CONJONCTURE IN FRANCE

March 2017

Institut national de la statistique et des études économiques
Chief manager : Jean-Luc Tavernier
Head Office : 18 boulevard Adolphe Pinard - 75 675 PARIS Cedex 14
Phone : 01.41.17.50.50 / Télécopie : 01.41.17.66.66
Website : http://www.insee.fr

Editorial director
Jean-Luc Tavernier

Chief editors
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Translation
Hancock Hutton

The issues of *Conjoncture in France* along with a glossary of economic outlook terminology are available as soon as they are published on the "Economic Outlook" and "Collections" sections of the INSEE website www.insee.fr.

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PURCHASING POWER SLOWS DOWN, WHILE THE OUTLOOK REMAINS POSITIVE

Purchasing power slows down, while the outlook remains positive

The end of 2016 was in line with expectations: the outlook in the emerging economies firmed up, while growth in the advanced economies remained steady. World trade therefore accelerated markedly, brightening up an otherwise mediocre year in which the annual increase was its smallest since 2009. In H1 2017, growth should pick up further in the emerging countries: the Chinese economy in particular is likely to accelerate a little as its industry is reinvigorated, Russian activity should get some of its colour back and the recession in Brazil should ease. In the USA and UK, economic trends are diverging. Across the Atlantic, growth should increase again, boosted by a breath of post-electoral optimism and recovering corporate expenditure. Across the Channel, meanwhile, consumption and activity are likely to end up slowing down, on account of a sharper rise in inflation than elsewhere, after surprising once again by their dynamism at the end of 2016.

In the Eurozone, growth should remain steady in Q1 2017 (+0.4%) and then rise a little in Q2 (+0.5%). The improvement in the business climate was confirmed at the beginning of 2017, despite political uncertainties and the upturn in inflation which is eroding household purchasing power. After increasing the level of their savings over the past two years, households may now save less to smooth their consumption. European businesses, meanwhile, have been benefitting from a further slide in the Euro against the dollar since the end of 2016, which, together with more dynamic world demand, should generate extra exports. Financing terms, both internal and external, should provide them with an incentive to carry on increasing their investments. As these various factors should be common to all the major Eurozone economies, differences in their outlooks should continue to narrow. In Germany, activity accelerated at the end of 2016 and growth should remain robust in H1. The dynamic performance of the Spanish economy is likely to lose a little steam, but growth there should remain above the Eurozone average. Growth is likely to remain modest in Italy, however.

After rising at the end of 2016, French growth should also remain steady in early 2017 (+0.3% in Q1 then +0.5% in Q2), returning to a comparable rate to that of the Eurozone. Prospects have clearly improved for companies and the latter are therefore likely to be ready to invest again, especially with the incentive of the one-off additional depreciation allowance which continues through to mid-April.
In addition to this, after a mediocre year, exports should maintain the impetus they picked up at the end of 2016, with the result that foreign trade, which knocked 0.8 points off growth in 2016, should contribute much less negatively in H1 2017. With purchasing power gains being reduced by the upturn in inflation, French households are likely to slow the rate of their consumption a little. The pace of their investment in housing is likely to remain dynamic, however, after returning to growth in 2016. All in all, after +1.2% in 2015 and +1.1% in 2016, the growth overhang in gross domestic product for 2017 should be +1.1% in mid-year.

This growth and the effects of policies to boost its employment intensity should be enough for market-sector employment to increase strongly once again. This is likely to be the main factor of growth in total employment which should progress by 93,000 over the first half of the year, after increasing by 212,000 over 2016 as a whole, again outstripping the rise in the labour force. The unemployment rate is therefore set to continue falling slowly, from 10.0% at the end of 2016 to 9.8% in mid-2017.

This scenario is subject to a number of uncertainties. First of all, levels of political uncertainty remain high in Europe in the perspective of crucial elections in France, the Netherlands and Germany. If it were to end up affecting the confidence of investors, they are likely to postpone their projects. Uncertainty as to the new political direction of the United States also remains considerable, and the future decisions that are made in this respect could either hinder or reinforce the breath of post-electoral optimism that is blowing on the other side of the Atlantic. Finally, there is also uncertainty as to growth in the emerging economies: the upturn could grind to a halt once again, or prove to be quicker than expected. ■

General outlook

In Q4, world trade accelerated significantly

The emerging economies have regained momentum, especially in Asia

Confirming the improvement in the business climate, the emerging economies accelerated at the end of 2016. Growth remained steady in China (+1.7%) and increased in Russia (+0.4% after +0.1%) and in the countries of Central and Eastern Europe (+1.2% after +0.4%). All in all, the imports of the emerging economies showed a clear acceleration (+2.0% after +0.3%), posting three consecutive quarterly rises for the first time since 2014.

UK consumption again proved surprisingly strong

In Q4 2016, the advanced economies slowed slightly (+0.5% after +0.6%), mainly due to the United States (+0.5% after +0.9%) where exports fell back after showing exceptional progress in Q3. US domestic demand accelerated, however, driven by the recovery in investment and strong consumption. In Japan, growth remained moderate (+0.3%), with consumption being sluggish while exports progressed strongly, notably those to China. In the United Kingdom, consumption again proved surprisingly strong, driving activity as a whole (+0.7% after +0.6%): despite the marked slowdown in their purchasing power, British households have continued to consume and ease their efforts on savings.

World trade accelerated strongly

All in all, world trade accelerated strongly in Q4 (+1.7% after +0.6%). Year on year, it increased by 2.5% at the end of 2016, against +0.8% in Q1 2016. On an annual average basis, after slowing sharply in 2015 (+2.4%), growth in world trade stood at just +1.5% in 2016, its weakest since 2009, due to sluggish imports in the US and emerging economies.

Activity remained steady in the Eurozone

In the Eurozone growth remained steady at the end of 2016 (+0.4% after +0.3.%). It was buoyed by a marked upturn in exports and an acceleration in private consumption. Activity picked up in Germany (+0.4% after +0.1%) and in France. It remained very sustained in Spain (+0.7%), but slowed slightly in Italy (+0.2% after +0.3%).

In France, domestic demand firmed up significantly in Q4

In France, activity accelerated in Q4 (+0.4% after +0.2%), as forecast in December's *Conjoncture in France*. Manufacturing production remained solid (+0.8% after +0.7%), driven in particular by the sharp rise in transport equipment. On the demand side, exports accelerated (+1.3% after +0.8%), in particular thanks to exceptional aeronautical deliveries in December. After two sluggish quarters (+0.1% then +0.2%), domestic demand firmed up significantly (+0.5%), in both household consumption (+0.6% after +0.1%) and corporate investment (+0.8% after –0.1%), while household investment remained strong (+0.7%).

The financial environment is tightening a little but remains positive in France

The Fed raising its rates, the Euro falling again

In the US, prospects of rising inflation and the labour market situation should lead the Federal Reserve (Fed) to tighten its monetary policy after a base rate hike in December 2016. Conversely, the European Central Bank will be pursuing its government securities purchases beyond the end of the programme, initially scheduled for March 2017, although it will be scaling back its volumes (€60 billion a month after €80 billion previously). Drawn by prospects of higher yields on the other side of the Atlantic, investors have deserted European securities and the Euro has fallen back to around $1.06 since December, against $1.12 in summer 2016.

French sovereign yields have risen but remain low

With the rise in US base rates, the expected upturn in inflation and anticipations of an expansionist US fiscal policy after the election of Donald Trump, sovereign yields have edged up all over the world since November. In the Eurozone, this rise has gone hand in hand with widening spreads between the sovereign yields of the main Member States. These yields remain relatively low, however: in March, the French 10-year sovereign yield stands at 1.0%, the same level as in early 2016. Private borrowing costs should adjust to this only partially and remain strongly in favour of debt.

OPEC cuts its production but the rise in oil prices remains contained

Just after the announcement at the end of November of the agreement to cut back the production of the OPEC countries, the oil price rose to about $55 per barrel of Brent in early 2017. In H1 2017, the supply surplus in the physical market should be absorbed: although world demand is set to be on a growing trend, world supply should almost stagnate, with OPEC output falling significantly while North American production should show a recovery. Nevertheless, very high levels of stocks should contain upwards pressure on prices, which should level out.

In early 2017, a wind of optimism is blowing through the world economy

The emerging economies likely to maintain their momentum

In early 2017, the business climate in the emerging economies continued to improve and is at a two-year high, although still well below its level of the 2000s (*Graph 1*). With commodity prices stabilising, the currencies of the producing countries have stopped slipping, thus contributing to a fall in inflation. As purchasing power losses ease, activity is set to accelerate in Russia and the recession should become less severe in Brazil. In China, activity is likely to accelerate a little, driven by a recovery in heavy industry. All in all, the imports of the emerging economies should maintain their momentum through to mid-2017.

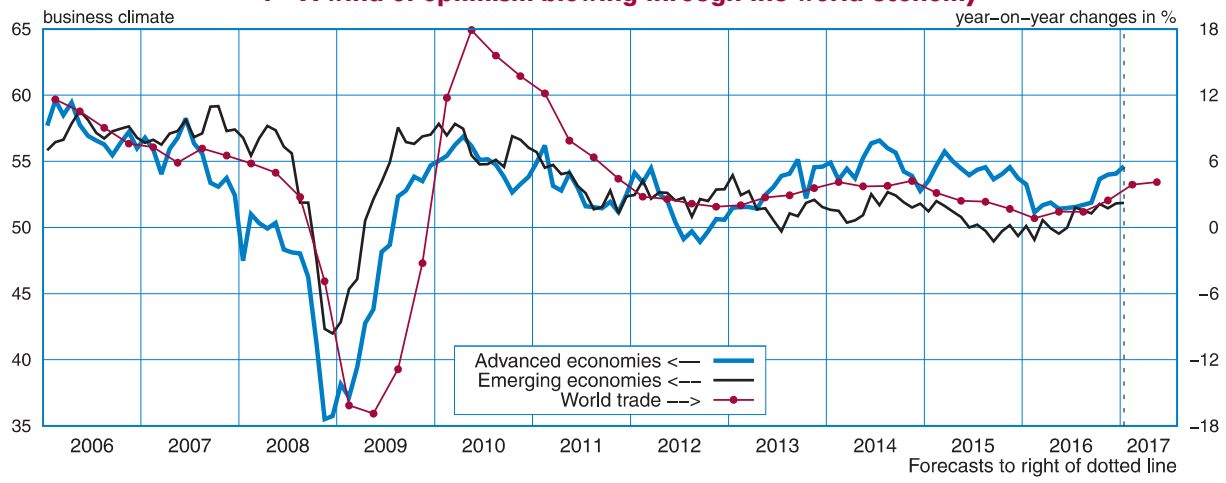
In the United States, household and business confidence surged after the presidential election, driven by prospects of an expansionist fiscal policy

In the advanced economies, the business climate has also been improving since the end of 2016, despite a sharp upturn in inflation slowing the dynamics of household purchasing power. In the United States, for example, the business climate and household confidence have surged since the election of Donald Trump in November and the announcement of an expansionist fiscal policy. US activity should accelerate a little (+0.6% per quarter), driven by domestic demand. The growth overhang for 2017 in mid-year (+1.9%) is likely to exceed full-year growth in 2016 (+1.6%). In Japan, growth is set to remain modest (+0.2% per quarter): household consumption should regain a little impetus, but exports are likely to slow down. In the United Kingdom, however, inflation should continue to increase significantly with the past sharp fall in Sterling, and consumption is likely to end up slowing, thereby hampering activity.

Growth in world trade to reach +4.2% year on year in mid-2017

In H1 2017, the recovery of the American and emerging-economy powerhouses should enable world trade to progress by 0.9% a quarter: year on year, its rise should therefore reach +4.2% by mid-2017, which is more than at the end of 2016 (+2.5%) but still well below the average annual rate between 1990 and 2007 (+7% a year).

1 - A wind of optimism blowing through the world economy



Sources: Markit, DG Trésor, INSEE forecast

General outlook

In the Eurozone, activity set to continue resisting the upturn in inflation

Inflation rising again in the Eurozone

In the Eurozone, headline inflation has increased significantly since the end of 2016, to +2.0% in February 2017, when it was still negative in mid-2016 (*Graph 2*). It should then almost stabilise (+1.8% in mid-2017). The recent upturn, driven mainly by energy prices, is common to all the countries in the Eurozone. Core inflation is increasing a little and should reach +1.1% in mid-2017, against +0.8% at the end of 2016. Against a backdrop of falling unemployment, wages should accelerate, especially in those countries where the minimum wage was increased significantly in early 2017, which is to say in Spain (+8%) and Germany (+4%).

The European household savings ratio likely to fall slightly

Employment should remain buoyant and the unemployment rate continue to fall in the Eurozone, by 0.6 points year on year to 9.5% in mid-2017. All in all, due to inflation, purchasing power is likely to continue slowing, down to +0.4% in H1 2017 after +0.7% in H2 2016. However, European households are unlikely to adjust their consumption in the short term (+0.4% per quarter) and should limit their savings a little to finance this consumption.

Investment to progress strongly

After falling in the summer, investment in equipment rebounded at the end of 2016 and should remain strong in H1 2017. Investment in construction should continue growing strongly, as suggested by the recent rise in building permits. Its quarterly profile is likely to be marked by the cold winter in Germany.

Activity to remain robust in the Eurozone

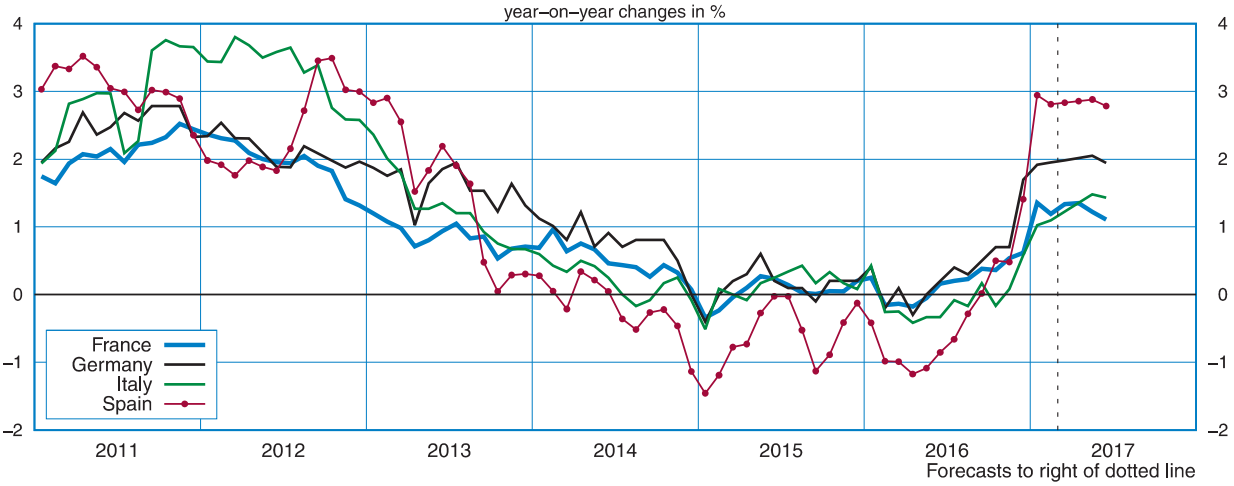
All in all, growth should remain steady in the Eurozone, at +0.4% in Q1, and should then increase a little in Q2 to +0.5%, driven by private investment and exports. Growth should be the same in Germany (+0.4% then +0.5%) where activity should be driven by dynamic household purchasing and government expenditure. In Spain, activity should slow down, as the catch-up effect continues to fade out gradually (+0.7% then +0.6%). In Italy, growth should remain modest (+0.2% per quarter).

After holding activity back in 2016, foreign trade should weigh down much less on French growth in H1 2017

Driven by the world improvement, French exports should increase again strongly

French exports accelerated at the end of the year (+1.3% after +0.8%), driven by the recovery in demand from the country's trading partners and exceptional aeronautical deliveries. In Q1, they should slow down in reaction (+0.2%), then regain momentum in the spring thanks to new deliveries on major aeronautical and shipbuilding contracts (+1.4%). More generally, foreign sales should benefit from strong world demand, the recent depreciation of the Euro and the gradual return of foreign tourists to France: the annual growth overhang for exports should be +2.6% in mid-2017, against just +1.1% for 2016 as a whole.

2 - Inflation has risen significantly in all the Eurozone countries



Sources: INSEE, Destatis, Istat, INE, INSEE forecast

Despite strong imports, foreign trade should weigh down much less on activity

In H1 2017, imports are expected to remain lively in response to domestic demand which should remain dynamic. Nevertheless, thanks to the strength of exports, foreign trade should make an almost neutral contribution to growth overall in H1 2017. All in all, after knocking 0.8 points off growth in 2016, foreign trade should weigh down much less on the growth overhang for 2017 in mid-year (–0.2 points).

The French economy returns to a similar growth rate to that for the Eurozone as a whole

The business climate in France has improved since December, in industry in particular

From November 2015 to November 2016, the business climate in France remained somewhat stable at slightly above its long-term average. It has improved since December, standing at 104 in February, two points above its November level. This improvement reflects that in foreign demand and is driven mainly by industry: in this sector, the business climate stood at 107 in February, its highest since mid-2011 (*Graph 3*).

Manufacturing output to increase again strongly through to mid-2017

In manufacturing industry, order books have filled up and business leaders are optimistic about their activity prospects. Manufacturing value added should therefore progress again strongly through to mid-2017, pulling market-sector activity in its wake. The production profile is likely to be irregular, however, on account of jolts in refinery activity (–0.3% in Q1 2017 and +1.0% in Q2).

Agricultural production to rebound, contributing to the overall acceleration

In 2016, agricultural production fell (–5.7% after –2.2% in 2015), knocking 0.2 points off growth in gross domestic product (GDP): cereal and wine harvests were sharply reduced by the exceptionally poor weather conditions in spring and summer. In 2017, assuming a return to normal climatic conditions, agricultural output should return to a level close to its average, contributing to the overall acceleration.

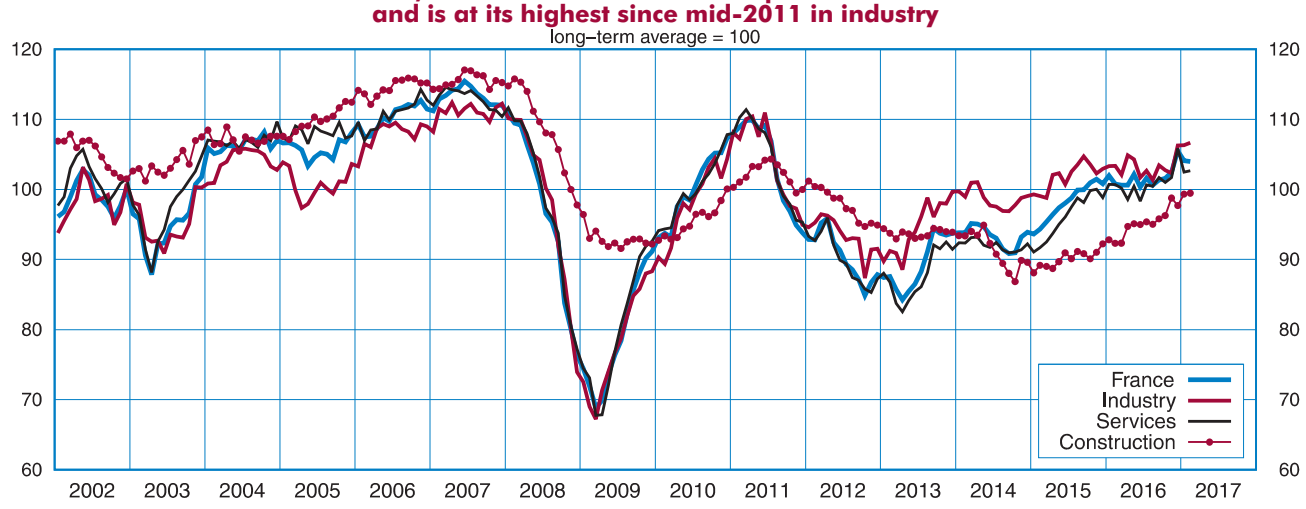
Construction picks up progressively

In construction, after falling sharply in 2014 (–2.7%) and in 2015 (–2.2%), activity showed an upturn in 2016 (+0.7%). Construction of houses returned to growth, as a knock-on effect of the marked recovery in sales of new homes, subject to the usual time lag. In H1 2017, activity in the branch should accelerate (+0.4% in Q1 then +0.8% in Q2). The annual growth overhang should therefore be clearly in positive territory by the end of the spring (+1.6%).

All in all, French GDP growth should become comparable to that of the Eurozone again

All in all, GDP is expected to grow steadily in H1 2017 (+0.3% in Q1 then +0.5% in Q2). In mid-year, the annual growth overhang should already be on a par with the rise in 2016 as a whole (+1.1%). French activity should therefore return to a comparable rate to that of its neighbours, after three years of lower growth than that in the Eurozone.

3 - In France, the business climate has improved since December and is at its highest since mid-2011 in industry



Source: INSEE

Market-sector employment likely to continue increasing steadily and unemployment to fall slightly in H1 2017

Total employment to slow a little, driven by temporary employment

Payroll employment progressed sharply in H2 2016 (+115,000 after +72,000 in H1), driven notably by temporary employment. All in all, the French economy created 187,000 market-sector jobs in 2016, a rise on a scale not seen since 2007. Workforce prospects remain strong in the business tendency surveys, but temporary employment is likely to slow down after increasing sharply for six months. All in all, slightly fewer net job creations are expected in the market sector in H1, while remaining strong (+81,000). The effect on the job intensity of growth of the Tax Credit for Encouraging Competitiveness and Jobs (CICE), the Responsibility and Solidarity Pact (PRS) and the Hiring Premium for SMEs should weaken a little, but the three measures should still contribute to creating or safeguarding 40,000 jobs in H1 2017. Meanwhile, the rest of employment (agricultural-sector employees, the non-market branches and the self-employed) should increase moderately (+10,000 cumulatively over the first half of the year), with the result that total employment should progress by 93,000 jobs in H1 2017, after +118,000 in H2 2016.

Unemployment set to fall again slightly through to mid-2017

In Q4 2016, the unemployment rate was down on the previous quarter (by 0.1 points to 10.0%) and was down 0.2 points year on year. Over the following quarters, the expected rise in employment should continue to outstrip the growth in the labour force, and the number of unemployed should fall again (*Graph 4*). The unemployment rate should stand at 9.8% in mid-2017 (9.5% in Metropolitan France).

Purchasing power to slow down due to the upturn in inflation

Inflation has been picking up since December due to its energy component

Since the end of 2016, inflation has been picking up: it stood at +1.2% year on year in February 2017, against +0.2% in summer 2016. This rise has been driven mainly by the energy component, with the upturn in oil prices and the increase in taxes on petroleum products. Through to mid-2017, headline inflation should be almost stable (+1.1% in June). Core inflation should remain moderate, at +0.7% in June 2017, as one year earlier: the past fall in commodity prices is continuing to work its way through into the prices of imported manufactured goods and tensions on wages should remain moderate.

Nominal wages should only partly reflect the upturn in inflation

As an annual average in 2016, nominal wages in the market sectors increased very slightly less than in 2015 (+1.4% after +1.6%). In H1 2017, they should pick up a little (+0.9% after +0.7% in H2 2016) and should only partly reflect the upturn in inflation. In the civil service, wages should increase more or less at the same pace as in the private sector, boosted by the new rise in the index point on 1st February 2017.

4 - The French economy set to create 93,000 jobs in H1 2017 and unemployment to fall slightly, to 9.8%

Source: INSEE

Purchasing power dynamics set to weaken

In 2016, the purchasing power of household income progressed again steadily, at +1.9% on an annual average basis, after +1.6% in 2015, thanks to the acceleration in market-sector employment and price stability. In H1 2017, nominal wages should remain steady, but the upturn in inflation is likely to erode gains in purchasing power: the growth overhang for 2017 should stand at +0.7% in mid-year, against +1.6% one year earlier.

Household consumption likely to slow and the savings ratio to fall slightly

Household consumption to lose vigour

After being flat for two quarters, household consumption accelerated at the end of 2016 (+0.6%), bringing its increase on an annual average basis to +1.8% over the year, a pace that is very close to household purchasing power gains. In H1 2017, household expenditure is likely to lose vigour, slowing down at the start of the year (+0.2%) and then accelerating a little in Q2 (+0.4%). In mid-2017, the consumption growth overhang should stand at +1.0%, a little more than that in household purchasing power (+0.7%).

In mid-2017, the savings ratio should be back to its level of early 2016

Households are thus likely to smooth the effect of the slowdown in their purchasing power on their consumption. As a result, after increasing gradually in 2015 and in 2016, the savings ratio should fall slightly, to 14.4% in mid-2017, thus returning to its early-2016 level.

Investment to remain dynamic

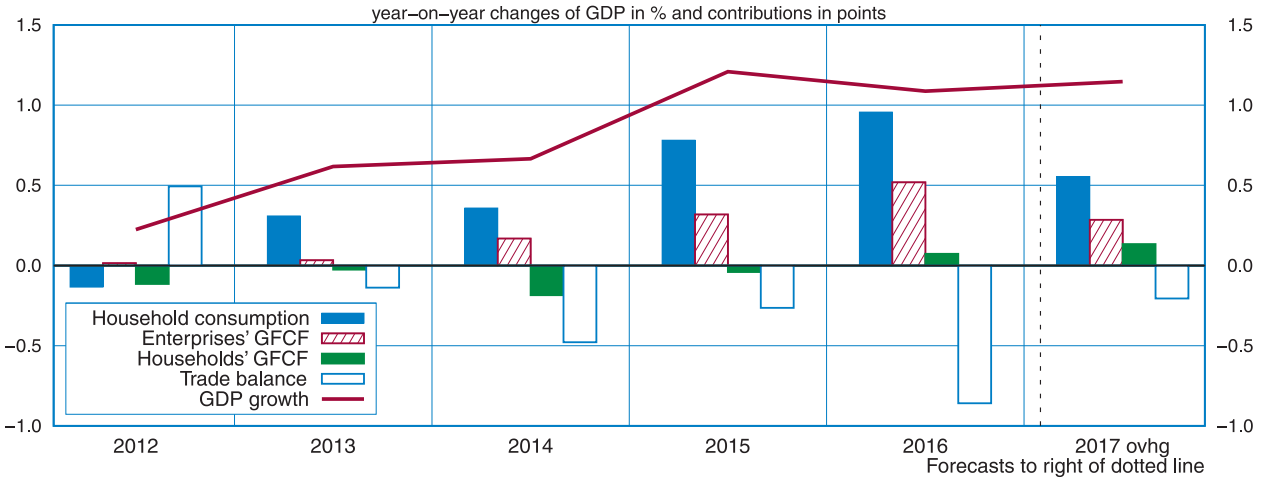
Corporate investment should grow strongly once again

After almost stagnating for two quarters, corporate investment rebounded at the end of 2016 (+0.8%), driven once again by automobile purchases. In H1 2017, conditions should remain positive: demand prospects, particularly foreign, have improved, the margin rate should continue to increase thanks to moderation in wages and, despite a small rise, borrowing costs should remain very low. In addition to this, the one-off additional depreciation allowance has been extended until April 2017. In the business tendency surveys, investment intentions are high, in both industry and services. Corporate investment should therefore progress steadily in Q1 (+0.9%), then slow down a little in Q2 when the one-off additional depreciation allowance comes to an end (+0.5%). The investment rate should therefore remain at its highest level since 2008.

Household investment builds up steam

Household investment has been accelerating progressively for a year, reaching +0.7% at the end of 2016. The recent rise in building permits suggests that this trend should be accentuated in H1, with growth of +0.9% on average per quarter: the growth overhang for 2017 should therefore stand at +2.7% in mid-year, against +2.0% in 2016 (*Graph 5*).

5 - In H1 2017, foreign trade to contribute less negatively and household investment to pick up



Source: INSEE

Uncertainties: political uncertainty and the extent of recovery in the US and emerging economies

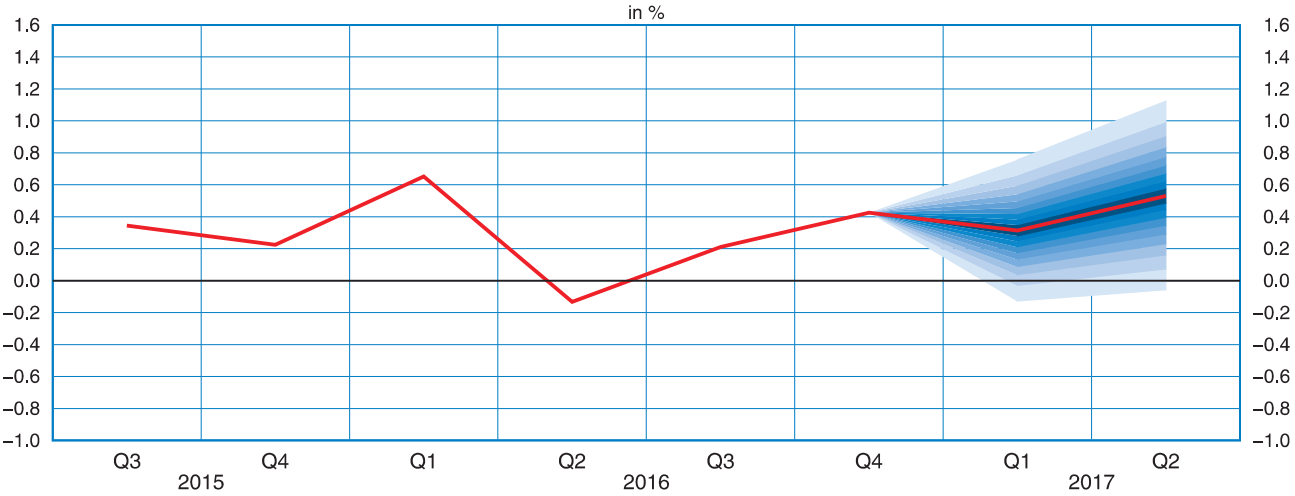
Political uncertainties remain high in Europe

Until February, the business climate in Europe had not weakened despite growing uncertainties surrounding political direction after the "no" vote in the Italian referendum and Brexit in the United Kingdom, plus the upcoming French, German and Dutch elections. Nevertheless, depending on how things develop, these uncertainties could trigger a wait-and-see attitude among investors.

Extent of the recovery in the US and emerging economies

In the United States, the marked improvement in the business climate and household confidence is driven by expectations of a more expansionist fiscal policy after the election of Donald Trump. Only partial details of any concrete measures have been provided so far, however, and they have not been passed yet. Future announcements in this area may disappoint, or may further boost this post-electoral optimism. In the emerging countries, activity has accelerated sharply, driven by industry and increased debt. Depending on the extent to which this works through into other sectors, growth could gain further momentum, or could disappoint once again. ■

6 - Fan chart for *Conjoncture in France*



How to read it: the fan chart plots 90% of the likely scenarios around the baseline forecast (red line). The first and darkest band covers the likeliest scenarios around the baseline, which have a combined probability of 10%. The second band, which is a shade lighter, comprises two sub-bands just above and just below the central band. It contains the next most likely scenarios, raising the total probability of the first two bands to 20%. We can repeat the process, moving from the centre outwards and from the darkest band to the lightest, up to a 90% probability (see *INSEE Conjoncture in France* for June 2008, pages 15 to 18). It can therefore be estimated that the first estimate that will be published in the quarterly accounts for Q1 2017 has a 50% chance of being between +0.1% and +0.5%.

Source: INSEE

Key figures: France and its international environment

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
International environment													
Advanced economy GDP	0.5	0.4	0.4	0.3	0.4	0.4	0.6	0.5	0.5	0.5	2.0	1.7	1.6
Eurozone GDP[1]	0.4	0.4	0.3	0.4	0.6	0.3	0.3	0.4	0.4	0.5	1.5	1.6	1.3
Barrel of Brent oil (in dollars)	55	63	51	45	35	47	47	51	55	55	53	45	55
Euro-dollar exchange rate	1.13	1.10	1.11	1.10	1.10	1.13	1.12	1.08	1.06	1.06	1.11	1.11	1.06
World demand for French products	1.1	0.1	0.6	0.9	–0.1	1.2	0.3	1.9	0.9	0.9	3.4	2.5	3.4
France - supply and uses													
GDP	**0.6**	**0.0**	**0.3**	**0.2**	**0.7**	**–0.1**	**0.2**	**0.4**	**0.3**	**0.5**	**1.2**	**1.1**	**1.1**
Imports	2.2	0.3	1.6	2.3	0.6	–1.5	2.7	1.0	1.3	0.2	6.4	3.7	3.2
Household consumption	0.5	0.1	0.6	–0.1	1.3	0.1	0.1	0.6	0.2	0.4	1.5	1.8	1.0
GG and NPISHs consumption	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	1.5	1.5	1.1
Total GFCF	0.5	–0.2	0.8	1.3	1.2	–0.1	0.2	0.4	0.8	0.6	0.9	2.7	1.6
of which: NFEs	*1.0*	*0.7*	*0.7*	*1.7*	*2.1*	*–0.1*	*–0.1*	*0.8*	*0.9*	*0.5*	*2.7*	*4.0*	*1.8*
Households	*–0.1*	*0.0*	*0.2*	*0.6*	*0.6*	*0.5*	*0.7*	*0.7*	*0.9*	*1.0*	*–0.8*	*2.0*	*2.7*
General government	*–0.6*	*–3.6*	*2.2*	*1.1*	*–0.8*	*–0.6*	*0.1*	*–1.5*	*0.0*	*0.6*	*–3.9*	*–0.6*	*–0.7*
Exports	1.9	1.7	–0.4	0.5	–0.2	0.0	0.8	1.3	0.2	1.4	6.0	1.1	2.6
Contributions (in point)													
Domestic demand excluding changes in inventories[2]	0.5	0.1	0.6	0.3	1.1	0.1	0.2	0.5	0.4	0.4	1.4	1.9	1.2
Changes in inventories[2]	0.3	–0.5	0.4	0.5	–0.2	–0.7	0.7	–0.1	0.3	–0.3	0.1	0.0	0.2
Net foreign trade	–0.1	0.4	–0.6	–0.6	–0.2	0.5	–0.6	0.1	–0.4	0.4	–0.3	–0.8	–0.2
France - situation of households													
Total employment	–3	39	16	66	52	42	50	67	46	47	118	212	93
Non-farm market sector employment	–10	32	23	55	42	30	50	64	41	41	100	187	81
ILO unemployment rate Metropolitan France[3]	10.0	10.1	10.2	9.9	9.9	9.6	9.8	9.7	9.5	9.5	9.9	9.7	9.5
ILO unemployment rate France[3]	10.4	10.4	10.5	10.2	10.2	9.9	10.1	10.0	9.8	9.8	10.2	10.0	9.8
Consumer price index[4]	–0.1	0.3	0.0	0.2	–0.1	0.2	0.4	0.6	1.3	1.1	0.0	0.2	1.3
Core inflation[4]	0.2	0.6	0.6	0.9	0.7	0.7	0.7	0.4	0.5	0.7	0.5	0.6	0.5
Household purchasing power	0.7	0.0	0.7	0.5	0.6	0.3	0.7	0.1	0.0	0.4	1.6	1.9	0.7

Forecast

1. Eurozone excluding Ireland, as this country's accounts present a break in series in Q1 2015
2. Changes in inventories include acquisitions net of sales of valuable
3. For annual data, unemployment rate is that of the last quarter of the year
4. Year-on-year on the last month of the quarter and annual averages

GDP: gross domestic product
GFCF: gross fixed capital formation
GG: general government
NFEs: non-financial enterprises
NPISHs: non-profit institutions serving households
ILO unemployment: unemployment as defined by the International Labour Organisation

How to read it: the volumes are calculated at the previous year's chain-linked prices, seasonally and working-day adjusted, quarterly and annual averages, as a %.

Source: INSEE

Special Analysis

Forecasting employment based on business tendency survey responses

Vincent Dortet-Bernadet
Morgane Glotain

Département de la conjoncture

To forecast short-term variations in market-sector employment, economic analysts use both macroeconomic models and calibrations based on business tendency survey data.

Using macroeconomic models for forecasting requires a scenario of activity in the market sectors and assumptions on the trend in apparent labour productivity, possibly adjusted for the effects of employment policies. However, these assumptions may be found to be inadequate in the event of a downturn.

Calibrations assume a stable statistical relationship between measured employment and the responses of business leaders interviewed for the business tendency surveys. In the very short term, the results they give are often more accurate than the macroeconomic equations. Variations in employment can be forecast both at the level of all market-sector employment and for each of the four main sectors comprising it: industry, construction, temporary employment and the rest of the market tertiary sector. Aggregating results from the sectoral calibrations gives an "indirect" forecast of employment which is comparable in terms of accuracy to direct estimates of employment as a whole.

Sectoral models also give a better understanding of the overall change in employment as a result of specific trends in each sector. Employment can follow very different trajectories from one sector to another and, depending on the quarter, this can make a small or large contribution to overall change. Of all the sectors, temporary employment stands out because although it represents only 4% of market employment, on its own it accounts for almost 40% of quarterly fluctuations. Calibrations also serve to gradually incorporate different types of information as they become available, first from the business tendency surveys, then from the first quantitative indicators, especially for temporary employment. As this information continues to be introduced, the accuracy of the forecasts is gradually improved.

A new indicator, the "employment climate", synthesises information on the change in workforce from the monthly business tendency surveys. It provides a satisfactory description of the short-term outlook for payroll employment. Compared to the business climate in France, it shows the less irregular profile of the short-term employment situation and the fact that employment reacts with a time lag to fluctuations in activity. In fact, the differences between business climate and employment climate provide a coherent picture of the apparent labour productivity cycle. For direct employment forecasts in the calibration models, this "employment climate" provides significant additional information.

Forecasting employment based on business tendency survey responses

About 45 days after the end of each quarter, INSEE publishes an early estimate (or "flash estimate") of payroll employment in the non-farm market sectors (*Box 1*). A second estimate is published later, about 70 days after the end of the quarter.

Before these estimates become available, INSEE produces an employment forecast for the current quarter with projections for the next one or two quarters for each issue of *Conjoncture in France* (*Table 1*). Two complementary tools are used to produce the employment forecast: first, macroeconomic equations which mainly relate employment to activity, and second, calibrations using enterprises' responses in the business tendency surveys or early quantitative indicators.

Macroeconomic equations and calibrations, two complementary tools for the forecaster

Macroeconomic equations require an activity scenario and assumptions about trend variations in productivity

Short-term changes in payroll employment in the market sectors can be forecast using macroeconomic equations which model the link between the number of people employed and its main determinants: mainly activity in the branches concerned, but also the cost of labour or its duration (Argouarc'h *et al.*, 2010; Passeron and Perez-Duarte, 2003). These models are estimated by assuming that apparent labour productivity increases at a regular pace in the long term. The effects of policies to enhance job growth, such as the tax credit for encouraging competitiveness and jobs or the emergency plan for employment, are usually estimated independently then incorporated on a discretionary basis into the models.[1] These macroeconomic models have proved their effectiveness over several quarters and for this reason they are used in the preparation of each *Conjoncture in France*. However, they remain dependent on the overall macroeconomic diagnosis, especially the scenario for market-sector activity. They also depend on changes in the trend in apparent labour productivity or changes in behaviour by employers who may be slow or fast to adjust their workforce according to activity. This was notably the case during the 2008-2009 crisis, a period when results from macroeconomic models were less successful.

1. See "What effects should we expect from the Tax Credit for Encouraging Competitiveness and Jobs (CICE) in 2014?", *Conjoncture in France*, December 2013, p. 71-73 and "In 2015, the CICE employment tax credit is set to ramp up and the Responsibility and Solidarity Pact (PRS) is to be introduced", *Conjoncture in France*, December 2014, p. 73-74.

Table 1 - Publication calendar for employment information in quarter Q

Indicator	Source	Release time compared to the end of quarter Q
Business tendency surveys - month 1 of quarter Q	INSEE	–70 days
60 days before the end of quarter Q: beginning of the forecast exercise* Conjoncture in France *from INSEE		
Business tendency surveys - month 2 of quarter Q	INSEE	–40 days
Estimation of temporary employment - month 1 of quarter Q	DARES	–20 days
20 days before the end of quarter Q: end of the forecast exercise* Conjoncture in France *from INSEE		
Business tendency surveys - month 3 of quarter Q	INSEE	–10 days
Payroll employment except temporary employment - end of the month - month 1 of quarter Q*	ACOSS	–5 days
Estimation of temporary employment - month 2 of quarter Q	DARES	+10 days
Payroll employment except temporary employment - end of the month - month 2 of quarter Q*	ACOSS	+25 days
Estimation of temporary employment - month 3 of quarter Q	DARES	+40 days
"Flash" estimation of payroll employment - quarter Q	INSEE	+45 days
Estimation of payroll employment - quarter Q	INSEE	+70 days

*in view of the introduction of the Nominative Social Declaration (DSN) and its gradual application since March 2015, the monthly series of workforce numbers produced by ACOSS have temporarily not been published at a monthly rate since mid-2016.
Source: INSEE

Forecasting employment based on business tendency survey responses

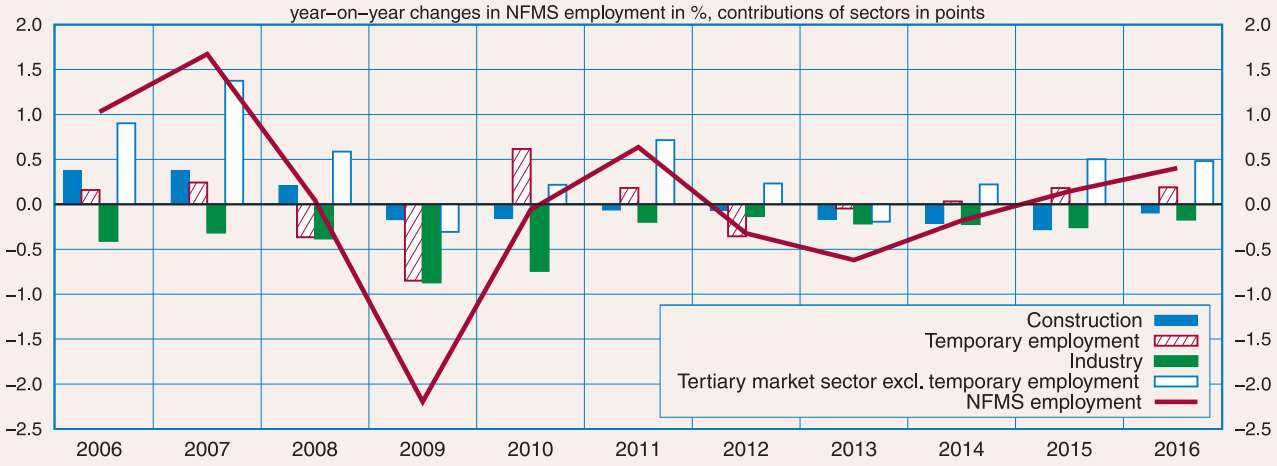
Calibrations translate business leaders' opinions collected from the business tendency surveys into quantitative forecasts

To estimate changes in employment over the very short term — the current quarter and the following quarter — calibrations using balances of opinion from the business tendency surveys often give more accurate results than macroeconomic equations. These calibrations assume a constant statistical relationship between measured employment and balance of opinion from business leaders, especially regarding past and expected changes in their own workforce. On the other hand, they do not presuppose an economic relationship between employment and activity and do not require a growth scenario or an assumption regarding productivity.

Box 1 – Employment forecasting based largely on that of payroll employment in non-farm market sectors

The results in this report concern only payroll employment in the non-farm market sectors, for which the first estimate is published 45 days after the end of the quarter (mainly based on the ACEMO (Labour Activity and Employment Conditions) surveys conducted by DARES (Research Studies and Statistics Department)); this estimate is then revised regularly, especially 70 days after the end of the quarter (based on comprehensive declarations by enterprises to URSSAF). Payroll employment in the non-farm market sector represents a little under two-thirds of total employment, and is made up mainly of market tertiary employment (73%). While temporary employment in this sector represents a small proportion of employment (4% of the total), its contribution to fluctuations in employment is considerably greater than its weight would suggest (*Graph* and *Table*).

Four sectors making very different contributions to change in non-farm market sector (NFMS) payroll employment



Source: INSEE

Temporary employment, a small but highly volatile share in non-farm market payroll employment

Contributions to quarterly fluctuations by the different employment components

	Share of employment (in 2016)	Average contributions to variations in employment over the period 2007-2016
Industry	19%	12%
Construction	8%	8%
Tertiary sector except temporary employment	69%	41%
Temporary employment	4%	39%

Scope: payroll employment of non-farm market sectors
Source : Insee

Employment in industry (19% of the total) has declined almost continuously since the first oil shock; in particular, it fell sharply at the time of the 2008-2009 crisis. In construction, employment, like activity, follows an economic cycle that is quite distinct from that of the other sectors; in particular, it made the largest negative contribution in 2015 despite representing only 8% of the total.

In *Conjoncture in France*, forecasting methods differ according to sector of activity or form of employment. These distinctions are due mainly to the availability of sources. For payroll employment in the non-farm market sector, as quarterly data are available it is possible to develop different specific tools (macro- or meso-economic equations, calibrations based on business tendency survey responses, calibrations based on quantitative indicators, etc.) for preparing forecasts. For assisted contracts in the public sector (CUI-CAE (single integration contract in the non-market sector), future contracts, etc.) sub-annual data are also available, and in this case, forecasts are based on input assumptions and parameters related to contract duration.

For other jobs (public sector tenured personnel, self-employed, agricultural employees, etc.), information is provided only at an annual rate. Forecasts are mainly deduced from trends observed in previous years. ■

Forecasting employment based on business tendency survey responses

To forecast employment in the very short term, a "direct" forecast is compared with aggregated sectoral calibrations

Short-term change in payroll employment in the non-farm market sector from business tendency surveys is forecast either by calibrating the entire scope ("direct" approach), or by aggregating employment forecasts for the sectors comprising it ("disaggregated" or "indirect" approach): industry, construction and the market tertiary sector, taking care to differentiate temporary employment within this last sector. Sectoral forecasts are prepared based on calibrations which use different balances of opinion, mainly those on employment in the corresponding sectors (*Appendix 1*).

When using the "indirect" method it is possible to refine analysis of the short-term outlook in employment by pinpointing those sectors that have made the largest contributions. While they all undergo a common change, the different sectors are also subject to their own short-term economic uncertainties. All in all, they may make very different contributions to overall change from one quarter to another (*Box 1*). By comparing the direct and indirect methods it is also possible to test the consistency of overall forecasts.

Incorporating quantitative information on temporary employment improves the calibrations

The employment forecast published by INSEE in *Conjoncture in France* is the result of an iterative process which takes place between seventy and twenty days before the end of the current quarter. As new employment information becomes available, it is included in the calibrations to improve the forecast.

Up to 40 days before the end of the quarter, the payroll employment forecast is based solely on the business tendency surveys. This forecast is considerably improved when the results from the business tendency surveys from the second month of the quarter ("at month 2") are included. At the end of the process, temporary employment for the first month of the quarter is published by DARES (Research Studies and Statistics Department) and by taking this into account the accuracy of the forecast is further improved (*Appendix 1* and *Table 2*).

The quality of the payroll employment forecast depends on that of temporary employment

At the start of the exercise, the payroll employment forecast suffers from a lack of information on temporary employment, which by nature is difficult to predict as it is subject to wide quarterly variations. It is in fact the temporary employment estimate that contributes most to average forecasting error at the beginning of the period (*Graph 1*). While temporary employment represents a little less than 4% of market employment in level, because of its strong volatility since 2007 it has contributed about 40% of total fluctuations (*Box 1*).

Table 2 - Mean forecast error for payroll employment change in the non-farm market sector in quarter Q, according to the estimate date

in %

	Estimate date			
	Conjoncture in France Q–1	Business tendency survey - month 1	Business tendency survey - month 2	*Conjoncture in France* (temporary employment indicator from DARES - month 1)
(date expressed in a number of days compared to the end of the quarter)	*100 days before*	*70 days before*	*40 days before*	*20 days before*
Industry	0.16	0.15	0.14	0.14
Construction	0.31	0.23	0.23	0.23
Tertiary sector except temporary employment	0.22	0.15	0.15	0.15
Temporary employment	4.62	3.61	3.02	2.14
NFMS Employment (indirect estimate)	0.24	0.19	0.18	0.14
NFMS Employment (direct estimate)	0.24	0.19	0.16	0.15

Note: forecast errors are calculated for the period 2007-2016.
How to read the table: for a *Conjoncture in France* issue published at the end of quarter Q–1, change in employment in industry in quarter Q is forecast using a root mean (square) error of 0.16%.

Sources: DARES (temporary employment numbers - end of the month), INSEE

The contribution of temporary employment to the overall forecast error decreases with the availability of the business tendency surveys: in two months, i.e. between the beginning of the quarter and the end of the second month, the contribution by this sector decreases by more than 9 points (*Graph 1*). Incorporating the first estimate of temporary employment for the first month of the quarter at the end of the period reduces this contribution still further, by 17 points. For the other sectors, taking the business tendency surveys into account over the quarter increases the accuracy of the estimates a little more moderately; they therefore contribute relatively more to the forecast errors, especially market tertiary employment excluding temporary employment, given its weight.

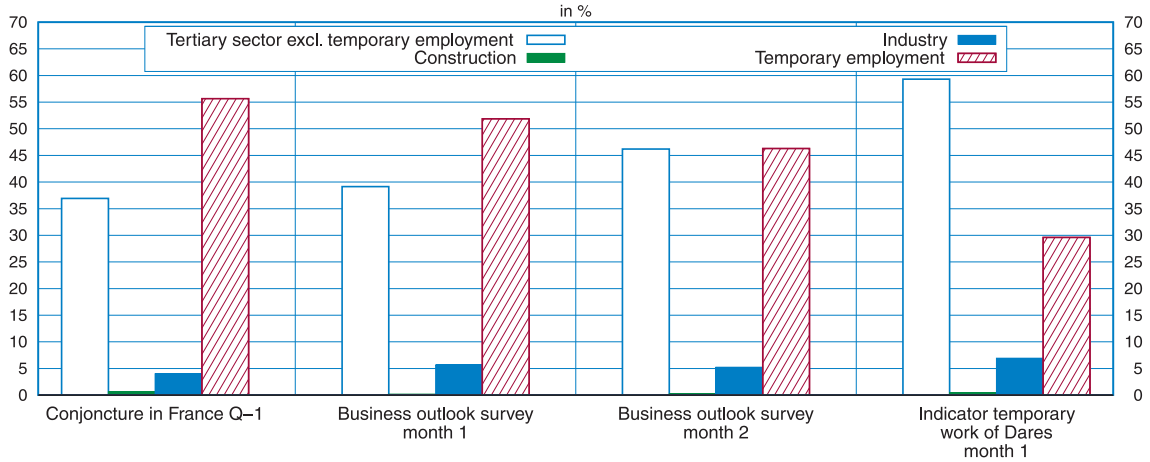
Forecasting can benefit from the publication of monthly quantitative indicators

For temporary employment, introducing monthly quantitative information clearly improves the accuracy of the overall employment forecast.
Another monthly quantitative indicator illustrates this contribution: the estimate of payroll employment at the end of the month produced by ACOSS, taking as its scope competitive enterprises with at least 10 employees. When this indicator is taken into account between the end of the forecasting period for *Conjoncture in France* (T–20 days) and the first employment estimate (T+45), the forecast for quarterly change in non-farm market sector employment, excluding temporary employment, is improved (*Box 2*).

The forecasts used in each Conjoncture in France *take into account both direct and indirect approaches*

At the end of the forecasting exercise for *Conjoncture in France*, the indirect approach provides an employment forecast of predominantly better quality. However, the direct approach is more parsimonious: a single calibration is needed with one or two variables taken from the business tendency surveys. In addition, this approach does not always give less satisfactory results: since 2007 and with the models used here, at the time of publication of the *Conjoncture in France*, more than 4 times out of 10 the direct approach provides forecasts for the current quarter that are of better quality than the indirect approach. In practice, the forecasts presented in *Conjoncture in France* are based on the results obtained from different tools, macroeconomic equations and calibrations based on the surveys; for the surveys, the direct and indirect approaches are arbitrated.

1 - Contributions by the different sectors to the forecast error for employment in the current quarter as the indicators become available



Note: the mean quadratic contributions are calculated for the period 2007-2016.
How to read the graph: at the time that *Conjoncture in France* is being finalised, when the monthly indicator for temporary employment is known, forecast errors in temporary employment account for about 30% of the forecast error for quarterly change as a whole.

Sources: DARES (temporary employment numbers - end of the month), INSEE (business tendency survey and employment numbers), INSEE calculations

Forecasting employment based on business tendency survey responses

Box 2 - After publication of *Conjoncture in France* but before the "flash" estimates for employment, the ACOSS monthly indicator improves forecasting accuracy

Another producer of statistics, the Central Agency of Social Security Associations (ACOSS), publishes a payroll employment estimate at the end of every month, based on a set of data of similar scope to the non-farm market branches, that of the private sector except temporary employment, limited to enterprises with 10 or more employees. Until mid-2016, this indicator was published about 55 days before the end of the month under consideration (i.e. 5 days before the end of the quarter for the first month, 25 days after the end of the quarter for the second month). In neither case are these indicators available for the forecasting period of *Conjoncture in France* (20 days before the end of a quarter) but they are available between this publication and the flash estimate for employment published 45 days after the end of the quarter.

Incorporating the ACOSS monthly indicator[1] improves forecasting by 30%

To appreciate the contribution made by the ACOSS monthly indicator to forecasting payroll employment excluding temporary work, models that incorporate this indicator are compared with a reference model that uses the indicator for the business climate in France. However, since the ACOSS indicator is only available from 2006, there is not sufficient time depth to compare the quality of the models outside the sample. For the period 2006-2015, the inclusion of the ACOSS monthly indicator until the second month of the quarter improved forecasting by 30% between the end of the forecasting period and 25 days after the end of the quarter under consideration.

Forecast of non-farm market employment excluding temporary employment in the first month of quarter "t+1"

Reference model

$$emploi\_SMNAHI_t = \underset{(9.9)}{0.89} \times emploi\_SMNAHI_{t-1} + \underset{(3.3)}{0.015} \times Dclimat\_France\_m4_t$$

(in brackets the Student's t-test statistics)
Period of estimation: 2006Q2-2016Q4
R^2 adjusted in the model: 0.69

where:
- $emploi\_SMNAHI_t$ is the growth rate of non-farm market sector payroll employment excluding temporary employment in quarter t, standard deviation 0.24% from 2006;
- $climat\_France\_m4_t$ is the business climate in France for the first month of quarter t+1;
- D is the difference operator.

The root mean square error (RMSE) for this model for the period 2006Q2-2016Q4 is 0.13%.

Model with ACOSS indicator

$$emploi\_SMNAHI_t = \underset{(-6.7)}{-1.24} + \underset{(5.1)}{0.48} \times acoss\_mens\_SMNAHI\_m2_t + \underset{(6.5)}{0.012} \times climat\_France\_m4_t$$

(in brackets the Student's t-test statistics)
Period of estimation: 2006Q2-2016Q4
R^2 adjusted in the model: 0.85

where:
- $acoss\_mens\_m2_t$ is the ACOSS monthly indicator in the second month of quarter t.

The root mean square error (RMSE) for this model for the period 2006Q2-2016Q4 is 0.09%, i.e. a 30% gain compared with the reference model.

There is also a clear improvement in accuracy when considering only industrial employment.

Forecast of payroll employment in industry

Reference model

$$emploi\_industrie_t = \underset{(-1.5)}{-0.05} + \underset{(6.7)}{0.59} \times emploi\_industrie_{t-1} + \underset{(4.8)}{0.013} \times solde\_emploi\_passé\_industrie\_m4_t$$

(in brackets the Student's t-test statistics)
Period of estimation: 2006Q2-2016Q4
R^2 adjusted in the model: 0.82

where:
- $emploi\_industrie_t$ is the growth rate of payroll employment in industry in quarter t, standard deviation 0.31% from 2006;
- $solde\_emploi\_passé\_industrie\_m4_t$ is the balance of opinion on recent change in employment in industry in the first month of quarter t+1.

The root mean square error (RMSE) for this model for the period 2006Q2-2016Q4 is 0.13%.

1. Since August 2016, the ACOSS monthly indicator is no longer published every month. Estimates have been disrupted by the introduction of a new method for collecting social declarations by employers, the Nominative Social Declaration (DSN). The indicators are currently only published every three months, about two months after the end of the given quarter. They are therefore temporarily no longer usable for forecasting before the quarterly publication.

Model with ACOSS indicator

$$emploi\_industrie_t = \underset{(-1.2)}{-0.04} + \underset{(3.4)}{0.44} \times emploi\_industrie_{t-1} + \underset{(4.6)}{0.53} \times acoss\_mens\_ind\_m2_t + \underset{(4.1)}{0.016} \times Dsolde\_emploi\_passé\_industrie\_trim_{t+1}$$

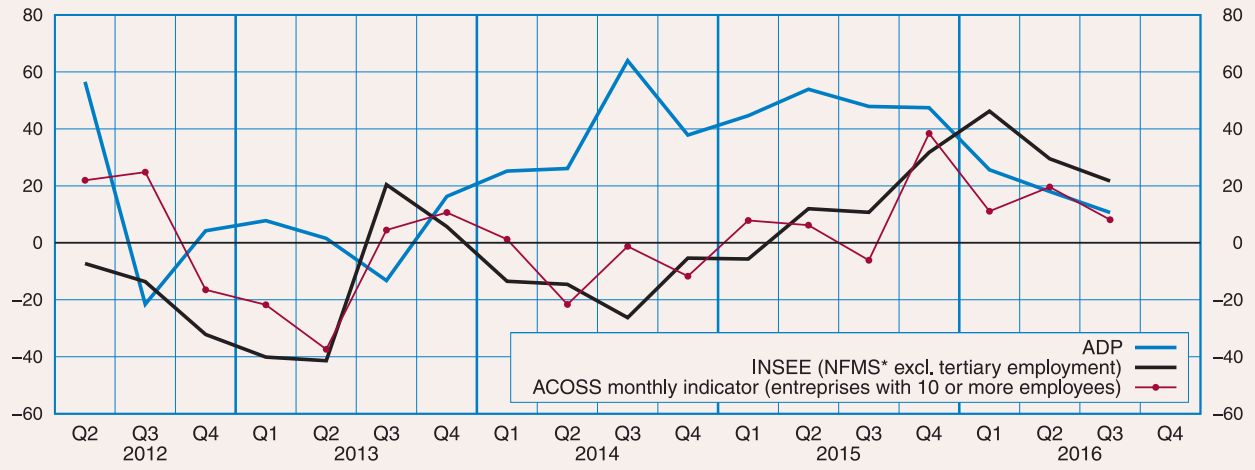
(in brackets the Student's t-test statistics)
Period of estimation: 2006Q2-2016Q4
R^2 adjusted in the model: 0.89

where:
- *emploi_industrie*$_t$ is the growth rate of payroll employment in industry in quarter t;
- *acoss_mens_ind_m2*$_t$ is the ACOSS monthly indicator for industry in the second month of quarter t;
- *solde_emploi_passé_industrie_trim*$_{t+1}$ is the quarterly balance of opinion on recent change in employment in industry published in the first month of quarter t+1.

