



CONJONCTURE IN FRANCE

March 2018

© Insee 2018

■ Editorial director
Jean-Luc Tavernier

■ Chief editors
Julien Pouget
Frédéric Tallet
Mikael Beatriz
Flore Cornuet

■ Contributors
Sabrina Abdelmalek
Franck Arnaud
Séverine Arnault
Hayet Bendekkiche
Didier Blanchet
Romain Bour
Jocelyn Boussard
Myriam Broin
Véronique Cordey
Élise Dion
Vincent Dortet-Bernadet
Philippe Fontaine
Marianne Fontvieille
Étienne Frel-Cazenave
Jorick Guillaneuf
Xavier Guillet
Sylvain Larrieu
Déborah Massis
Pauline Meizel
Fiona Morice
Thomas Ouin-Lagarde
Camille Parent
Bruno Patier
Benjamin Quévat
Clément Rousset
Suzanne Scott
Olivier Simon
Éléonore Sueur
Louise Viard-Guillot
Benjamin Vignolles
Bastien Virely
Sophie de Waroquier de Puel Parlan
Pierre Wilson

■ Editorial and pagesetting secretariat
Fabrice Hillaireau
Aurore Dubus
Tiffany Gervaise
Myreille Resplandy

■ Secretariat
Nathalie Champion

■ 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.

ISSN 0766-6268
Printed from supplied documents by
JOUVE - PARIS

Completed on 13 March 2018

INVESTMENT IS BUOYANT, CONSUMPTION MORE LACKLUSTRE

GENERAL OUTLOOK	7
------------------------------	---

SPECIAL ANALYSIS

- The relationships between inflation, wages and unemployment have not disappeared
A comparative study of the French and American economies 19

FRENCH DEVELOPMENTS

- Review of the previous forecast 37
- Output 39
- Foreign trade 43
- Employment 46
 - ▶ *Assisted contracts in 2017* 49
- Unemployment 51
- Consumer prices 53
- Wages 56
- Household income 58
 - ▶ *Indirect taxation, tax revenue, purchasing power and well-being: how are they linked?* 61
- Household consumption and investment 64
- Entreprises' earnings 67
- Corporate investment and inventory 69

INTERNATIONAL DEVELOPMENTS

- Oil and raw materials 75
 - ▶ *Macroeconomic publications on short-term trends have little influence on variations in oil prices* 78
- Financial markets 82
- Eurozone 86
- Germany 89
- Italy 90
 - ▶ *Pension reform has boosted the labour force participation rate in Italy* 91
- Spain 95
- United Kingdom 96
- United States 97
 - ▶ *US tax reform: a short-term demand shock, with more uncertain effects in the long term* .. 98
- Japan 100
- Emerging economies 101

STATISTICAL FRENCH APPENDIX	103
--	-----

COUNTRIES ACCOUNTS	109
---------------------------------	-----

Investment is buoyant, consumption more lacklustre

2017 marked the return of steady, regular growth to France (+2.0% on an annual average basis), its highest since 2011. This progression went hand-in-hand with 270,000 net job creations, bringing the unemployment rate down by more than one percentage point. These results were driven in particular by a return to more dynamic investment, while household consumption proved to be less dynamic than in 2016. The end of the year was also marked by the expected rebound in aeronautics exports.

This recovery of the French economy comes in an international environment that remains strong in early 2018. With the implementation of tax reform, among other factors, the US economy is likely to continue its expansion, with its imports giving impetus to world trade. The scheduled tightening of the Fed's monetary policy does not seem to be affecting this dynamism. The risk of overheating cannot be ruled out, however, and stock market volatility is on an upward trend. The economic outlook should also remain positive in the emerging countries, despite a slight slowdown in Chinese activity.

With growth of 2.5% in 2017, the outlook in the Eurozone seems to have caught up with the United States. The business climate remains very positive there, although it has slipped back slightly in early 2018 and political uncertainties remain in Spain and Italy. Eurozone economic activity should therefore progress at a pace of 0.5% per quarter through to mid-2018, driven notably by domestic demand: dynamic earned income combined with contained inflation should drive household purchasing power and therefore consumption, while corporate investment is unlikely to weaken in a context of growing tensions in production capacity. Exports, however, are likely to be hit slightly by the recent rise in the euro.

In France, the business climate reached a ten-year high in December 2017. The slight decline observed at the start of 2018 (while remaining at a high level) suggests that over the forecasting period, activity is likely to progress at a less sustained pace (+0.4% in Q1 and Q2; annual growth overhang of +1.6% by mid-2018). The progression in GDP should be driven in particular by corporate investment, as businesses seek to boost their production capacities. Household consumption is likely to remain at a moderate pace: earned income should accelerate but purchasing power is likely to be at a temporary standstill in Q1, mainly due to the upturn in inflation linked to the rise in indirect taxation. Households are likely to cut back their savings ratio, however, pending a rebound in their purchasing power in the following quarters. Their investment expenditure, meanwhile, should slow down in H1, as suggested by the stabilisation in sales of new houses observed in the last few months. Finally, foreign trade should no longer weigh down on growth through to mid-2018.

Market-sector job creations are likely to accelerate a little over H1 2018 (+129,000), essentially in the service sector, while non-market employment is expected to fall back with the decrease in the number of subsidised jobs. Total employment should therefore progress by 113,000 over the first half of the year. After decreasing sharply in Q4 2017, the unemployment rate should remain unchanged through to mid-2018 at 8.9%, down 0.5 points year on year.

In the short term, this scenario is likely to be affected by the political uncertainties that remain on both sides of the Atlantic. The possible return of inflationary tensions could thus lead to greater uncertainties surrounding developments in US monetary policy and the way in which it is received by the markets. In France, the consumption behaviour of households also remains dependent on their view of the likely trends in their purchasing power. ■

World activity remained dynamic, with the emerging economies and Eurozone leading the way

2017 saw the strongest growth in world trade since 2011

After 2.0% growth in 2016, world trade progressed by 5.2% in 2017, a pace not seen since 2011. This dynamic international trade reflects strong growth in both emerging and advanced economies. While the imports of the emerging economies were moderate in Q4 2017 (+0.8%), those of the advanced economies accelerated (+1.9%). Over 2017 as a whole, growth in the imports of the emerging economies was strong (+5.4%), as it was in the advanced economies (+4.9%).

In 2017, the main emerging countries saw an acceleration in their economic activity (India, Turkey, the countries of Central and Eastern Europe) or emerged from recession (Russia, Brazil). Chinese growth stood at +6.9% for 2017 and remained sustained, despite a very progressive slowdown (+1.6% in Q4 after +1.7% in Q3).

In the Eurozone as in the United States, activity is still ticking over at a fast pace, but slowed down slightly at the end of the year

In the United States, activity accelerated over 2017 as a whole in relation to 2016 (+2.3% after +1.5%), despite slowing down slightly at the end of the year (+0.6% after +0.8% in Q3). In the Eurozone, the annual acceleration in GDP (+2.5% after +1.8% in 2016) was achieved despite a slight deceleration in Q4 (+0.6% after +0.7%). Growth in the main Eurozone countries, however, remained sustained at the end of the year (+0.6% in Germany, +0.7% in Spain and +0.3% in Italy). In December, the business climate indicators reached peaks comparable to those just before the European sovereign debt crisis. Morale among business leaders stopped progressing at the beginning of 2018, however, while remaining at a high level.

Japan also had a relatively good 2017, with growth climbing to +1.7%, after +0.9% in 2016, benefiting from world trade and the rebound in domestic demand. Among the major advanced economies, only the UK did not see an acceleration in activity, hit by uncertainties surrounding the Brexit arrangements and by the effects of the past depreciation of Sterling on purchasing power.

French activity benefits from the recovery in investment

French economic activity followed this positive worldwide economic trend: it grew by 2.0% in 2017, after +1.1% in 2016, returning to a pace close to those observed in 2010 and 2011. In Q4 2017, it progressed by 0.6% (after +0.5% in Q3) as forecast in *Conjoncture in France* in December, driven notably by strong corporate investment (+1.6% after +1.1%) and investment by households (+0.6% after +0.9%). This dynamism was only partly attenuated by the slowdown in consumption by households (+0.2% after +0.6%) and by general government (+0.3% after +0.5%). Driven by large aircraft deliveries, the contribution of foreign trade to growth was clearly positive (+0.6 points). Buoyant exports (+2.4% after +1.0%) went hand in hand with significant destocking of manufactured goods.

On the supply side, the manufacturing sector stood out by a marked acceleration in its production (+1.5% in Q4 2017 after +0.8%), with production in market services excluding trade accelerating more moderately (+1.0% after +0.7%).

Monetary policies are being normalised at different paces

Monetary normalisation more advanced across the Atlantic

US inflation has picked up (+2.1% year on year at the end of 2017) and the labour market in the States is looking good with an unemployment rate at 4.1%. Against this backdrop, the Federal Reserve (Fed) has announced that it will be continuing its successive base rate hikes. Three to four quarter-point hikes are therefore expected in 2018, starting from a base rate of 1.5% at the start of the year. Normalisation of US monetary policy also implies reducing the Fed's balance sheet, at a rate of \$20 billion a month at the start of the year and by as much as \$50 billion a month at the end of 2018.

If inflation should prove to be stronger than expected among operators and go well above the annual 2% target, financial markets could react negatively via increasing volatility in asset prices, as shown by the stock market correction at the beginning of February.

The ECB, meanwhile, is keeping its base rates at rock bottom levels (refinancing rate of 0.0% since March 2016) and continuing its asset purchases at least until September 2018, although at a rate reduced by half in 2018 (€30 billion a month) as against 2017.

The euro up and long-term rates rising

After a break in Q3 2017, the euro continued its rise against the dollar, to \$1.25 in January, before falling back slightly in February. Consequently, the real effective exchange rate for France should rise in Q1 2018. The recent announcements of public investments in the US, the stock market correction at the beginning of February and expected rises in US base rates have driven a rise in long-term rates. Following these world factors, the French 10-year sovereign rate has risen to around 1.0%, against a low of 0.5% in December 2017, compared to a rate close to 3.0% for the United States. The gap with Germany has continued narrowing, however, to just 0.2 points in February.

US production should absorb increased worldwide demand for oil

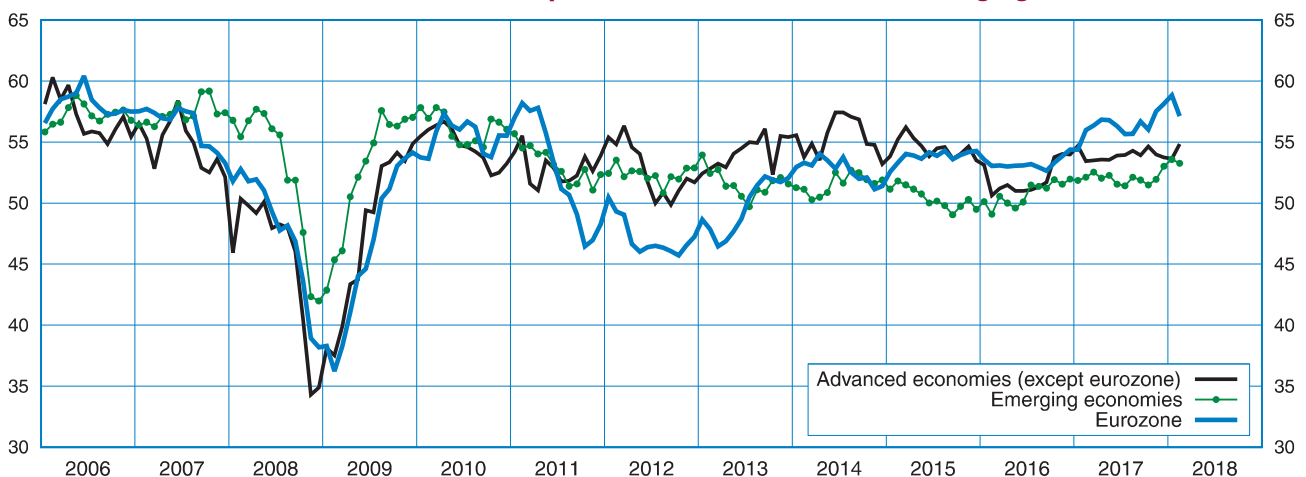
Over 2017 as a whole, demand for oil slightly exceeded supply. The latter remained contained thanks notably to the output limitations in the countries that signed the OPEC agreement drawn up at the end of 2016. This agreement has contributed to a rise in Brent prices to \$70 at the end of January 2018 (against about \$50 at the end of 2016). However, plentiful US production, the shale component of which is accelerating sharply, has weighed down on Brent prices, bringing them down to around \$65 in February 2018. It also led to a return to equilibrium on the world oil market at the end of 2017 and should be able to meet the demand which is likely to continue growing at a sustained rate in H1 2018.

A positive outlook for the emerging economies and the US fiscal stimulus

The emerging countries are benefiting from a brighter worldwide outlook

The emerging economies are currently benefiting from a number of positive factors (*Graph 1*): good industrial prospects (in Brazil, India and Turkey), rising household purchasing power and oil prices (for Russia in particular) and the dynamic imports of their trading partners (the Eurozone for the countries of Central and Eastern Europe, for example). These drivers should enable them to maintain high growth rates or even allow an acceleration in activity in most of these countries.

1 - Business climate has reached peaks in Eurozone and in the emerging economies



Source: PMI Markit

General outlook

In China, imports to pick up despite the slight slowdown in domestic demand

After stalling in Q4 2017, Chinese imports should pick up in H1 2018 (+2.0% per quarter), benefiting from the past depreciation in the Yuan. Exports are unlikely to suffer, however (about +1.5% per quarter, after +3.6% in 2017). Finally, in line with the trend in domestic demand, Chinese activity should only barely slow down (+1.5% per quarter).

Investment to accelerate in the United States

The tax reform passed at the end of 2017 by the US Congress should begin to have its effects on household income and corporate profits from H1 2018. Household consumption is therefore likely to remain brisk (+0.6% in Q1 then +0.7% in, Q2), driven by their purchasing power (+0.9% per quarter) which is benefiting from dynamic employment. Corporate investment is set to accelerate significantly (+1.0% then +2.0%) with the prospect of the introduction of the additional depreciation system in Q2 2018. US economic activity should therefore accelerate slightly (+0.6% then +0.8%).

World trade set to remain dynamic

In Q4 2017, world trade progressed by 1.4%, with a particular acceleration in US imports. In H1 2018, growth in world trade is likely to ease a little (+1.3% then +1.2% in Q2) while remaining dynamic.

Eurozone: a slight slowdown in a fast pace

European households to benefit from dynamic earned income

The brighter economic situation in the Eurozone should allow a continuing rise in employment in 2018 (+0.4% per quarter) and a fall in the unemployment rate to 8.5% in the summer (-0.1 then -0.2 points, *Graph 2*). In a context of continuing recruitment difficulties, especially in Germany, wages should also be dynamic at the start of the year, growing by 0.7% per quarter, so a little ahead of inflation. The year-on-year increase in prices continues to be contained (+1.5% in mid-2018 and +0.9% for core inflation) and purchasing power gains should continue to be robust in the Eurozone.

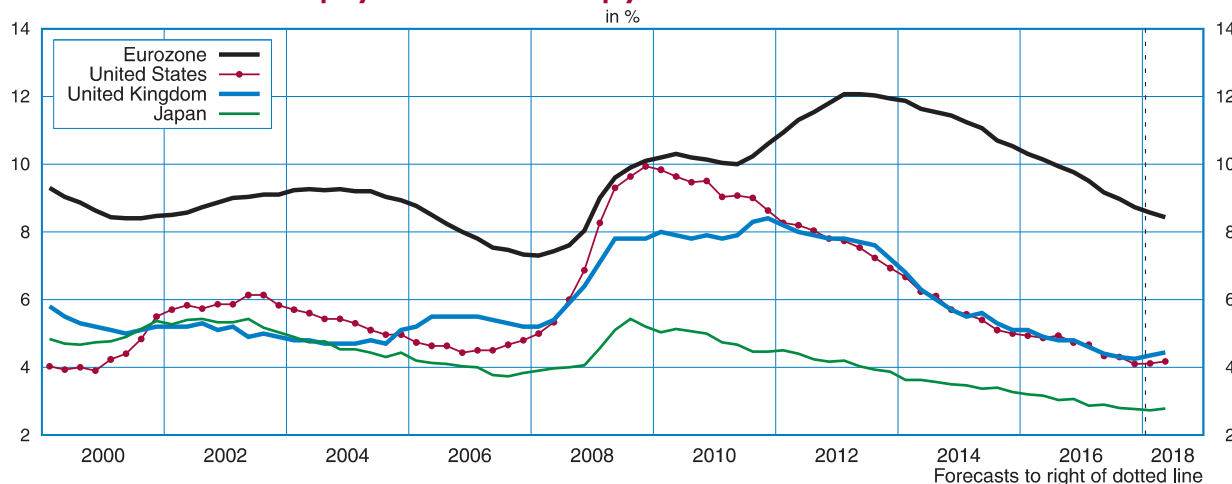
Domestic demand to remain solid

In H1 2018, household consumption should therefore follow the same trend as at the end of 2017 (+0.5% per quarter) and it is likely to be the same for general government consumption (+0.3% then +0.2% per quarter). With the latest figures on building permits showing a fall from their recent high levels, investment in construction is likely to slow down slightly. Equipment investment is likely to remain buoyant in Q1 2018 and then slip back in Q2.

Activity to remain sustained, although decelerating in relation to 2017

All in all, economic activity should maintain a brisk pace (+0.5% per quarter), with Germany and Spain once again progressing a little more quickly than France and Italy. This rate is slightly below that observed in 2017 (+0.6% to +0.7% per quarter), but higher than those in previous years.

2 - Unemployment rate has sharply fallen in all advanced economies



Sources: Eurostat, BLS, ONS, Japan Ministry for Internal Affairs and Communication

Short-term fluctuations aside, foreign trade should no longer weigh down on French growth

Aeronautics and shipbuilding deliveries drive French exports

In Q4 2017, French exports accelerated significantly (+2.4% after +1.0% in Q3) due to strong world demand for French products, and in particular exceptionally high aeronautics deliveries, making up for previous quarters. In addition to strong growth in sales of manufactured goods, expenditure by foreign tourists in France, which contributes to exports of services, remained solid at the end of the year. In H1, the figures for exports (+1.0% in Q1 then +0.5% in Q2) should once again be driven by the aeronautics and shipbuilding sector, with the delivery of a cruise ship in Q1 in particular.

Foreign trade should no longer weigh down on growth through to mid-2018

Unlike exports, imports slowed down at the end of 2017 (+0.3% after +2.2%), mainly in reaction to the exceptional purchases over the summer, notably in chemicals and aeronautics. Against a backdrop of a slight slowdown in domestic demand and its import content, in H1 the latter should return to a rate that is closer to that observed in recent years (+1.1% then +1.2% per quarter). All in all, foreign trade should make a positive contribution of +0.2 points to the growth overhang in mid-2018, after weighing down on growth for several years (by -0.3 points in 2017).

