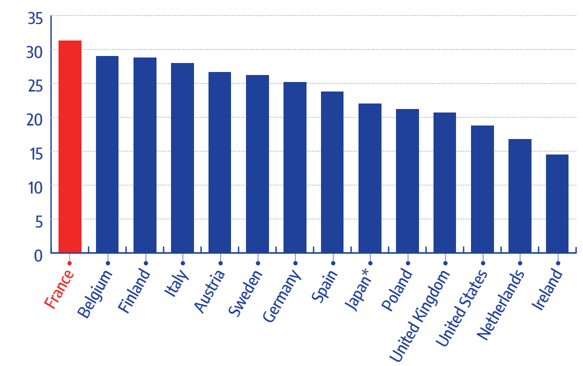
Spending on social protection – covering benefits for disability, families and children, housing, social exclusion, old age, sickness, healthcare, and unemployment – **is higher in France than in all other OECD countries, reflecting the high level of social protection available to French residents.**

According to OECD estimates, public spending on social protection equated to 31.2% of GDP in France in 2018, compared with 25.1% in Germany, 20.6% in the United Kingdom and 18.7% in the United States.

Looking at the various different branches of social protection over and above health and old age pensions, in 2015 France fared particularly well on support for families (2.9% of GDP; ranked fourth in the sample), housing (0.8% of GDP; ranked second), pro-active labor market policy (1% of GDP; ranked third) and unemployment benefits (1.6% of GDP; ranked fourth).

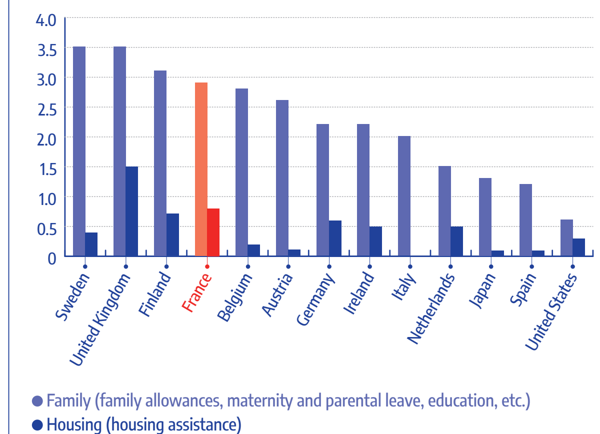
Another indicator revealing the level of support available to a country's residents is the amount of paid maternity, paternity and parental leave available to mothers and fathers. Combining mothers and fathers, such leave totaled 70 weeks in France in 2016 (putting the country third in our sample), ahead of Germany (66.7), the United Kingdom (41) and the United States (no federal paid leave).

Fig. 107. PUBLIC SPENDING ON SOCIAL PROTECTION (2018)
% of GDP (estimate)



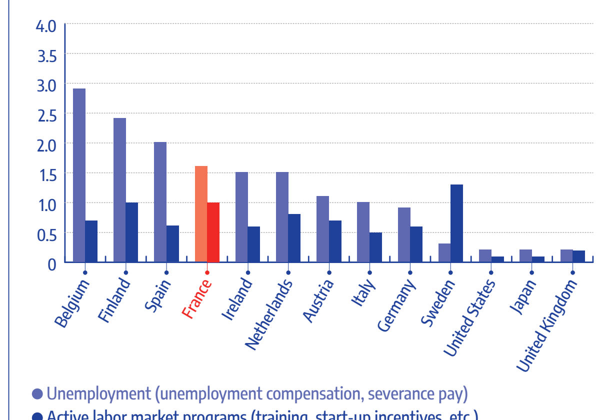
Source: OECD; * Data for 2015

Fig. 108. PUBLIC SPENDING ON SOCIAL PROTECTION (2015)
Family and housing - % of GDP



Source: OECD

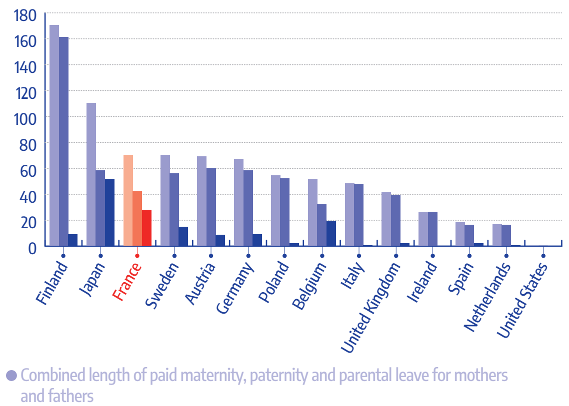
Fig. 109. PUBLIC SPENDING ON SOCIAL PROTECTION (2015)
Unemployment and active labor market programs - % of GDP



Source: OECD

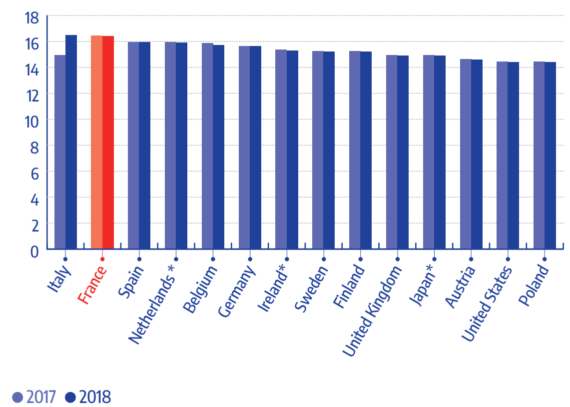
[1] See Ministry for Primary and Secondary Education and Youth Affairs – DEPP memorandum no. 18-29 (November 2018).