The root mean square error (RMSE) for this model for the period 2006Q2-2015Q3 is 0.10%, i.e. a 23% gain compared with the reference model.

The monthly quantitative indicator of the stock of employment established by ACOSS is not the only available indicator. First, ACOSS also publishes monthly data on hirings which can improve employment calibrations for certain sectors. Second, since the end of 2015 the human resources management consultancy ADP has introduced a monthly employment indicator based on a sample of its client companies.

Every month, ADP publishes its monthly employment report about 20 days after the end of the month under consideration, which is therefore a very early indicator. However, this indicator seems fairly difficult to use. Firstly, because of its limited time depth: it is available only from the beginning of 2012, which limits the possibility of developing an econometric model. The second reason is the poor correlation between this indicator and the INSEE indicator based on company declarations to URSSAF (covering the non-farm market sector except temporary employment; Graph): the correlation of the quarterly variations in these indicators with the area that is closest in scope (market sector except temporary employment) is 14%, well below the correlation between INSEE's quarterly variations and those of the ACOSS monthly indicator (67%). Lastly, the dynamism of this ADP indicator for 2014 and 2015 is difficult to relate to concomitant information on activity or unemployment. ■



*NFMS: non-farm market sector
Note: the ADP and ACOSS monthly indicators are shown as quarterly figures.

Sources: ACOSS, ADP and INSEE

Forecasting employment based on business tendency survey responses

Employment reacts with a time lag to fluctuations in activity

Employment and activity have short-term cycles which are linked but out of phase, as reflected in the business tendency surveys

All the business tendency surveys include questions on employment, usually one on past change in employee numbers and another on expected change.[2] Irrespective of the sector, the balances of opinion of business leaders concerning employment describe a very specific short-term economic cycle, with a similar profile to that of the balances of opinion for activity, though lagging slightly behind. In the manufacturing industry, balances of opinion on employment[3] recovered more slowly than those on production in the wake of the 2008-2009 economic and financial crisis (*Graph 2*). In addition, balances of opinion on employment are considerably less volatile: they vary much less than those on production, which are subject to severe jolts. At the beginning of 2016, when the balances of opinion on production showed contrasting changes (strong improvement in expected production but sharp fall in past production), the balances for employment once again showed the upward trend started at the beginning of 2015. These features of the balances of opinion clearly reflect those of the quantitative variables, especially the way that employment lags behind, reacting more slowly to fluctuations in activity for each sector, except temporary employment.

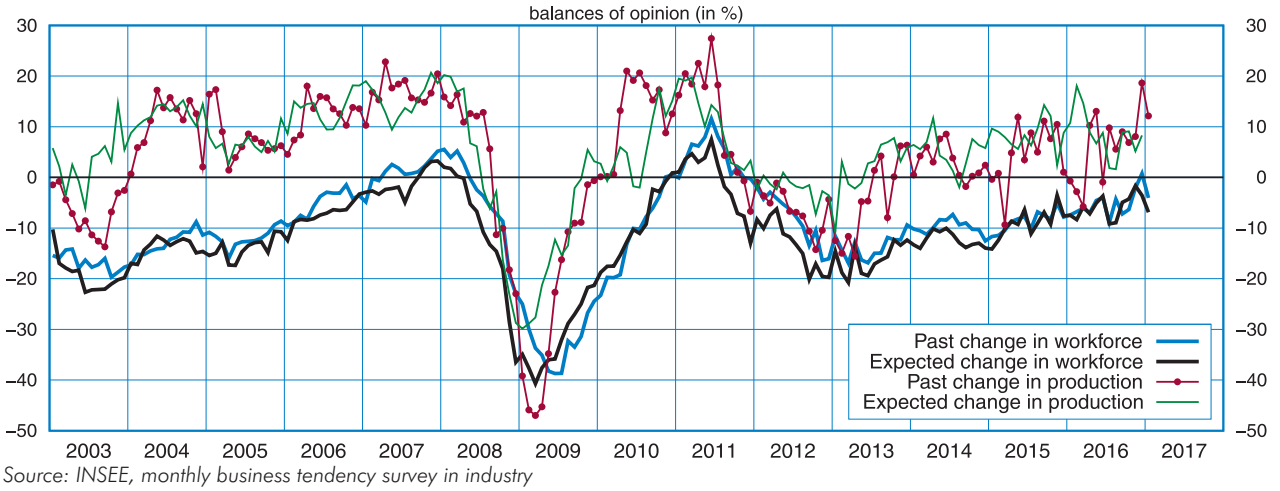
"France" business climate, an aggregate indicator of overall activity which is useful for forecasting employment directly

Of all the "direct" calibration models for payroll employment in the non-farm market sector, those using the estimated business climate for all market sectors of the French economy ("France" business climate) often give the most accurate forecasts (see also *Special analysis*, "How to forecast employment figures by reading the newspaper", p. 35). This may seem paradoxical, in that this climate is supposed to reflect change in economic activity overall rather than change in employment. In fact it summarises information from 26 balances of opinion from 5 sector surveys: industry, services, building industry, retail and wholesale trade

2. In all the surveys, questions take the form, "How has your total workforce changed in the last three months?" and "What is the expected change in total workforce in your enterprise in the next three months?" However, from one survey to another there are always a few differences over the definition of workforce. The term total workforce is used for the industry survey, with no further clarification given; however, employees and self-employed workers are required for the building sector survey figures, workforce includes temporary workers for retail trade and services surveys, and lastly both temporary work and employment excluding temporary work are specified in the civil engineering survey.

3. Balances of opinion on employment in industry are now available on a monthly basis. The available timescale is now sufficient to carry out seasonal adjustments and as a result these new series can be used rather than quarterly employment balances of opinion.

2 - Balances of opinion on employment have a similar profile to those for activity but they lag behind and are less uneven



Source: INSEE, monthly business tendency survey in industry

(Bardaji *et al.*, 2008). Most of the balances used for this indicator reflect the general opinion of business leaders on change in activity (production, turnover, general outlook, etc.), and only two of the ten existing balances of opinion on employment were selected: expected changes in employment in retail trade and past changes in employment in the building industry.

"Employment climate", a new composite indicator constructed only from balances of opinion on employment

To track the specific short-term cycle of employment, factor analysis can be used to construct an indicator that summarises information contained in the balances of opinion on past and expected changes in employment in the different market sectors. The method selected here is similar to that used to calculate the business climate indicators (*Appendix 2*).

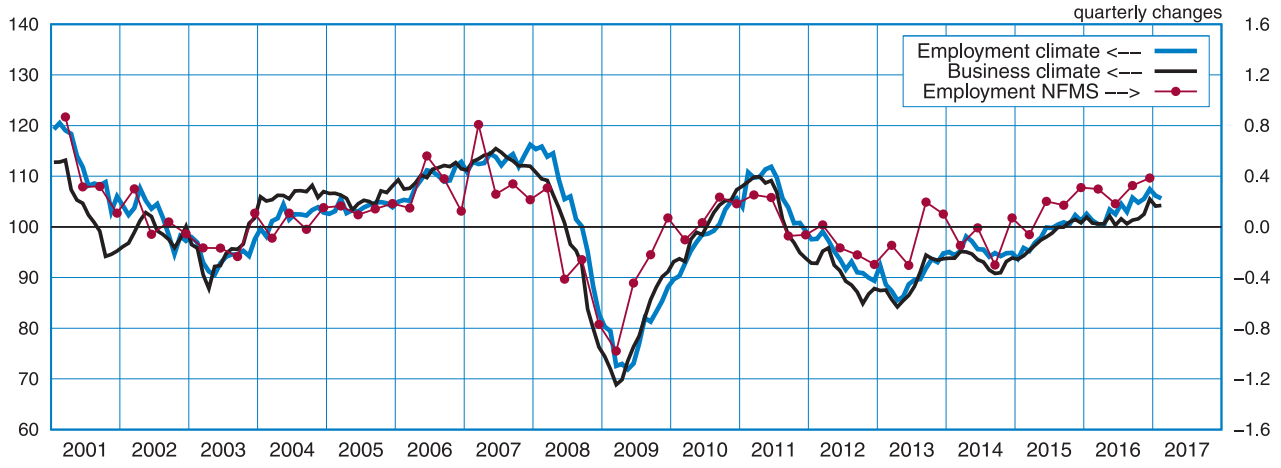
The "employment climate" is a good reflection of the short-term outlook for payroll employment

The resulting composite indicator –called the "employment climate"– very satisfactorily tracks the short-term phases of non-farm market sector payroll employment (*Graph 3*). The correlation between the employment climate calculated in the second month of a quarter and the quarterly growth in workforce numbers is high (75%), and comparable with that obtained with the business climate in France. Over the recent period the employment climate is a good reflection of the upward trend in employment that started at the beginning of 2015, and is even more accurate than the business climate.

The difference between the business climate and the employment climate reflects the productivity cycle

Concerning the non-farm market sector, the employment climate provides information that complements the business climate indicator. Since mid-2015, it has been positioned well above the business climate, and this difference illustrates the short-term slowdown in apparent labour productivity, in other words greater employment intensity of growth, mainly attributable to recent schemes to reduce labour costs. An indicator calculated as the difference between the business climate in France and the employment climate presents the cycle of apparent labour productivity in France (*Graph 4*) in a coherent way, so that it can be used to better anticipate changes.

3 - Comparison of variations in employment, "employment climate" and the business climate in France



Source: INSEE, business tendency surveys and employment numbers

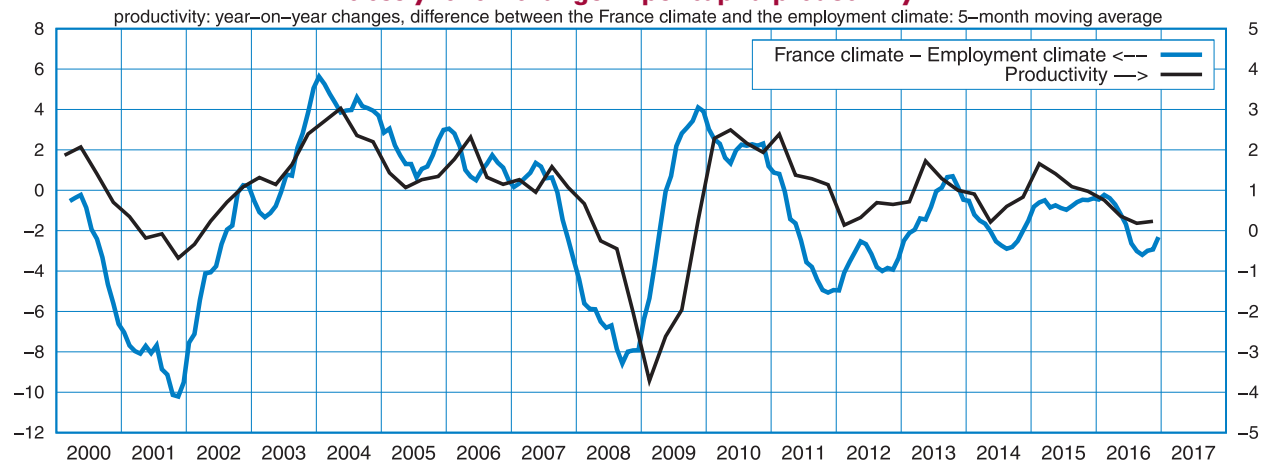
Forecasting employment based on business tendency survey responses

The employment climate complements the business climate in France to forecast change in payroll employment

To control for the properties of this new indicator, the predictive capacities of three payroll employment models were tested for the period 1991-2016 (*Box 3*): a reference model involving only the business climate; a model involving only the employment climate, and finally a model involving these two indicators simultaneously. The second model appeared slightly less efficient in forecasting than the reference model, which confirmed that the business climate contains information in advance of the employment model. In the third model, the two indicators are clearly differentiated and the model reproduces data better when it is estimated for the entire period of study (larger adjusted R^2). This shows that the employment climate provides additional information to the business climate to forecast change in payroll employment. On the other hand, forecasting errors are not significantly reduced when a real-time simulation is carried out ("real-time" RMSFE not significantly different).

INSEE will publish this new indicator every month from April 2017, as a complement to the indicators on business climate and the economic turnaround in France. ■

4 - Differences between the business climate in France and the employment climate closely follow change in per capita productivity



Source: INSEE, business surveys, quarterly accounts

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Bardaji J., **Minodier C.**, **Clavel L.** and **Tallet F.** (2008), "Two new indicators to help analyse the economic outlook in France", *Conjoncture in France*, December, p. 21-41.

Passeron V. and **Perez-Duarte S.** (2003) , "Will the recovery be jobless?", *Conjoncture in France*, December, p. 11-28. ■

Box 3 – The employment climate in the forecasting models and testing its forecasting properties

In order to directly forecast change in non-farm market employment in the short term, the reference model that can be applied in the second month of the quarter is a calibration involving the indicator for the business climate in France.

Reference model

$$emploi\_SMNA_t = \underset{(-2.3)}{-0.89} + \underset{(3.1)}{0.30} \times emploi\_SMNA_{t-1} + \underset{(3.7)}{0.36} \times emploi\_SMNA_{t-2}$$
$$+ \underset{(2.3)}{0.009} \times climat\_France\_m2_t + \underset{(5.0)}{0.057} \times (climat\_France\_m2_t - climat\_France\_m1)_t$$
$$+ \underset{(2.4)}{0.013} \times Dclimat\_France\_m1_t$$

(in brackets the Student's t-test statistics)
Period of estimation: 1991Q1-2014Q4
R^2 adjusted in the model: 0.78

where:
- $emploi\_SMNA_t$ is growth in non-farm market payroll employment in quarter t , where the standard deviation is 0.33% since 2007;
- $climat\_France\_m1_t$ is the business climate in France in the first month of quarter t;
- $climat\_France\_m2_t$ is the business climate in France in the second month of quarter t;
- D is the difference operator.

The root mean square forecast error for this model ("real time" RMSFE) for the period 2007Q1-2016Q4 is 0.15%.

Model with employment climate only

$$emploi\_SMNA_t = \underset{(2.3)}{0.24} \times emploi\_SMNA_{t-1} + \underset{(3.3)}{0.32} \times emploi\_SMNA_{t-2} + \underset{(2.8)}{0.28} \times emploi\_SMNA_{t-3} + \underset{(6.8)}{0.047} \times Dclimat\_emploi\_m2_t$$

(in brackets the Student's t-test statistics)
Period of estimation: 1991Q1-2014Q4
R^2 adjusted in the model: 0.77

The standard deviation error for this model ("real time" RMSFE) for the period 2007Q1-2016Q4 is 0.19%.

Model with employment climate and business climate in France

$$emploi\_SMNA_t = \underset{(-2.4)}{-0.91} + \underset{(2.8)}{0.26} \times emploi\_SMNA_{t-1} + \underset{(4.3)}{0.38} \times emploi\_SMNA_{t-2}$$
$$+ \underset{(2.4)}{0.009} \times climat\_France\_m2_t + \underset{(5.2)}{0.061} \times (climat\_France\_m2_t - climat\_France\_m1)_t$$
$$+ \underset{(3.0)}{0.019} \times Dclimat\_emploi\_m2_t$$

(in brackets the Student's t-test statistics)
Period of estimation: 1991Q1-2014Q4
R^2 adjusted in the model: 0.80

The standard deviation error for this model ("real time" RMSFE) for the period 2007Q1-2016Q4 is 0.16%. ■

Forecasting employment based on business tendency survey responses

Appendix 1 – Calibrations from business tendency surveys to forecast short-term change in non-farm market sector payroll employment

Forecasting change over the short term in payroll employment from the business tendency surveys can be done either by calibrating the scope of the entire non-farm market sector (in what is called a "direct approach"), or by aggregating forecasts from the industry, construction, tertiary except temporary employment and temporary employment sectors ("disaggregated" or "indirect" approach).

Calibration of non-farm market payroll employment (direct approach)

The different tests carried out with the many balances of opinion in the surveys conclude that in general, in a forecasting exercise in *Conjoncture in France* (in the second month of a given quarter "t"), the best direct forecast of change in non-farm market employment is obtained from a calibration that uses the business climate indicator for the French economy.

$$
\begin{aligned}
(1)\quad & emploi\_SMNA_t = \underset{(-2.3)}{-0.88} + \underset{(2.7)}{0.26} \times emploi\_SMNA_{t-1} + \underset{(4.4)}{0.42} \times emploi\_SMNA_{t-2} \\
& + \underset{(2.4)}{0.009} \times climat\_France\_m2_t + \underset{(2.3)}{0.013} \times Dclimat\_France\_m1_t \\
& + \underset{(5.6)}{0.066} \times (climat\_France\_m2_t - climat\_France\_m1_t)
\end{aligned}
$$

(in brackets the Student's t-test statistics)
Period of estimation: 1995Q1-2016Q4
R^2 adjusted in the model: 0.79

where:
- $emploi\_SMNA_t$ is the growth rate of non-farm market payroll employment in quarter t, where the standard deviation is 0.33% from 2007;
- $climat\_France\_m1_t$ and $climat\_France\_m2_t$ are the values for the France business climate in the first two months of quarter t;
- $Dclimat\_France\_m1_t$ is the variation in the France business climate in the first month of quarter t.

The root mean square forecast error for this model ("real time" RMSFE[1]) for the period 2007Q1-2016Q4 is 0.16%.

Calibration of non-farm market payroll employment (indirect approach)

The calibration models by sector, on the other hand, show balances of opinion from business leaders in the sector under consideration on their own workforce, supplemented by other variables.

Manufacturing industry

$$
\begin{aligned}
(2)\quad & Ind_t = \underset{(-0.7)}{-0.02} + \underset{(9.2)}{0.67} \times Ind_{t-1} + \underset{(3.3)}{0.006} \times solde\_commandes\_Ind\_m2_t \\
& + \underset{(3.1)}{0.014} \times Dsolde\_effectif\_prévu\_Ind\_trim_t
\end{aligned}
$$

Period of estimation: 1995Q1-2016Q4
R^2 adjusted in the model: 0.80

where:
- Ind_t is the growth rate of payroll employment in industry in quarter t, where the standard deviation is 0.33% from 2007;
- $Dsolde\_effectif\_prévu\_Ind\_trim_t$ is the variation in the balance of opinion on expected change in employment, calculated from the quarterly survey;
- $solde\_commandes\_Ind\_m2_t$ is the balance of opinion on the level of order books in the second month of quarter t.

Construction

$$
\begin{aligned}
(3)\quad & BTP_t = \underset{(6.1)}{0.36} + \underset{(2.9)}{0.28} \times BTP_{t-1} + \underset{(4.5)}{0.009} \times solde\_commandes\_Bat\_m2_t \\
& + \underset{(3.1)}{0.016} \times Dsolde\_effectif\_prévu\_Bat\_m2_t + \underset{(5.1)}{0.011} \times solde\_activité\_prévue\_TP_t
\end{aligned}
$$

Period of estimation: 1995Q1-2016Q4
R^2 adjusted in the model: 0.88

where:
- BTP_t is the growth rate of payroll employment in construction in quarter t, where the standard deviation is 0.55% from 2007;
- $Dsolde\_effectif\_prévu\_Bat\_m2_t$ is the variation in the balance of opinion on expected change in employment in the second month of quarter t;
- $solde\_commandes\_Bat\_m2_t$ is the balance of opinion on the level of order books in the second month of quarter t;
- $solde\_activité\_prévue\_TP_t$ is the balance of opinion on expected change in activity in civil engineering in quarter t.

The root mean square forecast error for this model ("real time" RMSFE) for the period 2007Q1-2016Q3 is 0.23%.

1. To find the best model, we try to position ourselves in the same conditions in which the economic analyst would find himself at each date t to construct the calibration. The idea is to recalculate the model coefficients at each date t, by including at each stage the latest available information observed and then measuring the forecast error obtained with this information. The simulation is nevertheless carried out using historical series of payroll employment and survey balances as published today and not that of the variations measured for the first publication: strictly speaking, this is therefore "pseudo real time".

Tertiary employment except temporary employment

$$(4)\quad \begin{aligned} TerMHI_t &= \underset{(-2.0)}{-0.55} + \underset{(3.6)}{0.34} \times TerMHI_{t-1} + \underset{(4.2)}{0.018} \times Dclimat\_Service\_m2_t \\ &+ \underset{(4.0)}{0.015} \times solde\_effectif\_passé\_ComD\_m2_t + \underset{(2.6)}{0.008} \times climat\_ComG\_m1_t \\ &+ \underset{(4.3)}{0.78} \times ind1998Q2 \end{aligned}$$

Period of estimation: 1995Q1-2016Q4
R^2 adjusted in the model: 0.79

where:
- $TerMHI_t$ is the growth rate of payroll employment in the tertiary sector excluding temporary employment in quarter t, where the standard deviation is 0.23% from 2007;
- $solde\_effectif\_passé\_ComD\_m2_t$ is the balance of opinion on past change in employment in retail trade in the second month of quarter t;
- $Dclimat\_Service\_m2_t$ is the variation in business climate in services in the second month of quarter t;
- $climat\_ComG\_m1_t$ is the business climate in wholesale trade, in the first month of quarter t;
- *Ind1998Q2* is a dummy for Q2 1998.

The root mean square forecast error for this model ("real time" RMSFE) for the period 2007Q1-2016Q3 is 0.15%.

Temporary employment

For this sector, it is possible first to take into account only the survey variables (calibration (5)); when carrying out a forecasting exercise for *Conjoncture in France*, we can then use the temporary employment estimate from month 1 of quarter t published by DARES (calibration (6)).

$$(5)\quad \begin{aligned} Inter_t &= \underset{(0.5)}{0.24} + \underset{(3.4)}{0.47} \times Dclimat\_France\_m2_t + \underset{(2.1)}{0.28} \times Dsolde\_effectif\_prévu\_Ind\_trim_t \\ &+ \underset{(1.4)}{0.06} \times solde\_activité\_prévue\_Ind\_m2_t \end{aligned}$$

Period of estimation: 1995Q1-2016Q4
R^2 adjusted in the model: 0.47

$$(6)\quad \begin{aligned} Inter_t &= \underset{(5.2)}{0.31} \times Dclimat\_industrie\_m2_t + \underset{(3.2)}{0.11} \times Dsolde\_effectif\_prévu\_tp\_trim_t \\ &+ \underset{(1.7)}{0.08} \times Dsolde\_effectif\_prévu\_bat\_m1_t + \underset{(9.3)}{1.0} \times indicateur\_Intérim\_Dares\_m1_t \end{aligned}$$

Period of estimation: 2002Q2-2016Q4
R^2 adjusted in the model: 0.79

where:
- $Inter_t$ is the growth rate of temporary employment in quarter t, where the standard deviation is 4.89% from 2007;
- $Dsolde\_effectif\_prévu\_tp\_trim_t$ is the variation in balance of opinion on expected change in employment in the civil engineering sector in quarter t;
- $Dsolde\_effectif\_prévu\_bat\_m1_t$ is the variation in balance of opinion on expected change in employment in the building industry sector in the first month of quarter t;
- $indicateur\_Intérim\_Dares\_m1_t$ is the monthly change in the DARES indicator in the first month of quarter t;
- $Dclimat\_France\_m2_t$ is the variation in the France business climate in the second month of quarter t;
- $Dclimat\_industrie\_m2_t$ is the variation in business climate in industry in the second month of quarter t.

The root mean square error for model 5 ("real time" RMSFE) for the period 2007Q1-2016Q4 is 3.02% whereas for model 6 it is 2.14%.

Result of the aggregation

Aggregating these sector forecasts gives a forecast of change in employment in the scope of the non-farm market sector which is comparable in terms of accuracy to the direct method. At the end of the forecasting exercise for *Conjoncture in France*, it is possible to use the first monthly estimate for temporary employment to forecast both temporary employment and non-farm market employment across the whole quarter: for the period 2007Q1-2016Q4, the indirect method is better in 53% of cases, however, according to a Diebold and Mariano test, this difference is not statistically significant. ■

Appendix 2 - Construction of a composite employment indicator from business tendency surveys

In most business tendency surveys, balances of opinion are available on past or expected employment.

A composite indicator of employment can be constructed from a static factor analysis of these balances of opinion. Using this method, the behaviour of several variables can be summarised in a single unobserved variable, which represents the common trend in the balances considered.

Static factor analysis assumes that at each date t, the balance of opinion (S_{it}) is represented as the sum of a term proportional to the common factor (F_t) and a component specific to each balance (u_{it}):

$$S_{it} = \lambda_i F_t + u_{it}$$

The common factor is therefore written as a linear combination of balances of opinion:

$$F_t = \sum \omega_i S_{it}$$

The terms ω_i are the coefficients associated with the balances of opinion and these terms, called loadings, track the correlation between a given balance and the common factor.

Choice of balances and estimation period

The main difficulty in preparing this composite indicator lies in the different periodicities of the balances of opinion to be combined and the dates when they are available. In addition to the fact that some surveys are not monthly (surveys on wholesale, small construction companies and civil engineering), the balances of opinion on employment in the other surveys have also changed their periodicity over time. For example, balances on employment in the services survey have been monthly only since June 2000, the date when the survey became monthly (*Table 1*).

Table 1 - Balances of opinion on employment available in business tendency surveys

Survey	*Balance of opinion "past employment"*		*Balance of opinion "expected employment"*	
	1st disponible point	*Frequency*	*1st disponible point*	*Frequency*
Services	January 1988	Monthly since June 2000; quarterly before	January 1988	Monthly since June 2000; quarterly before
Industry	April 1976	Monthly since January 2003; quarterly before	April 1976	Monthly since January 2003; quarterly before
Retail trade	January 1991	Monthly since March 2000; bimonthly before	Janaury 1991	Monthly since March 2000; bimonthly before
Wholesale trade	July 1979	Bimonthly	July 1979	Bimonthly
Building industry	April 1975	Monthly since September 1993; quarterly before	January 1975	Monthly since September 1993; quarterly before
Small construction companies	January 1991	Quarterly	October 1990	Quarterly
Civil engineering	January 1974	Quarterly		

Source: INSEE

Only the monthly balances are selected

To calculate a common monthly employment factor, it seemed preferable to select only monthly balances. Taking quarterly balances into account would mean extending them in the months for which they are not available in order to have monthly series, thus increasing the probability of having to revise the indicator once the quarterly balance is known. In addition, the sectors concerned (civil engineering, wholesale trade) account for only 7% of employment in the non-farm market sector.

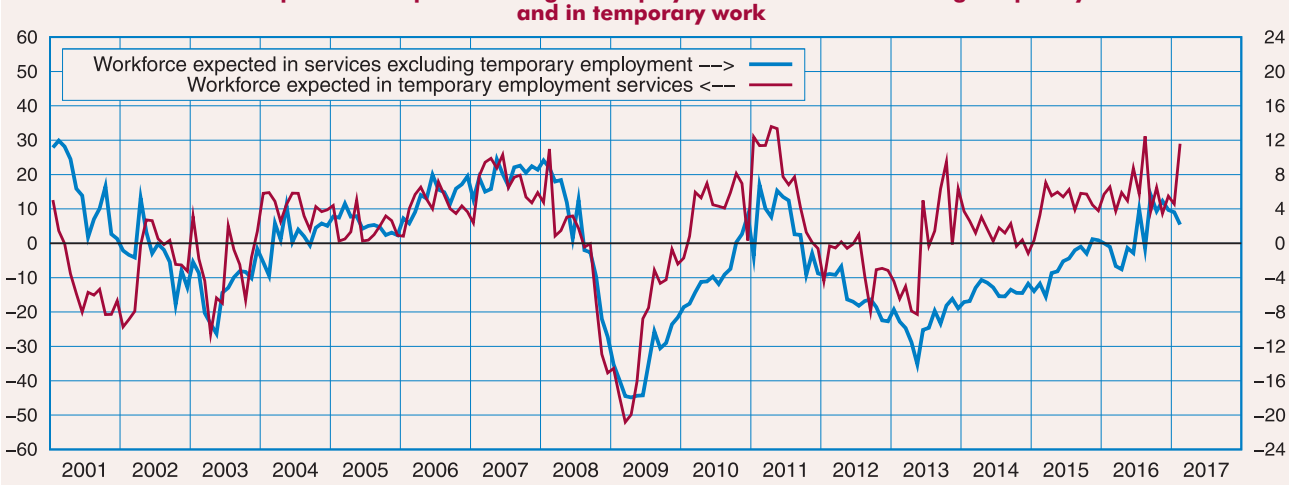
In services, temporary employment activity can be distinguished

Temporary employment activities are part of the scope of the services survey. However, the temporary employment sector has its own specific economic outlook compared with the other sectors (*Box 1*), due to the nature of this type of work, which in particular adjusts more quickly to fluctuations in activity (Argouarc'h *et al.*, 2010). The services survey reflects this situation well (*Graph*): the balance on expected employment increased much earlier for temporary employment than for services excluding temporary employment after the 2008-2009 crisis. For this reason, balances used to calculate the common factor for employment are not calculated for services as a whole. Instead we use balances for "services excluding temporary employment" on the one hand, and those for temporary employment on the other.

The composite indicator is estimated for the period 2003-2016 then backcast from 1991

As the balances of opinion on employment in the services, industry, retail trade and building industry business tendency surveys have all been monthly since 2003, the parameters of the composite indicator are estimated for the period 2003-2016. Once the parameters are calculated, they are applied to the balances of opinion from 1991 to 2003, after linear interpolation of the series that were quarterly before 2003. Lastly, the composite indicator is standardised across the entire period, which starts in 1991, so that it has a mean of 100 and standard deviation of 10 (same convention as for the business climates).

Balances of opinion on expected change in employment in services excluding temporary work and in temporary work



Note: For the temporary employment indicator, this is the balance without a workforce weighting, which is far smoother and more readable than the weighted balance due to the strong concentration in the sector.

Source: INSEE, business tendency survey in services

Quality of the indicator obtained

The common factor obtained from 10 balances on past and expected employment in the four surveys (services, manufacturing industry, retail trade and building industry) proved satisfactory in that on the one hand, all the loadings associated with the balances appeared high (*Table 2*). On the other hand, the composite indicator constructed in this way appears to be readable and correlated with the quantified measure of employment. ■

Table 2 - Coefficients and loadings associated with balances of opinion to calculate employment factor

	Coefficients		Loadings	
	Past employment	Expected employment	Past employment	Expected employment
Services except temporary employment	0.26	0.33	0.95	0.96
Temporary employment	0.05	0.05	0.74	0.76
Industry	0.09	0.10	0.86	0.87
Retail trade	0.07	0.08	0.83	0.84
Building industry	0.03	0.04	0.61	0.70

Note: Loadings show the correlation between the balance being considered and the common employment factor.
Source: INSEE, business tendency surveys and calculations

How to forecast employment figures by reading the newspaper

Clément Bortoli
Département de la conjoncture
Stéphanie Combes
Département des méthodes statistiques
Thomas Renault
Université Paris 1 Panthéon-Sorbonne
IÉSEG School of Management

Factory closures, recruitment drives, huge orders, publication of financial results: the press is a treasure trove of macroeconomic and microeconomic information on the current state of affairs in the business world. This is particularly true when it comes to employment: the media regularly report on decisions taken by businesses which have a direct impact on the labour market. The development of new big data techniques, especially in textual analysis, as well as the fact that some daily newspapers now provide online archives of articles stretching over a long period of time, allow people to make use of this data to create indicators of media sentiment about the current state of the economy.

Among French media, Le Monde *newspaper was selected for the purposes of this study because the content available on its website covers a period of time that is particularly long for France, including many articles printed in the hard copy edition before the advent of the internet. The resulting database contains over a million articles published in* Le Monde *between 1990 and the present day. By combining statistical models and techniques of textual analysis, articles dealing with the economic situation in France can be singled out, leaving a sample of around 200,000 texts. These articles can be classified by tone, positive or negative, based on a list of key words, and thus a monthly indicator of media sentiment regarding employment or the economic situation in general can be calculated.*

An indicator of this type would provide a rapid, pertinent and easy-to-read signal of short-term fluctuations in the economy, displaying similarities to the French business climate indicator derived from the business tendency surveys, published regularly by INSEE. For one thing, both indicators are available rapidly, almost in real time. For another, this indicator of media sentiment regarding the general economic situation in France is also closely correlated with the level of salaried employment, even more so than the monthly indicator of media sentiment specifically regarding employment.

The predictive power of such an indicator can then be assessed and compared to the performance of the business climate indicator. When introduced into a very short-term forecasting model for payroll employment, this media sentiment indicator generally provides real information: from the second month of the quarter onwards, it can significantly boost the accuracy of predictions compared to a simple model based purely on previous fluctuations in employment and economic activity. However, when this indicator is used alone in forecasts, it remains less effective than the business climate indicator. Finally, a model using both the business climate indicator and the media sentiment indicator yields slightly more accurate predictions than a model based solely on INSEE's business climate indicator, even though the improvement in performance is small and non-significant. Therefore, to some extent, it would appear that media sentiment contains certain residual information that is not captured by the business tendency surveys. To put it another way, when it comes to making economic forecasts, particularly for the Conjoncture in France *report, media information can be a useful addition to the INSEE's business tendency surveys but is in no way an adequate substitute.*

How to forecast employment figures by reading the newspaper

In theory, information from the media may be useful in forecasting employment in the market sector

Systematic analysis of the tone of texts published by the media can provide qualitative indications of fluctuations in economic activity in real time. Media information shares certain properties with the information derived from the business tendency surveys: it is available rapidly, several weeks before the quantitative outlook indicators; it can be summarised by a single indicator, called the "media sentiment indicator", which could, in theory, be of use to the forecaster. For example, Thorsrud (2016) uses the published content of certain Norwegian media outlets to generate an advance indicator of economic activity in the country. The rise of websites operated by major media groups, along with techniques linked to big data, make it easier to exploit the content of this wealth of information. Indicators of this kind are also facilitated by the development of open data tools such as Google Trends (Bortoli & Combes, 2015).

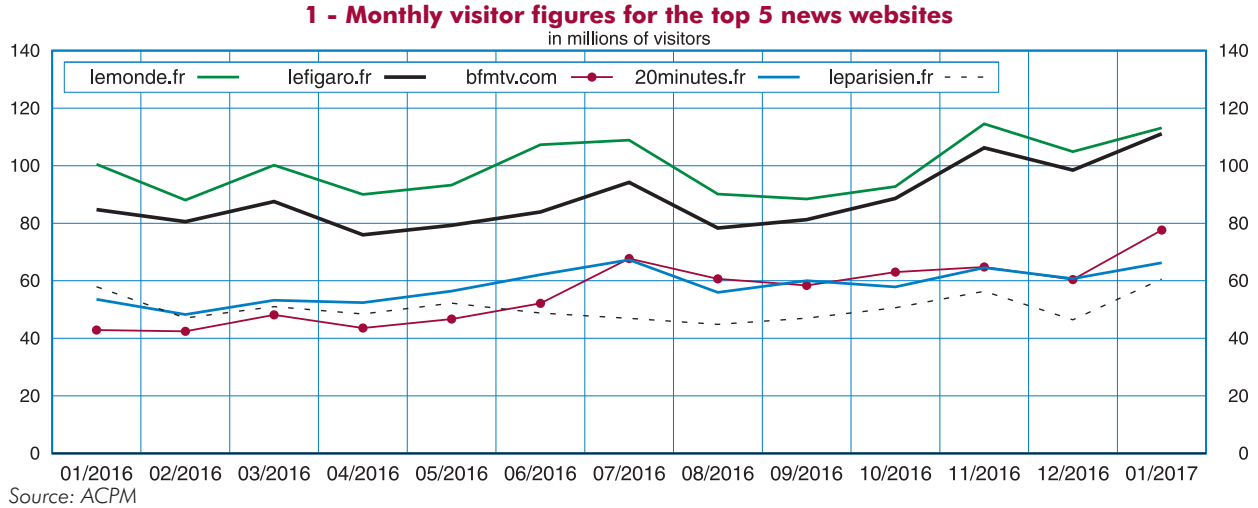
A media sentiment indicator could prove to be particularly useful for estimating employment in the very short term. There is a steady stream of articles dealing with news items which have a direct impact on the labour market, such as the announcement of recruitment drives, the opening of new facilities or, conversely, redundancy programmes. A media sentiment indicator based on these articles can provide information on current and future employment trends, long before publication of the first quantitative data. On the one hand, this indicator could sum up a number of signals which take a certain amount of time to find their way into the statistical system (the first "flash" estimates of payroll employment in the market sector are published 45 days after the end of the quarter in question). On the other hand, the media climate may itself exert a certain influence over business leaders' decisions to create or shed jobs.

Media sentiment indicators are constructed using a database of over a million articles published by *Le Monde* since 1990

A database of over one million articles published since 1990 on lemonde.fr, of which 200,000 are related to the French economy

Among the various French media sources whose published content could be used to construct a media sentiment indicator, *Le Monde* offers some particularly useful characteristics. It is one of France's leading publications: in its paper format, it is currently the second best-selling national daily paper behind *Le Figaro* (circulation of approx. 260,000 copies per day), and its website lemonde.fr is France's most-visited news site, just ahead of the *Figaro* website (*Graph 1*). Furthermore, the content available on the website covers a time period which is particularly long for France, including many articles printed in hard copy before the rise of the internet. This provides a database of 1.4 million articles published between 1990 and the present day.

1 - Monthly visitor figures for the top 5 news websites



Source: ACPM

How to forecast employment figures by reading the newspaper

In order to construct a media sentiment indicator on the current economic situation in France, this initial database was trimmed down in order to single out only those articles dealing with the economy, and whose content was directly related to the situation in France. Various filters and algorithms were used to select these articles, ending up with a working database of around 200,000 articles (*Box 1*).

Scores are given to articles according to their tone, positive or negative

The positive or negative tone of these articles was measured using a "sentiment dictionary", a list of recurring terms tracked in the articles and classified on the basis of their positive or negative connotations. There are already a number of English-language dictionaries designed for textual analysis: the *Harvard IV-4 Psychological Dictionary* is the best-known, but other dictionaries are used in specific fields of research, such as the *Loughran-McDonald* glossary for the financial sector.

Box 1 - How to pick out articles dealing with the state of economy in France from a raw database of 1.3 million published articles

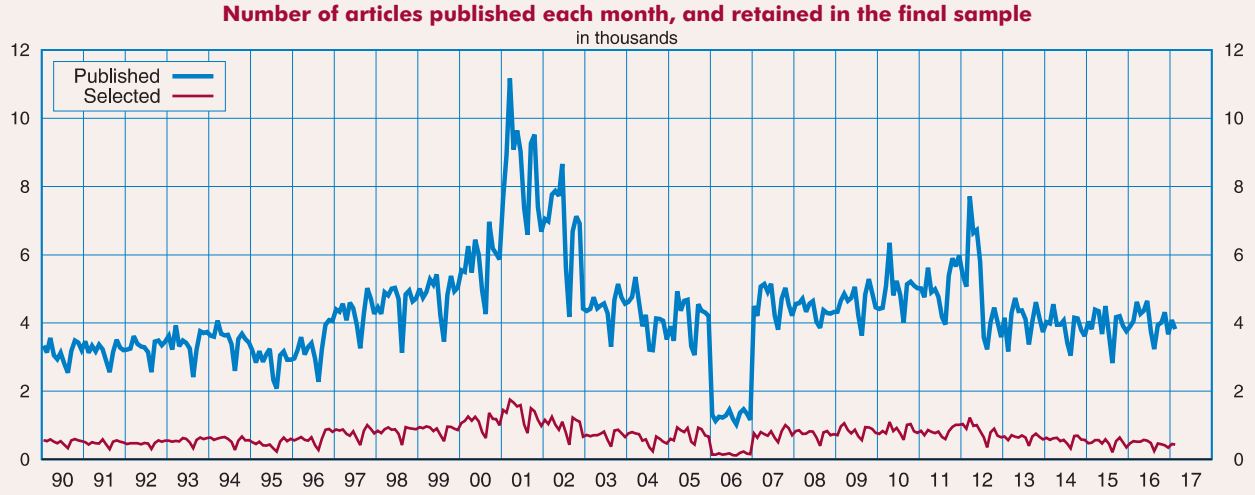
The initial database contains 1,405,038 articles published since 1990 and uploaded to the *Le Monde* website. Access to some of these articles is reserved for paying subscribers: in these cases, only the title, the first few lines and certain information regarding the article (date of publication, author's name and category) are available for free. The more recent articles (published since 2005) are assigned to different categories by the journalists at *Le Monde*: economy, international, politics, sport, etc.

The first step consisted of identifying articles dealing with the economy from among the older texts, i.e. those not already tagged with category information by the journalists. A machine learning algorithm was trained on a sample of 10,000 articles from the economy category and 10,000 from other categories: the algorithm calculated the probability that an article belonged (or did not belong) to the "economy" category based on the frequency with which certain words from both samples cropped up. So the presence of the word "employment" in an article would increase the probability that this text belonged in the "economy" category, because in the training sample this term is more frequently found in economic articles than in articles from other categories. This algorithm, which can be described as a "naive Bayes" classifier (Kotsiantis *et al.*, 2006), served to categorise all of the older texts found in the database.

In parallel, another process was used to identify those articles concerned primarily with France. Two lists containing the names of geographical entities were used: one list containing French terms (names of towns, départements, regions) and another containing international terms (names of countries and their capital cities). The selection process retained only those articles containing at least as many references to geographical locations in France as to locations overseas. Articles containing the names of certain statistical institutions (INSEE, DARES, Pôle Emploi etc.) could potentially have been removed, to avoid creating a media sentiment indicator which would actually be heavily dependent on the publications of these bodies: in practice, this filter was not significant on account of the small proportion of articles concerned each month (no more than 5% of all economic articles).

At the end of this process, only those articles dealing with the economic situation in France remained. The final sample contains 226,493 articles, equivalent to around 700 per month: the proportion of articles retained each month generally fell somewhere between 10% and 20% (see *Graph*). ■

Number of articles published each month, and retained in the final sample



Note: significantly fewer articles were published on lemonde.fr in 2006 than in 2005 or 2007.
Sources: lemonde.fr, INSEE calculations

In French, however, pre-existing glossaries of this kind are much rarer. For the purposes of this study, two sentiment dictionaries were devised, based on an initial list of terms compiled by hand, then enlarged in successive phases with the expressions most frequently associated with the words found in the initial list:

• The first dictionary contains expressions specific to the labour market. It contains 53 positive terms ("création d'emplois / job creation", "plan d'embauche / recruitment programme", "hausse de l'activité / increase in activity" etc.) and 121 negative terms ("destruction d'emplois / job destructions", "plan social / redundancy scheme", "liquidation judiciaire / entering administration" etc.).

• The second dictionary contains more general terms. It comprises 485 words with positive connotations ("amélioration / improvement", "favorable / favourable" etc.) and 1507 words with negative connotations ("instabilité / instability", "affaiblissement / weakening" etc.).

Negative terms are clearly predominant. This imbalance is not unusual (see in particular Schrauf & Sanchez, 2004). A similar disparity can also be observed in many of the English-language dictionaries, for example *Loughran-McDonald* (the *Harvard IV-4 Psychological Dictionary* is far more balanced, however).

Two media sentiment indicators were calculated, one for employment and the other for the economic situation in general

Each one of these dictionaries was used to assign a "sentiment score" to each article, based on the number of positive and negative terms found in the text. Two scoring systems were possible: "continuous coding" or "discrete coding". The indicators obtained via these two methods have similar statistical properties, but continuous coding increases the accuracy of forecasts, so this option was selected (*Box 2*).

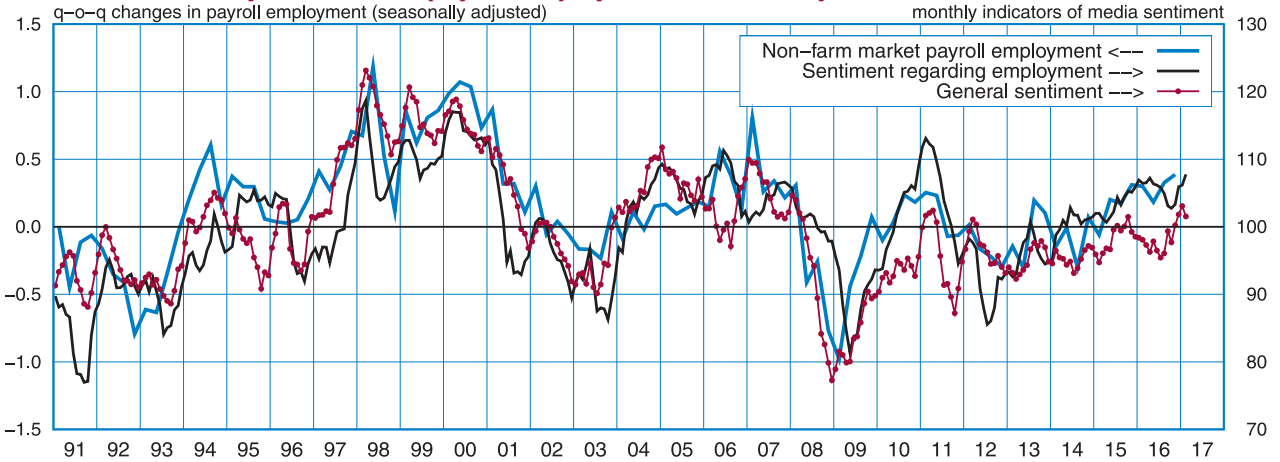
Media sentiment for a given month is assessed by calculating the mean score for all articles published in the month of interest. Using this protocol, two indicators are derived from the dictionaries: an indicator reflecting media sentiment on the topic of "employment", using the glossary of terms and expressions specific to the labour market, and a "general" indicator of media sentiment concerning the economic situation in France, using the generic glossary.

For forecasting purposes, general media sentiment is less effective than the business tendency surveys, but can complement them

These indicators appear to show a strong correlation with variations in employment

The media sentiment indicators obtained in this manner appear to be closely correlated with the quarterly variations in employment since 1990, with a coefficient of 0.7 for sentiment regarding "employment" and 0.8 for the "general" sentiment (*Graph 2*). The general sentiment indicator also appears to

2 - Quarterly variations in payroll employment and monthly media sentiment indicators



Note: a moving average of order 5 has been applied to the media sentiment indicators to make them easier to read.
Source: INSEE

be slightly ahead, timewise: turnarounds in the labour market appear to affect the general indicator before payroll employment, while sentiment regarding employment appears to react to short-term fluctuations on the labour market only after a slight time lag. *Ex-ante*, the general sentiment indicator would thus appear to be a more useful forecasting tool than the employment sentiment indicator.

Modelling confirms that the general sentiment indicator has predictive power

These media sentiment indicators may be used for forecasting purposes. Forecasts for payroll employment (quarterly variable) are made using the monthly indicators, by means of a commonly used approach known as blocking. This involves constructing a different forecasting model (or "calibration") for each month in the quarter, in order to make use of all of the information available at a given date (see for example Bec & Mogliani, 2013). Forecasts for the variation in payroll employment in the market sector during the current quarter therefore become more reliable as the quarter goes on (*Appendix*).

Box 2 - Scoring the articles and calculating the media sentiment indicators

To start with, the dictionaries were used to assign a "sentiment score" to each article, based on the number of positive and negative terms it contains. Two calculation conventions were tested. First of all (the "continuous coding" model), the sentiment score assigned to article *i* published in month *t* was calculated on the basis of the number of positive terms it contained (p_{it}), along with the number of negative terms (n_{it}) and the total word count (m_{it}), as per Baker *et al.* (2016):

$$sentiment_{it} = \frac{p_{it} - n_{it}}{m_{it}}$$

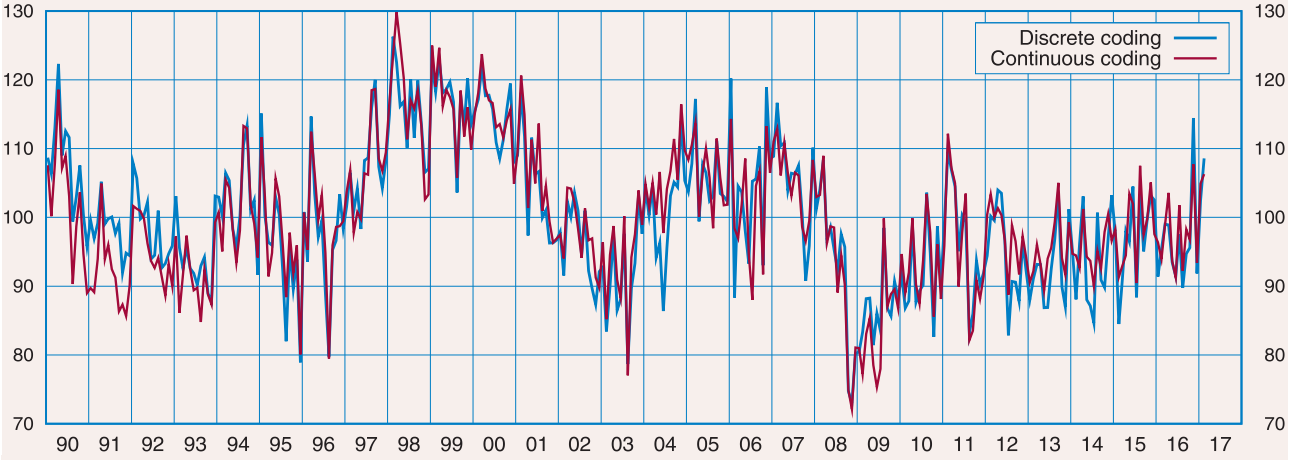
This formula presents certain disadvantages, bearing in mind the database used here: the database contains a number of very short texts, particularly those entries for which the whole article is reserved for paying subscribers. If the non-neutral terms are concentrated towards the start of the article, this calculation method risks over-estimating their proportional significance in the article as a whole. In order to get around this problem, "discrete coding" was also tested. This is simply a matter of comparing the respective numbers of positive terms and negative terms, without taking the length of the text into account. The score assigned to the article is determined as follows:

$$sentiment_{it} = \begin{cases} 1 \text{ if } p_{it} > n_{it} \\ 0 \text{ if } p_{it} = n_{it} \\ -1 \text{ if } p_{it} < n_{it} \end{cases}$$

Once a sentiment score had been assigned to each article, a monthly media sentiment indicator was calculated in the form of a simple mean value. The time series was then normalised to give a mean of 100 and a standard deviation of 10; this is a standard normalisation process, similar to that used to create the composite business climate indicators derived from the business tendency surveys.

In practice, the indicators obtained via continuous coding were preferred because they offered slightly better forecasting capacities when applied to the calibration models included in this report, compared to the discrete-coded indicators. Nonetheless, both types of indicator achieved a correlation score of over 0.90 (*Graph*), ensuring that the approach adopted to summarise media sentiment was robust to the choice of method used to score the articles. ■

Two different types of coding for the general media sentiment indicator



Source: INSEE

How to forecast employment figures by reading the newspaper

The general media sentiment indicator contains information which may be useful for forecasting purposes from the second month of the quarter onwards. When the model using this indicator as its only source of exogenous information is estimated for the whole period studied here (1990-2016), the indicator proves to be significant in every month of the quarter. Moreover, the adjusted R^2 value is higher than that observed in a model based solely on lags in activity and employment, a sign of a closer fit with the data. Finally, a "real time" forecast simulation indicates that, from the second month of the quarter onwards, the root mean square forecasting error (RMSE out of sample, or RMSFE) decreases significantly when the media sentiment indicator is added to the model based solely on lags in activity and employment (*Table*). However, the media sentiment indicator for employment is less accurate than the general indicator, despite the fact that it is supposed to be more focused on this topic. It does not even add any new information to the past trends for employment and activity.

The business climate indicator derived from the business tendency surveys offers greater predictive power

In spite of the information it provides, the general media sentiment indicator cannot be considered as a substitute for the composite indicators currently constructed on the basis of the business tendency surveys. These surveys, conducted each month by INSEE on a sample of 15,000-20,000 enterprises in the market sectors, are used to assess the business climate. They are also used to produce the forecasting scenario set out in *Conjoncture in France* (see *Special analysis* "Forecasting employment based on business tendency survey responses", p. 19). The media sentiment indicators are in no way a replacement for this tool, because INSEE needs to have an independent, controlled source of information for assessing the business climate: the long-term stability of the media sentiment indicator could be affected by external events (changes in publishing strategy, changes in editorial line etc.). But, above all, the indicators derived from the business tendency surveys retain their superior predictive power. A model based solely on the business climate indicator for the French economy yields more accurate employment forecasts than a model based solely on the media sentiment indicator, regardless of the month of the quarter in which the forecast is made: the former model more closely matches the data when estimated for the period as a whole (higher coefficient of determination, or R^2) and yields significantly fewer forecasting errors when producing "real time" simulations (lower RMSFE).

Forecasting error over the period 2000-2016, depending on the model used and the month in the quarter

As a % - Explained variable: quarterly variations in employment in the non-farm market sector (standard deviation: 0.4%)

	Model (1): past employment and activity only	Model (2): media sentiment only	Model (3): French climate only	Model (4): media sentiment and French climate
1st month of the quarter	0.213	0.211	0.194*	0.193
2nd month of the quarter	0.216	0.194*	0.170*	0.168
3rd month of the quarter	0.216	0.194*	0.164*	0.161

How to read it: all the models contain employment and activity lags. For each month within the quarter, the stars indicate that, according to the test devised by Harvey, Leybourne and Newbold (1997), the root mean square forecasting error (RMSFE) of the model is significantly lower at the 10% threshold than the RMSFE of the "previous" model. As such, in the first month of the quarter, the RMSFE in Model 2 (media sentiment only) is not significantly lower than the RMSFE in Model 1 (past employment and activity only), but the RMSFE in Model 3 (business climate only) is significantly lower than the RMSFE in Model 2.

Source: INSEE

Simultaneous use of these two indicators yields slightly more accurate predictions, but the improvement in performance is not significant.

Nevertheless, media sentiment and the business climate appear to complement one another, at least to a certain extent. Whichever month of the quarter under consideration, the model using both the media sentiment and business climate indicators outperforms the model which uses the business climate as its only exogenous information: the media sentiment indicator is significant, the "sample" performances are better (higher R^2) and forecasting errors "in real time" are slightly lower. However, the difference in RMSFE is too small to conclude that the increase in predictive power is significant. The media sentiment thus appears to contain residual information which is not fully captured by INSEE's business tendency surveys. This residual information could to some extent be useful in more accurately predicting variations in market sector employment. This indicator could thus be a useful addition to the tools already at forecasters' disposal when producing a diagnosis of the short-term outlook. The slight upturn observed in this indicator since mid-2016 complements the recent improvement in the business climate since late 2016. This bodes well for job creation, which should remain solid in early 2017. ■

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Appendix - Short-term prediction models to test the performances of the different advance composite indicators of market sector employment

Various models could potentially be used to forecast variations in payroll employment in the market sectors during the current quarter, based on the one hand on past variations in the variable of interest and in GDP, and on the other hand on short-term outlook indicators such as the French business climate indicators published by INSEE and on the general media sentiment indicator explored in this article. Various techniques can theoretically be used to manage the difference in frequency between the variable to be forecast (quarterly) and the explanatory variables (monthly): the approach adopted here is known as "blocking", commonly used by forecasters and involving a different calibration process for each month of the quarter, making use of all information available at the time of calculation. The calibrations for "month 1", "month 2" and "month 3" use all of the information available at the end of the first, second and third month of the quarter, respectively.

Four models were produced for the period as a whole: Model 1 is based exclusively on past variations in payroll employment and economic activity; Model 2 incorporates the general media sentiment indicator; Model 3, in addition to past variations in payroll employment and economic activity, incorporates the French business climate indicator; finally, Model 4 incorporates these two indicators simultaneously. To save time, only the significant variables were retained in each model. All the models were estimated for the period 1990 - 2016.

How to forecast employment figures by reading the newspaper

Calibration in Month 1

At the end of the first month of the quarter, figures for employment in the previous quarter are not yet available (the first publication comes in the middle of the second month) and thus cannot be used for calibration purposes. However, GDP for the previous quarter is available, since the new publication calendar for the quarterly accounts (which came into force in 2016) includes a "30 day" estimate.

Model 1 (past employment and activity only)

$$emploi_t = \underset{(-2.5)}{-0.08} + \underset{(6.5)}{0.45}.emploi_{t-2} + \underset{(6.6)}{0.39}.pib_{t-1} + u_t$$

adjusted $R^2 = 0.64$
$DW = 1.50$

Model 2 (+ media sentiment only)

$$emploi_t = \underset{(-3.4)}{-1.08} + \underset{(4.1)}{0.32}.emploi_{t-2} + \underset{(5.8)}{0.34}.pib_{t-1} + \underset{(3.2)}{0.01}.sentiment\_mediatique_{t,m1} + u_t$$

adjusted $R^2 = 0.67$
$DW = 1.42$

Model 3 (+ French climate only)

$$emploi_t = \underset{(-1.2)}{-0.03} + \underset{(8.5)}{0.59}.emploi_{t-2} + \underset{(3.8)}{0.23}.pib_{t-1} + \underset{(4.7)}{0.03}.(climat\_france_{t,m1} - climat\_france_{t-1,m1}) + u_t$$

adjusted $R^2 = 0.70$
$DW = 1.87$

Model 4 (+media sentiment and French climate)

$$emploi_t = \underset{(-2.3)}{-0.71} + \underset{(5.8)}{0.49}.emploi_{t-2} + \underset{(3.6)}{0.22}.pib_{t-1} + \underset{(4.0)}{0.02}.(climat\_france_{t,m1} - climat\_france_{t-1,m1}) + \underset{(2.2)}{0.01}.sentiment\_mediatique_{t,m1} + u_t$$

adjusted $R^2 = 0.71$
$DW = 1.82$

Calibration in Month 2

At the end of the second month in the quarter, the first figures for payroll employment can be used.

Model 1 (past employment and activity only)

$$emploi_t = \underset{(-2.0)}{-0.06} + \underset{(4.1)}{0.40}.emploi_{t-1} + \underset{(2.4)}{0.21}.emploi_{t-2} + \underset{(4.6)}{0.28}.pib_{t-1} + u_t$$

adjusted $R^2 = 0.69$
$DW = 1.96$

Model 2 (media sentiment only)

$$emploi_t = \underset{(-5.2)}{-1.72} + \underset{(5.0)}{0.38}.emploi_{t-1} + \underset{(2.9)}{0.17}.pib_{t-1} + \underset{(3.3)}{0.01}.sentiment\_mediatique_{t,m2} + \underset{(3.2)}{0.01}.sentiment\_mediatique_{t,m1} + u_t$$

adjusted $R^2 = 0.73$
$DW = 1.98$

Model 3 (French climate only)

$$emploi_t = \underset{(-2.4)}{-0.90} + \underset{(3.1)}{0.30}.emploi_{t-1} + \underset{(3.9)}{0.37}.emploi_{t-2} + \underset{(2.4)}{0.01}.climat\_france_{t,m2} + \underset{(5.2)}{0.06}.(climat\_france_{t,m2} - climat\_france_{t,m1}) + \underset{(2.3)}{0.01}.(climat\_france_{t,m1} - climat\_france_{t-1,m1}) + u_t$$

adjusted $R^2 = 0.78$
$DW = 2.15$

Model 4 (media sentiment and French)

$$emploi_t = \underset{(-3.1)}{-1.35} + \underset{(3.2)}{0.30}.emploi_{t-1} + \underset{(2.8)}{0.29}.emploi_{t-2} + \underset{(2.2)}{0.01}.climat\_france_{t,m2} + \underset{(5.1)}{0.05}.(climat\_france_{t,m2} - climat\_france_{t,m1}) + \underset{(1.9)}{0.01}.(climat\_france_{t,m1} - climat\_france_{t-1,m1}) + \underset{(1.9)}{0.01}.sentiment\_mediatique_{t,m1} + u_t$$

adjusted $R^2 = 0.79$
$DW = 2.19$

Calibration in Month 3

At the end of the third month in the quarter, the available quantitative indicators (GDP and employment) are the same as the previous month. Furthermore, media sentiment in the final month of the quarter does not seem to contain any information which is useful for forecasting. So models 1 and 2 are identical in the second and third months.

