

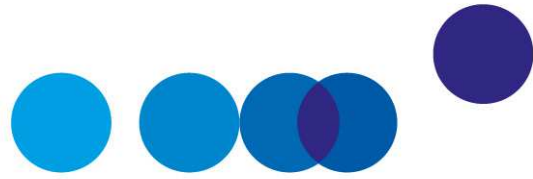


FRANCE STRATÉGIE
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2014

FRANCE-GERMANY: PERFORMANCES COMPARED



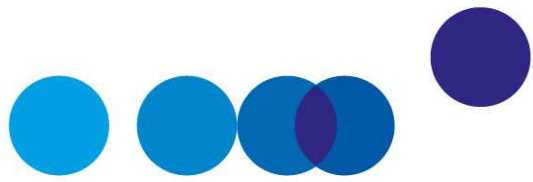
France-Germany

Performances compared



FRANCE STRATÉGIE

December 2014



FOREWORD

Societies gain from benchmarking. We have become used to check country rankings in the league tables prepared by international organisations or think tanks.

This booklet is of a different nature: Its aim is to propose a cross-benchmark of France and Germany, commonly known as the franco-german couple. It was prepared in the context of the report *Reforms, Investment and Growth: An agenda for France, Germany and Europe* commissioned by the French and German economic ministers to Henrik ENDERLEIN and me¹.

The data deliver two main messages.

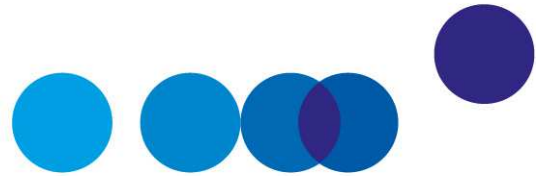
- ✓ Firstly, France and Germany have significantly diverged in the last decade on a number of accounts, mainly the labour market, external accounts and public finances. Education and inequality are also areas where both countries have departed from long-standing parallelism.
- ✓ Secondly, the comparison is often but not always to the advantage of Germany. There are a few domains where France is definitely doing better, such as demographics, infrastructure and inequality.

The indicators were prepared by a team led by Hervé MONANGE and composed of Quentin DELPECH, Véronique DEPRez-BOUDIER, Pierre DOUILLARD, Camille GUÉZENNEC, Cécile JOLLY, Frédéric LAINÉ, Rémi LALLEMENT and Nicolas LORACH.

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Jean PISANI-FERRY

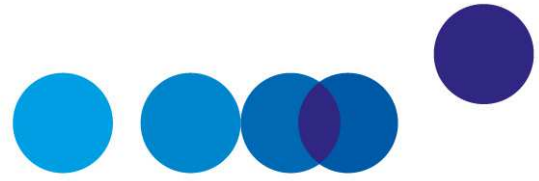
(1) The report is available on France Stratégie's website.



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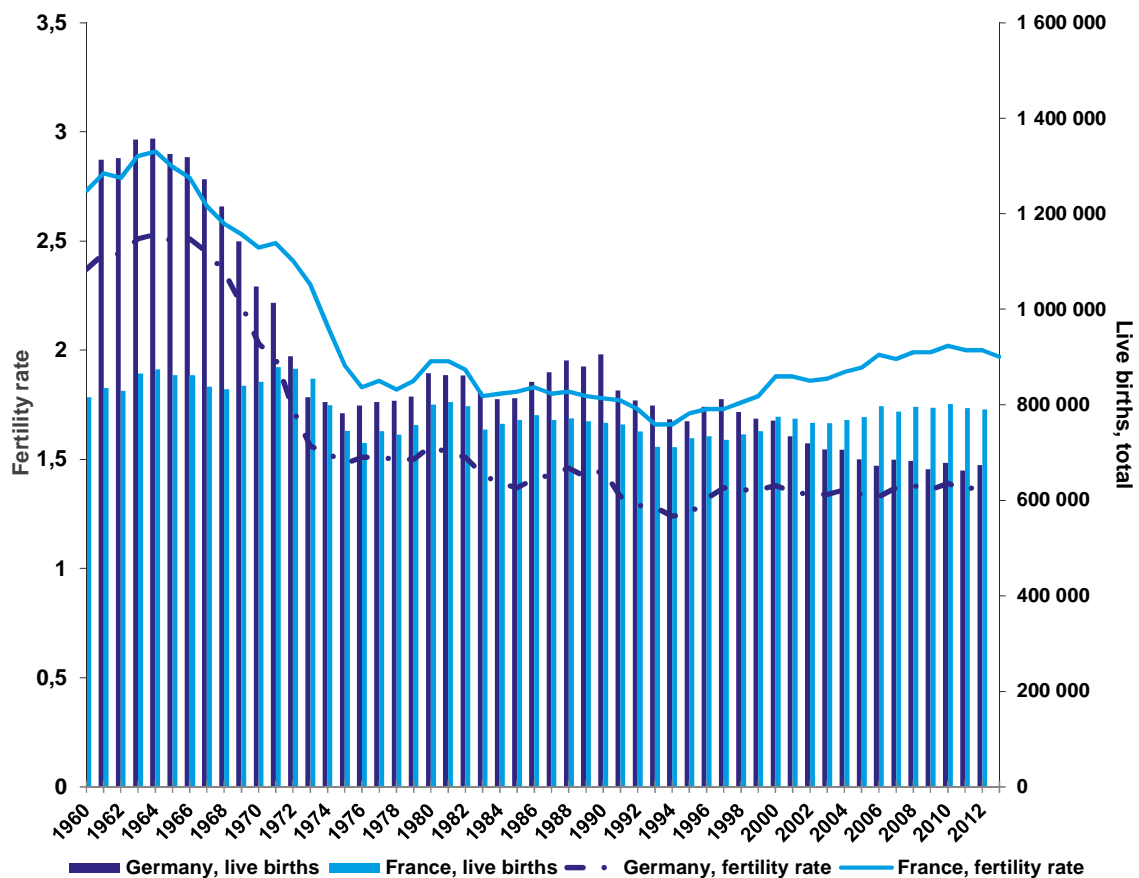


Demography – Migrations

➤ Birth rates drop in Germany, not in France

Birth rates fell under the symbolic threshold of two children per woman in 1960 in Germany and in the early seventies in France¹. While Germany's fertility rate is stable at 1.4 since 1997, in France it has risen from 1.66 in 1993 to 2.01 in 2012, making it the second most fertile nation in the European Union after Ireland. Germany, by contrast, is grappling with population decline. A rate of 2.1 children per woman is considered necessary to keep the population growing, excluding migration.

Fertility rate and live births* 1960-2013



* 2012: last year of observation.

Note. Scope: metropolitan France, total Germany including former German Democratic Republic

Source: *France Stratégie*, based on data from *Ined*, *Eurostat*

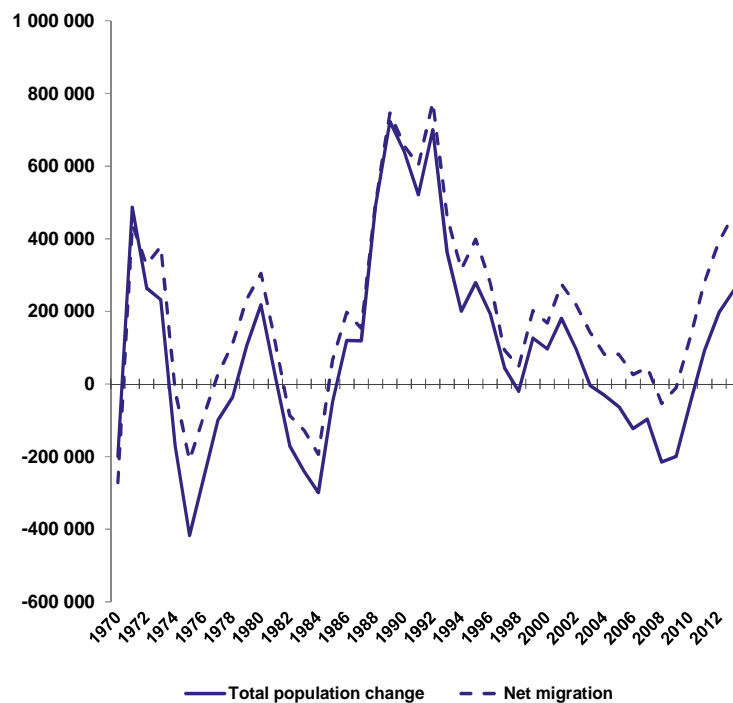
(1) A rate of 2.1 children per woman is considered necessary to keep the population growing, excluding migration.

➤ Migration only just offsets decline in Germany

European nations are showing a smaller natural increase in their population as a result of persisting low fertility rates. If this birth deficit is not offset by immigration, then the population will decline. International migrations are more decisive for Germany, with the number of people aged 20 to 64 already shrinking, than for France.

The German population has stabilized since the 1970s at around 80 million, with variations mainly due to net migration flows. As the proportion of elderly people is growing steadily, more migration flows are required for Germany to maintain its current population. The country's dependence on immigration for population growth is shown in the graph below, with net migration exceeding the natural change in population.

Natural change of population and net migration in Germany 1970-2014

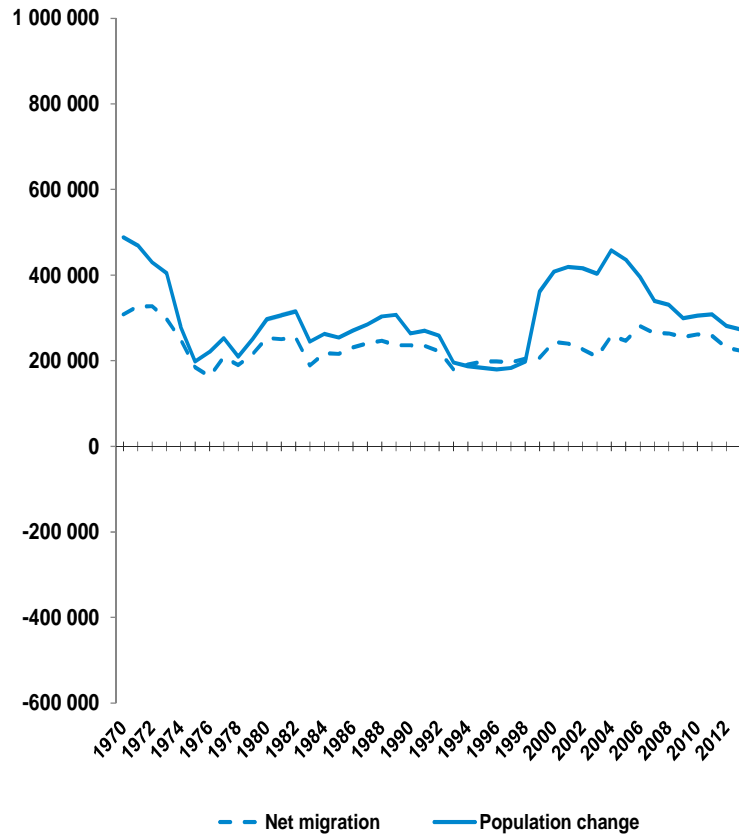


Note. Scope: total Germany including former German Democratic Republic

Source: France Stratégie, based on data from Eurostat

It's not the case in France, where population growth is more related to the fertility rate, and net migration is below the natural change in population.

Natural change of population and net migration in France 1970-2014



Note. Scope: metropolitan France

Source: *France Stratégie*, based on data from *Insee*

The graphs also show net migration varies a lot in Germany while it is more stable in France. The increase in net migration after 2009 in Germany reflects rising immigration particularly from Eastern and Southern Europe and to a lesser extent, falling emigration. In France, emigration and immigration have increased slightly since the crisis.

➤ More people in France than Germany by 2060?

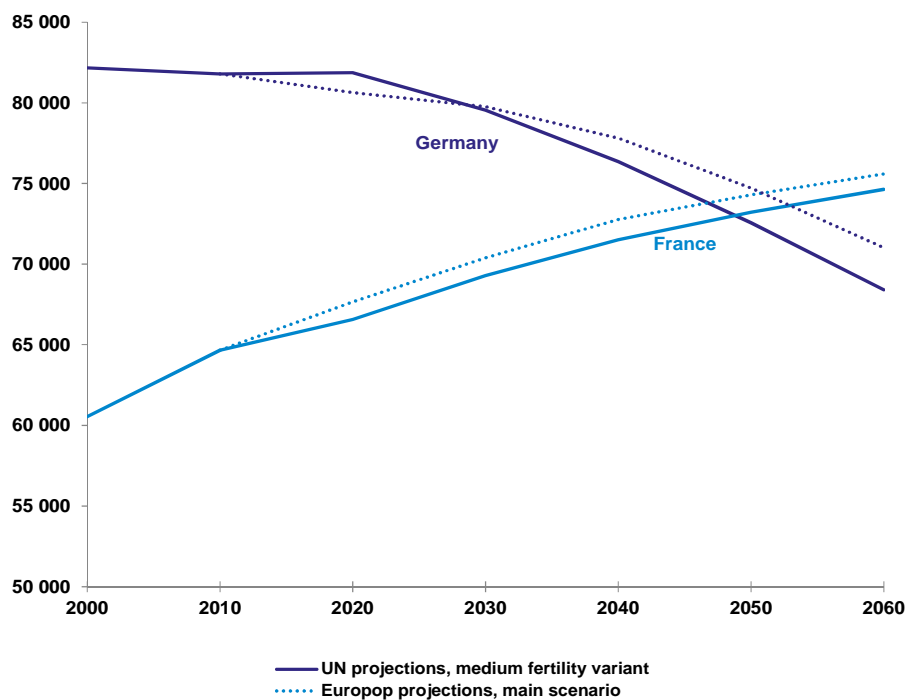
France may surpass Germany as Europe's second most populous nation by 2060. Projections show Germany's population will fall from around 82 million people in 2014 to 70 million by 2050, trailing France and even Britain.

Net migration flows in Germany will be double those of France until 2040, according to the latest Europop forecasts. The UN model calculation (2012 revision) assumes similar net migration flows in both countries. Despite a shared assumption of a slightly higher fertility rate than today in Germany, the French population is poised to exceed Germany's in 2050 in both cases.

These projections are based on conservative migration assumptions. Because of its declining population and lower unemployment, Germany is likely to attract more migrants than France. However, migration flows in the EU's most populous nation would need to be massive to derail the growing convergence.

Population, 2000-2060

In thousands

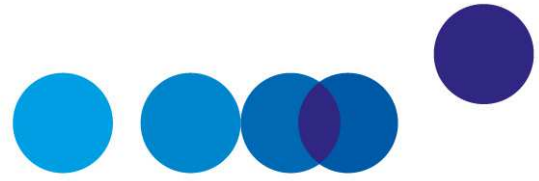


Source: France Stratégie, based on data from Eurostat, Europop projections 2013, main scenario, and UN World population prospects, the 2012 revision, medium variant

UN and Europop assumptions, 2010-2060

			2010-2015	2015-2020	2020-2025	2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	2050-2055	2055-2060
Fertility rates (children per woman)	France	United Nations projections, medium variant	1,98	1,98	1,98	1,99	1,99	1,99	1,99	1,99	1,99	1,99
	Germany		1,42	1,46	1,5	1,54	1,57	1,59	1,62	1,64	1,66	1,68
	France	Europop projections, main scenario	2,01	2,01	2,01	2,00	2,00	1,99	1,99	1,98	1,98	1,98
	Germany		1,39	1,43	1,47	1,50	1,52	1,55	1,57	1,61	1,61	1,62
Net migration rate	France	United Nations projections, medium variant	130	120	100	100	100	100	100	100	90	80
	Germany		110	100	90	90	90	90	90	90	81	72
	France	Europop projections, main scenario	66	89	90	92	90	87	82	72	72	69
	Germany		296	231	229	228	204	159	140	122	122	107

Source: France Stratégie, based on data from Eurostat, Europop projections 2013, main scenario, and UN World population prospects, the 2012 revision, medium variant



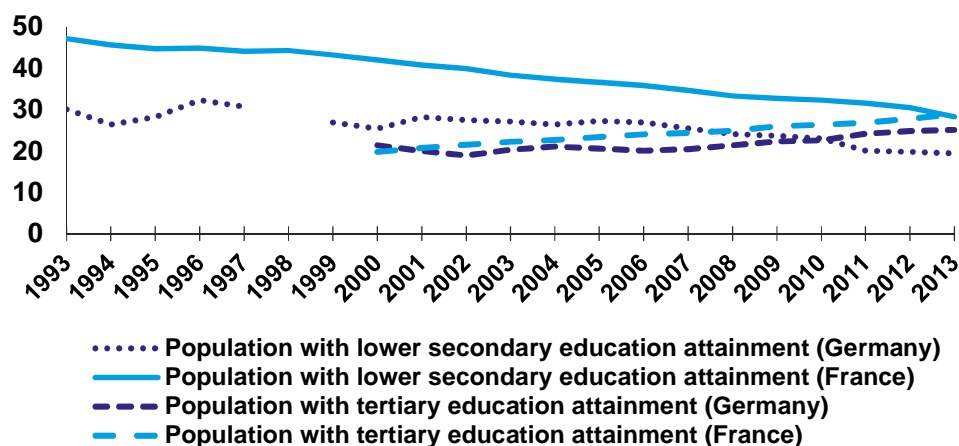
Education – Training

➤ A more and more qualified population in both countries

Levels of qualification have increased in both countries. This is reflected in the rising share of adults with university degrees, so-called tertiary education, while the proportion of those with low secondary education is falling.