French activity should slow slightly while remaining a sustained pace

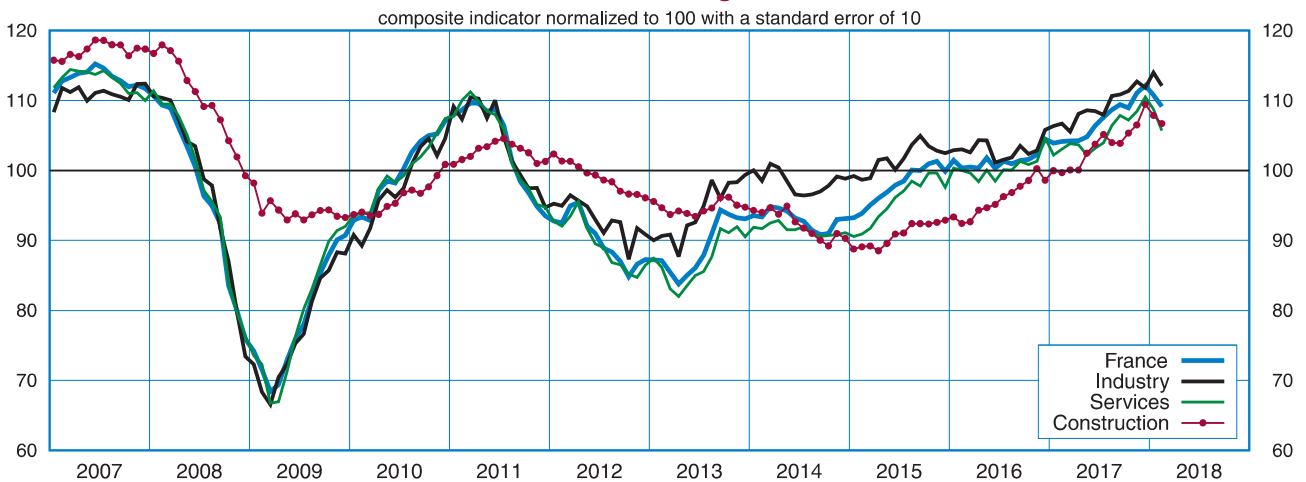
The business climate declined slightly at the beginning of 2018 after reaching a 10-year high at the end of 2017

In all sectors, the business tendency surveys report that a high level of optimism was reached at the end of 2017. At the beginning of 2018, certain business climate indicators stopped progressing, notably in industry and the retail trade, while others fell back, such as in services, building and the wholesale trade, although remaining in all cases at much higher levels than their long-term averages (Graph 3). The business climate in France thus stood at 109 in February 2018, down 3 points on last December.

Production growth rates to ease slightly from their 2017 levels

Manufacturing output is likely to slow in early 2018 (0.2% in Q1 then 0.6%) after a particularly strong end to 2017 (+1.5% in Q4). Production in market services excluding trade (+0.5% per quarter) and in trade (+0.3% in Q1 then +0.6% in Q2) should also be a little less dynamic over the first half of the year. Construction remained buoyant in Q1 (+0.8%) but should slow in Q2 (+0.6%) due to the fall in investment in building, while investment in civil engineering should recover after falling for two quarters. After a rebound in 2017 back to a production level in line with the long-term trend, agricultural output should be stable in early 2018.

3 - The business climate declines slightly in France at the beginning of 2018 but remains at a high level



Source: INSEE

General outlook

All in all, GDP is set to progress over H1 2018 at a slightly less rapid pace than in 2017 (+0.4% per quarter, *Graph 4*). At the end of June, the growth overhang for 2018 should be +1.6%.

Market employment is set to progress again solidly

The positive outlook is driving market employment and notably temporary employment

In 2017, dynamic activity boosted market payroll employment by 133,000 jobs in H1, then by 124,000 in H2. At the beginning of 2018, workforce prospects remain very positive in the business tendency surveys and the employment climate has been stable at 109 since December. Market payroll employment is therefore expected to accelerate a little in H1 (+129,000). Job creations in market services should remain robust (+113,000), making up the major part of the rise. Of these jobs, temporary employment should progress again in H1 (+20,000). Industry should create jobs again (net creations of +6,000, as in H2 2017). Buoyant economic activity aside, the measures to reduce labour costs are unlikely to continue increasing the employment intensity of growth, as the positive effects of the Tax Credit for Encouraging Competitiveness and Jobs (CICE) and the Responsibility and Solidarity Pact (PRS) are offset by the negative effects of the termination of the hiring premium for SMEs.

Total employment to progress less quickly than market employment due to the fall in subsidised employment

Non-market payroll employment fell in H2 2017 (-13,000) with the reduction in the number of beneficiaries of subsidised jobs. This trend should continue through H1 2018 (-21,000). Total employment should therefore progress by 113,000 jobs in H1, after +114,000 in H2 2017.

The unemployment rate to fall by 0.5 points year on year

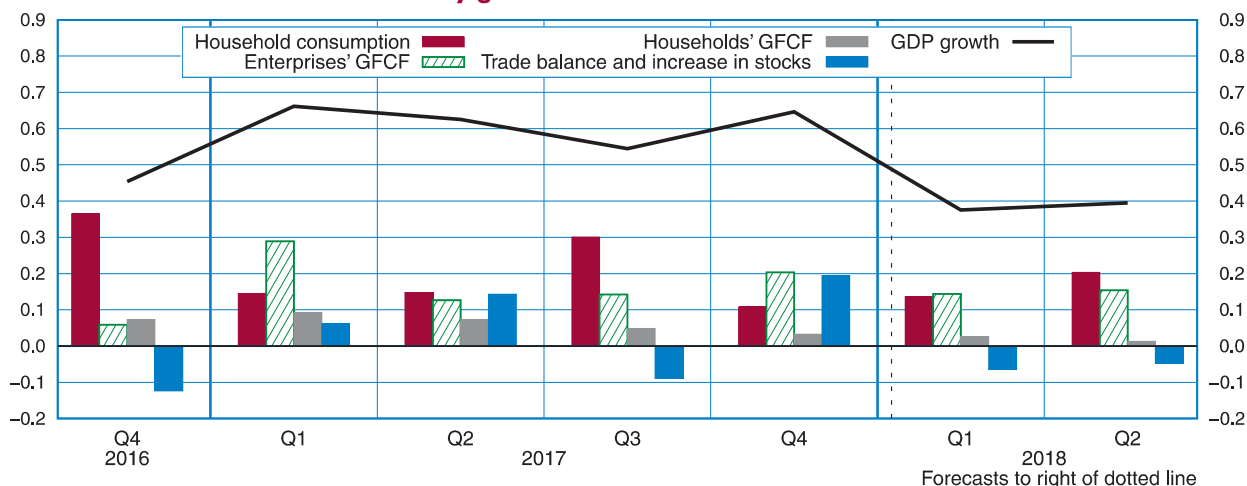
The unemployment rate fell sharply in 2017 to 8.9% at the end of the year, against 10.0% one year earlier. Further to its sharp fall in Q4 2017, the extent of which greatly exceeded expectations based on trends in employment and the active population, the unemployment rate is likely to remain unchanged in H1 2018 at 8.9% of the active population, down 0.5 points year on year.

Purchasing power is expected to stall temporarily at the start of the year, notably due to the upturn in inflation, before rebounding in the spring

Core inflation to remain moderate but headline inflation to rise

After reaching +1.2% at the end of 2017, inflation should continue to rise to +1.6% in June 2018, driven by the acceleration in the prices of energy products and tobacco. These factors are not taken into account in the calculation of core inflation, however, which should rise only moderately from +0.6% at the end of 2017 to +0.8% in June 2018. Dynamic wages are likely to push prices upwards, although this effect should be attenuated by the drop in social housing rents.

4 - Quarterly growth of GDP and main contributions



Source: INSEE

Nominal wages to remain dynamic

Nominal wages accelerated significantly in 2017 in the market sector (+2.0% after +1.2% in 2016). In 2018, as recruitment difficulties continue, they are likely to remain dynamic (+1.2% in H1), sustained also by a larger increase in the minimum wage on 1st January than in the last two years. The expected upswing in inflation should slow down real wages slightly, however.

Earned income to boost purchasing power

The acceleration in the earned income of households, driven by positive trends in employment and wages, was comparable in 2017 to that in consumer prices: household purchasing power would therefore appear to have progressed strongly in 2017 (+1.7%), at a similar rate to that in 2016 (+1.8%). It is likely to slip back in Q1, notably due to indirect taxation, before rebounding in the spring. The growth carry-over of purchasing power should reach +0.8% in mid-2018. Taking account of the calendar for implementation of tax and social contribution measures (direct and indirect taxation), their impact on purchasing power should be more positive on a year-on-year basis at the end of the year than on an annual average basis.

Household consumption is likely to progress at a moderate rate

Despite sustained gains in purchasing power in 2017, household consumption progressed only moderately (+1.3% after +2.1% in 2016). While low energy consumption weighed down on the overall figure, purchases of other goods and services were barely more dynamic than in 2016. In February, household confidence deteriorated, returning to its long-term average, but the balance on readiness to make large purchases remained almost stable at a high level. In H1 2018, household consumption should therefore remain lacklustre (+0.3% in Q1 then +0.4% in Q2). Households are likely to cut their savings ratio temporarily in the face of the passing slowdown in their purchasing power, in anticipation of the improvement expected at the end of the year due to the taxation calendar. This smoothing effect should cause their savings ratio to slip, from 14.3% at the end of 2017 to 13.7% in Q1 2018, before returning to 14.1% in Q2.

Corporate investment is set to progress again strongly, while household investment slows significantly

The corporate investment ratio reaches a peak

Investment by non-financial enterprises accelerated in 2017 (+4.4% after +3.4% in 2016), taking their investment ratios to levels not seen in 40 years (22.4%). After growing briskly at the end of 2017 (+1.6%, after +1.1% in Q3), investment should remain solid (+1.1% in Q1 then +1.2% in Q2) in response to continuing production capacity tensions. Although the confidence levels reported by business leaders are slightly down on the end of 2017, they should benefit from the rise in the rate of the Tax Credit for Encouraging Competitiveness and Jobs (CICE) from 6% to 7% (for the year 2017, paid in 2018) and their margin rate in Q2 2018 should be close to the average level for 2017 (31.8% for non-financial corporations) despite dynamic wages.

Slowdown in household investment, a return to expansion in public investment

After a pronounced acceleration in 2017 and a rate of growth not seen since 1999 (+5.4% after +2.4% in 2016), household investment is likely to slow down significantly in 2018 due to the levelling out of sales of new homes. It should grow by 0.5% in Q1 then by 0.2% in Q2, after +0.6% in Q4 2017. The growth overhang in mid-2018 will only be +1.9%. After falling for five years, public investment should return to growth in 2018, meanwhile (+2.4% growth overhang in mid-year), driven notably by the work on the Greater Paris Express.

General outlook

Uncertainties: gradual tightening of monetary policies, notably in the US; household consumption behaviour in France

Consequences of the US policy mix

In the United States, the current policy mix of highly expansionary fiscal policy and gradually less accommodating monetary policy could bring growing uncertainties on stock markets. The fear of possible inflationary pressures could increase their volatility, for example.

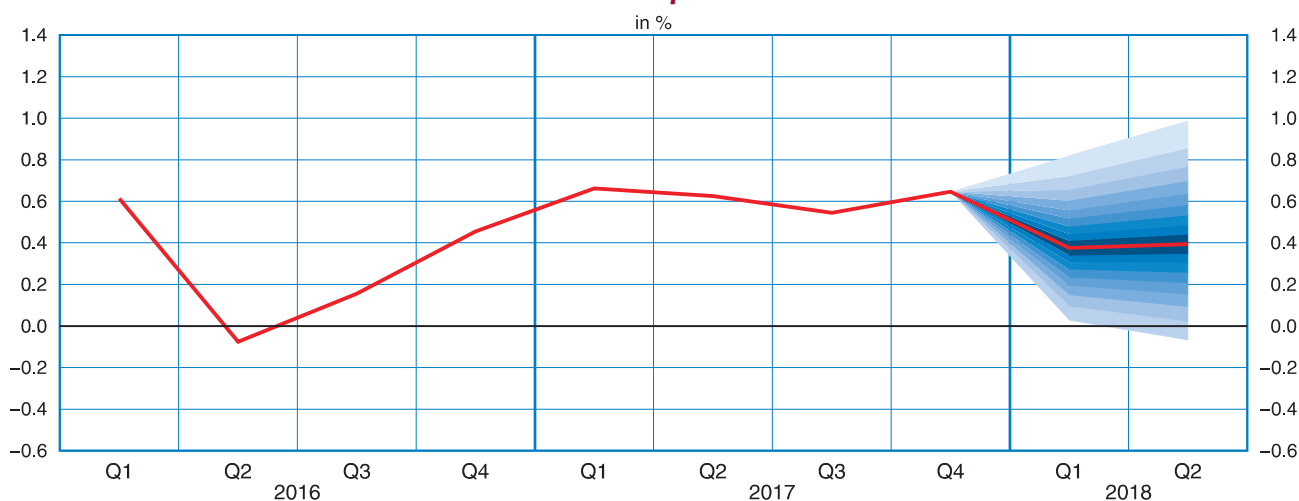
Political uncertainties in Europe

In Europe, after the negotiations on the formation of the German government, political uncertainties now concern the consequences of the Italian elections, the situation in Catalonia and the arrangements for Brexit.

Consumption and savings behaviour of French households

In France, consumption of households at the beginning of the year is largely dependent on their savings behaviour as they face a temporary slowdown in their purchasing power. The fall in the savings ratio could be greater than expected and consumption therefore more dynamic. Or consumption could be hit by a wait-and-see attitude among households. ■

5 - 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 2018 has a 50% chance of being between +0.2% and +0.5%.

Source: INSEE

Key figures: France and its international environment

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
International environment													
Advanced economy GDP	0.4	0.5	0.5	0.6	0.5	0.7	0.8	0.6	0.5	0.6	1.7	2.3	1.9
Eurozone GDP	0.5	0.4	0.4	0.6	0.6	0.7	0.7	0.6	0.5	0.5	1.8	2.5	1.8
Barrel of Brent oil (in dollars)	34	46	47	51	55	51	52	62	66	63	44	55	64
Euro-dollar exchange rate	1.10	1.13	1.12	1.08	1.06	1.10	1.17	1.18	1.23	1.23	1.11	1.13	1.23
World demand for French products	0.1	1.6	0.6	1.1	1.6	1.3	0.6	1.4	1.2	1.1	3.1	4.9	3.7
France - supply and uses													
GDP	0.6	-0.1	0.2	0.5	0.7	0.6	0.5	0.6	0.4	0.4	1.1	2.0	1.6
Imports	0.4	-1.0	2.8	0.8	1.1	0.0	2.2	0.3	1.1	1.2	4.2	4.1	3.4
Household consumption	1.4	0.3	-0.2	0.7	0.3	0.3	0.6	0.2	0.3	0.4	2.1	1.3	1.1
GG and NPISHs consumption	0.3	0.3	0.3	0.4	0.3	0.5	0.5	0.3	0.3	0.1	1.2	1.5	1.0
Total GFCF	1.0	0.1	0.3	0.5	1.7	0.9	0.9	1.2	1.0	0.9	2.7	3.8	3.3
of which: NFEs	1.7	-0.3	0.0	0.5	2.3	1.0	1.1	1.6	1.1	1.2	3.4	4.4	4.1
Households	0.6	0.7	1.1	1.5	1.8	1.4	0.9	0.6	0.5	0.2	2.4	5.4	1.9
General government	-0.9	0.2	-0.4	-0.5	-0.6	0.1	-0.1	0.6	1.2	1.0	-0.1	-1.0	2.4
Exports	0.4	-0.2	0.9	1.0	-0.7	2.2	1.0	2.4	1.0	0.5	1.9	3.3	4.3
Contributions (in point)													
Domestic demand excluding changes in inventories ¹	1.1	0.3	0.0	0.6	0.6	0.5	0.6	0.5	0.4	0.4	2.0	1.9	1.6
Changes in inventories ¹	-0.5	-0.6	0.7	-0.2	0.6	-0.5	0.3	-0.4	0.0	0.2	-0.1	0.4	-0.2
Net foreign trade	0.0	0.3	-0.6	0.0	-0.5	0.6	-0.4	0.6	-0.1	-0.2	-0.8	-0.3	0.2
France - situation of households													
Total employment	50	59	79	66	72	85	41	73	60	52	254	271	113
Non-farm market sector employment	49	39	56	68	56	77	45	79	70	59	213	257	129
ILO unemployment rate France ² (excluding Mayotte)	10.2	10.0	10.0	10.0	9.6	9.4	9.6	8.9	9.0	8.9	10.0	8.9	8.9
Consumer price index ³	-0.1	0.2	0.4	0.6	1.1	0.7	1.0	1.2	1.5	1.6	0.2	1.0	-
Core inflation ³	0.7	0.7	0.7	0.4	0.4	0.4	0.5	0.6	0.8	0.8	0.6	0.5	-
Household purchasing power	0.5	0.2	0.7	0.3	0.3	0.6	0.5	0.1	-0.4	0.9	1.8	1.7	0.8

Forecast

1. Changes in inventories include acquisitions net of sales of valuable
2. For annual data, unemployment rate is that of the last quarter of the year
3. 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



The relationships between inflation, wages and unemployment have not disappeared

A comparative study of the French and American economies

Benjamin Quévat
Benjamin Vignolles
**Département de la
conjoncture**

The negative relationship between the unemployment rate and inflation, first demonstrated by Phillips in the late 1950s, appears to be less and less empirically significant since the 1990s in both Europe and the United States. In France this relationship became much weaker, and was temporarily reversed, for a period in the 2000s when the pace of per capita productivity (in value) picked up.

This report tests the persistence of that relationship, based on a joint study of the French and American contexts, separating the effect of unemployment on wages on the one hand, and the transmission of wages to prices on the other. It also measures the direct effects of productivity on both wages and prices.

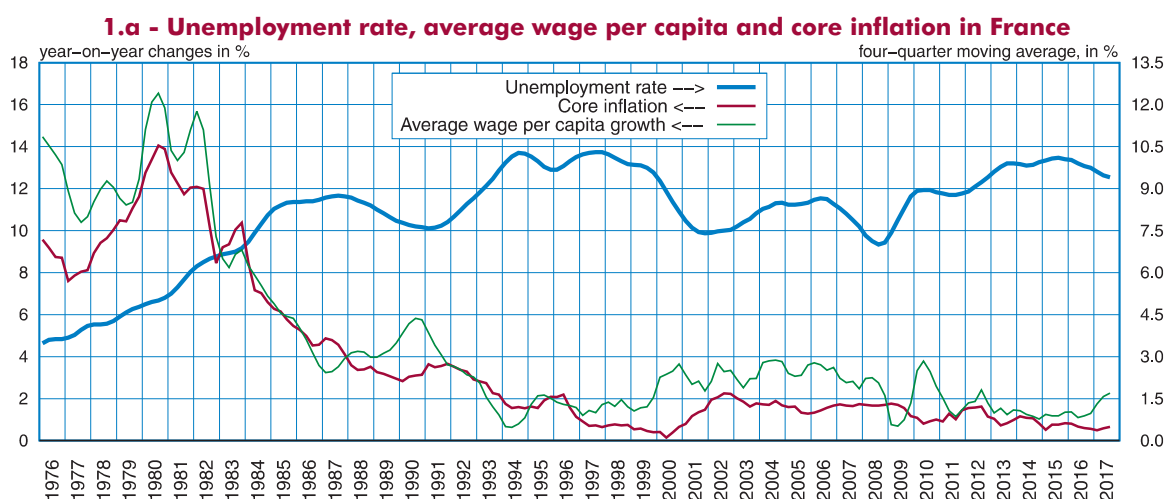
The rise in unemployment during the financial crisis of 2008-2009 clearly held back wage growth. While it rapidly slipped back in the USA, sustaining wages, it remained high in France and continued to weigh heavily on earned income. Nevertheless, productivity remains the principal determinant of wages. In both France and the USA, it is the profile of productivity gains which has been the primary force behind wage variations since the crisis.