Model 3 (French climate only)

$$emploi_t = \underset{(-3.9)}{-1.30} + \underset{(3.0)}{0.26}.emploi_{t-1} + \underset{(3.8)}{0.30}.emploi_{t-2} + \underset{(3.9)}{0.01}.climat\_france_{t,m3} + \underset{(5.9)}{0.04}.(climat\_france_{t,m3} - climat\_france_{t,m1}) + u_t$$

adjusted $R^2 = 0.80$
$DW = 2.19$

Model 4 (media sentiment and French)

$$emploi_t = \underset{(-4.8)}{-1.77} + \underset{(3.1)}{0.26}.emploi_{t-1} + \underset{(2.8)}{0.23}.emploi_{t-2} + \underset{(3.5)}{0.01}.climat\_france_{t,m3} + \underset{(5.8)}{0.04}.(climat\_france_{t,m3} - climat\_france_{t,m1}) + \underset{(2.6)}{0.01}.sentiment\_mediatique_{t,m1} + u_t$$

adjusted $R^2 = 0.81$
$DW = 2.23$

Regardless of the month in which the forecast is made, media sentiment is significant in Model 2. Moreover, the adjusted R^2 value for this model is higher than that for Model 1, indicating that it is a better match for the data. Model 3, which uses the French business climate indicator, is a better fit than Model 2. Finally, when the two indicators are used simultaneously in Model 4, the media sentiment indicator is still significant and the adjusted R^2 value shows a slight improvement on Model 3.

These first conclusions are formulated on the basis of estimates which make use of the available sample in its entirety. However, strong "sample" performances can sometimes be attributed to the phenomenon of "overfitting" (Bortoli & Combes, 2015). The media sentiment indicator could thus prove to be ineffective for forecasting purposes. In order to test this hypothesis, which seems unlikely given the parsimony of the models in question, their performance "out of sample" were tested. This involved running a forecasting simulation "in real time".[1]

For each model, the choice of explanatory variables is made once and for all. A first version of the models is then estimated for the period stretching from Q1 1990 to Q4 1999, then used to forecast the variation in employment in Q1 2000: the result thus obtained is then compared to the actual variation recorded in that quarter. A new version of the model is then calculated for the period up to Q1 2000, and used to forecast variation in employment in Q2. Gradually, forecasts are generated for every quarter from 2000 to 2016. This "out of sample" performance can then be evaluated by calculating its root mean square forecasting error. The results obtained for each model in the different months of the quarter are summarised in the table on page 40.

In Model 1, the forecasting errors observed at the end of the quarter are no smaller than those observed at the end of the first month: this means that market-sector employment forecasts are not improved by the information provided by the first lag in employment variation, given the information already contained in the second lag in this variable and the first lag in GDP growth. In the other models, however, the forecasts improve in quality throughout the quarter: the media sentiment and business climate indicators which become available as the quarter progresses serve to boost the predictive capacity of the models (with the exception of the media sentiment indicator during the third month of the quarter, which does not appear to offer any significant new information).

Regardless of the month in question, the root mean square forecasting error (outside of the sample) of Model 4 (media sentiment and business climate affaires) is lower than that observed in Model 3 (business climate only), which in turn is lower than RMSFE in Model 2 (media sentiment only), itself lower than in Model 1 (past employment and activity only): this would appear to corroborate the conclusions derived from the respective "in complete sample" performances of these two indicators. Nevertheless, the differences in RMSFE can be very slight: the test devised by Harvey, Leybourne & Newbold (1997) can be used to determine whether or not these differences are significant. In the first month of the quarter, Model 2 (media sentiment only) is not significantly better than Model 1 (past employment and activity only) in terms of predictive power. It does become significant at the 10% level from the second month of the quarter onwards. Meanwhile, Model 3 (business climate only) is always better than Model 2 at the 10% level. Finally, even though the forecasting errors observed in Model 4 (media sentiment and business climate) are systematically lower than those of Model 3, the difference in terms of RMSFE is never significant. ■

1. The simulation is generated using the historical series for payroll employment in its current published format, not the series for variations in employment as measured in the initial publications: strictly speaking this is "virtual real time" rather than actual "real time".

Business cycles within the Eurozone are converging again

Xavier Guillet
Élodie Lalande

Département de la conjoncture

Since the creation of the single currency, the countries which make up the Eurozone have adopted monetary and fiscal policies intended to bring about greater convergence between their economies. And yet, nearly twenty years later, the economic cycles of the Eurozone nations have not converged uniformly. The quantified macroeconomic data show that, on the one hand, growth rates diverged between 2009 and 2013, with the gaps closing sharply thereafter. On the other hand, France and Italy are the countries whose cycles most resemble those of their main Eurozone partners, while Germany and Spain are following their own trajectories.

The business tendency surveys conducted in a harmonised manner across different member states of the European Union serve to track divergences in the business cycles in real time. Common trends for the economic outlook across the Eurozone can then be identified. Once again, France and Italy are central to the overall economic trajectory of the Eurozone, accounting for half of the fluctuations in the joint indicators. The Belgian and Dutch economies are also closely aligned with the general European cycle. Meanwhile, the contributions made by the German and Spanish economies are less substantial.

Business tendency surveys can also provide real-time indicators of individual countries' divergence from the general trajectory. More often than not, these early indicators are closely correlated with the final growth rate differentials estimated in the national accounts. For Germany, these figures confirm the highly atypical trajectory followed by the economic climate since 2000, with conditions systematically less favourable than in neighbouring countries between 2000 and 2005, and systematically more favourable between 2010 and 2014. These indicators reveal that France has lagged behind the general trend since 2014. Nonetheless, in early 2017 the dispersion among the economic outlook indicators is practically as low as it has been since the creation of the Eurozone, indicating a new convergence between the economic cycles of the main Eurozone countries.

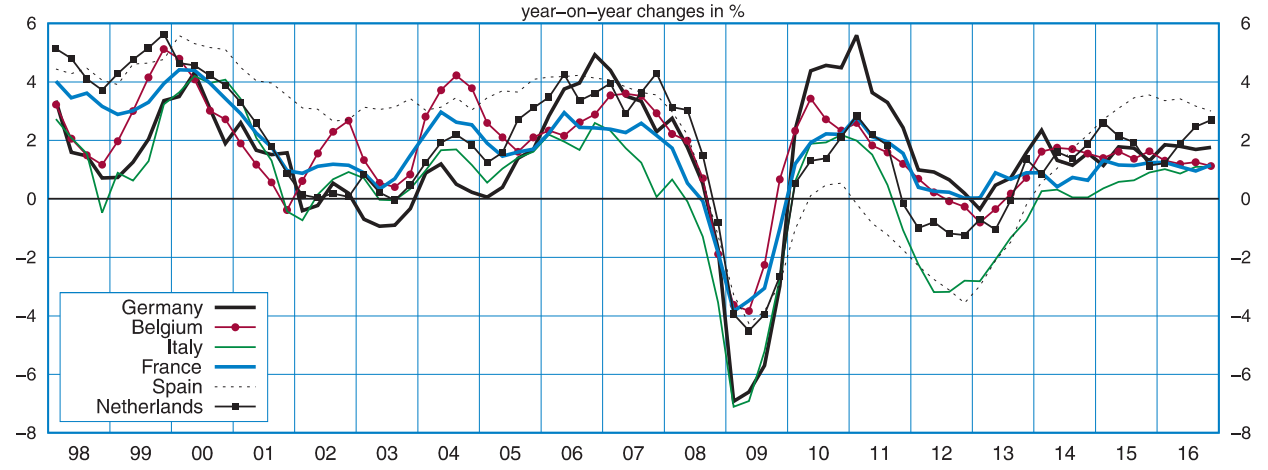
Business cycles within the Eurozone are converging again

Since 1999, the economic outlook for the Eurozone countries has followed a common cycle, albeit with occasionally substantial divergences

Within the Eurozone, growth differentials widened between 2009 and 2013, but have narrowed sharply since

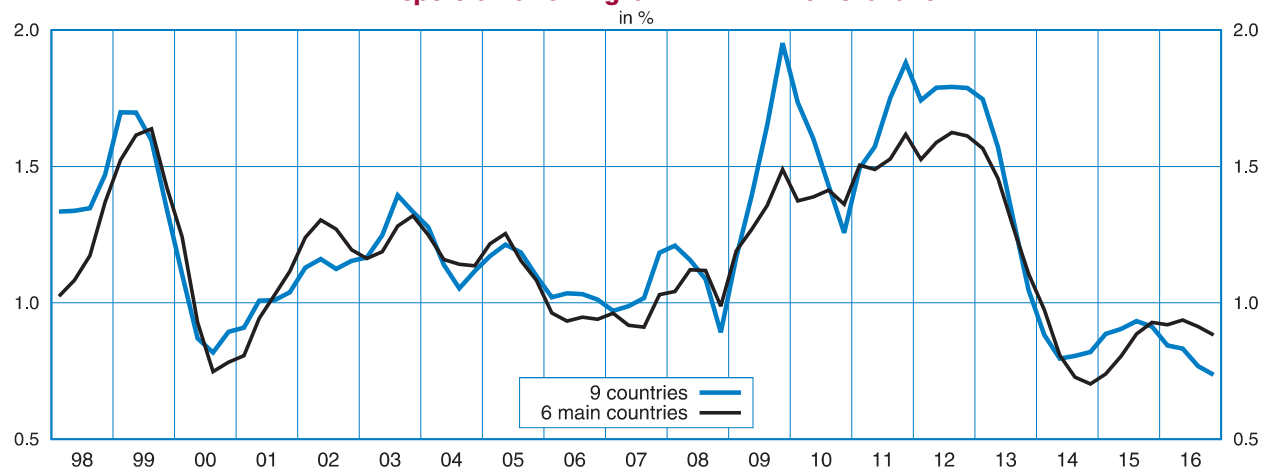
In 2000, just after the formation of the Eurozone (1999) and at a high point in the economic cycle, growth in gross domestic product (GDP) in the major European nations was relatively homogenous, standing somewhere between 3% and 5% (*Graph 1*). The dispersion of these growth rates, a measurement of the mean deviation from the trend during a given period, was relatively small at below 1% (*Graph 2*). Dispersion then increased slightly, fluctuating at just over 1% until 2007. It then rose sharply between 2009 and 2013, most notably during the sovereign debt crisis. It was in this period that the national economies which make up the monetary union diverged most significantly: Germany, hard hit by the crisis of 2008-2009 on account of the German economy's heavy reliance on exports, rapidly bounced back from mid-2009 onwards and was little affected when the second crisis hit the Eurozone; meanwhile, some countries in southern Europe, particularly Spain and Italy, barely bounced back and went through a long period of recession.

1 - GDP growth in the six largest Eurozone economies



Sources: INSEE and other national statistical institutes, quarterly national accounts

2 - Dispersion of GDP growth within the Eurozone



Notes: every quarter, the standard deviation in year-on-year GDP growth is calculated for the six (respectively nine) main economies which accounted for 86% (respectively 93%) of Eurozone GDP in 2016: Germany, Belgium, Italy, France, Spain and the Netherlands (respectively the same plus Austria, Portugal, Finland). To make them easier to read, the two curves are smoothed over four quarters. These correlation calculations do not take into account the relative weight of each country within the Eurozone.

Sources: INSEE and other national statistical institutes, quarterly national accounts

Business cycles within the Eurozone are converging again

Since 2014, dispersion among the business cycles has dropped back to below 1%, close to where it was in 2000. Put differently, the business cycles of the various Eurozone economies have converged once again and are now more "in sync".

France and Italy are the countries whose business cycles have most closely matched those of their Eurozone neighbours, while German growth is the least correlated

The correlation between the growth rates in different Eurozone members over the past twenty years demonstrates how closely the economic cycle of each Eurozone economy is intertwined with that of the other members. Italy (0.94) and France (0.92) are the countries whose economic cycles most resemble those of their respective Eurozone partners (*Table 1*). Belgium (0.87) and the Netherlands (0.90) - both highly dependent on foreign trade, particularly with other Eurozone nations - nevertheless reported economic growth which was less closely correlated with that of their neighbours, especially Germany, their main trading partner. Growth in Germany, whose GDP represents just over a quarter of total Eurozone GDP, displayed the lowest level of correlation with growth in the country's partners (0.74). The Spanish economy also developed at its own quite specific rate (0.77).

Shocks which affect the German economy seem to hit its main trading partners relatively less substantially

The economic cycle of a given country may be more or less advanced in relation to the cycles of the country's neighbours. Negative or positive domestic demand shocks may, via trade channels, have a knock-on effect on activity levels in the neighbouring economies in subsequent quarters. In theory, the bigger a country is the more influential its business cycle will be upon its neighbours; by the same token, the more reliant it is on trade with countries outside the Eurozone, the more scope there is for its economic cycle to be ahead of immediate neighbours.

The correlation between growth in the Eurozone in a given quarter and growth in a specific member economy a few quarters before or after indicates how far ahead the country's business cycle is in relation to its Eurozone neighbours (*Graph 3*). Germany therefore appears to be the economy for which lagged growth in a given quarter is least correlated with contemporaneous Eurozone growth over the same period, even though it is the largest economy in the Eurozone and remains, for its size, relatively reliant on foreign trade. The same is true of time lags lasting multiple quarters. Shocks affecting the German economy thus do not appear to have a decisive impact on the Eurozone economy. Belgium, on the other hand, which accounts for just 4% of total Eurozone GDP, is the country where quarterly growth lags are most strongly correlated with the Eurozone. The Belgian business outlook appears to be just ahead of the curve for the Eurozone, probably on account of the country's high level of exposure to fluctuations in world trade. Belgian business tendency surveys are therefore often seen as a useful advanced indicator for the general European outlook (Lenglart *et al.*, 2002).

Table 1 - Correlation between year-on-year GDP for each country and Eurozone GDP over the period 1996-2016

	Germany	Belgium	Italy	France	Spain	Netherlands
Eurozone, not included the country concerned	0.74	0.87	0.94	0.92	0.77	0.90
Eurozone	0.87	0.89	0.97	0.95	0.81	0.93
Germany	1.00	0.74	0.79	0.78	0.46	0.74
Belgium	0.74	1.00	0.86	0.86	0.68	0.81
Italy	0.79	0.86	1.00	0.90	0.81	0.84
France	0.78	0.86	0.90	1.00	0.74	0.88
Spain	0.46	0.68	0.81	0.74	1.00	0.81
Netherlands	0.74	0.81	0.84	0.88	0.81	1.00

Sources: Eurostat, INSEE and other national statistical institutes, quarterly national accounts

Business cycles within the Eurozone are converging again

Business surveys track the diverging outlooks of different countries in real time

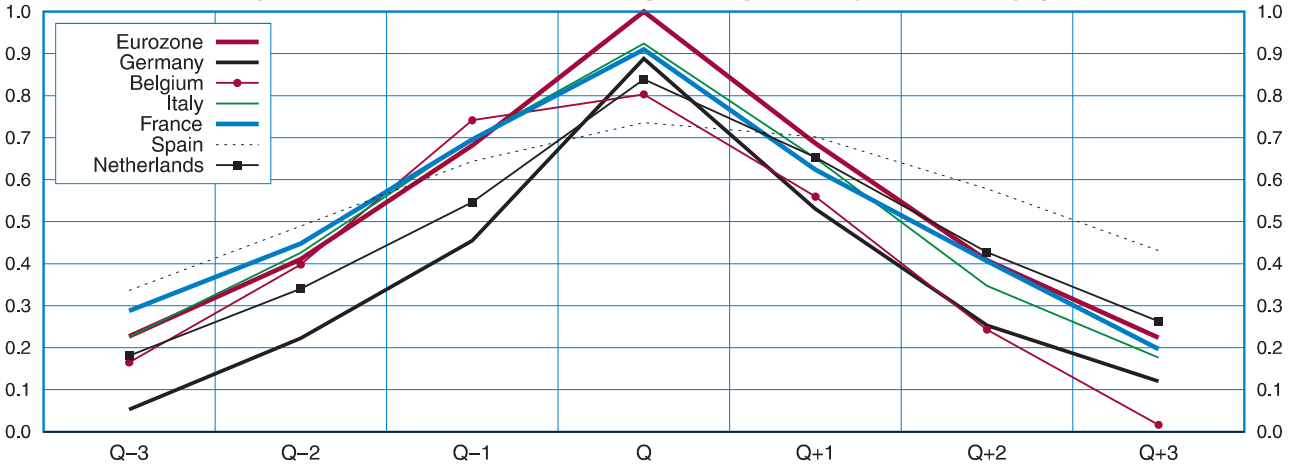
A common factor of the business climate, as well as indicators showing divergences in different countries, are constructed based on the results of the business tendency surveys

The business tendency surveys conducted on business leaders throughout the monetary union can help to identify divergences between the economic outlooks for individual Eurozone countries before quantified macroeconomic data become available. Lenglart *et al.* (2002) developed a model for analysing the European business cycle on the basis of business tendency surveys in the industrial sector, identifying and analysing divergences in advance. The aim of this model was to produce a consistent, simultaneous, composite indicator for the short-term outlook in the Eurozone, as well as a set of real-time divergence indicators covering the six largest Eurozone economies. This model has been updated and expanded here to include the services and construction sectors in these six member states (*Appendix*).

The common factor accurately reproduces variations in the Eurozone outlook

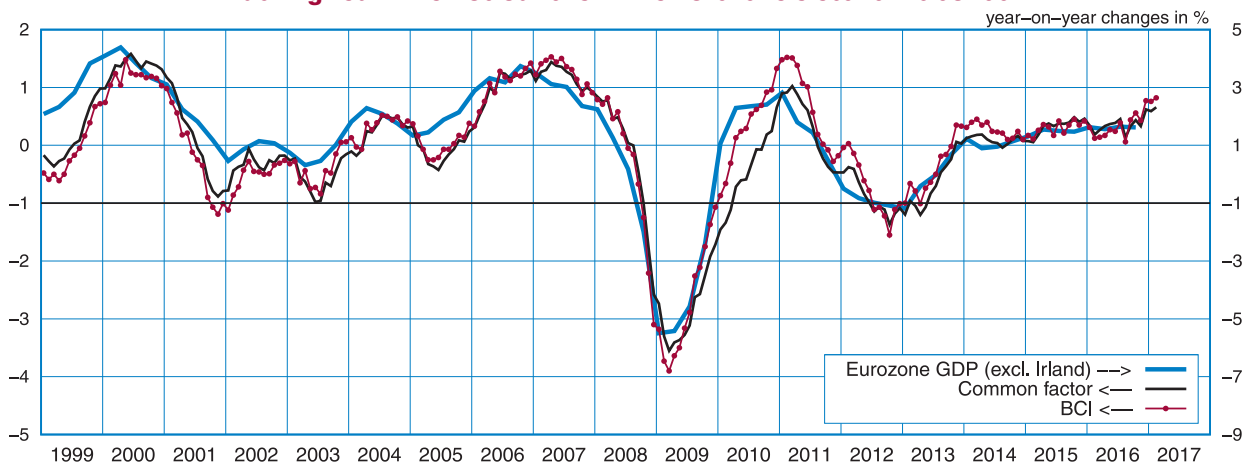
The common factor derived from these calculations accurately tracks GDP growth across the Eurozone as a whole. It proves to be tightly correlated with quarterly GDP growth calculated year-on-year (0.95; *Graph 4*). This common factor for the Eurozone economies is also very close to the "BCI" indicator (Business Climate Indicator for the Euro Area) published monthly by the European Commission. This is logical enough, as although the models are different they both aim to represent the current business outlook across the Eurozone. Both

3 - Average correlation, for the period 1996-2016, between Eurozone growth in Quarter Q and the growth of each individual country in the preceding and ensuing quarters



How to read it: the correlation coefficient between the quarterly variation in France in quarter Q-1 and Eurozone variation in Quarter Q is 0.70.
Sources: Eurostat, INSEE and other national statistical institutes, quarterly national accounts

4 - The Common Factor and the Business Climate Indicator (BCI), two composite indicators tracking real-time fluctuations in the Eurozone's economic outlook



Note: GDP of the Eurozone excluding Ireland, as this country's accounts present a break in series in Q1 2015
Sources: Eurostat, European Commission, INSEE

provide a faithful portrait of the successive phases in the economic cycle observed over the past twenty years: a peak between 1998 and 2000, a slowdown between 2001 and 2003 as a result of the bursting of the dot-com bubble and the attacks of 11th September 2001 in the United States; a rebound from 2004 onwards and a sharp acceleration in 2006-2007; then a major recession in 2008-2009 as the fall-out from the subprime mortgage crisis unfolded; a rebound in 2010, wiped out by the sovereign debt crisis between 2011 and 2013. The current outlook is characterised by a business climate which has been slightly higher than the long-term average since early 2015, consistent with annual GDP growth of around +1.5%.

For each country, twelve balances of opinion are taken from among those provided in the three principal market sectors (five from the industry surveys, four from services and three from construction). The balances from the surveys on industrialists are the most closely correlated to the common factor (*Table 2*). With the notable exception of Germany, the correlation coefficient is above 0.90 for at least one of the balances in industry in each country. In the service sector, on the other hand, with the exception of the Belgian balance for past employment, no correlation breaks the 0.90 barrier. Finally, the balances of opinion derived from the surveys in the construction sector present the weakest correlation with the common factor, this correlation being particularly low in Germany. This sector thus seems to be governed by the specific national outlook, at odds with the common outlook.

Germany contributes little to the common factor, even if analysis is restricted to industry

In the model used here, the common factor is a linear combination of the selected balances. As such, it is possible to calculate the contribution of each balance to these fluctuations (*Table 3*).

Table 2 - Correlation coefficients between the composite common outlook indicator and the balance of opinion in each country

	Germany	Belgium	Spain	France	Italy	Netherlands
Industry						
Past output trends	0.63	0.76	0.84	0.88	0.96	0.74
Variation in output expectations	0.65	0.76	0.68	0.89	0.85	0.84
Order books	0.76	0.82	0.90	0.95	0.96	0.94
Demand and export order books	0.74	0.94	0.78	0.95	0.92	0.92
Finished goods inventory level	–0.62	0.93	–0.56	–0.29	0.16	–0.57
Services						
Development expectations	0.59	0.21	0.64	0.87	0.72	0.55
Past activity	0.62	0.78	0.67	0.85	0.62	0.70
Expected activity	0.66	0.86	0.58	0.88	0.66	0.80
Past employment	0.61	0.91	0.69	0.86	0.49	0.71
Construction						
Past activity	0.05	0.80	0.46	0.78	0.57	0.66
Order books	–0.11	0.69	0.43	0.57	0.52	0.67
Expected employment	–0.07	0.61	0.47	0.62	0.39	0.75

How to read it: the correlation or "loading" coefficient between the Eurozone common factor and the balance of opinion from the Belgian industrial sector with past output trends is 0.76.
Sources: European Commission, INSEE

Table 3 - Contributions of different balances of opinion to the variance in the composite common outlook indicator, by sector and by country

	Germany	Belgium	Spain	France	Italy	Netherlands	*Sectors' contribution*
Industry	3%	12%	6%	17%	21%	12%	71%
Services	2%	6%	2%	8%	2%	3%	22%
Construction	0%	2%	1%	2%	1%	2%	7%
Countries' contribution	5%	20%	9%	27%	24%	16%	

How to read it: balances of opinion from the Belgian industrial sector contribute 12% of the variance observed in the common factor (the percentages in the table are rounded)
Sources: European Commission, INSEE

The French (27%), Italian (24%), Belgian (20%) and Dutch (16%) balances make the greatest contributions: these economies are most representative of the common outlook in the Eurozone. At the other end of the scale, as can be inferred from the correlation data, German balances have very little impact. They account for just 5% of total variance, 5 times less than the French balances, a very low figure considering Germany's economic heft. Spain's contribution is also small (9%).

The weak contribution of German business surveys to the common economic outlook confirms the observations made on the basis of the quantified macroeconomic data. The situation remains the same even if the analysis is restricted to the balances from industry. Industrial balances make the greatest contribution to total variance in the common outlook factor, accounting for 71% (*Table 3*). The strongest contribution comes from the French and Italian balances. However, and even though German industry accounts for 40% of total value added of the manufacturing industry in Europe, Germany's industrial outlook shows only a weak correlation with the common outlook factor for the Eurozone (3%).

In order to verify that this result does indeed come primarily from the industrial sector, a common outlook factor is calculated using only the industrial balances (5 from each country). The result is very close to the common factor for all sectors, which is logical considering that industry is at the heart of the business cycle. Nonetheless, even if the contribution of German balances increases slightly (6%) while the French contribution slips back (20%), the hierarchy of country-by-country contributions to variance in the common factor remains broadly unchanged (*Table 4*).

Outlook divergence indicators appear to be correlated with growth differentials between the countries

A composite outlook divergence indicator can be calculated for each country

Following the lead of Lenglart *et al.*, and in order to expand the information on the common outlook, for each country it is possible to identify the component of the individual balances of opinion which is not reflected in the common factor. This could be described as the "individuality factor" of each country, or the "outlook divergence indicator" (ODI).

ODIs for all balances mainly reflect the outlook in the construction sector

Since the industrial sector mainly structures the common component of the European economic outlook, it seems natural that the specific national components will be determined by the balances from other sectors. Fluctuations in the ODIs are primarily a reflection of the changing outlook in the construction sector (*Table 5*). The construction sector plays a much more important role in fluctuations in the ODIs than it does in the fluctuations observed in the common European outlook. In all countries except Spain, at least two of the three balances of opinion derived from surveys on the construction sector reveal correlation coefficients close to or above 0.90 with the overall ODI. Spain's specific outlook is more closely correlated with the service sector.

Table 4 - Contributions of the national balances to variance in the composite common outlook indicator, industrial sector only, by country

	Germany	Belgium	Spain	France	Italy	Netherlands
Past output trends	1%	2%	2%	3%	8%	1%
Variation in output expectations	1%	2%	1%	4%	2%	3%
Order books	2%	8%	3%	5%	11%	6%
Demand and export order books	2%	8%	2%	8%	9%	7%
Finished goods inventory level	1%	0%	1%	0%	0%	1%
Countries' contribution	6%	20%	8%	20%	29%	18%

How to read it: the balances of opinion from Italian industry contribute 29% of the variance observed in the common factor for "industry".
Sources: European Commission, INSEE

Business cycles within the Eurozone are converging again

ODIs for industry alone display a closer general correlation with the growth differentials of each country

More often than not, the ODIs are closely correlated with disparities in individual countries' GDP growth in relation to the rest of the Eurozone. With the exception of Spain and Italy, the ODIs for the industrial sector alone demonstrate a closer correlation than those calculated for the three main market sectors (*Table 6*). In both cases, these ODIs appear closely correlated with the growth differentials recorded for Germany and Spain. These are also the two countries that make the smallest contribution to the common factor. In Italy, France and the Netherlands the correlation coefficient is weaker, while in Belgium the ODI calculated for all three sectors shows no correlation with the country's growth differential with the rest of the Eurozone.

The fact that the ODIs calculated for the three main market sectors are less closely correlated would appear to suggest that expanding the scope does not enrich the analysis of divergences in economic outlook. The construction sector, predominant in the ODIs, certainly contributes to growth differentials but is not such a dominant factor.

In early 2017, the positions of the different Eurozone countries in relation to the business cycle have clearly converged

The German business outlook is becoming less of an anomaly within the Eurozone

The outlook divergence indicators reveal specificities which are consistent with the economic realities. For example, the German ODI based solely on industrial balances turns out to be consistently negative between 2000 and 2005, and consistently positive between 2010 and 2014 (*Graph 5*). The period 2001-2005 corresponds to a phase in which the Germany economy encountered greater difficulties as a result of the global slowdown and grew less rapidly than the economies of other Eurozone members. Between 2010 and 2013, however, the German economy was quicker to recover from the financial crisis and hardly suffered at all from the sovereign debt crisis. The growth differentials and the ODIs both show that this advantage over the general outlook has been reduced since 2014.

Table 5 - Correlation between balances of opinion and national ODIs

	Germany	Belgium	Spain	France	Italy	Netherlands
Industry						
Past output trends	0.51	–0.23	0.52	–0.18	0.58	–0.55
Variation in output expectations	0.48	–0.33	0.51	–0.17	0.54	–0.41
Order books	0.76	0.32	0.78	0.20	0.49	0.39
Demand and export order books	0.62	0.08	–0.15	–0.08	–0.30	–0.22
Finished goods inventory level	–0.77	0.09	0.00	0.18	0.44	0.52
Services						
Development expectations	0.19	–0.19	0.96	0.36	–0.05	0.00
Past activity	0.39	–0.35	0.98	0.55	–0.27	0.19
Expected activity	–0.05	–0.09	0.91	0.60	0.50	0.13
Past employment	0.41	–0.13	0.91	0.02	0.44	0.50
Construction						
Past activity	0.78	0.43	0.40	0.87	0.96	0.50
Order books	0.96	1.00	0.56	0.92	0.69	1.00
Expected employment	0.98	0.87	0.64	0.96	0.91	0.91

How to read it: the correlation or "loading" coefficient between the German outlook divergence indicator and the balance of opinion in German industry on predicted employment in the construction sector is 0.98.
Sources: European Commission, INSEE

Table 6 - Correlation of the ODIs with national growth differentials

	Germany	France	Italy	Spain	Belgium	Netherlands
Total ODI	0.78	0.15	0.43	0.80	–0.01	0.50
Industry ODI	0.83	0.35	0.26	0.59	0.32	0.54

How to read it: the total ODI is the outlook divergence indicator estimated for each country based on the balances of opinion from the three main market sectors. In Germany, the correlation between the ODI and the country's GDP growth differential (in relation to the Eurozone average) is 0.78.
Sources: Eurostat, European Commission, INSEE

Business cycles within the Eurozone are converging again

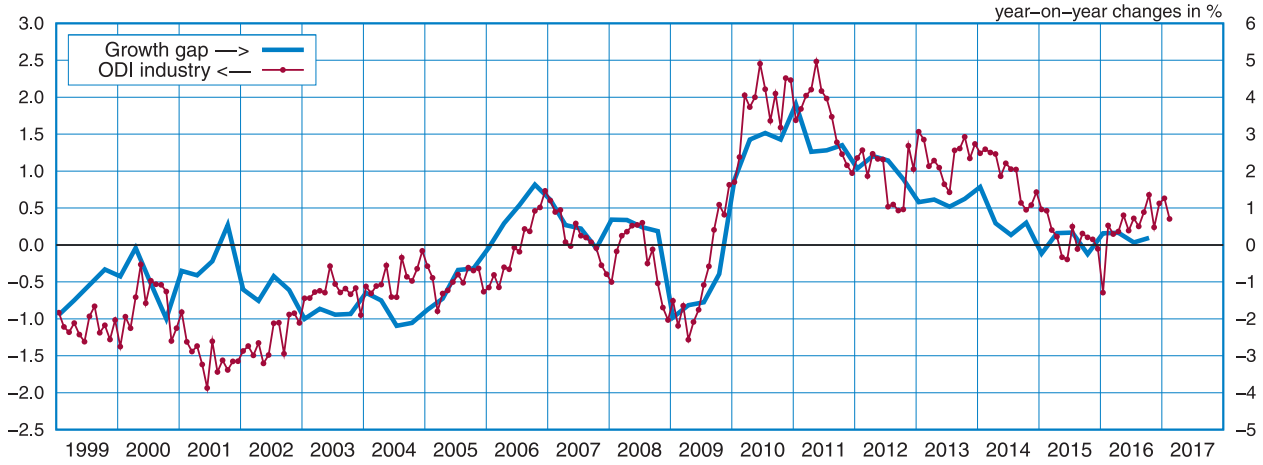
The French economy has been growing less rapidly than its Eurozone partners since 2014

The French economy has its own specificities. The outlook divergence indicator calculated solely on the basis of industrial surveys does not reveal any lasting positive or negative phases, suggesting that divergences in the outlook for the French economy are only short-lived.

The ODI does reveal that the impact of the recession of 2008-2009 was much less substantial in France than in the other countries, particularly because the social security system helped to limit the effects (however, the rebound in 2010 was far less dynamic). France also suffered much less during the sovereign debt crisis than its partners in the south of the Eurozone: from mid-2011 to the end of 2012, French GDP continued to grow while activity contracted in Italy and Spain; over the same period, the French ODI was above its average level. However, since 2014 French growth has been more sluggish than that of its partners, and the ODI has been almost constantly negative over this period.

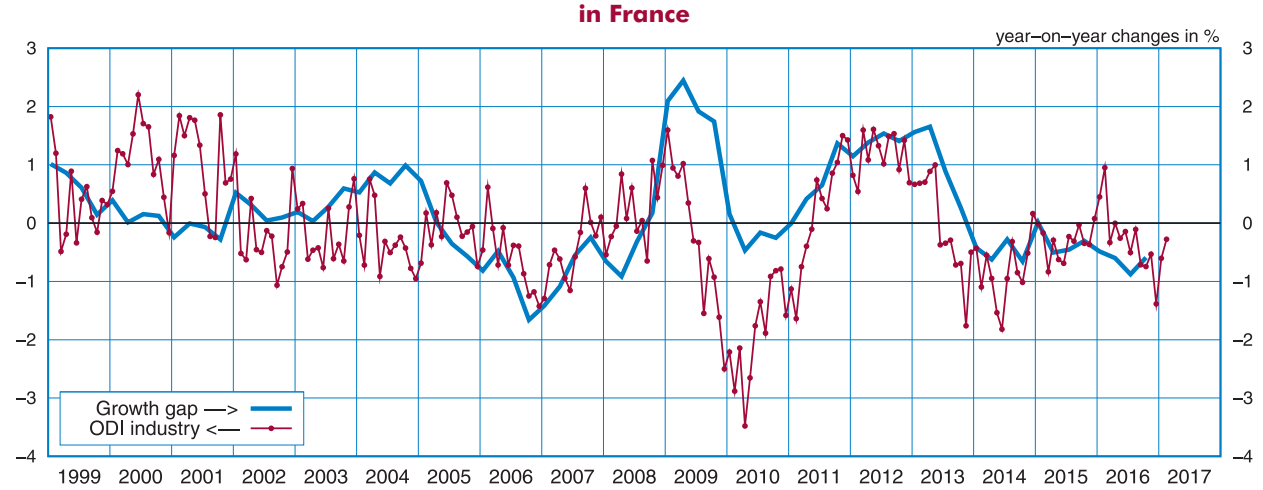
5 - Growth gaps and ODIs

in Germany



Sources: Eurostat, European Commission, Destatis, INSEE calculations

in France



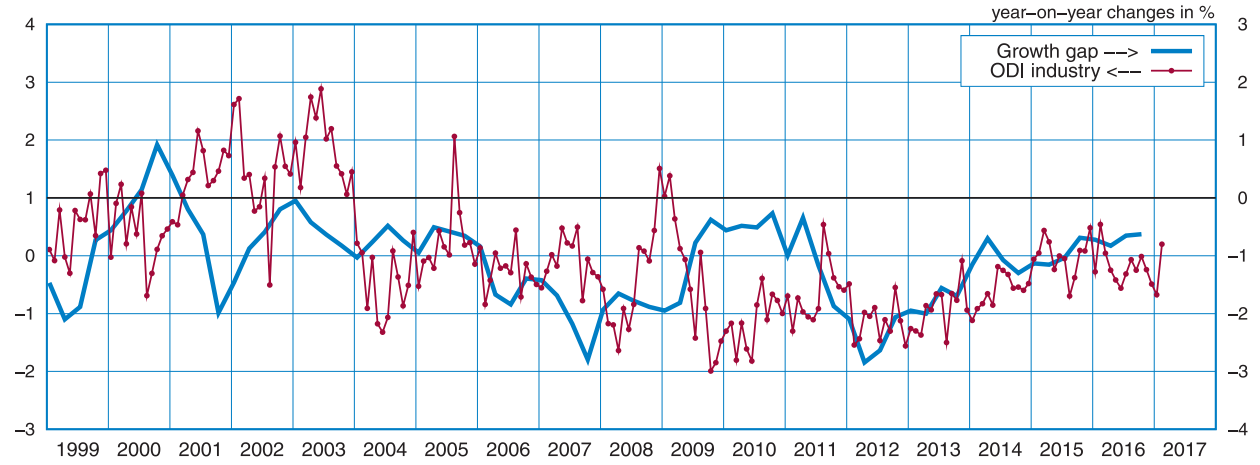
Sources: Eurostat, INSEE

In Italy, after a long period between 2010 and 2014 in which the ODI was negative, it has picked up since 2015, when Italy's economy returned to a moderate rate of growth (still below the Eurozone average).

The ODI for Spain reveals that the economic outlook was generally more favourable in the period 1998-2007 than it was elsewhere in the Eurozone. During this period, Spain's economic growth was boosted by a more favourable business outlook, driven by a growing service sector and a property bubble. When the bubble burst and the sovereign debt crisis set in, the ODI was consistently negative between 2010 and 2013, as Spanish GDP contracted. Since 2014 the ODI has returned to a more favourable level; however, it has slipped again more recently, indicating that the catch-up phase is coming to an end and that Spanish growth is converging with the Eurozone average.

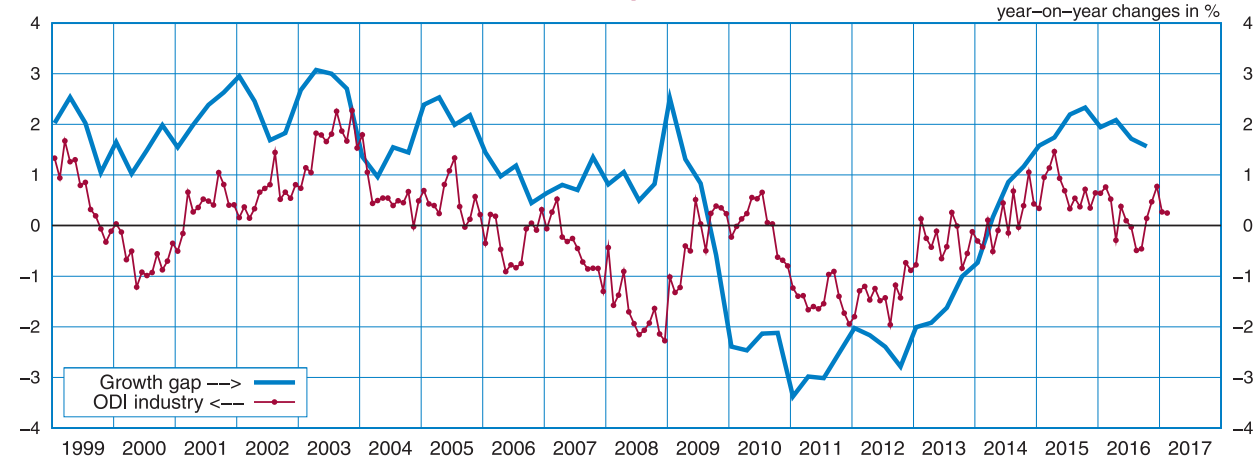
5 bis - Growth gaps and ODIs

in Italy



Sources: Eurostat, European Commission, Istat, INSEE calculations

in Spain



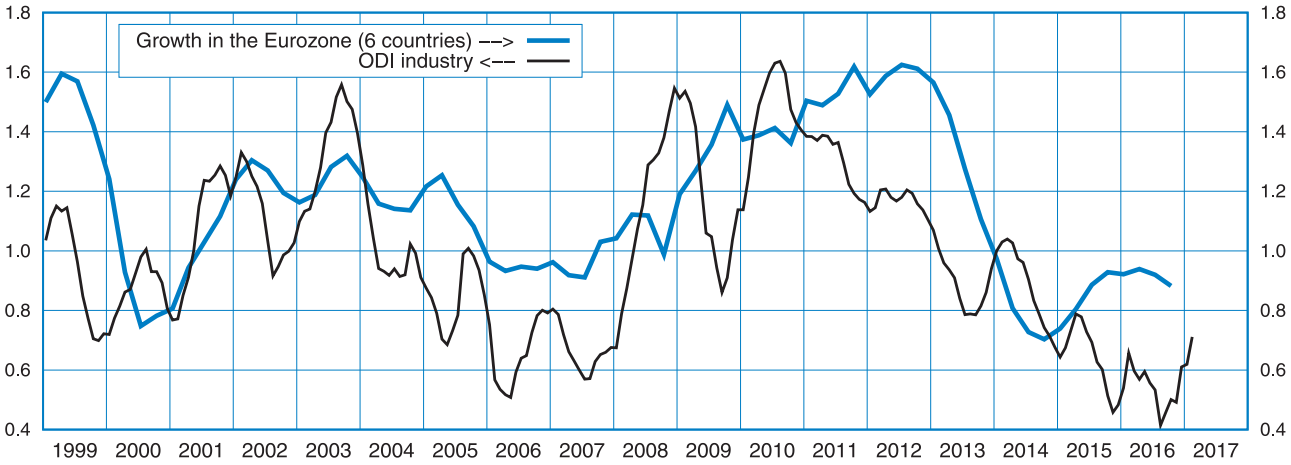
Sources: Eurostat, European Commission, INE, INSEE calculations

Business cycles within the Eurozone are converging again

In 2016, disparities in the business outlook were at their lowest level since 1999

As the outlook divergence indicators are generally closely correlated with growth differentials, the dispersion of these indicators can be interpreted as an alternative measurement of the average outlook divergences in each period, comparable to the dispersion indicator calculated based on differences in growth, but available more rapidly (*Graph 6*). In both cases, dispersion in 2016 was at practically its lowest level since 1999. This suggests that the respective positions of the different Eurozone economies within the business cycle have converged sharply in recent months. ■

6 - Dispersion of growth rates and outlook divergence indicators in industry



Sources: Eurostat, European Commission, INSEE calculations

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Methodological Appendix

The aim of this model is to analyse fluctuations in the balances of opinion derived from the business tendency surveys conducted in the Eurozone nations, in order to identify both a common trend and indicators which are specific to individual countries. This is an adapted version of the model originally developed by Lenglart *et al.* (2002). Rather than dynamic estimation, this model is based on a two-step static estimation.

Six countries were included in this model: Germany, Belgium, Spain, France, Italy and the Netherlands. Collectively, they account for 86% of Eurozone GDP.

An initial estimate for "all sectors" uses twelve balances of opinion taken from the three main market sectors (*Table*). The balances used are those available for the three sectors over the studied period and for the six countries. These balances are derived from the business tendency surveys conducted by different forecasting institutions and submitted to the European Commission. They are corrected for seasonal variations over the period 1998-2017.

A second estimate is produced based solely on the five balances of opinion from the industrial sector.

Variables used in the surveys

Industry	Services	Construction
Past output trends	Development expectations	Past activity
Variation in output expectations	Past activity	Order books
Order books	Expected activity	Expected employment
Demand and export order books	Past employment	
Finished goods inventory level		

This approach is different from that employed by the European Commission to calculate the BCI indicator. The latter is constructed by aggregating the balances of opinion at Eurozone level, weighting them by the value added of each country, then conducting a single factor analysis. Lenglart *et al.* have already demonstrated that this aggregated approach runs the risk of neglecting smaller countries whose information may nonetheless be useful when analysing the outlook; they therefore adopted a non-aggregated methodology in order to calculate a common factor which "summarises" the information contained in the 72 individual balances.

Step One: estimating the common factor of the Eurozone outlook

The first step consists of determining the common factor of the business outlook in the Eurozone based on all of the balances of opinion from all of the countries included here, by means of a single factor analysis. Each balance of opinion is broken down as follows:

$$\forall (i,p) \in \{1,\ldots,I\} \times \{1,\ldots,P\}, x_{i,p}(t) = \lambda_{i,p} F_{ZE}(t) + u_{i,p}(t)$$

Where :
- $x_{i,p}(t)$ is the standardised i^{th} balance of country p at date t;
- F_{ZE} is the standardised "Eurozone" common factor;
- $u_{i,p}$ is the specific component for question i in country p;
- P is the number of countries, I is the number of balances per country.

In matrix form: $x(t) = \Lambda F_{ZE}(t) + u(t)$

Where:

- $\Lambda = \begin{pmatrix} \Lambda_{.1} \\ \vdots \\ \Lambda_{.P} \end{pmatrix}, x(t) = \begin{pmatrix} x_{.1}(t) \\ \vdots \\ x_{.P}(t) \end{pmatrix}, u(t) = \begin{pmatrix} u_{.1}(t) \\ \vdots \\ u_{.P}(t) \end{pmatrix}$

- $x_{.p}(t) = \begin{pmatrix} x_{1,p}(t) \\ \vdots \\ x_{I,p}(t) \end{pmatrix}$ and $u_{.p}(t) = \begin{pmatrix} u_{1,p}(t) \\ \vdots \\ u_{I,p}(t) \end{pmatrix}$ are the vectors of the balances and components specific to country p;

- $\Lambda_{.p} = \begin{pmatrix} \lambda_{1,p} \\ \vdots \\ \lambda_{I,p} \end{pmatrix}$ is the "loadings" vector for country p.

On the assumption that the error terms are orthogonal:

$\forall (i,p) \in (1,\ldots,I)\times(1,\ldots,P) \quad E\left(u_{i,p}(t)F_{ZE}(t)\right)=0$

$\forall (i,p) \in (1,\ldots,I)\times(1,\ldots P) \quad \forall (i',p') \in (1,\ldots,I)\times(1,\ldots,P), \quad E\left(u_{i,p}(t)u_{i',p'}(t)\right)=0$

the variance-covariance matrix of the specific components can be written as:

$$D=\begin{pmatrix} \text{var}(u_{1,1}(t))=d_{1,1}^{\ 2} & & \\ & \ddots & \\ & & \text{var}(u_{I,P}(t))=d_{I,P}^{\ 2} \end{pmatrix}$$

and $\text{var}\left(x_{i,p}(t)\right)=\lambda_{i,p}^{\ 2}+d_{i,p}^{\ 2}=1$, $cor\left(x_{i,p}(t),F_{ZE}(t)\right)=\lambda_{i,p}$

Estimating this model requires further hypotheses concerning the normality of the balances of opinion (i.e. formally at each date $x(t)\approx N\left(0,\Lambda\Lambda'+D\right)$) and the independence of the observations $\left(x(t)\right)_{t=1\ldots T}$ over time. Subject to this additional hypothesis, the parameters of the model $\theta=(\lambda_{i,p})_{i,p}$ are calculated by the maximum likelihood method, maximising the function of these parameters $\theta\rightarrow -tr\left(\Sigma^{-1}S_T\right)-\ln|\Sigma|$

where:

- $\Sigma=\Lambda\Lambda'+D$
- S_T is the empirical estimator of the variance-covariance matrix of the observations.

The "Eurozone" climate is then estimated using the Thompson estimator: $\hat{F}_{ZE}(t)=\Lambda'\Sigma^{-1}x(t)$

This estimator is justified with the addition of a normality hypothesis $\begin{pmatrix}F_{ZE}(t)\\x(t)\end{pmatrix}\approx N\left(\begin{pmatrix}0\\0\end{pmatrix},\begin{pmatrix}1 & \Lambda'\\ \Lambda & \Sigma\end{pmatrix}\right)$, which implies that $E\left(F_{ZE}(t)\mid x(t)\right)=\Lambda'\Sigma^{-1}x(t)$.

Lenglart *et al.* (2002) point out that the natural framework for a breakdown of this kind would be within a dynamic model. Nonetheless, we can produce an estimate in static mode as long as the series are stationary. Tests conducted on normalised balances of opinion have not convinced us of the need to reject the hypothesis that the balances are indeed stationary.

Step Two: determining the indicators of outlook divergence

For each country, the balances of opinion are corrected for their "Eurozone" common factor and a factor analysis is conducted in order to characterise the specific national outlook. For a given country, p, the model will be: $\forall i \in 1\ldots I \quad {u_{i,p}(t)}/{d_{i,p}}=\gamma_{i,p}V_p(t)+\varepsilon_{i,p}(t)$

where:

- the coefficients γ and V_p factors are estimated as above,
- V_p can be interpreted as the outlook factor specific to country p, or else as an outlook divergence indicator for p in relation to the Eurozone.

In practice, factor analysis is performed on the components specific to the country $\hat{u}_{i,p}(t)=x_{i,p}(t)-\hat{\lambda}_{i,p}\hat{F}_{ZE}(t)$, whereas in the previous step, $\hat{\lambda}_{i,p}$ was estimated by maximum likelihood and $\hat{F}_{ZE}(t)$ is the Thompson estimator, standardised in advance with $\hat{d}_{i,p}$ its estimated standard deviation.

The full model, combining steps one and two, is: $x_{i,p}(t)=\lambda_{i,p}F_{ZE}(t)+d_{i,p}\left(\gamma_{i,p}V_p(t)+\varepsilon_{i,p}(t)\right)$

However there is nothing to guarantee that the common factor and the ODI are indeed orthogonal ($E\left(F_{ZE}(t)V_p(t)\right)=0$), in contrast with the multiple factor model used by Lenglart *et al.* (2002). Nevertheless, a comparison of the results obtained using both methods reveals them to be very close, and as such any effects of this assumption would appear to be marginal. ■

French developments

Review of the previous forecast

In Q4 2016, gross domestic product (GDP) grew by 0.4%, as forecast in the December 2016 issue of Conjoncture in France. *Domestic demand excluding inventories contributed +0.5 points to this growth, as predicted: household consumption bounced back, almost as forecast, corporate investment showed a surprising increase and household investment grew as expected, while government investment unexpectedly contracted. Foreign trade made a small contribution to growth (+0.1 points) whereas none was expected. The contribution of changes in inventories was correctly anticipated (–0.1 points). The growth forecast for Q1 2017 remains unchanged from the December issue of* Conjoncture in France *(+0.3%), while that for Q2 has been revised slightly upwards (+0.5% instead +0.4% initially forecast).*
At the end of 2016, market-sector employment was more buoyant than expected: +64,000 compared to +29,000 forecast. At the same time, the unemployment rate fell by 0.1 points, as expected, to 10.0% of the French labour force. In February 2017, headline inflation stood at +1.2% according to the provisional estimate, as predicted, and the forecast for June is just slightly higher (+1.1% compared to +1.0%).

In Q4, activity increased as forecast

In Q4 2016, gross domestic product (GDP) picked up as forecast in the December 2016 issue of *Conjoncture in France* (+0.4% after +0.2%; *Table 1*). Output in all sectors increased a little more than expected (+0.6% compared to +0.4%; *Table 2*). There was a surprise increase in the manufacturing sector in particular (+0.8% compared to +0.1%), whilst value added in this sector rose almost as forecast (+0.2% compared +0.3%): the surprise increase in output stemmed mainly from the coke and refined petroleum sector, which grew again whereas a downturn had been expected. In addition, energy production increased unexpectedly in spite of several nuclear reactors bring to shut down in the autumn. Production in services was close to forecasts, whilst that in the construction sector was rather disappointing, due to a drop in civil engineering activity.

Domestic demand sustained growth, as forecast

The contribution of domestic demand excluding inventories to GDP growth was in line with forecasts (+0.5 points). Household consumption bounced back (+0.6%) after two quarters of near stagnation, only slightly more than expected (+0.5%), due to more vigorous spending on energy than anticipated. Corporate investment showed a surprising increase (+0.8% against +0.5%), due to higher spending on manufactured goods, mainly cars, and in spite of an unexpected downturn in corporate investments in services. Residential investment increased as expected (+0.7% against +0.6%). On the other hand, government investment contracted unexpectedly (–1.5% against +0.3%), especially in civil engineering.

Table 1
Gross domestic product and its main components in the expenditure approach
Percentage changes from previous period in %

	Conjoncture in France December 2016			*Conjoncture in France* March 2017		
	Q4 2016	Q1 2017	Q2 2017	Q4 2016	Q1 2017	Q2 2017
Gross domestic product	0.4	0.3	0.4	0.4	0.3	0.5
Imports	0.2	0.9	1.1	1.0	1.3	0.2
Household consumption expenditure	0.5	0.3	0.3	0.6	0.2	0.4
General government consumption expenditure*	0.3	0.3	0.4	0.4	0.3	0.3
Gross fixed capital formation	0.5	0.7	0.5	0.4	0.8	0.6
of which: Non financial enterprises	*0.5*	*0.8*	*0.5*	*0.8*	*0.9*	*0.5*
Households	*0.6*	*0.6*	*0.6*	*0.7*	*0.9*	*1.0*
General government	*0.3*	*0.1*	*0.2*	*–1.5*	*0.0*	*0.6*
Exports	0.3	1.1	1.1	1.3	0.2	1.4
Contributions (in percentage points)						
Domestic demand excluding changes in inventories**	0.5	0.4	0.4	0.5	0.4	0.4
Changes in inventories**	–0.1	–0.1	0.0	–0.1	0.3	–0.3
Net foreign trade	0.0	0.0	0.0	0.1	–0.4	0.4

Forecast

* General government and non-profit institutions serving households
** Changes in inventories include acquisitions net of sales of valuable
Source: INSEE

The trade balance made a small contribution to growth (+0.1 points) whereas none was expected. Driven by sales of manufactured goods, exports grew more than expected. At the same time, imports were more buoyant than predicted, due to energy purchases. Changes in inventories dampened growth slightly (–0.1 points), as forecast.

The growth forecast for Q1 2017 remains unchanged, while that for Q2 is revised upwards

Since December 2016, the business climate measured by business tendency surveys has improved, while it had been generally stable for the previous year. In industry, it reached 107 in February, its highest level since summer 2011. However, the indicators for manufacturing output and household consumption of consumer durables were disappointing in January. All in all, the GDP growth forecast for Q1 2017 remains unchanged from the December issue of *Conjoncture in France* (+0.3%).

Domestic demand is expected to fuel growth as forecast in December (+0.4 points). Household spending forecasts have been revised slightly downwards, while investment has been revised upwards for all the institutional sectors.

Foreign trade is likely to hamper growth (–0.4 points) whereas a zero contribution was forecast in the December issue. The exports forecast has indeed been revised downwards, especially for manufactured goods. At the same time, the forecast for imports has been revised upwards, mainly as a result of purchases of manufactured goods, pharmaceuticals in particular. However, changes in inventories are likely to contribute positively to growth (+0.3 points) whereas a negative contribution was forecast in the December issue (–0.1 points). As a result of the favourable outlook for activity revealed in the business tendency surveys, the GDP growth forecast for Q2 has been revised upwards from that of the December issue of *Conjoncture in France* (+0.5% against +0.4%).

At the end of 2016 market-sector employment was more buoyant than expected

In Q4 2016 market-sector employment was more buoyant than expected: +64,000 compared to +29,000 forecast. This surprise is accounted for mainly by the vigour of the temporary employment sector: +38,000 whereas it had been expected to be stable. At the same time, the unemployment rate fell slightly (–0.1 point), as predicted, to 10.0% of the French labour force (against 9.9% forecast in the December scenario, as the Q3 unemployment rate was revised upwards by 0.1 point).

In Q1 2017, employment is expected to be a little more buoyant than forecast in the December issue of *Conjoncture in France* (+41,000 compared to +29,000). The unemployment rate should stand at 9.8%, compared to 9.9% forecast in the December issue.

By mid-2017, inflation is expected by be barely any higher than initially anticipated

In February 2017, headline inflation stood at +1.2.% according to the provisional estimate, as forecast in December. For June, the forecast is barely any higher than that of the December issue (+1.1% instead of +1.0%), due to the expected increase in the price of oil. The forecast for core inflation, however, remains unchanged (+0.7%). ■

Table 2

Activity by sector and labour market

Percentage changes from previous period in %

	Conjoncture in France December 2016			*Conjoncture in France* March 2017		
	Q4 2016	Q1 2017	Q2 2017	Q4 2016	Q1 2017	Q2 2017
Output by sector						
Agriculture	1.3	2.6	1.9	1.1	2.6	1.9
Manufacturing	0.1	–0.2	0.7	0.8	–0.3	1.0
Energy, water and waste	0.0	0.3	0.2	2.3	–0.1	0.7
Construction	0.4	0.3	0.4	0.2	0.4	0.8
Trade	0.5	0.4	0.5	0.5	0.2	0.6
Market services excluding trade	0.5	0.4	0.5	0.6	0.4	0.6
Non market services	0.3	0.3	0.3	0.3	0.3	0.3
Total	**0.4**	**0.3**	**0.5**	**0.6**	**0.3**	**0.7**
Employment, unemployment, prices						
Non-agricultural market sector employment	29	29	30	64	41	41
ILO* unemployment rate - Metropolitan France	9.9	9.9	9.8	10.0	9.8	9.8
Consumer price index[1]	0.7	1.2	1.0	0.6	1.3	1.1
Core inflation[1]	0.5	0.7	0.7	0.4	0.5	0.7

Forecast

* ILO unemployment: unemployment as defined by the International Labour Organisation
1. Year-on-year on the last month of the quarter

Source: INSEE

Output

Gross domestic product gathered pace in Q4 (+0.4% after +0.2%), taking economic growth over the year to +1.1% in 2016, i.e. almost the same as in 2015 (+1.2%). The production of goods and services increased faster than GDP in H2 2016 (+0.5% in Q3, +0.6% in Q4), reflecting the greater buoyancy of sectors in which output has a lower value-added content.

The business climate has improved since December, rising to 104 in February 2017 after 18 months of oscillating just above its long-term average (100). It has risen even higher in industry (to 107). In construction, it has maintained a steady improvement, almost reaching its long-term average. It is above its average level in services.

Total production of goods and services should continue to increase strongly in H1 2017, albeit with a slight dip in Q1 (+0.3%, followed by +0.7% in Q2), driven by the manufacturing sectors.

Production of goods and services should progress steadily through to mid-2017

After recovering in Q3 2016 (+0.5%), production of goods and services accelerated a little in Q4 (+0.6%; *Table 1*). Over this period, it increased faster than gross domestic product (GDP; +0.2% in Q3, +0.4% in Q4), reflecting the greater buoyancy of sectors in which production has a lower value-added content.

In Q4 activity consequently gathered pace in trade (+0.5% after +0.3%) and bounced back in energy, water and waste (+2.3% after –2.3%). Production continued to rise strongly in the manufacturing sectors (+0.8% after +0.7%) and market services excluding trade (+0.6% after +0.7%).