The proportion of higher education graduates, however, is somewhat higher in France, with 28.9% compared to 25.1% in Germany

Population (15-64 years old) by education attainment



Source: France Stratégie, based on data from Eurostat

For the 25-to-64-year-old adults, Germany is lagging with 28% of having completed university in 2013, compared with 30.9% in France and 32.6% on average in OECD countries.

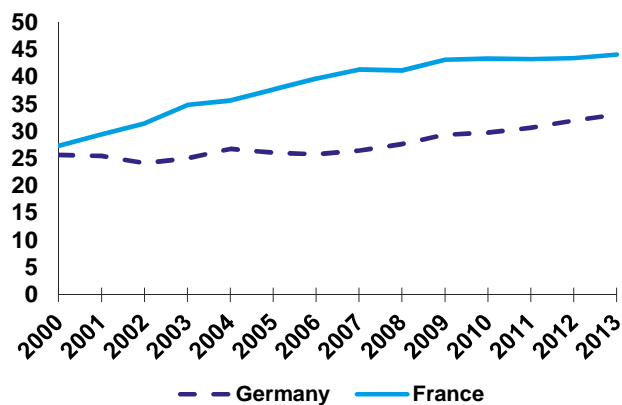
➤ Germany focuses on vocational training

Education systems differ between the two countries, with France focusing on providing higher education to all, while Germany's emphasis is on preparing its youth to specific employment.

Germany has an effective and more prominent system of initial vocational training: of all students in upper secondary education, 48.3% receive vocational education and training, including 42% in the so-called "dual system" of apprenticeship. This compares with only 12% in France.

Massification of tertiary education in France

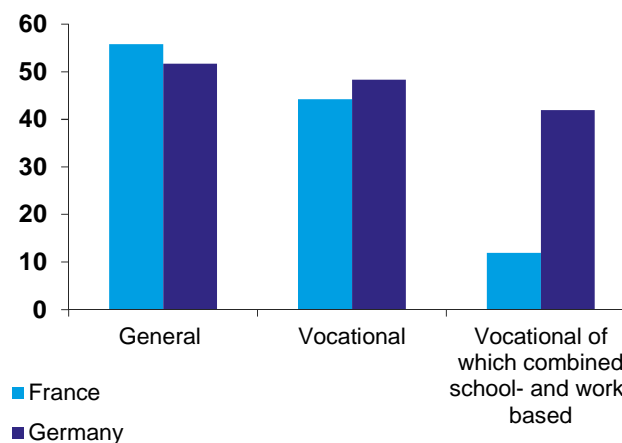
Population (30-34 years old) completing third level education



Source: France Stratégie, based on data from Eurostat

More vocational qualifications in Germany

Upper secondary enrolment patterns (2012)



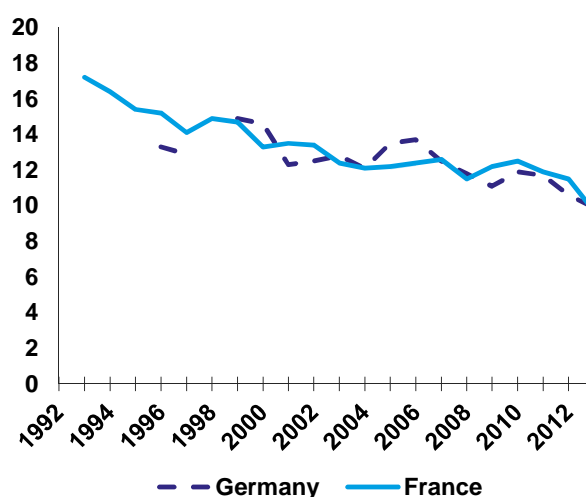
Source: France Stratégie, based on data from OECD, Education at a glance 2014

➤ Common challenges in education

Beyond the progress made in terms of education attainment, more can be done to maintain and make the best use of human capital investments. In fact, both countries face similar challenges such as school drop-out and skills/qualification mismatch. There is also scope for improving the quality and the effectiveness of initial education.

10% of young people still leave early from education

Early leavers from education and training



Sources: France Stratégie, based on data from Eurostat

Unequal level of proficiency of basic skills at school

School performance (PISA)

	PISA 2000	PISA 2003	PISA 2006	PISA 2009	Pisa 2012	Change Score difference
Mean score						
		Mathematics				2003-2012
France		511	496	497	495	-16
Germany		503	504	513	514	11
		Reading				2000-2012
France	505	496	488	496	505	0
Germany	484	491	495	497	508	24
		Science				2006-2012
France			495	498	499	4
Germany			516	520	524	8

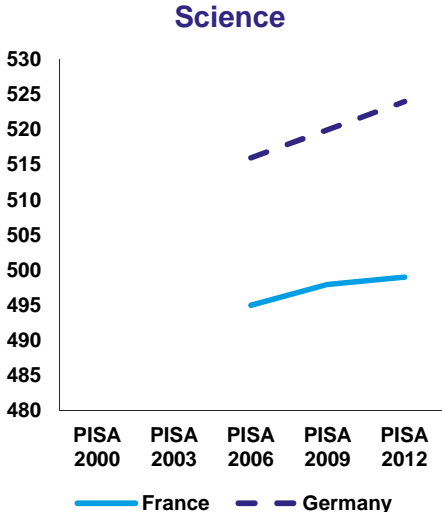
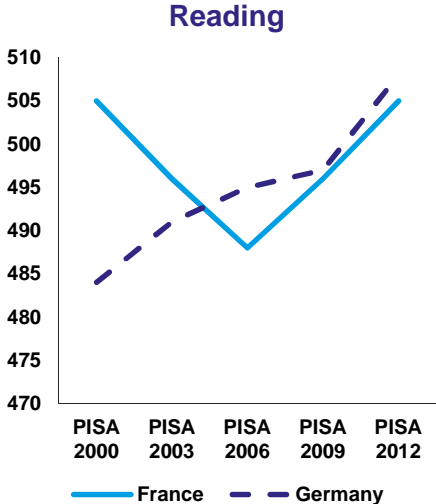
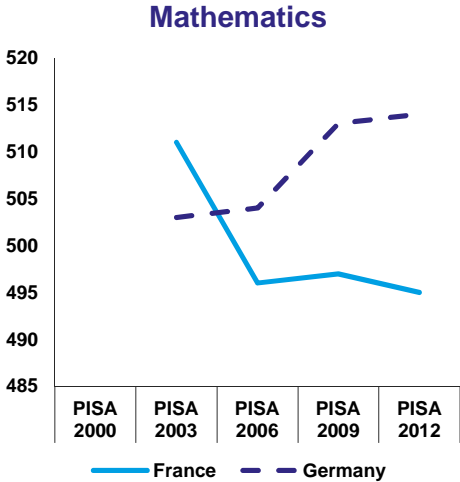
Sources: France Stratégie, based on data from PISA-OECD

School performance indicators show France was doing better than Germany in mathematics and reading in 2000 and 2003. In the first PISA reading test, Germany scored an average of 484 points, compared with 505 in France. The OECD average was 500, topped by Finland with 546 points. The 2000 PISA test also revealed a higher correlation between a student's achievement and its family's socio-economic status in Germany than in any other OECD country.

Following this so-called “PISA shock”, Germany undertook significant reforms in its schooling system, including expanding the availability of pre-school for children under three, strengthening the educational content of pre-school programs, lengthening the school day and introducing extra-curricular activities. These changes proved successful as reflected in the subsequent PISA tests. Germany scored on average better than France in mathematics and reading in 2006, 2009 and 2012. School performance also improved over the period in Germany, especially in reading, while in France it remained stable (reading) or declined (mathematics).

In science, Germany is more than 20 points ahead of France, and the gap has been rising. Besides, the relationship between the socio-economic background of students and their performance was stronger in France than Germany in 2012.

Unequal level of proficiency of basic skills at school School performance (PISA)



Sources: France Stratégie, based on data from PISA-OECD

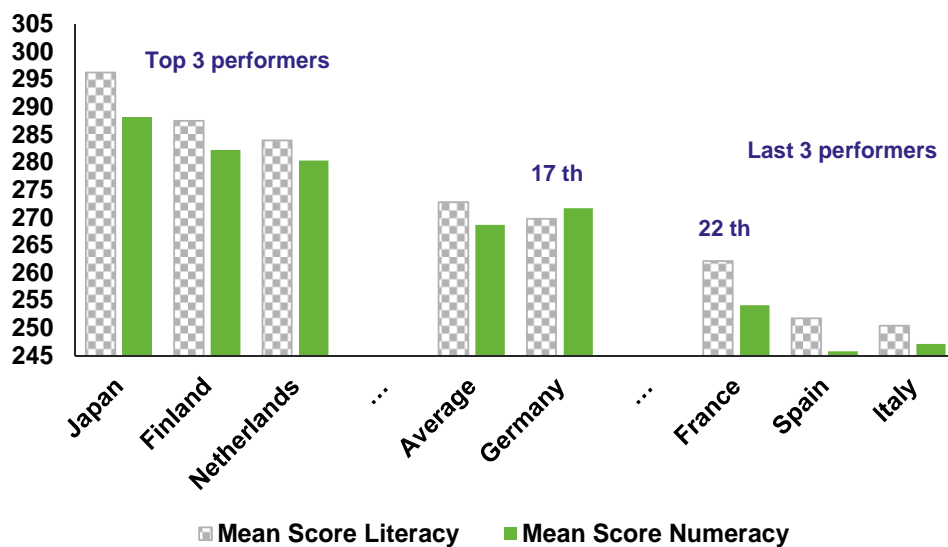
➤ Adults lack skills, especially in France

One in five European adults has only basic skills in literacy and numeracy in spite of important progress in terms of educational attainment, according to the recent OECD Survey of Adult Skills (PIAAC), which is based on 24 countries. As in most of countries, a relatively large proportion of working-age adults (aged 16-65) in Germany and France have poor literacy, numeracy and problem-solving skills.

Some 17.5% and 21.6% of German and French adults respectively attain only Level 1 or lower in literacy. The average for all countries was 15.5%. Only 10.7% achieve the highest levels of proficiency in literacy (Level 4 or 5) compared with an average of 11.8% for all countries and far from Japan, Finland and the Netherlands. It is even worse in France with only 7.7% reaching Level 4 or 5.

Around 20% of adults in Germany and France have poor literacy skills

Mean literacy and numeracy proficiency, adults (PIAAC)

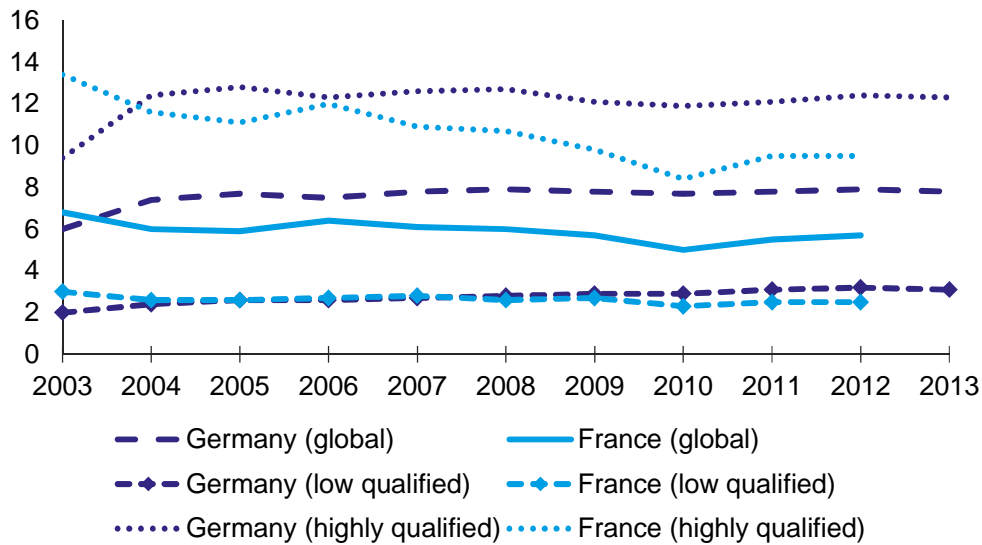


Source: France Stratégie, based on data from PIAAC, OCDE, 2013

The participation rate to vocational training is higher in Germany than in France, but in both countries access to training for low-skilled workers is an issue: the more an employee is qualified, the more he or she has access to continuous vocational training.

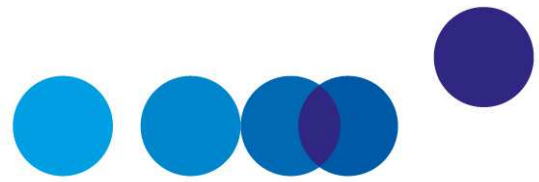
Insufficient lifelong learning participation to maintain and even more to adapt skills over time

Percentage of persons in employment (15-64 years) who attended events of continuing vocational training in the last 4 weeks in all persons in employment



Source: France Stratégie, based on data from Eurostat, Labour Force Survey

Lifelong learning is a more a reality in Germany than it is in France. Some 53% of adults seek further education or receive training as part of their job in Germany against 35.7% in France in 2012. Access to formal education is also much higher in Germany where training is mainly non-formal and work-related.



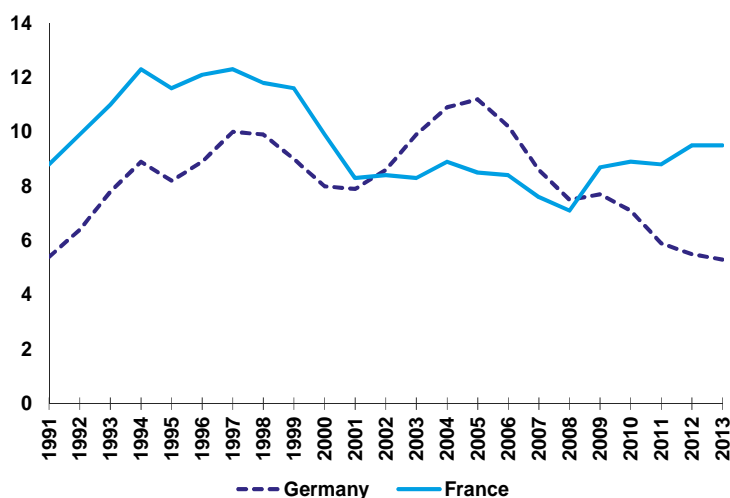
Labour market

➤ Germany has more people in jobs

Unemployment has steadily declined in Germany since the mid-2000s, reaching 5.3% for the 20-64 age group in 2013. In the meantime, unemployment has never been lower than 7% in France.

The gap in unemployment between France and Germany has widened since the financial crisis, with Germany bringing back its unemployment rate below 6%, the lowest seen the early 1990s.

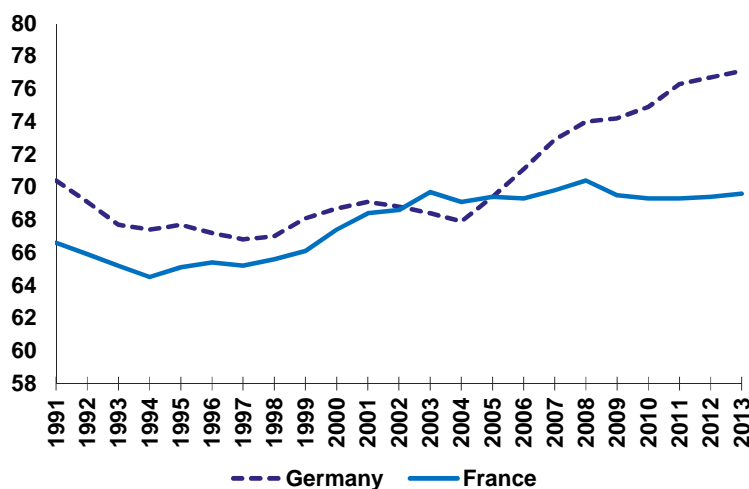
Unemployment rate (20-64), %



Source: France Stratégie, based on data from Eurostat, European Union Labour Force Survey

At 77.1% in 2013, the employment rate in Germany is also higher than in France (69.6%).

Employment rate (20-64), %

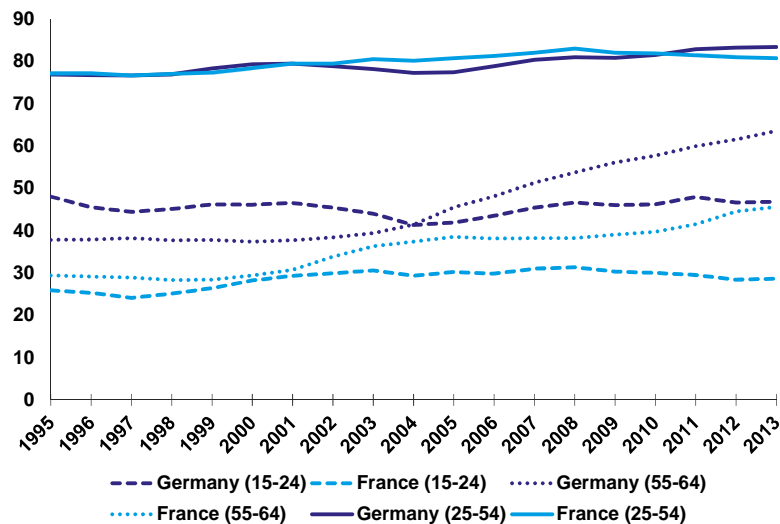


Source: France Stratégie, based on data from Eurostat, European Union Labour Force Survey

The difference in employment rates between the two countries is largely explained by the differences in employment rates at the two end of the age distribution: for the youth (15-24) (on youth employment / unemployment, see next section “Done with school, the transition is smoother in Germany”) and for senior workers (55-64). For the core of the workforce (25-54), employment rates are almost similar.