While the transmission of wages on prices has been increasingly disrupted, the analysis shows that wages remain the principal determinant of price dynamics: the slowdown in wages, particularly since the crisis, has taken its toll on inflation. In France, recent wage dynamics do not suggest that a sharp acceleration in prices is likely, at least in the short term.

The relationships between inflation, wages and unemployment have not disappeared

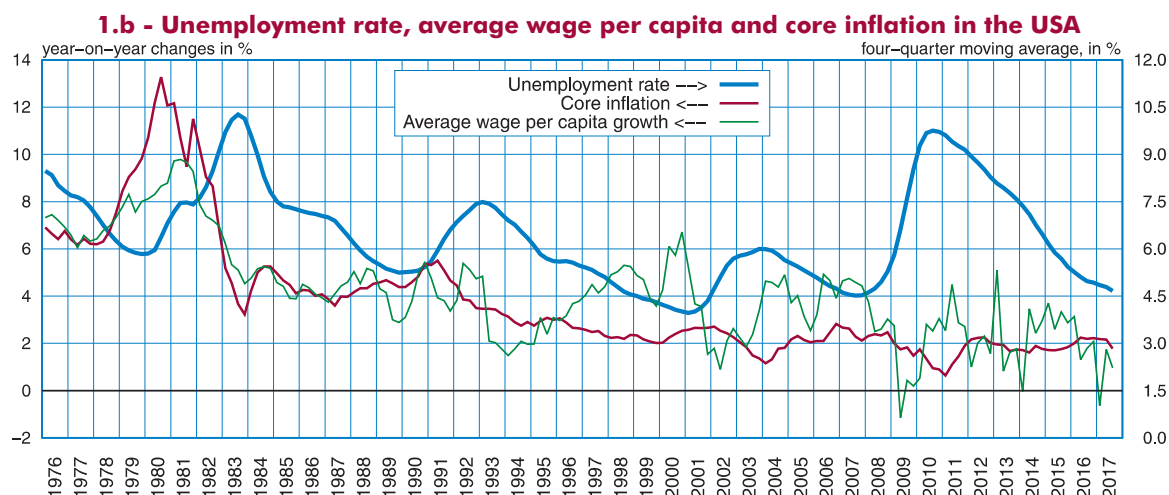
The negative relationship between inflation and unemployment reflects labour market tensions

The negative correlation between the unemployment rate on one hand and inflation or wage variations on the other can be observed empirically from the long-term French and American data. It reflects the propagation of tensions in the labour market or the productive system to wages and prices (Box). *Graphs 1.a* and *1.b* show the average quart-on-quarter unemployment rate over four quarters, along with the growth of average wages per capita and the annual variation in the price index excluding food and energy in France and the United States since 1975. These data suggest that wage variation rates shift in the opposite direction to the unemployment rate, as an average over the whole period (except during oil shocks), but that this relationship has become less and less clear over time. Moreover, the negative correlation between unemployment and inflation is transmitted via wages, whose fluctuations tend to be passed on to consumer prices: a slowdown in wages generally precedes a slowdown in prices during economic turning-points. Nonetheless, this relationship also seems less and less clear-cut, disrupted during one-off episodes of decorrelation between wages, unemployment and inflation.



Note: the average wage per capita is considered in the non-agricultural market sectors.

Source: INSEE



Sources: BEA, BLS

The relationships between inflation, wages and unemployment have not disappeared

Box - The Phillips curve is the negative relationship between inflation and unemployment: from empirical correlation to theoretical debates

The existence of a negative relationship between the unemployment rate and the growth of prices was first demonstrated by A. Phillips using American data, represented as a descending curve tracing the relationship between unemployment and nominal wages growth rate. E. Phelps then reformulated this postulate in the classical inflation-unemployment format, with prices replacing wages, as these two variables were strongly and positively correlated. It is common practice in modelling to view short-term prices as the result of companies applying margins to their payroll costs, which account for the majority of their production costs.

The Phillips curve can be interpreted as a reflection of the degree of tension on the labour market and the bargaining power of employees or their representative bodies: this bargaining power is boosted if available labour is limited, i.e. if unemployment is low and tensions in productive capacities are high (Gordon, 2011).

The theoretical consistency of this relationship was questioned as early as the 1960s. Friedman (1968) considered that it could not hold in the long term because 1) only structural factors inherent to the economy and the labour market can determine the equilibrium or “natural” unemployment rate, and 2) short-term expansionary monetary policies could drive the unemployment rate below this natural level, creating an inflationary spiral sustained by the concerted expectations of economic agents regarding price increases, with no effect on the long-term unemployment rate. Friedman’s critique can be read as an attempt to replace the familiar negative correlation between inflation and unemployment with a negative correlation between the unemployment rate and the trajectory of inflation, known as the “accelerationist” position.

Friedman’s challenge was itself challenged in the 1980s. The existing theoretical models were enhanced with mechanisms reflecting the imperfect nature of information and competition on the markets, which limits companies’ ability to adjust their prices and, by extension, restricts the knock-on effects of monetary policy shifts on prices. Faced with this rigidity, and even allowing for the hypothesis of perfectly rational expectations, supply-side shocks affecting prices are partly passed on to activity and employment, which lends further theoretical ballast to the Phillips

curve in its traditional inflation/unemployment format. Nevertheless, in the new-generation models it appears in an enhanced form which aims to take into account the impact of rigidities and price adjustments derived from different forms of competition, which makes it less practical as a tool for forecasting or empirical analysis. Furthermore, during the 1980s inflation was less volatile in the world’s developed economies, particularly the USA, in the wake of the oil crisis and the consequent tightening of monetary policy. As such, prices were less clearly dependent upon fluctuations in activity levels and the labour market.

There are several potential explanations for the periods of turbulence observed in the empirical correlation between unemployment and inflation. Matheson *et al.* (2013) analysed the American post-recession recovery of 2011, demonstrating that prices increased at a rate below that predicted by the Phillips curve model. Indeed the post-recession recovery saw a sharp increase in productivity, attributed to the disappearance of the most economically inefficient businesses and the destruction of the least productive jobs.

Another potential explanation may be found in the transformation of the link between expected and observed inflation. Blanchard *et al.* (2015; 2017) have shown that expected inflation depends less and less on past inflation and more and more on long-term forecasts, with past instances of inflation deviating substantially from long-term expectations having a steadily decreasing influence on present and future inflation. This phenomenon may be linked to a change in the nature of the policies implemented by central banks, placing greater emphasis on ensuring the credibility of their pronouncements and managing expectations. The same authors also reveal that this gradual formalisation of inflation expectations has been accompanied by a decline in the impact of the unemployment rate on inflation, according to their econometric model.

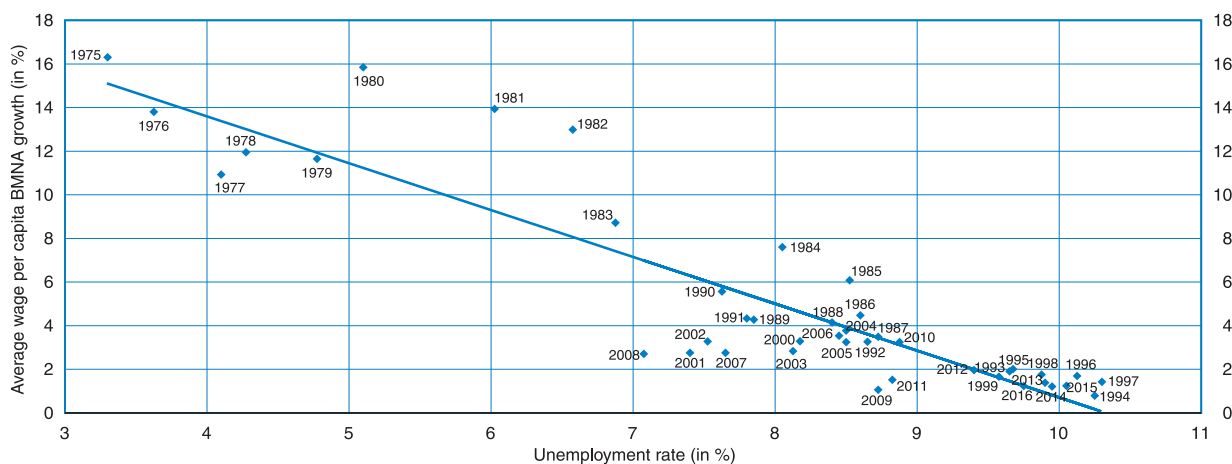
Finally, the level of competition on the markets may also play a role here: an increase in the market power of the most productive companies, as observed in the USA since the mid-1990s, is reflected in an increase in their margin rates, which could lead to less frequent price adjustments, thus making inflation less sensitive to production costs in the short term. ■

The relationships between inflation, wages and unemployment have not disappeared

The relationship between unemployment and wages, and that between wages and inflation, are also illustrated by *Graphs 2.a* and *2.b* respectively for France since 1975, and by *Graphs 2.c* and *2.d* for 1990 onwards. With specific regard to the relationship between wages and unemployment, the scatter graph has been much flatter since 1990, as inflation appears to depend less directly on the unemployment rate.

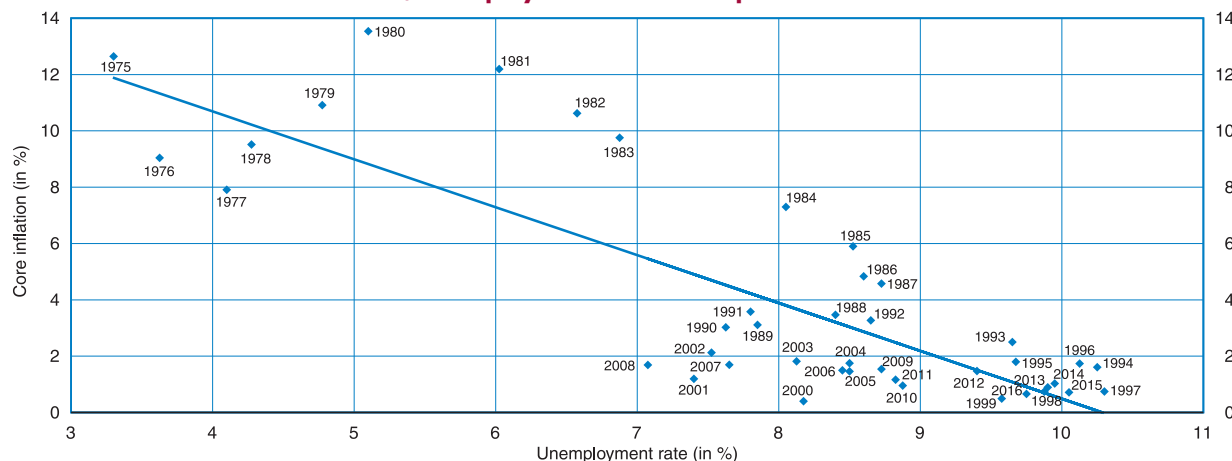
The approach adopted in the rest of this report aims to examine the persistence of the relationship between inflation and unemployment, by means of a joint and comparative analysis of the respective circumstances in France and America. The British and German economies could also provide relevant models for comparison with France, but studying the relationship between inflation and unemployment in these countries is a more complex affair with the data currently

2.a - Wages/unemployment relationship in France since 1975



Source: INSEE

2.b - Inflation/unemployment relationship in France since 1975

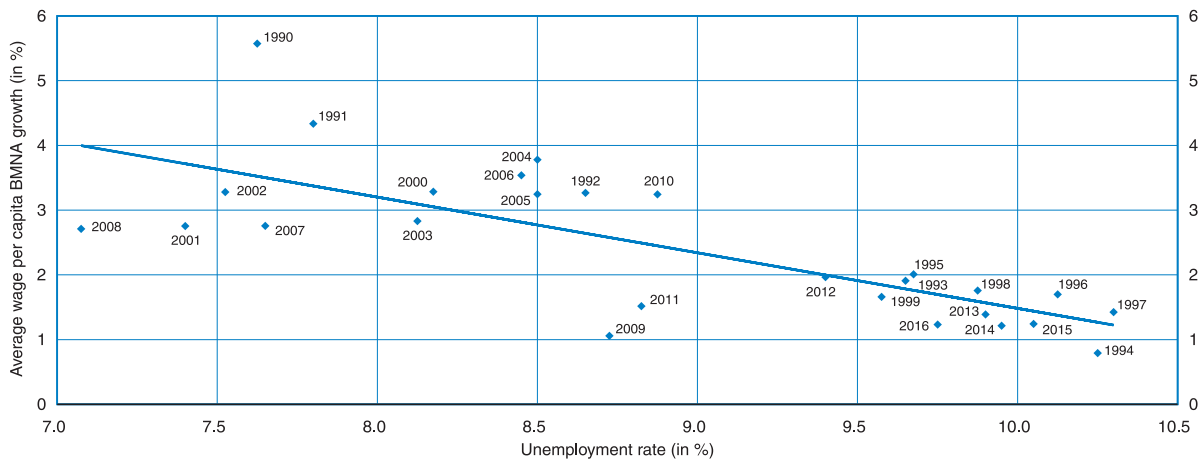


Source: INSEE

The relationships between inflation, wages and unemployment have not disappeared

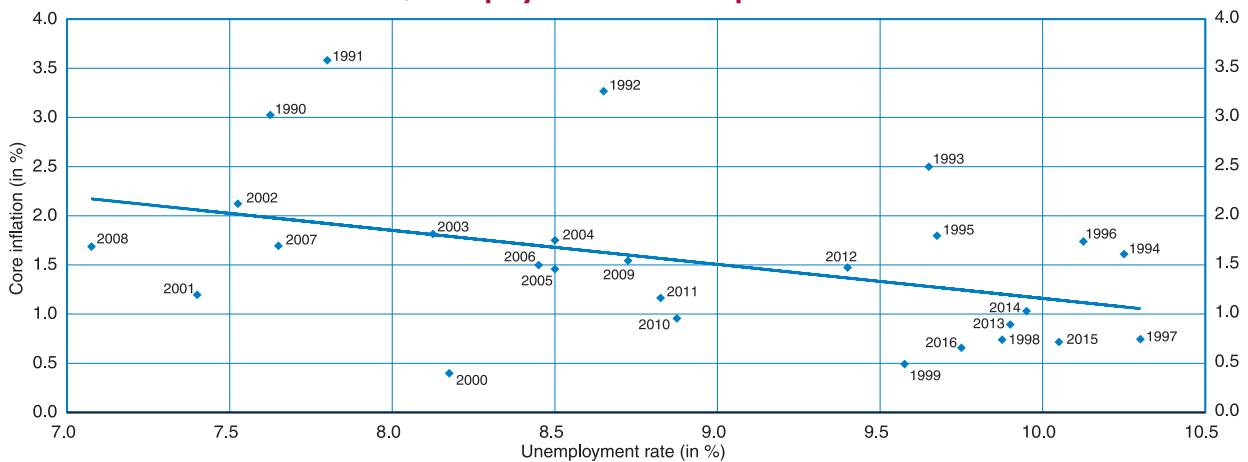
available, particularly because the process by which wage fluctuations are passed on to prices is difficult to understand and model (*Graphs 3*, see De Waziers [2016] for a study of the link between wages and unemployment in Germany, Argouarc'h *et al.* [2007] for a study of the British labour market and IMF [2013] for an international comparison). Furthermore, certain data on the labour markets in other European countries are only available for a relatively recent timeframe. This prevents the enrichment of econometric models with indicators complementary to the unemployment figures and pertinent for understanding the specific dynamics of the labour markets and of competition (the development of non-standard employment contracts, for example). Conversely, data regarding the American economy are more substantial and available over a longer period.

2.c - Wages/unemployment relationship in France since 1990



Source: INSEE

2.d - Inflation/unemployment relationship in France since 1990



Source: INSEE

The relationships between inflation, wages and unemployment have not disappeared

The negative relationship between inflation and unemployment appears to have decreased over time in France and the United States

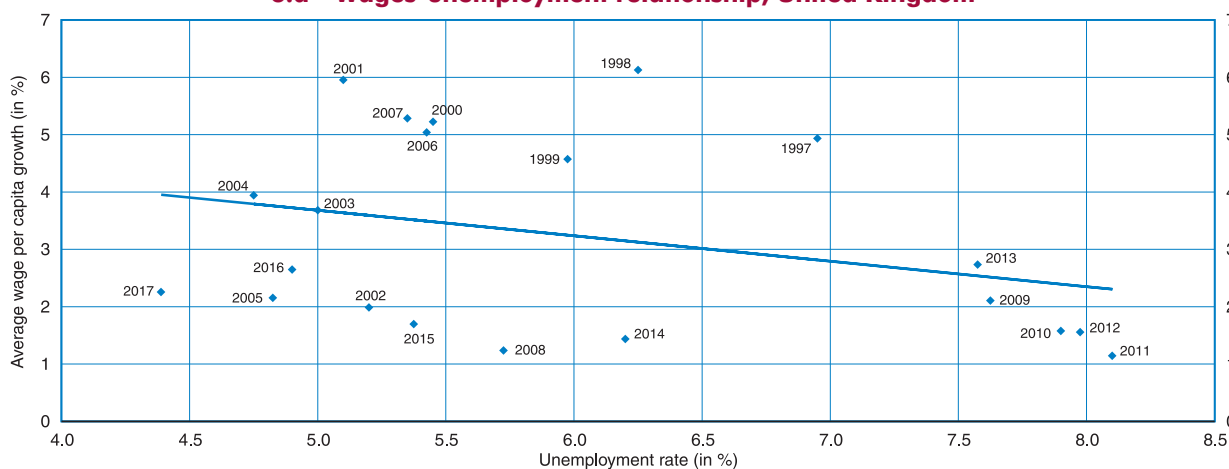
An increasingly weaker relationship in both France and the USA

In empirical terms, the data seem to indicate an attenuation of the negative correlation between unemployment and inflation over time, in both France and the USA. This relationship can be broken down into two stages: 1) a negative relationship between unemployment and wage growth, and 2) a positive relationship between wage growth and price increases. *Graphs 4.a* and *4.b* present the year-on-year correlation coefficients over a period of twelve quarters between the unemployment rate and annual average wage per capita on the one hand, and annual average wage per capita and prices excluding food and energy on the other hand. In the mid-1980s the correlation between unemployment and wages was negative overall, while that between wages and inflation was positive, in line with the prevalent theory, but the strength of the link between these variables appears to have declined over time. The relationship even becomes unstable at times, switching between positive and negative increasingly frequently and for increasingly long periods of time since the 1990s. Nonetheless, these correlation coefficients must be treated with prudence, especially since certain shocks (on oil prices, for example) have seen unemployment and prices move in the same direction.