Whereas it had been hovering just above its average since mid-2015, the business climate in France improved significantly in December, standing at its highest level since the summer of 2011 (105). It lost one point in January, however, and maintained this level in February (*Graph 1*). The business climate was particularly bright in industry: in February 2017, the business climate in this sector reached 107 – its highest level since the summer of 2011. In construction, the business climate – maintaining an upturn that began in early 2015 – has been on the verge of its long-term average since the beginning of the year.

Total production of goods and services should record another strong increase in H1 2017, although with a slight dip at the beginning of the year (+0.3% in Q1, +0.7% in Q2). Indeed, manufacturing output is expected to fall back a little in Q1 2017 (–0.3% after +0.8%) due to the refinery shutdowns, before bouncing back (+1.0%) after they reopen. Activity in trade (+0.2% in Q1, +0.6% in Q2) and services (+0.5% in Q1, +0.6% in Q2) should continue to progress steadily in H1 2017, whilst construction activity is expected to gather pace, up to +0.8% by mid-2017.

Table 1 - Output by branch at the previous year's chain-linked prices

Q/Q-1 variations (as a %), SA-WDA data

	Quarterly changes										Annual changes		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agriculture (2%)	–0.9	–1.2	–1.4	–2.0	–2.5	–1.2	–0.3	1.1	2.6	1.9	–2.2	–5.7	4.5
Manufacturing industry (20%)	1.0	–0.2	0.5	0.4	0.3	–1.0	0.7	0.8	–0.3	1.0	1.5	0.6	1.1
Energy, water, waste (4%)	3.8	–1.7	1.3	–0.4	1.2	0.9	–2.3	2.3	–0.1	0.7	1.8	1.2	1.2
Construction (8%)	–0.4	–0.2	–0.7	0.5	0.4	–0.3	0.9	0.2	0.4	0.8	–2.2	0.7	1.6
Trade (10%)	1.1	0.4	0.8	0.3	1.3	–0.3	0.3	0.5	0.2	0.6	3.0	2.1	1.1
Market services excluding trade (41%)	0.6	0.2	0.4	0.6	1.0	0.0	0.7	0.6	0.4	0.6	1.6	2.3	1.7
Non-market services (15%)	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	1.0	1.3	0.9
Total (100%)	**0.7**	**0.0**	**0.4**	**0.4**	**0.7**	**–0.2**	**0.5**	**0.6**	**0.3**	**0.7**	**1.3**	**1.4**	**1.4**

Forecast

Weights constructed from the annual production value in 2015.

Source: INSEE

French developments

By mid-2017, the growth overhang for the production of goods and services should stand at +1.4%, as it was over 2016 as a whole.

In H1 2017, growth in manufacturing output should be conditioned by the pace of activity in refineries

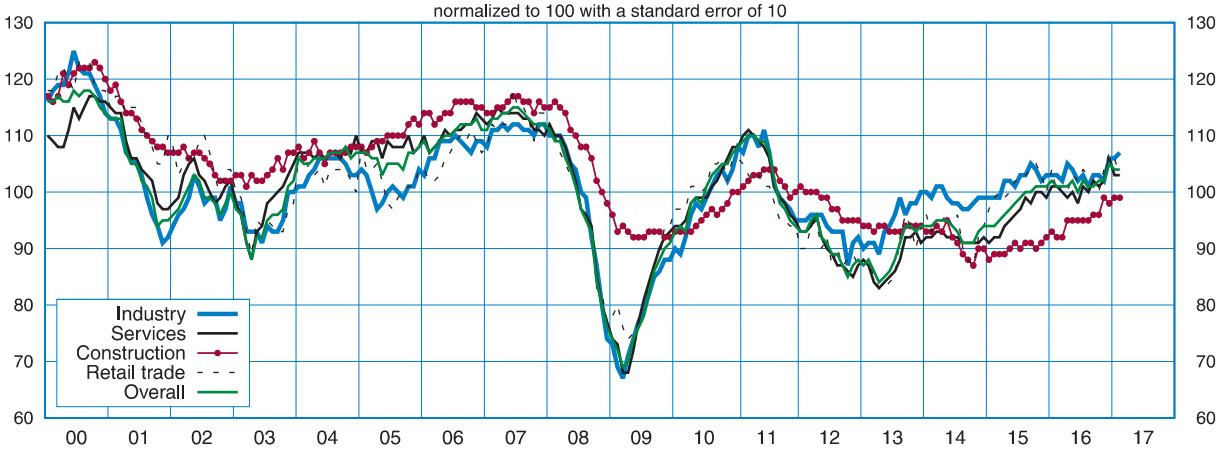
After recovering strongly in Q3 2016 (+0.7%), manufacturing output remained buoyant in Q4 (+0.8%). The rise at the end of 2016 was above all due to a rebound in the production of transport equipment (+4.0% after –3.1%), which was nevertheless mitigated by a downturn in food products and beverages (–0.4% after +0.2%) and "other manufacturing" (–0.3% after +0.7%).

Manufacturing output is expected to stall in Q1 2017 (–0.3%) before bouncing back in Q2 (+1.0%). With the permanent closure of one refinery at the end of 2016 and the shutdown of another for maintenance, coke and refined petroleum production should plummet in Q1 (–9.6%), reducing overall growth by 0.5 points.

Production of food products and beverages is expected to fall (–1.1%), as reflected by the decline in the business climate for this sector since January. However, activity is likely to remain buoyant in transport equipment (+1.7% after +4.0%) and should increase moderately in "other manufacturing" (+0.2% after –0.3%) and in machinery and equipment (+0.3% after +0.7%), with the business climate remaining favourable in these sectors (*Graph 2*). Manufacturing value added is barely affected by the coke and refined petroleum branch, in which production creates little value added. It should progressively become more dynamic in H1 (+0.2% in Q1, +0.7% in Q2; *Table 2*), in line with the high level of the business climate in February.

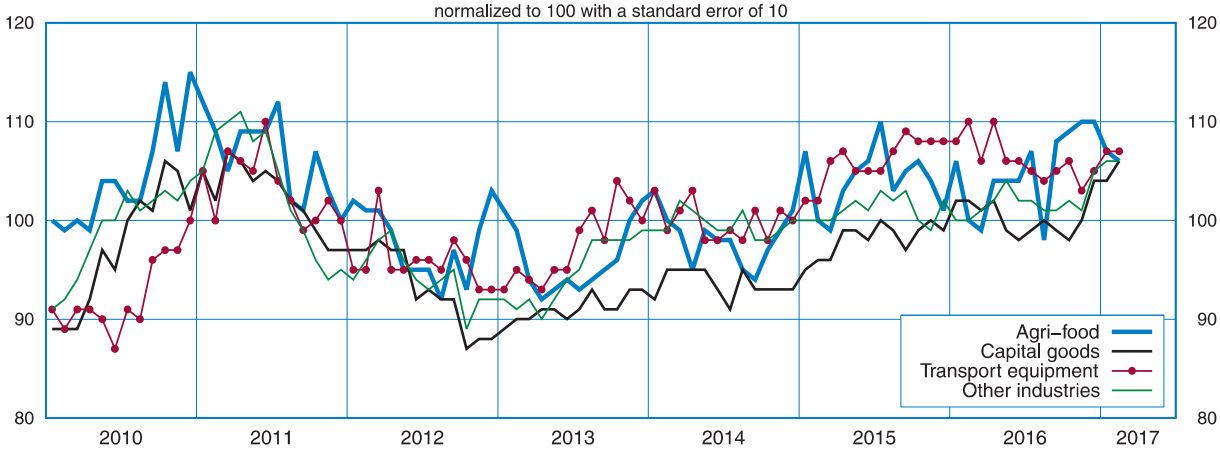
All in all, the growth overhang for manufacturing value added is expected to stand at +0.7% at the end of Q2 2017, significantly above growth over 2016 as a whole (+0.3%).

1 - Business climate in France: all sectors in industry, services and construction



Source: INSEE

2 – Sub-sector business climates in industry



Source: INSEE

Agricultural production is likely to bounce back in 2017, contributing strongly to GDP growth

In 2016, agricultural production slumped (–5.7% after –2.2% in 2015), reducing GDP growth by 0.2 points. The cereal and grape harvests were hit hard by exceptionally poor spring and summer weather conditions.[1]

Assuming a return to normal weather conditions in H1 2017, agricultural production should pick up strongly and return to close to its average level. Its mid-year annual growth overhang is expected to make a +0.2-point contribution to annual GDP growth.

Construction activity should gather pace

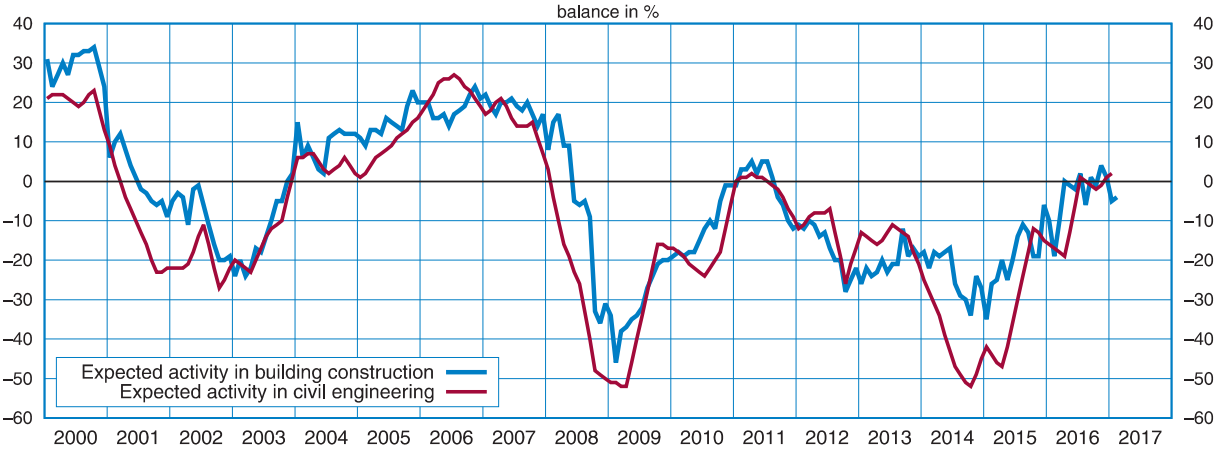
In Q4 2016, production in construction slowed down (+0.2% after +0.9%) despite dynamic growth in building construction, because activity declined in civil engineering.

1. "Poor harvests could bring down annual growth by 0.2 points in 2016", *Conjoncture in France*, December 2016, p. 69-70.

At the end of 2016, the number of building permits gathered pace for individual dwelling units and fell for collective accommodation, both of these indicators having followed an upward trend since the beginning of 2015. The business tendency surveys are putting out mixed signals. In building construction, the business climate in the sector has continued to improve, although it remains below its long-term average. Admittedly, the balance of opinion on activity forecasts has slipped back in early 2017, and is below its long-term average (*Graph 3*). However, a greater number of entrepreneurs are feeling optimistic about filling their order books. In addition, activity prospects for the building crafts sector are improving. Consequently, activity in building construction is expected to accelerate slightly in H1 2017.

In civil engineering, entrepreneurs' balance of opinion concerning their activity forecasts has been improving continuously since late 2014 and is now clearly above its long-term average. However, lower-than-average temperatures adversely affected building projects at the end of 2016 and again in January 2017, and production in civil engineering is likely to decline in Q1 before bouncing back in Q2.

3 - Expected activity in construction



Source: INSEE

Table 2 - Value added by branch

Q/Q-1 variations (as a %), SA-WDA data

	Quarterly changes										Annual changes		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agriculture (2%)	–1.7	–2.4	–3.1	–4.2	–4.6	–2.8	–1.1	1.2	4.9	3.5	–4.4	–11.8	7.3
Manufacturing industry (11%)	1.1	0.8	0.6	0.2	0.0	–0.6	0.0	0.2	0.2	0.7	2.4	0.3	0.7
Energy, water, waste (3%)	3.5	–2.3	1.3	–0.6	1.6	0.6	–2.7	2.0	–0.1	0.7	1.3	0.8	0.7
Construction (5%)	–0.9	–0.6	–0.6	0.3	0.2	–0.1	0.3	0.0	0.3	0.6	–2.9	0.1	0.9
Trade (10%)	1.1	0.2	0.7	0.2	1.1	–0.4	0.2	0.3	0.0	0.5	2.6	1.4	0.6
Market services excluding trade (46%)	0.6	0.0	0.3	0.5	1.0	–0.1	0.6	0.5	0.4	0.5	1.2	1.9	1.4
Non-market services (23%)	0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.8	0.9	0.7
Total (100%)	**0.5**	**0.0**	**0.3**	**0.3**	**0.6**	**–0.2**	**0.2**	**0.4**	**0.3**	**0.5**	**1.1**	**1.1**	**1.1**

Forecast

Weights constructed from the annual production value in 2015.

Source: INSEE

All in all, production in construction should gather pace in H1 2017 (+0.4% in Q1, +0.8% in Q2).

Over 2016 as a whole, production in construction bounced back (+0.7%) after two consecutive years of decline (–2.2% in 2015 and –2.7% in 2014). The growth overhang for 2017 should reach +1.6% by mid-year.

In market services excluding trade, activity should slow down slightly

In Q4 2016, production in market services excluding trade continued to grow steadily (+0.6% after +0.7%). Activity in services to businesses slowed down slightly, while remaining solid (+0.6% after +0.8%). It slowed to a much greater extent in information-communication (+0.5% after +1.1%) and accommodation and food services (+0.1% after +0.9%). However, it accelerated in transport (+1.0% after +0.5%), in "other service activities" (+0.5% after +0.2%) and financial activities (+1.2% after +0.9%).

In market services, the business climate improved significantly in December, reaching its highest level since mid-2011 (106). It has stabilised at a slightly lower level since the beginning of 2017 (103). In February, virtually all the sub-sector business climates were equal to or higher than their average levels (*Graph 4*). The composite indicator is particularly high in transport (108) and in administrative and support services (106). In H1 2017, activity in market services excluding trade is expected to remain robust (+0.4% in Q1, +0.6% in Q2). By mid-2017, the annual growth overhang should be +1.7%, after +2.3% throughout 2016 as a whole.

Trade activity to rise again in H1 2017

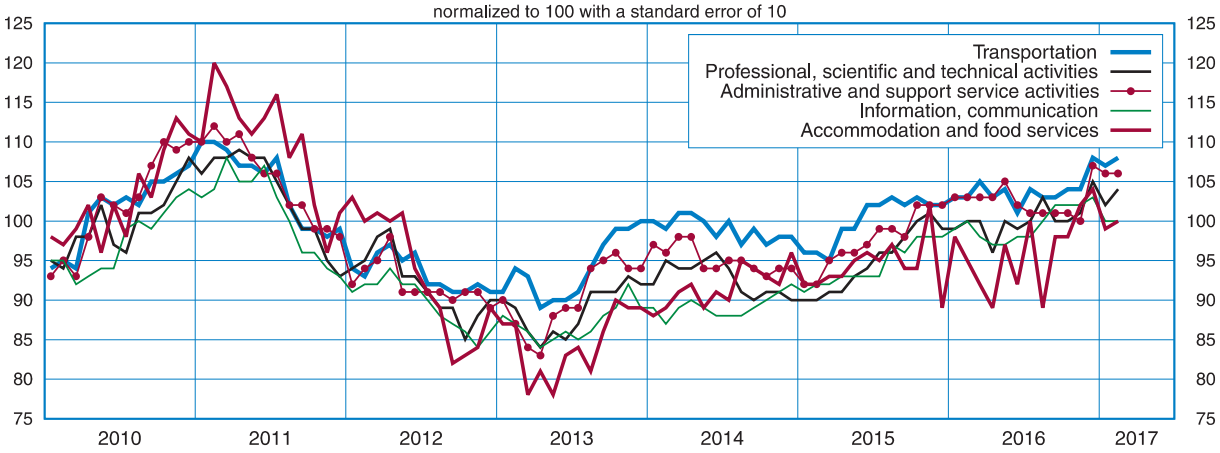
Trade activity accelerated a little in Q4 2016 (+0.5% after +0.3% in Q3), as household consumption of manufactured goods recovered at the end of the year (+0.5% after –0.1%), particularly automobile purchases.

In January 2017, the composite indicator for the wholesale trade business climate (102) edged back above its long-term average; in February, that for retail trade and automobiles (103) slipped back but remains above its average. In H1 2017, trade activity is expected to rise again (+0.2% in Q1, +0.6% in Q2), in the wake of the household consumption of manufactured goods (+0.2% in Q1, +0.4% in Q2). By mid-2017, the annual growth overhang for production in trade should stand at +1.1%, after an average of +2.1% in 2016.

Mainly non-market service activity should continue to increase moderately

In Q4 2016, activity in mainly non-market services grew at the same rate as in the previous quarter (+0.3%). In H1 2017, activity should continue to increase at the same moderate rate (+0.3% per quarter). By mid-2017, the annual growth overhang should be +0.9%, after +1.3% over 2016 as a whole. ■

4 – Sub-sector business climates in services



Source: INSEE

Foreign trade

At the end of 2016 world trade accelerated (+1.7% after +0.6%), as did world demand for French goods (+1.9% after +0.3%). Against this promising global backdrop, French exports grew strongly once again (+1.3% after +0.8%), especially those of manufactured goods, driven by record deliveries of aircraft at the end of the year. In H1 2017, boosted by robust world demand and a slight depreciation of the Euro, they should continue to increase strongly. The quarterly profile of exports is still likely to be dictated by the pace of deliveries of major aeronautics and shipbuilding contracts (+0.2% then +1.4%).

Imports slowed significantly in Q4 (+1.0% after +2.7%), especially of manufactured goods and raw hydrocarbons. They are expected to pick up in Q1 (+1.3%) then stall in Q2 (+0.2%). In mid-2017 foreign trade is likely to hold back the annual growth overhang by 0.2 points, markedly less than last year: in 2016 it stripped annual growth of 0.8.points, of which –0.5.points were carried over by mid-year.

World trade accelerated at the end of 2016 and should remain strong until mid-2017

In Q4 2016 world trade accelerated sharply (+1.7% after +0.6%; *Table 1*), thanks to renewed momentum in Chinese, American and German imports. Nevertheless, this brought to an end what had been a sluggish year 2016: on average over the year, world trade slowed further and growth (+1.5%) was at its lowest since 2009. Through to mid-2017, it should increase strongly (+0.9% per quarter). It is likely to be driven mainly by the reinvigorated imports of the emerging countries, as suggested by the significant improvement in balances of opinion on export orders in the world business tendency surveys (*Graph 1*). The annual carry-over effect through to mid-year should reach +3.4% in 2017.

World demand for French goods also accelerated at the end of 2016 (+1.9% after +0.3%; *Graph 2*), mainly thanks to the buoyancy of German imports. Through mid-2017, this demand is expected to grow at the same pace as world trade (+0.9% per quarter) with the momentum coming mainly from the Eurozone partners.

Exports are expected to continue to increase solidly in H1 2017

In Q4 2016 French exports accelerated (+1.3% after +0.8%, *Table 2*). Exports of manufactured goods once again grew strongly (+2.0% after +1.9%). Sales of transport equipment rebounded particularly well (+4.8% after 0.0%) as a result of record aeronautical deliveries at the end of the year. Exports of "other industrial products" (+1.8% after +2.3%) and capital goods (+1.1% after +2.0%) increased significantly once again. However, sales of energy products plummeted (–12.4% after +3.0%), due to several shutdowns of nuclear power station reactors. Exports of agricultural products declined again (–5.7% after –16.5%), while sales of services recovered (+1.1% after –0.4%).

In Q1 2017 exports of goods and services are likely to stall (+0.2%), especially those of manufactured goods (–0.1%; Graph 3). Aeronautics and shipbuilding deliveries are expected to shrink significantly as an after-effect of the exceptional end of year in 2016. Exports of agricultural products are likely to remain sluggish, still suffering from last summer's poor harvests. However, exports of services should remain buoyant (+1.0%).

Table 1

World trade and world demand for French products

levels ; percentage changes from previous period

	2015				2016				2017		2015	2016	2017 ovgh
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
World trade	**0.4**	**0.1**	**0.7**	**0.5**	**–0.5**	**0.7**	**0.6**	**1.7**	**0.9**	**0.9**	**2.4**	**1.5**	**3.4**
Imports of advanced economies	1.8	0.0	0.7	1.0	0.2	0.4	0.8	1.4	0.9	0.9	4.0	2.3	3.2
Imports of emerging economies	–2.6	0.4	0.7	–0.5	–1.9	1.3	0.3	2.2	1.0	1.0	–1.0	–0.1	4.0
World demand for French products	**1.1**	**0.1**	**0.6**	**0.9**	**–0.1**	**1.2**	**0.3**	**1.9**	**0.9**	**0.9**	**3.4**	**2.5**	**3.4**

Forecast

Source: INSEE

French developments

In Q2 2017 exports (+1.4%) should benefit from the buoyancy of world demand for French goods, the slight past depreciation of the Euro and some large shipbuilding contracts, with the delivery of the cruise ship *Meraviglia*. Exports of manufactured goods are set to increase by 1.6% and exports of services by 1.0%. Exports of energy products should pick up slightly over the half-year as electricity production capacity is gradually restored.

At the end of H1 2017, the annual growth overhang for exports is expected to have already reached +2.6%, considerably more than the annual average for 2016 (+1.1%).

Imports expected to accelerate then stall

In Q4 2016 French imports slowed considerably (+1.0% after +2.7%). This slowdown originated firstly from manufactured goods (+0.4% after +2.2%), especially transport equipment (+3.6% after +6.7%) and capital goods (+0.4% after +2.2%), and secondly from energy products (+9.7% after +24.9%). Imports of agricultural products stalled (0.0% after +3.1%). However, purchases of services recovered (+1.0% after –0.1%).

In Q1 2017 imports are expected to accelerate slightly (+1.3%). Imports of manufactured goods should pick up substantially (+1.9%) mainly thanks to some exceptional sourcing in pharmaceuticals. Imports of services are likely to remain sustained (+1.1%). However, imports of raw hydrocarbons are expected to shrink (–3.0%), with the announcement that several refineries are to stop production.

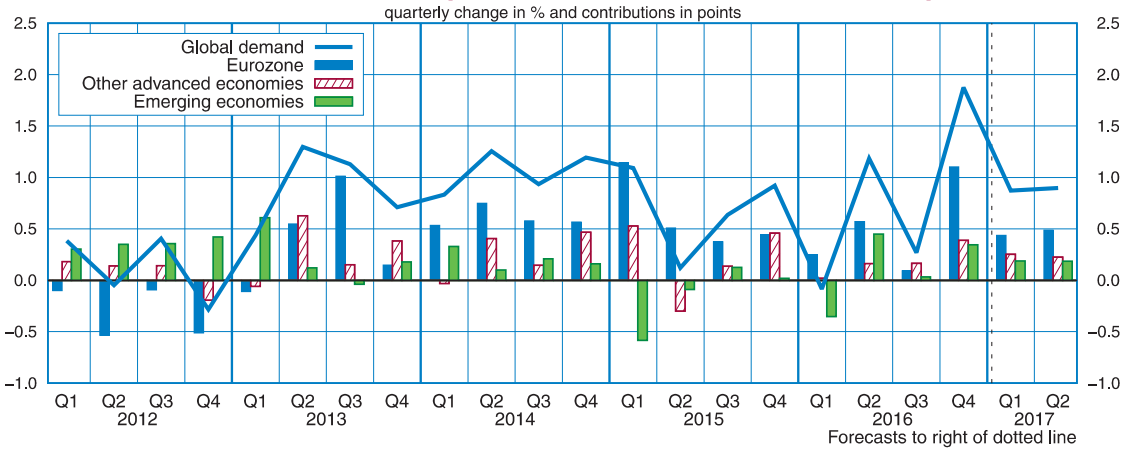
In Q2 imports are likely to slow substantially (+0.2%). Imports of manufactured goods should then decelerate strongly in reaction (+0.3%) and energy purchases are expected to decrease once again.

In mid-2017, the annual carry-over effect for imports is likely to be +3.2%, after an increase in the annual average of +3.7% in 2016.

1 – World trade and new export orders

Sources: INSEE, DG Trésor, Markit

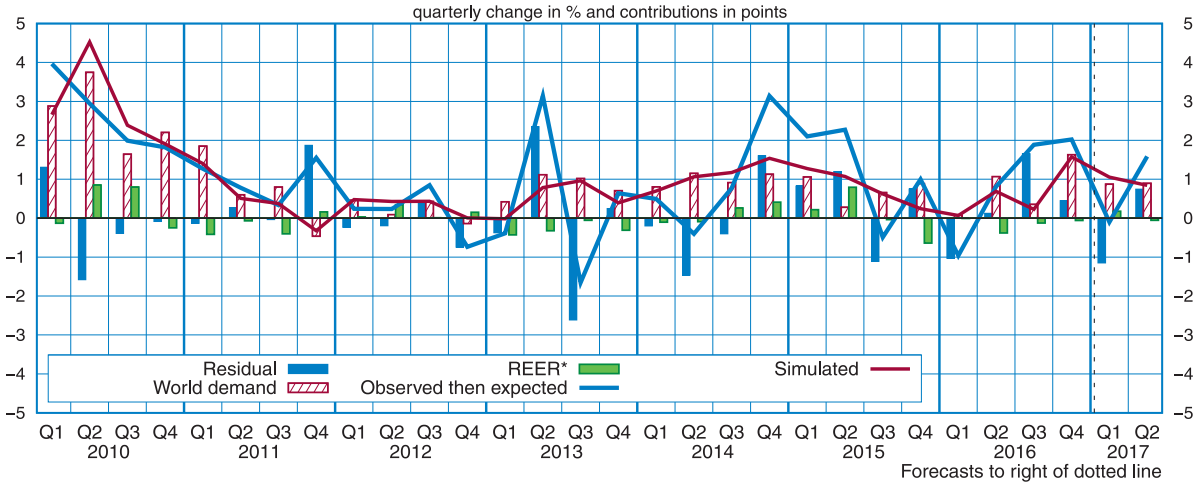
2 - World demand for French products and contributions of the main partners



Sources: INSEE, DG Trésor

Over 2016 as a whole, foreign trade subtracted 0.8 points from GDP growth, having already affected it in 2015 (–0.3 points). Exports suffered from weak world demand, climate conditions that were unfavourable to agricultural products and a downturn in tourism, while imports remained driven by domestic demand (*Focus*). The contribution of foreign trade is expected to remain negative in Q1 2017 (–0.4 points), but should become positive in Q2 (+0.4 points). By mid-2017, foreign trade is likely to have held back the annual GDP carry-over effect by 0.2 points, considerably less than last year at the same period (–0.5 points mid-2016). ■

3 - Equation of exports (manufactured goods) and econometric contributions



*REER: real effective exchange rate
Sources: INSEE, DG Trésor

Table 2

Foreign trade growth forecast

variations in % at chain-linked previous year prices, contributions in points

	Quarterly changes						Annual changes		
	2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2			
Exports									
All goods and services	–0.2	0.0	0.8	1.3	0.2	1.4	6.0	1.1	2.6
Manufactured products (68%)*	–1.0	0.8	1.9	2.0	–0.1	1.6	6.7	2.2	3.8
Imports									
All goods and services	0.6	–1.5	2.7	1.0	1.3	0.2	6.4	3.7	3.2
Manufactured products (68%)*	1.2	–1.2	2.2	0.4	1.9	0.3	6.4	4.8	3.3
Contribution of foreign trade to GDP	**–0.2**	**0.5**	**–0.6**	**0.1**	**–0.4**	**0.4**	**–0.3**	**–0.8**	**–0.2**

Forecast

*Part of exports (resp. imports) of non-energy industrial goods in exports (resp. imports) in a whole in 2015.
Source: INSEE

The sharp rise in manufacturing imports since 2014 reflects the composition of demand, except in transport equipment

Since 2014, French imports have been dynamic, in particular those of manufactured goods. The elasticity of the latter to gross domestic product (GDP) appears to have been particularly great over the past three years, marking an acceleration in the openness rate. However, the models used for short-term forecasts of imports in the exercises for *Conjoncture in France*, do not suggest a break in the tendency of the French economy towards greater openness. The recent acceleration in imports reflects not so much a loss of domestic market share, as an upturn in final demand for manufactured products. Given their high import content, manufacturing exports were the main driver of this acceleration in 2015. In 2016, however, it is the acceleration in investment and buoyant consumption of manufactured goods which explain their dynamism. This diagnosis for manufactured goods as a whole is then confirmed per type of product, with the sole exception of transport equipment, for which French producers seem to have lost significant domestic market share.

The rise in the openness rate over the past three years has been driven mainly by the composition of demand

Since 2014, French imports have increased sharply, in particular those in manufactured goods (+4.7% in 2016 after +6.4% in 2015 and +3.8% in 2014).[1] The elasticity of the latter to gross domestic product (GDP) appears to have been particularly great over the past three years, marking an acceleration in the openness rate (*Graph 1* and Banque de France, 2016). However, an econometric model shows that the dynamism of imports is not unusual in light of the tendency towards openness in the OECD countries, and once the composition of demand is taken into account. Imports of manufactured goods directly satisfy domestic demand (consumption or investment) or take their place in the manufacturing process of goods or services via intermediate consumption, the product of which will serve broader final demand, including exports. For example, intermediate equipment is imported to export cars finally, or kerosene is purchased to meet demand for air transport services, whether external or domestic.

1. In 2015, manufacturing imports represented 68% of French imports of goods and services. Given this weight and specificity of the other products (including agricultural and energy products), the analysis of imports performed here is limited to the scope of manufactured goods only.

To take account of the actual manufactured goods import content of French final demand, an "import intensity-adjusted demand" indicator was constructed by an approach similar to that adopted by Berger and Passeron, 2002. This indicator was calculated as the sum of the final demand for goods and services in the different branches, weighted by their relative manufactured goods import content (see *Method*).

Taking this import intensity-adjusted demand indicator calculated at a fine-grained level and a tendency among advanced countries towards greater openness as determinants, the modelling of manufacturing imports can explain the main fluctuations over the period 2012-2016 (*Graph 2*). From this point of view, the behaviour of French imports remains usual.

This model shows that the recent dynamism of manufacturing imports is indeed driven by that of import intensity-adjusted demand for manufactured exports in particular in 2016, and that of investment and consumption of goods in 2016. Import intensity-adjusted demand thus progressed significantly more quickly than GDP, first of all thanks to the rise in exports, and then because the upturn in domestic demand for manufactured products, which are richer in imports, was much stronger than that in demand for services (*Graph 3*).

1 - Openness rate - Manufacturing imports as a % of gross domestic product

Source: INSEE

Dynamic imports of capital goods and "other industrial products" mainly reflect dynamic demand

By analysing the three main manufactured products items of "capital goods" (C3), "transport equipment" (C4) and "other manufactured products" (C5), which represent about 80% of manufacturing imports, in more detail, the diagnosis can be fine-tuned. For each of these products, an import-intensity adjusted demand indicator and an econometric model were thus constructed and tested, as for manufacturing imports.

On the whole, purchases from abroad of capital goods (*Graph 4*) and those of "other manufactured products" (*Graph 5*) would appear to have been in line with the trend suggested by their determinants since 2014. In 2016, imports of capital goods were even less dynamic than might have been suggested by the combined accelerations in investment (+4.7%), supported by the one-off additional depreciation allowance, and in consumption (+10.4%), under the effect of the change in the television broadcasting standard.

For "transport equipment", French producers seem above all to have lost domestic market share

However, the model that was chosen has difficulty explaining the soaring imports of transport equipment, which increased by more than 10% a year in 2015 and in 2016 (*Graph 6*), a rate of growth not seen since 2000. In automobiles, French producers seem to have lost considerable domestic market share. In aeronautics, the sharp rise in imports is partly the result of a loss of market share by French equipment manufacturers, notably engine manufacturers (Dortet-Bernardet *et al.*, 2016). The aircraft that are manufactured in France have increasing import content, due to technical choices in favour of engines from foreign manufacturers. In addition to this, investments by French airline companies on foreign aircraft accelerated in 2016. ■

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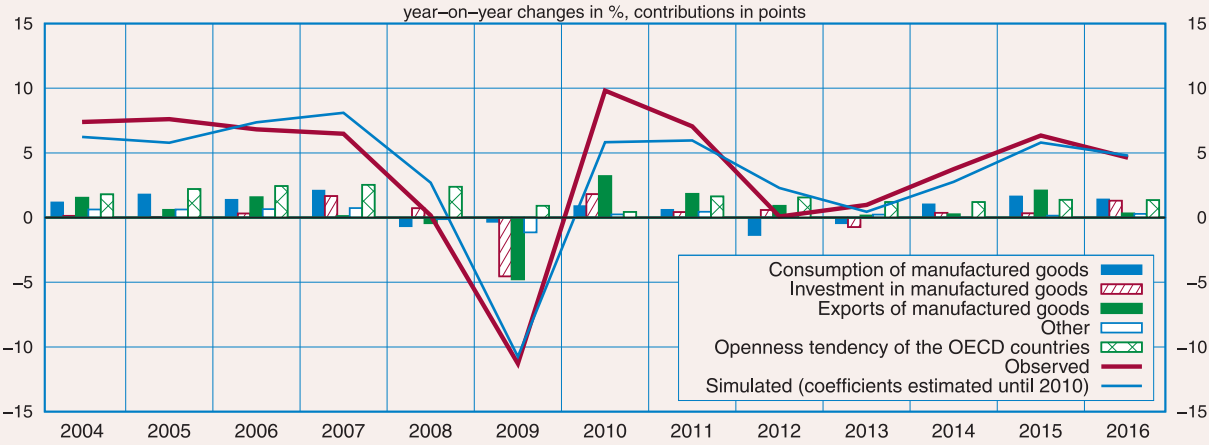
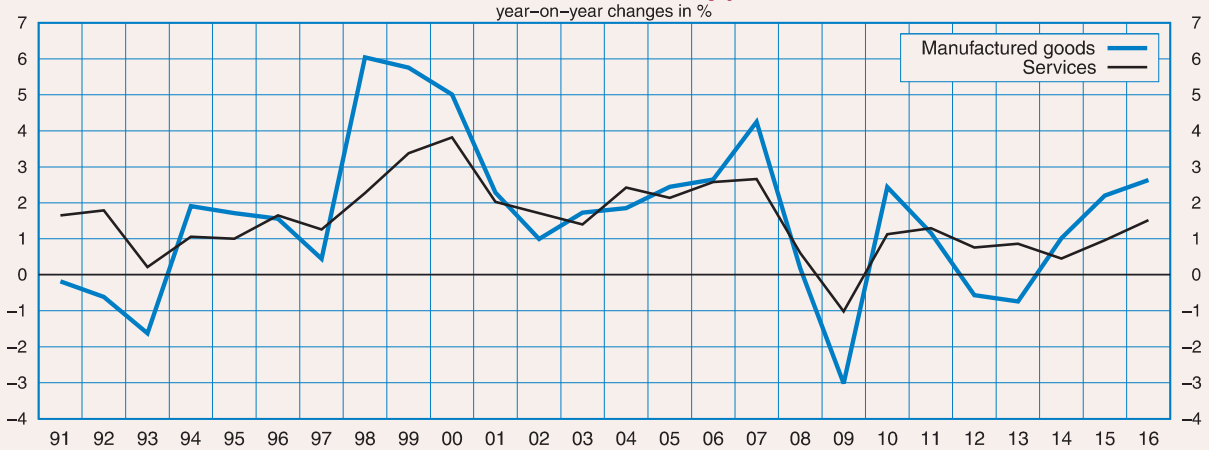
Dortet-Bernadet V., **Lenseigne F.**, **Parent C.**, **Plouhinec C.**, **Quartier-la-Tente A.** and **Stoliaroff-Pépin A.-M.** (2016), "After two years of turbulence, the French aeronautical sector is ready to take off again", *Conjoncture in France*, December, p. 19-37. ■

2 - Change in imports of manufactured goods in volume and main dynamic contributions



Source: INSEE

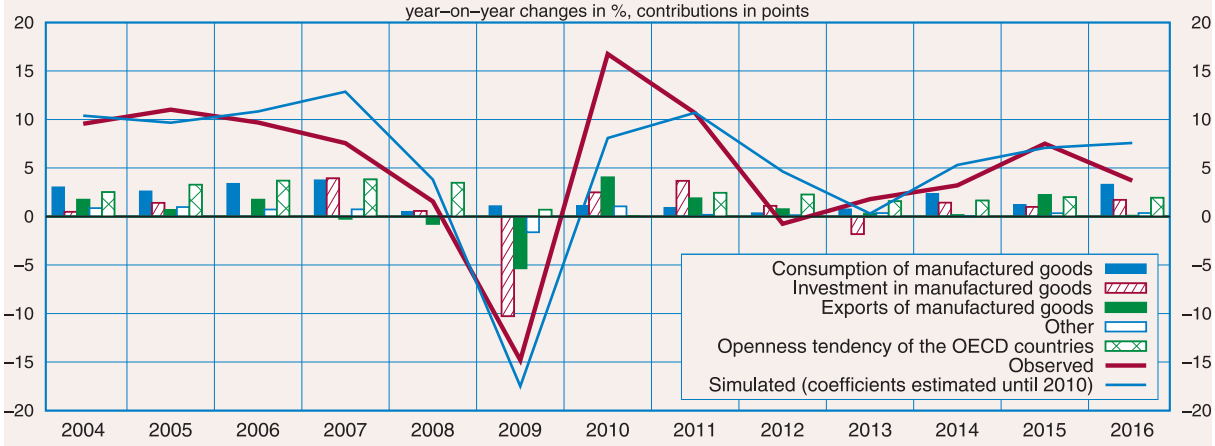
3 - Final domestic demand by product



Source: INSEE

4 - Change in imports of capital goods in volume and main dynamic contributions

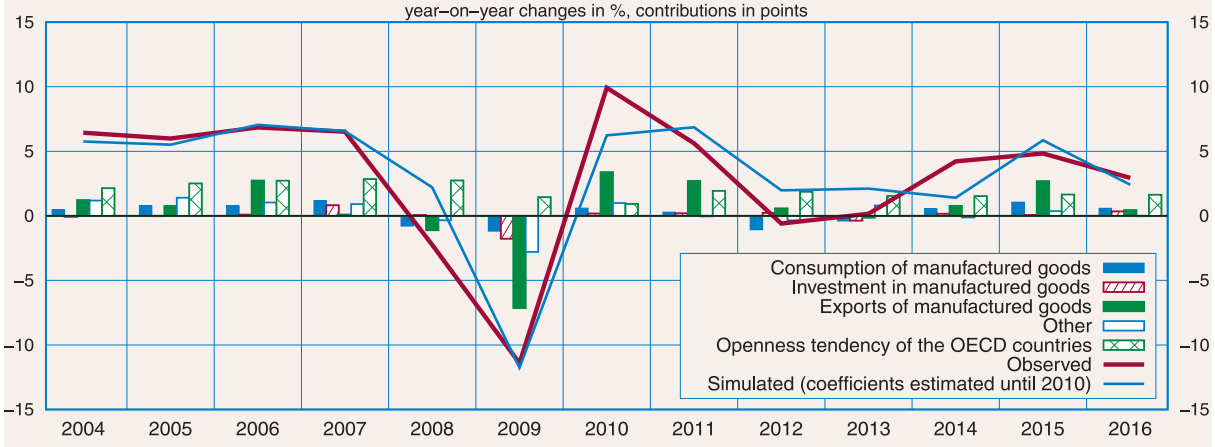
year–on–year changes in %, contributions in points



Source: INSEE

5 - Change in imports of other industrial products in volume and main dynamic contributions

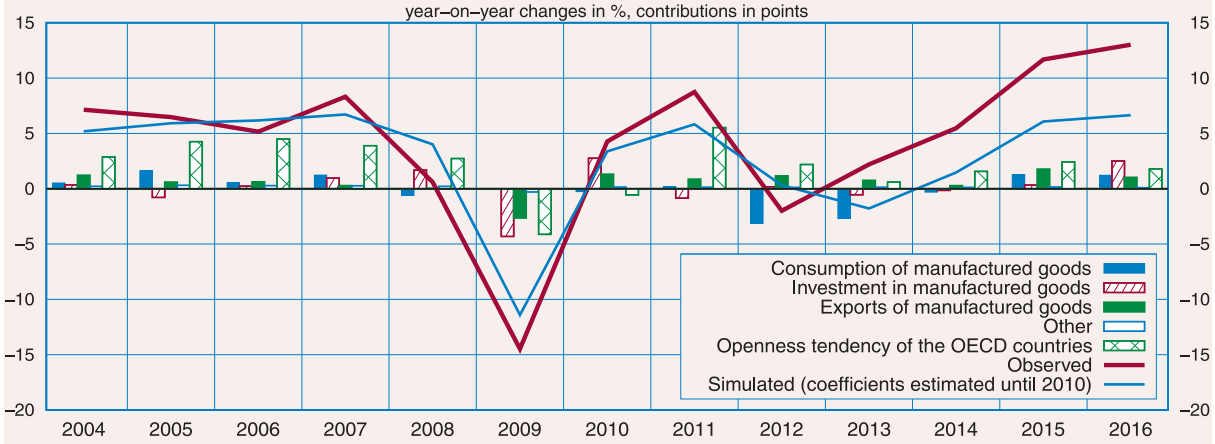
year–on–year changes in %, contributions in points



Source: INSEE

6 - Change in imports of transport equipments in volume and main dynamic contributions

year–on–year changes in %, contributions in points



Source: INSEE

The method

Indicators of import intensity-adjusted demand

"Import content" is defined as the value of imports necessary to satisfy final demand for a given product. This content is the sum of a direct component, corresponding to the imports directly consumed or invested, and an indirect component, corresponding to the share of added value of foreign origin in intermediate consumption. Imports can be written as a linear combination of the different items of final demand, based on (approximated) resources-uses balance equations for each product:

$$(1)\quad P + M = EI + CF + FBCF + X$$

Where the column matrices are:
P: production of goods and services;
M: imports;
EI: intermediate uses;
CF: final consumption of households and government;
FBCF: gross fixed capital formation (investment) of all agents;
X: exports.

With A the matrix of technical coefficients defined by:

$$(2)\quad EI = A\,P$$

With D the diagonal matrix of penetration rates, defined as the ratio of imports to domestic demand:

$$(3)\quad M = D\,(EI + CF + FBCF) = D\,(P + M + X)$$

When the system of equations (1), (2) and (3) is resolved, imports can be rewritten as a linear combination of the various items of final demand:

$$M = D\,[I - A(I\text{-}D)]^{-1}\,[AX + CF + FBCF]$$

Term $D\,[I - A(I\text{-}D)]^{-1}\,CF$, for example, is the column matrix of imports destined directly or indirectly for the final consumption of all the institutional sectors.

For each item in final demand, the relative manufactured goods import content corresponds to the ratio between the imports component of manufactured goods destined for this item and total final demand.

They appear to be relatively stable over time. An indicator of import-intensity adjusted demand for manufactured goods is then obtained by weighting the different items by the respective values of these ratios in the previous year, noted a, b, c and d:

$$DGP_{manuf} = a * X_{manuf} + b * CF_{manuf} + c * FBCF_{manuf} + d * Autres$$
$$\text{with } a+b+c+d=1$$

The "other" items of demand encompass consumption, investment and exports of services, agricultural products and energy.

The models taken for exports

For manufacturing imports, the estimate is the following:

$$\Delta\log(IMP_t) = \underset{(2,97)}{0,58} + \underset{(8,17)}{1,03} * \Delta\log(DGP_t) + \underset{(4,68)}{0,59} * \Delta\log(DGP_{t-1}) - \underset{(-2,94)}{0,11} * \left[\log(IMP_{t-1} - \log(DGP_{t-1}) - 3,13 * tend_{t-1}\right]$$

(the Student's statistics associated with the coefficients are indicated in brackets)

Estimation period: 1985-2010
$R^2 = 55\%$
Standard deviation of errors: 1.51%
Durbin-Watson: 2.06

Where:
- *IMP* represents imports of manufactured goods in volume;
- *DGP* is the indicator of import intensity-adjusted demand;
- *Tend* represents the openness tendency of the OECD economies (ie the ratio of the imports of the OECD economies to their gross domestic product).

For imports of capital goods (C3), the estimate is as follows:

$$\Delta \log(IMP\_C3_t) = \underset{(2,39)}{0,29} + \underset{(11,11)}{1,67} * \Delta \log(DGP\_C3_t) - \underset{(-2,34)}{0,09} * \left[\log(IMP\_C3_{t-1} - \log(DGP\_C3_{t-1}) - 3,90 * tend_{t-1}\right]$$

$R^2 = 56\%$
Standard deviation of errors: 2.10%
Durbin-Watson: 1.88
Estimation period: 1985-2010

For imports of transport equipment (C4), the estimate is as follows:

$$\Delta \log(IMP\_C4_t) = \underset{(4,68)}{1,06} + \underset{(5,10)}{0,57} * \Delta \log(DGP\_C4_t) - \underset{(-4,61)}{0,32} * \left[\log(IMP\_C4_{t-1} - \log(DGP\_C4_{t-1}) - 3,74 * tend_{t-1}\right]$$

$R^2 = 30\%$
Standard deviation of errors: 3.90%
Durbin-Watson: 1.97
Estimation period: 1985-2010

The estimate of imports of "other industrial products" (C5) is as follows:

$$\Delta \log(IMP\_C5_t) = 0,42 + \underset{(2,56)}{1,21} * \Delta \log(DGP\_C5_t) + \underset{(3,98)}{0,72} * \Delta \log(DGP\_C5_{t-1})$$
$$- \underset{(-2,51)}{0,09} * \left[\log(IMP\_C5_{t-1} - \underset{(6,60)}{\log}(DGP\_C5_{t-1}) - 2,94 * tend_{t-1}\right]$$

$R^2 = 50\%$
Standard deviation of errors: 1.61%
Durbin-Watson: 2.16
Estimation period: 1985-2010

Employment

In Q4 2016, non-farm market payroll employment continued to increase strongly (+64,000, after +50,000 in Q3), with temporary employment remaining particularly buoyant. 187,000 market sector jobs were created throughout 2016 as a whole (after +100,000 in 2015), the biggest rise since 2007.
Employment should slow slightly through to mid-2017, with a virtual stabilisation of temporary employment. Additionally, the effect of higher employment intensity of growth linked with measures to reduce the cost of labour is likely to weaken: employment is expected to rise by 81,000 during H1 2017.
In the non-market sectors, employment should rise moderately (+11,000 in H1 2017): the number of beneficiaries of subsidised employment contracts is likely to remain almost unchanged, public sector employment should continue to fall, but the private component is expected to remain promising.
All in all, 212,000 jobs were created in 2016 and 93,000 are expected in H1 2017.

Market sector payroll employment expected to slow slightly in H1 2017

In 2016, payroll employment in the non-farm market sectors increased by 187,000 – a significant acceleration compared with 2015 (+100,000). It rose more quickly in H2 (+115,000, after +72,000 in H1; *Table 1*), driven primarily by temporary employment. In Q4 2016, it grew by 64,000: temporary employment rose sharply (+38,000) and job creations remained buoyant in the tertiary sector excluding temporary work (+35,000), while there were further job losses in industry (–6,000) and construction (–2,000).

Payroll employment should continue to rise in the market sectors through to mid-2017, albeit a little more moderately than in the previous half-year (*Graph 1*). The pick-up in activity should sustain job creations and the hiring premium for SMEs should continue to boost growth by adding almost 20,000 additional jobs in H1 2017. However, the tax credit for encouraging competitiveness and jobs (CICE) and the Responsibility and Solidarity Pact (PRS) should produce a slightly lower job intensity of growth in H1 2017 (around 20,000 jobs) than in H2 2016 (around 30,000 jobs). On the one hand, the effect on employment of increasing the CICE rate from 6% to 7% on 1st January 2017 is likely to be minor through to mid-2017; and on the other hand, extending the reductions in social contributions under the PRS to 1st April 2016 is expected to have a more limited effect than the previous measures because these reductions do not target low wages (between 1.6 and 3.5 times the minimum wage). In addition, temporary employment should virtually stabilise. Therefore, after increasing by 115,000 in H2 2016, market-sector employment should rise by 81,000 in H1 2017.

Table 1

Change in employment
in thousands, SA

	2016				2017		2016 H1	2016 H2	2017 H1	2015	2016	Level end 2016
	Q1	Q2	Q3	Q4	Q1	Q2						
Mainly non-agricultural market sectors (1)	**42**	**30**	**50**	**64**	**41**	**41**	**72**	**115**	**81**	**100**	**187**	**16175**
Industry	–6	–8	–5	–6	–5	–5	–14	–11	–10	–36	–25	3104
Construction	–4	–2	–3	–2	1	3	–6	–5	4	–32	–11	1306
Temporary employment	3	1	29	38	10	0	4	66	10	49	70	653
Market services excl. tempory employment	49	39	30	35	35	43	89	64	77	119	153	11112
Agricultural workers	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**2**	**2**	**4**	
Mainly non–market service sectors	**10**	**12**	**0**	**3**	**5**	**6**	**22**	**3**	**11**	**25**	**25**	
Self–employed	**–1**	**–1**	**–1**	**–1**	**0**	**0**	**–2**	**–2**	**0**	**–8**	**–4**	
TOTAL EMPLOYMENT	**52**	**42**	**50**	**67**	**46**	**47**	**94**	**118**	**93**	**118**	**212**	

Forecast

(1) Sectors DE to MN and RU

Source: INSEE

Temporary employment is set to slow but the rest of tertiary employment should remain buoyant

In 2016, temporary employment continued to increase significantly (+70,000, after +49,000 in 2015). After remaining virtually stable in H1 2016 (+4,000), it picked up sharply in H2 (+66,000). Recourse to temporary employment thus approached the high levels reached before the economic crisis of 2008-2009 (*Graph 2*). It is expected to remain virtually unchanged in H1 2017 and temporary employment should slow down in this half-year (+10,000).

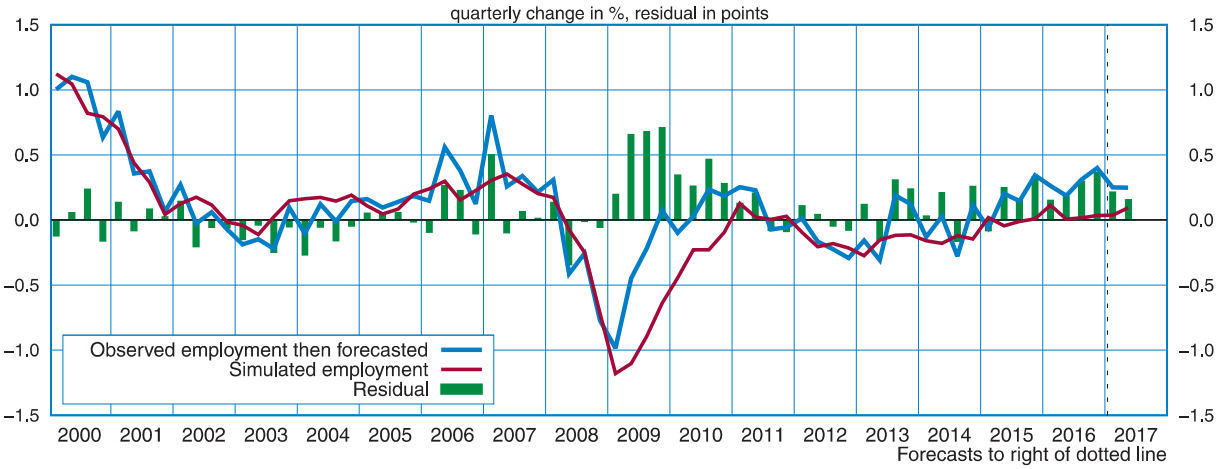
Employment in the tertiary market sector excluding temporary employment accelerated in 2016 (+153,000 after +119,000 in 2015). With business leaders remaining optimistic about prospects for growth in their workforce, employment in this sector should maintain a similar rate in H1 2017 (+77,000 over the half-year, *Graph 3*).

All in all, net job creations in the tertiary sector (including temporary employment) should remain steady in H1 2017 (+87,000, after +130,000 in H2 2016).

Job losses in industry are likely to continue

Industrial payroll employment continued to decline in 2016 (–25,000, after –36,000 in 2015). Net job destructions in this sector were a little less pronounced in H2 (–11,000, after –14,000 in H1). The opinions of industrialists on changes in their workforce suggest that job losses are likely to maintain a similar pace in H1 2017 (–5,000 per quarter).

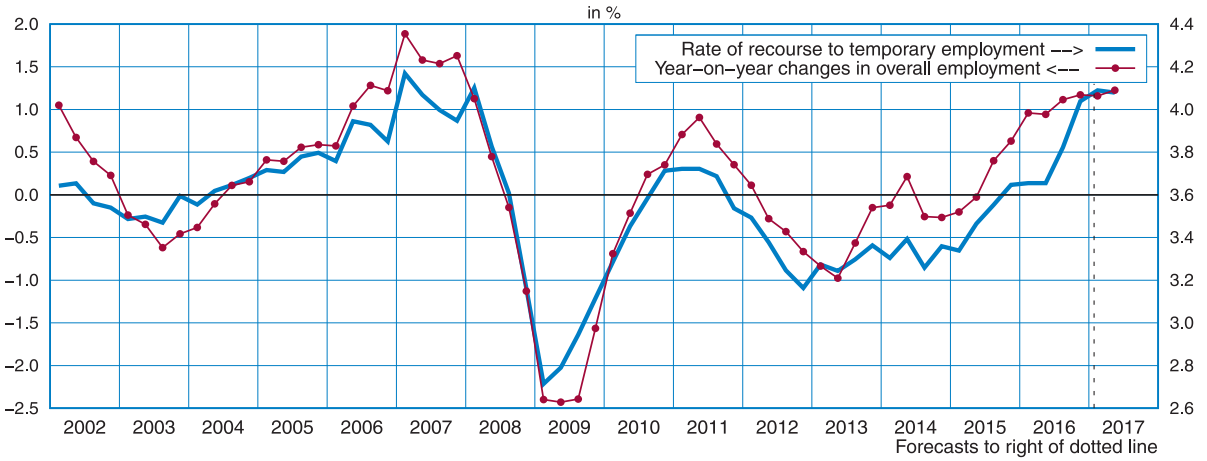
1 - Employment observed in the non-agricultural market sector, simulated and residual employment



Note: The equation residual for employment is the spread between the observed employment and the simulated employment from past and current variations in employment and activity and from effects of employment policies (included, over the recent period, the effects of the CICE, the PRS and the employment plan). A positive residual, such as that observed in 2015, indicates that observed employment showed better growth than past behaviour would lead us to expect. Estimation period: 1984-2009.

Source: INSEE

2 - Year-on-year market sector employment and recourse to temporary employment



Source: INSEE

Employment in construction should increase slightly

Payroll employment in construction has fallen almost continuously since late 2008. However, job losses have gradually diminished. The sector shed 32,000 jobs in 2015 and then 11,000 in 2016. In the business tendency surveys, expectations concerning the workforce continue to improve in civil engineering and construction. This points toward a modest rise in employment in these sectors in H1 2017 (+4,000 over the half-year).

Non-market employment should slow

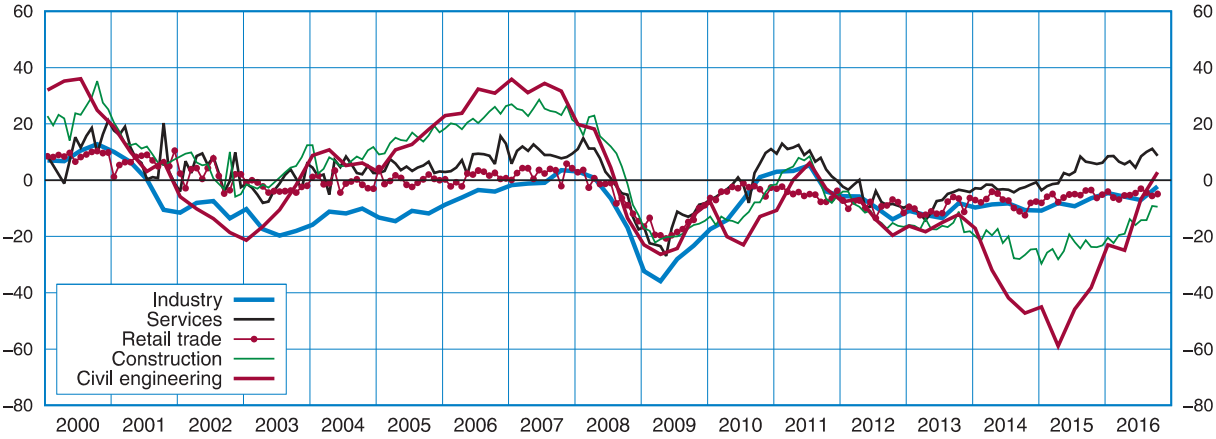
In 2016 non-market employment would appear to have increased by 25,000, as in the previous year, driven mainly by subsidised contracts and civic services (+13,000, *Table 2*).

It should increase slightly in H1 2017 (+11,000 jobs). As slightly fewer newcomers are expected on subsidised contracts, such as the CUI-CAE (Single Integration Contract - Contract for Support in Employment) and the Future Jobs programme (about 200,000 in H1 2017 in Metropolitan France, after nearly 230,000 in H2 2016, *Focus*), the number of beneficiaries should remain virtually unchanged. The same is expected to apply to people in civic service. Another moderate decline is expected in non-subsidised public employment, especially in local government. However, the private component of non-market employment (teaching, healthcare establishments, etc.) should continue to increase steadily.

Total employment is set to increase by 93,000 in H1 2017

Taking into account self-employed and agricultural jobs, net job creations, all sectors combined would appear to have risen to 212,000 in 2016 (after +118,000 in 2015), with a slight acceleration in H2 (+118,000, after +94,000). Momentum is expected to drop off a little in H1 2017 (+93,000) because market sector payroll employment is likely to slow slightly, as the effects of high employment intensity of growth associated with CICE and PRS are not quite as strong. ■

3 - Balance of opinion of business leaders on expected workforce



Source: INSEE, Business tendency surveys

Table 2

Change in subsidised employment and civic service in the non–market sector

in thousands

	2016				2017		2016		2017 H1	2015	2016
	Q1	Q2	Q3	Q4	Q1	Q2	H1	H2			
"Future Jobs"	–2	–4	–6	–7	–4	–4	–6	–14	–8	8	–20
CUI-CAE incl. ACI*	12	9	–3	3	2	4	22	1	7	17	22
Civic service contracts	2	2	3	4	0	0	4	7	0	8	11
Total	**12**	**7**	**–6**	**0**	**–2**	**0**	**19**	**–6**	**–1**	**33**	**13**

Forecast

* Since July 2014, recruitment by integration workshops and sites (ACI) no longer takes the form of a CUI–CAE (*Contrat unique d'insertion – Contrat d'accompagnement dans l'emploi* – Single integration contract – Employment support contract) but instead a CDDI (*Contrat à durée déterminée d'insertion* - Fixed-term integration contract). Nevertheless, in order to ensure that the scope of this analysis remains constant when tracking subsidised jobs, the CUI–CAE forecasts given here include ACIs.
Scope: Metropolitan France

Sources: DARES, INSEE calculations

Subsidised contracts in 2016

Subsidised contracts, based on direct or indirect subsidies, reduce the cost to employers of hiring or training certain workers. Generally speaking, these subsidised jobs are aimed primarily at certain target groups, such as young people or those with the greatest difficulty finding employment. By the end of 2015, not including work-study training, the beneficiaries of subsidised contracts were in the great majority signed up to single integration contracts (CUI), more often in the non-market sectors (282,000 in Metropolitan France) than in the market sectors (36,000 jobs). Market-sector integration contracts (the Single Integration Contract - Employment Initiative Contract, or CUI-CIE) and their non-market-sector equivalents (the Single Integration Contract - Contract for Support in Employment, or CUI-CAE) are aimed at a broad spectrum of people experiencing trouble finding employment (job applications systematically rejected, etc.), regardless of their age or place of residence.[1]

The "Future Jobs" contracts were created in November 2012 and their number grew strongly in the course of the following two years. The number of beneficiaries of these contracts fell for the first time in 2016: there were 98,000 people on Future Contracts at the end of 2016, against 124,000 at the end of 2015. Future Jobs contracts are aimed at young people with few or no qualifications, primarily in sensitive urban areas or rural regeneration zones. These contracts are predominantly found in the non-market sectors (72,000 by the end of 2016), but can also be found in market sectors (26,000 by the end of 2016) such as ecological development, digital technologies and tourism, with lower subsidies. The great majority of Future Jobs contracts are for posts in associations or public sector institutions (local authorities, the school system).