Employment rates

By age groups

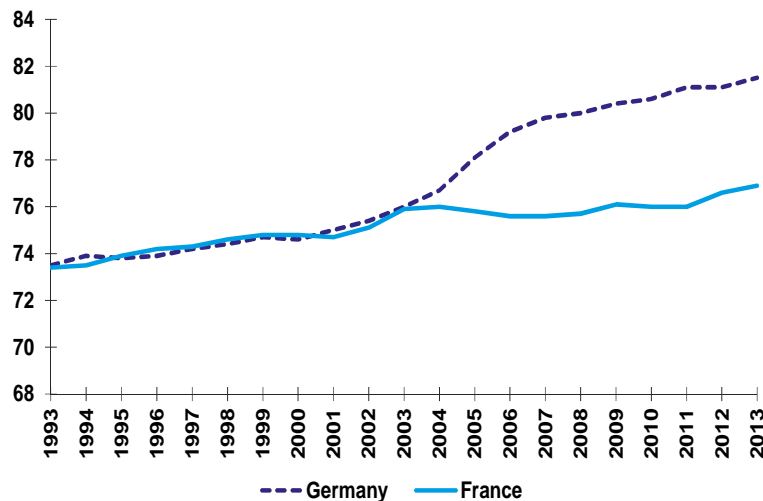


Source: France Stratégie, based on data from Eurostat, European Union Labour Force Survey

While activity rates used to be similar before 2003, participation has significantly increased in Germany since then, while it has more or less stagnated in France.

Activity rates

(20-64), %



Source: France Stratégie, based on data from Eurostat, European Union Labour Force Survey

All three indicators show Germany is doing better than France, and its labour market situation has noticeably improved since the mid-2000s. Germany's labour market has also proved resilient during the crisis, with none of those indicators markedly deteriorating.

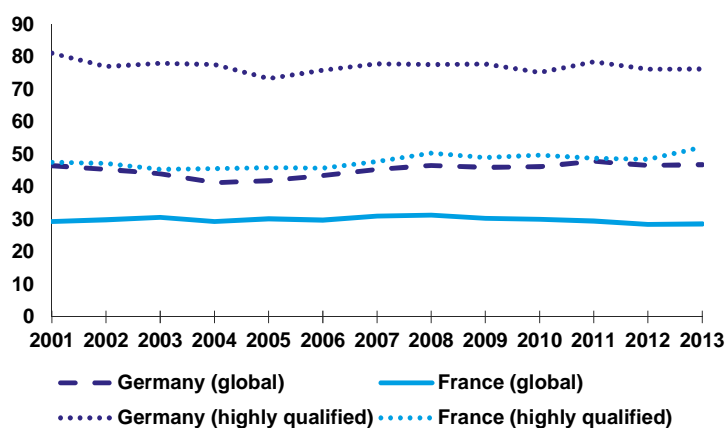
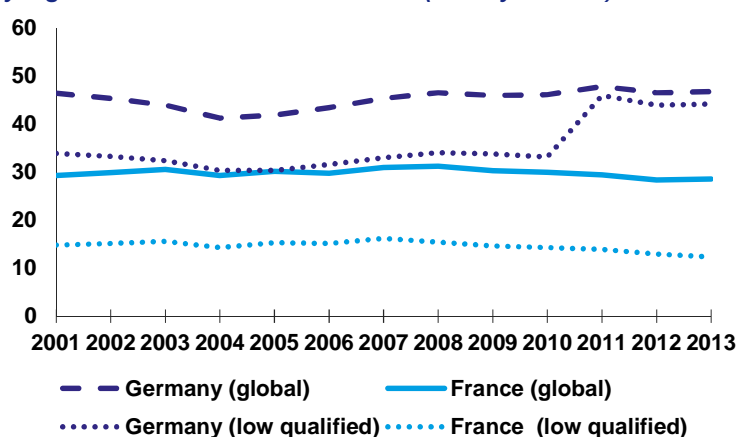
➤ Done with school, the transition is smoother in Germany

There are strong discrepancies between France and Germany, in particular regarding youth employment rate and unemployment rate, especially since the Great Recession. These differences are not only related to employment performances but also to the structure of the education system.

Youth employment rate is 18 points higher in Germany than in France. The gap is more than three times bigger for the low qualified. However, this discrepancy should be qualified by the fact that there is a higher proportion of young German combining education and employment than in France.

Youth employment: a bigger problem in France

Employment rates by highest level of education attained (15-24 years old)

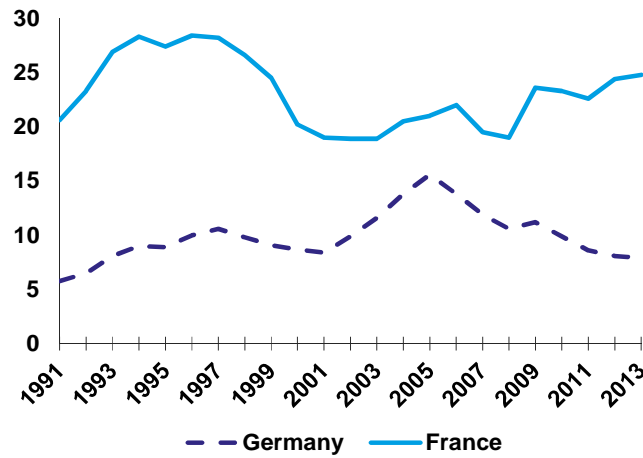


Source: France Stratégie, based on data from Eurostat, Labour Force Survey

Unemployment among the youth reached a new record of 23.5% in 2013 in Europe, more than twice as high as the adult rate, with some 5.7 million young people affected. Here again, youth unemployment was below 8% in 2013 in Germany, compared with about 25% in France.

Youth unemployment: Germany top performer in EU28, France above average

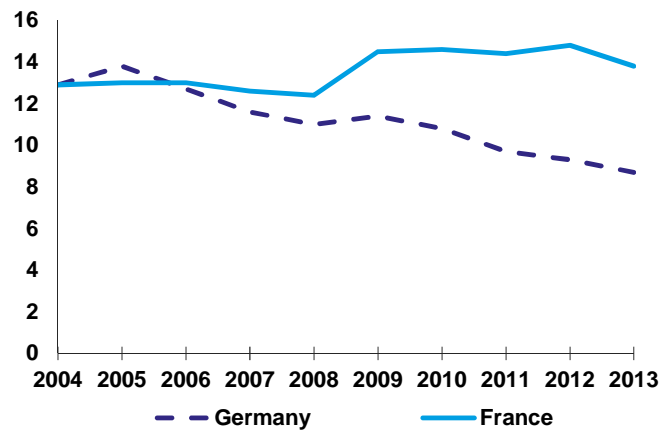
Youth unemployment



Source: France Stratégie, based on data from Eurostat, less than 25 years old

NEET: Declining in Germany, higher in France

Young people not in employment and not in any education and training (NEET)



Source: France Stratégie, based on data from Eurostat

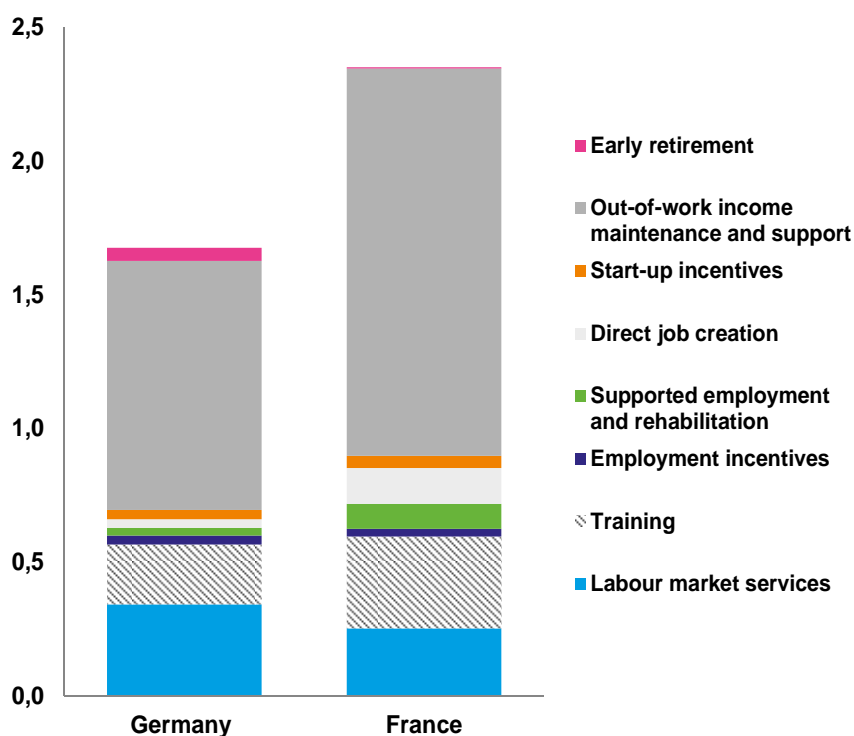
In Germany, the number of young people not in education, employment or training (NEET) is very low: in 2013, only 8.7% of people aged 15 to 29 fell under this definition, thanks to the country's system of apprenticeship, compared with 13.8% in France.

➤ Public spending: higher in France, more targeted in Germany

The German government is allocating more from its budget on labour market policy interventions to active labour market policies (ALMP) and labour market services since 2000. The share of labour market spending going to labour market services and active policies has increased by 2 percentage points between 2000 and 2012, while it dropped 8pp in France. This is partly explained by the higher unemployment rate in France, which leads to more spending on benefits.

Labour market policy expenditures

2012 (% of GDP)



Source: France Stratégie, based on data from Eurostat, Directorate general Employment

General exemptions of social contributions on low wages for employers have also been at the core of France's strategy to boost employment since the 1990s, amounting to almost 1% of GDP in 2012. Since 2012, the government has committed to spend an additional 1% of GDP in labour cost reduction in the form of the so-called "tax credit for competitiveness and employment" (CICE)¹. This policy has no equivalent of the same magnitude in Germany.

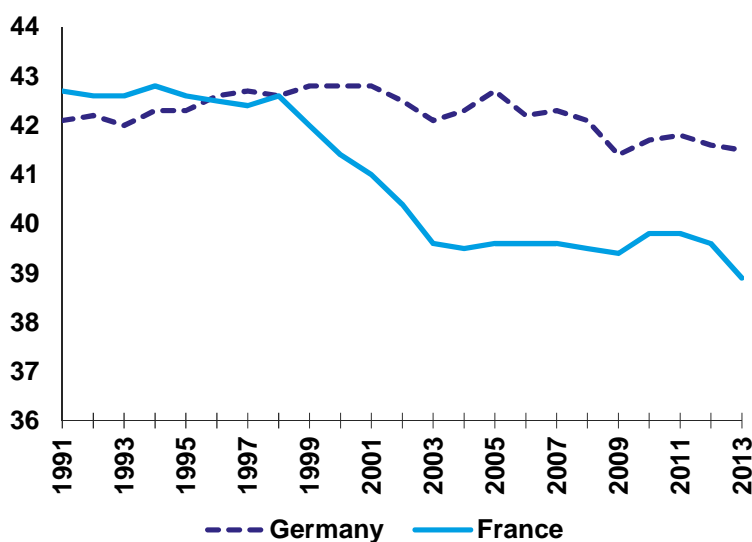
(1) For 2013, the first year of effective implementation of the CICE, it is estimated that the cost will be of about 12 billion euros, slightly over 0,5% of the GDP – See CGSP (2014), *Rapport du comité de suivi du CICE 2014*.

➤ The German labour market: more internal flexibility

The decentralization of the process that sets wages, hours and other aspects of working conditions since the 1990s has resulted in more firm-specific regulations in Germany, bringing greater flexibility in the labour market². Labour market adjustments during the economic crisis were partly achieved by reducing working hours.

According to Eurostat data, full-time workers on average work more per week in Germany than in France, although available data on working time should be considered very carefully due to various methodological issues³. Considering the greater proportion of part-time workers in Germany (26.2% compared with 18.1% in France in 2013, according to Eurostat), however, the average number of actual weekly hours of work for all workers tends to be slightly higher in France. Still, these conclusions should not be extrapolated as the total annual volume of hours worked should also take into account non-worked weeks (annual paid leaves, national holidays, etc.).

Average number of actual* weekly hours of work in main job, full time workers



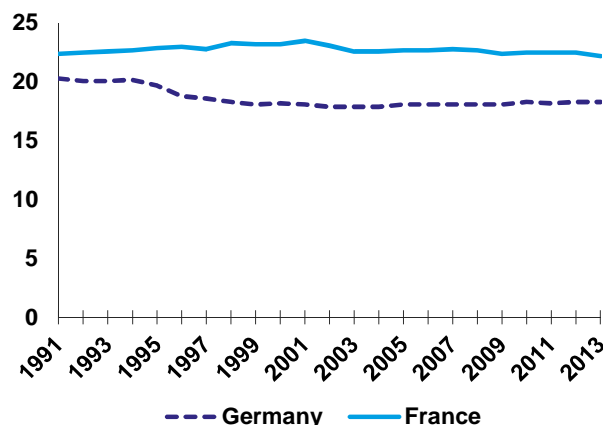
* The number of hours actually worked during the reference week covers all hours including extra hours regardless of whether they were paid or not.

Source: France Stratégie, based on data from Eurostat, Labour Force Survey

(2) See notably Dustmann *et al.* (2014), *From sick man of Europe to economic superstar: Germany's resurgent economy*; Schulten T. and Bispinck R. (2014), "Wages, collective bargaining and economic development in Germany. Towards a more expansive and solidaristic development?", WSI Diskussionspapier N°191.

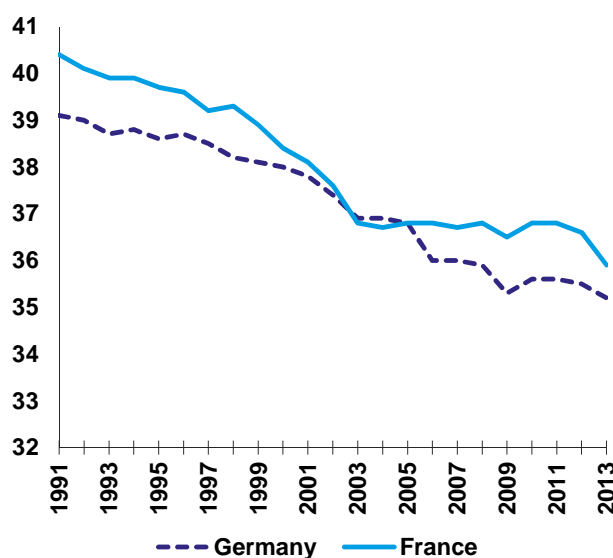
(3) See COE-Rexecode (2012), « La durée effective de travail en France et en Europe », Document de travail n°29 et COE-Rexecode (2014), « La durée effective du travail en France et en Europe. Résultats de 2013 et mise à jour de l'étude de janvier 2012 », Document de travail n°49 ; Chagny O. (2012), « La durée du travail en France et en Allemagne : que penser de la comparaison internationale proposée dans un document de janvier 2012 publié par COE Rexecode ? », Billet du CEP, janvier ; DARES (2013), « La durée de travail des salariés à temps complet », *Dares Analyse* n°47, juillet. – The average annual effective working time of employed persons can be estimated from two main sources : the Eurostat LFS or National Accounts. Yet, in the framework of a French / German comparison, both data sets have their limitations. National accounts were not constructed for comparative purposes. Hence, as the OECD underlines, "National accounts data are intended for comparisons of trends over time; they are unsuitable for comparisons of the level of average annual hours of work for a given year, because of differences in their sources". And the German LFS tends to underestimate workers who are completely absent during a reference week. For these reasons, we present weekly estimates rather than annual effective hours.

Average number of actual weekly hours of work in main job, part-time workers



Source: France Stratégie, based on data from Eurostat, Labour Force Survey

Average number of actual weekly hours of work in main job, all workers



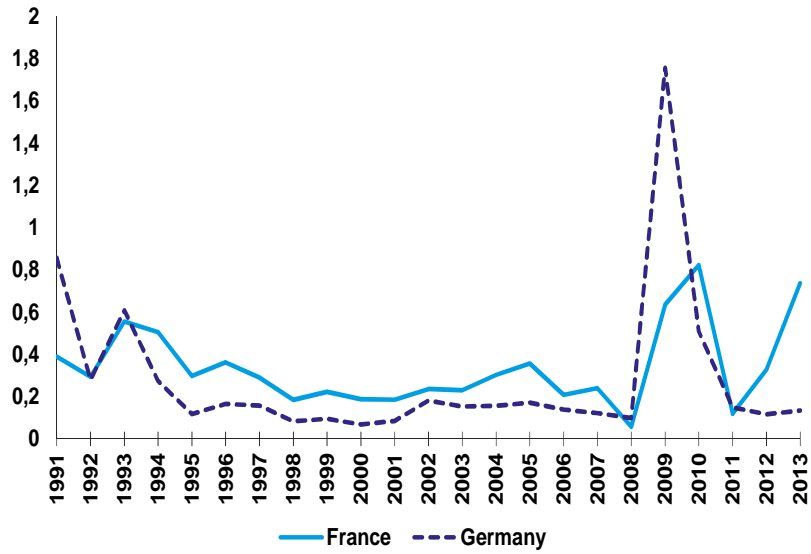
Source: France Stratégie, based on data from Eurostat, Labour Force Survey

These institutional arrangements beyond cyclical and structural factors allowed for greater working time adjustments in Germany during the crisis than in France⁴. The country benefited from a variety of internal flexibility tools: time savings accounts, collectively negotiated Arbeitszeitkorridor, Kurzarbeit and agreements to safeguard jobs among others.