In France, the relationship is turbulent over the long term

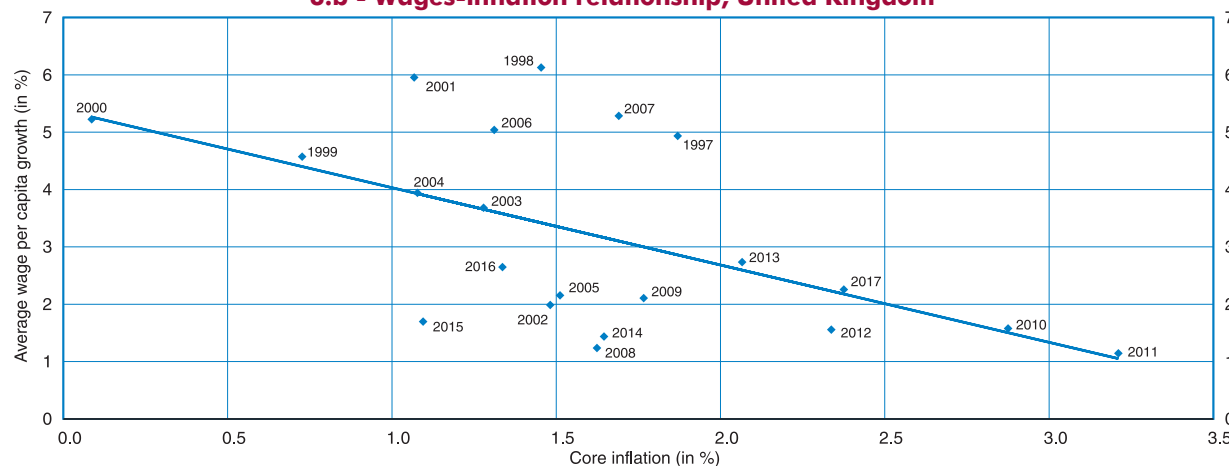
In France, the correlation between unemployment and wages became generally positive in the 2000s, while that between wages and prices went negative. This period corresponds to a phase of accelerating per capita productivity which simultaneously drove up wages and kept prices in check.

3.a - Wages-unemployment relationship, United Kingdom



Source: ONS

3.b - Wages-inflation relationship, United Kingdom



Source: ONS

The relationships between inflation, wages and unemployment have not disappeared

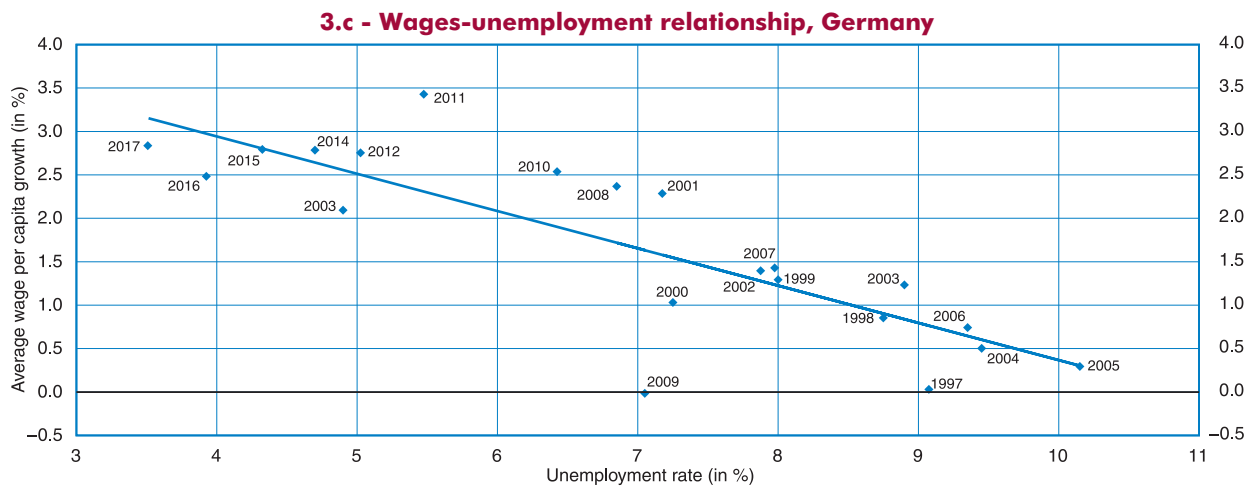
In the USA the relationship has remained stable, outside of certain one-off episodes

In the United States, the relationship between unemployment and wages also occasionally strays into positive territory, particularly during phases of economic recovery, reflected in the coexistence of accelerating productivity and unemployment which may remain stubbornly high during restructuring of productive capacities, with lasting effects (Matheson *et al.* 2013). The correlation between wage growth and inflation has also switched between negative and positive in the United States during episodes of disconnection between the two variables, as seen in the late 1990s, when prices increased as a result of increased concentration of enterprises and an increase in margin rates, with no corresponding upturn in wages.

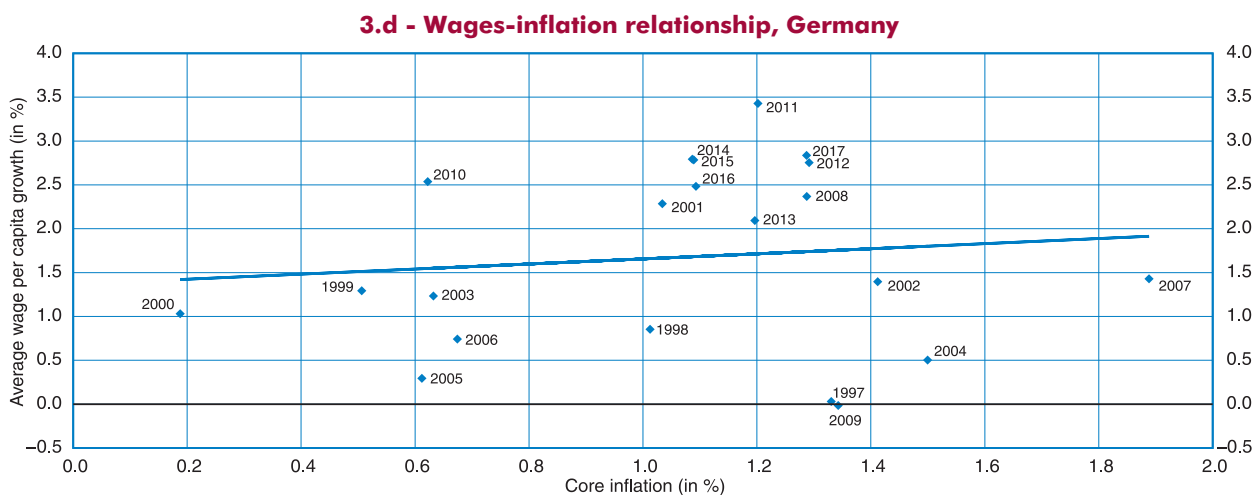
With regard to the labour market, since 2015 the unemployment rate has dropped significantly in the USA. It is now at its lowest level since the 2000s, at just over 4%. The fact that this rebound in the American labour market has thus far not been matched by a clear acceleration in wages could be a sign that levels of unemployment historically considered as low are no longer indicative of tensions on the labour market.

The inclusion of productivity gains improves estimates of the Phillips curve

The approach taken in this report consists of studying the way that shocks in the labour market and productive capacities, measured using the unemployment rate, are transmitted to variations in prices via variations in wages. The model makes no specific assumption as to the level of the unemployment rate below which inflation accelerates, but it does incorporate productivity, with which it is strongly correlated, as a determinant of wages and prices. Indeed, Staiger *et al.* (2001) demonstrated that the apparent instability of the link between inflation and unemployment in the 1980s and 1990s disappears when the corresponding



Source: Destatis



Source: Destatis

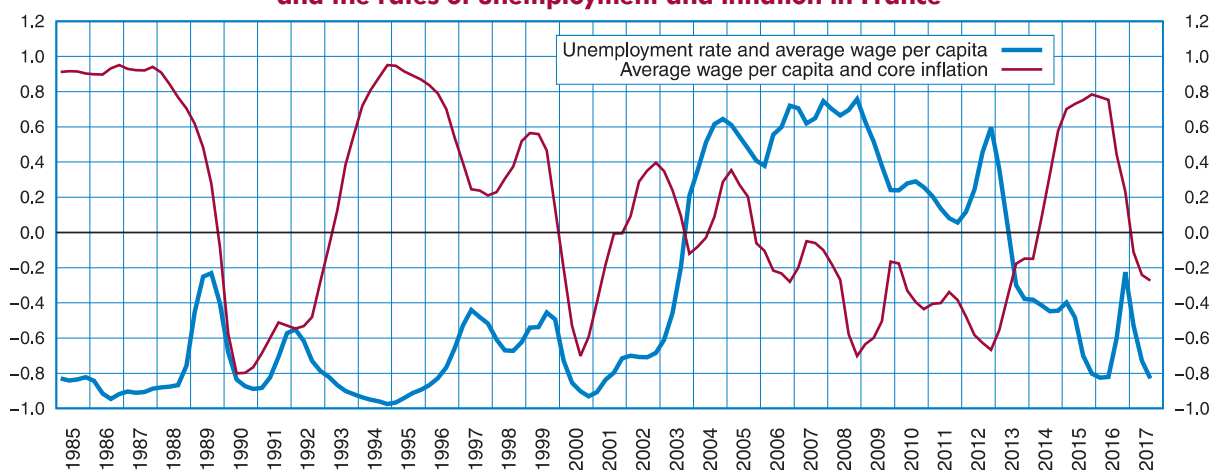
The relationships between inflation, wages and unemployment have not disappeared

macro-econometric modelling of these two variables is updated to incorporate wages and productivity.

In the model used here (*Methodology*), wages are indexed to long-term per capita productivity and a linear trend is added in order to take into account the long-term variation in wages in value added. Furthermore, for the equation modelling wages in France, the model considers the crisis of 2008-2009 and its negative impact on margin rates as a lasting shift in level, affecting the trend for the proportion of wages in value added in the ensuing years. In the short term, wage growth was negatively affected by the unemployment rate, following a traditional Phillips curve.

In the same manner, a more detailed econometric model is constructed in order to take into account the effects of productivity gains on the relationship between wages and prices (*Methodology*). In this model, price levels are connected in level terms to the ratio between the average per capita wage and real per capita labour productivity. A linear trend is added to the long-term equilibrium in order to take into account the long-term variation in corporate margin rates, and hence the pricing behaviours of companies.

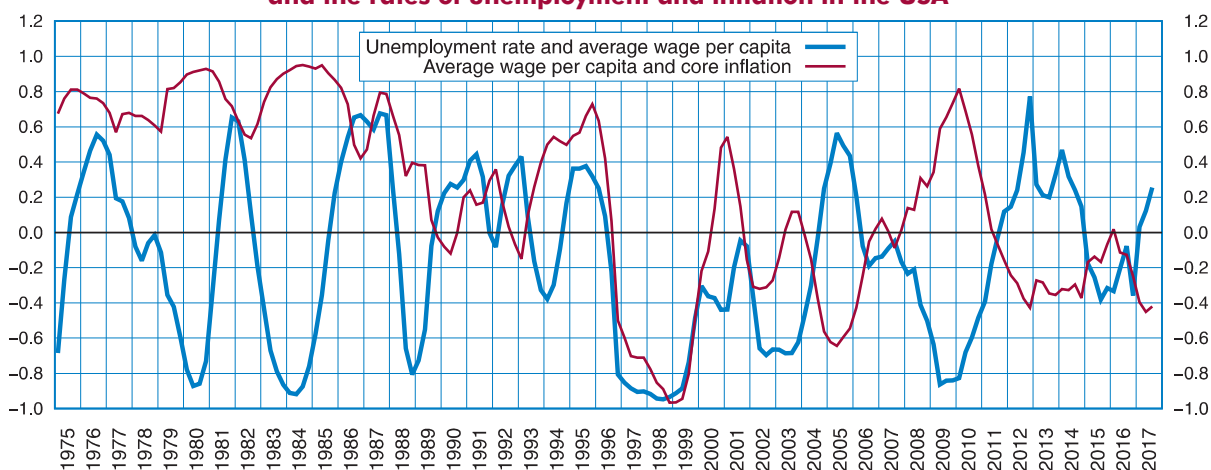
4.a - Correlation coefficient between fluctuations in wages and the rates of unemployment and inflation in France



Note: correlation coefficients are calculated year-on-year for twelve quarters based on the unemployment rate, the year-on-year variations in the average wage per capita and the core consumer price index (CPI).

Source: INSEE

4.b - Correlation coefficient between fluctuations in wages and the rates of unemployment and inflation in the USA



Sources : BEA, BLS, INSEE calculations

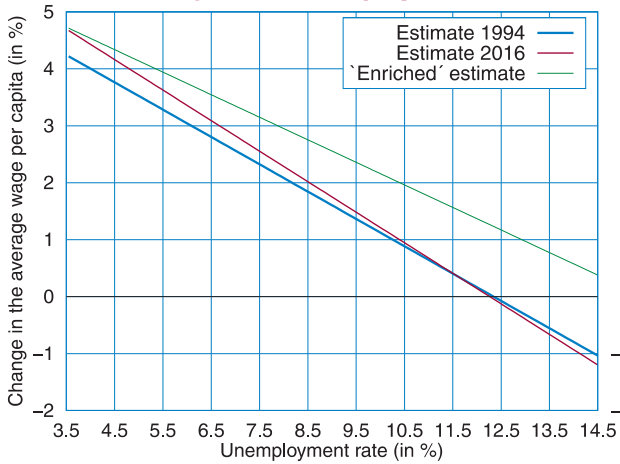
The relationships between inflation, wages and unemployment have not disappeared

The transmission of wages to prices has been increasingly disrupted

The data appear to suggest that there has been a weakening — apparently more so in France than in the USA — in the relationship between inflation and unemployment since the mid-1990s, which can be attributed largely to the disruption in the transmission of wages to prices. This connection can be estimated in two ways. This first approach is a simple estimate which allows the coefficient for the relationship between unemployment and wages or wages and inflation to vary linearly over time: this model is purely descriptive, and demonstrates that — without the inclusion of additional explanatory variables — the ratio changes between the start and end of the estimation period (in 1994 and 2016 respectively). Going into greater detail, the econometric models presented above result in a more precise relationship controlling for the long-term effects of productivity.

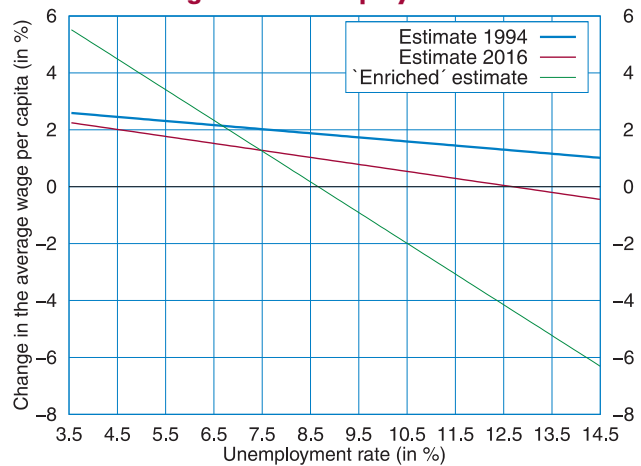
Graphs 5.a to 6.b present both types of estimate for the relationships between wages and unemployment and between prices and wages in France and the USA (*Methodology*).

5.a - Estimating the relationship between wages and unemployment in France



Source: INSEE

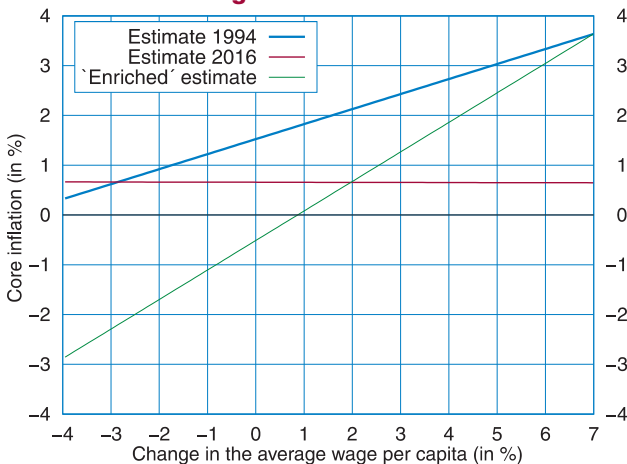
5.b - Estimating the relationship between wages and unemployment in the USA



Sources: BEA, BLS, INSEE calculations

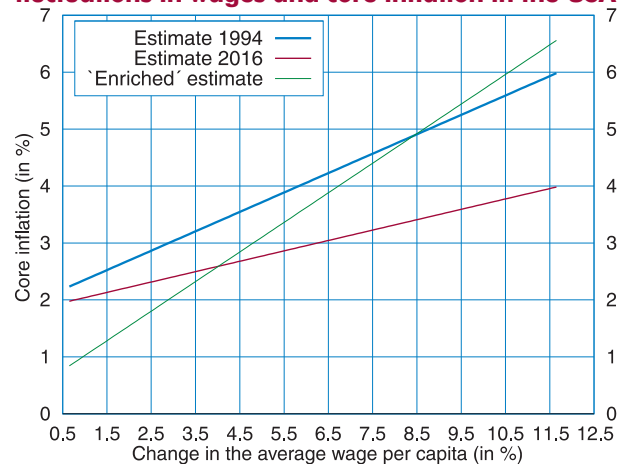
Note: the econometric relationships are calculated using the equations presented in the *Methodology* section. “Gross” estimates for 1994 and 2016 are obtained using equations 1.a for France and 1.b for the USA, allowing the effects of unemployment on changes in wages to vary linearly over time. An “enriched” estimate is obtained using equations 3.a for France and 3.b for the USA, controlling for the long-term effects of productivity.

6.a - Estimation of the correlation between fluctuations in wages and core inflation in France



Source: INSEE

6.b - Estimation of the correlation between fluctuations in wages and core inflation in the USA



Sources: BEA, BLS, INSEE calculations

Note: the econometric relationships are calculated using the equations presented in the *Methodology* section. “Gross” estimates for 1994 and 2016 are obtained using equations 2.a for France and 2.b for the USA, allowing the effects of unemployment on changes in prices to vary linearly over time. An “enriched” estimate is obtained using equations 4.a for France and 4.b for the USA, controlling for the long-term effects of the relationship between average per capita wages and productivity.