Fig. 110. PAID MATERNITY AND PARENTAL LEAVE (2016)
For fathers and mothers - In weeks



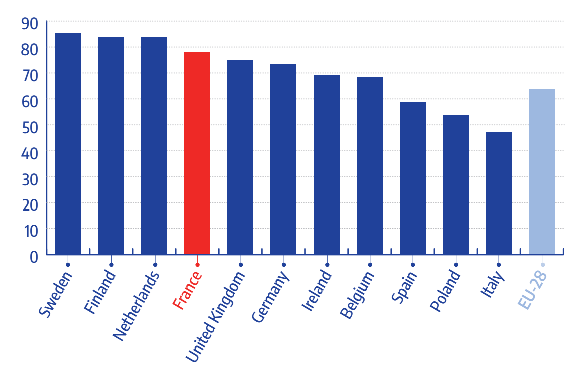
Source: OECD; Business France calculations

Fig. 111. TIME DEVOTED TO LEISURE AND PERSONAL CARE
Hours per day



Source: OECD, Better Life Index – 2017 and 2018; * Data for 2017 only

Fig. 112. FREQUENCY OF PARTICIPATION IN CULTURAL OR SPORT ACTIVITIES (2015)
At least once during the last 12 months
% of the population (16 years or over)



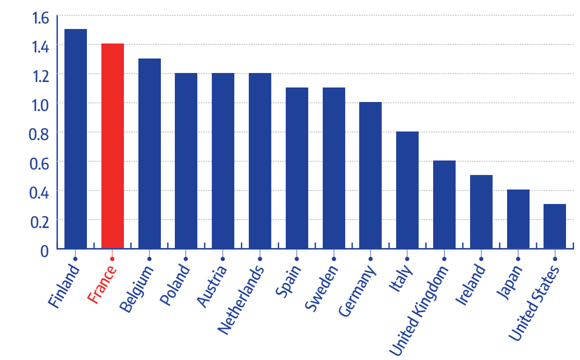
Source: Eurostat

Leisure and culture are inherent components of quality of life. In 2018, French people spent 16 hours 22 minutes a day on leisure and themselves, putting the country second in our sample. France comes out behind Italy (16 hours 28 minutes) but ahead of Germany (15 hours 37 minutes), the United Kingdom (14 hours 55 minutes) and the United States (14 hours 26 minutes).

French people are also among the most regular attendees of cultural and sports events. In 2015, 77.7% of French people reported having attended at least one cultural or sports event over the previous 12 months, ahead of the United Kingdom (74.6%) and Germany (73.3%).

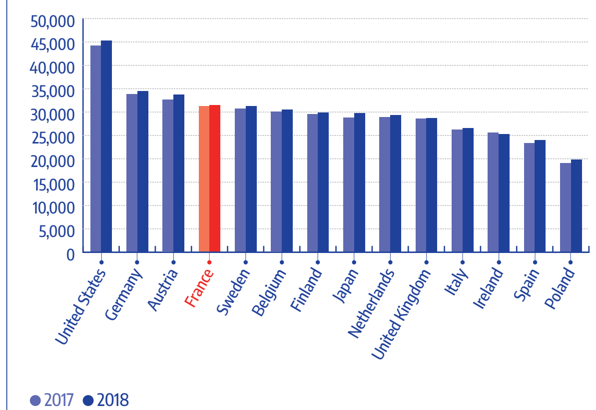
Finally, the level of public spending on culture, leisure and worship confirms the steadfast commitment of citizens to quality of life in France: based on such spending as a percentage of national wealth, France was the second largest contributor in 2017, after Finland, spending the equivalent of 1.4% of GDP.

Fig. 113. PUBLIC SPENDING ON CULTURE, LEISURE AND WORSHIP (2017)
% of GDP



Source: OECD

Fig. 114. NET ADJUSTED HOUSEHOLD DISPOSABLE INCOME
Current US$ PPP



Source: OECD, Better Life Index – 2017 and 2018

Thanks to easy access to healthcare, social protection, an effective education system and cultural activities, France offers its inhabitants very good quality of life. This living environment is mainly funded through public spending, though without penalizing residents' income or standard of living.

In 2018, **French households have a high level of net adjusted income**. This indicator, which is a measure of the maximum amount a household can spend without having to borrow or eat into its assets, is calculated by taking gross household income before deductions (earnings, property income, etc.), adding mainly social transfers in cash (social minima, family allowance, retirement pensions, unemployment benefit, etc.) and deducting direct taxes (taxes on income and assets, social security contributions, etc.).

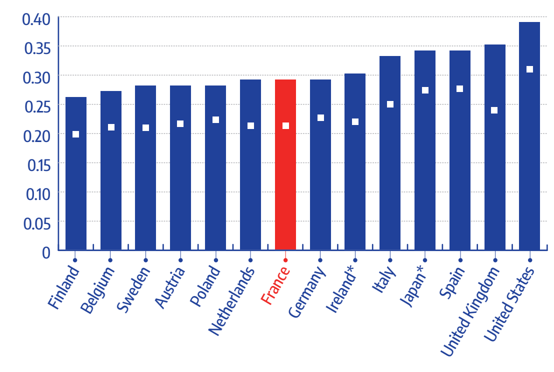
In 2018, France's average adjusted net income came in at US$31,304 (current PPP), after the United States (US$45,284) and Germany (US$34,294), but ahead of Sweden (US$31,287), and the United Kingdom (US$28,715).