(4) See Fréhaut P. (2012) "Short-time working schemes in France and Germany: how do they differ?", Trésor-Economics, No. 107. "The cyclical demand shock was sharper in Germany. Moreover, pre-crisis corporate finances were strong, skilled labour was in short supply, and the share of industrial employment in total employment was larger than in France. Germany employers therefore had a greater incentive to retain labour in the prospect of a rapid upturn".

Share of economic short-time workers* in employment

%



* Economic short-time workers comprise workers who are working less than usual due to business slack, plant stoppage, or technical reasons (note: definitions are not harmonised, which hampers cross-country comparisons). Estimates are derived from national Labour Force Surveys.

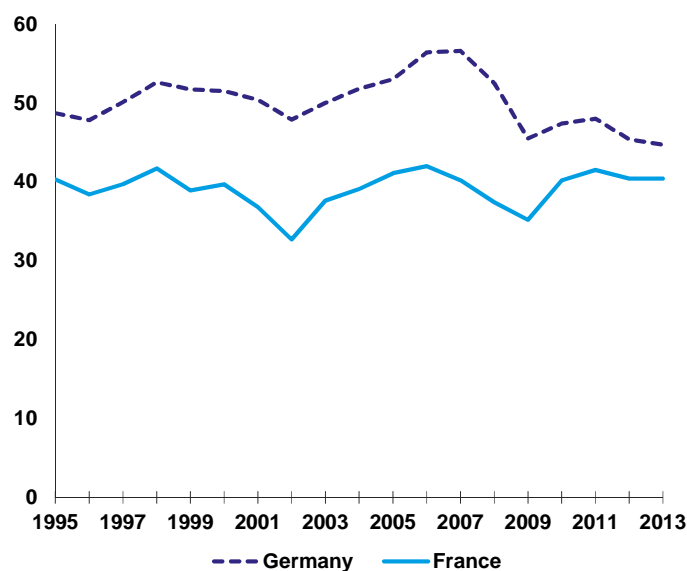
Source: *France Stratégie*, based on data from *OECD, Labour Force Statistics*

➤ Common challenges regarding the labour market

Long-term unemployment is a concern in both countries, even though France and Germany have on average less long term unemployed as a proportion of total unemployment than the EU. At 44.5%, the share of long-term unemployment in Germany⁵ is still higher than in other Member States with low unemployment rates. In France, it remains stable in the long run at about 40% since the 1980s⁶. There is scope for using this untapped labour in both countries.

Share of long term unemployment

Percentage of total unemployment



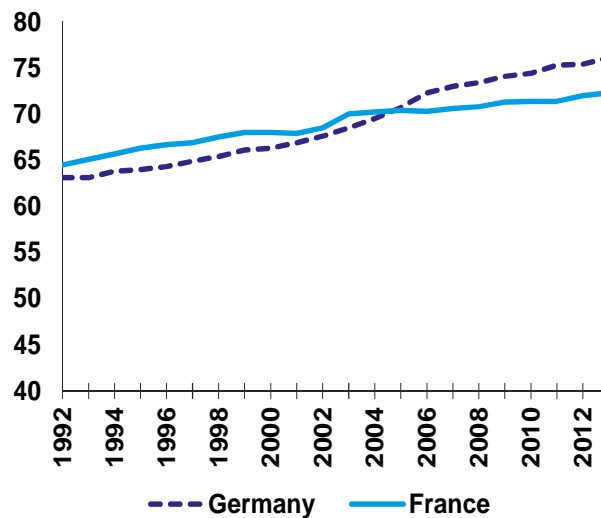
Source: France Stratégie, based on data from Eurostat, Labour Force Survey.

While the participation rate of women has been higher in Germany on average since the mid-2000s, getting more women into jobs remains a challenge in the country given the relatively high share of women who work part time.

(5) See Germany National Reform Programme (2014), Federal Ministry for Economic Affairs and energy.

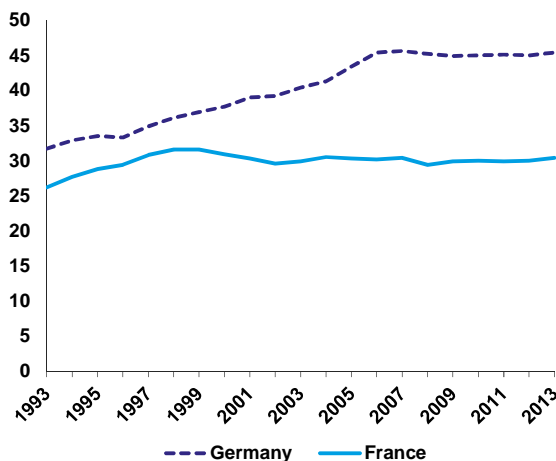
(6) See Conseil d'orientation pour l'emploi (2011), *Le chômage de longue durée*.

Activity rate of women (20-64)



Source: France Stratégie, based on data from Eurostat, Labour Force Survey

Share of women part time work Percentage of total women employment



Source: France Stratégie, based on data from Eurostat, Labour Force Survey

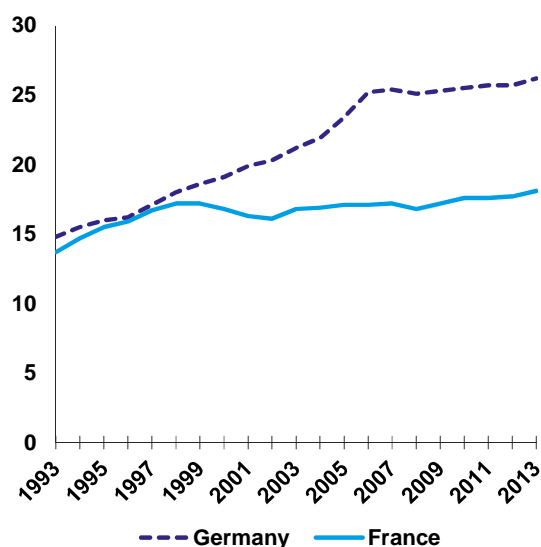
Concerns about the dualization of the labour market

In both countries, there has been growing attention to the issue of labour market segmentation in recent years. In Germany especially, there are concerns that the expansion of employment may have happened at the expense of wages and jobs quality⁷. It is argued that, beyond structural and cyclical factors also at play, the Hartz reforms (notably the mini-jobs reform) and the decentralization of the wage-setting process may have aggravated the duality of the labour market by permitting the non-standard, low-paid forms of employment to grow, therefore allowing greater wage differentiation and inequalities. The share of part-time work, for instance, has risen significantly in Germany since the late 1990s.

(7) See Eichhorst W. and Tobsch V. (2014), "Not so standard anymore? Employment duality in Germany"; IZA ; Schulten T. and Bispinck R (2014), Ibid.

Share of part time work

Percentage of total employment

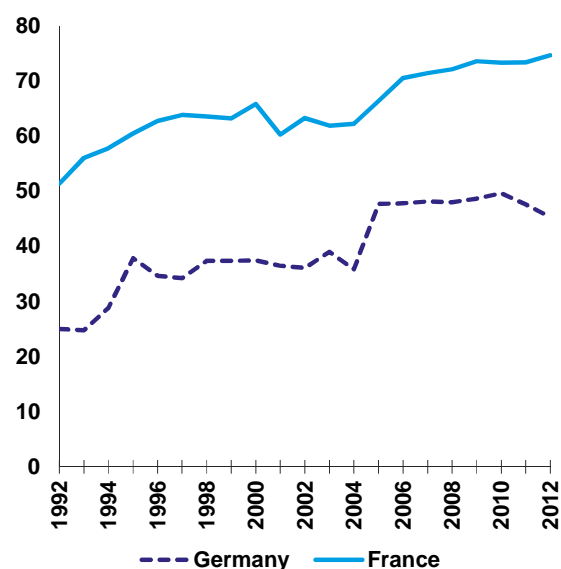


Source: France Stratégie, based on data from Eurostat, Labour Force Survey

The share of fixed term contracts among new hires is lower in Germany than in France. Moreover, it tended to stagnate or decline since 2005 while steadily increasing in France. In France, the growing share of fixed term contracts among new hires can be partly attributed to the shorter duration of these short-term contracts, particularly the increasing number of contracts of less than a month⁸. Permanent contracts, however, are still the norm in France, representing 87% of employees in the competitive sector in 2012.

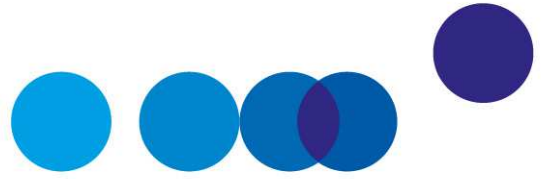
Share of fixed term contracts in new hires

Percentage of employees with no more than three months of tenure



Source: France Stratégie, based on data from Microdata from the European Union Labour Force Survey (EU-LFS)

(8) DARES (2014), « Entre 2000 et 2012, forte hausse des embauches en contrats temporaires mais stabilisation de la part des CDI dans l'emploi ».



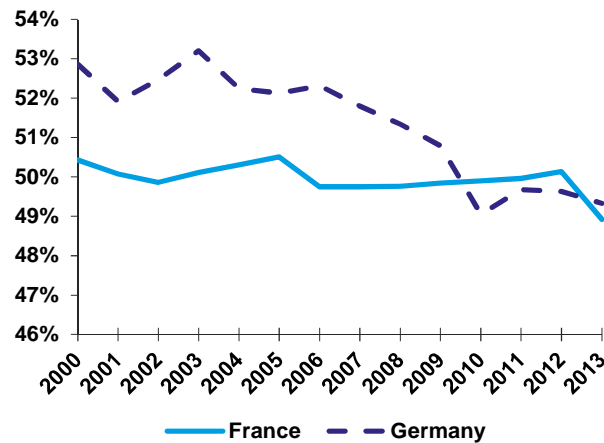
Competitiveness

➤ Tax wedge convergence

The tax wedge is the difference between an employer's labour costs and an employee's net take-home pay, including any cash benefits from government welfare programmes (Eurostat). It measures the total tax burden on labour income.

Tax wedge

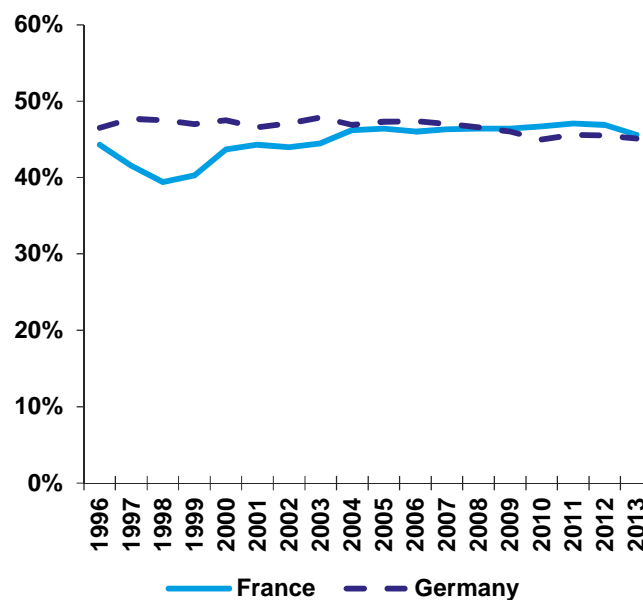
Single person (100% of average earnings)



Source: France Stratégie, based on data from OECD

Tax wedge

Single person (67% of average earnings)



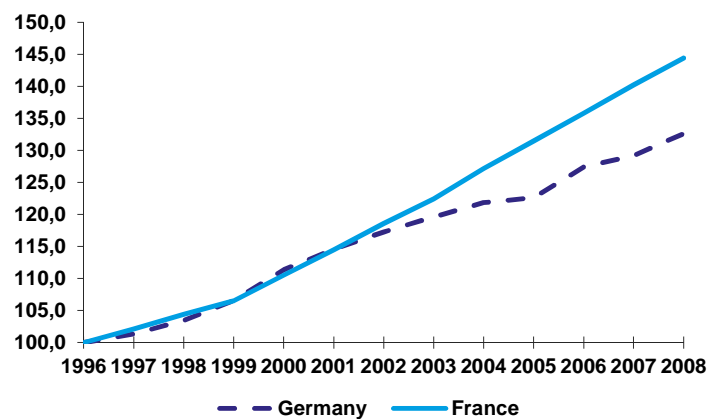
Source: France Stratégie, based on data from Eurostat

➤ Labour cost index: a slowdown in Germany, especially in services

The growth in nominal labour cost index in manufacturing has slowed down in Germany from the beginning of the 2000's. However, since the crisis it has grown at the same rhythm in both countries.

Labour costs are defined as core expenditure borne by employers for the purpose of employing staff for a given unit of time. They include employee compensation, with wages and salaries in cash and in kind, employers' social security contributions and employment taxes regarded as labour costs minus any subsidies received (Eurostat definition). As the classification of activities has changed in 2008 we provide two figures, one up to 2008, the other one from 2008.

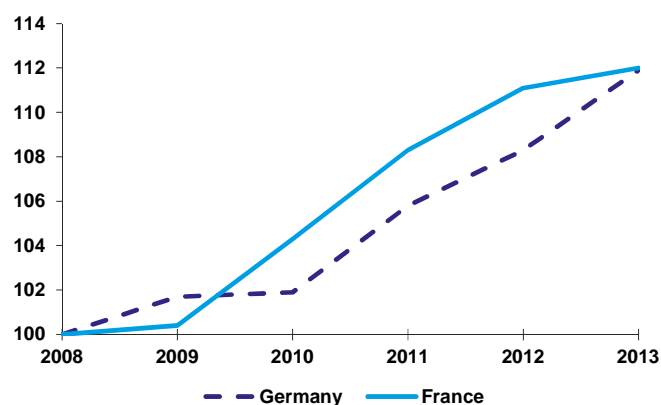
Nominal labour cost index in manufacturing* (1996-2008)



* NACE rev. 1.1 classification.

Source: France Stratégie, based on data from Eurostat

Nominal labour cost index in manufacturing* (2008-2013)



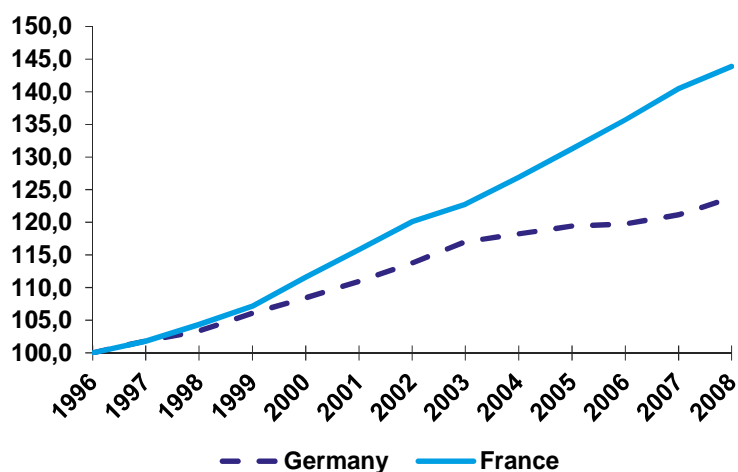
*NACE rev. 2 classification.

Source: France Stratégie, based on data from Eurostat

Whereas the rate of growth in labour cost index in France is fairly constant between 1996-2008, it decreases in Germany from the beginning of the 2000's.

The divergence is even more marked when one looks at labour cost index in services only.

Nominal labour cost index in services* (1996-2008)



NACE rev. 1.1 classification.

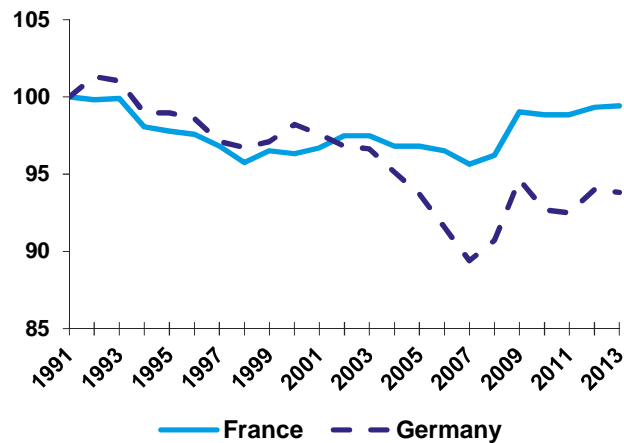
Source: *France Stratégie*, based on data from Eurostat

Nominal labour cost indices do not take into account inflation or gains in productivity. In the following indicator we present the concept of unit labour cost which gives the cost of labour for one unit of output instead of one unit of work time.