The relationships between inflation, wages and unemployment have not disappeared

First and foremost, they reveal the disruption which has affected the transmission of wages to prices. In France in particular, this correlation appears to be disappearing (*Graph 6.a*), while the knock-on effects of unemployment and labour market tensions on wages does not seem to have been affected (*Graph 5.a*). In the USA, the transmission of wages to prices appears to have diminished while remaining positive, while the knock-on effects of unemployment on wages are still present. Finally, the correlation between wages and prices is steeper in the models incorporating productivity effects, in both France and the USA, which suggests that productivity variations disturb the transmission of the Phillips curve via this channel (*Graphs 6.a* and *6.b*).

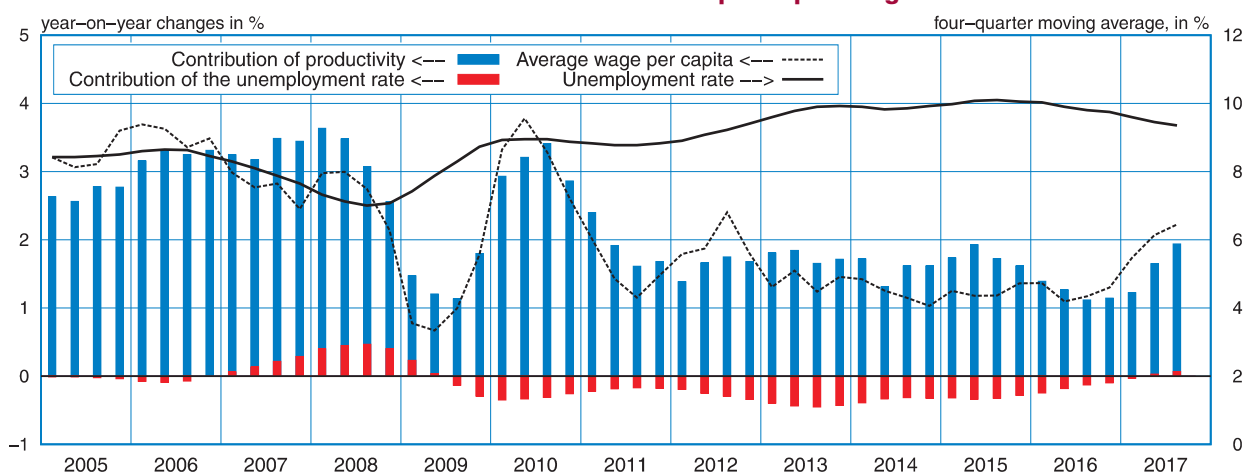
Unemployment has an impact on wage fluctuations, but productivity remains a major long-term determinant

The estimated effects of the different explanatory factors for wage growth are presented in *Graph 7.a* for France, and *Graph 7.b* for the United States.

In France as in the USA, wages slow when productivity slows

The econometric model deployed here shows that the nominal productivity of labour is the fundamental determinant of the rate of wage growth. In France, the dynamism of productivity in the period to 2008 clearly bolstered wage growth, which averaged three points per annum between 2005 and 2008 (*Graph 7.a*). During the recession of 2009 productivity shrank by 1.7%, causing wages to slow sharply. Productivity bounced back in 2010-2011, but has since remained less dynamic than it was before the crisis (between +0.8% and +1.9% per year between 2012 and 2016, compared with an average of +3.0% between 2005 and 2008). As such, wages have remained relatively sluggish, growing just 1.5% on average between 2011 and 2016 (compared with +3.1% between 2005 and 2008). But wages did bounce back somewhat in 2017, boosted by an upturn in productivity, with estimated growth of 2.0%.

7.a - Contribution to variations in median per capita wages in France



Note: the estimated contributions for the period 1994-2017 as a whole are only presented here for 2005 onwards, for reasons of clarity and in order to concentrate on recent developments.

Source: INSEE

The relationships between inflation, wages and unemployment have not disappeared

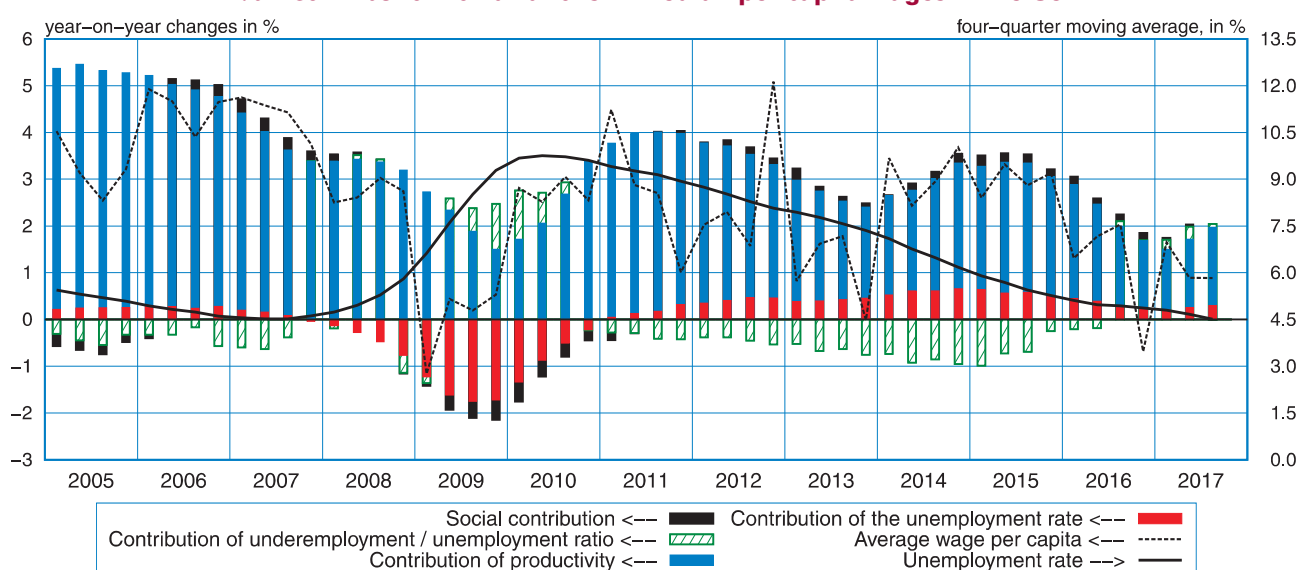
The unemployment rate has stopped hampering wage growth since the end of the crisis, but has not made a significant contribution to its recovery

The trajectory followed by wages in the USA is also fundamentally linked to the per capita productivity of labour. The general slowdown in productivity since 2005 accounts for most of the slowdown in wage growth (*Graph 7.b*). The difficulties encountered in recovering from the financial crisis continue to take their toll on wages.

In France the rise in unemployment during the crisis of 2008-2010, along with the decline in productivity, contributed to the slowdown in wages (*Graph 7.a*). Between 2008 and 2010, the unemployment rate in Metropolitan France increased by 1.6 points (8.7 on average in 2010, up from 7.1 in 2008), which contributed 0.6 points to the slowdown in wages between 2008 and 2010. Unemployment remained high throughout the following years, and actually continued to rise until peaking at 10.2% in Q2 2015, further hampering wages. Unemployment began to subside in late 2015 and has fallen more noticeably since the start of 2017, reaching 8.6% in Metropolitan France by the end of 2017, the lowest level recorded since 2009. The unemployment rate has therefore stopped hindering wage growth, after seven years of negative contribution. Nevertheless, and in spite of the turnaround seen in 2017, unemployment remains high and is yet to make a significant positive contribution to wage growth.

In the USA, the increase in the unemployment rate during the crisis slowed wages more sharply than in France, by 1.6 points in 2009 and 0.7 points in 2010. However, the unemployment rate fell more rapidly than in France from 2010 onwards, and in 2017 hit the lowest level seen since 2000 (4.4%). The negative impact of unemployment on wage growth disappeared in 2011, and since 2012 the unemployment rate has made a positive contribution to the dynamism of wages. Nevertheless, the general outlook on the American labour market has not yet led to a clear increase in tension on wages. The proportion of those in employment who consider themselves to be under-employed (i.e. who would like to work more hours) remains high, which could have an adverse effect on wage growth.

7.b - Contribution to variations in median per capita wages in the USA



Note: the estimated contributions for the period 1994-2017 as a whole are only presented here for 2005 onwards, for reasons of clarity and in order to concentrate on recent developments.

Sources: BEA, BLS, INSEE calculations

The relationships between inflation, wages and unemployment have not disappeared

The knock-on effects of wages on prices are attenuated by productivity gains in both France and the USA

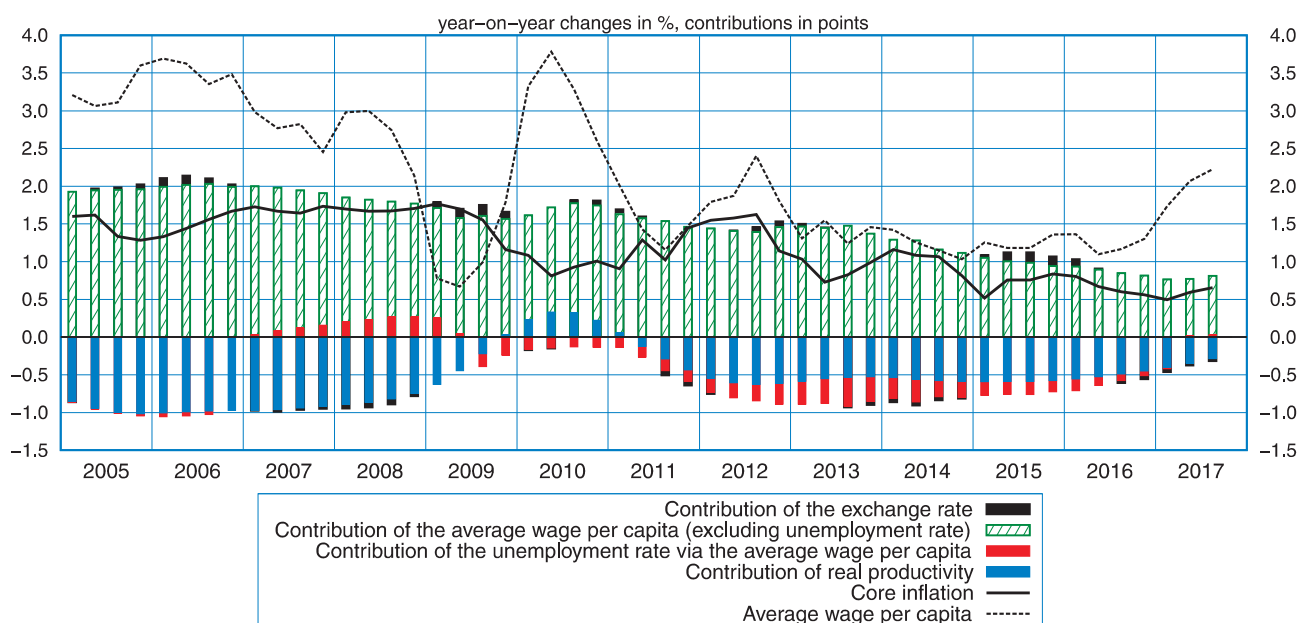
The contribution of wages and unemployment to inflation is steadily decreasing

The results of the econometric model for prices, and the influence of the different explanatory variables used, are shown in *Graph 8.a* for France and *Graph 8.b* for the USA.

According to the econometric estimates, variations in the average wage per capita remain a major explanatory factor in price fluctuations, via the two channels identified in *Graphs 8.a* and *8.b*: on the one hand via the contribution made by wage growth which can be explained with reference to the unemployment rate, as per the model presented above, and on the other hand via the contribution of wage increases not determined by unemployment.

In France, the contribution of average per capita wages to the year-on-year changes in prices appears to have decreased steadily in recent years, losing around one point since 2005 (*Graph 8.a*). The recent wage dynamics do not suggest that prices will increase considerably in the short term, despite the turnaround in the unemployment rate since 2016. The latter, which influences prices via its effect on wages, did contribute to containing inflation after 2009. This contribution therefore has declined considerably since then. The sluggish growth of wages thus appears to be the principal explanatory factor behind the slowdown in inflation observed in recent years.

8.a - Contribution to variations in core prices in France



Note: the estimated contributions for the period 1994-2017 as a whole are only presented here for 2005 onwards, for reasons of clarity and in order to concentrate on recent developments.
Source: INSEE

The relationships between inflation, wages and unemployment have not disappeared

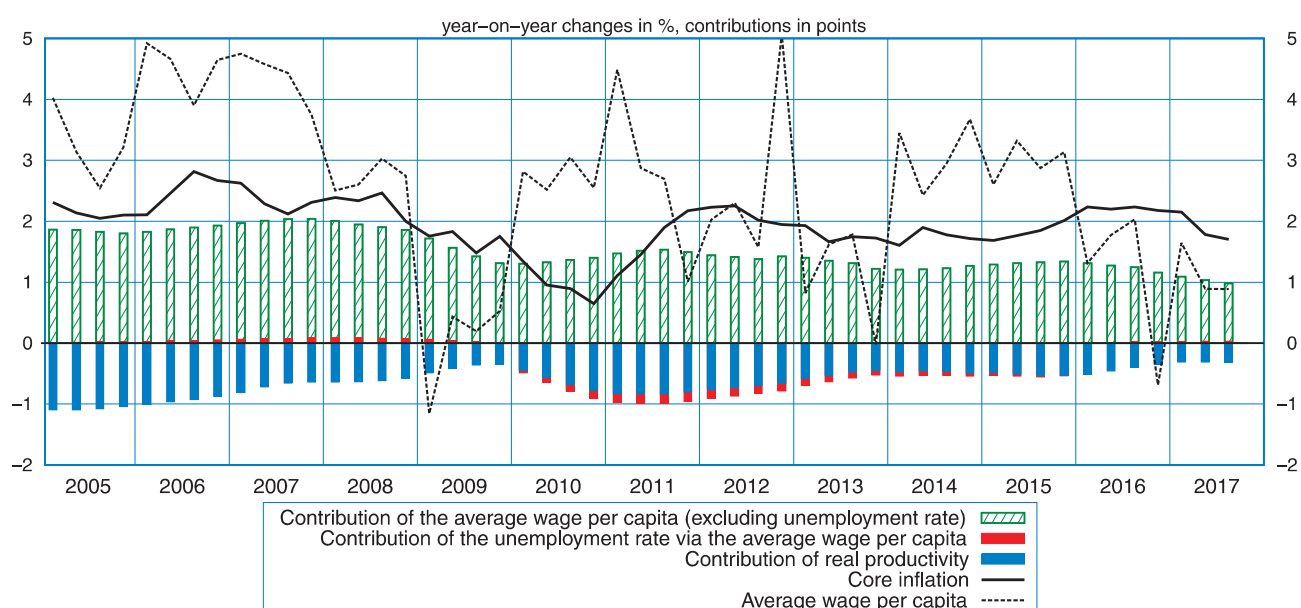
The situation is broadly similar in the USA, where the contribution of average per capita wages to year-on-year changes in prices appears to have decreased steadily since 2005 (*Graph 8.b*). The recent wage dynamics in the USA do not suggest that inflation will increase significantly in the short term.

The per capita productivity of labour, expressed in volume terms, slowed price increases in France in the period leading up to the crisis of 2009. Its contribution to inflation became positive during the recovery of 2010, then negative again from 2011, but it now has a less substantial effect on prices than it did in the pre-crisis period.

All in all, the correlations between inflation, wages and unemployment have not disappeared, but productivity variations make it difficult to analyse the links between the labour market and the goods and services market

In France as in the United States, the analysis shows that wages are still guided by productivity and that prices are still driven by wages, even if the incidence of these two factors has waned since the 2000s as productivity has slowed. The impact of unemployment on wages and prices, which was noticeable until the great recession of 2008-2009 during which it severely restricted their growth, has also been on the wane since the end of the crisis, without totally disappearing. ■

8.b - Contribution to variations in core prices in the USA



Note: the estimated contributions for the period 1994-2017 as a whole are only presented here for 2005 onwards, for reasons of clarity and in order to concentrate on recent developments.

Sources: BEA, BLS, INSEE calculations

The relationships between inflation, wages and unemployment have not disappeared

Bibliography

- Argouarc’h J. and Fournier J.-M.** (2007), “UK labour market performance”, *Trésor-Economics* n° 8, January.
- Blanchard O., Cerutti E. and Summers L.** (2015), “Inflation and activity: two explorations and their monetary policy implications”, *Working Paper* n° 15-19, Peterson Institute for International Economics, November.
- Blanchard O.** (2017), “Should we reject the natural rate hypothesis?”, *Working Paper* n° 17-14, Peterson Institute for International Economics, November.
- De Waziers D.** (2017), “Rationale for the new wage momentum in Germany”, *Trésor-Economics* n° 202, July.
- Friedman M.** (1968), “The role of monetary policy”, *The American Economic Review* vol. 58 n° 1, March.
- Gordon R.** (2011), “The history of the Phillips curve: consensus and bifurcation”, *Economica*, vol. 78 n° 309, January.
- International Monetary Fund** (2013), “The dog that didn’t bark: has inflation been muzzled or was it just sleeping?”, *World Economic Outlook: hopes, realities, risks*, Chapter 3, April.
- Matheson T. and Stavrev E.** (2013), “The great recession and the inflation puzzle”, *Economics Letters*, vol. 120 issue 3, p. 468-472.
- Staiger D., Stock J. and Watson M.** (2001), “Prices, wages and the U.S. NAIRU in the 1990s”, *NBER Working Paper* n° 8320, June. ■

Methodology

Empirical results are derived from econometric models using American (sources: Bureau of Economic analysis for national accounts and the Bureau of Labor Statistics for payroll employment) and French (source: INSEE) data series. The estimates were calculated using quarterly data for the period 1994-2016. This period was selected because it provided sufficient data for the estimation of all the necessary equations, particularly with regard to the rate of under-employment in the United States.

In order to estimate the un-adjusted Phillips curves for the years 1994 and 2016 presented in *Graphs 5.a* and *6.b*, a simple regression was performed, linking the growth of the average wage per capita to a constant value, to the unemployment rate and to the product of the latter with a linear trend. This descriptive projection served to study the deformation of the correlation coefficient between the unemployment rate and the growth of the average wage per capita, based on the hypothesis that the latter follows a linear trend over the period as a whole. This gives:

France

$$(1.a) \quad \Delta \log(SMPT_t) = 0.018 - (1.2 \cdot 10^{-3} + 1.6 \cdot 10^{-6} \cdot t) u_t$$

USA

$$(1.b) \quad \Delta \log(SMPT_t) = 0.013 - (3.6 \cdot 10^{-4} + 2.9 \cdot 10^{-6} \cdot t) u_t$$

where:

- u is the unemployment rate;
- $SMPT$ is the average wage per capita (in the non-farm market sectors of the economy for France);
- t is the number of quarters elapsed since Q1 1994.