Income inequality also has a substantial effect on quality of life, insofar as a low level of income inequality promotes living together. France's Gini coefficient, which measures such inequalities (cf. methodology hereafter), averaged 0.29 in 2016 after redistribution, a better level than the United Kingdom (0.35) and the United States (0.39), and was in line with Germany (0.29).

The redistribution operated by the tax and social security regimes means that gaps in living standards can be substantially reduced: before monetary transfers and direct debits, the Gini coefficient would be 0.52 in France (versus 0.50 in Germany and 0.51 in the United Kingdom and the United States). The income interdecile ratio (P90/P10, cf. methodology) puts France (3.4) at a better level than Germany (3.8), the United Kingdom (4.2) and the United States (6.3).

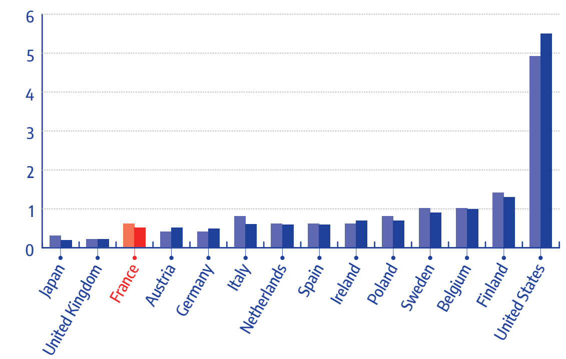
Lastly, the OECD calculates a monthly indicator of comparative price levels in member countries. Based on a representative basket of goods and services, it can be used to obtain comparative price levels relative to a baseline country. According to the indicator, prices in Ireland, the United States, the United Kingdom and the Netherlands are higher than in France, while prices in Poland, Spain, Italy and Germany are lower.

Fig. 115. INCOME INEQUALITY (2016)



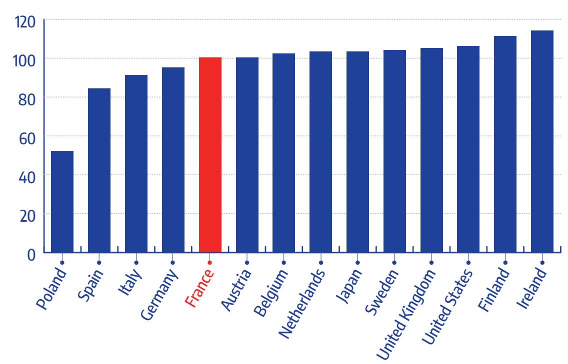
● Gini coefficient (left axis)
□ Interdecile ratio (P90/P10) (right axis)
Source: OECD; * Data for 2015

Fig. 117. HOMICIDE RATE
Ratio per 100,000 inhabitants



● 2017 ● 2018
Source: OECD, Better Life Index – 2017 and 2018

Fig. 116. COMPARATIVE PRICE LEVELS (JUNE 2019)
€ PPP, France = 100



Source: OECD

For a country's inhabitants to enjoy genuine well-being, safety is paramount. France is one of the safest countries in our sample, benefiting from one of the lowest homicide rates in 2018.

METHODOLOGY

Measuring income distribution inequality

The Gini coefficient is used to measure the degree of overall income inequality within a country. It ranges from zero to 1, with zero indicating perfect equality, where everyone has the same income, and 1 indicating complete inequality, where all the income goes to a single household.

The higher (closer to 1) the Gini coefficient, the greater the inequality. A drop in the Gini coefficient indicates an overall reduction in inequality of living standards.

Another indicator of inequality is the **income decile ratio (P90/P10)**, calculated as the ratio of the level of income at the 90th percentile to the level of income at the 10th percentile. **The higher the income decile ratio, the more unequal the income distribution.**

Report by the Commission on the measurement of economic performance and social progress

Statistical indicators are important when it comes to designing and assessing policies seeking to ensure progress in society. However, disparities exist between the statistical measurement of socio-economic realities and the way that citizens perceive them.

In 2009, a commission chaired by Nobel prize laureate Joseph Stiglitz reported back to the President of France on possible avenues to improve the measurement of economic growth and correct the shortcomings of the long-criticized benchmark indicator, gross domestic product (GDP).

One of the distinctions the report made was between assessing present well-being and sustainable well-being. Present well-being is contingent not only upon financial resources, such as income, but also non-financial dimensions (including subjective perception and natural environment).

Although the full list of these aspects inevitably depends largely on value judgments, there is consensus that quality of life depends on health and education, conditions of everyday life (including the right to decent employment and housing), participation in the political process, people's social and natural environment, and factors that define personal and financial security.

The commission also recommended establishing a series of indicators to give the measurement of well-being more importance in economic statistics.

In this context, and in recognition of its 50th anniversary, the OECD chose the theme "Better policies for better lives" and launched the "Your Better Life" initiative.

This is a new interactive index that enables each country to measure and compare its own quality of life by stepping outside the conventional GDP-based statistical framework. The index has 11 dimensions: housing, income, jobs, community, education, environment, governance, health, life satisfaction, safety and work-life balance – which can all be given their own weight in accordance with user preferences.

France is ranked among the top 10 countries for several items on the "Your Better Life" interactive index, including:

- Average household net-adjusted disposable income, which at US$31,304 in France is lower than the OECD average of US$33,604.
- In terms of health, life expectancy at birth in France is 82.4 years (85.6 years for women, and 79.6 years for men), more than two years higher than the OECD average.
- The level of atmospheric PM2.5 – tiny air pollutant particles small enough to enter and cause damage to the lungs – is 13 micrograms per cubic meter, slightly better than the OECD average (14), but higher than the World Health Organization recommendation of 10 micrograms per cubic meter.
- Voter turnout – a measure of public trust in government and of citizens' participation in the political process – was 75% during recent elections, higher than the OECD average of 68%.