➤ Unit labour cost divergence

Unit labour costs (ULC) are costs associated with the employment of labour adjusted for productivity. For example, if the cost of labour and productivity increase at the same rate, ULC remain unchanged. Real ULC indicate whether labour cost growth may create cost pressures within the economy.

Real unit labor cost



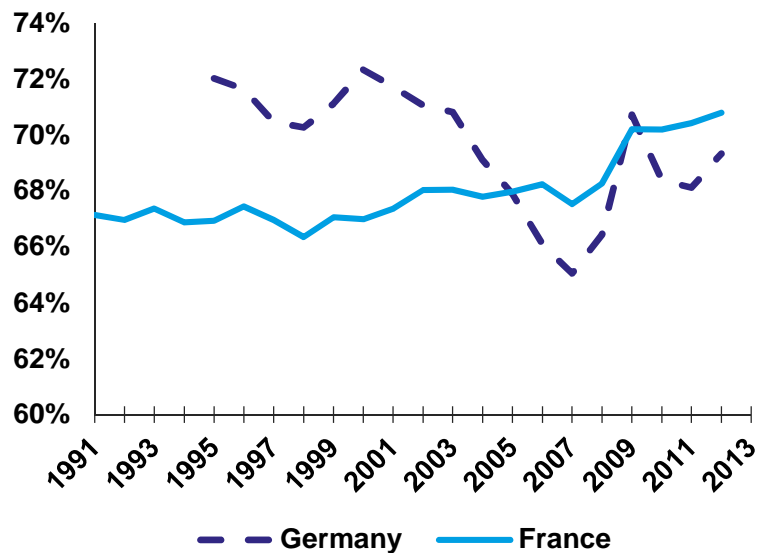
Source: France Stratégie, based on data from Eurostat

Real ULC have dropped significantly in Germany between 2000 and 2007, while they remained fairly stable in France over the period. The rise in real ULC in 2009 is due to a sudden decrease in labour productivity in France and Germany with no offsetting real labour cost adjustment.

➤ Employee compensation

Employee compensation has two main components: wages and salaries; social insurance contributions payable by employers.

Compensation of employees / net value added



Source: France Stratégie, based on data from Eurostat

The share of value added that goes to labour, obtained by dividing employee compensation by net value added, has fallen sharply in Germany between 2000 and 2007, before recovering somewhat. It was broadly stable in France since 1991 and increased from 2007.

The indicator surged during the crisis as compensations have more inertia than output. This is not surprising and fairly mechanical, and should not be interpreted as a structural increase in the share of wages at the expense of profits.

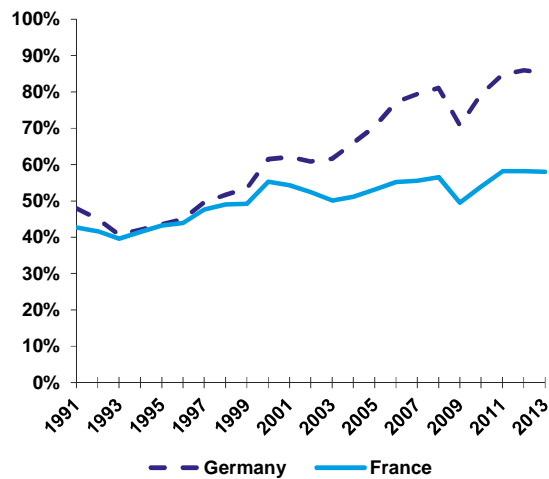
➤ Germany's openness to international trade has increased faster than France's

The rate of trade openness has started to diverge between the two countries at the beginning of the 2000's.

We define the rate of trade openness as the sum of exports and imports of goods and services divided by GDP.

Rate of trade openness

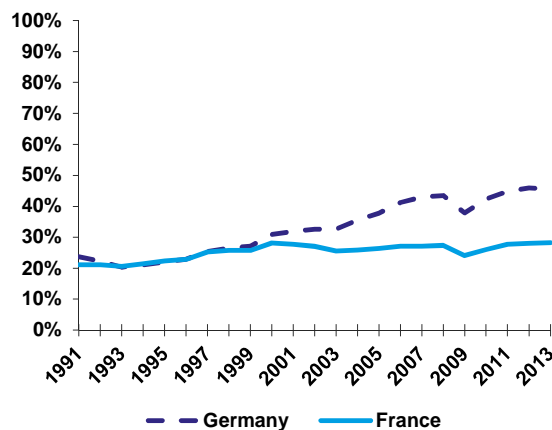
Exports + imports/GDP



Source: France Stratégie, based on data from Eurostat

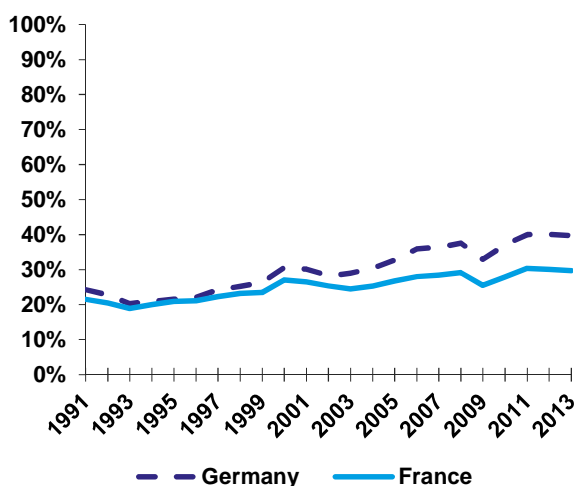
The divergence since the beginning of the 2000's is mainly the result of the increase in German exports and to a lesser extent German imports.

Exports of goods and services/GDP



Source: France Stratégie, based on data from Eurostat

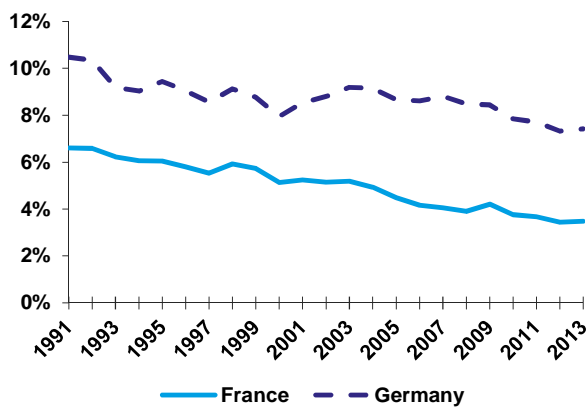
Imports of goods and services/GDP



Source: France Stratégie, based on data from Eurostat

Germany's performance in trade is visible in the fact that its share in total world exports of goods and services has maintained between 2000 and 2009 whereas France's kept declining.

Share in total world exports of goods and services



Source: France Stratégie, based on data from World Trade Organization

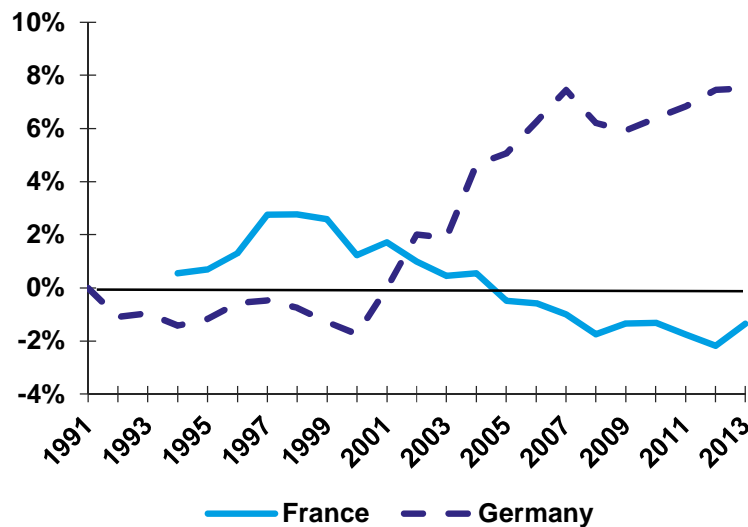
➤ Germany, increasingly a lender to the rest of the world

Germany benefits from an excellent export performance, while France is on a negative trend. France's current account has been in deficit since 2005, while Germany recorded only surpluses in the last decade.

The current account balance is the sum of net exports of goods and services, net factor income (earnings on foreign investments minus payments made to foreign investors) and net cash transfers.

Current account balance

In % of GDP

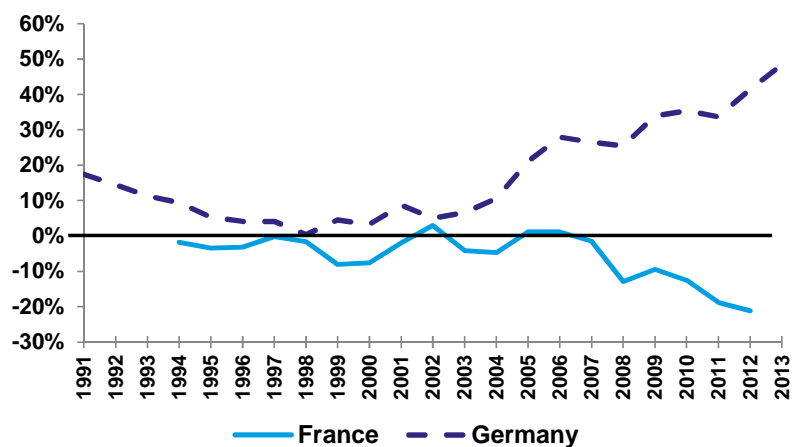


Source: France Stratégie

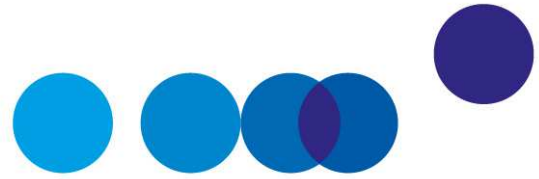
The accumulation of German surpluses means that Germany is a net lender to the rest of the world, while France is a net borrower from the rest of the world.

International investment net position

In % of GDP



Source: France Stratégie



Research and innovation

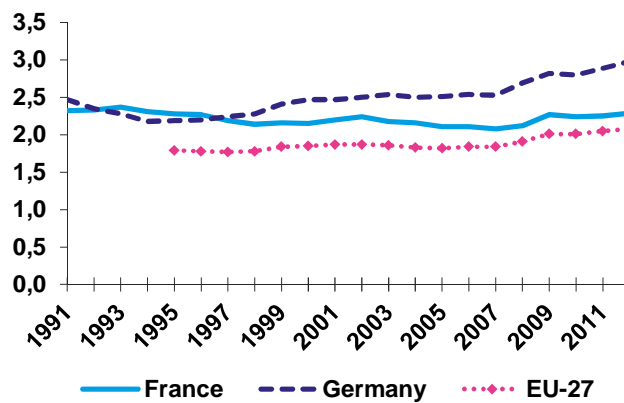
➤ R&D effort: Germany outperforms

The EU had aimed to devote 3% of its GDP to R&D activities by 2010 –an objective set by the so-called “Lisbon strategy” at the beginning of the 1990s. Even though neither Germany nor France made it, Germany eventually achieved that ratio with a short delay.

The overall R&D effort in Germany as a percentage of GDP rose almost steadily since 1994, while it stagnated in France in the last two decades.

Gross domestic R&D expenditure (GERD) in all sectors

Percentage of GDP

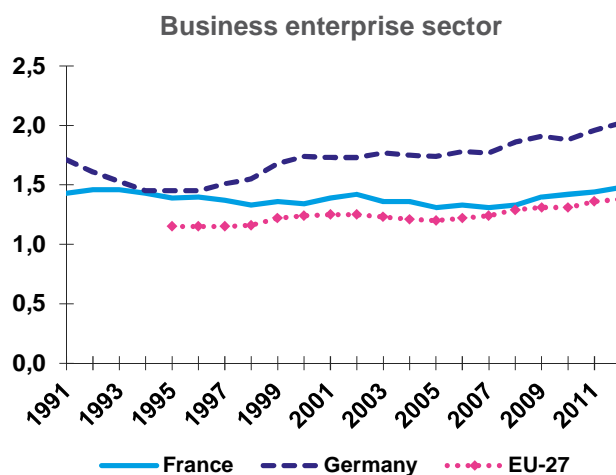


Source: France Stratégie, based on data from Eurostat

The upward trend in Germany was largely triggered by private sector initiatives (business enterprise sector). In this domain, the moderate decline observed in France between 1993 and 2007 is in large part due to the process of de-industrialization, and has reversed since the reform of the research tax credit in 2008.

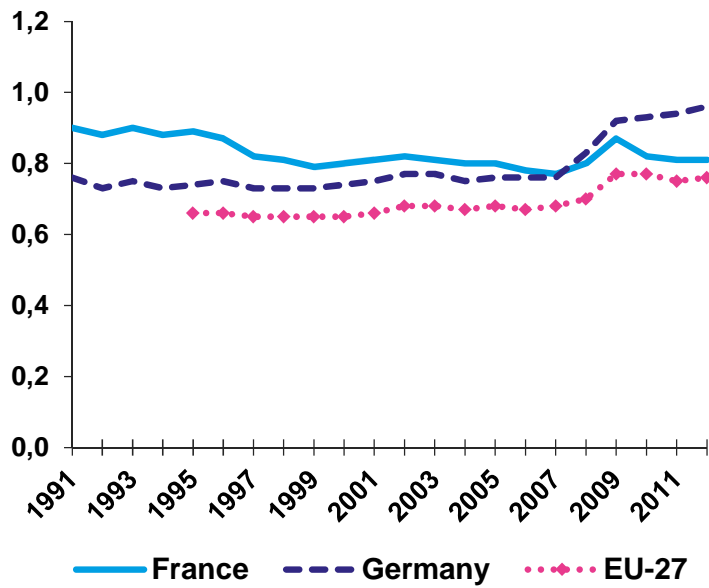
GERD by sectors of performance

Percentage of GDP



Source: France Stratégie, based on data from Eurostat

Government, Higher education and Private non-profit sector



Source: France Stratégie, based on data from Eurostat

In government and higher education sectors combined, R&D has increased in Germany in the last two decades (especially since 2007), while declining in France. The gap between the two countries has widened recently mainly due to government involvement, as R&D efforts at universities have been very similar.

➤ Scientific performance: similar trends

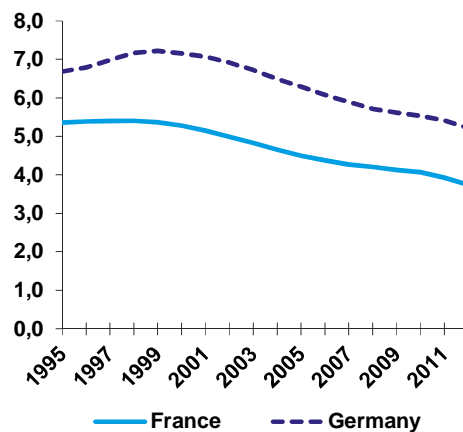
France currently accounts for about 3.5% of the world's international scientific publications – another indicator of research activities – while Germany's share stands at 5%.

The performance of France, however, is less disappointing in this regard than that of Germany, given that their shares in the world total R&D expenditure are around respectively 4% and 9%.

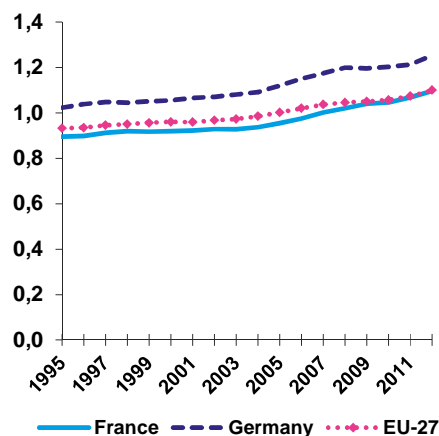
Both countries have seen their share of total scientific journals decline since the mid-1990s, as countries such as Spain and China came up with new publications. The relative decline in this regard has been much more acute in the United Kingdom, for instance.

The quality of this type of publications, measured by the impact index at two years¹, has improved consistently and significantly in the last 15 years in France and Germany, but also in the UK and the EU.

World shares in the number of international scientific publications (in %)



Impact index at two years



Note. Data (publications in the fields of natural and life sciences): WoS and Thomson Reuters.
 Source: France Stratégie, based on data from Observatoire des Sciences et des Techniques (OST)

(1) In any given year, the impact index at two years is the ratio observed for a country between the share of two-year citations (citations received per paper published during the two preceding years) and the corresponding world share for the number of publications.

➤ Patents: declining shares, but higher in Germany

Patent filings show Germany outperforms France, when using data allowing for international comparability². Germany accounts for 8% of global patent applications filed through the international PCT (Patent Cooperation Treaty) process, compared with 4% for France. The respective shares are 11% and 4% for the so-called “triadic patents”.

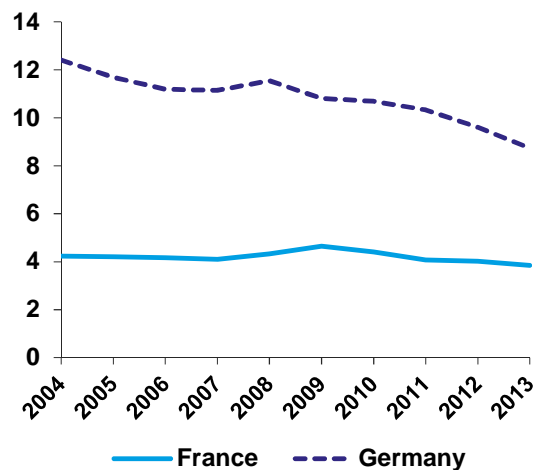
These figures roughly reflect the shares of Germany and France in the world total R&D expenditure, which amount to around 9% and 4% respectively. And, in this regard, most of the gap between the two countries is explained by the fact that the relative weight of the manufacturing industry is larger in Germany than in France.