Subsidised contracts are often deployed to counteract the economic cycle: during times of economic slowdown, the volume of subsidised contracts may thus be rapidly increased in order to mitigate jobs losses and the resulting increase in the unemployment rate.

The short term effect of these contracts on employment depends on whether the jobs in question are in the market or non-market sectors. In the non-market sectors, the conventional assumption is that the number of jobs created is simply equivalent to the difference between the number of contracts signed or extended and the number of contracts reaching their conclusion in the year. However, in the market sector, a certain number of the jobs performed by workers on subsidised contracts would have been created even if this scheme did not exist. In such cases there is a "free gift" or substitution effect, whose scale can vary from one contract to the next. The effect of subsidised contracts on market-sector employment is thus less substantial than the variation in the number of beneficiaries. The impact of this initiative can be estimated using empirical studies, and by measuring the extent of the decrease in the cost of labour made possible by these contracts (DARES, 1996). These estimates are thus subject to a certain degree of uncertainty. Furthermore, these assessments are only valid in the short term. Long-term assessments would need to take into account:

-All of the consequences of such initiatives on the labour market (wage adjustment, labour force participation rate, etc.),
-The effects on human capital, particularly the effect on the beneficiaries' capacity for integration into the labour market,
-The economic impact of the way these initiatives are financed.

1. Since July 2014, recruitment by integration workshops and sites (ACI) no longer takes the form of CUI-CAE contracts but instead uses CDDI contracts (fixed-term integration contracts). Nonetheless, in order to focus our analysis of subsidised employment within a constant scope, the CUI-CAE data presented here include ACI figures.

Subsidised employment initiatives: flows and number of beneficiaries

In thousands, not seasonally adjusted

	New beneficiaries (including contract extensions)					Number of beneficiaries (total at end of year)				
	2012	**2013**	**2014**	**2015**	**2016**	**2012**	**2013**	**2014**	**2015**	**2016**
Subsidised jobs in the non-market sectors	**403**	**436**	**390**	**411**	**439**	**204**	**282**	**332**	**354**	**354**
Non-market-sector integration contracts (CUI[1])	402	369	320	353	386	203	221	242	259	282
Future Jobs contracts[2]	1	67	69	58	53	1	61	90	95	72
Subsidised jobs in the market sector[3]	**513**	**509**	**511**	**577**	**548**	**604**	**630**	**635**	**682**	**654**
Lowering wage costs	***57***	***69***	***74***	***115***	***88***	***30***	***47***	***57***	***95***	***64***
Market-sector integration contracts (CUI)	52	50	49	92	71	26	31	30	62	36
Future Jobs contracts	0	13	20	19	15	0	11	22	29	26
Exemptions from social security contributions (ZRR[4] et ZRU[5])	5	5	5	5	3	5	5	5	4	2
Work-study training	***456***	***440***	***436***	***462***	***459***	***573***	***582***	***578***	***588***	***590***
Apprenticeship	294	270	263	278	284	412	399	393	393	400
Professionnalization	163	170	174	183	175	161	183	185	195	190

1. *Contrat unique d''insertion*, or Single Integration Contract
2. "Emplois d'avenir". Including teachers
3. Excluding general measures such as general reductions in social contributions and reduction of working time
4. Rural revitalisation area
5. Urban regeneration area

Scope: Metropolitan France

Sources: DARES, Agence de services et de paiement

Finally, as these jobs are aimed primarily at those people who are the furthest removed from the labour market, they constitute a "pull factor": the increase in the number of subsidised jobs leads to an increase in the labour force participation rate among the demographic groups targeted.

The number of beneficiaries of subsidised contracts in the non-market sector stabilised in 2016

In 2016, 439,000 subsidised contracts were signed or renewed in the non-market sector, after 411,000 in 2015. The number of these contracts coming to an end also increased, however, notably for "Future Jobs" contracts, with the result that the number of beneficiaries of subsidised contracts in the non-market sector stabilised: it stood at 354,000 at the end of 2016 and at the end of 2015, after increasing by 22,000 in 2015 and by 50,000 in 2014 (*Graph*).

The number of "Future Jobs" contracts signed or renewed in the non-market sector decreased slightly in 2016 (53,000, after 58,000 in 2015). At the end of 2016, 72,000 people were beneficiaries of a Future Job contract in the non-market sector, down 23,000 on the end of 2015.

The number of beneficiaries of Single Integration Contracts (CUI) in the non-market sector grew for the fourth consecutive year, to 282,000 at the end of 2016, against 259,000 at the end of 2015.

In the market sector, the number of beneficiaries of Single Integration Contracts (CUI) fell significantly in 2016

At the end of 2016, 654,000 people were beneficiaries of a subsidised contract in the market sector. Their number was down by 28,000 on the end of 2015, after increasing by 47,000 one year earlier.

The fall was driven by Single Integration Contracts (CUI). In 2016, 71,000 CUIs were signed or renewed in the market sector, against 92,000 in 2015. The number of beneficiaries of these contracts therefore decreased by 26,000 compared to the end of 2015 (after increasing by 32,000 the previous year), to 36,000 at the end of 2016.

The number of signatures and renewals of Future Jobs contracts was a little lower in 2016 (15,000, after 19,000 in 2015) and the number of beneficiaries of these contracts decreased slightly (26,000 at the end of 2016, against 29,000 at the end of 2015).

At the end of 2016, 590,000 people were beneficiaries of work-study contracts, of whom 400,000 on apprenticeship contracts and 190,000 on professionalisation contracts. Their number was almost stable on the end of 2015 (588,000).

The number of beneficiaries of social charges exemption programmes in rural revitalisation zones (ZRR) and urban regeneration zones (ZRU) decreased slightly in 2016 (2,000 at the end of 2016, against 4,000 at the end of 2015). ■

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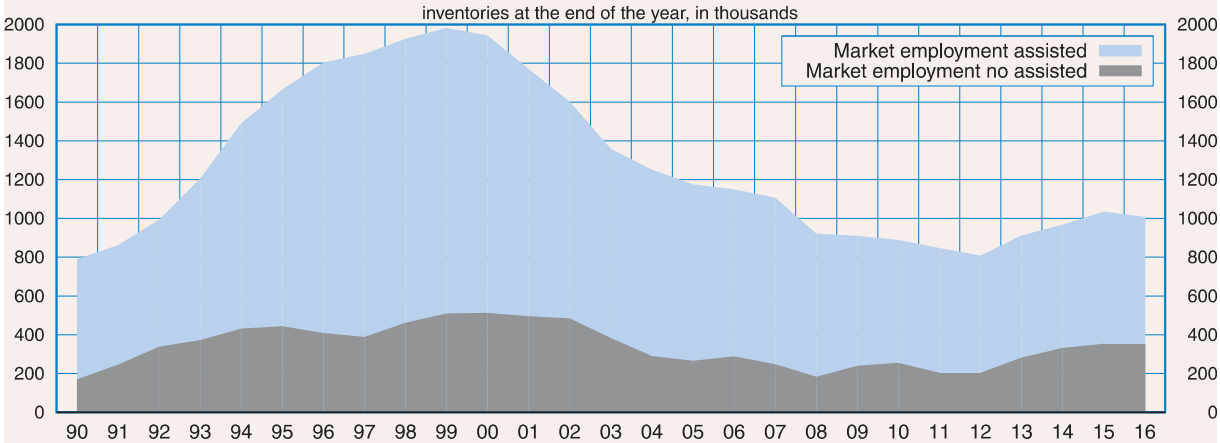
Beneficiaries of employment aid measures



Scope: Metropolitan France

Sources: DARES, Agence de services de paiement

Unemployment

In Q4 2016, the number of unemployed fell by 31,000 in Metropolitan France. The ILO unemployment rate stood at 9.7% of the labour force, after 9.8% in Q3 and 9.9% at the end of 2015. Including the French overseas departments, the rate was 10.0% at the end of 2016, i.e. 0.2 points less than one year before.

In H1 2017, the expected rise in employment should be higher than that in the labour force, and as a result the unemployment rate should fall again, by 0.2 points. By mid-2017, the unemployment rate should stand at 9.5% for Metropolitan France and 9.8% for the whole of France.

The unemployment rate fell in Q4 2016

In Q4 2016, the number of unemployed in Metropolitan France fell by 31,000, after rising by 38,000 in Q3 (*Table*): the unemployment rate thus stood at 9.7%, after 9.8% in Q3 2016 (*Graph*). It dropped by 0.2 points compared to the end of 2015, with the number of unemployed edging down by 68,000 over one year. Throughout the whole of France, the unemployment rate was 10.0% at the end of 2016, after 10.1% in Q3 and 10.2% one year earlier. The halo of unemployment[1] increased by 21,000 people between Q3 and Q4 2016 in Metropolitan France, and by 65,000 compared to late 2015.

The youth unemployment rate decreased

In Q4 2016, the youth unemployment rate stood at 23.3% of the labour force in Metropolitan France. It dropped by 1.7 points compared to Q3 and by 0.7 points compared to late 2015, with young people benefiting from the recovery of temporary employment (see *Employment* sheet).

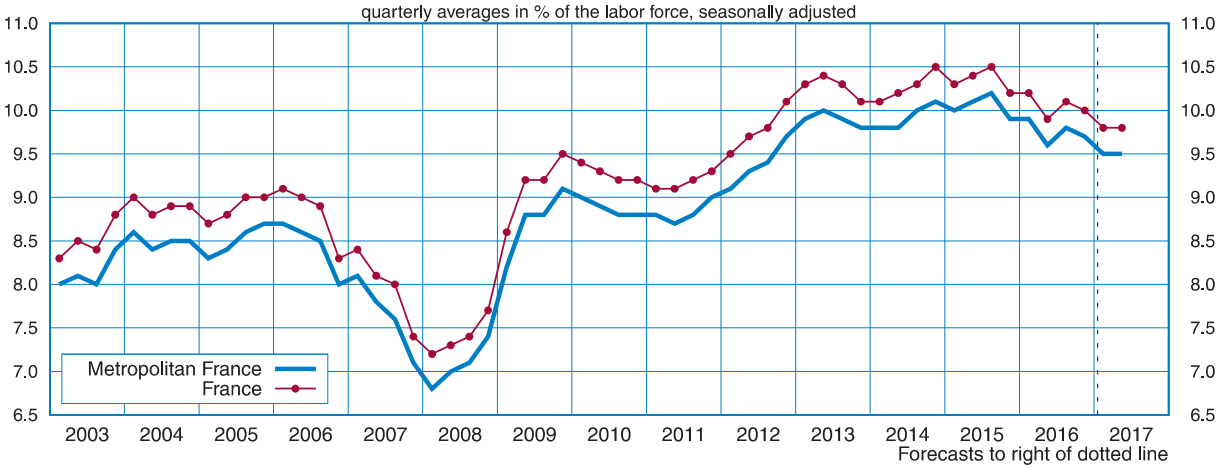
The unemployment rate for the over 50s fell by 0.4 points between Q3 and Q4 2016 and has returned to the level seen at the end of 2015 (6.7%). Conversely, the unemployment rate for 25-49-year-olds increased by 0.2 points against the previous quarter, to 9.0%. It dropped by 0.2 points year on year.

Since the summer of 2015, the drop in unemployment has been concentrated among men first and foremost

In Q4 2016 in Metropolitan France, the female unemployment rate fell by 0.3 points in relation to Q3 (to 9.5%), whilst the male rate remained steady (at 9.8%). But since the summer of 2015, the drop has been more marked for men: after rising to +1.2 points in Q3 2015, the gap between the male and female unemployment rates closed to

1. The halo of unemployment is made up of economically inactive persons as defined bi the International Labour Office (ILO): it refers to people who are seeking employment but who are not available and people who wish to work but are not seeking employment, whether they are available or not.

Unemployment rate (ILO definition)



Scope: Population of households, people aged 15 or over
Source: INSEE, Employment Survey

+0.3 points in late 2016. The relative employment dynamics per sector, and especially the improved short-term outlook for temporary employment and construction, have indeed been more beneficial to men than women: the male unemployment rate has dropped by 0.9 points since the summer of 2015 whereas the female rate has remained unchanged.

The unemployment rate should fall again through to mid-2017

In 2016, the labour force rose by 144,000, after +41,000 in 2015. This rise stems primarily from the trend increase in the working age population. However, it should slow down due to ongoing early retirements in the scheme specifically applying to long careers, and due to the jobseekers' training plan, announced in early 2016. In H1 2017, although the impact of these two schemes is waning, they should continue to have an effect and the labour force should increase (+48,000) slightly more slowly than its spontaneous rise (+60,000). Net job creations (+103,000) are likely to be more dynamic than the labour force and the number of unemployed is expected to fall by 56,000 over the half-year. The unemployment rate should fall again: in mid-2017, it should stand at 9.5% of the labour force in Metropolitan France, and at 9.8% throughout the whole of France (excluding Mayotte). ■

Changes to the active population, employment and unemployment in Metropolitan France

in thousands, SA, and in %

	Quarterly changes										Annual changes				
	2015				2016				2017		2013	2014	2015	2016	2017 H1
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2					
Population of the 15-64 age bracket	–17	–15	–12	–10	–9	–8	–9	–10	2	2	–81	–78	–54	–36	4
Population of the 15-59 age bracket	–13	–9	–5	–1	1	1	1	–1	0	0	–57	–49	–28	1	0
Labor force	**–42**	**68**	**46**	**–32**	**49**	**–18**	**85**	**28**	**23**	**25**	**124**	**157**	**41**	**144**	**48**
including:															
(a) Contribution of the population and the trend participation rate	*32*	*32*	*32*	*32*	*31*	*31*	*31*	*31*	*30*	*30*	*120*	*135*	*128*	*123*	*60*
(b) Estimated bending effects	*–1*	*–2*	*–2*	*–1*	*–4*	*–10*	*–19*	*–16*	*–7*	*–5*	*–22*	*–18*	*–7*	*–49*	*–12*
(c) Other short-term fluctuations (residual)	*–72*	*38*	*17*	*–62*	*22*	*–39*	*73*	*14*	*0*	*0*	*26*	*40*	*–80*	*70*	*0*
Employment	**16**	**18**	**28**	**41**	**59**	**47**	**46**	**59**	**57**	**47**	**122**	**34**	**103**	**212**	**103**
Reminder: End-of-period employment (see *"Employment" note*)	–3	39	16	66	52	42	50	67	46	47	181	5	118	212	93
ILO unemployment	**–58**	**50**	**19**	**–72**	**–10**	**–65**	**38**	**–31**	**–34**	**–22**	**2**	**124**	**–62**	**–68**	**–56**
	Quarterly average										Average in the last quarter of the period				
ILO unemployment rate (%)															
Metropolitan France	10.0	10.1	10.2	9.9	9.9	9.6	9.8	9.7	9.5	9.5	9.8	10.1	9.9	9.7	9.5
France (including overseas departments)	10.4	10.4	10.5	10.2	10.2	9.9	10.1	10.0	9.8	9.8	10.1	10.5	10.2	10.0	9.8

Forecast

How to read it:
- the Employment line presents variations in the number of people in employment as a quarterly average, for consistency with the other data in the table,
- employment and unemployment are not estimated here within strictly equivalent scopes: total population for employment. population of households (excluding collective) for unemployment. As the impact of this difference is very minor (the population outside of households represents less than 1% of the active population), it is neglected here for the unemployment forecasting exercise,
- in (a), the contribution of demographics and of trend activity behaviour includes all the effects of pensions reforms up to and including that in 2010.

Source: INSEE

Consumer prices

In February 2017, inflation stood at +1.2% year on year, according to the provisional estimate, or 1.0 point higher than in summer 2016, due mainly to the rebound in energy prices. By mid-2017, it is expected to be stable and have reached +1.1% over one year. Core inflation[1] is expected to be moderate. In January 2017, it recovered to +0.7% over one year, after slipping back at the end of 2016. It is expected to come in at this level in June 2017: the past fall in commodity prices should continue to filter through and the high level of unemployment should limit inflationary pressures.

Headline inflation has picked up since summer 2016, but should be virtually stable through to mid-2017

In February 2017, according to the provisional estimate of the consumer price index, headline inflation decreased slightly to +1.2% year on year after +1.3% in January (*Graph 1*). This is 1.0 point more than in August 2016 (+0.2%), with this sharp upturn stemming from its energy component. Compared to January, the fall in the price of manufactured goods was more marked in February (–1.6% after –0.3%), due to a later start to the winter sales than the previous year. However, the rise in the prices of all other goods gathered pace: slightly for services and food products, moderately for energy products, more markedly for tobacco (*Table*).

1. The core inflation indicator calculated by INSEE is estimated by excluding the prices of energy, fresh food, public tarifs from the overall index. This indicator is corrected for tax measures and is seasonally-adjusted.

During H1 2017, headline inflation is expected to be virtually stable and to settle at +1.1% in June 2017. It is expected to be held in check by a substantial slowdown in energy prices. As for core inflation, it is expected to remain moderate, at +0.7% in mid-2017.

Energy inflation is expected to fall by half by mid-2017

In February 2017 the year-on-year rise in energy prices stood at 11.4% (compared to –3.0% six months earlier), in the wake of the increase in the price of crude oil in December 2016 and the hike in energy taxes in January 2017. Assuming the price of a barrel of Brent crude stays stable at $55 (€51.9), energy inflation should fall as the increases in May and June of 2016 come out of the year-on-year figures. The increase in energy prices should settle at +5.9% year-on-year in June 2017.

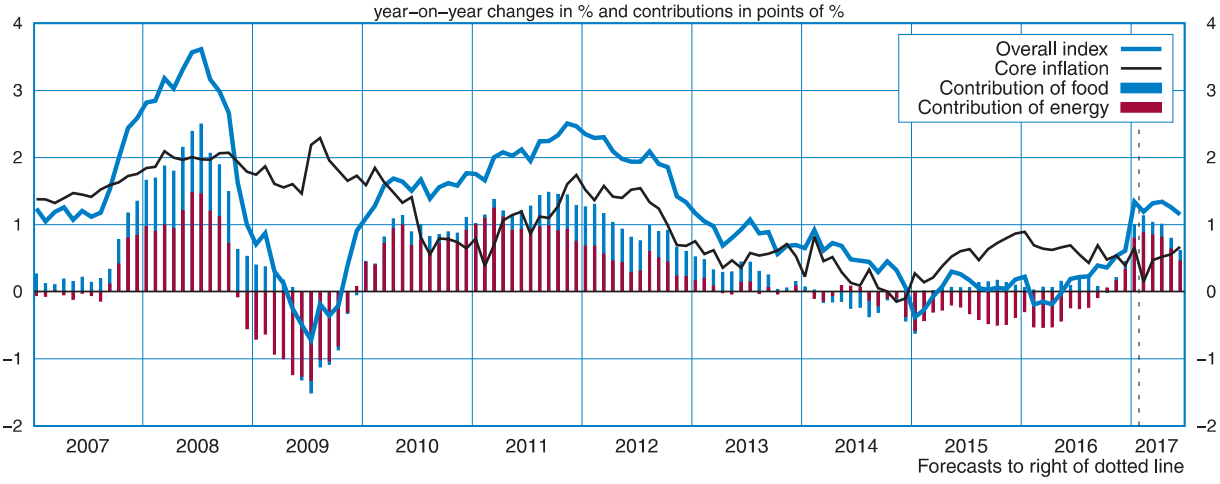
Food prices are expected to slow

The increase in food prices is expected to dip moderately during the course of H1 2017, after picking up between October 2016 (–0.1% year-on-year) and February 2017 (+1.5%): it should reach +1.0% year-on-year by June 2017.

Prices of fresh food increased sharply at the beginning of 2017 (+10.8% year-on-year in February 2017), due to supplies being limited by weather conditions unfavourable to production, notably vegetables. Assuming that conditions are normal over the coming seasons, the increase in fresh food prices is expected to ease off by mid-2017 (+4.0% in June).

1 - Inflation in France

year–on–year changes in % and contributions in points of %



Source: INSEE

Fresh food aside, the rise in food prices is expected to continue gathering pace (+0.4% in June 2017, after +0.1% in February). In particular, prices of dairy products are expected to rise again due to an upswing in world prices.

Prices of manufactured goods are expected to decline again

Year-on-year, the fall in the prices of manufactured goods was particularly sharp in February 2017 (–1.6%), as the winter sales started later than in 2016. After this jolt, prices of manufactured goods are expected to continue falling, by 0.3% year-on-year in June 2017, i.e. at virtually the same rate as a year earlier (–0.5% in June 2016). The high level of unemployment and the gradual filtering through of the past fall in commodity prices are expected to continue to adversely affect the final price of manufactured goods. The recent rise in commodity prices is not expected to be passed on yet.

The trend prices of clothing and footwear prices are expected to grow at a rate of +0.3% year-on-year until mid-2017. However, their month-to-month variation is expected to be irregular due to the sales starting later than last year. In June 2017, the increase in prices is expected to come to a one-off rate of +1.8% year-on-year, due to the later start of the summer sales.

Prices of healthcare goods are expected to continue falling sharply (–2.8% year-on-year in June after –2.5% in January 2017), especially drug prices, in line with the objective set out in the Social Security Financing Act for 2017, and those of spectacles and contact lenses under the 2014 Consumer Law.

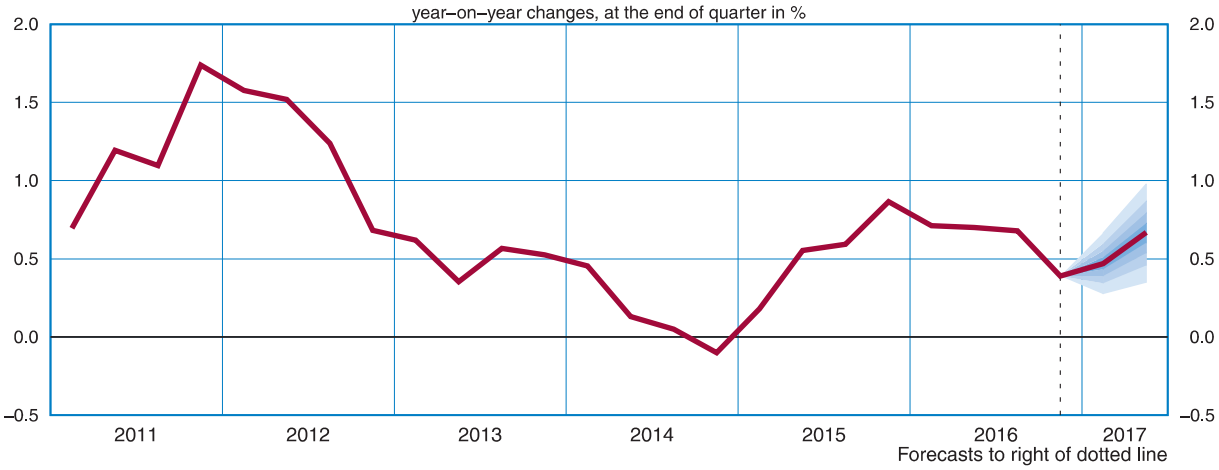
Prices of services expected to gather pace just slightly

The prices of services are expected to rise only slightly faster through to June 2017 (+1.3% after +1.1% in February 2017 and +1.0% in mid-2016). However, the increase in transport services prices is expected to hold firm (+2.0% year-on-year in June 2017 after +1.2% in January), as the past increase in oil prices no longer impacts air transport prices. Prices of healthcare services are expected to accelerate sharply (+1.4% year-on-year in June after +0.3% in January 2017), driven by the increase in the general practitioners' consultation fee in May 2017 (*Box*). After some substantial drops in the cost of subscriptions at the beginning of the year, communication service prices are expected to pick up again (–0.2% in June after +1.1% in January). Rises in prices of accommodation and food services are expected to accelerate a little after two years of moderate rises. The overall increase, however, is expected to be limited by sluggish rents (+0.4% in June 2017 as in January), indexed to past inflation.

Core inflation is expected to remain moderate

After rising again in 2015 (+0.5% on average over the year) under the effect of the past depreciation of the Euro on import prices, core inflation barely rose in 2016 (+0.6%). It picked up again slightly in January 2017 (+0.7% after +0.4% in December). It is expected to come in at this level in June 2017 (*Graph 2*). ■

2 - The core inflation forecast for France and risks around the forecast



How to read it: the fan chart plots 80% of the likely scenarios around the baseline forecast. The first and darkest band covers the likeliest scenarios around the baseline, which have a combined probability of 20%. The second band, which is a shade lighter, comprises two sub-bands just above and just below the central band. It contains the next most likely scenarios, raising the total probability of the first two bands to 40%. We can repeat the process, moving from the centre outwards and from the darkest band to the lightest, up to a 80% probability.

Source: INSEE

French developments

Consumer prices

changes as %

CPI* groups (2016 weightings)	December 2016		January 2017		February 2017		June 2017		Annual averages	
	yoy	cyoy	yoy	cyoy	yoy	cyoy	yoy	cyoy	2015	2016
Food (16.3%)	**1.3**	**0.2**	**1.5**	**0.2**	**1.2**	**0.2**	**1.0**	**0.2**	**0.5**	**0.6**
including: fresh food (2.4%)	9.0	0.2	10.8	0.2	7.1	0.2	4.0	0.1	5.3	3.7
excluding: fresh food (13.9%)	0.1	0.0	0.1	0.0	0.2	0.0	0.4	0.1	–0.2	0.1
Tobacco (1.9%)	**0.1**	**0.0**	**1.0**	**0.0**	**2.8**	**0.1**	**2.7**	**0.1**	**0.3**	**0.1**
Manufactured products (26.2%)	**–0.3**	**–0.1**	**–1.6**	**–0.4**	**–0.8**	**–0.2**	**–0.4**	**–0.1**	**–0.9**	**–0.5**
including:										
clothing and footwear (4.3%)	5.1	0.2	–2.9	–0.1	0.3	0.0	1.8	0.1	–0.9	0.1
medical products (4.3%)	–2.5	–0.1	–2.5	–0.1	–2.6	–0.1	–2.8	–0.1	–3.5	–3.0
other manufactured products (17.5%)	–0.7	–0.1	–0.9	–0.2	–0.6	–0.1	–0.3	–0.1	–0.3	–0.1
Energy (7.5%)	**10.3**	**0.8**	**11.4**	**0.9**	**10.9**	**0.8**	**5.9**	**0.5**	**–4.7**	**–2.8**
including: oil products (3.8%)	19.9	0.8	21.9	0.9	19.2	0.8	8.3	0.3	–10.8	–5.4
Services (48.2%)	**0.9**	**0.4**	**1.1**	**0.5**	**1.0**	**0.5**	**1.3**	**0.6**	**1.2**	**0.9**
including: rent-water (7.8%)	0.3	0.0	0.4	0.0	0.4	0.0	0.4	0.0	0.9	0.6
health services (6.0%)	0.3	0.0	0.4	0.0	0.3	0.0	1.4	0.1	0.5	0.2
transport (2.8%)	1.2	0.0	1.9	0.1	1.6	0.0	2.0	0.1	0.9	–1.5
communications (2.4%)	–1.1	0.0	–0.3	0.0	–0.2	0.0	–0.2	0.0	1.2	2.0
other services (29.2%)	1.3	0.4	1.4	0.4	1.4	0.4	1.5	0.4	1.5	1.3
All (100%)	**1.3**	**1.3**	**1.2**	**1.2**	**1.3**	**1.3**	**1.1**	**1.1**	**0.0**	**0.2**
All excluding energy (92.5%)	0.6	0.6	0.4	0.4	0.6	0.5	0.8	0.8	0.5	0.5
All excluding tobacco (98.1%)	1.4	1.2	1.2	1.1	1.3	1.2	1.1	1.0	0.0	0.2
Core inflation (61.3%)**	**0.7**	**0.4**	**0.1**	**0.1**	**0.5**	**0.3**	**0.7**	**0.4**	**0.5**	**0.6**

Provisional Forecast

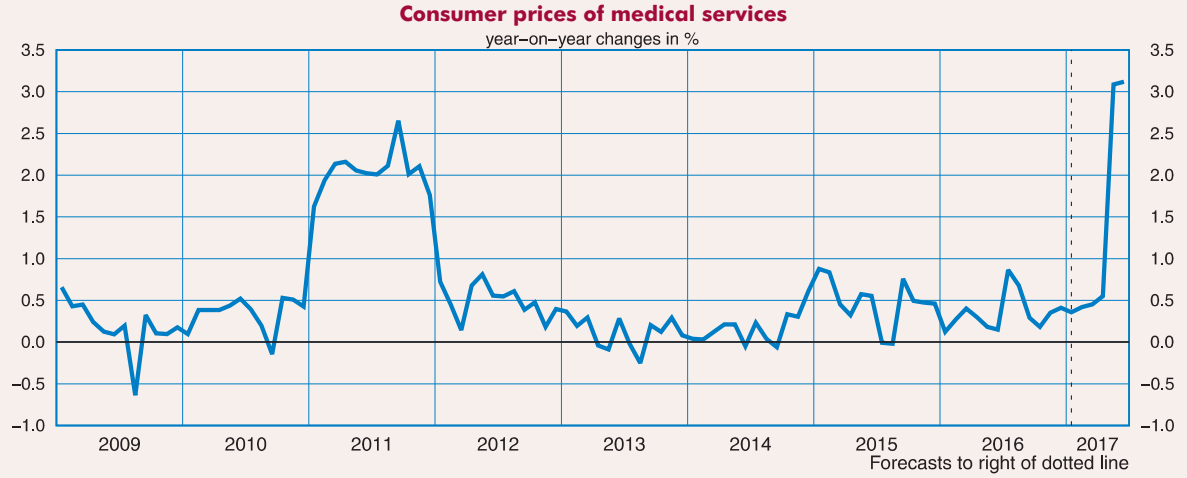
yoy : year-on-year
cyoy : contribution to the year-on-year value of the overall index
*Consumer price index (CPI)
**Index excluding public tariffs and products with volatile prices, corrected for tax measures.
Source: INSEE

The increase in doctors' fees in May 2017 set to add 0.1 points to headline inflation

The new medical agreement signed on 25 August 2016 for a five-year term makes provision for an increase in the price of a GP consultation: on 1st May 2017, this will rise from €23 to €25. On a full-year basis, this increase should represent €600 million in additional expenditure for households, of which €450 million financed by the Health Insurance system.

The last increase (by €1) dates back to 1st January 2011. Since then, doctors have benefitted from increases in the form of lump-sum payments that have not had an impact on prices. The new increase in the price of consultations will have twice as big an effect on the price of medical services as that in 2011 (*Graph*). It should therefore contribute to increasing inflation in services by 0.12 points, representing an effect of +0.06 points on headline inflation. ■

Consumer prices of medical services



Source: INSEE

Wages

In 2016, the basic monthly wage in the market sectors increased as it did in 2015 (+1.2% on average over the year), whereas the rise in the average wage per capita is expected to have slowed slightly: +1.4% on average over the year after +1.6% in 2015. In real terms, the average wage per capita is expected to have slowed even more markedly (+1.4% after +1.8%), due to prices remaining stable in 2016 after a slight fall in 2015.

In H1 2017, the upturn in inflation is expected to cause a slight acceleration in the nominal average wage per capita compared to H2 2016. However, the adjustment is only likely to be partial with inflation likely to erode the purchasing power of the average wage per capita: the annual carry-over effect is expected to be +0.2% in mid-2017, compared to +1.3% one year earlier.

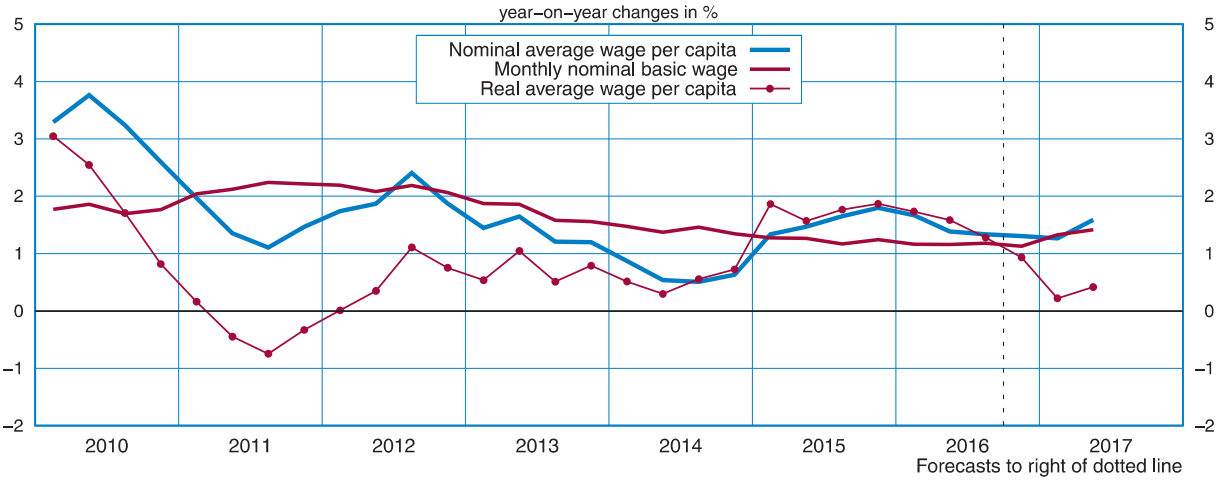
In general government, the rise in the nominal average wage per capita appears to have accelerated considerably in 2016 (+1.5% on average over the year after +0.5% in 2015) due to the raising of the index point in July and statutory measures. In real terms, it is also expected to have increased faster (+1.4% after +0.7%). In H2 2017, another increase in the index point in February should boost nominal wages, but the expected upsurge in inflation should hold back the average wage per capita in real terms: the annual carry-over effect is expected to be +0.6% in mid-2017, against +1.2% a year earlier.

On average over the year, the rise in the average wage per capita is expected to have slowed slightly in 2016

In 2016, the rise in the minimum wage (+0.6%) was lower than the year before (+0.8%) and inflation remained very low. As a result, the basic monthly wage[1] in the non-farm market sector again saw a moderate increase, the same as in 2015 (+1.2% on average over the year, see *Graph* and *Table*). The average wage per capita, which covers a wider scope (it includes income such as bonuses, profit-sharing, and overtime payments), is expected to have increased barely any faster than the basic monthly wage (+1.4% on average over the year); it appears to have slowed slightly compared to 2015 (+1.6%). Its quarterly profile was uneven: it was quite dynamic in Q1 (+0.5%), due in particular to bonuses being paid earlier than in previous years, but then, due to a backlash effect, it slowed markedly in Q2 (+0.1%). In H2, the average wage per capita increased at virtually the same rate as in H1 (+0.7% after +0.6% half-year on half-year).

1. For a definition of *basic monthly wage* and *nominal average wage per capita*, see the "Definitions" section on the website www.insee.fr

Change in the nominal and real average wage per capita and basic wage



Scope: non-agricultural market sector
Sources: INSEE, Dares

After prices fell slightly[2] in 2015 (–0.2% on average over the year), they were stable in 2016, although they gathered pace substantially at the end of the year. The rise in real wages therefore slowed on average over the year: +1.1% in 2016 after +1.4% for the basic monthly wage and +1.4% after 1.8% for the average wage per capita. Over the course of the year, there was a notable dip: the purchasing power of the average wage per capita is expected to have increased by 0.2% in H2 (half-year on half-year), after +0.7% in H1.

At the beginning of 2017, nominal wages should gather pace, but the increase in real wages is expected to remain weak

At the beginning of 2017, the minimum wage was raised by 0.9%, after +0.6% in 2016, but without any extra boost. In H1 2017, the upturn in inflation is expected to be partially passed on to nominal wages, and the increase in the average wage per capita should be a little higher: +0.9% after +0.7% half-year on half-year. In real terms, the increase in wages is likely to remain low (+0.1% over the half-year).

In mid-2017, the annual overhang for the average wage per capita in real terms is therefore likely to be 0.2%, compared to +1.3% in mid-2016, due to a higher growth overhang for prices this year (+1.1% after –0.1% one year earlier).

2. Inflation is measured here by the variation in household consumer prices, provided by the quarterly national accounts.

In the civil service, wages are likely to gather pace in 2016

In general government, the index point was raised on 1st July 2016 (+0.6%), for the first time since 2010. In addition, statutory measures were implemented in 2016 and the individual purchasing power guarantee scheme was extended. However, increases negotiated under the "professional career path, careers and remuneration" agreement of October 2015 had only a limited effect on wages, as they mainly took the form of bonuses being transformed into index points. On average over the year, the rise in the average wage per capita in general government is therefore expected to have accelerated considerably in 2016, in nominal terms (+1.5% after +0.5% in 2015) as well as in real terms (+1.4% after +0.7%).

In 2017, the index point was raised once again, by 0.6% on 1st February. The individual purchasing power guarantee scheme was extended, but is expected to have a lesser effect due to the end of the freeze on the index point and the career and remuneration protocol. The rise in the nominal average wage per capita is expected to gather pace slightly in general government, with a carry-over effect of +1.6% in mid-2017, compared to +1.1% a year earlier. However, in real terms, the increase in the average wage per capita is likely to slow considerably: in 2017 the carry-over effect in mid-year should stand at +0.6% compared to +1.2% one year earlier. ■

Variation in the basic monthly wage and the average wage per capita in the non-farm market sector and in general government

in %

	Quarterly growth rates						Half-yearly rates			Annual averages		
	2016				2017		2016 H1	2016 H2	2017 H1	2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2						
Basic monthly wage	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.8	1.2	1.2	1.5
Average wage per capita in the non-farm market sector (NFMS)	0.5	0.1	0.3	0.4	0.5	0.4	0.6	0.7	0.9	1.6	1.4	1.3
Average wage per capita in general government (GG)										0.5	1.5	1.6
Household consumer price index (quarterly national accounts)	–0.1	0.1	0.1	0.3	0.6	0.2	–0.1	0.4	0.8	–0.2	0.0	1.1
Real basic monthly wage	0.3	0.3	0.2	0.0	–0.2	0.2	0.6	0.2	0.0	1.4	1.1	0.4
Real average wage per capita (NFMS)	0.7	0.0	0.2	0.1	–0.1	0.2	0.7	0.2	0.1	1.8	1.4	0.2
Real average wage per capita (GG)										0.7	1.4	0.6

Forecast

Sources: INSEE, Dares

Household income

In 2016, the purchasing power of household income would appear to have picked up again: +1.9% after +1.6% in 2015 and +0.7% in 2014. With prices stabilising after a small decline, this acceleration was driven mainly by the gross disposable income (GDI) of households in nominal terms (+2.0% after +1.4%). Most importantly, wage income rose more quickly (+2.2% after +1.6%), due mainly to the buoyancy of market-sector employment. In addition, property income is expected to have picked up. Social benefits, taxes and social contributions would appear to have increased at virtually the same rate as in 2015.
In H1 2017, household purchasing power is expected to slacken: +0.4% half-year on half-year after +0.7% in H2 2016. Indeed, GDI is expected to increase at the same rate as in H2 2016 (+1.2%), but consumer prices should pick up again (+0.8% after +0.4%).

In H1 2017, earned income should grow strongly once again

Over 2016 as a whole, households' earned income is expected to have increased by 1.9% – a little faster than in 2015 (+1.7%, *Table 1*). This acceleration was driven by earned income (+2.2% after +1.6%). On the one hand, employment picked up strongly in the non-farm market sectors (+1.0% after 0.0%; *Graph*). On the other hand, the average wage per capita is expected to have risen at a slightly slower rate than in 2015 (+1.4% after +1.6%; *Table 2*). However, the income of sole proprietors would appear to have slipped back in 2016 (–0.3% after +2.4%), particularly farmers' income due to the very poor harvests, of cereals in particular. In H1 2017, earned income should pick up slightly again: +1.5% half-year on half-year after +1.1% in H2 2016. The income of self-employed workers should receive a boost whilst gross wages should remain buoyant.

In 2016, net property income is expected to have bounced back (+1.1% after –1.2% in 2015) and the gross operating surplus of pure households would appear to have gathered pace (+2.2% after +0.1%). In particular, households have benefited from the fall in interest rates, amplified by extensive renegotiation of existing loans; this beneficial effect is likely to have been offset by a drop in income from life insurance. In H1 2017, net property income is expected to slip back (–0.4% half-year on half-year after +1.1% in H2 2016) and the gross operating surplus of pure households should slow (+0.7% after +0.9%). On the one hand, the positive effect of the drop in interest rates on property loans is likely to fade. On the other hand, dividends should slow due to the downturn in company profits in 2016. In addition, remuneration from life insurance is expected to decline again.

Breakdown of the total gross wages received by households in the non-agricultural market sector

Source: INSEE

Social benefits should continue to increase at virtually the same rate

In 2016, social benefits in cash are expected to have increased at the same rate as in 2015 (+1.9%; *Table 3*). More specifically, social security benefits would appear to have slowed down slightly (+1.9% after +2.0%), mainly due to unemployment benefits. However, "other social insurance benefits" are expected to have picked up slightly, especially reimbursements from supplementary private health insurance. Welfare benefits are expected to have increased in 2016 at the same rate as in 2015.

In H1 2017, social benefits should increase at virtually the same pace as in H2 2016 (+0.9% after 1.0%). Growth in family benefits is likely to return closer to their trend, with the modulation of family allowances having lost its moderating influence. Conversely, the benefits paid out by supplementary pension schemes are expected to slow down. Welfare benefits are expected to slow down a little, with the ramping up of the activity bonus gradually coming to an end.

Table 1

Household gross disposable income

	Quarterly changes in %										Annual changes in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Gross disposable income (100%)	**0.6**	**0.2**	**0.6**	**0.5**	**0.5**	**0.3**	**0.8**	**0.4**	**0.6**	**0.6**	**1.4**	**2.0**	**1.8**
including:													
Earned income (70%)	0.7	0.3	0.4	0.5	0.6	0.3	0.6	0.6	0.8	0.7	1.7	1.9	2.1
Gross wages and salaries (62%)	*0.6*	*0.4*	*0.5*	*0.6*	*0.7*	*0.4*	*0.6*	*0.6*	*0.7*	*0.6*	*1.6*	*2.2*	*2.0*
GOS of sole proprietors[1] (8%)	*1.9*	*–0.6*	*0.2*	*–0.2*	*0.0*	*–0.7*	*0.6*	*0.4*	*1.3*	*1.3*	*2.4*	*–0.3*	*2.8*
Social benefits in cash (35%)	0.3	0.4	0.4	0.7	0.4	0.5	0.6	0.4	0.5	0.5	1.9	1.9	1.5
GOS of "pure" households (13%)	–0.2	0.0	0.3	0.7	0.6	0.7	0.5	0.4	0.4	0.4	0.1	2.2	1.4
Property income (8%)	–0.4	0.0	–0.3	0.1	0.6	0.3	0.4	0.7	–0.2	–0.2	–1.2	1.1	0.4
Social contributions and taxes (–27%)	0.1	0.8	–0.4	0.6	0.8	0.4	–0.4	1.0	0.5	0.5	1.8	1.6	1.5
Contributions of households (–11%)	*0.6*	*0.5*	*0.6*	*0.4*	*0.7*	*0.5*	*0.6*	*0.7*	*0.9*	*0.4*	*2.0*	*2.2*	*2.1*
Income and wealth tax (including CSG and CRDS) (–16%)	*–0.2*	*0.9*	*–1.2*	*0.7*	*0.9*	*0.3*	*–1.1*	*1.3*	*0.2*	*0.6*	*1.7*	*1.1*	*1.1*
Revenus hors impôts	0.5	0.3	0.4	0.6	0.5	0.3	0.5	0.5	0.6	0.6	1.5	1.9	1.7
Household consumer prices (quarterly national accounts)	**–0.1**	**0.2**	**–0.1**	**0.0**	**–0.1**	**0.1**	**0.1**	**0.3**	**0.6**	**0.2**	**–0.2**	**0.0**	**1.1**
Purchasing power of gross disposable income	**0.7**	**0.0**	**0.7**	**0.5**	**0.6**	**0.3**	**0.7**	**0.1**	**0.0**	**0.4**	**1.6**	**1.9**	**0.7**
Household purchasing power by consumption	**0.6**	**–0.1**	**0.6**	**0.4**	**0.5**	**0.2**	**0.6**	**0.0**	**–0.1**	**0.2**	**1.2**	**1.5**	**0.3**

Forecast

How to read it: the figures in parentheses give the structure of the year 2015.

1. The gross operating surplus (GOS) of sole proprietors is the balance of the operating accounts of sole proprietorships. It is mixed income, because it remunerates the work performed by the sole proprietor, and possibly the members of his family, but also contains the profit achieved as an enterpreneur.

Source: INSEE

Table 2

From the payroll of non-financial enterprises to that received by households

	Quarterly changes in %										Annual changes in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Non-financial enterprises (67%)	0.7	0.4	0.6	0.7	0.9	0.3	0.6	0.7	0.8	0.7	1.7	2.5	2.2
including: Average wage per capita	*0.7*	*0.3*	*0.4*	*0.4*	*0.6*	*0.1*	*0.2*	*0.3*	*0.5*	*0.4*	*1.6*	*1.4*	*1.1*
Financial corporations (4%)	–0.3	0.5	–0.1	0.7	0.5	0.5	1.1	0.3	1.1	0.8	–0.4	2.1	2.6
General government (22%)	0.1	0.1	0.2	0.3	0.4	0.5	0.5	0.4	0.4	0.5	1.0	1.5	1.5
Households excluding sole proprietors (2%)	1.0	0.2	–0.3	–0.3	–0.7	0.2	–0.9	0.6	0.0	0.0	–0.3	–1.1	0.1
Total gross wages received by households	**0.6**	**0.4**	**0.5**	**0.6**	**0.7**	**0.4**	**0.6**	**0.6**	**0.7**	**0.6**	**1.6**	**2.2**	**2.0**
including: Non-agricultural market sectors	*0.6*	*0.4*	*0.5*	*0.7*	*0.9*	*0.3*	*0.6*	*0.6*	*0.8*	*0.7*	*1.5*	*2.5*	*2.2*

Forecast

How to read it: The figures in parentheses give the structure of the year 2015.

Source: INSEE

Taxes and social contributions should pick up moderately in H1 2017

Over 2016 as a whole, taxes and social contributions paid by households are expected to have slowed down slightly (+1.6% after +1.8%). Income and wealth tax in particular slowed down (+1.1% after +1.7%), whilst households' social security contributions increased at almost the same rate as in 2015 (+2.2% after +2.0%). As every year, new measures concerning income and wealth taxes affected the quarterly tax profile. Due to income tax relief benefiting low-income households, households' income tax and wealth tax decreased in Q3 (–1.1%). They would then appear to have increased in Q4 (+1.3%).

Taxes are expected to slow down significantly in Q1 2017 (+0.2%). The 20% income tax reduction granted to median-income households has been in force since January and has reduced the monthly payments of the households in question. In addition, the exemption and reduction thresholds for the *contribution sociale généralisée* (general social contribution) for pensioners and disabled people were raised at the beginning of Q1. In reaction, taxes on income and wealth should gather pace in Q2 (+0.6%).

Over H1 2017 as a whole, taxes paid by households should pick up: +0.8% half-year on half-year, after +0.1%. Contributions paid by households should also rise almost as quickly (+1.3% after +1.2%): the increase in the pension contributions of salaried workers on 1st January 2017 is expected to be partly offset by the reduction in those of self-employed workers. All in all, taxes and social contributions are expected to pick up moderately in H1 2017 (+1.0% after +0.6%).

Purchasing power is expected to slow down in H1 2017, undermined by the upturn in inflation

All in all, the gross disposable income (GDI) of households is expected to have increased by 2.0% in 2016, i.e. faster than in 2015 (+1.4%). As consumer prices remained stable after a year in which they dropped slightly, this appears to have resulted in another boost to their purchasing power: +1.9% after +1.6% in 2015 and +0.7% in 2014. When adjusted to individual level to account for demographic changes, purchasing power per consumption unit is expected to have risen by 1.5%, after +1.2% in 2015.

In H1 2017, households' GDI should increase at the same pace as in H2 2016 (+1.2% half-year on half-year). Nevertheless, consumer prices should pick up over the same period (+0.8% after +0.4% in H2 2016). Consequently, the purchasing power of GDI is likely to slow down in H1 2017 (+0.4% after +0.7%), undermined by this upturn in inflation. Its growth overhang at midyear for 2017 is expected to stand at +0.7%, against +1.6% one year earlier. ■

Table 3

Social transfers received and paid by households

	Quarterly changes in %										Annual changes in %		
	2015				2016				2017				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	2015	2016	2017 ovhg
Social cash benefits received by households (100%)	**0.3**	**0.4**	**0.4**	**0.7**	**0.4**	**0.5**	**0.6**	**0.4**	**0.5**	**0.5**	**1.9**	**1.9**	**1.5**
Social Security benefits in cash (72%)	0.3	0.5	0.4	0.7	0.5	0.2	0.5	0.4	0.5	0.5	2.0	1.9	1.4
Other social insurance benefits (19%)	0.4	0.3	0.3	0.6	0.8	0.5	0.6	0.6	0.5	0.6	1.9	2.2	1.8
Social assistance benefits in cash (8%)	–0.1	0.1	0.5	1.0	–1.7	2.8	0.6	0.3	0.3	0.4	1.7	1.7	1.8
Total social contribution burden by households (100%)	**–0.2**	**0.5**	**0.7**	**0.4**	**0.8**	**0.0**	**0.5**	**0.7**	**0.9**	**0.5**	**1.3**	**2.1**	**2.0**
Actual social contributions paid	–0.2	0.5	0.8	0.4	0.9	0.0	0.5	0.7	0.9	0.5	1.4	2.1	2.1
including: Employers contributions[1] *(63%)*	–0.6	0.4	0.9	0.5	1.0	–0.4	0.5	0.7	0.9	0.6	1.0	2.1	2.0
Contributions of households (37%)	0.6	0.5	0.6	0.4	0.7	0.5	0.6	0.7	0.9	0.4	2.0	2.2	2.1

Forecast

How to read it: The figures in parentheses give the structure of the year 2015.

1. Employer contributions are both received and paid by households in the national accounts: they therefore have no effect on gross disposable income.

Source: INSEE

Household consumption and investment

In Q4 2016, household consumption picked up (+0.6%) after two sluggish quarters. Expenditure on goods rebounded strongly, especially on energy and automobiles, while consumption of services slowed slightly. On average over the year 2016, household consumption accelerated (+1.8% after +1.5%), in line with purchasing power (+1.9% after +1.6%).

In H1 2017, household consumption is likely to slow, reflecting in part the loss of impetus of household purchasing power. It is expected to slow significantly in Q1 (+0.2%), with most notably purchases of consumer durables at a standstill, then accelerate slightly in Q2 (+0.4%).

In Q4 2016, the savings ratio appears to have returned almost to its Q2 level (14.6%), after a brief rise in the summer (15.0%). As households are likely to smooth the effects of the slowdown in purchasing power on their consumption, it should fall back slightly once again at the beginning of 2017 and reach 14.4% by mid-year, its average level at the start of 2016.

Over the year 2016 as a whole, household investment in housing rebounded (+2.0%), after four years of decline. It should continue to increase steadily in H1 2017: the annual carry-over effect should stand at +2.7% by mid-year.

Consumption recovered in Q4 2016

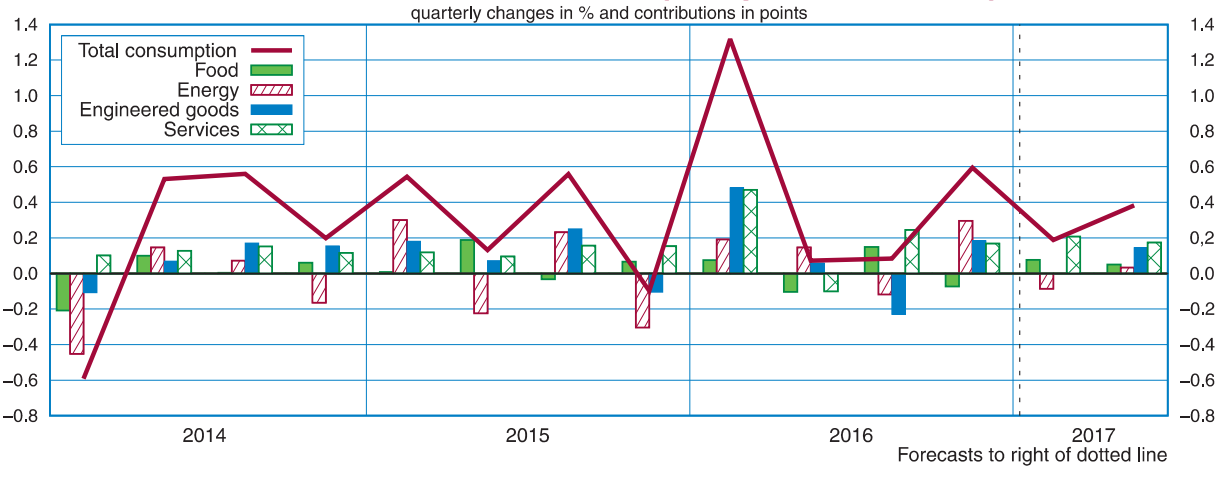
In Q4 2016 household consumption recovered (+0.6%) after two quarters of virtual stagnation (*Graph 1*).

Consumption of goods rebounded strongly (+0.9% after –0.4%). Energy consumption in particular bounced back sharply (+3.7% after –1.5%), with expenditure on heating boosted by an autumn that was cold overall for the season after a relatively warm September. Automobile purchases recovered their momentum (+2.3% after +0.1%) and expenditure on clothing picked up a little (+0.2% after –0.5%). In addition, spending on furnishings almost stabilised (–0.3%) after plummeting in Q3 (–6.4%). However, food consumption slipped back (–0.4% after +0.8%).

Consumption of services slowed slightly (+0.3% after +0.5%), mainly because spending on accommodation and food services came to a standstill after a buoyant Q3. However, expenditure on leisure services finally recovered (+1.1%) after a practically stable Q3.

On average over the year 2016 as a whole, household consumption increased more than in 2015 (+1.8% after +1.5%), in line with the rise in purchasing power (+1.9% after +1.6% in 2015).

1 - Contributions of the various items to quaterly household consumption



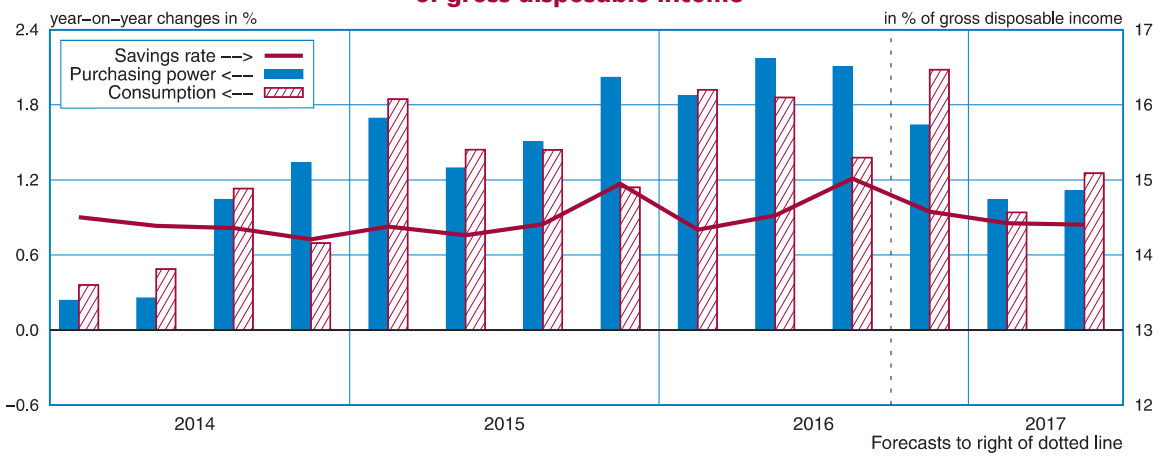
Source: INSEE

In H1 2017, consumption is set to slow a little

In Q1 2017 total household consumption is expected to slow (+0.2%; *Table*), partly reflecting the slowdown in household purchasing power. This is likely to be the case in particular for purchases of goods (0.0% after +0.9%). Spending on consumer durables is expected to grind to a halt (+0.1% after +1.4%), especially automobile purchases (0.0% after +2.3%). Additionally, energy consumption is likely to slip back (–1.0% after +3.7%): expenditure on gas and electricity is set to weaken, as winter temperatures overall were within the seasonal norms after an especially cold autumn, and spending on heating oil and fuel should stabilise after two quarters showing a greater increase than their usual trend. Expenditure on furnishings should bounce back a little (+0.7% after –0.3%), although without returning to trend (+1.5%). In addition, food spending is likely to increase (+0.4% after –0.4%). Finally, consumption of services should grow slightly more than in Q4 (+0.4%): purchases of accommodation and food services are expected to accelerate thanks to a gradual return of foreign tourists, and transport services should remain sustained, while leisure consumption is set to slow, more in phase with its normal trend once again after a fairly dynamic year's end in 2016.

In Q2 2017 household expenditure is expected to accelerate slightly (+0.4%). In particular, purchases of manufactured goods, especially automobiles and furnishings, should return to a pace similar to their recent trend.