Written in a challenging post-crisis economic climate marked by a hesitant recovery, high unemployment, unprecedented volatility in the financial markets and high levels of government debt, the OECD's report "How's Life? Measuring Well-Being" (2011) chose to place the individual at the heart of economic, social and environmental policies. It presents a series of comparative indicators on well-being for all OECD countries and, where possible, other major economies.

UNDP human development index

Every year since 1990, the UNDP Human Development Report has published the Human Development Index (HDI), which was introduced as an alternative to conventional development measures like income levels and economic growth rates. The HDI reflects a desire for a broader definition of well-being.

The index was created to bring attention to the fact that the ideal measure of a country's development lies in people and their abilities, not simply economic growth. It can also be used to evaluate domestic policy decisions by studying how two countries with the same per capita gross national income can produce such disparate levels of human development.

The HDI is a summary composite index that gauges a county's average achievements in three fundamental aspects of human development: a long healthy life (health), access to knowledge (education) and a decent standard of living (income).

In 2017, France's index score was 0.901, placing it among countries with a very high level of human development. France was ranked 24th in the world, after Germany (fifth place, with an HDI score of 0.936), and the United Kingdom (14th place, with an HDI score of 0.922), but ahead of Spain (26th place, with an HDI score of 0.891) and Italy (28th place, with an HDI score of 0.880).

"Ma santé 2022": a strategy to transform the healthcare system

The strategy to transform France's healthcare system, dubbed "Ma Santé 2022", was unveiled on September 18, 2018 by the French President and the Minister for Solidarity and Health.

The strategy aims to remedy the existing system's lack of flexibility amid growing financial strain, with a focus on three key themes: putting patients and quality of care back at the heart of the system; responding to local care needs (by joining up non-hospital medicine, medico-social care and hospital medicine); and rethinking training and career paths for healthcare professionals.

Key measures included in this reform are as follows:

- **Putting in place fixed-price funding for hospital treatment of chronic pathologies** from 2019, including the hospital component of treatment for diabetes and chronic kidney failure. This funding will be extended to other pathologies from 2020.
- **Creating 1,000 local professional healthcare communities (*Communautés professionnelles territoriales de santé* or CPTS)**, intended to cover the whole country by 2022 and to facilitate local coordination between healthcare professionals.
- **Developing medical assistants** working with independent medical practitioners, including conditional financial support, with the aim of freeing up medical time and allowing doctors to focus on delivering care.
- **Introducing a "local hospital" designation from 2020** to ensure local provision of hospital services, with a target of 500-600 designated hospitals.
- **Reforming the rules governing authorization of healthcare activities** organized at regional and local level, based on a graduated scale of care costs. This phased reform will result in new standards for certain activities with effect from 2020.
- **Creating a single "hospital practitioner" status** and scrapping the competitive examination for hospital practitioners.
- **Restoring the "collective" role of the health service** in organizing healthcare services and managing care personnel.
- **Increasing doctors' involvement in running hospitals.**
- **Scrapping the numerus clausus system and overhauling the first stage of medical studies curricula** to open them up to a more diverse range of students and create gateways between healthcare careers.
- **Reforming the second stage of medical studies curricula and scrapping national ranking examinations** and adopting an approach based on students' skills, ability and career goals.

Source: French Ministry for Solidarity and Health

Poverty prevention and reduction strategy

On September 13, 2018, the French President unveiled the national strategy for preventing and combating poverty.

The French government's aim is to "build a 21st century welfare state" that can combat inequalities of birth and offer genuine equal opportunities. A total budget of more than €8.5 billion has been set aside for this strategy over the president's five-year term of office.

The first aspect concerns equality of opportunity from early childhood onward. The aim is to offer all children a framework for socialization, encourage social diversity and improve the educational quality of care for young children. There is a particular emphasis on vulnerable areas: regional bonuses have been created to encourage the creation of new childcare places in priority areas by lowering local councils' contribution to less than 10%.

In addition, the rollout of new educational guidelines, accompanied by a continuing education plan aimed at 600,000 early years specialists, will promote pre-kindergarten child development and language learning. Furthermore, 300 day-care centers specifically designed to help unemployed parents return to employment are due to open by 2020.

The second component focuses on **guaranteeing children's fundamental rights**. One goal is to ensure every child has access to a balanced diet, through measures including the provision of school breakfasts in underprivileged areas and the introduction of more affordable prices for school meals. Specific programs will also be developed to ensure every child has access to decent housing and to combat childhood homelessness and begging.

The third component is aimed at **providing a guaranteed educational pathway for every young person**. The goal is to invest significantly in education and training for young people and support those at risk of dropping out of the education system. The minimum age at which a child can leave full-time education will thus be raised to 18, and the "young person's guarantee" (*garantie jeune*) will be extended.

In addition to the one-off increase in the employment bonus introduced in 2019, the fourth aspect is about **creating a universal employment benefit**. This will involve replacing the various minimum social welfare payments with a single allowance so as to make the system more efficient, fair and straightforward. A consultation on this far-reaching initiative was started in June 2019.

The fifth component aims to create **a public employment support service to help jobseekers find work**. An "employment guarantee" will combine a higher level of social support with entry into employment for 300,000 people a year; and 100,000 more employees will benefit from "employment through economic activity" schemes focused on the most vulnerable individuals. Furthermore, various successful experiments will be extended, including the "Zero long-term unemployment zone" program.