As for scientific publications and R&D expenditure, Germany and France have seen their share of world patent applications decline in the long run. This trend is also observed in other countries though, such as the UK and Italy.

Patent data give precious indications on countries’ technological performances but different databases must be cross-checked to avoid possible methodological biases³.

World shares of international PCT patent applications

In %



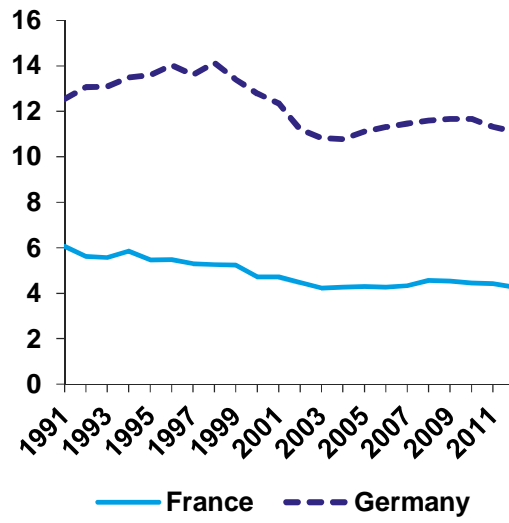
These data are broken down by the country of residence of the first-named applicants.
 Source: *France Stratégie*, based on data from WIPO.

(2) For instance, data emanating from the European patent office (EPO) or the United States Patent and Trademark Office (USPTO) overestimate by construction the relative shares of European countries and, respectively, of the USA. In order to minimise such possible home bias effects, comparative studies often use two kinds of data. The first consists of patent applications made through the international procedure of the Patent Cooperation Treaty (PCT). The second consists of “triadic patent families”. A triadic patent family is a set of patents that cover a single invention but are taken in the three major patent offices (the USPTO, the EPO and the Japanese office).

(3) For instance, differences in patent laws can partly explain why the propensity to patent is much higher than average in countries such as Japan or Germany.

World share of triadic patent families

In %



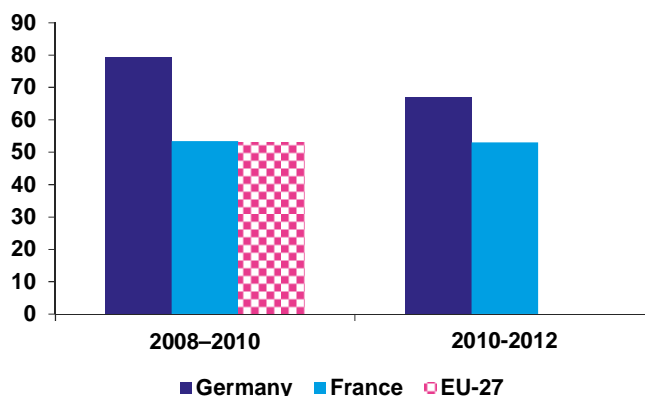
The data are broken down by the inventor(s)'s countries of residence.
 Source: *France Stratégie*, based on data from OECD

➤ A lower propensity of enterprises to innovate in France

In the business enterprise sector, innovation is often based on R&D, but it goes much beyond the sole R&D, as it necessarily involves the implementation of a new idea to the production process or business practices, or its introduction on the market⁴. The proportion of innovative enterprises in France is still much lower than in Germany, but slightly above the average of the EU-27, according to the Community Innovation Survey (CIS). However, the ratio of turnover from product innovation to total turnover seems to have converged between the two countries.

Share of innovative* enterprises

% of the total of enterprises

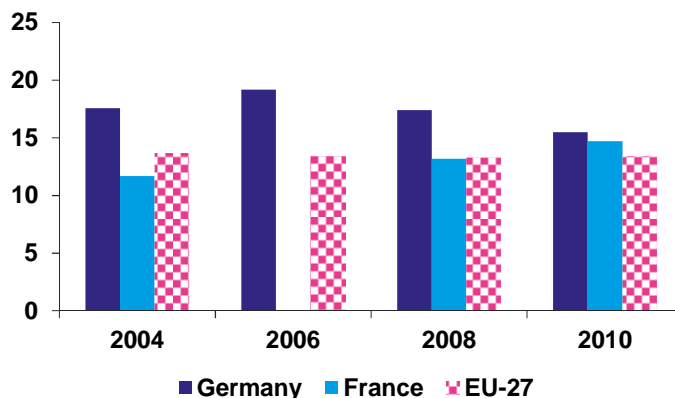


* Enterprises with innovation activity in a broad sense (product, process, ongoing or abandoned, organisational or marketing innovation).

Source: France Stratégie, based on data from Eurostat, INSEE and ZEW

Turnover* from (product) innovation

% of total turnover



* Turnover from products new to the enterprise and new to the market (as a % of total turnover).

Source: France Stratégie, based on data from Eurostat

(4) In Europe, the Community innovation surveys (CIS) constitute the most comprehensive source on this issue, despite persistent problems of comparability between the different countries and time periods considered. Only the last two surveys (CIS 2010 and CIS 2012) contain information on innovation in a broad sense: technological innovation (product and/or process innovation) and/or non-technological innovation (organisation and/or marketing innovation). The previous surveys cover only technological innovation.

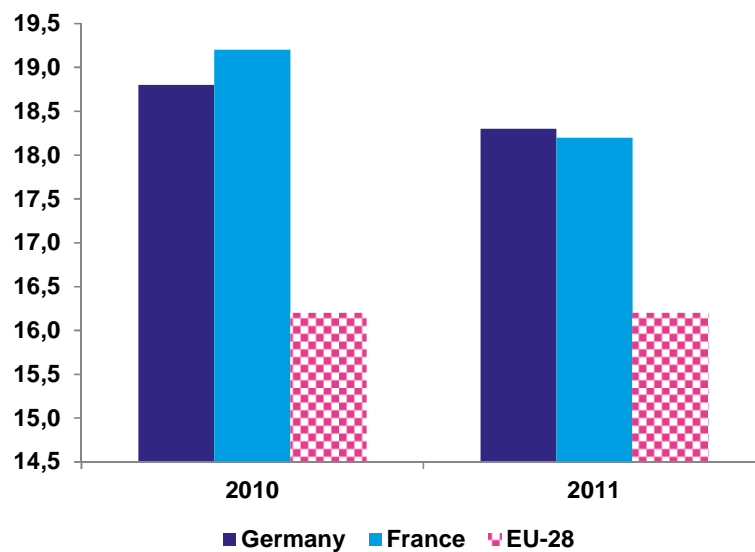
➤ France tops start-up ranking

Other indicators help to complete the picture on innovation, notably the capacity of businesses to regenerate. France ranks favorably in Europe –roughly on par with Germany–, in terms of the share of fast-growing firms in innovative sectors as a percentage of total employment, a new indicator by the European Commission⁵. The capacity of Germany and France to transform their respective economies rapidly was significantly above the EU-28 average in 2010 and 2011.

Another ranking by consulting firm Deloitte, published annually, shows France is the country with the most companies in the top 500 fastest-growing start-ups in the EMEA region comprising Europe, the Middle East and Africa over the 2010-13 period, followed by the UK.

Germany by contrast was 7th in 2013, a ranking which reflects in part the lack of adequate framework for the financing of start-up companies: Germany is only the third-largest market for venture capital in Europe, after the UK and France.

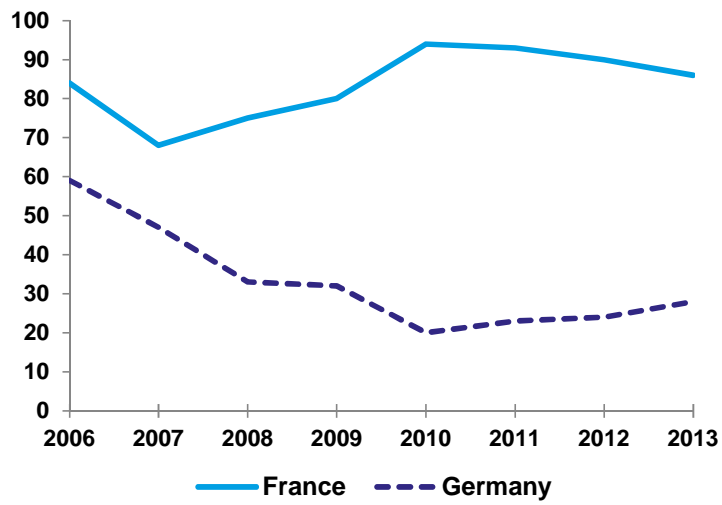
Employment in fast-growing enterprises in innovative sectors % of total employment



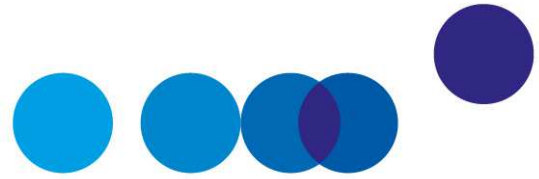
Source: France Stratégie, based on data from « Innovation EU Scoreboard 2014 ».

(5) The indicator features in the last version of the Innovation EU Scoreboard published by the European Commission. The numerator is defined here as the sum of sectoral results for the employment in fast-growing enterprises by economic sector multiplied by the innovation coefficients of these sectors. Fast-growing enterprises are defined as firms with average annualised growth in employees of more than 10 % a year, over a three-year period, and with 10 or more employees at the beginning of the observation period. As for the denominator, it corresponds to the total employment in fast-growing enterprises in the business economy (without financial sector).

Country ranking of fast-growing technology companies



Source: France Stratégie, based on data from Deloitte Technology Fast 500 EMEA (Europe, Middle East and Africa) ranking; several editions.

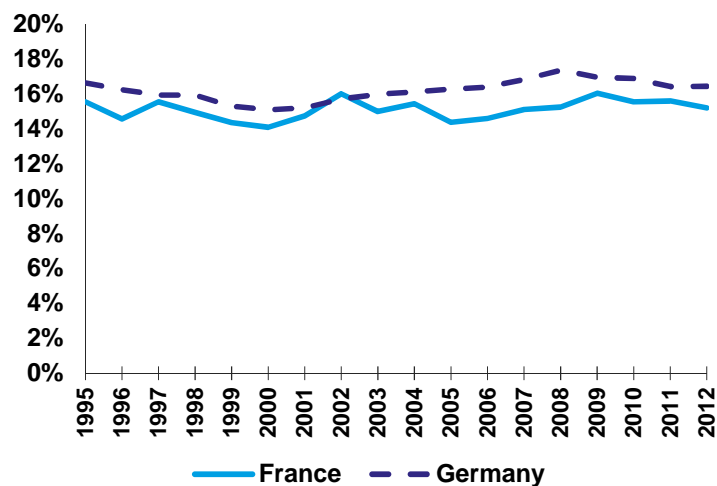


Savings – Investment

➤ Germany saves, but investments don't follow

The gross saving rate of households is defined as gross saving divided by gross disposable income (adjusted for the change in the net equity of households in pension funds reserves). Gross saving is the portion of gross disposable income that is not spent as final consumption expenditure.

Households saving rate

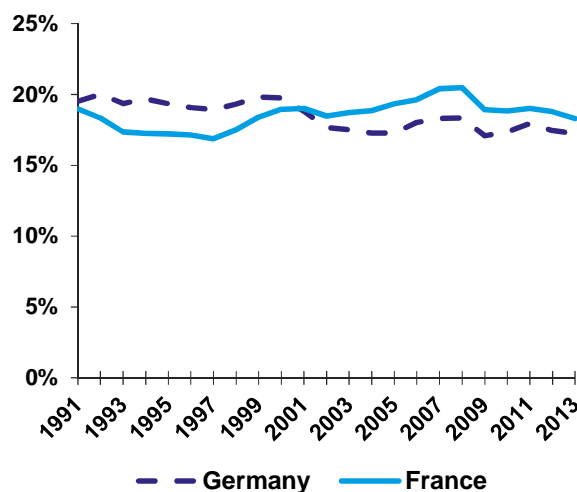


Source: France Stratégie, based on data from Eurostat

Both countries have high saving rates but German savings are less directed towards domestic equity to fund investment. In the 2003-10 period, around two thirds of German net savings left the country.

Investment rate

Gross fixed capital formation/GDP

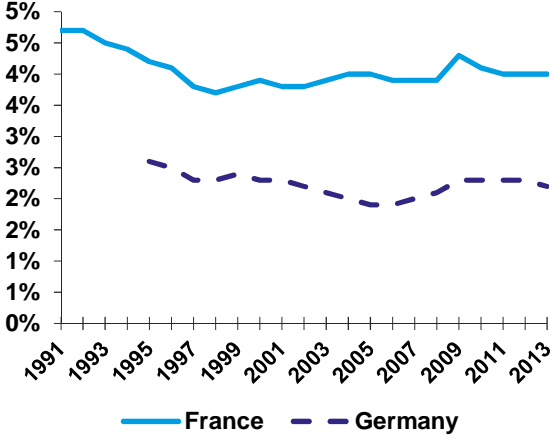


Source: France Stratégie, based on data from Eurostat

Despite this high saving rate, Germany's investment rate, measured as gross fixed capital formation divided by GDP, has steadily decreased. Public investment stayed low in the period, suggesting the decline was mostly due to private investment.

Public investment rate

General government gross fixed capital formation /GDP



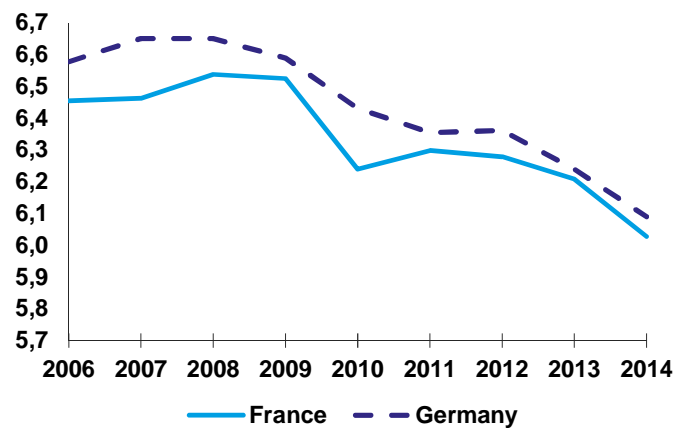
Source: France Stratégie, based on data from Eurostat.

➤ Infrastructure quality hurt by the crisis

The perceived quality of infrastructure, as assessed by the World Economic Forum and including transport, electricity and telecommunications, fell consistently in both countries after the crisis. In 2014, Germany ranked 7th worldwide and France 8th.

Perceived infrastructures quality

From 1 to 7, with 7 the highest quality

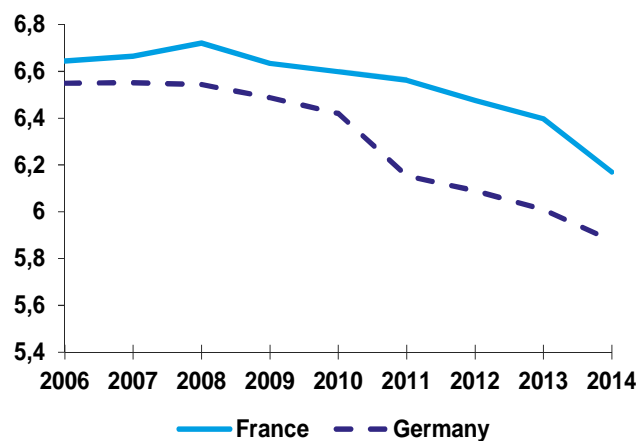


Source: France Stratégie, based on data from World Economic Forum.

Looking at roads, for instance, it appears that quality has declined a little faster in Germany.

Perceived roads quality

From 1 to 7, with 7 the highest quality



Sources: France Stratégie, based on data from World Economic Forum.

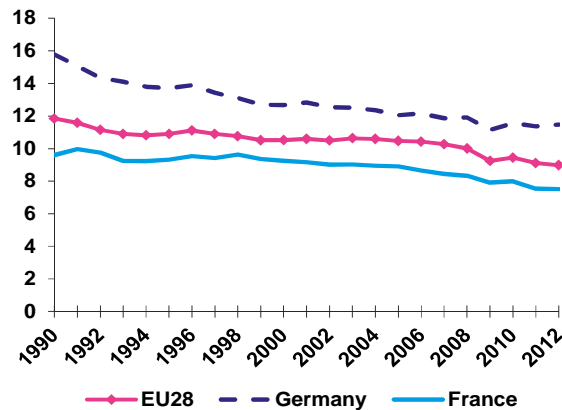
However other surveys, on slightly different scopes and fields, can give different results about quality of infrastructure. For instance, the Logistics Performance Index surveys conducted by the World Bank in partnership with actors engaged in international logistics shows that trade and transport-related infrastructures have rather improved since 2007 in Germany as in France. Whatever the survey used, methodology must be closely examined to vindicate an assessment of infrastructure quality.

➤ GHG targets: France on track, not Germany

French greenhouse gas (GHG) emissions are well below Germany's mainly due to a low carbon electricity generation, whether measured per capita or per unit of GDP.