2 - Savings ratio and variations in consumption and in purchasing power of gross disposable income



Source: INSEE

Household consumption and investment expenditure

at chain-link previous year prices. SA-WDA

	Quarterly changes in %										Annual changes in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Total household consumption expenditures (G+S)	**0.5**	**0.1**	**0.6**	**–0.1**	**1.3**	**0.1**	**0.1**	**0.6**	**0.2**	**0.4**	**1.5**	**1.8**	**1.0**
Tourism balance	14.4	–0.1	9.5	–16.9	–22.6	–20.9	–15.1	–8.5	4.7	9.6	–11.3	–45.9	–10.3
Services (S)	**0.2**	**0.2**	**0.3**	**0.3**	**0.9**	**-0.2**	**0.5**	**0.3**	**0.4**	**0.3**	**1.0**	**1.5**	**1.1**
Goods (G)	**1.0**	**0.1**	**0.9**	**–0.7**	**1.6**	**0.2**	**-0.4**	**0.9**	**0.0**	**0.5**	**1.9**	**1.7**	**0.8**
including:													
Food (AZ-C1)	**0.0**	**1.1**	**–0.2**	**0.4**	**0.4**	**–0.6**	**0.8**	**–0.4**	**0.4**	**0.3**	**1.2**	**0.7**	**0.6**
Agriculture goods (AZ)	–0.2	1.3	–0.5	–0.8	1.5	–1.6	–1.1	–0.9	–0.4	0.2	–0.3	–1.0	–1.9
Agri-food products (C1)	0.1	1.0	–0.1	0.6	0.2	–0.4	1.2	–0.3	0.6	0.3	1.5	1.1	1.1
Energy (DE-C2)	**3.6**	**–2.6**	**2.8**	**–3.5**	**2.3**	**1.8**	**–1.5**	**3.7**	**–1.0**	**0.4**	**1.4**	**1.8**	**1.7**
Energy, water and waste (DE)	7.8	–4.9	2.6	–3.6	3.5	3.3	–3.1	5.1	–1.7	1.0	2.1	2.8	2.0
Coke and refined petroleum (C2)	–0.9	0.1	2.9	–3.5	0.9	–0.1	0.8	1.8	–0.1	–0.4	0.7	0.5	1.3
Engineered goods (C3-C5)	**0.9**	**0.3**	**1.2**	**–0.5**	**2.3**	**0.3**	**–1.1**	**0.9**	**0.0**	**0.7**	**2.6**	**2.5**	**0.7**
Manufactured goods (C1-C5)	**0.4**	**0.6**	**0.9**	**–0.4**	**1.4**	**0.0**	**–0.1**	**0.5**	**0.2**	**0.4**	**2.0**	**1.8**	**0.9**
Investment expenditure	**–0.1**	**0.0**	**0.2**	**0.6**	**0.6**	**0.5**	**0.7**	**0.7**	**0.9**	**1.0**	**–0.8**	**2.0**	**2.7**

Forecast

Source: INSEE

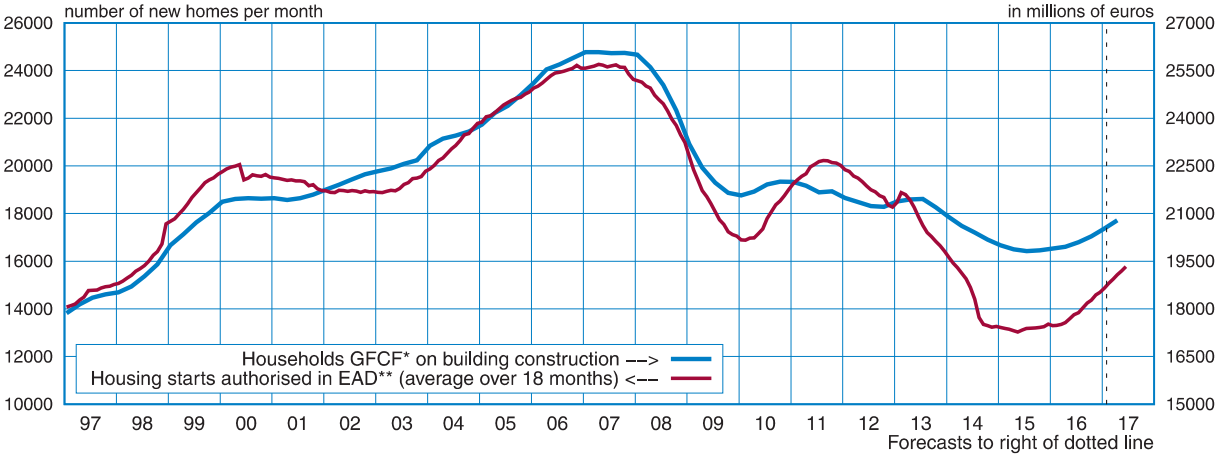
In mid-2017, the savings ratio is expected to fall to 14.4%, virtually the same level as at the beginning of 2016

As consumption stalled in spring and summer, while purchasing power increased steadily at the same time, households' savings ratio rose to 15.0% of their gross disposable income (*Graph 2*). In Q4 2016 the savings ratio would appear to have weakened, returning almost to its Q2 level (14.6%), with consumption bouncing back while purchasing power appeared to have virtually stabilised. On average over the year 2016, this ratio seems to have barely increased at all: 14.6% after 14.5% in 2015. In H1 2017 households are expected to smooth the effect of the slowdown in purchasing power on their consumption and the savings ratio is likely to fall back moderately, to 14.4% by mid-year. It should therefore return to its average level from the beginning of 2016.

Household investment should continue to increase steadily in H12017

In Q4 2016 household investment continued to increase significantly (+0.7% after +0.7%), for the sixth consecutive quarter. The number of authorised housing starts has grown continually since the beginning of 2016 (*Graph 3*). In view of the usual time lags between permits being issued and actual construction, household investment is also expected to increase solidly in H1 2017 (+0.9% per quarter on average). On average over the year, household investment bounced back in 2016 (+2.0%) after four years of decline (including –0.8% in 2015). For 2017, the annual carry-over effect should stand at +2.7% mid-year.■

3 - Household investment on construction and housing starts



*GFCF: gross fixed capital formation
**EAD+: estimated actual dates

Sources: INSEE, SOeS

Electoral periods have a positive albeit short-lived effect on household confidence

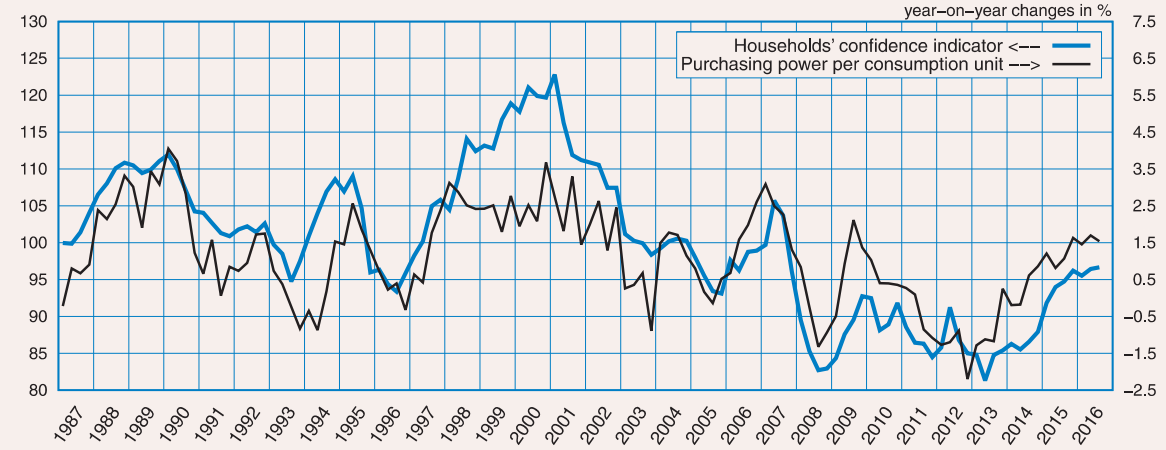
The monthly outlook survey among households provides an insight each month into their confidence in the economic situation. They are asked about their personal economic situation (financial situation, timeliness of making major purchases, etc.) and their economic environment (standard of living in France, unemployment, prices, etc.). A composite confidence indicator summarises the concomitant changes in the main opinion variables drawn from the survey. All this information is used for the short-term diagnosis of consumption.

Over the long term, the household confidence indicator is closely linked to their purchasing power. In addition to this, certain events that affect households as a whole seem to influence the short-term fluctuations in their confidence, and notably national elections, such as the presidential and legislative elections. Econometric analyses show that the perception households have of the future standard of living in France and their fears of unemployment show a marked improvement during electoral periods, although this bubble of optimism soon deflates once the election is over. Responses to the other questions seem to show little or no sensitivity to these events. All in all, the composite confidence indicator shows a slight peak in optimism on the occasion of this type of election, reaching an average of 4 points in the month following the election.

Household confidence follows the trend in their purchasing power

The composite household confidence indicator published by INSEE each month is calculated as a weighted average of eight balances of opinion[1] on questions of an economic nature: (future and past) standard of living in France, (future and past) personal financial situation, timeliness of making major purchases, (future and past) saving capacity, and future unemployment. It summarises the concomitant changes in these main opinion variables by a factor analysis technique. It is one of the series of tools that are used to forecast changes in household consumption over the short term. Over the longer term, the fluctuations in this indicator appear to be very close to those in purchasing power gains per consumption unit (*Graph 1*). Since 2013, for instance, the two variables have shown a simultaneous upturn. An econometric analysis confirms that household confidence in the economic situation is determined above all by fluctuations in their purchasing power.

1 - Household confidence indicator (converted to a quarterly basis) and purchasing power



Source: INSEE

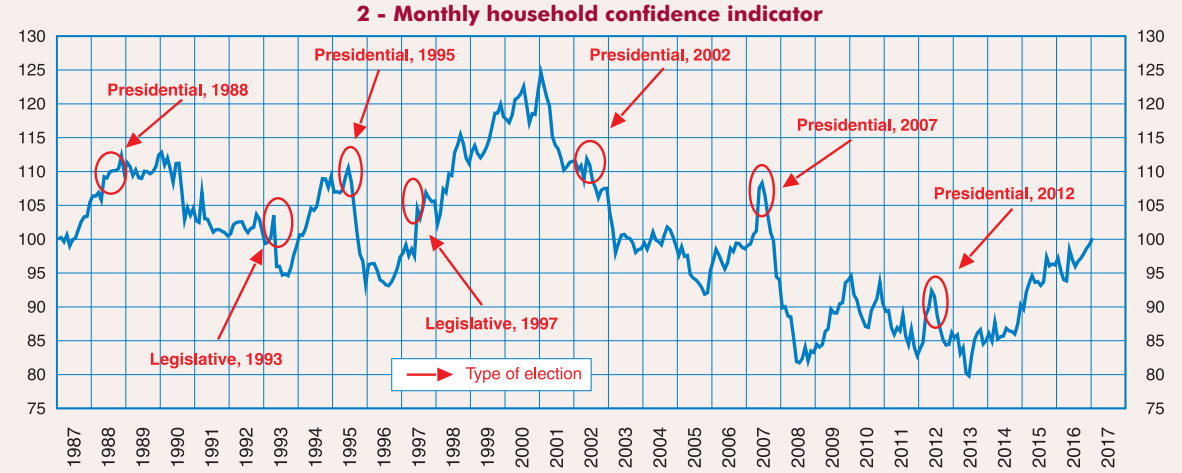
This relationship allows the household confidence indicator to be used as a leading indicator of their purchasing power and then of their consumption. Braun-Lemaire and Gautier (2001), for example, demonstrated that macroeconomic consumption equations could be enhanced by integrating a "confidence" factor. In addition to this, some of the balances of opinion, such as the timeliness of making major purchases, are used to forecast specific items, such as household consumer spending on durable goods.

Bubbles of optimism have formed on the occasion of past national elections, in particular on prospects for the economy as a whole

In the short term, other events can also influence fluctuations in household confidence. A graphic analysis suggests that this is the case of national elections (presidential and legislative elections) which often coincide with relative peaks in optimism (*Graph 2*). To confirm that the effect is significant, the link between the outlook surveys and these electoral periods was formalised by an econometric analysis.

1. A balance of opinion is calculated as the difference between the positive and negative opinions. For example, to the question "How has the financial situation of your household changed over the past twelve months?", the balance corresponds to the difference between the households that responded "got a lot better" or "got a little better" and the proportion who replied "got a little worse" or "got a lot worse".

2 - Monthly household confidence indicator



Source: INSEE

The monthly outlook survey among households for month "m" is published at the end of month "m" on the basis of data collected over a period running from the end of month "m–1" to the middle of month "m". The reference month for the various elections is defined here as being the month after the election, in which all households are aware of the result of the election. For example, the result of the 2012 presidential election was known on 6 May, and the reference month is defined here as being the month of June. When the result is known on the 1st of the month, it is that month that is taken as the reference month.

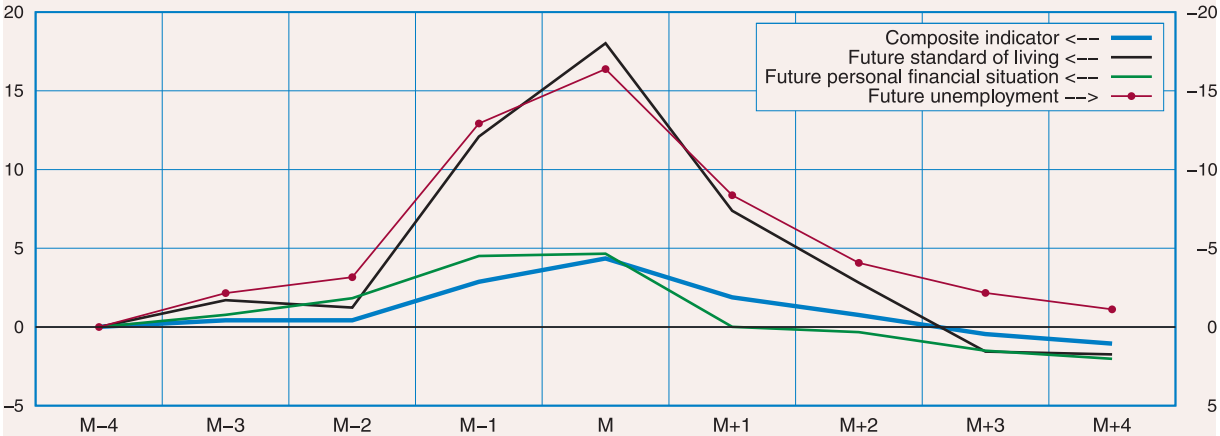
The presidential elections of 1988,[2] 1995, 2002, 2007 and 2012 were taken into consideration, along with the 1993 and 1997 legislative elections. The latter were also general elections by nature, as they did not immediately follow a presidential election. *Table 1* summarises the electoral calendar and the reference months, which is to say the survey for the month from which the election result was known.

Table 1 - Election calendar and determination of the reference month

Year	Type	Second turn	Reference month
1988	Presidential	May, 8th	June
1993	Legislative	March, 28th	April
1995	Presidential	May, 7th	June
1997	Legislative	June, 1st	June
2002	Presidential	May, 5th	June
2007	Presidential	May, 6th	June
2012	Presidential	May, 6th	June

The reference month determined in this way is referred to as month "M", and is the month after the election in most cases. By superimposing the intra-annual profiles of each of the balances of opinion around month "M" in the years mentioned above, we can quite clearly see a temporary peak for three of those balances of opinion: "future standard of living in France", "future unemployment" and "future personal financial situation" (*Graph 3*). The other balances, however, and notably the timeliness of making major purchases, savings capacity and balances referring to the past, do not seem to be affected by these electoral periods.

3 - Impact of electoral periods on the different balances of opinion



How to read the graph: the balances are presented here in such a way that their average in month "m–4" is equal to 0. The "future unemployment" balance of opinion is represented on the scale on the right: the balance falls when fewer households consider that unemployment is going to increase.

Source: INSEE

2. Collection and publication of the survey became monthly from January 1987, enabling more precise monitoring of household opinion and any changes in it.

All in all, the reference month peak can also be seen in the composite indicator which climbs by about 4 points on average before falling back again. The balances of opinion referred to above seem to improve in the two months prior to the reference month, reaching a peak in that month and then falling in month "M+1" and then again in "M+2". These five months can be taken as the "electoral period" event which was tested in the econometric analysis.

To test the hypothesis of bubbles of optimism caused by the electoral period as defined here, the following model was estimated:

$$\Delta solde_t = \beta \Delta GA(PA)_t + \delta_1 ElectionsMM2_t + \delta_2 ElectionsMM1_t + \delta_3 ElectionsM_t + \delta_4 ElectionsMP1_t + \delta_5 ElectionsMP2_t + u_t$$

with:
- $GA(PA)_t$ the year-on-year change in purchasing power per consumption unit;
- $ElectionsMM2_t$ (respectively MM1, M, MP1, MP2) an indicator that takes a value of 1 in month M–2 (M–1, M, M+1, M+2) of election years, and 0 otherwise.

The composite household confidence indicator appears to be significantly affected by the electoral period (*Table 2*). The composite indicator gains 2.4 points in the preceding month and then a further 1.5 points in the reference month (+3.9 points cumulated), before falling almost to the prior level in the following two months. The "future standard of living in France" balance of opinion follows the same profile, with a cumulative effect of 16.7 points in the reference month, before falling back again systematically in the following two months. The same goes for the balance of opinion on future unemployment. However, the personal financial situation balance of opinion is not affected by the electoral period, with a much smaller cumulative sum of the coefficients until the reference month.

Table 2 - Results of the regressions of the different balances of opinion

	Composite household confidence indicator	Future standard of living in France	Future personal financial situation	(reverse of) Future unemployment
Year-on-year change in purchasing power	0.34 (3.15)	0.48 (1.49)	0.36 (2.46)	1.42 (2.63)
Elections M–2	0.00 (0.01)	–0.45 (–0.24)	1.07 (1.27)	1.06 (0.34)
Elections M–1	2.45 (3.89)	10.87 (5.76)	2.69 (3.19)	9.82 (3.13)
Elections M	1.47 (2.33)	5.90 (3.12)	0.12 (0.14)	3.38 (1.10)
Elections M+1	–2.44 (–3.88)	–10.60 (–5.61)	–4.62 (–5.47)	–7.90 (–2.52)
Elections M+2	–1.09 (–1.73)	–4.54 (–2.40)	–0.31 (–0.36)	–4.18 (–1.33)
R^2 (in %)	10.80	17.80	10.64	5.42
RMSE	1.669	4.99	2.232	8.29

How to read the table: the Student's statistics are in brackets. A coefficient for which the Student's statistic is greater than 1.64 is considered significant at the10% threshold.

Source: INSEE

The econometric analysis therefore confirms that the "electoral period" effect on household confidence is significant and quite strong, but short-lived. The effect is driven only by the forward-looking balances of opinion, and above all the future standard of living in France and prospects of unemployment. ■

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Enterprises' earnings

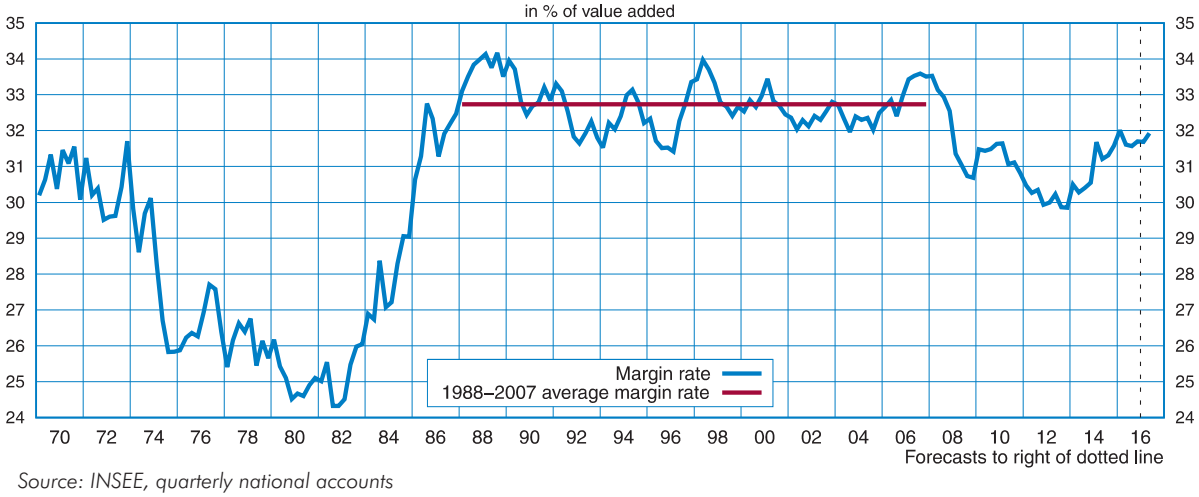
In 2016, the margin rate of non-financial corporations (NFCs) would appear to have risen slightly, reaching an annual average of 31.7% after 31.4% in 2015 and 30.4% in 2014. For the last two years, enterprises have benefitted from the ramp-up of public policies aimed at bolstering employment – mainly the tax credit for encouraging competitiveness and jobs, the Responsibility and Solidarity Pact and the hiring premium for SMEs. The drop in oil prices also reduced their production costs. Conversely, real wages continued to increase more rapidly than apparent labour productivity, once again taking their toll on the margin rate.
In H1 2017, the margin rate should increase again slightly, to 31.9%, mainly because real wages are set to slow with the upturn in inflation.

The margin rate would appear to have increased a little in 2016

In 2016, the margin rate of non-financial corporations (NFCs) would appear to have risen a little (*Graph 1*), to reach an annual average of 31.7% after 31.4% in 2015 and 30.4% in 2014. In 2016, it was buoyed once again by several measures aimed at stimulating job creation. First, a hiring premium for SMEs was introduced at the beginning of 2016. Next, the second phase of the Responsibility and Solidarity Pact (PRS) was implemented: the lowering of the rate of corporate contributions to family allowances was extended to wages of up to 3.5 times the minimum wage from 1st April 2016. Lastly, the tax credit for encouraging competitiveness and jobs (CICE) continued its ramp-up. All these policies would appear to have contributed to an ex ante increase in the margin rate of 0.3 points, after +0.6 points in 2015 (*Table*). In addition, the terms of trade, which mainly reflect variations in oil prices, improved further in 2016. This factor should therefore have improved the margin rate by 0.7 points, still a little less than in 2015 (+0.8 points). On the other hand, payroll employment appears to have increased almost as fast as value added. Apparent labour productivity therefore appears to have slowed significantly while real wages appear to have remained more buoyant. Cumulatively, productivity gains and real wages are therefore expected to account for –0.7 points in the growth in margin rate (after –0.4 points in 2015).

At the start of 2016, the sub-annual profile of the margin rate was uneven, especially in industry (*Graph 2*), mainly because it followed fluctuations in activity via productivity. In summer 2016, however, it returned to the same level as at the end of 2015 (31.6%) and by the end of 2016 it would appear to have virtually stabilised (31.7%).

1 - Margin rate of non-financial corporations (NFCs)

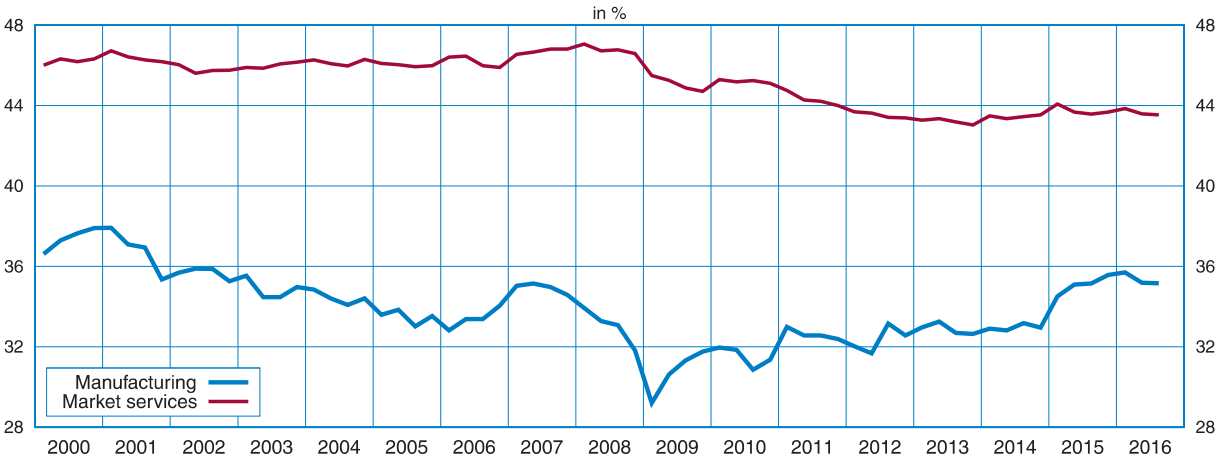


Source: INSEE, quarterly national accounts

The margin rate is likely to increase only slightly in H1 2017

In H1 2017, nominal wages are unlikely to adjust to the upswing in inflation and as a result, real wages should slip back. Conversely, companies are expected to generate some small productivity gains. Cumulatively, these two components should contribute +0.1 points to the increase in margin rate over the half-year. At the same time, the hiring premium for SMEs should ramp up still further and boost the increase in margin rate by +0.1 points over the half-year. This contribution is likely to be offset only partly by the increase in the rate of employers' pension contributions in January. Despite the rise in energy prices, the terms of trade are unlikely to influence corporate margins as companies are expected to raise their producer prices again. All in all, the margin rate is set to rise slightly during H1, reaching 31.9% by mid-2017. ■

2 - Margin rate in industry and in services



Source: INSEE, quarterly national accounts

Breakdown of the margin rate of non-financial corporations (NFCs)

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Margin rate (in level)	**31.7**	**31.2**	**31.3**	**31.6**	**32.0**	**31.6**	**31.6**	**31.7**	**31.7**	**31.9**	**31.4**	**31.7**	**31.9**
Variation in margin rate	**1.1**	**–0.5**	**0.1**	**0.3**	**0.4**	**–0.4**	**0.0**	**0.1**	**0.0**	**0.2**	**1.0**	**0.3**	**0.1**
Contributions to the variation margin rate													
Productivity gains	0.5	–0.1	0.1	0.1	0.4	–0.4	–0.1	0.0	–0.1	0.2	0.8	0.2	0.0
Real wage per capita	–0.5	–0.1	–0.3	–0.3	–0.4	0.0	–0.1	0.0	0.1	–0.1	–1.2	–0.9	0.0
Employer contribution ratio	0.3	0.0	–0.1	0.0	–0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Ratio of the value-added price to the consumer price	0.3	–0.2	0.4	0.4	0.4	–0.2	0.0	0.1	–0.1	0.1	0.8	0.7	0.0
Other factors	0.6	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.5	0.3	0.2

Forecast

Note: The margin rate (TM) measures the share of value-added which remunerates capital. Its variation is broken down in accounting terms between:
- productivity changes (Y/L), with Y value-added and L employment, and the ratio of the value-added price to the consumer price, or terms of trade (Pva/Pc), which play a positive role;
- changes to the real average wage per head (SMPT/Pc) and the employer contribution ratio (W/SMPT, where W represents all compensation), which play a negative role.
- others factors: taxes on production net of operating subsidies, including CICE and the emergency plan for employment:[1]

$$TM = \frac{EBE}{VA} \approx 1 - \frac{W.L}{Y.P_{va}} + other\ factors = 1 - \frac{L}{Y}\frac{W}{SMPT}\frac{SMPT}{P_c}\frac{P_c}{P_{va}} + \text{other factors}$$

1. The CICE reduces companies' corporation tax, but in the national accounts it is recorded as a subsidy to companies, as recommended in the latest version of the European System of Account (ESA 2010).

Source: INSEE

Corporate investment and inventory

Investment by non-financial enterprises (NFEs) increased sharply in Q4 2016 (+0.8% after –0.1%), due to a rebound in spending on manufactured goods (+1.7% after –2.9%), in particular spending on transport equipment. Over the year 2016 as a whole, NFE investment gathered pace once again (+4.0% after +2.7% in 2015 and +1.4% in 2014), thanks to the momentum in purchases of manufactured goods and the upturn in construction expenditure. On average over the year, the investment rate is expected to reach its highest level since 2008. In H1 2017, corporate investment is expected to remain dynamic (+0.9% in Q1 and +0.5% in Q2). It should be sustained by demand prospects and favourable financing terms, and, through to mid-April, by the additional depreciation allowance scheme. The carry-over effect at mid-year for 2017 is expected to reach +1.8%. In Q4 2016, changes in inventories hampered growth (–0.1 points of gross domestic product), as a fall in changes in inventories of manufactured goods was only partly offset by an increase in those of raw hydrocarbons and agricultural products. Over 2016 as a whole, the effect of these changes in inventories on growth was neutral. In Q1 2017, changes in inventories of manufactured and agricultural goods are expected to contribute positively to growth (+0.3 points). In Q2, destocking of crude oil and manufactured goods is expected to be the cause of a negative contribution of the same magnitude (–0.3 points).

Corporate investment gathered pace markedly at the end of 2016

In Q4 2016, investment by non-financial enterprises (NFEs) increased by 0.8%, after two quarters of virtual stagnation (*Table 1*). Enterprises substantially increased their expenditure on manufactured goods (+1.7% after –2.9%), most notably transport equipment (+6.1% after –6.6%). Investment expenditure on services slowed (+0.3%) after increasing vigorously in Q3 (+1.4%). Sustained purchases of IT services counterbalanced a slight downturn in those of business services. Over the year 2016 as a whole, NFE investment increased sharply (+4.0%), rising faster than in the previous two years (+2.7% in 2015 and +1.4% in 2014), thanks to purchases of manufactured goods and the upturn in construction expenditure. The NFE investment rate reached 21.7% on average over the first three quarters of 2016, to hit its highest level since 2008 (*Graph 1*).

Investment is likely to remain vigorous in H1 2017

For Q1 2017, the business tendency surveys suggest further sustained growth in corporate investment. According to the business tendency survey in industry, production capacity tensions have increased: in Q4 2016, the production capacity utilisation rate and production bottlenecks were higher than their long-term average (*Graph 2*). Far more business managers in industry are predicting an increase in their investments in

Table 1

Investment by non-financial enterprises (NFEs)

at chain-link previous year prices, SA-WDA

	Quarterly changes										Annual changes		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Manufactured products (%)	0.8	0.5	1.8	3.1	3.6	–0.6	–2.9	1.7	1.7	0.0	3.0	5.4	1.3
Construction (%)	–0.1	0.5	–0.1	1.4	1.2	0.4	1.3	0.4	0.0	0.6	–0.3	3.5	1.4
Other (%)	1.8	1.1	0.4	0.7	1.4	–0.1	1.4	0.3	0.9	0.8	4.2	3.1	2.4
All non-financial enterprises (100%)	**1.0**	**0.7**	**0.7**	**1.7**	**2.1**	**–0.1**	**–0.1**	**0.8**	**0.9**	**0.5**	**2.7**	**4.0**	**1.8**

Forecast

Source: INSEE

H1 2017 than a reduction. In services, the balances of opinion on investment, past and future, have been following an upward trend since 2012 and remain higher than their long-term average. The balance of opinion on expected investments reached its highest level since 2011 in January.

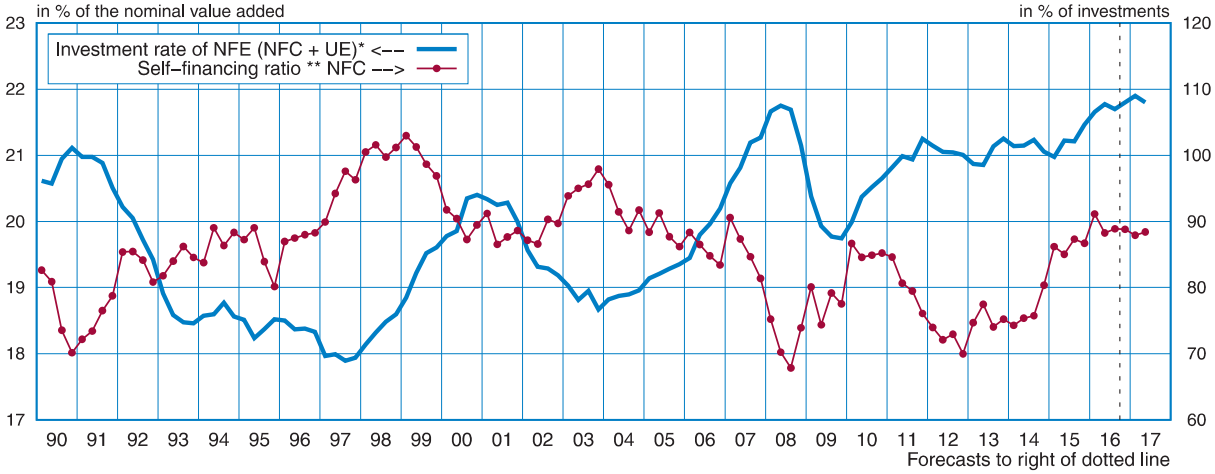
Financing conditions continue to favour investments. Interest rates are likely to increase a little, in the wake of sovereign yields, but should still remain low until mid-2017, and credit terms are expected to remain favourable. In addition, the self-financing ratio is expected to remain high in H1 2017.

As a result, NFE investment expenditure should gather pace slightly during Q1 2017 (+0.9% after +0.8%). It is expected to return to a level of growth close to its trend in Q2 (+0.5%). The annual carry-over effect is expected to be +1.8% in mid-year and the NFE investment rate should increase a little more (21.8% mid-2017).

Investments in manufactured goods is expected to remain buoyant then stagnate

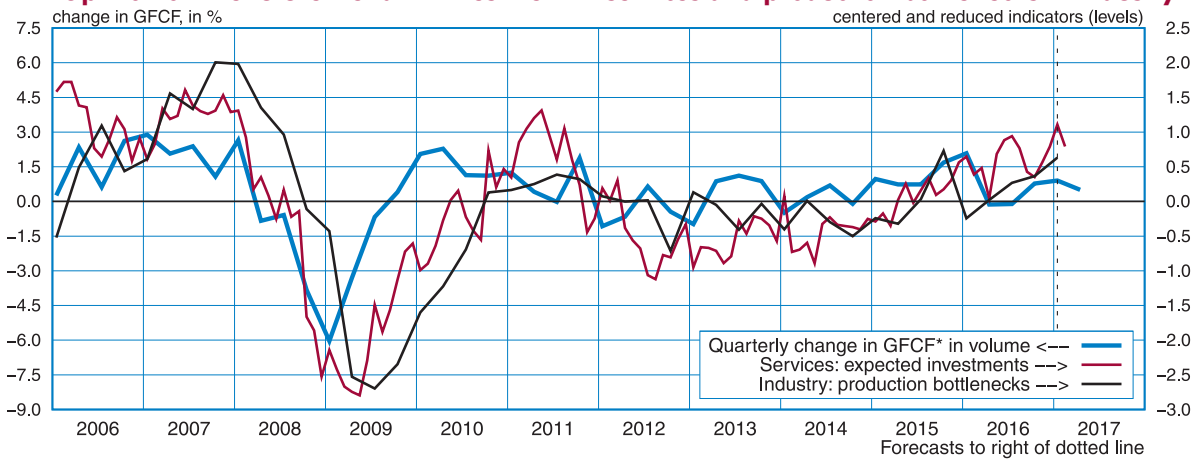
At the beginning of 2017, the quarterly profile of NFE investment in manufactured goods is expected to be impacted by the end of the additional depreciation allowance scheme. A proportion of capital expenditure will still benefit from this measure until mid-April 2017. Anticipation of this new deadline could lead to another increase in this type of investment. On the other hand, car registrations until February suggest a slowdown in investments in new vehicles after a sharp increase at the end of 2016. All in all, investment in manufactured goods is expected to remain

1 - NFE investment rate and self-financing rate



* Non-financial enterprises: non-financial corporations (NFCs) and unincorporated enterprises (UEs)
** Self-financing rate: ratio of non-financial enterprises savings to their investments.
Source: INSEE, Quarterly national accounts

2 - Opinion on the future trend in investment in services and production bottlenecks in industry



*GFCF: Gross fixed capital formation
Sources: INSEE, monthly survey in services and industry, quarterly national accounts

sustained in Q1 (+1.7% as in the previous quarter), with stagnation coming as an after-effect in Q2. The carry-over effect for 2017 is likely to be +1.3% at the end of Q1, after a very buoyant 2016 (+5.4%).

Construction investment is expected to suffer temporarily due to the cold weather

Expenditure on construction is expected to stall in Q1 2017, then regain its momentum in Q2 (+0.6%). Civil engineering investment is likely to suffer from January's low temperatures: it is expected to fall in Q1, then bounce back in the following quarter. Furthermore, according to the time series of non-residential building starts, building construction investment looks likely to slow in Q1 and to continue to grow moderately in the following quarter.

Investments in services are expected to return to their trend rate

Investments in services are expected to grow at their long-term average rate: +0.9% in Q1 2017, then +0.8% in Q2 2017. Their annual carry-over effect is expected to reach +2.4% mid-year.

In 2016, the effect of changes in inventories on growth was neutral

In Q4 2016 the contribution of the increase in destocking of manufactured goods (–0.4 points, *Table 2*) was partly offset by greater re-stocking of crude oil (+0.2 points) and agricultural products (+0.1 points). All in all, changes in inventories held back GDP growth slightly (–0.1 points). Over the year 2016 as a whole, after the quarterly jolts, changes in inventories had a neutral effect on growth: those in manufactured goods made a slightly positive contribution (+0.1 points), offset by those in agricultural products (–0.1 points).

In February 2017, business leaders in manufacturing industry considered that inventory levels were still a little below normal. The contribution of changes in inventories is expected to be positive in Q1 (+0.2 points on GDP growth) due especially to a weak level of aeronautical deliveries and exceptional levels of procurement in pharmaceuticals. The reconstitution of inventories of agricultural products is expected to amplify this movement (+0.1 points). In Q2, the recovery in aeronautical and shipbuilding deliveries is expected to lead to a negative contribution of changes in inventories in manufactured goods (–0.2 points), amplified by a period in which crude oil inventories are run down (–0.1 points). ■

Table 2

Contribution of inventory changes to growth

	Quarterly changes										Annual changes		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural and agrifood products	**0.0**	**–0.1**	**0.0**	**0.0**	**–0.1**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**–0.1**	**0.2**
Manufactured products	**0.3**	**–0.3**	**0.4**	**0.3**	**0.1**	**–0.7**	**0.4**	**–0.4**	**0.2**	**–0.2**	**0.1**	**0.1**	**–0.2**
Agrifood products	0.0	0.0	0.0	0.0	–0.1	–0.1	–0.1	0.0					
Coke and petroleum products	0.2	–0.2	0.0	0.1	0.1	–0.2	0.1	–0.1					
Machinery and equipment goods	–0.1	0.0	–0.1	0.1	–0.1	0.0	0.1	0.0					
Transport equipment	0.2	–0.2	0.3	0.0	0.3	–0.4	0.2	0.0					
Others industrial goods	–0.1	0.0	0.2	0.1	–0.1	–0.1	0.0	–0.3					
Energy, water and waste	**0.0**	**–0.1**	**0.0**	**0.2**	**–0.1**	**–0.1**	**0.2**	**0.2**	**0.0**	**–0.1**	**0.1**	**0.0**	**0.1**
Others (construction, services)	**0.0**	**0.0**	**0.0**	**0.0**	**–0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
TOTAL[1]	**0.3**	**–0.5**	**0.4**	**0.5**	**–0.2**	**–0.7**	**0.7**	**–0.1**	**0.3**	**–0.3**	**0.1**	**0.0**	**0.2**

Forecast

1. Changes in inventories include acquisitions net of sales of valuables.

Source: INSEE

International developments

Oil and raw materials

OPEC and Russia agree to reduce their oil production

In Q4 2016, the average price of a barrel of Brent crude was $51, after $47 in the two previous quarters. This rise stems from the agreement reached by the OPEC countries, announced in September 2016, ratified on 30 November 2016, and effective since January 2017. However, supply rose again in Q4, with record output by the members of the cartel, while demand increased at its trend rate.

Through to June 2017, the gap between supply and demand should narrow: supply should almost stabilise, with a drop in output by OPEC countries offset by a rise in US production, whilst demand is expected to rise at its trend growth rate, driven by the emerging countries in particular.

Throughout H1 2017, the conventional assumption is that oil prices will stabilise at around $55 – their level in January. The high level of stocks should curb the bullish effect of the tightening in the physical market. Oil prices will depend on the speed at which unconventional production recovers in the United States and the ability of OPEC countries and Russia to reduce their output over the long term.

Commodity prices in Euros climbed strongly in Q4 2016 as the prices of industrial commodities soared, especially iron.

In Q4 2016, the price of Brent increased significantly

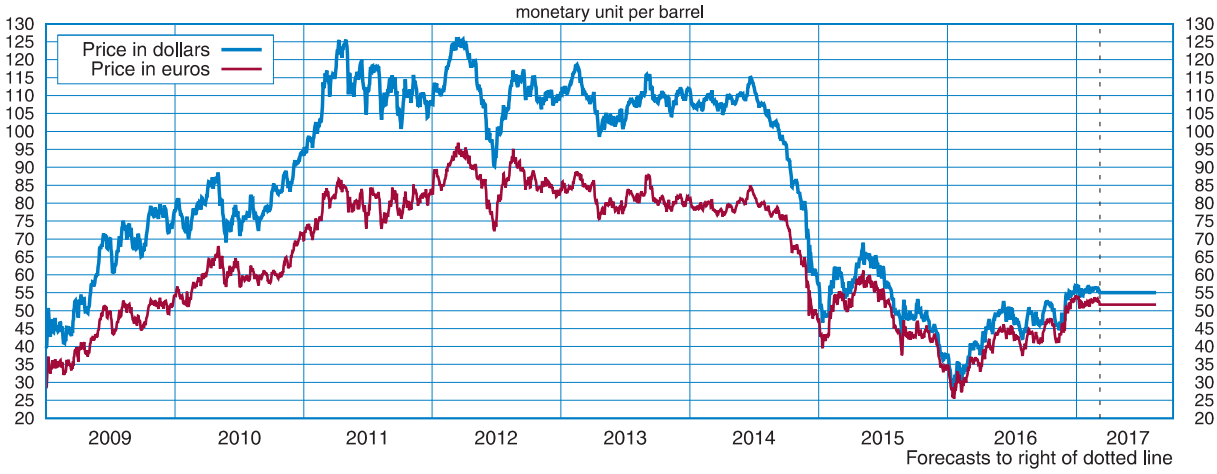
In Q4 2016, the price of a barrel of oil (Brent) averaged $51, up 8.7% on Q3. It approached $57 at the beginning of January (*Graph 1*), after the entry into force of the OPEC countries' agreement to cut production, announced in Algiers at the end of September and ratified in Vienna on 30 November. Since then, it has been hovering around $55 and should remain close to this level in H1.

Supply should remain virtually stable through to mid-2017

In Q4 2016, oil supply increased strongly again (+0.7 million barrels per day - Mbpd), driven mainly by record output by OPEC (*Graph 2*). Iraq and Iran produced at their highest level since 2007. In addition, Libyan production continued to pick up (+0.3 Mbpd). In Nigeria, production increased by 0.2 Mbpd over the quarter, despite declining in December due to strikes and attacks on the Forcados terminal.

In H1 2017, supply should almost stabilise, because the drop in OPEC output is likely to be offset by a rise in US supply. With the entry into force of the Algiers agreement, OPEC production is expected to drop by 0.9 Mbpd through to mid-2017. This reduction would be below the target announced by OPEC (–1.2 Mbpd). It should be mainly driven by Saudi Arabia, whose

1 - Price of Brent in euros and in dollars



Source: Macrobond

production is expected to drop by an average of 0.5 Mbpd compared with Q4 2016, in line with its commitments. Iraq should cut its production by 0.1 Mbpd on average and that of Iran is expected to stabilise at its pre-embargo level. However, Libyan production should continue to rise because Libya is exempted from any production freeze. Russia has followed OPEC's lead, announcing its intention to cut its production by 0.6 Mbpd; however, the International Energy Agency (IEA) has forecast a drop of no more than 0.3 Mpbd in H1 2017.

US output should continue to rise in H1 2017, driven mainly by conventional production in the Gulf of Mexico. The rise in the rig count is not yet expected to lead to a strong recovery in unconventional production.

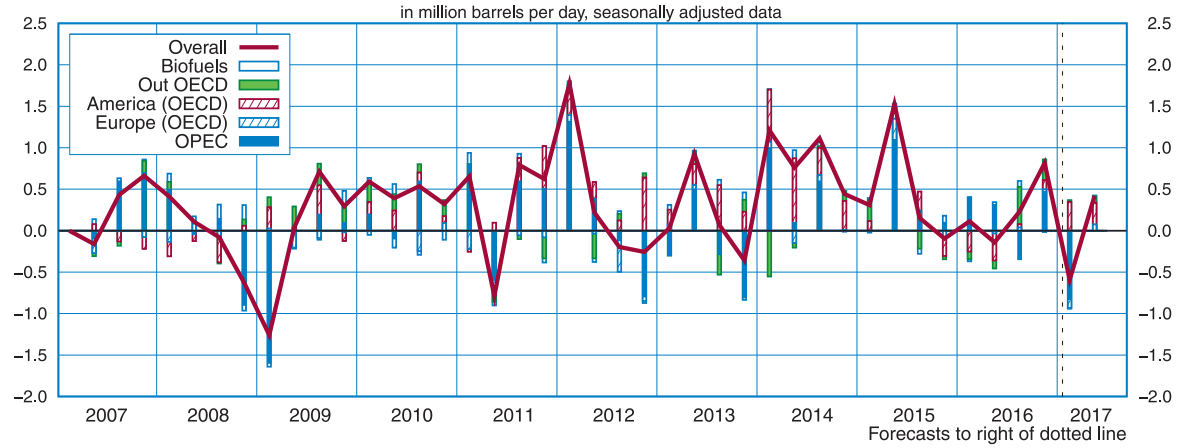
Demand is likely to return to its trend growth rate by mid-2017

In Q4 2016, demand increased by 0.3 Mbpd, mainly sustained by non-OECD countries. As an annual average for 2016, it rose by 1.8 Mbpd, i.e. almost the level reached in 2015 (+1.9 Mbpd). In H1 2017, demand from emerging economies is likely to remain buoyant, and global demand is set to increase at around its trend rate.

The high stock level should curb price rises in H1

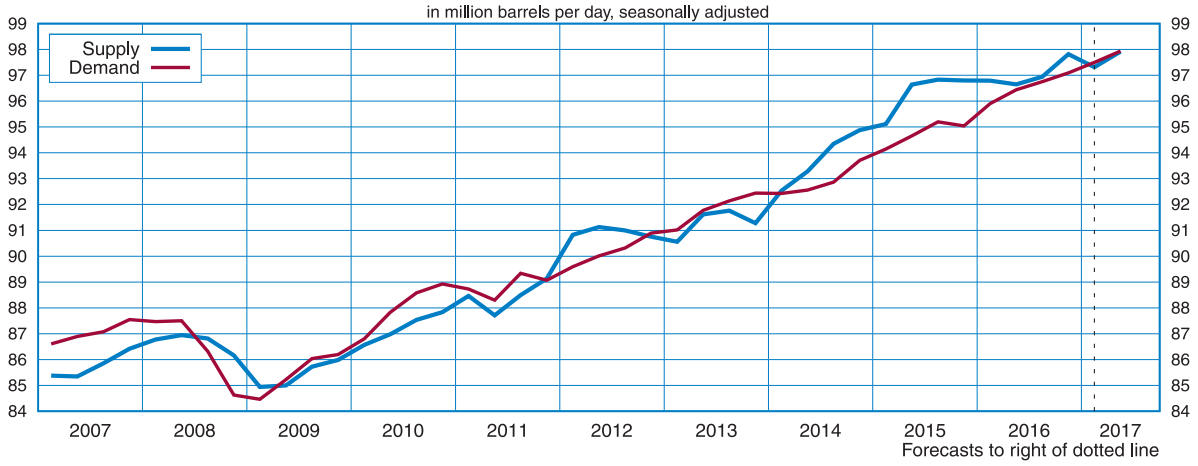
Supply surpluses have largely diminished since the start of 2016, because of the drop in American supply and the trend increase in demand (*Graph 3*). The residual surplus should be used up in Q1 2017 and the market is expected to remain balanced in Q2. However, at 492 million barrels in

2 - Principal contributing factors to the variation in global oil supply



Sources: IEA, INSEE

3 - World oil market



Sources: IEA, INSEE

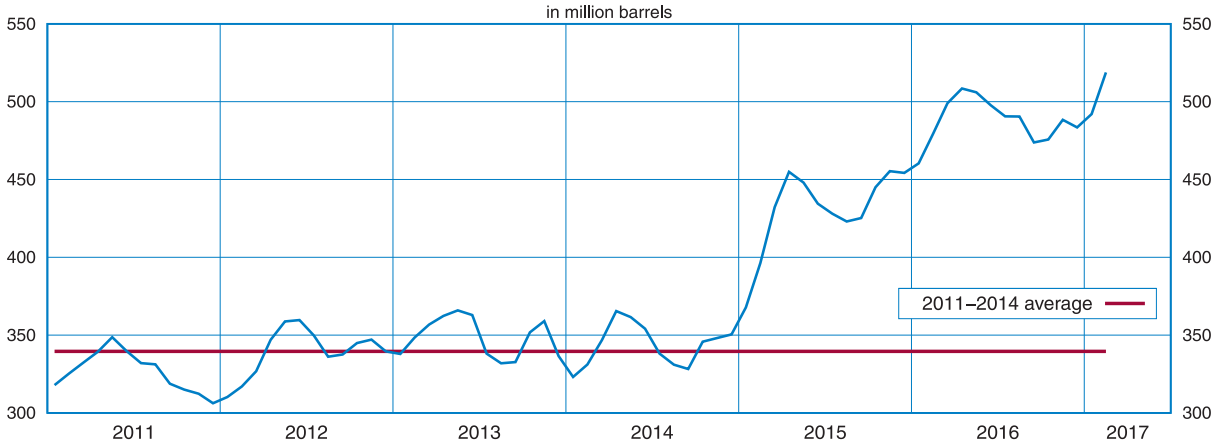
January, stocks of crude in the United States remain high – above those of January 2016 (+5.5%), and still well above the average level between 2011 and 2014 (+45%; *Graph 4*). The high level of commercial reserves should also curb the upward pressure on prices linked to the anticipated rise in tensions in the physical market.

Two uncertainties surround the supply scenario. First, although the OPEC countries and Russia managed to cut their output significantly in January 2017 compared with the average level in Q4, will they be able to maintain this level in the long term? Second, US production of unconventional oil could recover more quickly than expected, as the rig count has been rising again since the spring of 2016.

Commodity prices climbed strongly at the end of 2016

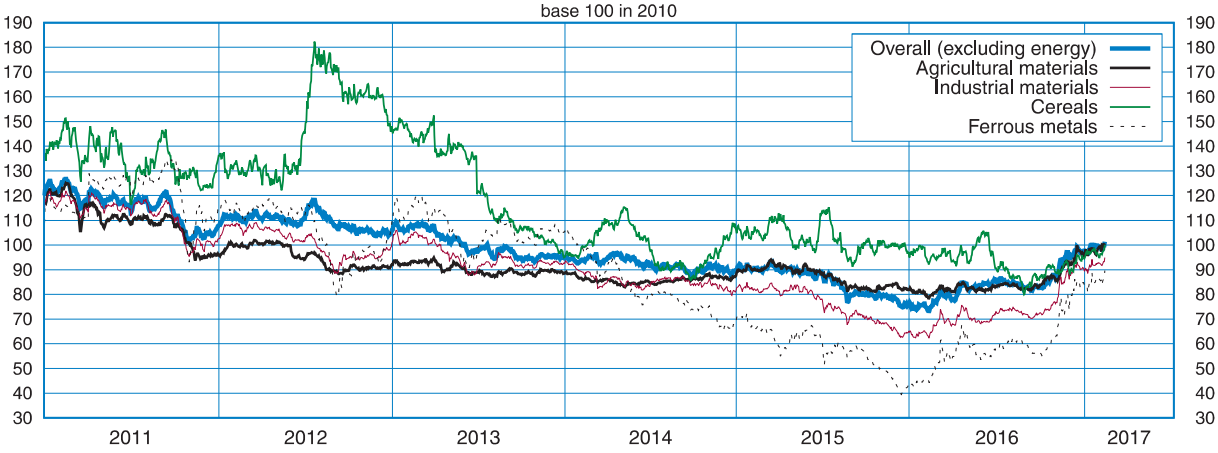
In Q4 2016, prices in Euros of commodities excluding energy rose strongly (+9.0%), returning to their Q3 2013 level (*Graph 5*). Prices of industrial commodities increased sharply in Q4 (+14.0%) and the price of iron in particular soared (+20.8%), driven by strong Chinese demand. In addition, cereal prices bounced back (+4.4%) due to the effect of poor harvests, especially in Asia. ■

4 - U.S. crude oil inventories



Source: US Department of Energy

5 - Prices of non-energy commodities in euros



Source: HWWI

Financial markets

Monetary policy: America first

The directions monetary policies are taking continue to diverge on either side of the Atlantic. On the one hand, the US Federal Reserve raised its base rates in December, encouraged by core inflation exceeding its 2% target and by low unemployment. The Fed plans to raise them three more times in 2017. On the other side of the Atlantic, core inflation remains moderate in the Eurozone and the European Central Bank is continuing its accommodating monetary policy. It will extend its asset purchase programme beyond March 2017, albeit at a reduced scale.
European sovereign yields are rising again and the spreads between them are widening. The credit market continues to improve in the Eurozone, even though credit is rising considerably less quickly than the monetary base. Contrasting situations persist between European countries: outstanding loans to enterprises are growing steadily in France and Germany while they are still falling in Italy and Spain.
Following the election of Donald Trump and the rise in the Fed's base rates, the dollar appreciated against the Euro at the end of 2016; the pound and the yen have stabilised, so much so that the French real effective exchange rate has slipped back a little. By convention, the Euro exchange rate is fixed in the forecasts at 1.06 dollars, 0.87 pounds sterling and 120 yen.

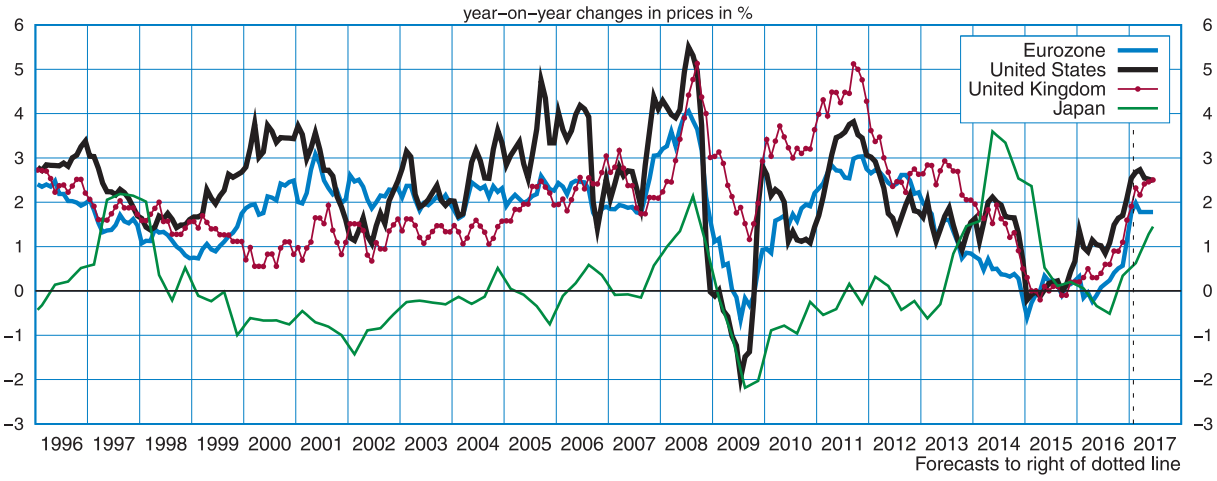
The Federal Reserve raised its base rate in December and is expected to raise it again in 2017

In December 2016 the American central bank (the Fed) raised its base rate from 0.50% to 0.75%. The last time it was raised was in December 2015. The Fed's objectives have been met: the unemployment rate has stabilised at a low level (4.8% in January), and core inflation has remained anchored above the 2% threshold since January 2016. Headline inflation has been increasing since mid-2016 due to the energy component (*Graph 1*); at the beginning of 2017, energy is expected to catch up with and even move slightly ahead of the core component. As a result, the Fed is expected to continue normalising its monetary policy by gradually increasing its base rates, with three increases planned in 2017.

The ECB is expected to slow its accommodating monetary policy slightly

For its part, the European Central Bank (ECB) announced in December 2016 that it would be extending its accommodating policy beyond March 2017. In the Eurozone, core inflation indeed remains moderate, well under 2% (*Graph 2*). However, from April, the ECB will reduce the amount of its securities purchases on the secondary market to 60 billion Euros a month,

1 - Inflation in the world



Sources: Eurostat, BLS, JSB, ONS

from 80 billion Euros previously. Base rates have been maintained at a historically low level: the deposit facility rate has been –0.40% since March 2016.

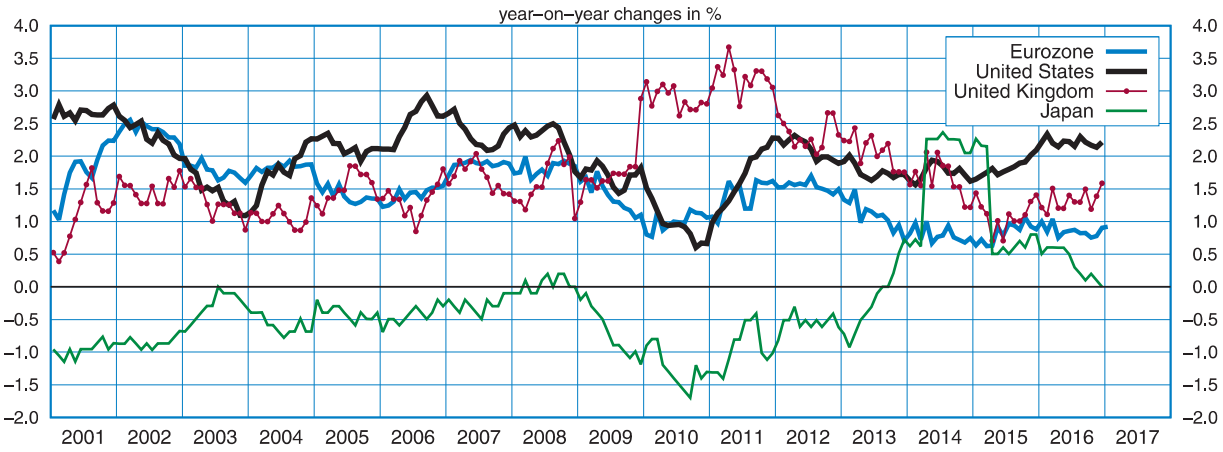
European sovereign yields have picked up and spreads have widened

The sovereign yields of advanced countries have risen since Donald Trump's victory and the increase in the Fed's base rates. At the beginning of March, the French 10-year yield stood at about 1.0% after reaching a low of 0.2% in July 2016 (*Graph 3*). The Spanish and Italian sovereign yields have also increased sharply while the German 10-year yield has seen a moderate upturn. The spread between French and German sovereign yields has increased, reaching up to 70 basis points. The Italian-German spread has reached 200 basis points. This new divergence is explained by high outflows of private capital from Italy. The spreads within the Eurozone nevertheless remain lower than they were between 2011 and 2013.