Source: https://www.gouvernement.fr/action/strategie-de-prevention-et-de-lutte-contre-la-pauvrete

2.9 Energy and green growth

The world mobilizing to protect the environment raises new challenges for energy supplies to sectors of the economy. The capacity to secure well-priced sources of reliable energy is a key element of economic attractiveness, enabling countries to position themselves in the innovative sectors of energy efficiency and the production of renewable energy.

With high-quality energy infrastructures, France succeeds in guaranteeing its economy continuous access to very competitively priced and stable electricity over time.

Green growth also bears economic and job opportunities, especially in green energy.

COMPETITIVE ELECTRICITY PRICES

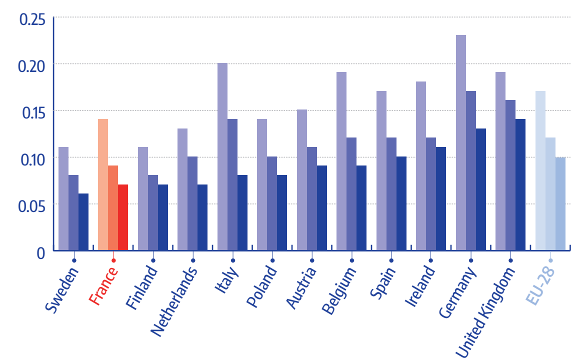
The attractiveness of a country depends partially on its capacity to ensure access to sources of reliable energy that is competitive in the long run.

Electricity rates are especially attractive for companies operating in France, and are among the most competitive in Europe due to France's energy mix and careful management of electricity generation and the national grid.[1] The variability of electricity rates in France is also low.

In the European Union, France stands out for the original nature of its energy mix. The predominance of nuclear energy has enabled France to have competitive electricity, with a low carbon content, and to ensure the country's energy independence. Electricity production in France is dominated by nuclear energy, which represents nearly three-quarters of total output.

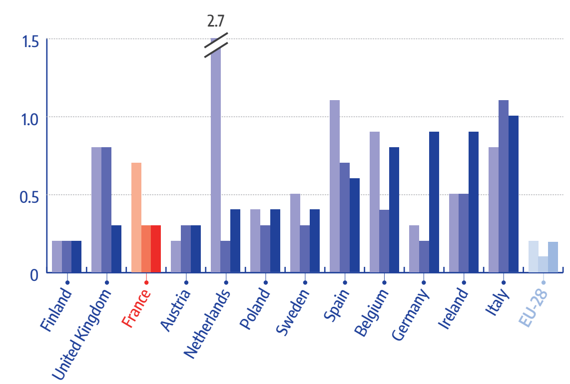
Furthermore, with less than 0.1 unplanned outages per consumer per year in 2016, **France had one of the best power grids among sample countries**, that was both powerful and reliable.

Fig. 118. ELECTRICITY RATES (H2, 2018)
Non-residential consumers, by level of consumption
Rate inc. VAT (€/kWh)



● 20 MWh - 500 MWh ● 2,000 MWh - 20,000 MWh
● 70,000 MWh - 150,000 MWh
Source: Eurostat

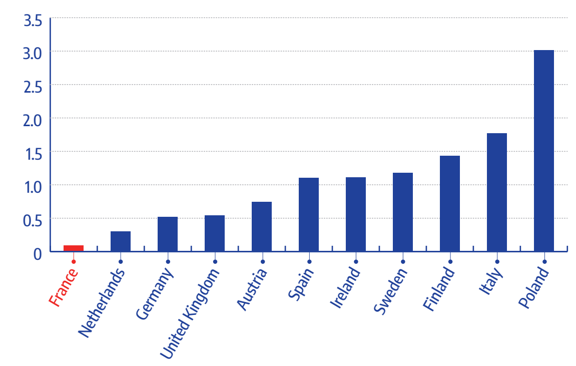
Fig. 119. VARIABILITY OF ELECTRICITY RATES (H2, 2016-H2, 2018)
Non-residential customers, by level of consumption
Standard deviation (%) of rates inc. VAT



● 20 MWh - 500 MWh ● 2,000 MWh - 20,000 MWh
● 70,000 MWh - 150,000 MWh
Source: Eurostat; Business France calculations

[1] In 2016, according to the Ministry for the Ecological and Inclusive Transition, electricity was the leading energy form consumed in industry (39% of the mix) and the major form of energy for the tertiary sector (52%).

Fig. 120. RELIABILITY AND QUALITY OF ELECTRICITY SUPPLY (2016)
System average interruption frequency index (SAIFI)
Average number of interruptions* per year per consumer



Source: CEER (Council of European Energy Regulators), CEER Benchmarking Report 6.1 - Continuity of Electricity and Gas Supply, 2018
* Unprogrammed interruptions, including exceptional events

LARGELY CARBON-FREE FRENCH ENERGY

Renewable energy in EU-28 countries accounts for 17% of gross final energy consumption in 2018. The European Union's Climate Action directorate has set targets of 20% for 2020 and 27% for 2030 (see inset hereafter).

Sweden stands out from other countries, with renewable energy accounting for a very high proportion of gross final energy consumption (53.8% in 2016).

In France, renewable energy accounted for 16% of gross final energy consumption in 2016, higher than the equivalent percentages for Germany (14.8%) and the United Kingdom (9.3%).