Total greenhouse gas emissions per capita

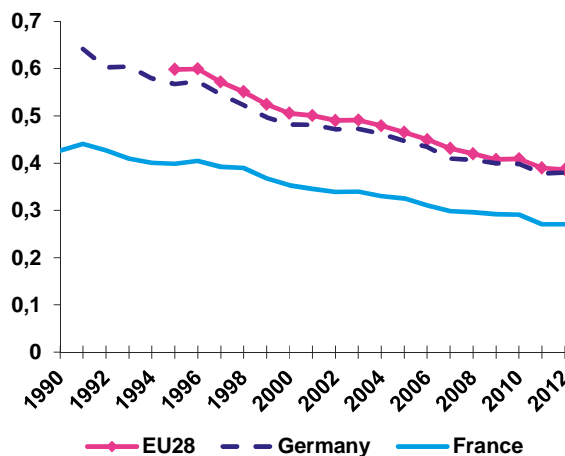
Teq CO₂/cap



Sources: France Stratégie, based on data from European Energy Agency, Eurostat

Greenhouse gas emissions intensity of GDP

Kg eq. CO₂ per euros 2005



Sources: France Stratégie, based on data from European Energy Agency, Eurostat

Greenhouse gas emissions in Germany accounted for 20.6% of total European emissions in 2012, compared with only 10.6% for France. This is considering that Germany contributed 21% to EU-28's GDP compared with 15.4% for France in 2012. Germany, however, has curbed its emissions by 23% since 1990 compared with 11% in France. In twenty years, the emission intensity (i.e. ratio of greenhouse gas emission to GDP) has been reduced by 37% in both countries, or 2.3% per year.

France and Germany have a target of 14% reduction by 2020 relative to 2005 levels for GHG emissions that are not covered by the EU's emission trading scheme (ETS), which makes up about 45% of EU greenhouse gas emissions¹. According to the latest estimates from the European Environmental Agency (EEA)², France has already reduced its non-ETS emissions by 9% in 2013 and should over achieve its 2020 objective, whereas Germany has only cut non-ETS emissions by 4%. German emissions have actually grown since 2009, suggesting the country will hardly achieve its target if no new measures are taken.

(1) In the context of its commitments and the negotiations at international level, the EU has adopted a domestic target of 20% reduction of total GHG emissions by 2020 from 1990 levels, which is equivalent to a 14 % reduction compared to 2005 levels. The climate and energy package adopted in 2009 divided the 14 % reduction objective in two sub-targets: a 21 % reduction target compared to 2005 for emissions covered and a 10 % reduction target compared to 2005 for the remaining non-ETS emissions. This objective has been divided between countries under the "Effort Sharing Decision"

(2) EEA (2014), Trends and projections in Europe 2014, Tracking progress towards Europe's climate and energy targets for 2020, EEA Report No 6/2014



Productive structure and firms

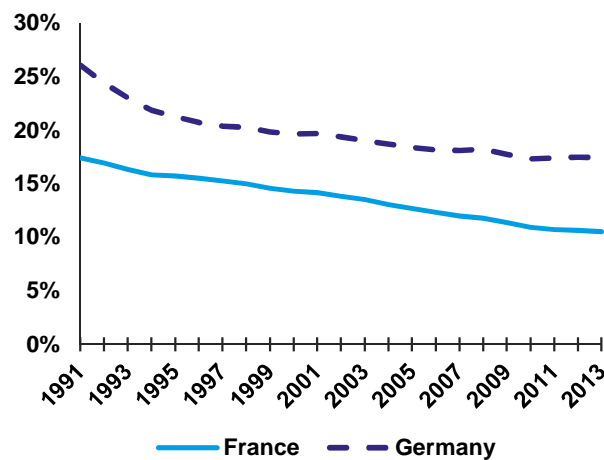
➤ Manufacturing vs. public services

Both countries have about half of their workforce employed in the private services.

Germany's share of employment in manufacturing is 7 points higher than in France, while France's share of employment in public services is 6 points higher than in Germany.

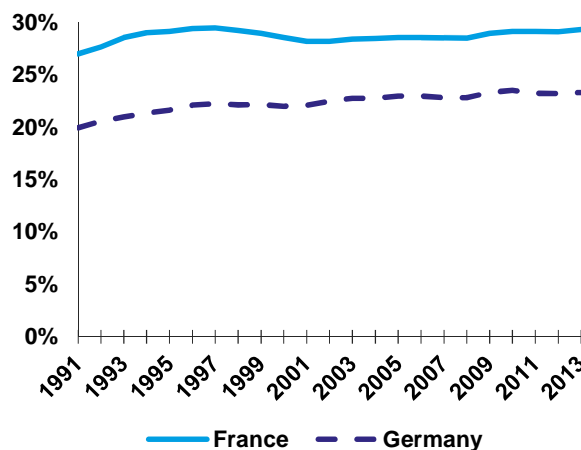
The strength of manufacturing in Germany translates into a higher share of workers in this sector (17.5%) compared with France (10.5%). The discrepancy is almost symmetrical in public services, which employ 23% of workers in Germany and 29% in France.

Share of manufacturing in employment



Source: France Stratégie, based on data from Eurostat

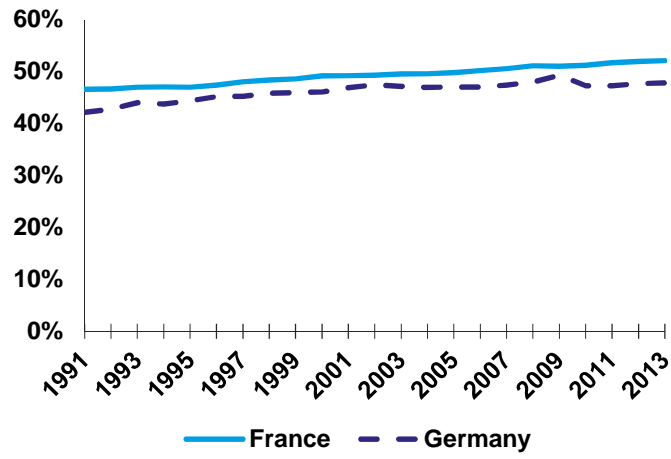
Share of public services in employment



Source: France Stratégie, based on data from Eurostat

While both countries have 50% of workers in private services, they account for a fairly larger share of gross value added in France than in Germany.

Share of private services in gross value added



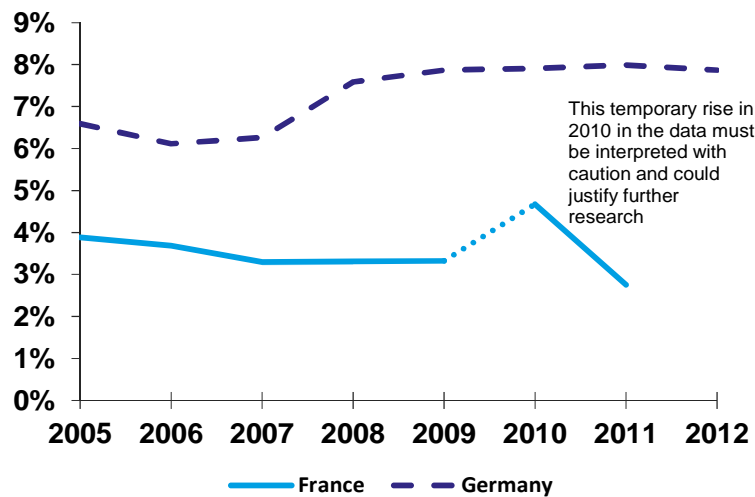
Source: France Stratégie, based on data from Eurostat.

➤ Germany has more companies with 20+ employees

Germany has a larger share of firms with 20 employees or more than France, according to the OECD's Structural Business Statistics. This is related to the fact that German SMEs and ETIs (*entreprises de taille intermédiaire* in INSEE terminology) are on average larger than their French counterparts, which is sometimes put forward to explain Germany's good export performance.

This dataset gives the number of firms for a given country across five size classes. Some caveats: strict cross-country comparison is only possible if the focus is on businesses with less than 20 people engaged and businesses with 20 or more people, the OECD noted. Even then, comparisons are constrained by the exclusion of some small businesses at the lower end of the less-than-20 threshold, the extent of which varies across countries.

Share of firms with 20 employees or more in total number of firms



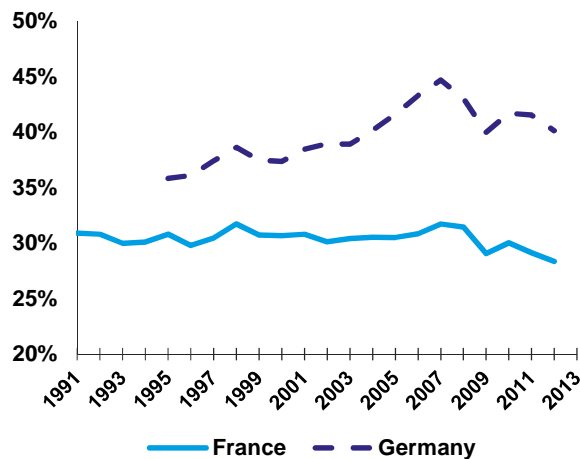
Source: France Stratégie, based on data from OECD

➤ Non-financial firms: more profitable in Germany

A company's profitability can be measured in several ways. Gross profit ratio is obtained by dividing gross operating surplus by gross value added. At an aggregate level, its value largely depends on the structure of the economy. If a sector with a structurally-high gross profit ratio is overrepresented in an economy, the aggregate ratio will be high.

Gross profit ratio of NFCs

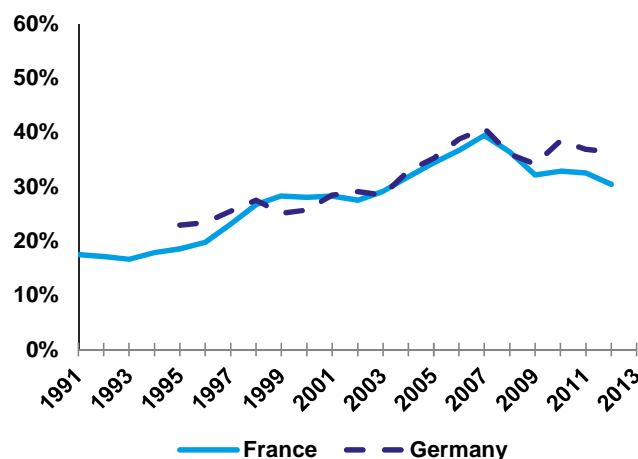
Gross operating surplus / gross value added



Net income ratio (net entrepreneurial income / net value added) is an alternative measure. It is closer to the concept of firms' benefits before taxation as fixed capital consumption is not included in net value added and as financial revenues, interest expenses and rents are taken into account when computing net entrepreneurial income.

NFCs net income ratio

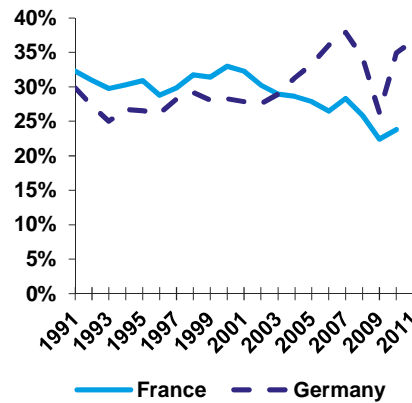
Net entrepreneurial income / net VA



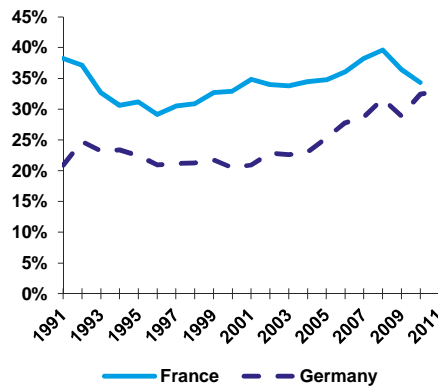
Source: France Stratégie, based on data from OECD

Taking into account the different sectoral structures of both economies, aggregate gross profit ratio is structurally lower in France than in Germany, and the gap has increased during the 2000s. As for the net income ratio, it has diverged between the two countries since 2009.

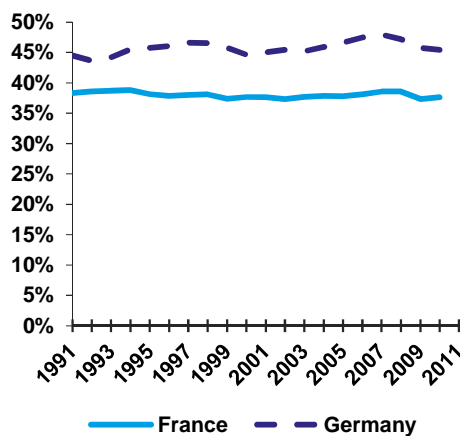
Gross profit ratio, manufacturing



Gross profit ratio, construction

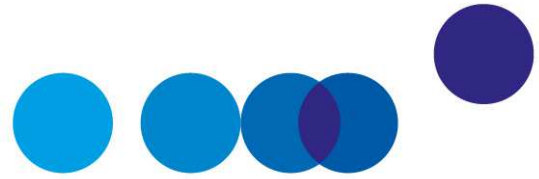


Gross profit ratio, services



Source: France Stratégie, based on data from Eurostat and OECD-STAN

German companies have also strongly reinforced their profitability compared to French firms during the 2000s, especially in the manufacturing and construction sectors.



Public finances and taxes

➤ Government spending much higher in France

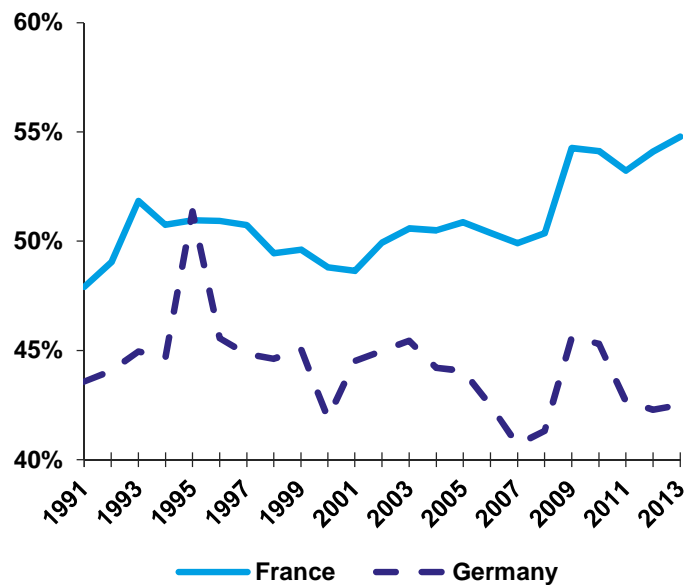
General government primary expenditure as a percentage of GDP was at a fairly high but stable level in France before the crisis. Germany, by contrast, has seen a reduction of the ratio in the five years through 2007.

While primary spending in France has increased sharply from 2008, it quickly returned to pre-crisis levels in Germany.

General government primary expenditures include expenditures of central government, local governments and social security funds excluding debt interests, and reflect the cost of public services.

General government primary expenditure

In percentage of GDP



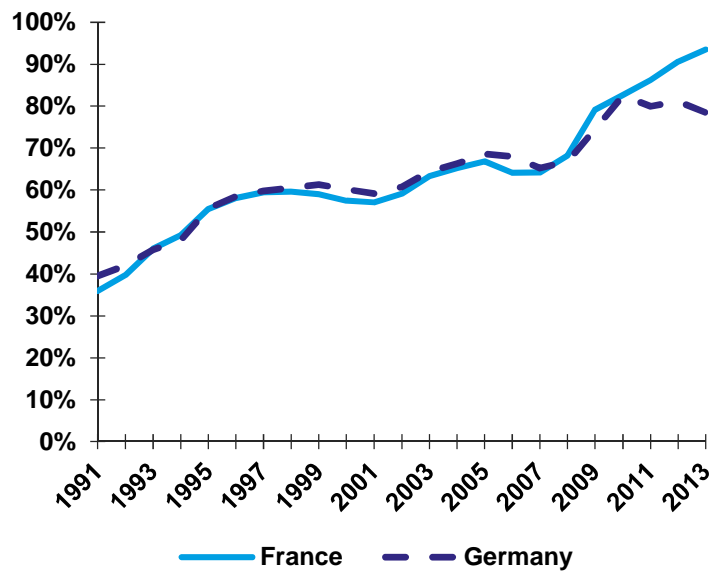
Source: *France Stratégie*, based on data from AMECO

➤ Debt ratios diverged post-2010

Evolving in parallel during most of the 1990-2013 period, general government gross debt ratios started diverging after 2010 as German debt stabilized while French debt kept growing.

This indicator corresponds to the Maastricht treaty definition.

General government consolidated gross debt In percentage of GDP



Source: France Stratégie, based on data from AMECO

Germany has recently been able to rein in the growth of its debt ratio.