Lending to enterprises has picked again up in the Eurozone, except in Italy and Spain

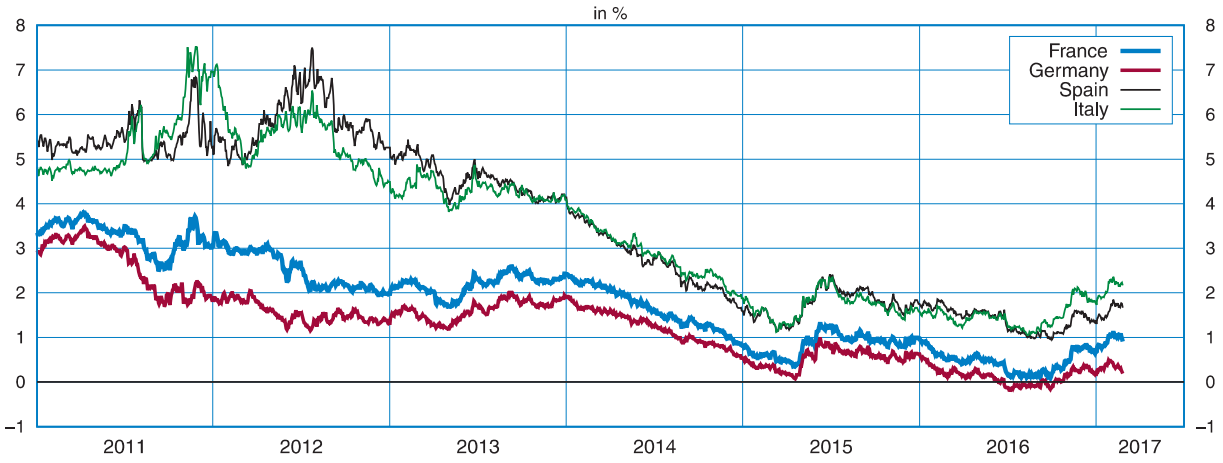
Outstanding loans to non-financial corporations in the Eurozone have been rising since January 2016, continuing the improvement that began at 2014. Over one year to January 2017, outstanding loans increased by 1.7%. This upturn in credit nonetheless remains modest in light of the strong growth in the monetary base implemented by the ECB. The quantity of excess liquidity that the banks are leaving in reserve with the ECB therefore continues to swell (*Graph 4*). Outstanding loans to

2 - Core inflation in the world



Source: Eurostat, BLS, JSB, ONS

3 - Ten-year European sovereign yields



Source: Macrobond

non-financial corporations are buoyant in France (+4.5% year-on-year to January 2017) and in Germany (+4.4%). However, they have fallen again, by around –0.7%, in Spain and Italy. Interest rates on new loans have converged between the Eurozone countries (to around 1.5%), except in Spain where they remain higher (2.0%). The credit market easing cycle is likely to be drawing to a close at European level, in the wake of the rise in sovereign yields, according to the ECB's latest surveys of private banks on the credit issue.

In early 2017 stock market indices are stabilising after picking up at the end of 2016

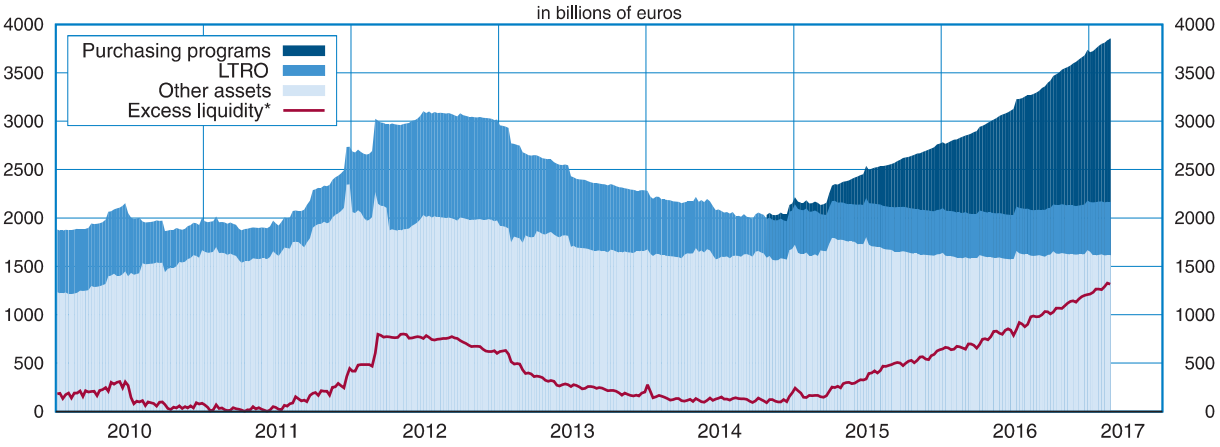
The stock market indices of the advanced countries rose sharply after Donald Trump's victory in November 2016 (*Graph 5*), as financial investors anticipated an acceleration in activity in the United States, which they expected to be boosted by an expansionary fiscal policy. At the beginning of 2017 the various indices (DAX, ICAC, Nikkei and Footsie 100) are however tending to stabilise, except in the United States where the S&P continues to rise.

The volatility of these indices increased a little with the American elections, but has fallen back since then. They have not reached the levels that followed the result of the Brexit referendum, which were themselves relatively low compared to previous shocks.

The dollar rose against the Euro at the end of 2016

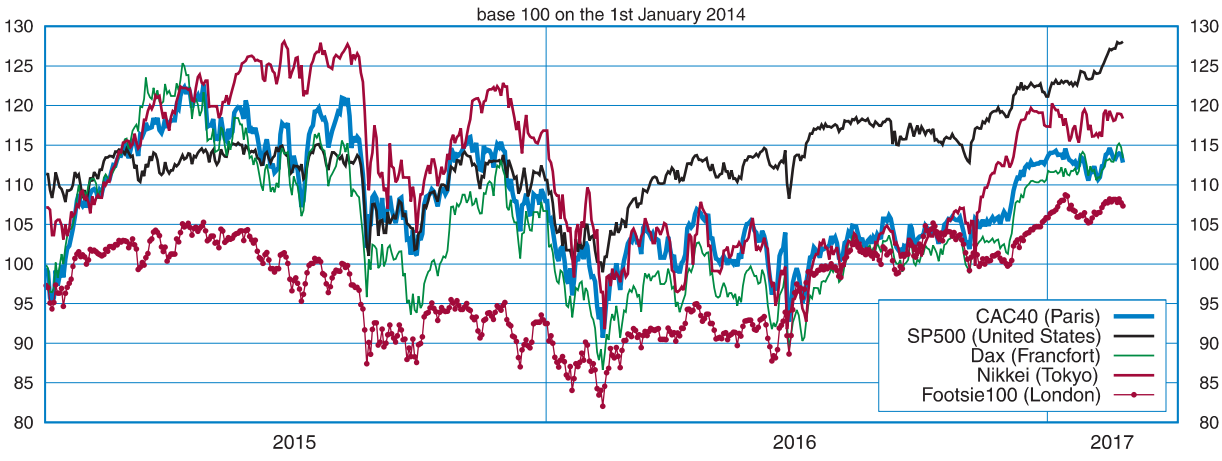
The election of Donald Trump and the rise in the Fed's base rates contributed to the dollar's rise against the Euro at the end of 2016. In

4 - ECB balance sheet and excess liquidity



*Excess liquidity: the banks' deposits with the Central Bank in excess of the minimum reserves.
Source: Macrobond

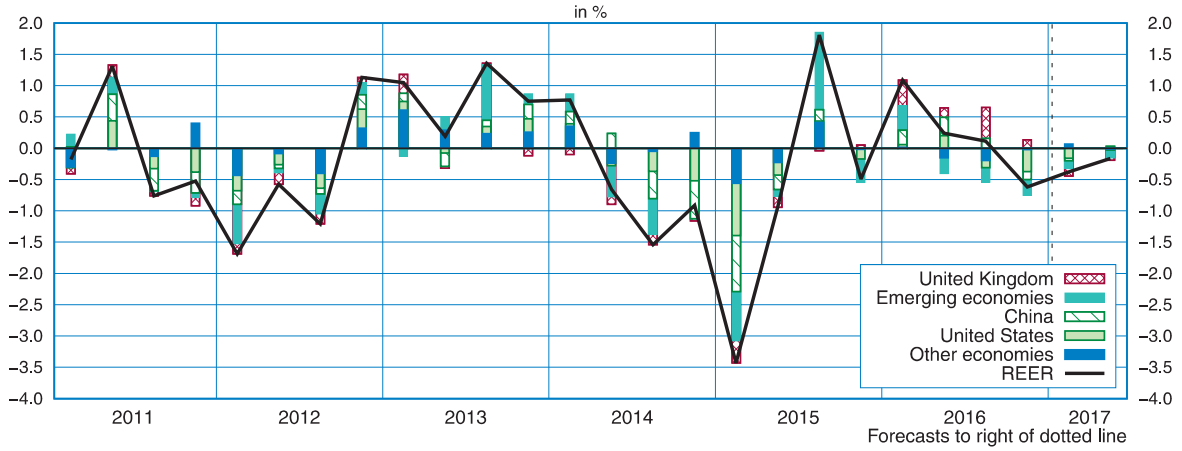
5 - Monthly average volatility of stock market indices of the advanced countries



Source: Macrobond

February 2017, the Euro was trading at 1.06 dollars, compared to 1.12 dollars in summer 2016. This rise has driven that of the emerging currencies that are pegged to the dollar. After the sharp drop in sterling before and after the Brexit referendum, the pound has stabilised at about 0.87 pounds to the Euro. The yen has been fluctuating since December 2016 at around 120 yen to the Euro. All in all, the French real effective exchange rate fell at the end of 2016 (*Graph 6*). By convention, the Euro exchange rate against different currencies is fixed at its last known rate at the beginning of March (1.06 dollars, 0.87 pounds sterling and 120 yen to the Euro) until mid-2017. However, there is uncertainty surrounding Euro-dollar parity, which will depend on the pace at which the Fed raises its base rates. As inflation also remains lower in France than in its main partner countries, the real effective exchange rate is expected to continue falling slightly until June. ■

6 - Quarterly change in real effective exchange rate (REER) and its contributing components



Source: Macrobond, INSEE calculations

Eurozone

Growth is withstanding the upturn in inflation

After rising by 0.4% in Q4 2016, Eurozone activity should remain steady in 2017 (+0.4% in Q1 followed by +0.5% in Q2), despite the many political uncertainties and an upturn in inflation. Headline inflation is rising in all Eurozone countries, driven mainly by its energy component, while its core component is also expected to rise in Germany and Spain. Despite this rise, consumption is expected to hold firm, with households slightly reducing their precautionary savings thanks to another drop in unemployment.

Growth is likely to remain robust in the Eurozone

In Q4 2016, economic activity in the Eurozone picked up slightly: +0.4% after +0.3% (*Table*). Over the year as a whole, gross domestic product (GDP) grew by 1.6% in 2016, barely more than in 2015 (+1.5%). The business climate remains favourable despite the many political uncertainties (*Graph 1*). Consequently, growth should remain robust throughout H1 2017: +0.4% in Q1 and +0.5% in Q2. In this context, employment should continue to progress strongly and unemployment should continue to fall: down to 9.5% by mid-2017 against 10.1% one year before.

Consumption should resist the rise in inflation

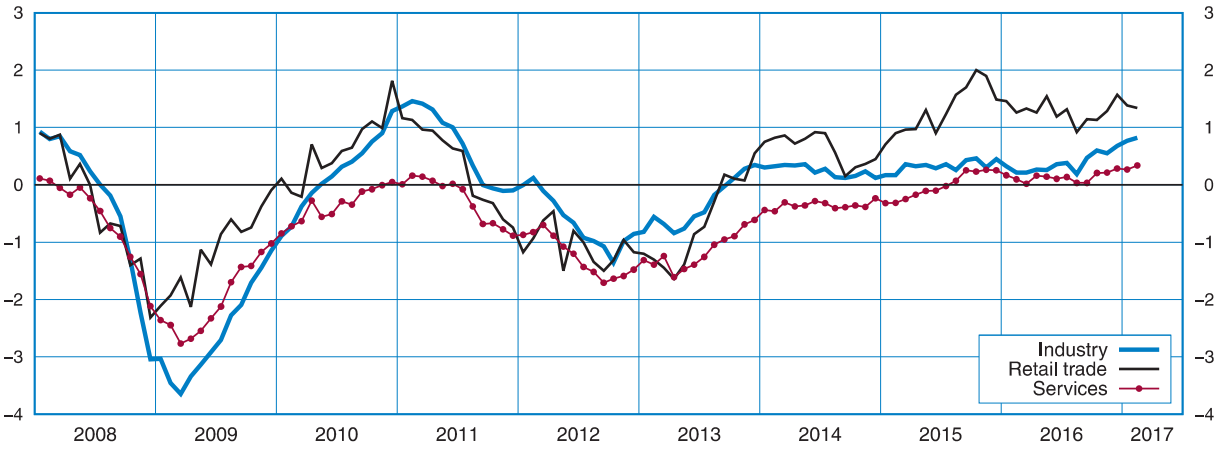
Wages are expected to rise in H1 2017, mainly as a result of the increase in the minimum wages in Germany (+4%) and in Spain (+8%). The rise in employment should also boost income. Nevertheless, with rising prices of oil and food commodities, headline inflation is rising sharply and is expected to reach +1.8% year-on-year to mid-2017, against 0.1% one year before (*Graph 2*). The upturn is expected to be stronger in Spain (+3.3% by mid-year) and Germany (+2.1%) because the core component should also increase in these countries, driven by buoyant wages. Conversely, core inflation should remain moderate in France and Italy, at around +0.7%.

The upturn in inflation should limit purchasing power gains, with a slowdown expected. In the short term, however, households are likely to reduce their savings slightly, to the extent that consumption should hold firm (+0.4% in Q1 and Q2, as at the end of 2016; *Graph 3*). Their savings ratio is expected to slide to 11.4% by mid-2017, whereas it had increased by 0.2 points between 2014 and 2016 (11.8% on average over the year). Indeed, households are smoothing the effects of fluctuations in purchasing power on their consumption, especially when the impact is due to energy prices (*Focus*), and they are reducing their precautionary savings when unemployment drops.

Harsh winter weather is expected to have a temporary impact on construction investment

After rising by 0.8% in Q4 2016, construction investment is likely to shrink in Q1 2017 (–0.2%) before bouncing back in Q2 (+1.4%). This is because the cold spell in January that hit

1 - Business climate in the Eurozone, by sector



Source: European Commission (DG ECFIN)

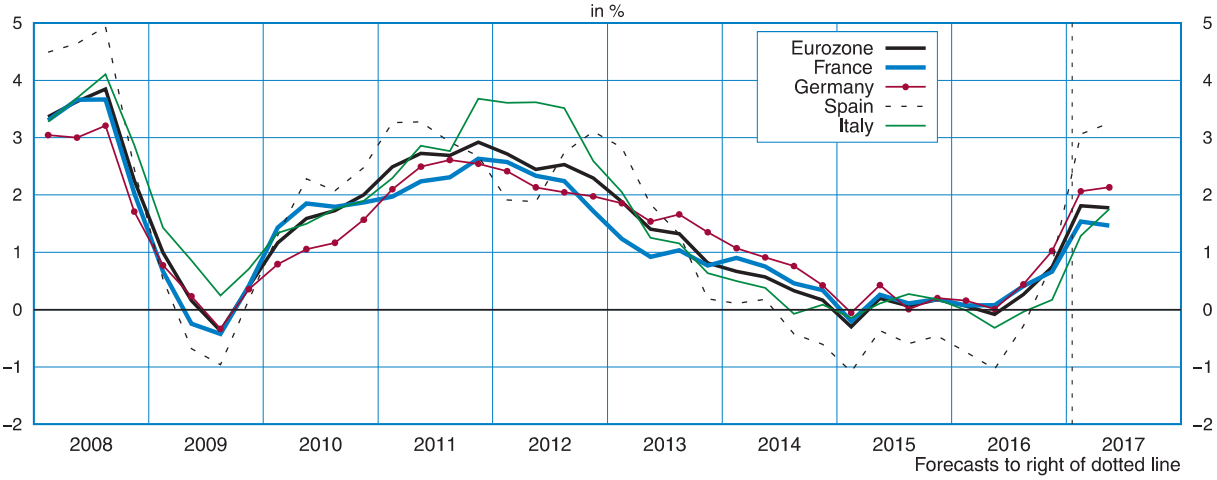
continental Europe – Germany in particular – interrupted construction projects and adversely affected its quarterly profile. Leaving aside these jolts, investment in construction should follow the upward trend in building permits.

Equipment investment is likely to remain strong throughout the Eurozone: it appeared to have bounced back at the end of 2016 (+0.7% after –0.9%) and should remain buoyant in H1 2017 (+1.0% then +0.8%). The production capacity utilisation rate is above its average level in all Eurozone countries, suggesting that enterprises have a greater propensity to invest.

In early 2017, foreign trade is likely to hamper growth slightly

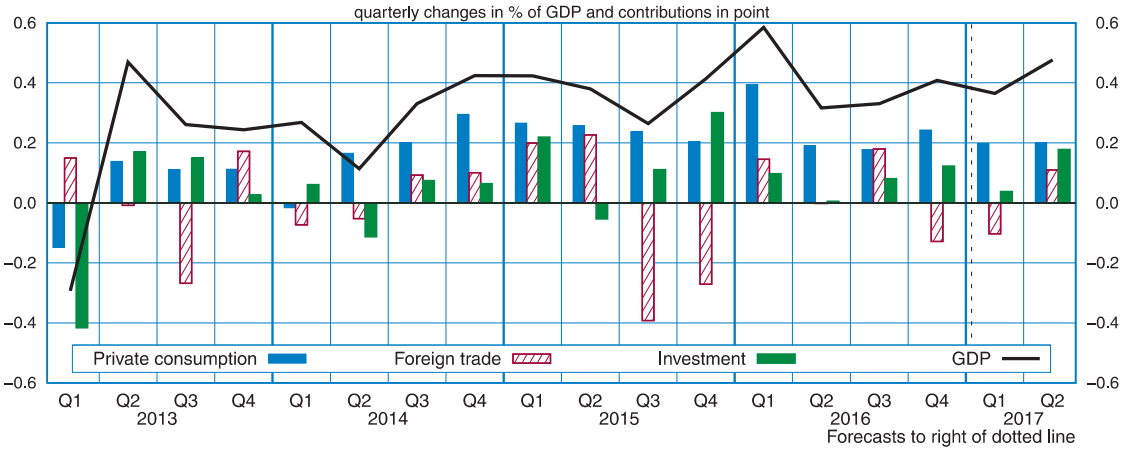
Exports took off in Q4 2016 (+1.5% after 0.2%), especially in Germany and Spain. In H1 2017, the depreciation of the Euro, particularly against the dollar, and the strength of demand from America and the emerging countries should continue to boost sales abroad (+0.7% in Q1 then +1.0% in Q2). Imports should follow a similar pattern: after bouncing back in Q4 2016 (+2.0% after +0.5%), they are expected to increase by 1.0% on average per quarter during H1 2017. Foreign trade should make a slightly negative contribution to GDP growth in H1 2017 (–0.1 points per quarter), after two years in which it held this growth back somewhat (–0.2 points in 2016 and –0.1 points in 2015). ■

2 – Inflation in the Eurozone



Sources: Eurostat, INSEE forecast

3 - Gross domestic product and contributions to GDP growth in the Eurozone



Sources: Eurostat, INSEE forecast

Gross domestic product and main aggregates of Eurozone economies

levels ; percentage changes from previous period

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Eurozone*	**0.4**	**0.4**	**0.3**	**0.4**	**0.6**	**0.3**	**0.3**	**0.4**	**0.3**	**0.5**	**1.5**	**1.6**	**1.3**
Germany	*0.2*	*0.5*	*0.2*	*0.4*	*0.7*	*0.5*	*0.1*	*0.4*	*0.3*	*0.6*	*1.5*	*1.8*	*1.2*
France	*0.6*	*0.0*	*0.4*	*0.2*	*0.6*	*–0.1*	*0.2*	*0.4*	*0.3*	*0.5*	*1.2*	*1.1*	*1.1*
Spain	*1.0*	*0.8*	*0.9*	*0.8*	*0.8*	*0.8*	*0.7*	*0.7*	*0.7*	*0.6*	*3.2*	*3.3*	*2.2*
Italy	*0.3*	*0.3*	*0.1*	*0.2*	*0.4*	*0.1*	*0.3*	*0.2*	*0.2*	*0.2*	*0.6*	*1.0*	*0.6*
Household purchasing power in the Eurozone (year-on-year changes)	–0.3	0.2	0.1	0.2	0.1	–0.1	0.3	0.7	1.7	1.6	0.0	0.2	1.2
ILO unemployment rate in the Eurozone	11.2	11.0	10.7	10.5	10.3	10.1	9.9	9.7	9.6	9.5	10.9	10.0	9.5

Forecast

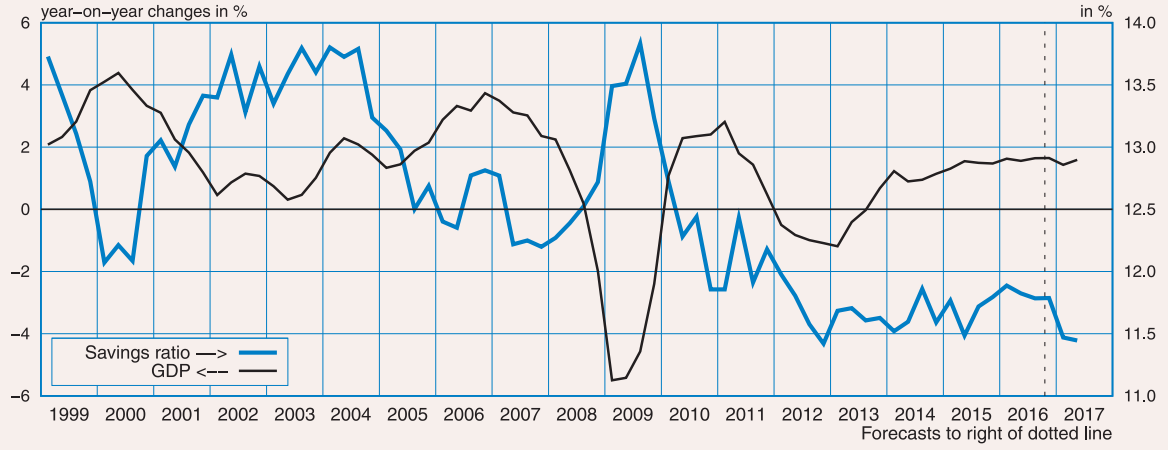
* Eurozone excluding Ireland, as this country's accounts present a break in series in Q1 2015
Source: Eurostat, national statistical institutes, INSEE forecast

The slow pace at which the fall in energy prices is working through into consumption partly explains the recent rise in the savings ratio among European households

The precautionary motive is the main determinant of short-term fluctuations in the savings of European households. When activity is dynamic and unemployment therefore falls, households have confidence in the future and tend to save less. On the other hand, when activity slows down, households tend to save more as a precaution, fearing in particular that they may be affected by increasing unemployment. Variations in the savings ratio therefore tend to be counter-cyclical (*Graph 1*). Since 2012, however, this counter-cyclical character has not predominated. In 2012 in particular, activity fell back but households reduced their savings, especially in southern Europe, to limit the effects of fiscal consolidation measures (tax increases, lower civil service wages and benefits) on their consumption. Conversely, although activity has accelerated and unemployment has fallen back since 2014, the savings ratio has increased slightly. This increase would appear to be explained by the slow pace at which the positive oil price shock is working through into consumption.

To confirm this hypothesis, the different effects on consumption of the various components of purchasing power were tested in an econometric model, as the savings ratio is measured as the share of purchasing power that is not consumed. Gains in purchasing power were measured by comparing changes in gross income (wages, retirement pensions, social benefits, taxes, etc.) and those in prices (energy, food, etc.). Usually, the link between fluctuations in consumption and in purchasing power is modelled by a single coefficient. However, it is likely that households do not adjust their consumption to an increase in purchasing power in exactly the same way according to whether it is the result of a rise in nominal wages or a fall in prices. The test therefore consisted in assuming different coefficients for income on the one hand, and the main components of prices on the other, in an econometric equation modelling short-term changes in consumption by an error-correction model (see *Method*).

1 - Savings ratio and activity in the Eurozone



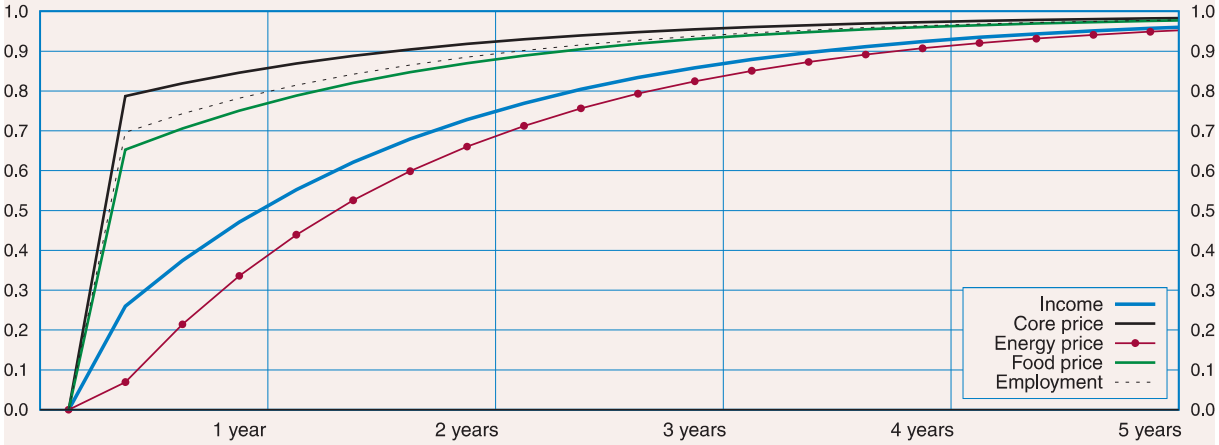
Sources: Eurostat, INSEE forecast

Such a model enables an estimation to be made of the propagation of a 1% rise in purchasing power according to whether it is driven by a fall in taxation (pure income shock), by a fall in energy prices or by a fall in core prices (*Graph 2*). According to this model, it takes about 18 quarters for 95% of an energy price shock to work through into consumption, against 6 quarters for an employment shock and 10 quarters for a core price shock.

Between mid-2014 and early 2016, the oil price fell sharply, resulting automatically in a fall in energy prices. This fall boosted household purchasing power, but this type of increase takes time to work through into a rise in consumption, thereby contributing to a rise in the savings ratio. According to the model used here, +0.7 points of the slight rise in the savings ratio between 2014 (11.6%) and 2016 (11.9%) is explained by the slow pace of the adjustment of consumption to the positive oil price shock, which was largely offset by the drop in precautionary savings driven by the fall in unemployment.

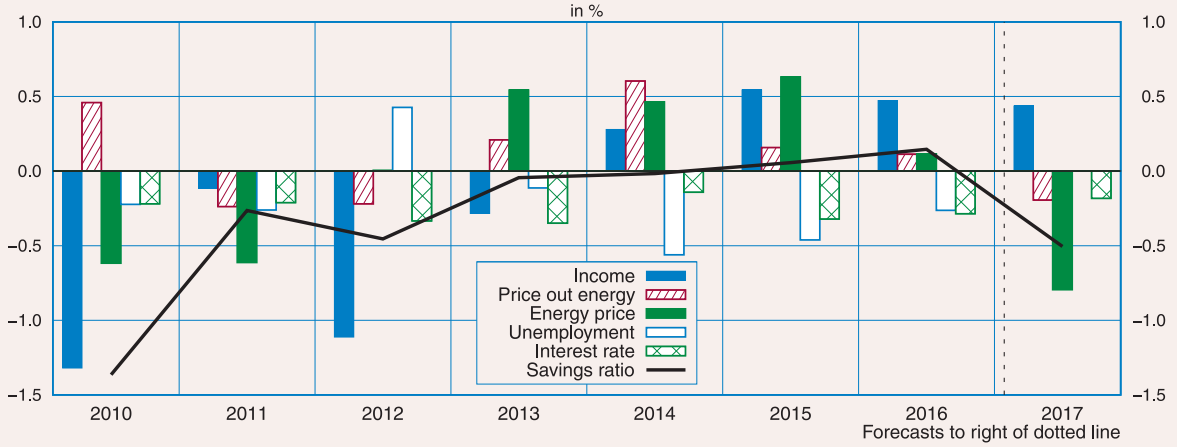
Through to mid-2017, the slowdown in purchasing power via the current upturn in energy prices should work its way slowly through into consumption, driving a fall in the savings ratio (*Graph 3*). ■

2 - Simulation of the propagation of a unit shock in purchasing power to European household consumption



Note: the "income shock" is understood here as being a "pure" shock, such as a fall in taxes or an increase in benefits.
Sources: Eurostat, INSEE calculations and forecast

3 - Annual variation in the savings ratio and its contributions



How to read the graph: in 2015, the savings ratio increased slightly in relation to 2014. The energy price made a contribution of +0.6 points to this rise. The 2017 figures correspond to the average over the first half of the year only.
Sources: Eurostat, INSEE forecast

The method

In the model used here, consumption evolves like purchasing power over the long term, with a speed of convergence of 16%. The downward trend in the savings ratio in the Eurozone is captured by an interest rate variable in nominal terms, as a fall in interest rates leads to dissaving. This expresses both an effect of the actual sums received and an effect of the choices made between consumption and energy.

In the short term, the elasticity of consumption to nominal income is about 30%. This coefficient seems low compared to other models, but a variation in income via a variation in employment must combine elasticity to income and elasticity to the unemployment rate. The price sensitivity of consumption in the short term is shown through four elasticities: to food inflation exclusive of taxes, to energy inflation exclusive of taxes, to core inflation exclusive of taxes and to taxes on consumption. In the short term, elasticity to food and energy prices is low and non-significant: households do not significantly modify their consumption when the prices of these products fluctuate. Elasticity to core inflation is significant, however (only just over the estimation period ending in Q1 2012, more clearly when the model is estimated through to Q3 2016): households adjust their consumption quickly to these fluctuations.

Equation :

$$\Delta C_t = \underset{(2,50)}{0,72} - \underset{(-2,50)}{0,16}\left(C_{t-1} - R_{t-1} + 0,70P^{ssj}_{t-1} + 0,20P^{alim}_{t-1} + 0,10P^{nrj}_{t-1} + 0,62r_{t-1}\right)$$
$$+ \underset{(1,95)}{0,26}\Delta R_t - \underset{(-2,68)}{0,63}\Delta u_t - \underset{(-1,66)}{0,55}\Delta P^{ssj,ht}_t - \underset{(-0,36)}{0,01}\Delta P^{nrj,ht}_t - \underset{(-1,11)}{0,13}\Delta P^{alim,ht}_t - \underset{(-2,81)}{0,73}\Delta Tax_t + \varepsilon_t$$

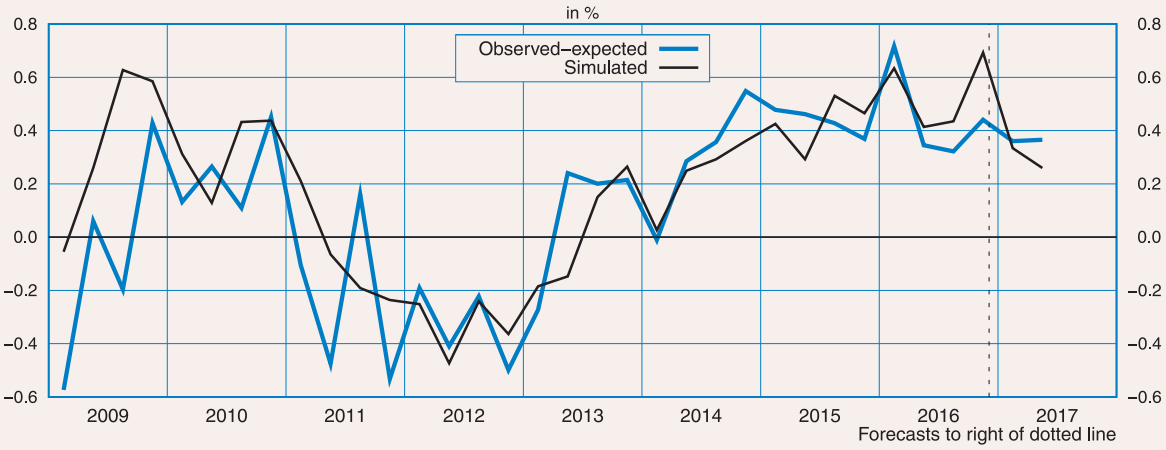
Data : Eurostat, INSEE calculations

$R^2 = 67\%$
Estimation period : 2002Q2 to 2012Q1
(the Student's t-test statistics are shown in brackets)

Where:

- C_t is the logarithm of consumption in the Eurozone as a whole;
- R_t is the logarithm of (nominal) gross disposable income;
- P^{ssj} is the logarithm of the core price index;
- P^{alim} is the logarithm of the food price index;
- P^{nrj} is the logarithm of the energy price index;
- *Tax* is the logarithm of the ratio between the tax-inclusive price index and the price index exclusive of taxes;
- The "ht" index specifies that in the short term, price fluctuations are "exclusive of taxes"
- *r* refers to the German 10-year sovereign yield;
- *u* is the unemployment rate.

Observed and simulated changes in consumption



Sources: Eurostat, INSEE calculations and forecast

Germany

In spite of wintry jolts, the engine is running

In Q4 2016, German activity gathered pace (+0.4%, after +0.1%), taking the country's average annual growth rate to +1.8%. Government consumption accelerated, while investment in construction and exports bounced back. By mid-2017, household expenditure should be more dynamic. However, investment in construction, hindered by the harsh winter weather in January, is expected to hold back activity as a whole in Q1 (+0.4%). Gross domestic product should pick up slightly in Q2 (+0.5%). Its annual growth overhang is likely to reach +1.3% at the end of H1 2017.

Both private and public consumption should be vigorous

German activity gathered pace in Q4 2016 (+0.4% after +0.1%), driven mainly by consumption: household expenditure recorded another moderate rise (+0.3% after +0.2%) and government consumption gained momentum (+0.8% after +0.2%).

Household consumption is expected to pick up in H1 2017, with household confidence buoyed by the low level of unemployment. Wages should also remain buoyant, rising at an annual rate of around +2.5% (*Graph*). The minimum wage was raised by 4% on 1st January 2017, with gradual implementation throughout the year. Inflation picked up at the end of 2016 and further rises are expected: up to +2.1% year-on-year to mid-2017 (against 0.0% one year earlier), driven by its energy component. Core inflation should also increase due to the wage rises: up to +1.5% by mid-2017, which would be its highest level since 2009. As a result, household purchasing power is likely to weaken slightly, but not enough to stem the vigorous household expenditure.

After a cold spell in January, another sharp rise in construction investment looks likely

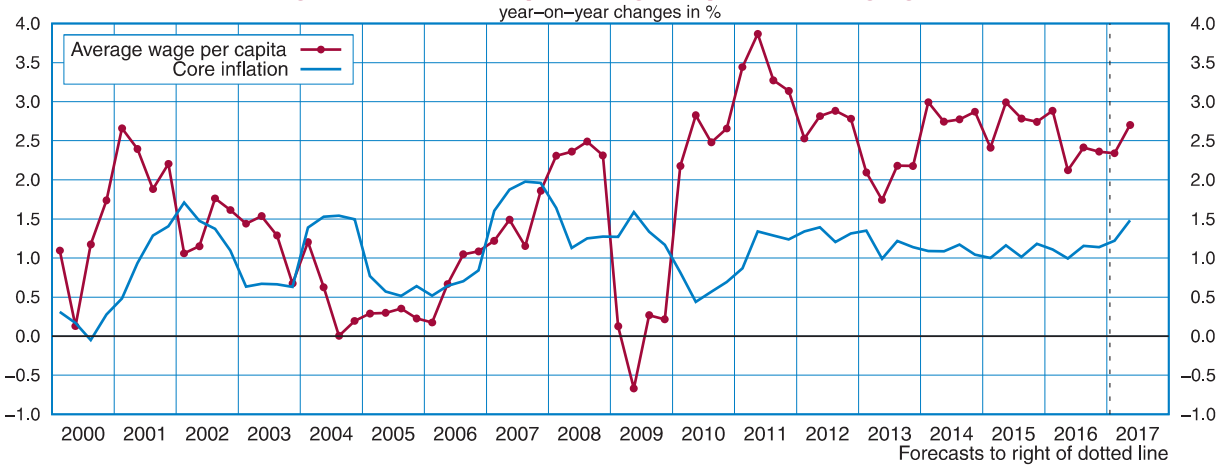
Nevertheless, activity is not expected to accelerate in Q1 2017 (+0.4%), mainly as a result of the cold weather that is likely to hold back construction activity (–1.5% after +1.6%). However, the rise in the number of building permits suggests a rebound in Q2 (+2.2%), contributing strongly to the acceleration in GDP (+0.5%). After another decline at the end of 2016 (–0.1% after –0.5%), corporate equipment investment should bounce back in H1 (+1.0% per quarter), due to the high production capacity utilisation rate.

Foreign trade is expected to hamper growth once again in the spring

Foreign trade hampered growth significantly at the end of 2016 (-0.3 points), because despite the strong rebound in exports (+1.8% after –0.3%), imports rose more sharply (+3.1% after +0.4%). It should have a neutral effect in early 2017 before hampering growth again in the spring (–0.1 point).

All in all, the annual GDP growth overhang is expected to be +1.3% by mid-2017, after a rise of +1.8% over 2016 as a whole. ■

Slight tensions in the price-wage loop are looming again



Sources: Destatis, INSEE forecast

Italy

Modest growth, dynamic investment

In 2016, Italian growth rose slightly as an annual average: +1.0% after +0.7% in 2015. At the end of the year, activity increased by 0.2% – its trend rate for the previous quarters. It is likely to rise slowly in H1 2017. Household consumption is expected to remain moderate, whereas productive investment should remain on a clearly upward trend.

Household consumption should hold firm despite the upturn in inflation

In Q4 2016, household consumption remained moderate (+0.1%, after +0.2%). Through to the spring of 2017, household purchasing power should weaken because nominal wages (annual rate of +1.0%) are not expected to rise as quickly as prices (+1.8% anticipated by mid-2017 against –0.3% one year earlier). However, job creations should be sufficient for unemployment to decline and there should be a slight reduction in precautionary savings. Household confidence remains high, despite dropping slightly, and household consumption is set to rise moderately until mid-2017 (+0.2% in Q1, followed by +0.1% in Q2).

Productive investment should continue to grow strongly

In 2016, the productive investment of enterprises recorded another sharp rise (+7.5% as an annual average after +4.9% in 2015), especially in transport equipment purchases. It was extremely dynamic in H2 2016 (+3.5% in Q3 followed by +2.3% in Q4). Conditions remain favourable at the start of 2017: prospects of rising demand, renewed cash flows, low interest rates and renewal of the additional depreciation incentive scheme until the end of the year. Finally, the share of non-performing loans on bank balance sheets has stopped rising. Equipment investment is expected to stall at the start of the year before picking up again in the spring (+0.8%). Its annual growth overhang should reach +4.4% by mid-2017

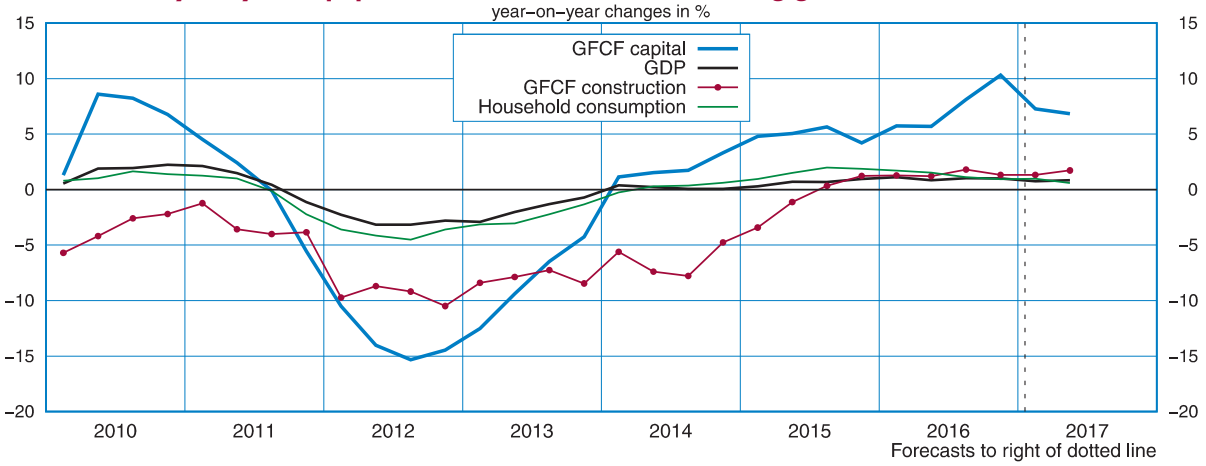
In 2016, investment in construction increased for the first time in ten years (+1.4% as an annual average). It should continue to grow moderately through to mid-2017.

Thanks to rising domestic demand, gross domestic product should continue to grow at its moderate trend rate of the last two years (+0.2% per quarter; *Graph*). Its annual growth overhang should be +0.6% by mid-year.

Foreign trade should no longer hold back growth in early 2017

Exports rose sharply at the end of 2016 (+1.9% after +0.3%). They should continue to increase steadily at the start of 2017 (+0.9% followed by +1.1%), thanks to another depreciation of the Euro. Imports are likely to rise at a similar rate (+1.1% per quarter, after +2.2% in late 2016), with continued impetus from strong corporate demand. Therefore, after slowing significantly on average throughout 2016, foreign trade flows are picking up again. In H1 2017, they should no longer be holding back growth. ■

Very buoyant equipment investment has been driving growth since late 2014



Sources: Istat, INSEE forecast

Spain

Inflation returns and growth falters only very slightly

In early 2017, Spanish growth should remain as robust as it was in H2 2016 (+0.7% per quarter). However, the sharp upturn in inflation is likely to erode purchasing power, and household consumption should weaken slightly despite rising wages with the increase in the minimum wage. Consequently, activity should slow only very slightly, to +0.6% in Q2 2017. In the spring of 2017, Spanish GDP is expected to have finally returned to its level of early 2008.

Consumption should slow down slightly due to a sharp upturn in inflation

Household consumption should slow down slightly in Q1 2017 (+0.6%, after +0.8% at the end of 2016), but should still remain strong thanks to the rise in wages induced by the sharp increase in the minimum wage (+8%). It is expected to slow again slightly in Q2 (+0.5%), due to the anticipated slowdown in household purchasing power. Indeed, inflation has risen sharply in early 2017: +3.0% year-on-year to February, against –1.0% one year earlier. This upswing has been more substantial than in the other Eurozone countries (*Graph*). Driven by the rise in oil prices and high electricity prices, energy prices have bounced back sharply and are expected to remain buoyant through to June. In addition, employment is expected to slow slightly, especially in the tourism sector after a rapid rise in 2016. Against the backdrop of a declining labour force, the unemployment rate remains high but should continue to decline, to 17.7% by mid-2017, compared to 20.1% one year earlier.

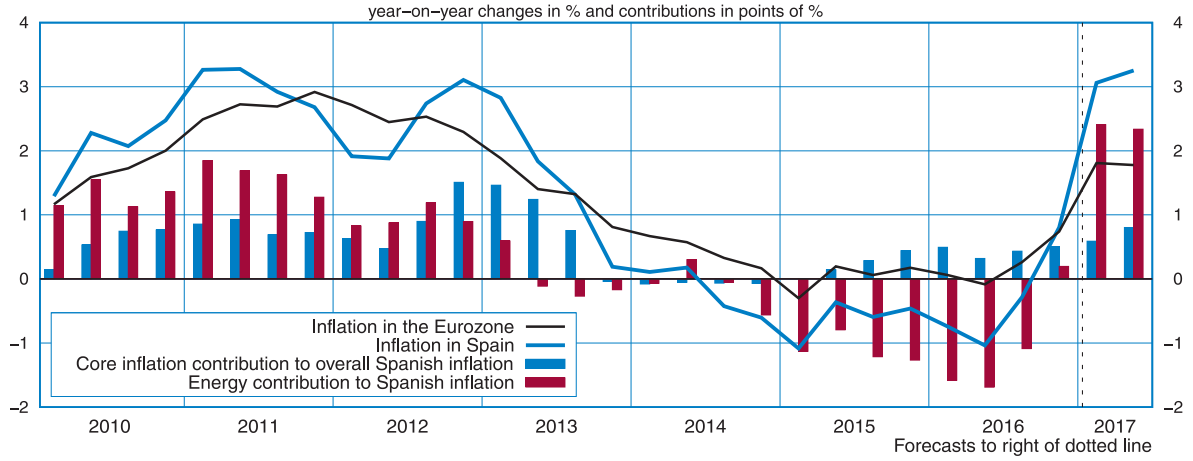
Investment is set to gather pace

Investment in construction is expected to gather pace slightly once again in H1 2017, as suggested by the sharp rise in residential building permits and household intentions to carry out building work. Equipment investment should also regain some buoyancy in early 2017, after a decline in investment in transport equipment in Q4. However, its annual mid-year growth overhang should be lower in 2017 (+3.0%) than one year earlier (+5.0%), as corporate savings are expected to fall back slightly due to wage increases, rising energy prices and tax increases of approximately €4 billion in 2017 to curb the budget deficit.

Foreign trade should continue to foster growth slightly

Despite buoyant domestic demand, foreign trade should still foster growth to a limited extent in H1 2017. In particular, the growth overhang for exports (+3.0% by mid-year) is expected to remain higher than the growth overhang for world demand for Spanish products. All in all, activity in early 2017 should continue to grow at the same rate as in late 2016 (+0.7%) before slowing slightly (+0.6% in Q2), with domestic demand slackening. On average over the year, gross domestic product grew by 3.2% in 2016, as in 2015. In 2017, its annual mid-year growth overhang should stand at +2.2%. In the spring of 2017, it is expected to have returned to its quarterly level of early 2008. ■

The upturn in inflation is sharper in Spain than in the Eurozone as a whole



Sources: INE, Eurostat, INSEE forecast

United Kingdom

A slowdown is looming

In 2016, growth remained buoyant in the United Kingdom (+1.8%, after +2.2% in 2015). In Q4.2016, gross domestic product (GDP) grew by 0.7%, after +0.6% in the two previous quarters, despite the pro-Brexit vote. However, a gradual slowdown in activity is expected in H1.2017 (+0.4% in Q1 followed by +0.3% in Q2), caused by weaker household consumption. The rise in inflation, which began in late 2016, should further weaken the purchasing power of households, which are unlikely to reduce their savings ratio any further. The mid-year GDP growth overhang for 2017 is expected to stand at +1.6%.

After easing up on their saving efforts, households are expected to curb their spending

In Q4 2016, British activity was slightly more vigorous than in the previous two quarters (+0.7% after +0.6%), sustained once again by household consumption (+0.7%). In anticipation of an upturn in inflation linked to the depreciation of the pound and rising energy prices, British households over-consumed and significantly reduced their savings ratio in H2 2016, which would appear to have dropped to 5.2% at the end of 2016 – its lowest level since 2008 (*Graph*). However, inflation is expected to rise sharply again in H1.2017, to +2.5% year-on-year to mid-2017, which could further reduce their purchasing power. As their propensity to reduce their savings ratio now seems to be limited, households could ultimately adjust the pace of their consumption to the significantly slower rate of purchasing power (+0.1% per quarter).

Consequently, GDP is expected to slow down gradually (+0.4% in Q1 followed by +0.3%). Its annual mid-year growth overhang for 2017 should be +1.6% (after +1.8% on average in 2016).

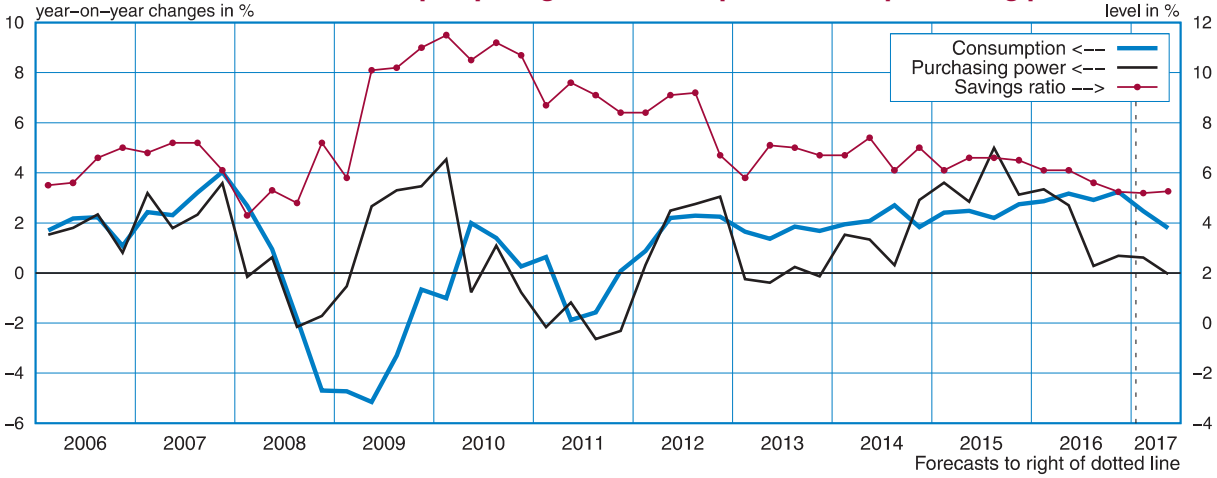
Private investment is likely to be sluggish

Household residential investment bounced back in late 2016 after the dramatic drop in real estate transactions in the spring due to the introduction of a tax on transfers of ownership. The rise in this investment should be weak in H1 2017. On the corporate side, order books are full, but Bank of England surveys show that investment intentions have remained sluggish since the referendum: corporate investment is likely to remain slack through to mid-2017, after weakening significantly in 2016 (–1.5% as an annual average). Only government investment is expected to rise significantly, boosted by the announcement of an infrastructure spending stimulus.

The beneficial effect of the depreciation of the pound on exports should wane

British exports bounced back in late 2016 (+4.1% after –2.6%), benefiting from the prior depreciation of the pound. They are expected to remain buoyant in early 2017 but should gradually slow down (+1.0% and then +0.8%) as the beneficial exchange rate effect fades. Imports dropped at the end of 2016 (–0.4% after +1.3%), and they increased moderately in H1 2017, in the wake of domestic demand. In all, foreign trade should contribute +0.6 points to the annual GDP growth overhang in mid-2017. ■

Households should end up adjusting their consumption to their purchasing power



Sources: NSO, INSEE forecast

United States

A wave of post-electoral optimism

In Q4 2016, activity in the United States slowed down (+0.5% after +0.9%). Exports fell back but domestic demand remained strong. On average in 2016, the economy slowed (+1.6% after +2.6%), handicapped by the decline in corporate expenditure. Since the election of Donald Trump, the household and corporate confidence has significantly improved. In H1 2017, despite the upturn in inflation, consumption should remain robust and corporate investment should gather pace, leading to a steady rise in activity (+0.6% per quarter). However, the changes in economic policy announced after the presidential election may only have a limited direct impact on the economy before mid-2017.

Wave of optimism since the election of D. Trump

As an annual average, activity slowed significantly in 2016 (+1.6% after +2.6%), after being adversely affected by a destocking cycle and the contraction of private investment. During the year, however, growth was high in the summer (+0.9%) thanks to revitalised domestic demand, before weakening at the end of the year (+0.5%), due to a downturn in exports.

Since the election of Donald Trump, production prospects have improved, especially in the manufacturing sector, and at the start of 2017 the business climate in small firms is at its highest level since 2000 (*Graph*).

Growth should therefore increase slightly in H1 2017 (+0.6% per quarter), driven by robust consumption and an acceleration in corporate investment. The annual growth overhang is expected to reach +1.9% by mid-2017.

Inflation rises again but consumption remains resilient

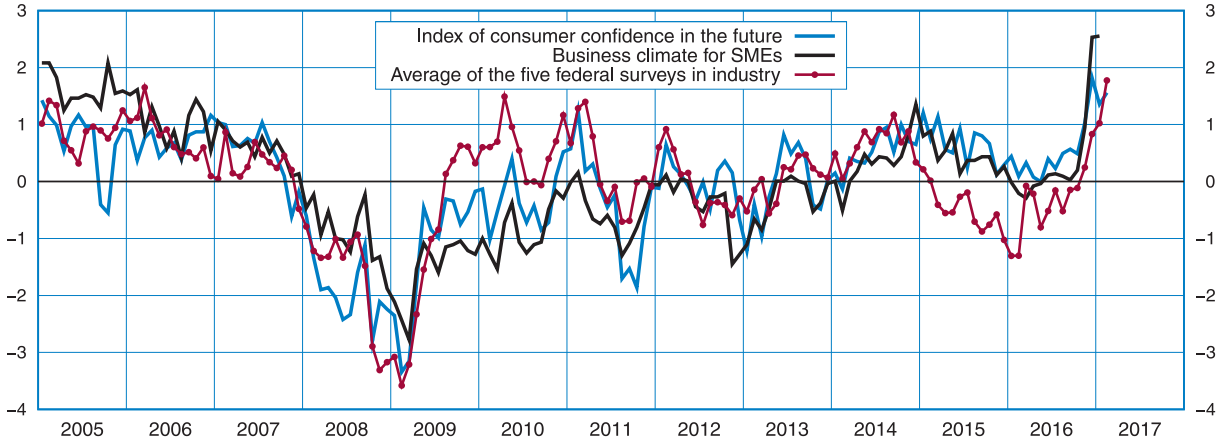
In early 2017, employment should continue to grow strongly (+0.4% per quarter); the labour force participation rate should continue to rise with the "discouraged" jobless returning to the market, and the unemployment rate is expected to remain low (4.8%). As a consequence, wages are set to pick up slightly (+0.7% followed by +0.8%). However, due to energy prices, inflation has picked up again and should continue to rise, up to +2.5% over one year to mid-2017. All in all, the purchasing power of households should scarcely weaken and their consumption is expected to remain resilient (+0.5% followed by +0.6%), their confidence having returned to its 2005 level by the end of 2016.

Foreign trade is expected to hamper growth slightly

Exports fell back in late 2016 (–1.0%), in reaction to the sharp rise over the summer (+2,4%), but they remained steady on average over the year. They are expected to rise again between now and mid-2017 (+0.6% then +0.8%), but not quite as quickly as world demand, driven by the appreciation of the dollar.

On average in 2016, imports slowed down (+1.1% after +4.6%), making the United States a major contributor to the slowdown in world trade. However, they picked up sharply at the end of the year (+2.1% after +0.5%) due to the recovery of corporate demand and should therefore remain buoyant in early 2017 (+0.8% then +1.0%). All in all, foreign trade should hamper growth slightly in H1 2017. ■

Since the election of Donald Trump, household confidence and the business climate have significantly improved



Sources: Conference Board, NFIB, Federal Reserve Banks of New York, Philadephia, Richmond, Dallas and of Kansas

Japan

Growth still moderate and inflation rising

In Q4 2016, Japanese activity recorded another moderate rise (+0.3%, as in Q3), taking the average annual growth rate to +1.0%. Private consumption stagnated and public investment slipped back, whereas corporate investment rebounded and exports gathered pace again.
In H1 2017, gross domestic product should record another moderate rise (+0.2% per quarter). The annual growth overhang should reach +0.9% by mid-year.

Industry is benefiting from the recovery of foreign demand

Industrial output rose sharply again in Q4 2016 (+2.0% after +1.4%) in the wake of exports (+2.6% after +2.1%). It accelerated most of all in the electronics and automobile sectors (*Graph*). Japanese industry is benefiting from the upswing in Chinese imports in particular. At the start of 2017, the business prospects and export orders reflected in PMI surveys are improving further, pointing towards new growth in industrial activity and exports (+0.5% per quarter); the annual growth overhang for exports is expected to be +3.6% by mid-year, after an annual average of +1.2% in 2016. In all, gross domestic product (GDP) grew by 1.0% in 2016, +0.5 points of which were added by foreign trade; for 2017, its mid-year growth overhang should reach +0.9%, 0.3 points of which are expected to be attributable to foreign trade.

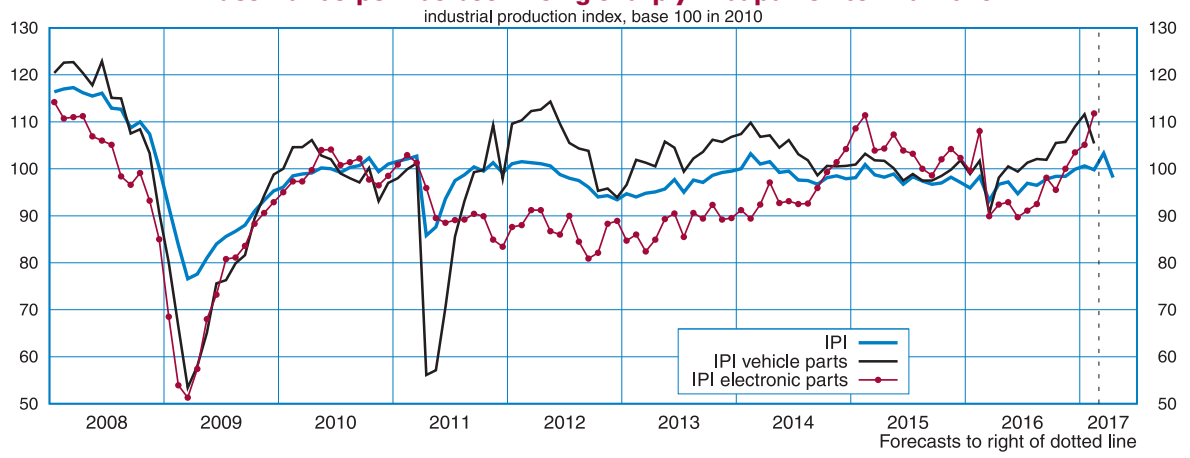
The labour market remains firmly on track but inflation is rising

The Japanese labour market is in a highly favourable position with an unemployment rate hovering around 3.0%. Job creations rose sharply again in December (+1.2% year-on-year) and basic wages increased moderately (+0.6% year-on-year at the end of 2016), as has been the case since 2015. The nominal wage bill should therefore continue to rise at an annual rate of nearly 2%. However, after picking up in late 2016 (+0.3% year-on-year), inflation is expected to rise again in H1, to +1.6% over one year to mid-2017, fuelled by the recent drop in the yen and the rise in oil prices (*Focus*). With this upturn limiting the rise in their purchasing power, households should once again curb their consumption expenditure (+0.2% per quarter).