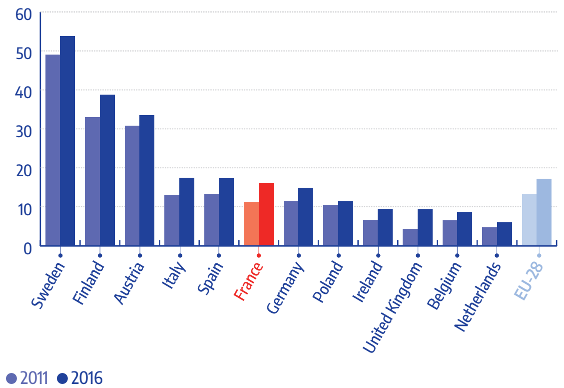
SAIFI

The System Average Interruption Frequency Index (SAIFI) is a commonly used indicator to measure electrical grid reliability. It represents the average number of electricity supply interruptions per consumer and per year:

SAIFI = number of interruptions for consumers / number of consumers supplied with electricity.

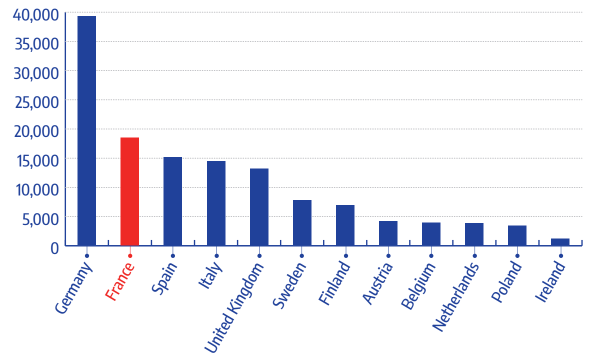
The data used is produced by the CEER (Council of European Energy Regulators), which was founded in 2000 and assembles the regulators of the 28 Member States of the European Union, Norway and Iceland.

Fig. 121. SHARE OF RENEWABLE ENERGIES IN GROSS FINAL ENERGY CONSUMPTION (EU-28)
%



Source: Eurostat

Fig. 123. REVENUES IN THE RENEWABLE ENERGIES SECTOR (2017)
€ million

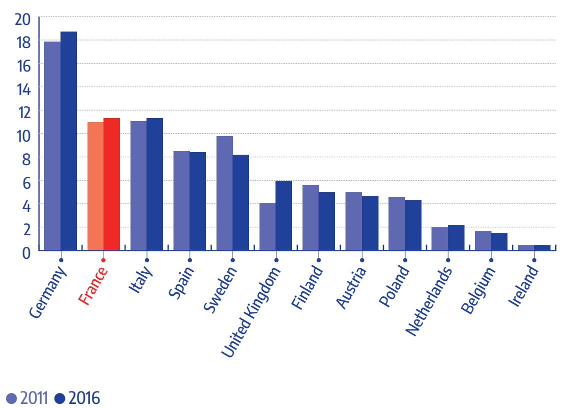


Source: The state of renewable energies in Europe, 2018, EurObserv'ER (new methodology)

In 2016, 27.9% of primary energy generation in EU-28 countries was from renewable sources, after fossil fuels (41.5%) and nuclear energy (28.7%).

France was Europe's second-largest generator of primary energy derived from renewable sources in 2016, accounting for 11.3% of the EU-28 total, the same level as Italy. The top contributor was Germany, which accounted for 18.7% of the total.

Fig. 122. PRIMARY ENERGY GENERATION FROM RENEWABLE SOURCES
Share of EU-28 total - %



Source: Eurostat; Business France calculations

In 2017, renewable electricity generation within EU-28 countries was sourced from wind (37.2%), hydraulic energy (30.8%), biomass (19%), solar (12.3%), geothermal (0.7%) and marine energy (0.1%).

The structure of electricity generation by country highlights the specific nature of each country's energy mix, more or less dependent on fossil fuels.

France, like Sweden, produces very carbon-free electricity due to the very small share of thermal generation in its energy mix. **Only 8.3% of France's electricity is produced from carbon-based fuels.** This distinctive feature of France is due to the predominance of nuclear energy (70.6% of the total) – a reliable source of energy that gives rise to no greenhouse gas emissions.

Although significant efforts have been made to develop renewable energy, electricity generation by the major economies in our sample remains highly dependent on fossil fuels, notably in the United Kingdom (46.5%), Germany (51%), the United States (62.9%), Japan (75.1%) and the Netherlands (79.6%).

European Union Climate Act

The European Union has entered into a number of commitments intended to make a success of the transition to a low-carbon economy. Two stages of commitments have been identified, with deadlines of 2030 and 2050.[2]

In 2018, the EU Council definitively adopted a series of legislative texts offering a **framework for the climate and energy up until 2030, which will apply for 2021**. This strategy sets out three key targets to be met by 2030:

- Lowering greenhouse gas emissions by 40% (relative to 1990 levels), a target set firstly through the European carbon market for industrial sectors and energy, and secondly through a pooling of efforts in other sectors.
- Bringing the share of energy produced by renewable sources up to at least 32%.
- Improving energy efficiency by at least 32.5%.

Negotiations over the climate and energy framework are in the process of being finalized, but agreement has already been reached to raise the bar above the initial guideline levels.

The overall target for lowering greenhouse gas emissions remains unchanged at this stage, but discussions are in progress to assess whether this target could also be raised.

These targets are embedded in the European Commission's roadmap for a **"low-carbon economy by 2050"** with the following targets:

- Reducing greenhouse gases by 80-95% (relative to 1990 levels).
- All economic sectors making a contribution.
- Facilitating an affordable and achievable transition to a low-carbon economy. This roadmap will be revised with a view to communicating it to the United Nations Framework Convention on Climate Change (UNFCCC) in 2020.

[2] European Union Climate Action: https://ec.europa.eu/clima/policies/strategies_en.