The relationships between inflation, wages and unemployment have not disappeared

A similar approach is used to estimate the correlation between core inflation and the growth of average wages per capita. This gives:

France

$$(2.a) \quad \Delta \log(P_t^{sj}) = 2.7 \cdot 10^{-3} + 0.30 \cdot \Delta \log(SMPT_t) - 1.6 \cdot 10^{-3} \cdot t \cdot \Delta \log(SMPT_t)$$

USA

$$(2.b) \quad \Delta \log(P_t^{sj}) = 5.1 \cdot 10^{-3} + 0.34 \cdot \Delta \log(SMPT_t) - 1.8 \cdot 10^{-3} \cdot t \cdot \Delta \log(SMPT_t)$$

where:

- P^{sj} is the core price index (consumer price index excluding energy and food);
- $SMPT$ is the average wage per capita (in the non-farm market sectors of the economy for France).

More detailed equations are also estimated using error correction models, in order to incorporate more explanatory variables into the model and isolate their respective effects. The results of these models are used to plot [Graphs 7](#) and [8](#). Estimates are produced in a single phase, using the dynamic least square method. The Student statistics are given in brackets underneath the coefficients, for the short-term parameters. However, they are not given for the long-term equations, replaced here by (*) because they do not conform to the Student law.

To begin with, an equation is performed for average wages per capita. A constraint is introduced to this model, indexing the average wage per capita to productivity (in value terms) over the long term. This constraint, which is common for this type of macroeconomic model, is reinforced by the addition of a linear trend taking into account the long-term fluctuations of wages as a proportion of value added. This gives:

France

$$(3.a) \quad \Delta \log(SMPT_t) = -0.05 + 1.2 \cdot \Delta \log(prod_t) - 1.0 \cdot \Delta \log(prod_{t-1}) - 0.001 \cdot u_t$$

$$- 0.07 \left[\log(SMPT_{t-1}) - \log(prod_{t-1}) - 2.9 \cdot 10^{-4} \cdot t \right]$$

$$R^2 = 0.52$$

where:

- $SMPT$ is the average wage per capita (natural persons) in the non-farm market sectors of the economy;
- $prod$ is productivity in terms of value of labour, smoothed with a moving average of order 4;
- u is the unemployment rate.

USA

$$(3.b) \quad \Delta \log(SMPT_t) = 9.94 - 0.19 \cdot \Delta \log(SMPT_{t-1}) - 0.003 \cdot u_t$$

$$- 0.47 \left[\log(SMPT_{t-1}) - \log(prod_{t-1}) + 0.13 \log(u6_{t-1}) - 4.0 \cdot 10^{-4} \cdot t + 0.56 \log(cs_{t-1}) \right]$$

$$R^2 = 0.32$$

where:

- $SMPT$ is the average wage per capita (natural persons);
- $prod$ is productivity in terms of value of labour, i.e. the ratio between nominal GDP and total employment, smoothed with a moving average of order 4;
- u is the unemployment rate;
- $u6$ is the ratio between the under-employment rate (proportion of employed persons who would like to work more) and the unemployment rate;
- cs is the social wedge, defined here as the ratio between the total cost of labour (including employers' social security contributions) and gross wages.

Under-employment is included in the equation for the USA but not for France, because it is not statistically significant.

The relationships between inflation, wages and unemployment have not disappeared

Finally, an equation is estimated to model the core price index. This gives:

France

$$(4.a) \quad \Delta \log(P_t^{sj}) = 0.48 + 0.15 \Delta \log(P_{t-1}^{sj}) + 0.25 \Delta \log(P_{t-2}^{sj}) - 0.01 \Delta \log(change_{t-1}) \\ + 0.30 VAT_t^h + 0.52 VAT_{t-3}^b \\ - 0.09 \left[\log(P_{t-1}^{sj}) - 0.59 \log(SMPT_{t-1}) + 0.59 \log(prod_{t-1}^r) - 0.001.t + 0.02.sup_{09T1} \right]$$

$$R_v^2 = 0.62$$

where:

- $Prod^r$ is productivity in volume terms per capita, i.e. the ratio between GDP in volume and total employment, smoothed with a moving average of order 4;
- $change$ is the exchange rate euro/dollar;
- VAT^h and VAT^b are the theoretical effects on core inflation of increases or decreases (respectively) of the rate of VAT;
- sup_{09T1} is an indicator equal to 1 from Q1 2009.

USA

$$(4.b) \quad \Delta \log(P_t^{sj}) = -0.63 + 0.33 \Delta \log(P_{t-1}^{sj}) + 0.03 \Delta \log(SMPT_t) \\ - 0.06 \left[\log(P_{t-1}^{sj}) - 0.52 \log(SMPT_{t-1}) + 0.52 \log(prod_{t-1}^r) - 0.003.t \right]$$

$$R_v^2 = 0.41$$

where:

- $Prod^r$ is productivity in volume terms, smoothed with a moving average of order 4. ■

French **developments**



Review of the previous forecast

In Q4 2017, gross domestic product (GDP) grew by 0.6%, as forecast in the December 2017 issue of *Conjoncture in France*. Domestic demand excluding inventory sustained growth in GDP a little more than expected (+0.5 points against +0.4 points). Foreign trade also made a larger contribution than expected (+0.6 points against +0.5 points), offset by the contribution of changes in inventories which was weaker than expected (-0.4 points against -0.3 points). The growth forecast for Q1 2018 has been lowered slightly from that in December's *Conjoncture in France* (+0.4% against an initial forecast of +0.5%) but remains unchanged for Q2 (+0.4%).

Market employment progressed more than had been forecast (79,000 creations in Q4, against a forecast of 60,000). At the same time, the unemployment rate fell to 8.9% of the French labour force (against a forecast of 9.5%). In February 2018, headline inflation stood at +1.2% according to the provisional estimate, a little higher than forecast, due to the rise in oil prices, and the forecast for mid-2018 remains unchanged at +1.6%.

In Q4, activity increased as forecast

In Q4 2017, growth stood at +0.6%, as forecast in the December 2017 issue of *Conjoncture in France* (Table 1). Output in all branches increased almost as expected (+0.9% compared to +0.8%; Table 2). Manufacturing output progressed as forecast (+1.5%) while other variations offset each other: construction disappointed slightly (+0.5% against +0.8%) and trade was a little more dynamic than expected (+0.8% against +0.7%), as were market services excluding trade (+1.0% against +0.8%). Production of the water-energy-waste branch, meanwhile, fell back as forecast (-0.2%).

Domestic demand sustained growth, as forecast

The contribution of domestic demand excluding inventory to growth in GDP was slightly greater than forecast (+0.5 points against +0.4 points). Household consumption slowed a little more than forecast (+0.2% against +0.3%). Total investment increased a little more than forecast (+1.2% against a forecast of +1.1%): corporate investment was more robust (+1.6%) than expected (+1.2%), but household investment progressed less than had been forecast (+0.6% against +1.0%).

Table 1
Gross domestic product and its main components in the expenditure approach

Percentage changes from previous period in %

	Conjoncture in France December 2017			Conjoncture in France March 2018		
	Q4 2017	Q1 2018	Q2 2018	Q4 2017	Q1 2018	Q2 2018
Gross domestic product	0.6	0.5	0.4	0.6	0.4	0.4
Imports	0.2	0.8	0.8	0.3	1.1	1.2
Household consumption expenditure	0.3	0.3	0.3	0.2	0.3	0.4
General government consumption expenditure*	0.2	0.4	0.3	0.3	0.3	0.1
Gross fixed capital formation	1.1	1.0	0.8	1.2	1.0	0.9
of which: Non financial enterprises	1.2	1.1	0.9	1.6	1.1	1.2
Households	1.0	0.8	0.6	0.6	0.5	0.2
General government	0.7	1.1	0.9	0.6	1.2	1.0
Exports	1.8	0.7	0.2	2.4	1.0	0.5
Contributions (in percentage points)						
Domestic demand excluding changes in inventories**	0.4	0.5	0.4	0.5	0.4	0.4
Changes in inventories**	-0.3	0.0	0.2	-0.4	0.0	0.2
Net foreign trade	0.5	0.0	-0.2	0.6	-0.1	-0.2

Forecast

* General government and non-profit institutions serving households

** Changes in inventories include acquisitions net of sales of valuable

Source: INSEE

French developments

The external balance buoyed up growth (+0.6 points) more than expected (+0.5 points). Exports progressed much more than anticipated (+2.4% against an expected figure of +1.8%) and imports were a little more dynamic than expected (+0.3% against +0.2%). Purchases of energy products progressed strongly when a slight fall had been expected (+13.4% against -2.0%) while purchases of manufactured goods showed a surprising fall (-0.7% against +0.2%). However, sales of manufactured goods were more dynamic than expected (+3.1% against +2.3%). On the other hand, the contribution of changes in inventories was slightly less than expected (-0.4 points against -0.3 points).

The growth forecast for Q1 2018 is revised downwards slightly

The growth forecast for Q1 2018 has been revised downwards slightly from that in the December 2017 issue of *Conjoncture in France* (+0.5%): +0.4% against an initial forecast of +0.5%.

In Q1, growth in manufacturing production should be a little less than forecast in *Conjoncture in France* in December (+0.2% against +0.6%), but more than expected in Q2 (+0.6% against +0.3%).

Domestic demand is likely to drive growth a little less than forecast in Q1 (+0.4 points against +0.5 points), but its contribution should be unchanged in Q2 (+0.4 points). The forecast for household consumption remains unchanged for Q1 (+0.3%) and has been revised upwards slightly for Q2 (+0.4%). The forecast for household investment, meanwhile, has been adjusted downwards (+0.5% and +0.2% in Q1 and Q2, against initial forecasts of +0.8% and +0.6%) due to the slowdown in home construction. Investment

by general government, meanwhile, remains almost unchanged (+1.2% then +1.0% in Q1 and Q2). Foreign trade is likely to make no contribution to growth in Q1 and then a slightly negative contribution in Q2, as forecast in December's *Conjoncture in France* (+0.0 then -0.2 points). Exports are set to be more buoyant in Q1 (+1.0% against an initial forecast of +0.7%) and should increase a little further in Q2 (+0.5% against an initial forecast of +0.2%). Imports should also be a little more dynamic than forecast (+1.1% in Q1 then +1.2% in Q2, against +0.8% per quarter). The forecasts of contributions of changes in inventories remain unchanged for Q1 (0.0 points) and Q2 (+0.2 points).

Market employment progressed slightly more than expected

In Q4 2017, market employment progressed more than expected (79,000 jobs created, against a forecast of 60,000). The scale of the fall in the unemployment rate (Overseas Departments included) was also a surprise (-0.7 points), giving a rate of 8.9%, against a forecast of 9.5%.

By mid-2018, inflation is likely to stand at +1.6%, as forecast in December

In February 2018, headline inflation stood at +1.2% according to the provisional estimate, a little higher than forecast due to the upswing in oil prices. However, the headline inflation forecast for mid-2018 remains unchanged (+1.6%): the price forecast for fresh products has been revised upwards, but that for core inflation has been lowered (+0.8% against +1.0%). ■

Table 2

Activity by sector and labour market

Percentage changes from previous period in %

	Conjoncture in France December 2017			Conjoncture in France March 2018		
	Q4 2017	Q1 2018	Q2 2018	Q4 2017	Q1 2018	Q2 2018
Output by sector						
Agriculture	0.4	0.1	0.0	0.5	-0.2	-0.1
Manufacturing	1.5	0.6	0.3	1.5	0.2	0.6
Energy, water and waste	-0.2	0.3	0.3	-0.2	0.3	0.2
Construction	0.8	0.7	0.5	0.5	0.8	0.6
Trade	0.7	0.6	0.5	0.8	0.3	0.6
Market services excluding trade	0.8	0.6	0.6	1.0	0.5	0.5
Non market services	0.2	0.3	0.2	0.4	0.4	0.2
Total	0.8	0.6	0.4	0.9	0.4	0.5
Employment, unemployment, prices						
Non-agricultural market sector employment	60	55	45	79	70	59
ILO* unemployment rate - Metropolitan France	9.5	9.5	9.4	8.9	9.0	8.9
Consumer price index ¹	1.2	1.4	1.6	1.2	1.5	1.6
Core inflation ¹	0.6	0.8	1.0	0.6	0.8	0.8

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

Total production of goods and services was buoyant in the last quarter of 2017 (+0.9%), driven notably by a significant rise in the manufacturing branches (+1.5%). In January and February 2018, the business climate faltered slightly but remained favourable, well above its long-term average. In H1 2018, production of goods and services should decelerate (+0.4% in Q1 and then +0.5% in Q2), particularly under the effect of a slowdown in manufacturing industry and in market services excluding trade. By mid-2018, the output overhang for the year is expected to be +2.0%.

Production of goods and services is set to decelerate in H1 2018

Production of goods and services accelerated slightly in Q4 2017 (+0.9% after +0.7%; *Table*). On an annual average basis, it increased by 2.4% in 2017, a pace not seen since 2011, reflecting greater momentum in all branches of activity.

The business climate in France slipped back slightly in January and February 2018, after reaching a ten-year high in December 2017 (*Graph 1*). It does remain very positive in all branches, however, and well above its long-term average.

Total production of goods and services should grow moderately in H1 2018, (+0.4% then +0.5%), slowing down from its pace at the end of 2017, mainly due to market services excluding trade and the manufacturing branches.

By mid-2018, the growth overhang for output should be +2.0% for the year.

In H1 2018, manufacturing output is likely to slow down

In Q4 2017, manufacturing activity increased significantly (+1.5% after +0.8%) driven by dynamic production in transport equipment (+4.3%) and in "other industries" (+1.1%). Over the year as a whole, manufacturing output progressed by 2.0%, a rate not seen since 2012.

In Q1 2018, manufacturing activity is set to slow down significantly by reaction (+0.2%). In January 2018, the growth overhang of the industrial production index for Q1 was down sharply (-1.4%). However, the business climate in February remained very positive in all sub-sectors (*Graph 2*). The balances of opinion on expected activity and order books are substantially above their average levels. Activity should slow down, while remaining strong, in transport equipment (+1.3%) and in capital goods (+1.5%). It is likely to fall back a little in agri-food (-0.1%) and in the "other industries" (-0.5%). However, output is likely to rise again slightly in manufacture of coke and refined petroleum products (+1.3% after -0.8%). Manufacturing output should accelerate in Q2 2018 (+0.6%), despite stoppages in two refineries for maintenance work. The growth overhang for 2018 is expected to stand at +2.4% at the end of Q2, after +2.0% across the whole of 2017.

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

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

	Quarterly changes										Annual changes		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agriculture (2%)	-2.3	-1.3	-0.6	0.5	1.1	1.3	0.8	0.5	-0.2	-0.1	-5.6	2.4	0.8
Manufacturing industry (20%)	0.5	-0.8	0.8	0.4	0.1	0.8	0.8	1.5	0.2	0.6	0.8	2.0	2.4
Energy, water, waste (4%)	1.5	1.1	-2.4	2.2	-0.4	0.4	1.6	-0.2	0.3	0.2	0.8	1.4	1.2
Construction (8%)	0.0	-0.3	0.3	0.9	0.6	1.1	0.4	0.5	0.8	0.6	0.1	2.6	2.1
Trade (10%)	1.1	-0.5	-0.2	0.7	0.6	0.8	0.9	0.8	0.3	0.6	1.6	2.1	2.0
Market services excluding trade (41%)	0.5	-0.2	0.4	0.5	1.2	0.8	0.7	1.0	0.5	0.5	1.3	3.0	2.2
Non-market services (15%)	0.3	0.2	0.2	0.3	0.3	0.5	0.6	0.4	0.4	0.2	1.0	1.4	1.3
Total (100%)	0.5	-0.3	0.3	0.6	0.7	0.8	0.7	0.9	0.4	0.5	0.9	2.4	2.0

Forecast

Source: INSEE

French developments

Agricultural output is at a standstill in H1 2018

In Q4 2017, agricultural output slowed down slightly while remaining strong (+0.5% after +0.8%). Over 2017 as a whole, it bounced back (+2.4%) after two consecutive years of poor harvests (-5.6% in 2016 and -1.4% in 2015).

In H1 2018, agricultural output should again be at a level close to that in 2017 (-0.2% then -0.1% in Q1 and Q2 2018), on the assumption that the harvests are no longer affected by the poor weather conditions in 2015 and 2016.

Energy output is likely to grow moderately in H1 2018

In Q4 2017, energy production fell back slightly (-0.2%, after +1.6%). It should return to a regular growth rate in Q1 2018 (+0.3%) with both a very mild month of January and a cold spell in February. On the assumption that temperatures are seasonal for the following months, it should continue to grow

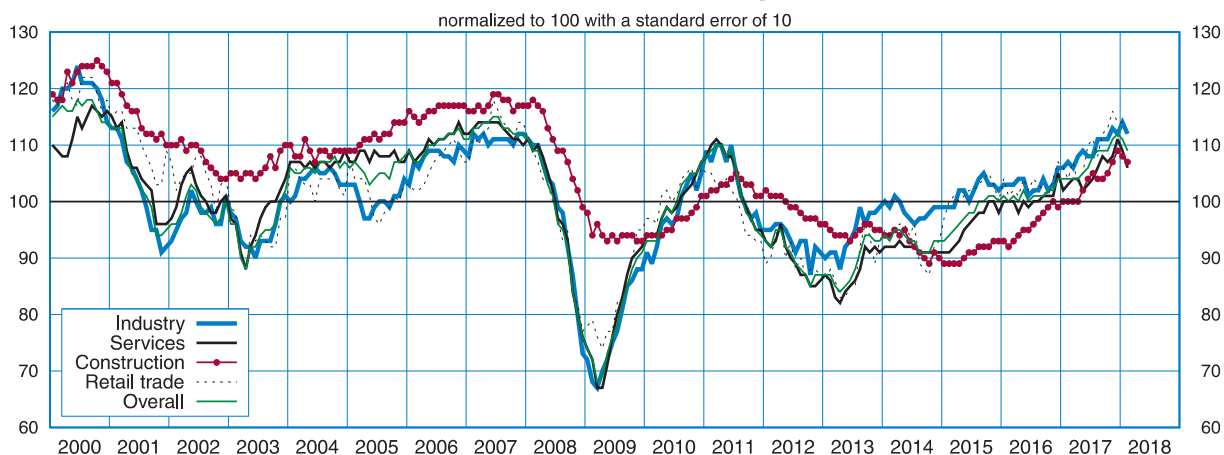
at this pace (+0.2%). By mid-2018, the annual growth overhang should stand at +1.2%, after +1.4% in 2017.