Government investment is set to pick up

Boosted by the stimulus plan announced in early August 2016, for an amount equivalent to 1.5 GDP points, government orders recorded by enterprises picked up in 2016, particularly in the construction sector. Consequently, government investment should bounce back and start sustaining activity again. However, private investment is likely to slacken: on the corporate side, domestic orders remain sluggish and for households, the very slow rate of housing starts points to residential investment remaining virtually unchanged. ■

Industrial output has been rising sharply in Japan since mid-2016



Source: METI, INSEE forecast

The rise in the Yen and past fall in commodity prices no longer holding back inflation which should rise to +1.5% in mid-2017

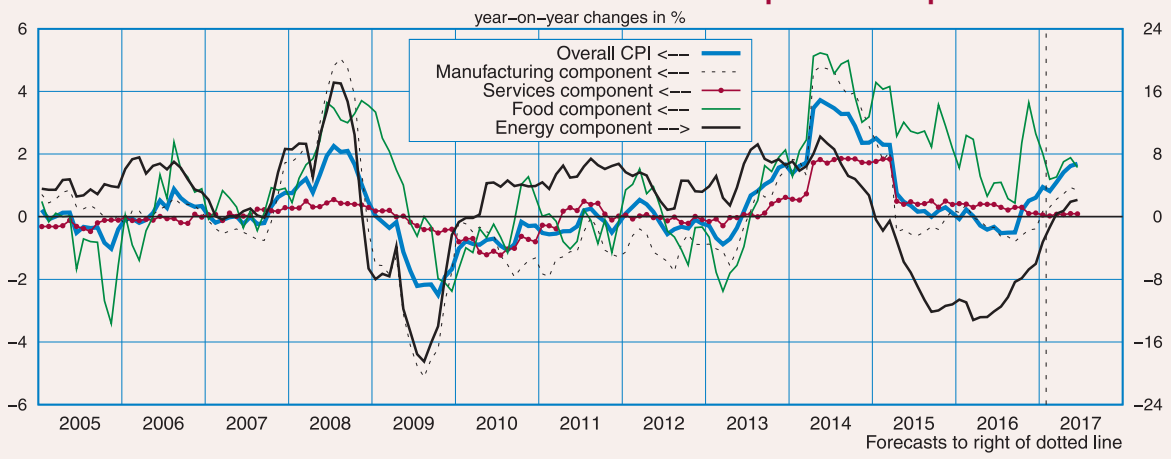
In Japan, after a peak at +3.4% (year on year) in spring 2014 resulting from the 2% VAT hike, consumer prices have been close to stable since mid-2015, with inflation oscillating between -0.5% and +0.7% year on year (*Graph 1*).

Why is Japanese inflation not picking up when the central bank has been implementing an expansionist monetary policy since 2012? Several factors have contributed to this weak inflation since mid-2015. The econometric model used to forecast inflation (*Method*) suggests that it has been held down in particular by commodity prices, mainly oil, which knocked an average of 0.5 points off year-on-year inflation in 2015 and 0.4 points over the first six months of 2016 (*Graph 2*). The rise in the Yen against the Dollar in particular has worked through more slowly than the fall in commodity prices, via the prices of manufactured goods; in H1 2016, it contributed to reducing inflation by about 0.3 points. All in all, from the beginning of 2015 through to mid-2016, the cumulative effects of these factors would seem to have taken as much as 0.8 points off headline inflation year on year. Prices in services, meanwhile, have been increasing by about 0.5% year on year since early 2015, after falling by an average of 0.5% between 2009 and 2013: this turnaround reflects the fact that wages have started rising again.

Since summer 2016, Japanese inflation has been rising again. After weighing down considerably on inflation, the contribution of commodity prices has become neutral once again. In addition to this, the Yen has again slipped against the currencies of Japan's main trading partners, after rising continuously since the beginning of 2015. As a result, the negative contribution of exchange rates faded out in H2 2016. Japanese inflation therefore rose distinctly to almost +1.0% in December, against –0.3% in June: according to the model used here, commodity prices contributed +0.6 points to this acceleration, while exchange rate variations accounted for +0.4 points.

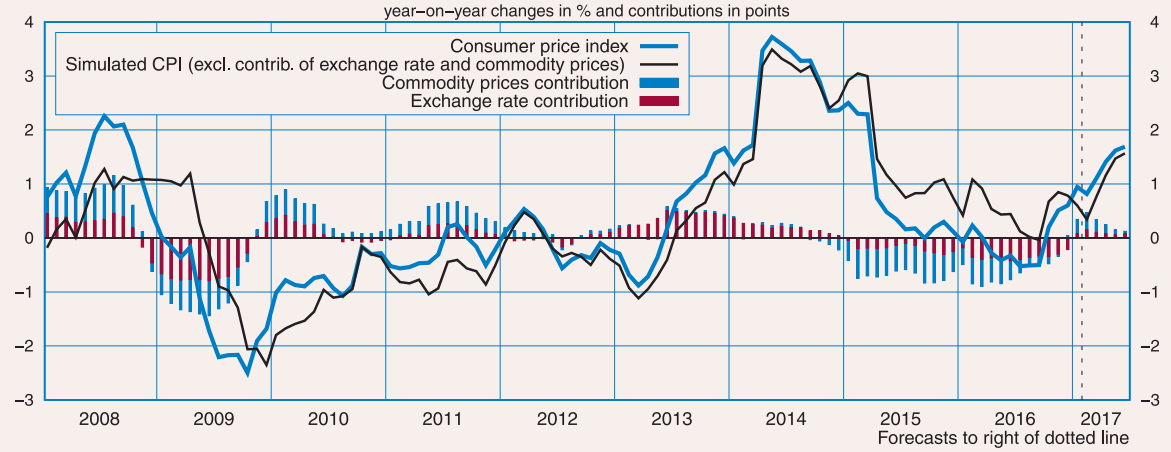
In H1 2017, the recent depreciation of the Yen is likely to continue working through and inflation should reach +1.5% in mid-2017. ■

1 - The Consumer Price Index and its main components in Japan



Source: Japanese Statistical Bureau, INSEE forecast

2 - Econometric contributions of the Yen exchange rate and oil prices to Japanese inflation



Source: Japanese Statistical Bureau, INSEE forecast

The method

To identify the contributions of the oil price and real effective exchange rate of the Yen to inflation in Japan, error-correction models were estimated making a distinction between the manufacturing, energy and food components of the Japanese consumer price index (CPI). The contributions obtained for each component were then multiplied by the weight of that component in the total CPI (about 8% for energy prices, 23% for manufacturing prices and 12% for food prices).

The equations obtained were as follows:

$$\Delta ipc\_énergie_t = \underset{(0,22)}{0,076} - [\underset{(-2,2)}{0,024}\ ipc\_énergie_{t-1} + \underset{(20,2)}{0,002}\ brent_{t-1} + \underset{(6,9)}{0,003}\ yen/dollar_{t-1}]$$

$$+\underset{(5,8)}{0,048}\ \Delta\ brent_{t-11} + \underset{(3,2)}{0,094}\ \Delta\ yen/dollar_{t-1} + \underset{(4,6)}{0,286}\ \Delta\ ipc\_énergie_{t-11}$$

$R^2 = 0,38$; estimation period: February 2000 to January 2017

$$\Delta\ ipc\_manuf_t = \underset{(1,7)}{0,19} - [\underset{(-1,8)}{0,038} \times ipc\_manuf_{t-1} - \underset{(-8,6)}{0,004}\ TCER_{t-1}] + \underset{(2,7)}{0,17}\ \Delta\ ipc\_manuf_{t-1}$$

$$+ \underset{(2,3)}{0,001} TUC_{t-1} - \underset{(-4,8)}{0,05}\ \Delta\ TCER_{t-1}$$

$R^2 = 0,46$; estimation period: January 2005 to January 2017

$$\Delta ipc\_alim_t = \underset{(3,6)}{0,2} - [\underset{(-3,6)}{0,087} \times ipc\_alim_{t-1} - \underset{(-3,7)}{0,005}\ TCER_{t-1} + \underset{(3,2)}{0,02}\ prix\_riz_{t-1}] - \underset{(-5,0)}{0,336}\ \Delta\ ipc\_alim_{t-2}$$

$$- \underset{(-1,9)}{0,17}\ \Delta\ ipc\_alim_{t-3}$$

$R^2 = 0,23$; estimation period: January 2000 to January 2017

where:
- *ipc_énergie*, *ipc_manuf* and *ipc_alim* are the energy, manufacturing and food components of the Japanese CPI;
- *TCER* is the real effective exchange rate of Japan in relation to its main trading partners;
- *brent* is the (Brent) oil price per barrel in Dollars;
- *yen/dollar* is the exchange rate of the Yen against the Dollar (number of Yen per Dollar);
- *TUC* is the production capacity utilisation rate;
- *prix_riz* is the price of rice in Yen.

Except for the capacity utilisation rate, the variables are expressed as logarithms and the coefficients can be interpreted approximately as elasticities. ■

Emerging economies

Significant upswing in Chinese imports

At the start of 2017, the improvement in the short-term outlook was borne out in the emerging economies, especially China, Russia and the oil-producing countries. Their imports have accelerated, especially in Asia, and seem likely to continue to increase strongly.
In China, growth stabilised in Q4 2016 (+1.7%). With domestic demand firming up, imports have taken off once again since spring. In H1 2017, activity is expected to accelerate a little (+1.8% per quarter). As domestic demand has remained buoyant, imports are likely to continue their marked recovery and the growth overhang for 2017 looks set to reach +6.6% mid-year.
In Russia, the business climate is brightening with the rise in commodity prices and the stabilisation of the Ruble: gross domestic product would appear to have returned to growth at the end of 2016 and is set to continue with moderate growth at the beginning of 2017. In the Eastern European countries, activity bounced back at the end of 2016 after some turbulence in the summer and should remain vigorous in H1 2017.
In Brazil, on the other hand, the business climate is still deteriorating at the beginning of 2017: activity is likely to continue to shrink, although a little more moderately. In Turkey, activity is likely to bounce back at the end of 2016 after plummeting in the summer, following the attempted coup. However, political tensions and terror attacks have contributed to a deterioration in the business climate and growth is likely to remain restrained at the start of 2017.

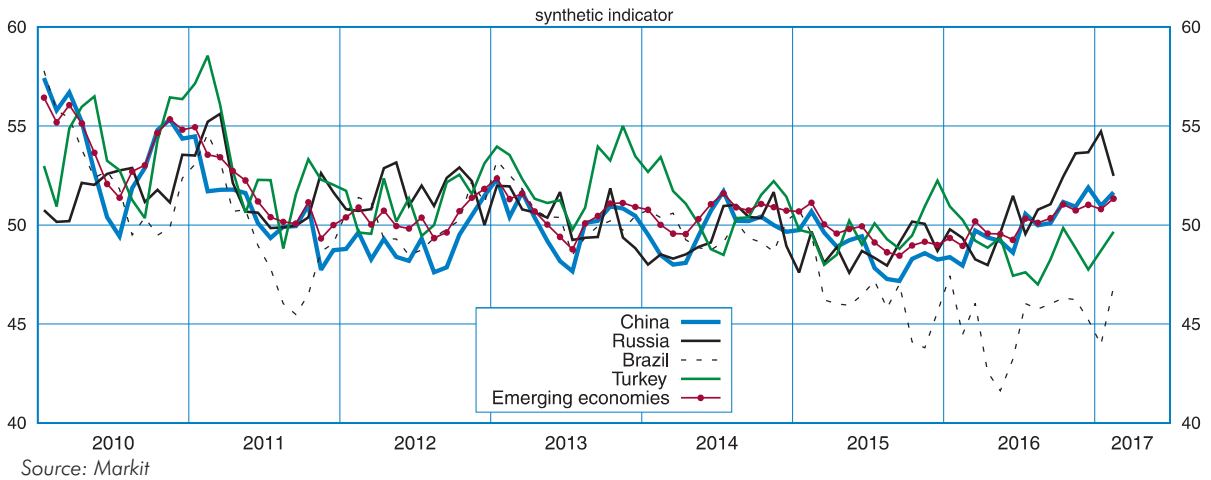
In China, the slowdown in activity has come to an end and imports are reinvigorated

In the Chinese economy, GDP growth stabilised in Q4 2016 (+1.7%), bringing the average increase for the year to +6.8%, the same as in 2015. In H1 2017, it is expected to rise slightly (+1.8% per quarter). The annual growth overhang is set to reach +5.4% by mid-2017.

Industrial activity accelerated, particularly in heavy industry. It is likely to remain buoyant, as suggested by the improved business climate in the manufacturing sector (*Graph 1*) and the recovery of steel and cement production over the last six months. Productive investment is growing at a steady pace, after slowing continuously since 2014. Problems of overproduction seem to have been overcome through the revival of domestic demand and factory closures. Household confidence has picked up and consumption should remain vigorous: car registrations again increased sharply at the end of 2016.

With domestic demand strengthening, imports accelerated substantially, increasing by almost 9% over three quarters, whereas previously they had stagnated overall from the beginning of 2014 to the beginning of 2016. They are expected to continue to rise sharply in H1, driving trade and activity for the whole of Asia. By mid-year, their growth overhang for 2017 should stand at +6.6%, after +1.0% for 2016 as a whole and –0.6% in 2015 (*Graph 2*).

1 - The business climate in the manufacturing sector is improving in the majority of emerging countries



Source: Markit

Russia returns to growth

The economic climate is gradually improving in Russia, thanks to the increase in commodity prices and the recovery of the Ruble. In Q4 2016, activity would appear to have picked up (+0.4%) as a result of the increase in exports, after being virtually stable in the summer (+0.1%). Industrial output has grown substantially, especially in the manufacturing sector. Domestic demand is improving a little, as the purchasing power of wages has been rising since November with the decline in inflation. On average over the year, economic activity was virtually stable in 2016 (–0.2%, after –2.8% in 2015). At the beginning of 2017, GDP is expected to continue to see a moderate increase, driven by industrial activity, and the annual growth overhang is likely to already reach +1.0% by mid-2017, against –0.7% one year earlier.

Sustained growth is expected in the Central and Eastern European countries

After a slowdown in summer 2016, activity in the Central and Eastern European countries accelerated in Q4 (+1.2% after +0.4%), bringing growth to an average of +3.0% for the year, after +3.9% in 2015. With a favourable business climate, GDP should regain its trend momentum in H1 2017, driven by industrial output and demand from the Eurozone, especially Germany.

In Brazil, the recession persists

In Brazil, activity continued to shrink in 2016 (–3.6%), only slightly less severely than in 2015 (–3.8%). Industrial output fell again at year's end, a sign of the persistent difficulties faced by Brazilian exporters. However, consumption is declining more slowly and inflation is falling. In the wake of domestic demand, activity is likely to continue to deteriorate through to mid-2017, but at a slower pace. At the end of H1 2017, the annual growth overhang should be restricted to –1.5%.

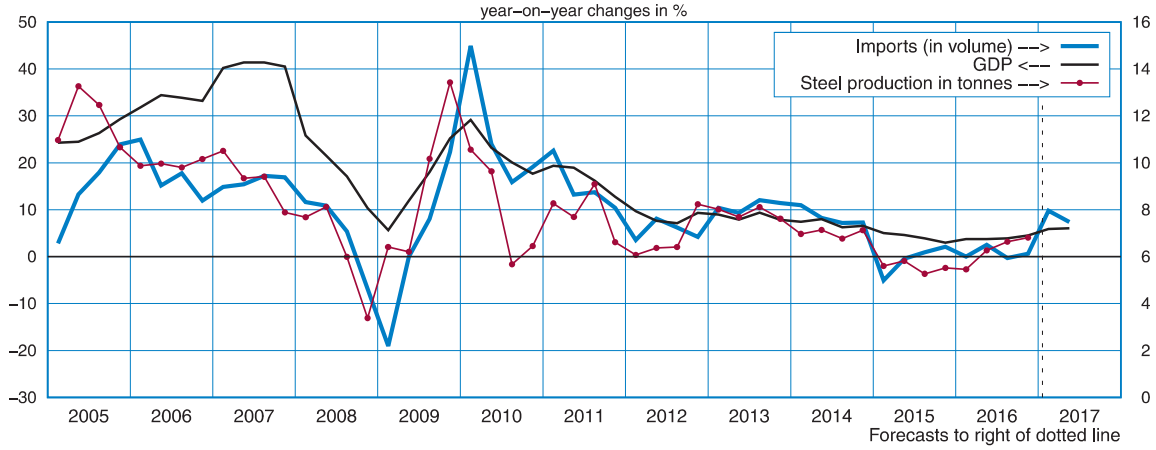
In India, the demonetisation of banknotes is hampering activity

In India, the surprise demonetisation of 500- and 1000-rupee banknotes, decided in November to combat money laundering, has affected an economy in which the majority of transactions are carried out in cash. As a result, the business climate deteriorated substantially at the end of 2016. Assuming that this shortage of notes does not last, activity in India should quickly regain its trend momentum.

Short-lived rebound of a slowing Turkish economy

According to the latest national accounts published by Turkstat, activity slipped back by 2.7% in the summer, with industrial output in particular plummeting in the wake of the coup. In Q4 2016, GDP seems to have rebounded due to a catch-up in industrial production, and the business climate picked up slightly, despite still being affected by the terror attacks and political tensions. The decline in the Turkish Lira has boosted exports but encouraged inflation, to the detriment of purchasing power. In 2016, growth would appear to have reached +2.0%, considerably lower than in 2015 (+5.9%), and at the beginning of 2017 it is expected to register a more moderate rate than previously. ■

2 - In China, growth remains solid and imports are taking off



Sources: NSBC, INSEE forecast

Statistical French Appendix

Goods and services: sources and uses at chain-linked previous year prices

billion euros and percentage changes from previous period and previous year
working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Gross domestic product (GDP)	522.5	522.6	524.4	525.6	529.0	528.3	529.4	531.7	533.3	536.2	2095	2118	
% change	0.6	0.0	0.3	0.2	0.7	–0.1	0.2	0.4	0.3	0.5	1.2	1.1	1.1
Imports	167.5	168.1	170.7	174.7	175.7	173.2	177.9	179.8	182.1	182.5	681.1	706.6	
% change	2.2	0.3	1.6	2.3	0.6	–1.5	2.7	1.0	1.3	0.2	6.4	3.7	3.2
Total resources	1140	1141	1147	1155	1163	1159	1168	1176	1181	1188	4583	4665	
% change	0.9	0.1	0.6	0.7	0.7	–0.4	0.8	0.7	0.4	0.6	2.1	1.8	1.7
Household consumption expenditure	277.4	277.7	279.3	279.0	282.7	282.9	283.1	284.8	285.3	286.4	1113	1133	
% change	0.5	0.1	0.6	–0.1	1.3	0.1	0.1	0.6	0.2	0.4	1.5	1.8	1.0
General government consumption expenditure*	137.1	137.6	138.1	138.6	139.2	139.7	140.2	140.7	141.1	141.6	551.4	559.8	
% change	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	1.5	1.5	1.1
General government individual consumption expenditure	82.9	83.2	83.5	83.8	84.2	84.6	85.0	85.4	85.7	86.0	333.4	339.1	
% change	0.2	0.4	0.3	0.5	0.4	0.4	0.5	0.4	0.4	0.4	1.6	1.7	1.4
Collective consumption expenditure	43.7	43.8	44.0	44.1	44.2	44.4	44.4	44.5	44.6	44.7	175.5	177.5	
% change	0.3	0.2	0.4	0.3	0.3	0.4	0.0	0.2	0.2	0.2	1.0	1.1	0.6
Gross fixed capital formation (GFCF)	111.9	111.7	112.6	114.1	115.5	115.4	115.6	116.1	117.0	117.7	450.3	462.6	
% change	0.5	–0.2	0.8	1.3	1.2	–0.1	0.2	0.4	0.8	0.6	0.9	2.7	1.6
of which: Non-financial enterprises (incl. unincorporated enterprises)	*62.6*	*63.0*	*63.5*	*64.6*	*65.9*	*65.8*	*65.7*	*66.2*	*66.9*	*67.2*	*253.6*	*263.7*	
% change	*1.0*	*0.7*	*0.7*	*1.7*	*2.1*	*–0.1*	*–0.1*	*0.8*	*0.9*	*0.5*	*2.7*	*4.0*	*1.8*
Households	*25.1*	*25.2*	*25.2*	*25.4*	*25.5*	*25.6*	*25.8*	*26.0*	*26.2*	*26.5*	*100.9*	*102.9*	
% change	*–0.1*	*0.0*	*0.2*	*0.6*	*0.6*	*0.5*	*0.7*	*0.7*	*0.9*	*1.0*	*–0.8*	*2.0*	*2.7*
Government	*18.4*	*17.8*	*18.2*	*18.4*	*18.2*	*18.1*	*18.1*	*17.9*	*17.9*	*18.0*	*72.7*	*72.3*	
% change	*–0.6*	*–3.6*	*2.2*	*1.1*	*–0.8*	*–0.6*	*0.1*	*–1.5*	*0.0*	*0.6*	*–3.9*	*–0.6*	*–0.7*
Exports	157.5	160.1	159.6	160.3	160.0	160.1	161.3	163.4	163.7	166.0	637.5	644.8	
% change	1.9	1.7	–0.4	0.5	–0.2	0.0	0.8	1.3	0.2	1.4	6.0	1.1	2.6
Contributions to GDP growth: (in percentage points)													
Domestic demand excluding inventory changes**	0.5	0.1	0.6	0.3	1.1	0.1	0.2	0.5	0.4	0.4	1.4	1.9	1.2
Inventory changes**	0.3	–0.5	0.4	0.5	–0.2	–0.7	0.7	–0.1	0.3	–0.3	0.1	0.0	0.2
Net foreign trade	–0.1	0.4	–0.6	–0.6	–0.2	0.5	–0.6	0.1	–0.4	0.4	–0.3	–0.8	–0.2

Forecast

*Includes consumption expenditures by non-profit institutions serving households (NPISHs)

**Inventory changes include acquisitions net of sales of valuables

Manufactured goods: sources and uses at chain-linked previous year prices

percentage changes from previous period and previous year
working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Output of the branches of activity	1.0	–0.2	0.5	0.4	0.3	–1.0	0.7	0.8	–0.3	1.0	1.5	0.6	1.1
Value added	1.1	0.8	0.6	0.2	0.0	–0.6	0.0	0.2	0.2	0.7	2.4	0.3	0.7
Intermediate consumption	1.0	–0.6	0.4	0.5	0.5	–1.2	0.9	1.0	–0.5	1.2	1.2	0.7	1.3
Imports	2.1	1.2	2.0	2.5	1.2	–1.2	2.2	0.4	1.9	0.3	6.4	4.8	3.3
Taxes on products excluding subsidies	1.2	0.2	1.0	–0.2	1.0	–0.1	–0.1	0.1	0.2	0.4	2.4	1.3	0.5
Trade and transport margins	1.2	0.3	1.0	0.5	1.3	0.0	0.3	0.7	0.2	0.5	3.2	2.5	1.2
Total resources	1.3	0.3	1.0	1.0	0.8	–0.8	1.0	0.6	0.4	0.7	3.2	2.2	1.7
Intermediate uses	0.8	0.0	0.6	0.4	0.8	–0.3	0.3	0.8	0.1	0.8	1.6	1.6	1.4
Household consumption expenditure	0.4	0.6	0.9	–0.4	1.4	0.0	–0.1	0.5	0.2	0.4	2.0	1.8	0.9
General government individual consumption expenditure	0.9	0.6	–0.2	1.4	1.3	1.1	1.5	1.4	1.0	1.0	5.1	4.4	3.8
Gross fixed capital formation (GFCF)	0.7	–2.2	4.1	3.2	2.5	–0.1	–2.4	1.3	1.5	0.0	2.1	5.5	1.3
Non-financial enterprises (incl. unincorporated enterprises)	0.8	0.5	1.8	3.1	3.6	–0.6	–2.9	1.7	1.7	0.0	3.0	5.4	1.3
Other	0.1	–18.6	21.1	4.3	–3.6	2.8	1.3	–0.9	0.2	0.2	–3.3	6.2	1.0
Contribution of inventory changes to manufactured production*	*0.7*	*–0.8*	*1.1*	*1.0*	*0.5*	*–2.1*	*1.1*	*–1.1*	*0.6*	*–0.5*	*0.3*	*0.2*	*–0.5*
Exports	2.1	2.3	–0.5	1.0	–1.0	0.8	1.9	2.0	–0.1	1.6	6.7	2.2	3.8
Domestic demand excluding inventory changes*	0.6	0.1	0.9	0.4	1.2	–0.1	0.0	0.7	0.3	0.6	1.9	2.1	1.3

Forecast

*Changes in inventories include acquisitions net of sales of valuables

Goods and services: sources and uses, chain-linked previous year prices index

percentage changes from previous period and previous year
working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Gross domestic product (GDP)	0.2	0.0	0.3	0.3	0.4	–0.1	0.2	0.2	0.4	0.3	0.6	0.8	0.9
Imports	–1.7	1.2	–1.6	–1.2	–1.9	0.6	0.4	1.2	1.2	0.3	–3.0	–2.3	2.6
Total resources	–0.4	0.5	–0.4	–0.2	–0.6	0.2	0.2	0.5	0.8	0.3	–0.6	–0.5	1.6
Household consumption expenditure	–0.1	0.2	–0.1	0.0	–0.1	0.1	0.1	0.3	0.6	0.2	–0.2	0.0	1.1
General government consumption expenditure	–0.1	0.0	–0.1	0.0	0.0	0.1	0.2	0.1	0.2	0.2	–0.1	0.1	0.5
Gross fixed capital formation (GFCF)	–0.2	0.0	0.0	0.4	0.1	0.2	0.3	0.3	0.4	0.4	–0.3	0.8	1.2
of which: Non-financial enterprises (incl. unincorp. enterprises)	*–0.3*	*0.2*	*0.0*	*0.4*	*0.2*	*0.1*	*0.2*	*0.2*	*0.4*	*0.4*	*–0.2*	*0.8*	*1.0*
Households	*0.2*	*–0.3*	*0.0*	*0.6*	*0.0*	*0.4*	*0.7*	*0.4*	*0.5*	*0.5*	*0.2*	*1.1*	*1.5*
Exports	–0.3	0.8	–0.6	–0.3	–1.0	–0.2	0.2	1.2	0.9	0.3	–0.4	–1.0	2.1
Domestic demand excluding inventory changes*	–0.1	0.1	–0.1	0.1	0.0	0.1	0.2	0.3	0.5	0.3	–0.2	0.2	1.0

Forecast

*Changes in inventories include acquisitions net of sales of valuables

Manufactured goods: sources and uses, chain-linked previous year prices index

percentage changes from previous period and previous year
working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Output of the branches of activity	–1.1	1.0	–1.0	–0.7	–1.2	0.2	0.2	1.1	1.2	0.4	–1.9	–1.5	2.4
Value added	0.0	0.2	–0.3	0.6	0.4	–0.6	–0.2	1.1	0.9	0.2	–0.1	0.5	1.6
Intermediate consumption	–1.5	1.3	–1.3	–1.2	–1.8	0.5	0.3	1.0	1.3	0.5	–2.6	–2.3	2.8
Imports	–0.7	1.0	–1.4	–0.9	–1.6	0.4	0.3	1.2	0.8	0.3	–1.9	–2.0	2.2
Total resources	–0.8	0.8	–1.0	–0.6	–1.0	0.2	0.2	0.9	1.0	0.3	–1.5	–1.3	2.1
Intermediate uses	–1.0	1.0	–1.6	–1.4	–1.9	0.5	0.2	1.1	1.1	0.4	–2.3	–2.7	2.5
Household consumption expenditure	–0.8	0.4	–0.6	–0.1	–0.6	0.2	–0.1	0.4	0.9	0.1	–1.5	–0.7	1.3
General government individual consumption expenditure	–1.3	–1.0	–1.1	–0.8	–0.3	–0.9	–0.8	–0.4	–0.6	–1.2	–3.6	–2.8	–2.4
Gross fixed capital formation (GFCF)	0.4	0.1	–0.1	0.3	–0.1	–0.1	0.2	0.1	0.3	0.3	0.6	0.1	0.6
of which: Non-financial enterprises (incl. unincorp. enterprises)	0.4	0.2	–0.1	0.3	–0.1	–0.1	0.2	0.0	0.3	0.3	0.8	0.1	0.7
General government	0.0	–2.0	1.8	1.2	0.0	–0.2	–0.2	1.0	0.3	0.3	–0.5	1.1	1.1
Exports	–0.6	1.4	–1.1	–0.5	–1.0	–0.1	0.0	1.3	1.0	0.3	–0.7	–1.3	2.2
Domestic demand excluding inventory changes*	–0.8	0.6	–1.1	–0.7	–1.2	0.3	0.1	0.7	0.9	0.2	–1.8	–1.7	1.7

Forecast

*Changes in inventories include acquisitions net of sales of valuables

Output by sector at chain-linked previous year prices

percentage changes from previous period and previous year
working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agriculture	–0.9	–1.2	–1.4	–2.0	–2.5	–1.2	–0.3	1.1	2.6	1.9	–2.2	–5.7	4.5
Manufacturing	1.0	–0.2	0.5	0.4	0.3	–1.0	0.7	0.8	–0.3	1.0	1.5	0.6	1.1
Energy, water and waste	3.8	–1.7	1.3	–0.4	1.2	0.9	–2.3	2.3	–0.1	0.7	1.8	1.2	1.2
Construction	–0.4	–0.2	–0.7	0.5	0.4	–0.3	0.9	0.2	0.4	0.8	–2.2	0.7	1.6
Trade	1.1	0.4	0.8	0.3	1.3	–0.3	0.3	0.5	0.2	0.6	3.0	2.1	1.1
Market services excluding trade	0.6	0.2	0.4	0.6	1.0	0.0	0.7	0.6	0.4	0.6	1.6	2.3	1.7
Non market services	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	1.0	1.3	0.9
Total	**0.7**	**0.0**	**0.4**	**0.4**	**0.7**	**–0.2**	**0.5**	**0.6**	**0.3**	**0.7**	**1.3**	**1.4**	**1.4**

Forecast

Value added by sector at chain-linked previous year prices

percentage changes from previous period and previous year

working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agriculture	–1.7	–2.4	–3.1	–4.2	–4.6	–2.8	–1.1	1.2	4.9	3.5	–4.4	–11.8	7.3
Manufacturing	1.1	0.8	0.6	0.2	0.0	–0.6	0.0	0.2	0.2	0.7	2.4	0.3	0.7
Energy, water and waste	3.5	–2.3	1.3	–0.6	1.6	0.6	–2.7	2.0	–0.1	0.7	1.3	0.8	0.7
Construction	–0.9	–0.6	–0.6	0.3	0.2	–0.1	0.3	0.0	0.3	0.6	–2.9	0.1	0.9
Trade	1.1	0.2	0.7	0.2	1.1	–0.4	0.2	0.3	0.0	0.5	2.6	1.4	0.6
Market services excluding trade	0.6	0.0	0.3	0.5	1.0	–0.1	0.6	0.5	0.4	0.5	1.2	1.9	1.4
Non market services	0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.8	0.9	0.7
Total	**0.5**	**0.0**	**0.3**	**0.3**	**0.6**	**–0.2**	**0.2**	**0.4**	**0.3**	**0.5**	**1.1**	**1.1**	**1.1**

Forecast

Investment (non-financial incorporated and unincorporated enterprises) at chain-linked previous year prices

percentage changes from previous period and previous year

working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Manufactured goods	0.8	0.5	1.8	3.1	3.6	–0.6	–2.9	1.7	1.7	0.0	3.0	5.4	1.3
Construction	–0.1	0.5	–0.1	1.4	1.2	0.4	1.3	0.4	0.0	0.6	–0.3	3.5	1.4
Other	1.8	1.1	0.4	0.7	1.4	–0.1	1.4	0.3	0.9	0.8	4.2	3.1	2.4
Total	**1.0**	**0.7**	**0.7**	**1.7**	**2.1**	**–0.1**	**–0.1**	**0.8**	**0.9**	**0.5**	**2.7**	**4.0**	**1.8**

Forecast

Imports (CIF) at chain-linked previous year prices

percentage changes from previous period and previous year

working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural goods	0.2	1.0	1.2	–1.1	2.8	0.1	3.1	0.0	0.0	0.0	1.3	4.5	1.6
Manufactured goods	2.1	1.2	2.0	2.5	1.2	–1.2	2.2	0.4	1.9	0.3	6.4	4.8	3.3
Energy, water and waste	7.4	–9.2	1.5	8.6	–6.0	–14.1	24.9	9.7	–3.0	–3.0	6.7	0.9	8.6
Total goods	2.5	0.1	1.9	3.0	0.6	–2.0	3.7	1.1	1.5	0.0	6.3	4.5	3.6
Total services	2.3	1.2	1.1	0.1	0.2	0.2	–0.1	1.0	0.9	1.1	9.7	1.5	2.5
Total*	**2.2**	**0.3**	**1.6**	**2.3**	**0.6**	**–1.5**	**2.7**	**1.0**	**1.3**	**0.2**	**6.4**	**3.7**	**3.2**

Forecast

*Including territorial correction

Exports (FOB) at chain-linked previous year prices

percentage changes from previous period and previous year

working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural goods	–1.4	4.4	–0.7	–5.6	5.6	2.2	–16.5	–5.7	0.0	1.0	6.8	–6.4	–11.9
Manufactured goods	2.1	2.3	–0.5	1.0	–1.0	0.8	1.9	2.0	–0.1	1.6	6.7	2.2	3.8
Energy, water and waste	–5.4	0.7	–4.6	–4.2	–2.1	3.2	3.0	–12.4	0.0	5.0	–9.4	–6.7	–4.0
Total goods	1.8	2.3	–0.6	0.7	–0.8	0.9	1.3	1.5	–0.1	1.6	6.3	1.7	3.2
Total services	3.0	0.0	0.3	0.6	2.1	–2.4	–0.4	1.1	1.0	1.0	8.4	0.9	1.7
Total*	**1.9**	**1.7**	**–0.4**	**0.5**	**–0.2**	**0.0**	**0.8**	**1.3**	**0.2**	**1.4**	**6.0**	**1.1**	**2.6**

Forecast

*Including territorial correction

Changes in inventories at chain-linked previous year prices

Contributions (in percentage points)
working-day and seasonally adjusted data

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural goods	0.0	–0.1	0.0	0.0	–0.1	0.0	0.1	0.1	0.1	0.0	0.0	–0.1	0.2
Manufactured goods	0.3	–0.3	0.4	0.3	0.1	–0.7	0.4	–0.4	0.2	–0.2	0.1	0.1	–0.2
Energy, water and waste	0.0	–0.1	0.0	0.2	–0.1	–0.1	0.2	0.2	0.0	–0.1	0.1	0.0	0.1
Other (construction, services)	0.0	0.0	0.0	0.0	–0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**0.3**	**–0.5**	**0.4**	**0.5**	**–0.2**	**–0.7**	**0.7**	**–0.1**	**0.3**	**–0.3**	**0.1**	**0.0**	**0.2**

Forecast

Household consumption expenditure at chain-linked previous year prices

working-day and seasonally adjusted data. percentage changes from previous period and previous year

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural goods	–0.2	1.3	–0.5	–0.8	1.5	–1.6	–1.1	–0.9	–0.4	0.2	–0.3	–1.0	–1.9
Manufactured goods	0.4	0.6	0.9	–0.4	1.4	0.0	–0.1	0.5	0.2	0.4	2.0	1.8	0.9
Energy, water and waste	7.8	–4.9	2.6	–3.6	3.5	3.3	–3.1	5.1	–1.7	1.0	2.1	2.8	2.0
Trade	–0.2	–0.3	–0.1	–0.2	2.3	–0.3	0.6	0.7	0.6	0.2	–0.5	2.3	1.5
Market services excluding trade	0.3	0.2	0.3	0.3	0.9	–0.2	0.5	0.3	0.4	0.3	1.1	1.5	1.0
Non market services	0.0	0.1	0.2	0.4	0.7	0.1	0.5	0.2	0.4	0.4	0.7	1.5	1.2
Territorial correction	14.4	–0.1	9.5	–16.9	–22.6	–20.9	–15.1	–8.5	4.7	9.6	–11.3	–45.9	–10.3
Total consumption expenditure	0.5	0.1	0.6	–0.1	1.3	0.1	0.1	0.6	0.2	0.4	1.5	1.8	1.0
Total consumption	0.5	0.2	0.5	0.0	1.1	0.2	0.2	0.6	0.2	0.4	1.5	1.8	1.1

Forecast

Household income

working-day and seasonally adjusted data. percentage changes from previous period and previous year

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Gross operating surplus	0.7	–0.3	0.2	0.4	0.4	0.2	0.5	0.4	0.7	0.8	1.0	1.2	1.9
Unincorporated enterprises	1.9	–0.6	0.2	–0.2	0.0	–0.7	0.6	0.4	1.3	1.4	2.4	–0.3	2.8
Households excluding unincorporated enterprises	–0.2	0.0	0.3	0.7	0.6	0.7	0.5	0.4	0.4	0.4	0.1	2.2	1.4
Gross wages and salaries	0.6	0.4	0.5	0.6	0.7	0.4	0.6	0.6	0.7	0.6	1.6	2.2	2.0
Net interests and dividends	–0.4	0.0	–0.3	0.1	0.6	0.3	0.4	0.7	–0.2	–0.2	–1.2	1.1	0.4
Social benefits (in cash)	0.3	0.4	0.4	0.7	0.4	0.5	0.6	0.4	0.5	0.5	1.9	1.9	1.5
Total ressources	0.5	0.3	0.4	0.5	0.6	0.4	0.5	0.5	0.6	0.5	1.5	1.9	1.7
Income and wealth taxes	–0.2	0.9	–1.2	0.7	0.9	0.3	–1.1	1.3	0.2	0.6	1.7	1.1	1.1
Households' contributions	0.6	0.5	0.6	0.4	0.7	0.5	0.6	0.7	0.9	0.4	2.0	2.2	2.1
Total charges	0.1	0.8	–0.4	0.6	0.8	0.4	–0.4	1.0	0.5	0.5	1.8	1.6	1.5
Gross disposable income	0.6	0.2	0.6	0.5	0.5	0.3	0.8	0.4	0.6	0.6	1.4	2.0	1.8
Consumption deflator	–0.1	0.2	–0.1	0.0	–0.1	0.1	0.1	0.3	0.6	0.2	–0.2	0.0	1.1
Real gross disposable income	0.7	0.0	0.7	0.5	0.6	0.3	0.7	0.1	0.0	0.4	1.6	1.9	0.7
Social benefits (in kind)	0.2	0.4	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.6	1.6	1.9	1.8
Adjusted gross disposable income	0.5	0.2	0.5	0.5	0.5	0.4	0.7	0.4	0.6	0.6	1.5	2.0	1.8

Forecast

Main ratios (households)

working-day and seasonally adjusted data. in percentage points

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Saving ratio	14.4	14.3	14.4	14.9	14.3	14.5	15.0	14.6	14.4	14.4	14.5	14.6	14.4
Financial saving ratio*	5.4	5.3	5.5	5.9	5.5	5.4	5.9	5.3	5.1	5.0	5.5	5.5	5.0
Weight of taxes and social contributions**	21.4	21.5	21.3	21.3	21.4	21.4	21.2	21.3	21.3	21.3	21.4	21.3	21.3
Gross wages and salaries/gross disposable income	62.2	62.3	62.2	62.3	62.4	62.4	62.3	62.4	62.5	62.5	62.3	62.4	62.5
Social benefits (cash)/gross disposable income	35.3	35.3	35.3	35.3	35.3	35.3	35.2	35.3	35.2	35.2	35.3	35.3	35.2

Forecast

*Savings excluding dwelling/gross disposable income
**Taxes and social contributions/gross disposable income before taxes and social contributions

Operating account of non-financial corporations and unincorporated enterprises

working-day and seasonally adjusted data. percentage changes from previous period and previous year

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Value added	1.1	–0.3	0.8	0.9	1.3	–0.6	0.4	0.8	0.8	1.0	2.1	2.4	2.2
Subsidies	21.2	0.4	0.3	0.1	2.2	2.0	1.7	1.4	1.4	0.7	22.4	5.3	4.3
Total ressources	1.6	–0.2	0.8	0.9	1.4	–0.5	0.5	0.8	0.8	1.0	2.6	2.4	2.3
Compensation of employees	0.3	0.4	0.7	0.6	1.0	0.1	0.6	0.7	0.8	0.6	1.5	2.5	2.2
of which: Gross wages and salaries	*0.7*	*0.4*	*0.6*	*0.7*	*0.9*	*0.3*	*0.6*	*0.7*	*0.8*	*0.7*	*1.7*	*2.5*	*2.2*
Employers' social contributions	*–0.9*	*0.4*	*1.1*	*0.6*	*1.4*	*–0.5*	*0.6*	*0.8*	*1.0*	*0.6*	*0.8*	*2.6*	*2.2*
Taxes on production	–1.4	0.6	0.6	0.0	–0.3	–0.2	0.1	0.2	0.3	0.3	0.0	0.0	0.7
Total charges	0.1	0.4	0.7	0.6	0.9	0.1	0.5	0.7	0.8	0.6	1.4	2.4	2.1
Gross operating surplus	4.1	–1.4	1.0	1.4	2.2	–1.6	0.4	1.0	0.9	1.7	4.9	2.6	2.7
Unincorporated entreprises	1.9	–0.6	0.2	–0.2	0.0	–0.7	0.6	0.4	1.4	1.6	2.4	–0.3	3.0
Non-financial corporations	4.9	–1.7	1.3	1.9	2.8	–1.8	0.3	1.2	0.7	1.7	5.7	3.5	2.6

Forecast

Non-financial corporations' income account

working-day and seasonally adjusted data. percentage changes from previous period and previous year

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Value added	1.1	–0.2	0.9	1.0	1.5	–0.6	0.4	0.8	0.8	1.0	2.3	2.6	2.2
Subsidies	21.8	–0.4	0.0	0.4	3.5	3.0	2.3	1.7	1.7	0.9	20.1	7.9	5.6
Total ressources	1.6	–0.2	0.9	1.0	1.5	–0.5	0.5	0.8	0.8	1.0	2.7	2.8	2.3
Compensation of employees	0.3	0.4	0.7	0.7	1.0	0.1	0.6	0.7	0.9	0.6	1.6	2.6	2.2
Taxes	4.0	–1.0	–0.3	4.2	–7.4	0.5	–1.3	1.4	0.2	0.3	–0.5	–4.8	1.0
of which: Taxes on production	*–1.3*	*0.6*	*0.6*	*0.0*	*–0.3*	*–0.2*	*0.1*	*0.2*	*0.4*	*0.3*	*0.0*	*0.0*	*0.8*
Corporate taxes	*13.3*	*–3.3*	*–1.9*	*11.1*	*–17.6*	*1.8*	*–3.7*	*3.5*	*0.0*	*0.3*	*–1.2*	*–12.2*	*1.4*
Net interests and dividends	–6.3	–5.6	–4.0	–1.4	0.7	0.4	0.1	1.0	2.7	3.3	–14.9	–3.2	6.2
Other net charges	0.7	0.6	0.5	0.4	0.3	0.6	0.8	1.1	1.3	1.3	2.8	2.2	3.7
Total charges	0.2	–0.2	0.3	0.9	0.1	0.2	0.4	0.8	0.9	0.8	0.0	1.4	2.4
Gross disposable income	8.1	–0.4	3.5	1.4	7.5	–3.2	0.8	1.0	0.2	1.5	15.9	8.5	1.7

Forecast

Decomposition of non-financial corporations' profit share

working-day and seasonally adjusted data. percentage changes from previous period and previous year

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Margin rate* (in %)	**31.7**	**31.2**	**31.3**	**31.6**	**32.0**	**31.6**	**31.6**	**31.7**	**31.7**	**31.9**	**31.4**	**31.7**	**31.9**
Margin rate % change	1.1	–0.5	0.1	0.3	0.4	–0.4	0.0	0.1	0.0	0.2	1.0	0.3	0.1
Contributions to margin rate variation													
Productivity (+)	0.5	–0.1	0.1	0.1	0.4	–0.4	–0.1	0.0	–0.1	0.2	0.8	0.2	0.0
Real wages (–)	–0.5	–0.1	–0.3	–0.3	–0.4	0.0	–0.1	0.0	0.1	–0.1	–1.2	–0.9	0.0
Employers' social contributions rate (–)	0.3	0.0	–0.1	0.0	–0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Ratio of value added price and consumption price (+)	0.3	–0.2	0.4	0.4	0.4	–0.2	0.0	0.1	–0.1	0.1	0.8	0.7	0.0
Other	0.6	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.5	0.3	0.2

Forecast

*Gross operating surplus / value added

Main ratios (non-financial corporate sector)

working-day and seasonally adjusted data. in percentage points

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Wage costs / Value added (VA)	65.7	66.1	66.0	65.8	65.5	66.0	66.1	66.0	66.1	65.8	65.9	65.9	65.9
Taxes on production / VA	5.4	5.4	5.4	5.4	5.3	5.3	5.3	5.3	5.2	5.2	5.4	5.3	5.2
Margin rate (GOS* / VA)	31.7	31.2	31.3	31.6	32.0	31.6	31.6	31.7	31.7	31.9	31.4	31.7	31.9
Investment rate (GFCF** / VA)	22.6	22.9	22.8	23.1	23.3	23.4	23.3	23.4	23.5	23.5	22.9	23.4	23.5
Saving ratio (savings / VA)	19.5	19.4	19.9	20.0	21.2	20.7	20.7	20.8	20.7	20.8	19.7	20.8	20.8
Tax pressure (Income taxes / gross disposable income before taxes)	15.4	15.0	14.4	15.5	12.4	12.9	12.4	12.7	12.7	12.5	15.1	12.6	12.6
Self–financing ratio (cash earnings)***	86.2	85.0	87.3	86.7	91.1	88.2	88.9	88.8	87.9	88.4	86.3	89.3	88.3

Forecast

*Gross operating surplus
**Gross fixed capital formation
***Savings / Gross fixed capital formation

Countries Accounts

Eurozone[1]	Quarterly change in %										Annual change in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	**0.4**	**0.4**	**0.3**	**0.4**	**0.6**	**0.3**	**0.3**	**0.4**	**0.4**	**0.5**	**1.5**	**1.6**	**1.3**
Private consumption (56%)	0.5	0.5	0.4	0.4	0.7	0.4	0.3	0.4	0.4	0.4	1.7	1.9	1.2
Investment (20%)	1.5	–0.3	0.6	1.6	0.7	0.4	–0.1	0.6	0.3	1.0	2.4	2.5	1.5
Public consumption (21%)	0.3	0.3	0.5	0.5	0.6	0.3	0.1	0.4	0.4	0.4	1.4	1.8	1.1
Exports (45%)	1.5	1.3	0.0	0.6	0.5	1.4	0.2	1.5	0.7	1.0	4.9	2.8	3.1
Imports (41%)	2.3	0.6	0.9	1.4	0.4	0.9	0.5	2.0	1.0	0.9	5.6	3.6	3.6
Contributions to GDP growth													
Domestic demand excluding inventories	0.6	0.3	0.5	0.6	0.7	0.3	0.2	0.5	0.3	0.5	1.7	1.9	1.2
Changes in inventories	0.1	–0.2	0.2	0.1	–0.1	–0.3	0.2	0.1	0.1	–0.1	–0.1	–0.1	0.2
Foreign trade	–0.3	0.4	–0.4	–0.3	0.1	0.3	–0.1	–0.1	–0.1	0.1	–0.1	–0.2	–0.1

Forecast

Consumer prices in Eurozone

changes in a % and contributions in points

	Q3 2016		Q4 2016		Q1 2017		Q2 2017		Annual averages	
CPI groups (2015 weightings)	yoy	cyoy	yoy	cyoy	yoy	cyoy	yoy	cyoy	2016	2017*
All (100.0%)	**0.3**		**0.7**		**1.8**		**1.8**		**0.2**	**1.5**
Food (including Alc. and Tobacco) (19.6%)	1.1	0.2	0.8	0.2	2.1	0.4	2.0	0.4	0.9	1.8
Energy (10.6%)	–5.1	–0.5	0.2	0.0	8.7	0.8	6.7	0.6	–5.1	6.5
"Core" inflation (69.8%)	0.8	0.6	0.8	0.6	0.8	0.6	1.1	0.8	0.9	1.0

Forecast

* The 2017 figure is the growth overhang at the end of H1

France (21%)[2]	Quarterly change in %										Annual change in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	**0.6**	**0.0**	**0.3**	**0.2**	**0.7**	**–0.1**	**0.2**	**0.4**	**0.3**	**0.5**	**1.2**	**1.1**	**1.1**
Private consumption (55%)	0.5	0.1	0.6	–0.1	1.3	0.1	0.1	0.6	0.2	0.4	1.5	1.8	1.0
Investment (22%)	0.5	–0.2	0.8	1.3	1.2	–0.1	0.2	0.4	0.8	0.6	0.9	2.7	1.6
Public consumption (24%)	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	1.5	1.5	1.1
Exports (29%)	1.9	1.7	–0.4	0.5	–0.2	0.0	0.8	1.3	0.2	1.4	6.0	1.1	2.6
Imports (31%)	2.2	0.3	1.6	2.3	0.6	–1.5	2.7	1.0	1.3	0.2	6.4	3.7	3.2
Contributions to GDP growth													
Domestic demand excluding inventories	0.5	0.1	0.6	0.3	1.1	0.1	0.2	0.5	0.4	0.4	1.4	1.9	1.2
Changes in inventories	0.3	–0.5	0.4	0.5	–0.2	–0.7	0.7	–0.1	0.3	–0.3	0.1	0.0	0.2
Foreign trade	–0.1	0.4	–0.6	–0.6	–0.2	0.5	–0.6	0.1	–0.4	0.4	–0.3	–0.8	–0.2

Forecast

How to read it: % in brackets represent the weight in the nominal GDP in 2014.
yoy: year-on-year
cyoy: contributions year-on-year

1. Eurozone excluding Ireland, as this country's accounts present a break in series in Q1 2015
2. Share in Eurozone GDP in 2014

Sources: Eurostat, INSEE

Germany (29%)[1]	Quarterly change in %										Annual change in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	**0.2**	**0.5**	**0.2**	**0.4**	**0.7**	**0.5**	**0.1**	**0.4**	**0.4**	**0.5**	**1.5**	**1.8**	**1.3**
Private consumption (55%)	0.4	0.4	0.6	0.4	0.7	0.2	0.2	0.3	0.5	0.5	1.9	1.8	1.3
Investment (20%)	0.5	0.1	0.1	1.6	1.8	–1.5	–0.2	0.8	–0.3	1.5	1.1	2.1	1.0
Public consumption (19%)	0.3	0.7	1.1	1.3	1.3	0.9	0.2	0.8	0.6	0.6	2.8	4.0	2.0
Exports (46%)	1.0	1.6	0.0	–0.7	1.4	1.2	–0.3	1.8	0.9	0.9	4.6	2.4	3.1
Imports (39%)	1.4	0.4	1.1	0.6	1.4	0.1	0.4	3.1	1.0	1.2	5.0	3.6	4.6
Contributions to GDP growth													
Domestic demand excluding inventories	0.4	0.4	0.5	0.8	1.0	0.0	0.1	0.5	0.3	0.7	1.8	2.2	1.3
Changes in inventories	–0.1	–0.4	0.2	0.1	–0.4	–0.1	0.3	0.3	0.0	0.0	–0.4	–0.1	0.4
Foreign trade	–0.1	0.6	–0.5	–0.6	0.1	0.5	–0.3	–0.4	0.0	–0.1	0.1	–0.3	–0.3

Forecast

Italy (16%)[1]	Quarterly change in %										Annual change in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	**0.3**	**0.4**	**0.1**	**0.2**	**0.4**	**0.1**	**0.3**	**0.2**	**0.2**	**0.2**	**0.7**	**1.0**	**0.6**
Private consumption (61%)	0.3	0.7	0.6	0.3	0.2	0.5	0.2	0.1	0.2	0.1	1.6	1.3	0.5
Investment (17%)	0.6	0.4	0.4	0.5	1.0	0.4	1.5	1.3	0.1	0.5	1.4	3.1	2.2
Public consumption (19%)	–0.7	–0.2	0.1	–0.1	0.9	–0.3	–0.2	0.6	0.2	0.2	–0.7	0.6	0.6
Exports (30%)	1.4	1.3	–1.2	1.7	–0.7	2.2	0.3	1.9	0.9	1.1	4.1	2.6	3.9
Imports (27%)	4.0	1.3	0.0	1.6	–1.1	2.2	1.0	2.2	1.1	1.1	6.7	3.1	4.6
Contributions to GDP growth													
Domestic demand excluding inventories	0.1	0.4	0.5	0.2	0.4	0.3	0.3	0.4	0.1	0.2	1.0	1.4	0.8
Changes in inventories	0.8	–0.1	0.0	–0.1	–0.1	–0.3	0.1	–0.2	0.1	0.0	0.2	–0.4	–0.1
Foreign trade	–0.6	0.0	–0.4	0.1	0.1	0.1	–0.2	0.0	0.0	0.0	–0.6	–0.1	–0.1

Forecast

Spain (10%)[1]	Quarterly change in %										Annual change in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	**1.0**	**0.8**	**0.9**	**0.8**	**0.8**	**0.8**	**0.7**	**0.7**	**0.7**	**0.6**	**3.2**	**3.2**	**2.2**
Private consumption (58%)	0.5	0.9	1.0	0.7	0.9	0.7	0.6	0.8	0.6	0.5	2.9	3.2	2.1
Investment (20%)	2.4	2.3	0.7	0.9	0.4	1.4	–0.1	0.5	1.1	1.1	6.0	3.1	2.6
Public consumption (19%)	1.2	0.5	0.4	0.6	0.2	–0.6	0.5	–0.2	0.2	0.0	2.0	0.8	0.2
Exports (33%)	1.3	0.9	2.2	0.5	0.2	3.4	–1.2	2.0	0.5	1.0	4.9	4.4	3.0
Imports (30%)	1.3	1.7	2.3	0.6	–0.2	2.6	–2.0	1.8	0.4	0.7	5.6	3.3	2.0
Contributions to GDP growth													
Domestic demand excluding inventories	1.0	1.1	0.8	0.7	0.6	0.6	0.4	0.5	0.6	0.5	3.2	2.6	1.8
Changes in inventories	–0.1	0.0	0.1	0.1	0.0	–0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Foreign trade	0.0	–0.3	0.0	0.0	0.1	0.3	0.2	0.1	0.0	0.1	–0.1	0.5	0.4

Forecast

How to read it: % in brackets represent the weight in the nominal GDP in 2014.
1. Share in Eurozone GDP in 2014

Sources: Eurostat, Destatis, Istat, INE, INSEE forecast

United States of America	Quarterly change in %										Annual change in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	**0.5**	**0.6**	**0.5**	**0.2**	**0.2**	**0.4**	**0.9**	**0.5**	**0.6**	**0.6**	**2.6**	**1.6**	**1.9**
Private consumption (68%)	0.6	0.7	0.7	0.6	0.4	1.1	0.7	0.7	0.5	0.6	3.2	2.7	2.2
Private investment (16%)	0.9	1.1	1.4	0.0	–0.2	–0.3	0.0	0.8	0.8	0.9	4.0	0.7	2.0
Government expenditures and public investment (18%)	0.6	0.8	0.5	0.3	0.4	–0.4	0.2	0.1	0.5	0.5	1.8	0.8	1.0
Exports (13%)	–1.5	0.7	–0.7	–0.7	–0.2	0.4	2.4	–1.0	0.6	0.8	0.1	0.4	1.7
Imports (17%)	1.4	0.7	0.3	0.2	–0.2	0.1	0.5	2.1	0.8	1.0	4.6	1.1	3.4
Contributions to GDP growth													
Domestic demand excluding inventories	0.7	0.8	0.8	0.4	0.3	0.6	0.5	0.7	0.6	0.6	3.1	2.1	2.0
Changes in inventories	0.3	–0.1	–0.1	–0.1	–0.1	–0.3	0.1	0.2	0.0	0.0	0.2	–0.4	0.2
Foreign trade	–0.4	0.0	–0.1	–0.1	0.0	0.0	0.2	–0.4	0.0	–0.1	–0.7	–0.1	–0.3

Forecast

United Kingdom	Quarterly change in %										Annual change in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	**0.3**	**0.5**	**0.3**	**0.7**	**0.2**	**0.6**	**0.6**	**0.7**	**0.4**	**0.3**	**2.2**	**1.8**	**1.6**
Private consumption (62%)	0.7	0.5	1.1	0.4	0.9	0.8	0.9	0.7	0.1	0.1	2.5	3.1	1.3
Investment (17%)	1.5	1.2	0.8	–0.9	0.1	–0.2	0.9	0.0	0.3	0.3	3.4	0.5	0.9
Public consumption (23%)	0.5	0.9	0.2	–0.1	0.5	0.1	–0.1	0.3	0.2	0.2	1.2	0.9	0.5
Exports (28%)	3.2	–0.7	–0.6	5.9	–2.9	1.2	–2.6	4.1	1.0	0.8	6.1	1.4	3.6
Imports (30%)	4.1	–2.3	0.6	2.1	0.3	0.4	1.3	–0.4	0.7	0.4	5.5	2.5	1.5
Contributions to GDP growth													
Domestic demand excluding inventories	0.8	0.7	0.9	0.1	0.7	0.5	0.7	0.5	0.2	0.2	2.4	2.2	1.1
Changes in inventories	–0.2	–0.7	–0.3	–0.4	0.5	–0.1	1.0	–1.0	0.2	0.0	–0.2	0.0	–0.1
Foreign trade	–0.3	0.5	–0.3	1.0	–1.0	0.2	–1.1	1.2	0.1	0.1	0.0	–0.3	0.6

Forecast

Japan	Quarterly change in %										Annual change in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	**1.3**	**0.0**	**0.2**	**–0.2**	**0.5**	**0.5**	**0.3**	**0.3**	**0.2**	**0.2**	**1.2**	**1.0**	**0.9**
Private consumption (60%)	0.4	–0.5	0.5	–0.7	0.4	0.2	0.3	0.0	0.2	0.2	–0.5	0.3	0.6
Investment (21%)	0.6	–0.4	0.4	–0.3	–0.2	1.6	0.1	0.8	0.5	0.3	0.1	1.0	1.8
Public consumption (21%)	0.9	0.1	0.5	0.7	1.3	–1.1	0.2	0.3	0.3	0.3	–0.5	1.5	0.6
Exports (15%)	1.6	–3.6	2.1	–0.8	0.9	–1.2	2.1	2.6	0.5	0.5	3.0	1.2	3.6
Imports (17%)	0.4	–2.6	2.3	–0.8	–1.1	–1.0	–0.3	1.3	1.2	0.4	0.1	–1.7	2.1
Contributions to GDP growth													
Domestic demand excluding inventories	0.6	–0.3	0.4	–0.3	0.4	0.3	0.2	0.3	0.3	0.2	0.1	0.7	0.9
Changes in inventories	0.5	0.4	–0.2	0.0	–0.3	0.3	–0.4	–0.2	0.0	0.0	0.6	0.0	–0.3
Foreign trade	0.2	–0.2	–0.1	0.0	0.3	0.0	0.4	0.2	–0.1	0.0	0.5	0.5	0.3

Forecast

How to read it: % in brackets represent the weight in the nominal GDP in 2014.

Sources: BEA, ONS, Japan Cabinet Office, INSEE forecast