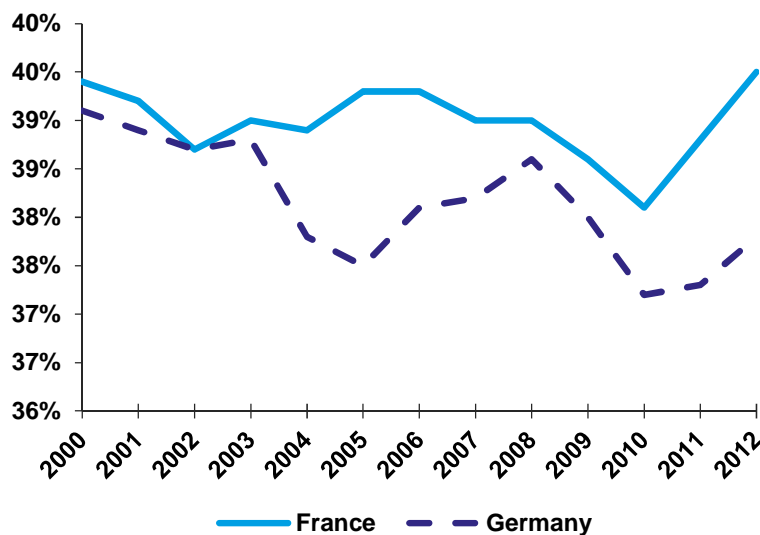
➤ Taxes converged on consumption, not capital or labour

Implicit tax rates on consumption have converged, while implicit tax rates on capital and labour are slightly higher in France than in Germany following the crisis.

Implicit tax rates measure the actual or effective tax burden levied on different types of economic income or activities, according to Eurostat. However, these indicators are imperfect. The fundamental problem in constructing tax ratios is that most tax categories relate to more than one macroeconomic activity¹: For example, levies on personal income tax labour as well as profits and capital gains of individuals.

The **implicit tax rate on labour** is the sum of all direct and indirect taxes and employees' and employers' social contributions levied on employed labour income divided by the total compensation of employees.

Implicit tax rate on labour

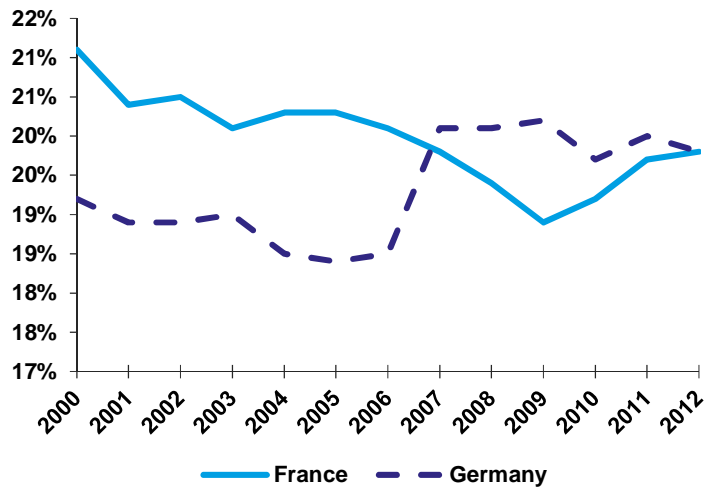


Source: France Stratégie, based on data from Eurostat

The **implicit tax rate on consumption** is obtained by dividing all taxes on consumption by final consumption expenditure of households.

(1) OECD (2001), « Tax ratios : a critical survey », *Tax policy studies*.

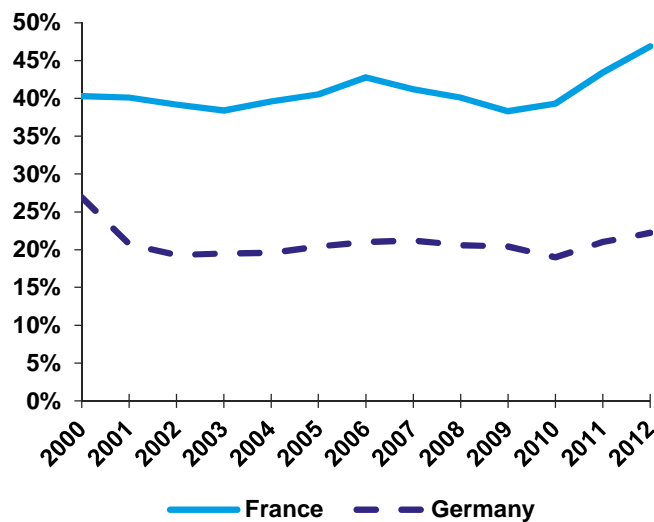
Implicit tax rate on consumption



Source: France Stratégie, based on data from Eurostat

The **implicit tax rate on capital** is the ratio between revenue from all capital taxes, and all (in principle) potentially taxable capital and business income in the economy.

Implicit tax rate on capital



Source: France Stratégie, based on data from Eurostat

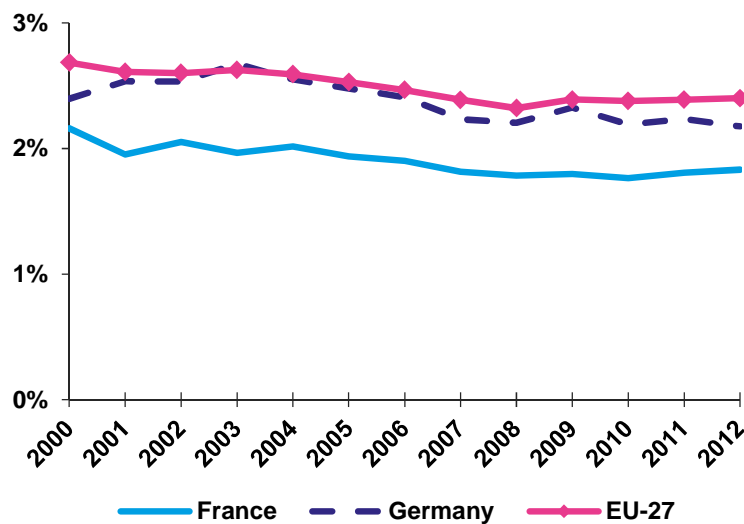
➤ Environmental taxes lower in France

Environmental taxes are composed mainly of energy taxes (75% of EU-28 environmental tax revenues) —of which transport fuel taxes represent more than three quarters— followed by non-fuel transport taxes (21%) and pollution/resources taxes (4%).

In the EU, as well as in France and Germany, environmental taxes as a percentage of GDP fell between 2002 and 2008. They rose sharply in 2009 in EU-27, and in 2011 in France. They have remained rather stable in Germany at around 2.2% of GDP, above France (1.8%) but below the European average (2,4%).

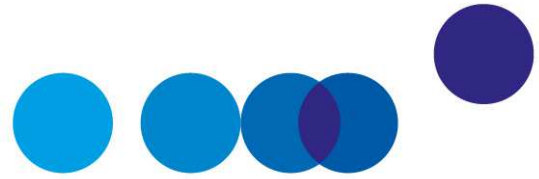
Environmental taxes

As a percentage of GDP



Source: France Stratégie, based on data from DG Taxation and Customs Union and Eurostat

The proportion of environmental levies in GDP in itself, however, is not a good indicator of the priority given to environmental protection. A higher share may reflect higher tax rates but could also be the consequence of a large tax base in relation to GDP, potentially indicating an inefficient use of resources. This indicator can therefore give a misleading view of a country's environmental policy goals.

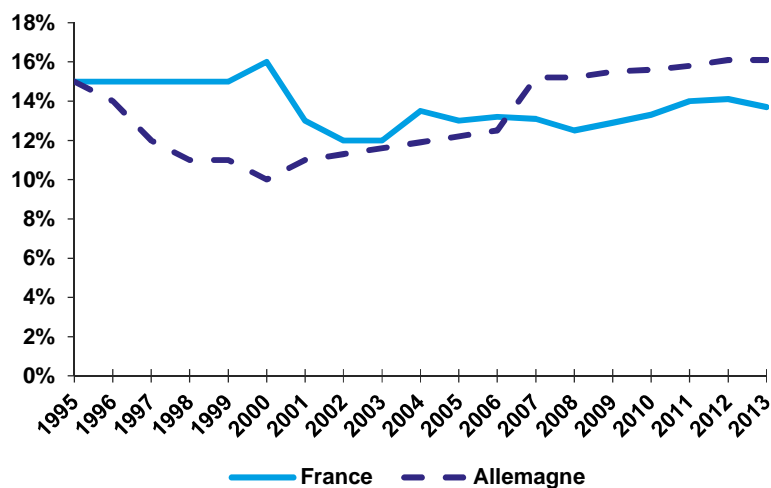


Inequalities

➤ Rising poverty rate and inequality in Germany

The poverty rate is defined as the share of people earning less than 60% of median income after social transfers.

Poverty rate

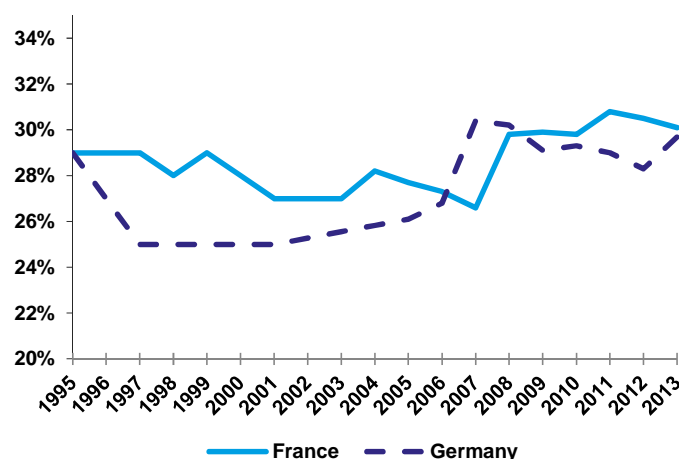


Source: France Stratégie, based on data from Eurostat

The Gini index is a measure of income disparities after taxes and transfers. The higher its value, the more unequal the country is.

Gini index

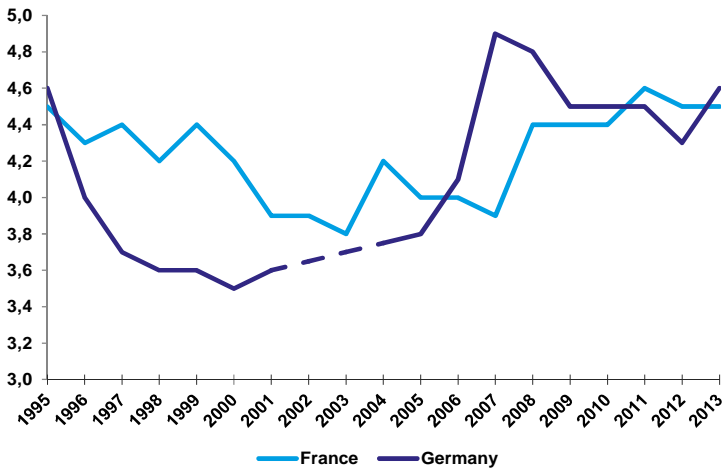
Disposable income



Source: France Stratégie, based on data from Eurostat

The income quintile share ratio or (S80/S20 ratio) is a measure of the inequality of income distribution. It is calculated as the ratio of total disposable income received by the 20% of the population with the highest income to that received by the 20% of the population with the lowest disposable income.

S80/S20 Income quintile share ratio



Source: France Stratégie, based on data from Eurostat (dashed line : estimates).

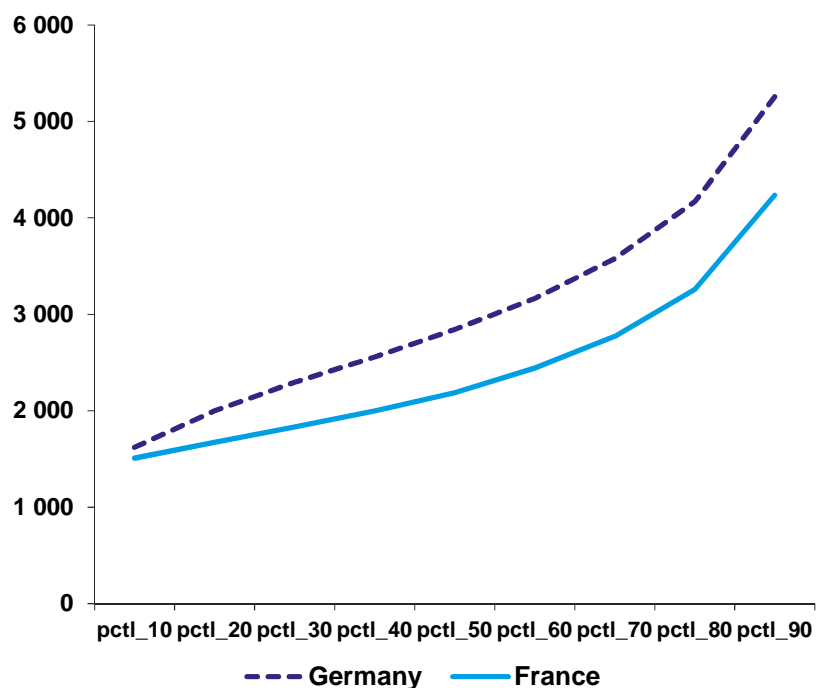
➤ Greater wage dispersion in Germany

Wage dispersion is higher in Germany than in France for full-time jobs in enterprises with ten employees or more.

In 2010, gross wages are lower in France than in Germany, except for the tenth percentile where they are almost similar.

Distribution of gross monthly earnings

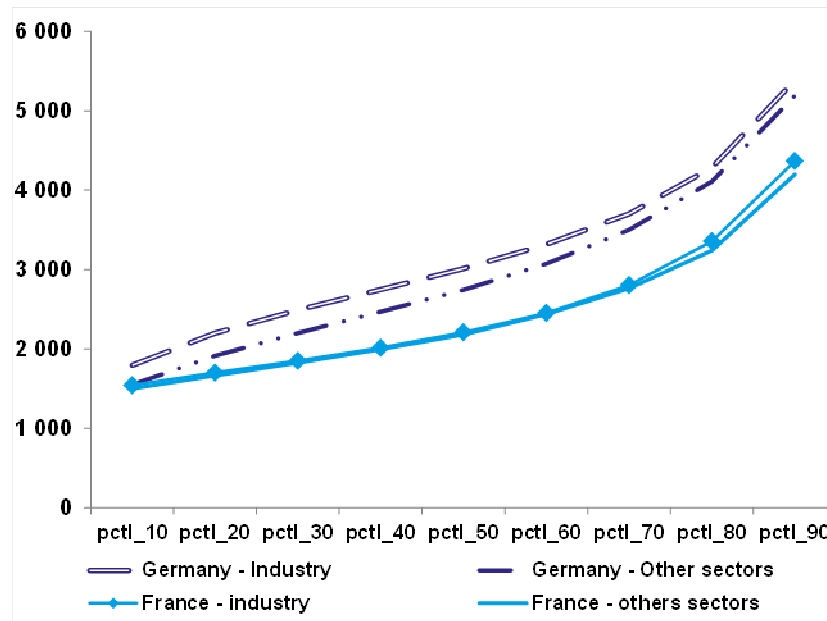
Full-time workers



Source: France Stratégie, based on data from Eurostat, Structure of Earnings Survey, 2010, enterprises with 10 employees or more, full time workers, section B to S excluding O of NACE Rev. 2, apprentices excluded

In Germany, wages in non-industrial sectors are lower than in industrial sectors, for any percentile of the distribution. In France, the distribution of wages is similar in both sectors, except at the top of the distribution, where wages in the industry are higher.

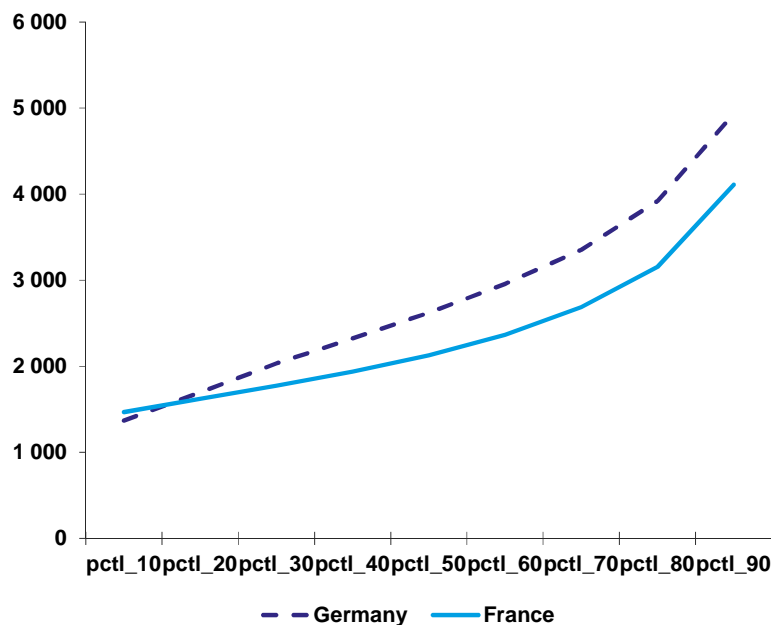
Distribution of gross monthly earnings
Full-time workers, in euros



Source: France Stratégie, based on data from Eurostat, Structure or Earnings Survey, 2010, enterprises with 10 employees or more, full time workers, section B to S excluding O of NACE Rev. 2, apprentices excluded Industry : section B and C of NACE Rev 2

The dispersion of monthly wage incomes (wage of part-time or full-time workers) is higher in Germany than in France. The wage income is higher in Germany, except of the tenth percentile.

Distribution of monthly wage incomes



Source: France Stratégie, based on data from Eurostat, Structure or Earnings Survey, 2010, enterprises with 10 employees or more, part-time and full time workers, section B to S excluding O of NACE Rev. 2, apprentices excluded

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