In construction, activity is set to accelerate in Q1 2018, then slow down in Q2

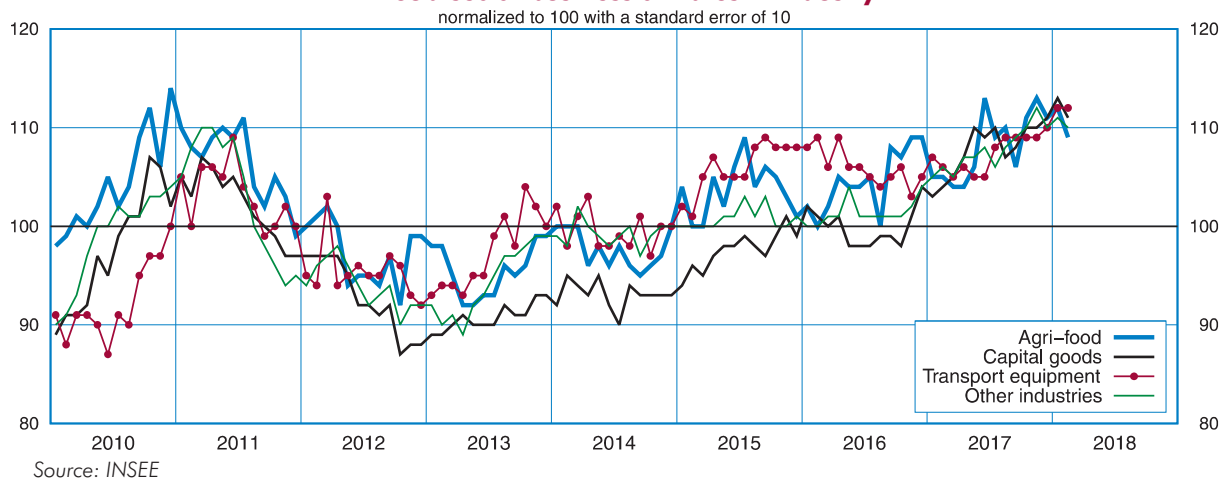
In Q4 2017, production in the construction branch increased by 0.5%, driven by an acceleration in activity in building and despite a further decline in civil engineering. Over the year, production in construction grew by 2.6%, a pace not seen since 2008.

The number of building permits for individual homes accelerated in Q4 2017, after rebounding moderately in Q3. The number of permits for collective housing fell, meanwhile, after rising sharply for two consecutive quarters. In the business tendency survey of business leaders in the building sector, the balance of opinion on past activity was almost stable in February 2018, at a level well above its long-term average. For the third

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



2 - Sub-sector business climates in industry



consecutive month, however, business leaders in the building industry are anticipating a fall in their activity over the coming three months (*Graph 3*). The corresponding balance does still remain significantly above its long-term average, however. Finally, property developers are once again reporting lower demand for new homes and less favourable prospects for housing starts than in the previous quarter. The corresponding balances have just dipped under their average. Despite the slight downturn in the opinions of building entrepreneurs, steady housing starts in previous months should enable output in building to progress solidly in Q1 2018 before slowing down in Q2.

In civil engineering, business leaders are less optimistic about their activity, although the majority of them report higher-than-normal order books. The corresponding balances remain significantly above their long-term averages. Activity is expected to bounce back in this sector, with public demand being given a particularly strong boost by the ramping up of work on the Greater Paris Express.

Total building output should therefore accelerate in Q1 2018 (+0.8%) then slow down slightly in Q2 (+0.6%). By mid-2018, the growth overhang for the year should be +2.1%.

Trade activity is likely to decelerate gradually through to mid-2018

In Q4 2017, trade activity was brisk (+0.8% after +0.9%), driven by the rebound in household consumption expenditure (+1.5% in Q4 after -0.3% in Q3) and notably due to the recovery in their automobile purchases (+0.8% after +0.0%).

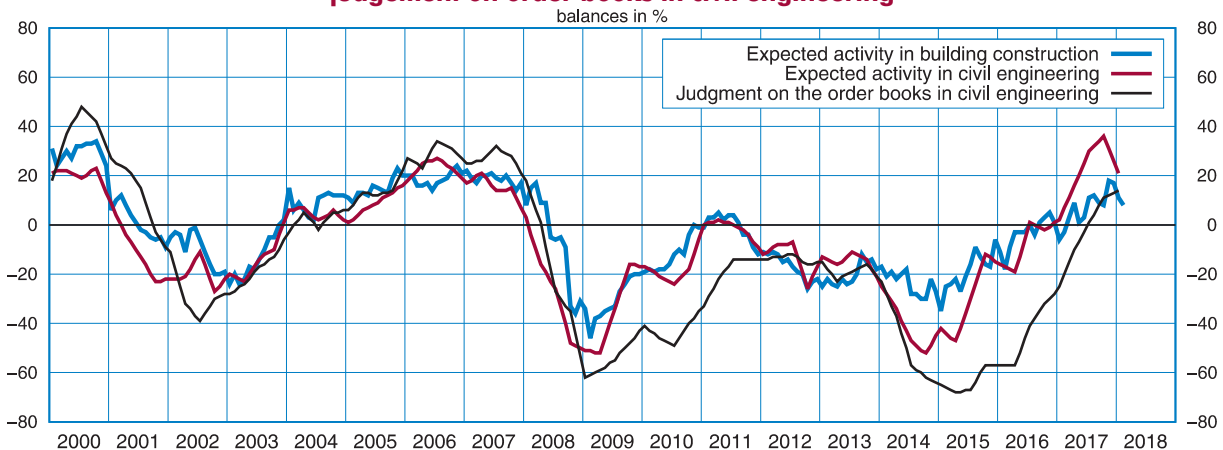
After reaching a ten-year high at the end of 2017, the business climate in the retail trade has slipped back slightly since, although remaining well above its long-term average. The business climate in the wholesale trade slipped in January 2018, but still remained at a high level.

In H1 2018, trade activity is likely to slow down (+0.3% in Q1, then +0.6% in Q2). By mid-2018, the annual growth overhang for production in trade should stand at +2.0%, close to the annual progression for 2017.

Market services excluding trade: activity is expected to slow down a little but remain dynamic through to June 2018

In Q4 2017, activity in market services excluding trade was sustained (+1.0% after +0.7%). This dynamic performance was driven by all the

3 - Expected activity in construction, judgement on order books in civil engineering



Source: INSEE

French developments

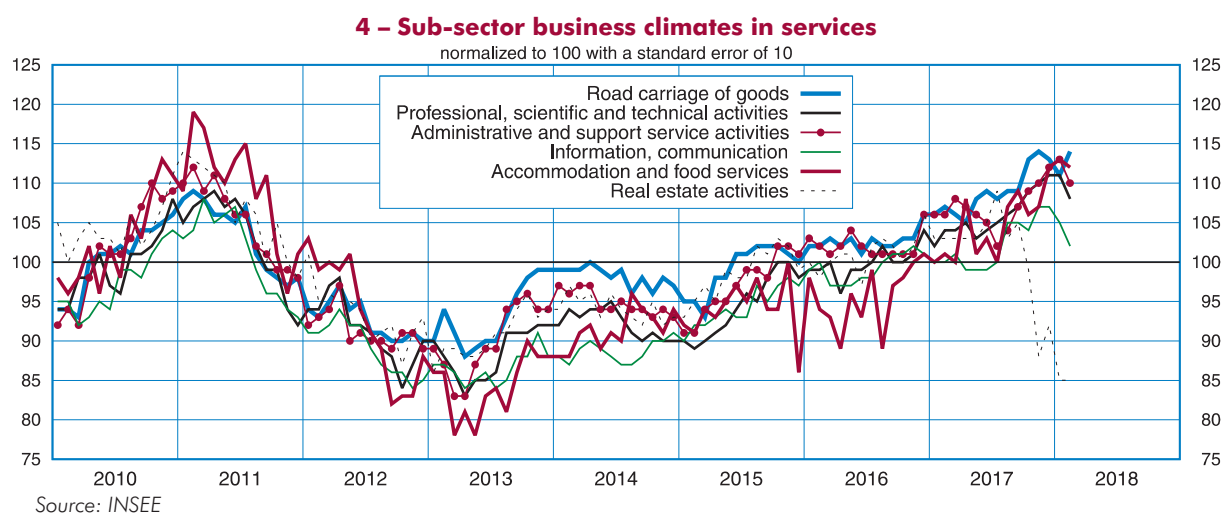
sub-sectors. Production accelerated in transport (+1.1% after +0.3%) due to the rebound in air transport, in information-communication (+1.6% after +1.3%), in financial activities (+1.1% after +0.7%), in business services (+1.3% after +0.8%) and in “other service activities” (+1.2% after +0.9%). Only production in accommodation and food services slowed down, although remaining buoyant (+0.6% after +1.2%). Over 2017 as a whole, production in the market services branch excluding trade grew by 3.0%, a pace not seen since 2011.

After reaching its highest level since 2011 in December 2017, the business climate in services has slipped back since, while remaining positive (*Graph 4*). In February 2018, the composite indicator was above its long-term average in all sub-sectors except real estate activities where it continued to decline due to housing rental companies.

In this context, the activity of market services excluding trade should slow down a little in H1 2018 (+0.5% per quarter). By mid-2018, the growth overhang for the year should be +2.2%.

Mainly non-market services: activity is set to decelerate gradually in H1 2018

Mainly non-market activity decelerated slightly in Q4 2017 (+0.4% after +0.6%). It is set to slow down further in H1 2018 (+0.4% in Q1 followed by +0.2% in Q2). By mid-2018, the growth overhang is expected to be +1.3%, after +1.4% in 2017. ■



Foreign trade

At the end of 2017, world trade picked up (+1.5% after +0.9%), as did world demand for French goods (+1.4% after +0.6%). In this buoyant international context, French exports rose sharply (+2.4% after +1.0%), particularly in the manufacturing sector (+3.1% after +1.4%), due to deliveries of a backlog of aircraft and ongoing deliveries of military hardware.

In H1 2018, due to strong world demand and in spite of a slight appreciation of the euro, exports should hold firm, following a quarterly profile marked by the pace of deliveries of large aeronautical and shipbuilding contracts (+1.0% then +0.5%).

In Q4, imports slowed sharply (+0.3% after +2.2%), in particular those of manufactured goods and agricultural products. In Q1 2018, these are expected to pick up again (+1.1% then +1.2% per quarter).

By mid-2018, foreign trade should no longer be holding back French growth (+0.2 points of growth overhang at mid-2018), unlike in 2017 and 2016 (−0.3 and −0.8 points of contribution to annual growth).

World trade is expected to maintain a sustained pace through to mid-2018.

In Q4 2017, world trade accelerated sharply (+1.5% after +0.9%, Table 1), driven in particular by an upsurge in American, Japanese, German and Indian imports, and in spite of the decline in Chinese imports.

After a two-year slowdown, in 2017 world trade saw its strongest growth surge (+5.2%) since 2011.

Through to mid-2018, growth in world trade should remain steady (+1.3% then +1.2% per quarter), bolstered by buoyant imports in the advanced countries as well as the emerging countries, as suggested by the improvement in new export orders in the world business tendency surveys (*Graph 1*). The growth overhang of world trade at mid-year is already expected to stand at 4.2% in 2018.

Furthermore, world demand for French exports also picked up at the end of the year (+1.4% after +0.6%, *Graph 2*), mainly benefiting from the rise in German, American and Japanese imports. From now to mid-2018, this demand is expected to increase at virtually the same rate as world trade (+1.2% then +1.1% per quarter), thanks to the strong imports of its partners in the Eurozone.

Exports are expected to hold firm in H1 2018

In Q4 2017, French exports rose sharply (+2.4% after +1.0%, Table 2), most notably due to the momentum of exports of manufactured goods (+3.1% after +1.4%).

In particular, sales of transport equipment surged (+5.9% after +1.4%), as a result of record aeronautical deliveries at the end of the year and deliveries of military hardware. At the same time, sales of other industrial goods (+1.8% after +1.1%) and agri-food products (+2.0% after +0.3%) continued to rise. However, exports of energy products slumped (−5.1% after +0.1%) whilst those of agricultural produce slowed (+3.0% after +9.1%). Finally, service exports rallied (+1.2% after −1.2%).

Table 1

World trade and world demand for French products

levels ; percentage changes from previous period

	2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2			
World trade	1.9	1.0	0.9	1.5	1.3	1.2	2.0	5.2	4.2
Imports of advanced economies	1.6	1.1	0.6	1.9	1.1	1.2	2.7	4.9	4.0
Imports of emerging economies	2.6	0.7	0.7	0.8	1.9	1.4	0.4	5.4	4.1
World demand for French products	1.6	1.3	0.6	1.4	1.2	1.1	3.1	4.9	3.7

Forecast

Sources: INSEE, DG Trésor

French developments

In Q1 2018, in spite of the slight appreciation in the euro, exports are expected to pursue their steady rise (+1.0%), boosted by exports of manufactured goods (+1.2%, *Graph 3*). Indeed, in spite of the expected return to normal levels of aeronautical deliveries after an exceptional period at year's end, exports of manufactured goods are likely to benefit from the delivery of a number of major military and shipbuilding contracts, most notably that of the ocean liner *Symphony of the Seas*.

In addition, sales of energy products are expected to recover (+1.0%) and those of agricultural produce should maintain their momentum (+2.0%) thanks to good harvests in 2017. Nevertheless, service exports are likely to come to a standstill (0.0%) after a very vigorous quarter.

In Q2 2018, growth in exports is expected to slow considerably (+0.5%), in reaction to the temporary boost in the previous quarter due to the delivery of the liner and in spite of ongoing military hardware deliveries. Exports of manufactured goods are expected to slow to +0.2%.

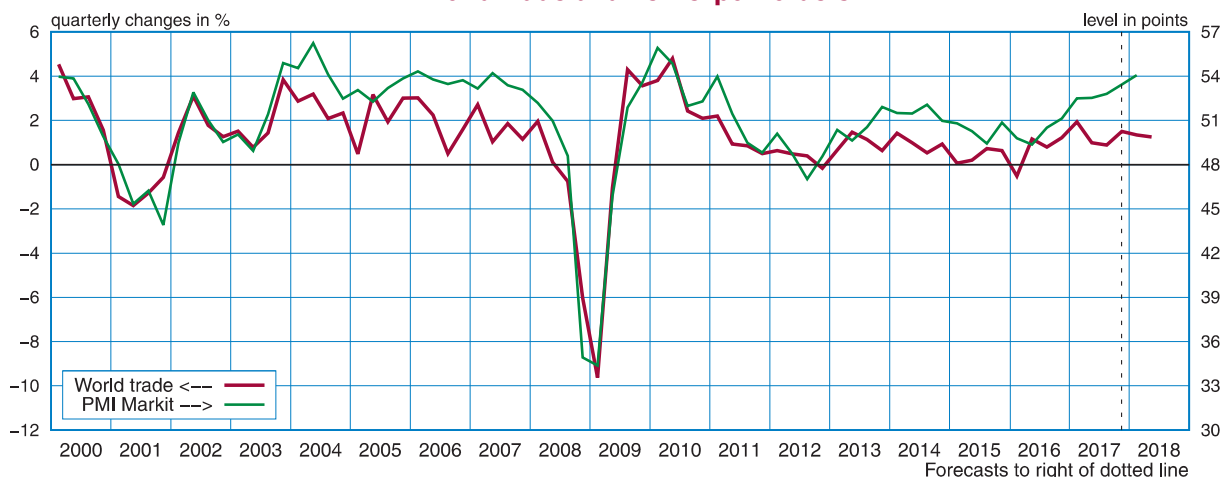
By the end of H1 2018, the annual carry-over effect on exports is expected to be +4.3%, or more than the annual average for 2017 (+3.3%).

Imports should maintain their robust pace in H1 2018

In Q4 2017, French imports slowed (+0.3% after +2.2%). This slowdown was mainly due to the downturn in manufactured goods (-0.7% after +3.7%), especially transport equipment (-4.7% after +9.7%) and capital goods (-0.8% after +3.7%). However, the rebound in energy purchases (+13.4% after -5.4%) and services (+1.0% after -0.3%) has helped to boost imports.

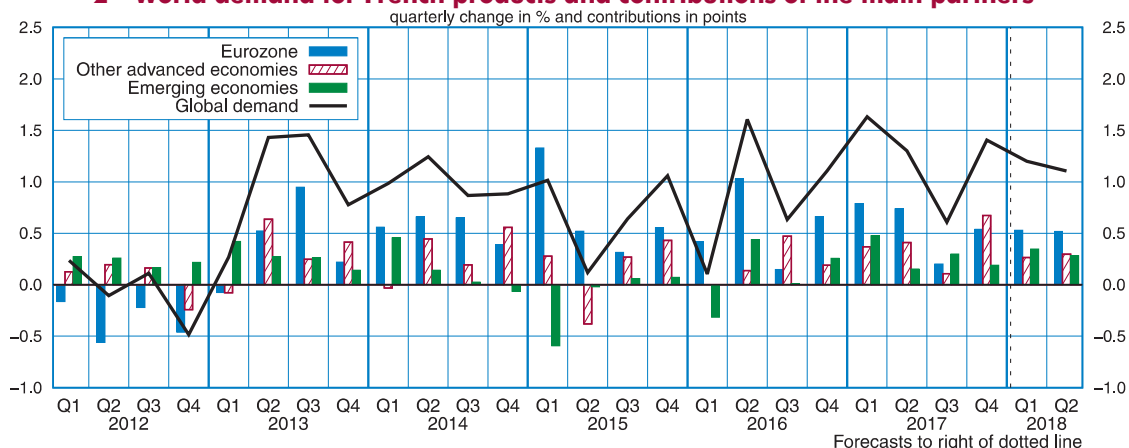
In H1 2018, imports are expected to gather pace again (+1.1%), driven by imports of manufactured goods (+1.3%). Purchases of agricultural products should also pick up again (+1.0%), like those of services (+2.1%). However, imports of raw hydrocarbons are expected to contract (-4.0%), in reaction to mass purchases in the previous quarter.

1 - World trade and new export orders



Sources: Markit, DG Trésor, INSEE forecast

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



Sources: DG Trésor, INSEE forecast

In Q2 2018, imports should continue to grow at a pace comparable to that seen over the last few years (+1.2%), but imports of manufactured goods are expected to slip back slightly (+1.1%) while those of energy products are likely to continue to decline (-2.0%), due to maintenance work on certain refineries.

By mid-2018, the annual carry-over effect in imports should be +3.4%, after an average annual increase of 4.1% in 2017.

The contribution of foreign trade to growth is expected to improve

Over 2017 as a whole, foreign trade dampened gross domestic product (GDP) growth by 0.3 points (after 0.8 points in 2016), with exports benefiting from the upsurge in world demand and imports being driven both by domestic demand and French exporters.