The Paris Climate Agreement (COP 21)

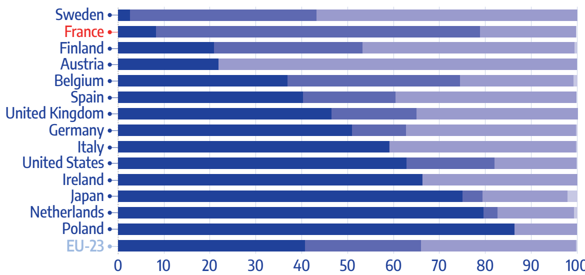
Faced with the challenges posed by climate change, the 195 State Parties to the COP 21 negotiations committed to sign a **universal, legally binding agreement** in Paris in December 2015. This agreement aims to limit the average temperature increase: "holding the increase in the global average temperature to well below 2 °C [...] and pursuing efforts to limit the temperature increase to 1.5 °C."

The Agreement recognizes that states have **shared but differentiated responsibility** for global warming. National contributions to the effort to combat global warming are freely determined by each state so as to flexibly take into account this principle of differentiated responsibility. Furthermore, developed states jointly committed in Copenhagen in 2009 to make available US$100 billion a year of public and private sector funding with effect from 2020 to help finance developing countries' climate change prevention actions.[3]

The Paris Climate Agreement entered into force in 2016 and its implementation rules were adopted at the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 24) in December 2018.

[3] This annual amount will be increased from 2025. Negotiations on the new agreements have not yet begun.

Fig. 124. ELECTRICITY GENERATION BREAKDOWN (2018)
%



● Conventional thermal (Fossil fuel) ● Nuclear
● Renewables ● Other

Source: International Energy Agency; Business France calculations

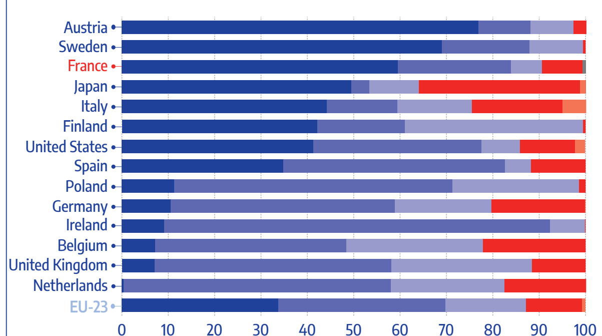
The environmental quality of the generation process, and of the economy in general, plays a decisive role in the development of sustainable green growth.

Environmental quality can be measured by the amount of CO_2 emissions generated by an economy relative to its size. Carbon intensity is a measure of greenhouse gas emissions arising from energy consumption, expressed in units of GDP.

This indicator suggests relatively low levels for the main European economies. **France's very low carbon intensity** is partly explained by the nature of its energy mix, which favors nuclear energy over fossil fuels.

In addition to France's carbon intensity being low, the country's **greenhouse gas emissions (per thousand inhabitants) put it in a very favorable second place** in our sample, behind Sweden.

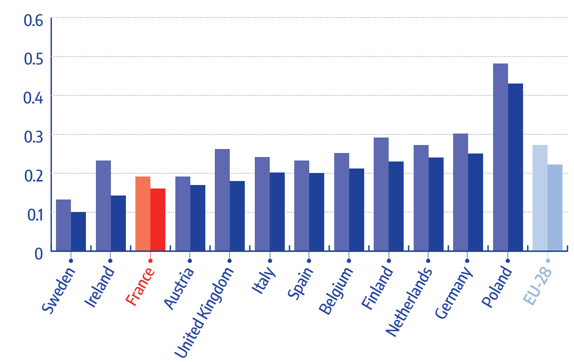
Fig. 125. RENEWABLE ELECTRICITY GENERATION BREAKDOWN (2018)
%



● Hydraulic ● Wind ● Renewable fuel ● Solar
● Geothermal ● Other renewable

Source: International Energy Agency; Business France calculations

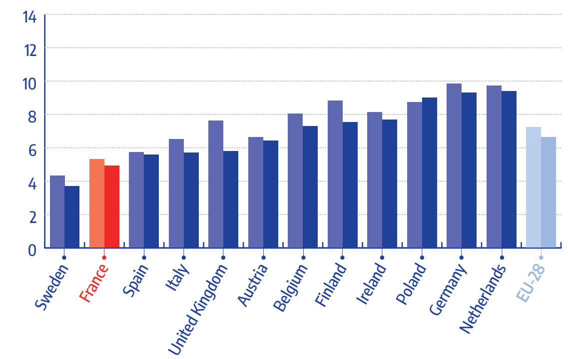
Fig. 126. CARBON INTENSITY
Thousand tonnes greenhouse gas emissions* / GDP million at PPP



● 2012 ● 2017

Source: Eurostat; Business France calculations; * Greenhouse gases: CO_2, N_2O in CO_2 equivalent, CH_4 in CO_2 equivalent, HFC in CO_2 equivalent, PFC in CO_2 equivalent, SF_6 in CO_2 equivalent, NF_3 in CO_2 equivalent.

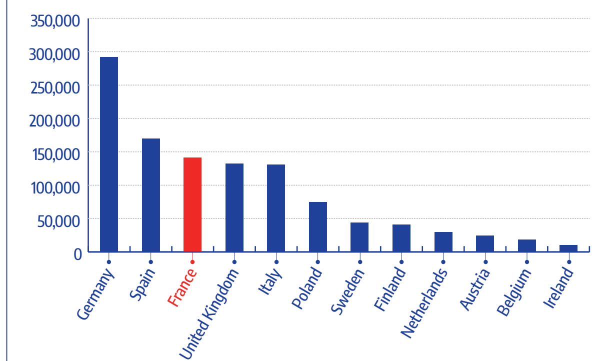
Fig. 127. GREENHOUSE GAS EMISSIONS*
Per thousand inhabitants (thousand tonnes of CO2)



● 2012 ● 2017

Source: Eurostat; Business France calculations; * Greenhouse gases: CO_2, N_2O in CO_2 equivalent, CH_4 in CO_2 equivalent, HFC in CO_2 equivalent, PFC in CO_2 equivalent, SF_6 in CO_2 equivalent, NF_3 in CO_2 equivalent.

Fig. 128. EMPLOYMENT IN THE RENEWABLE ENERGIES SECTOR (2017)



Source: The state of renewable energies in Europe, 2018, EurObserv'ER (new methodology)

Green growth is also a source of economic opportunities and jobs, particularly in the green energy sector. The most advanced countries in these sectors for the future are attracting foreign investors eager to position themselves in these fields.

According to EurObserv'ER, **France was Europe's third-largest employer in the renewable energy sector in 2017**, with 140,700 jobs (0.5% of its working population).

The top country in this area was Germany, with 290,700 jobs (0.7% of its working population), followed by Spain, with 168,800 jobs (0.7%). The United Kingdom and Italy counted 131,400 and 129,900 jobs respectively (0.4% and 0.5% of their respective working populations).

Government Climate Plan

On July 6, 2017, the Minister for the Ecological and Inclusive Transition unveiled the Government Climate Plan, calling on all ministries to speed up the energy and climate transition and implement the Paris Agreement over the course of the president's five-year term of office.

The main thrusts of this national strategy are as follows:

- **To make the Paris Agreement irreversible** by advancing environmental law and mobilizing French society.
- **To improve day-to-day life for French people** by developing clean mobility, eradicating energy insecurity, promoting responsible consumption and strengthening the circular economy.
- **To be done with fossil fuels and commit to carbon neutrality by producing carbon-free electricity**, halting fossil fuel extraction, increasing carbon prices, achieving carbon neutrality by 2050 and eliminating the sale of vehicles that use fossil fuels by 2040.
- **Making France the number one green economy** by designing forward-thinking solutions through research and making Paris the capital of green finance.
- **Harnessing the potential of ecosystems and agriculture by mobilizing agriculture** to combat climate change, adapting to climate change and its consequences and putting a stop to imports of products that contribute to deforestation.
- **Strengthening international mobilization** by supporting non-government bodies committed to climate action and helping developing countries combat climate change.

Source : https://www.gouvernement.fr/en/climate-plan

Make Our Planet Great Again: Mobilizing and uniting efforts in favor of the environment transition

Following the decision by the United States to pull out of the Paris Agreement, on June 1, 2017, French President Emmanuel Macron launched an appeal to researchers and teachers, entrepreneurs, non-profits and NGOs, students and civil society as a whole to come together and help France combat global warming. This appeal to unite efforts to protect the earth highlights France's willingness to be at the forefront of actions against climate change.

The appeal resulted in the **launch of the "Make Our Planet Great Again" website**. This website aims to make it easier for anyone who wants to invest in projects, carry out research, engage in entrepreneurial activity, seek out funding or set up in France to take action to help protect the planet. In particular, the aim is to help researchers apply for French programs aimed at developing concrete solutions to prevent global warming.

The website, which is a coordinated effort by the ministries for the Ecological and Inclusive Transition, Europe and Foreign Affairs, Economy and Finance, Higher Education, and Research and Innovation, and is run by Business France, is available in both French and English and is a unique, ambitious initiative with a very practical focus.

Since September 2018, **154 foreign students and researchers have come to France** to undertake research in climate change science and sustainability, the energy transition and earth systems sciences.

Source : https://www.campusfrance.org/en/make-our-planet-great-again-en

Publication Director
Christophe Lecourtier, CEO

Chief Editor
Sylvie Montout, Chief Economist

Contributor
Romain Guillard, Economist

Departments of the French Treasury Directorate
Coordinated by the Foreign Trade and Country Risk Office

Translation
David Williams, Peter Stewart, English Language Editors

Editorial coordination
Guillaume du Rivau, Publishing Project Manager

Design and layout
HOPSCOTCH CONTENT & DESIGN
October 2019

Printed in France by
La Centrale de Lens

Business France is the national agency supporting the international development of the French economy, responsible for fostering export growth by French businesses, as well as promoting and facilitating international investment in France.

It promotes France's companies, business image and nationwide attractiveness as an investment location, and also runs the VIE international internship program.

Business France has 1,500 personnel, both in France and in 58 countries throughout the world, who work with a network of partners.

Since January 2019, as part of the reform of the state support system for exports, Business France has given private partners responsibility for supporting French SMEs and mid-size companies in the following markets: Belgium, Hungary, Morocco, Norway, the Philippines and Singapore.

For further information, please visit:
www.businessfrance.fr @businessfrance

Business France
77, boulevard Saint-Jacques
75680 Paris Cedex 14
Tel.: +33 1 40 73 30 00

In partnership with the French Treasury Directorate and the French Ministry for the Economy and Finance

The French Treasury Directorate serves government ministers, making proposals and carrying out economic policy under their authority from a domestic, European and international standpoint.

It has 1,400 employees, of whom nearly half are based abroad. Economic departments abroad support the international strategies of French businesses, help boost France's economic attractiveness and promote ongoing reforms and the government's economic policy.

Trésor
DIRECTION GÉNÉRALE

www.tresor.economie.gouv.fr

BUSINESSFRANCE