The contribution of foreign trade to growth is likely to be slightly negative in Q1 2018 (-0.1 points), then again in Q2 (-0.2 points). By mid-2018, the annual carry-over effect of the contribution to GDP of foreign trade is nevertheless expected to be positive (+0.2 points). ■

Table 2

Foreign trade growth forecast

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

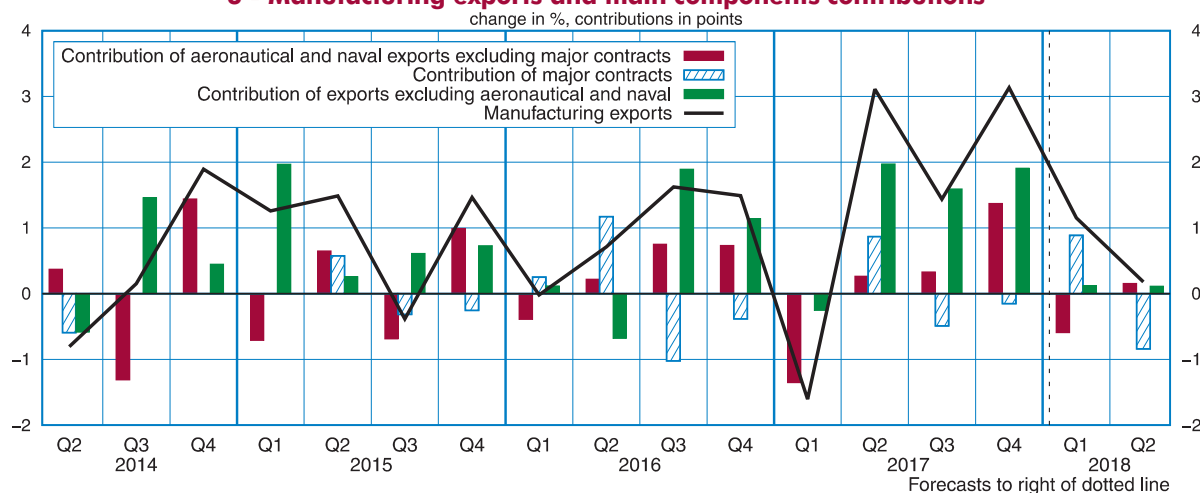
	Quarterly changes						Annual changes		
	2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2			
Exports									
All goods and services	-0.7	2.2	1.0	2.4	1.0	0.5	1.9	3.3	4.3
Manufactured products (69%)*	-1.6	3.1	1.4	3.1	1.2	0.2	3.0	4.4	5.2
Imports									
All goods and services	1.1	0.0	2.2	0.3	1.1	1.2	4.2	4.1	3.4
Manufactured products (69%)*	2.7	0.3	3.7	-0.7	1.3	1.1	4.4	5.5	3.5
Contribution of foreign trade to GDP	-0.5	0.6	-0.4	0.6	-0.1	-0.2	-0.8	-0.3	0.2

Forecast

*Part of exports (resp. imports) of non-energy industrial goods in exports (resp. imports) in a whole in 2017.

Source: INSEE

3 - Manufacturing exports and main components contributions



Source: INSEE

Employment

In France, non-farm market payroll employment continued to rise steadily in Q4 (+79,000 after +45,000 in Q3), taking advantage of the buoyancy of economic activity. 257,000 market-sector jobs were created over 2017 as a whole (after 213,000 in 2016), the most substantial growth since 2007. The hiring intentions of business leaders as expressed in the business tendency surveys suggest that market employment is likely to increase at virtually the same pace in H1 2018 (+129,000).

In the non-market sector, employment is expected to slip back again in H1 2018 (-21,000 after -13,000 jobs in H2 2017) with the sharp decline in the number of beneficiaries of assisted contracts.

Because of the downturn in non-market employment, the increase in payroll employment and self-employment was less sustained in the second part of the year (+114,000 in H2 2017 after +157,000 in H1), bringing the total for 2017 to 271,000 net job creations, virtually the same as in 2016. In H1 2018, employment should continue to grow at a similar pace to that at the end of 2017 (+113,000), again driven by the market sectors.

In H1 2018, market payroll employment is set to increase at the same pace as in 2017

In 2017 in France (excluding Mayotte), payroll employment in the non-farm market sectors increased by 257,000 (year-on-year at the end of the year), a ramp-up compared with 2016 (+213,000). The pace barely dipped in the second half of the year (+124,000 after +133,000 in H1; *Table 1*), the slight decrease being mainly the result of the end of the hiring premium for SMEs at the end of June 2017. In Q4 2017, non-farm market employment increased by 79,000: employment increased in industry for the first time since 2001 and continued to grow in construction (+13,000) as well as in the tertiary sector, excluding temporary work (+44,000). In the temporary work sector, job creations remained buoyant (+16,000).

Payroll employment should continue to rise in the market sectors through to mid-2018, keeping a sustained pace as in the previous half-year (*Graph 1*), as economic activity is still improving steadily. Policies to reduce labour costs are likely to have a neutral effect overall on the employment intensity of growth. The Tax Credit for Encouraging Competitiveness and Jobs (CICE) and the Responsibility and Solidarity Pact (PRS) are expected to continue to boost growth in employment, creating around 15,000 jobs in H1 2018, or slightly less than at the end of 2017.

Table 1

Change in employment in thousands, SA

	2017				2018		2017 H1	2017 H2	2018 H1	2016	2017	Level end 2017
	Q1	Q2	Q3	Q4	Q1	Q2						
Mainly non-agricultural market sectors (1)	56	77	45	79	70	59	133	124	129	213	257	16,713
Industry	-3	-2	0	6	3	3	-5	6	6	-25	1	3,144
Construction	8	6	3	13	5	5	14	16	10	-14	30	1,358
Temporary employment	2	28	11	16	13	7	30	26	20	98	56	743
Market services excl. tempory employment	49	45	32	44	49	44	93	76	93	154	170	11,469
Agricultural workers	4	0	0	1	2	2	4	1	3	1	5	304
Mainly non-market service sectors	12	8	-5	-8	-12	-9	19	-13	-21	46	7	8,056
Self-employed	1	1	1	1	1	1	1	1	1	-6	2	2,811
TOTAL EMPLOYMENT	72	85	41	73	60	52	157	114	113	254	271	27,884

Forecast

(1) Sectors DE to MN and RU

Source: INSEE

However, the impact of discontinuing the hiring premium for SMEs on 30 June 2017 is likely to continue into the start of 2018, and in similar proportions.

Employment in the tertiary sector should remain sound

In 2017, temporary employment continued to rise sharply (+56,000) albeit a little more slowly than in 2016 (+98,000, *Graph 2*). It increased significantly in both H2 2017 (+26,000) and H1 (+30,000). As temporary employment responds particularly quickly to fluctuations in activity, it recovered sooner than the other components of employment and in 2017 exceeded the high levels it had achieved before the economic crisis of 2008-2009. Given the prospects declared by business leaders in the sector, temporary work should continue to grow at a similar pace in the first half of 2018 (+20,000 in H1).

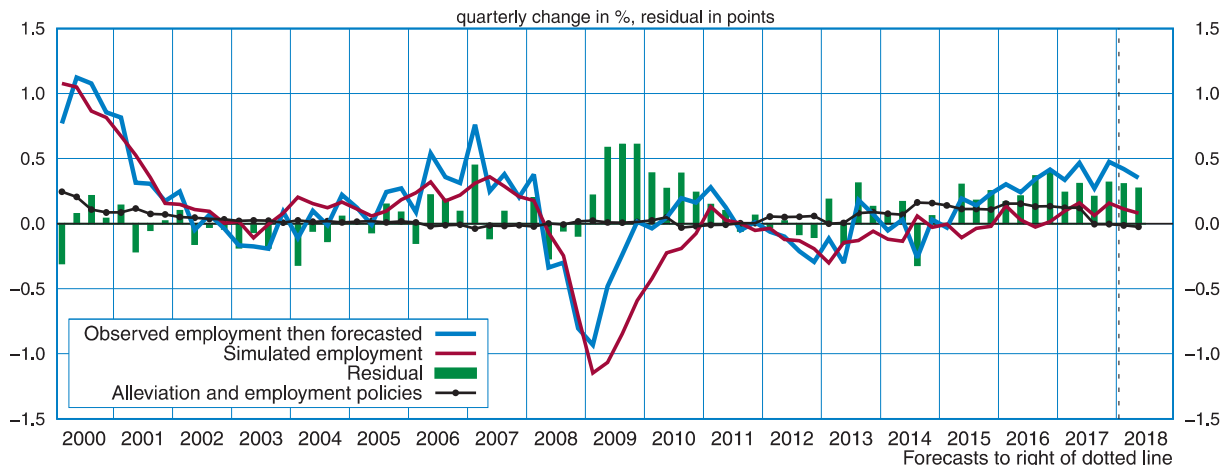
Employment in the tertiary market sector excluding temporary work picked up slightly in 2017 (+170,000 after +154,000 in 2016). Growth in activity should be sustained and business leaders remain optimistic about the growth of their workforce: these sectors are therefore likely to maintain a similar pace in H1 2018 (+93,000 over the half-year, *Graph 3*).

All in all, including temporary work, net job creations in the tertiary market sector reached 226,000 in 2017 (+123,000 in H1 2017, then +102,000 in H2) and should remain solid in the first half of 2018 (+113,000 in H1).

Industry is creating jobs anew

In 2017, industry returned to growth (+1,000 net job creations over one year after -25,000 the year before and -35,000 in 2015). The expectations of business managers in industry regarding their workforces suggest that employment in industry is

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

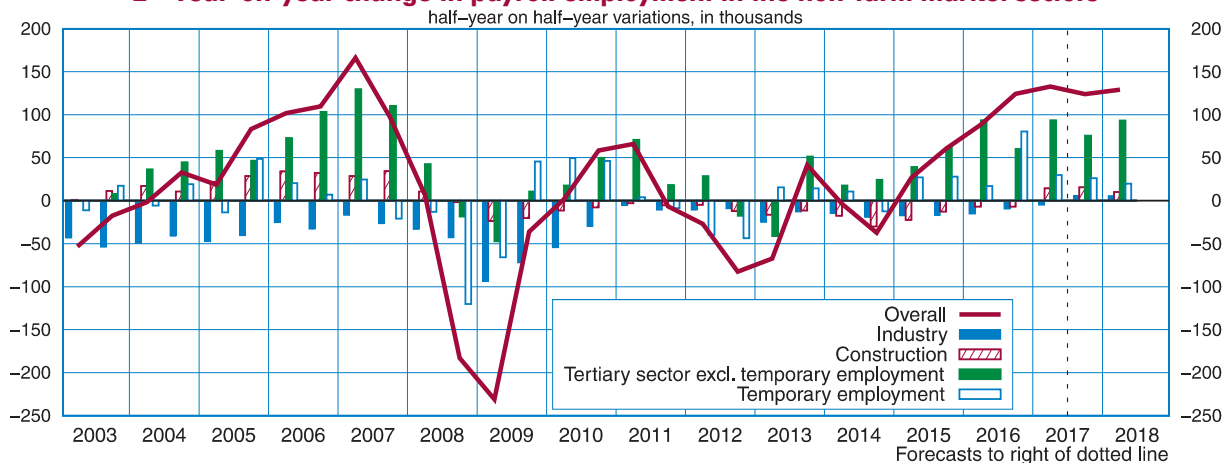


Note: The equation residual for employment is the spread between the observed employment and the simulated employment from past and current variations in employment and activity and from effects of employment policies (included, over the recent period, the effects of the CICE, the PRS and the employment 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.

Scope: France excluding Mayotte

Source: INSEE

2 - Year-on-year change in payroll employment in the non-farm market sectors



Scope: France excluding Mayotte

Source: INSEE

French developments

likely to continue to grow in H1 2018 (+6,000), as in H2 2017.

Employment in the construction sector is expected to remain solid

Payroll employment in construction decreased almost continuously between the end of 2008 and the end of 2016. However, job losses have gradually decreased and since the start of 2017, the sector has returned to job creation: +30,000 in 2017, after -14,000 in 2016. In the business tendency surveys, the expectations of business leaders concerning the growth of their workforces remain very high in civil engineering and building construction. Employment in construction should therefore continue to improve significantly in H1 2018 (+10,000).

Non-market employment is expected to slip back

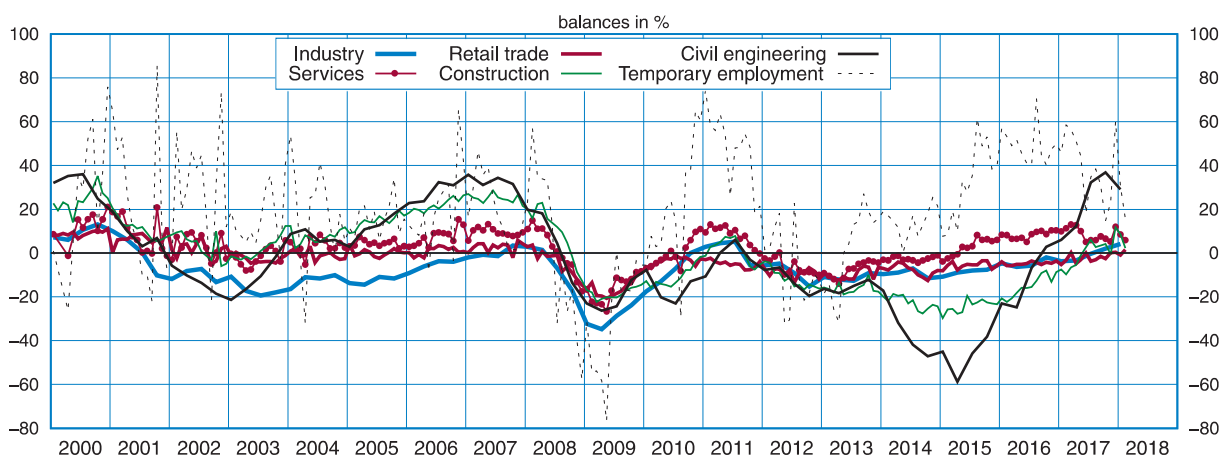
In 2017, non-market employment slowed considerably: +7,000 jobs against +46,000 in 2016. This slowdown is mainly due to the decrease from H2 onwards in the number of beneficiaries of contrats uniques d'insertion (single integration

contracts, CUI) and emplois d'avenir (future jobs contracts) (Table 2 and Focus). With 49,000 fewer assisted contracts in the first half of 2018, non-market employment is likely to fall back again (-21,000 after -13,000 in H2 2017).

Total employment should increase by 113,000 in H1 2018

Including the self-employed and agricultural employees, net job creations across all sectors combined reached 271,000 in 2017, a slight acceleration compared with 2016 (+254,000). Over the year, total employment slowed significantly in H2: +114,000 after +157,000 in H1. This dip was the result of market payroll employment on the one hand, with the end of the hiring premium for SMEs in mid-2017, and non-market payroll employment on the other hand, with the drop in the number of beneficiaries of assisted contracts. In H1 2018, total employment should not slow further, with 113,000 net job creations, driven by the buoyancy of economic activity, and with the impact of the reduction in the number of assisted contracts being slightly less pronounced. ■

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

	2017				2018		2017 H1	2017 H2	2018 H1	2016	2017
	Q1	Q2	Q3	Q4	Q1	Q2					
"Future Jobs"	-4	-4	-13	-10	-10	-8	-8	-23	-18	-21	-31
CUI-CAE incl. ACI*	4	3	-41	-35	-16	-14	7	-76	-31	14	-69
Civic service contracts	3	6	5	0	1	0	10	4	1	5	14
Total	3	6	-50	-45	-26	-22	9	-95	-47	-2	-86

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

Assisted contracts in 2017

Assisted contracts, via direct or indirect aid, reduce the costs to employers of hiring or training certain employees. These assisted contracts are usually aimed at groups furthest removed from the labour market or young people. At the end of 2017, not including Alternance training contracts, the vast majority of those on assisted contracts were on a Single integration contract (CUI), more often in the non-market sector (231,000 in France excluding Mayotte) than in the market sector (17,000). Market sector integration contracts (in the form of a Single integration contract - Employment initiative contract, or CUI-CIE) and their non-market sector equivalent (Single integration contract - Employment support contract, or CUI-CAE) are offered to a broad spectrum of people experiencing problems finding employment (e.g. job applications constantly rejected, etc.), irrespective of age or place of residence¹.

"Future jobs" contracts (including Future jobs "teachers") were created in November 2012, and their numbers grew considerably in the course of the next two years. They are aimed at young people with few or no qualifications, living primarily in sensitive urban areas (ZUS) or rural regeneration areas (ZRR). These contracts are mainly in the non-market sectors (46,000 by the end of 2017), but they can also be awarded in market sectors (16,000 by the end of 2017) such as ecology, digital technology and tourism, with lower subsidies.

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.

Assisted contracts are usually used countercyclically: when economic activity slows, assisted contract numbers can be increased rapidly to mitigate job losses and the resulting increase in unemployment.

In the short term, however, the effect these contracts have on employment depends on whether the jobs are in the market or non-market sectors. In the non-market sector, it is generally assumed that the number of jobs created is equivalent to the variation in the number of beneficiaries (i.e. the difference between contracts signed or renewed and those that are completed in the course of the year) multiplied by the rate of contracts covered by the State (e.g. 70% for CUI-CAE signed until the end of 2017, a rate that is lowered to 50% in 2018, taking into account the reduction in numbers decided in the Finance Bill). In the market sector, however, assisted contract jobs would have been created even if this scheme had not existed, so in this case there is a windfall or substitution effect, which can vary in scale from one contract to another. The effect of assisted contracts on market sector employment is therefore considerably lower than the variation in the number of beneficiaries. This effect is estimated from empirical studies, and from the extent of the decrease in the cost of labour as a result of these contracts (DARES, 1996). These assessments involve considerable uncertainty and they are only valid in the short term. A long-term assessment would need to take into account:

- the consequences of these measures on the labour market (wage adjustment, labour force participation rate, etc.),
- the effects on human capital, especially on the beneficiaries' ability to integrate the labour market,
- the impact on the economy of the way these schemes are financed.

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)				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Subsidised jobs in the non-market sectors	481	431	452	477	383	261	355	388	378	277
Non-market-sector integration contracts (CUI ¹)	408	355	388	419	350	195	256	287	300	231
Future Jobs contracts ²	73	76	65	59	32	66	98	102	78	46
Subsidised jobs in the market sector³	513	516	591	583	538	653	647	687	684	673
Lowering wage costs	73	80	122	98	37	54	65	97	75	37
Market-sector integration contracts (CUI)	54	53	96	79	28	37	36	61	44	17
Future Jobs contracts	14	22	21	16	6	12	24	31	28	16
Exemptions from social security contributions (ZRR ⁴ et ZRU ⁵)	5	5	5	3	4	4	5	4	2	4
Work-study training	440	436	469	484	500	599	582	590	609	636
Apprenticeship	270	263	283	289	295	414	395	394	402	412
Professionalization	170	174	186	195	205	185	188	196	207	224

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, INSEE calculations

French developments

The number of beneficiaries of assisted contracts in the non-market sector dropped substantially in 2017

In the non-market sector, 383,000 assisted contracts were signed or renewed in 2017, after 477,000 in 2016. The flow of new "Future job" contracts into the non-market sector was virtually halved in 2017 (32,000, after 59,000 in 2016) while for the first time in four years, the number of beneficiaries of Single integration contracts also fell dramatically (231,000 by the end of 2017 after 300,000). All in all, the number of beneficiaries of assisted contracts in the non-market sector reached 277,000 at the end of 2017, after 378,000 at the end of 2016, a drop of 101,000 people. Earlier changes were smaller in scale (-10,000 in 2016 and +33,000 in 2015).

In the market sector, the number of beneficiaries of Single integration contracts and Future jobs contracts also fell significantly in 2017

At the end of 2017, 648,000 people were beneficiaries of an assisted contract in the market sector, the vast majority on Alternance contracts. These numbers were down 36,000 compared with the end of 2016, after being virtually stable the previous year (-3,000).

This fall concerns both Single integration contracts (CUI) and Future jobs contracts. In 2017, 28,000 CUIs were signed or renewed in the market sector, against 79,000 in 2016. The number of beneficiaries of these contracts therefore decreased by 27,000 compared to the end of 2016 (having already declined by 17,000 the previous year), to reach 17,000 at the end of 2017.

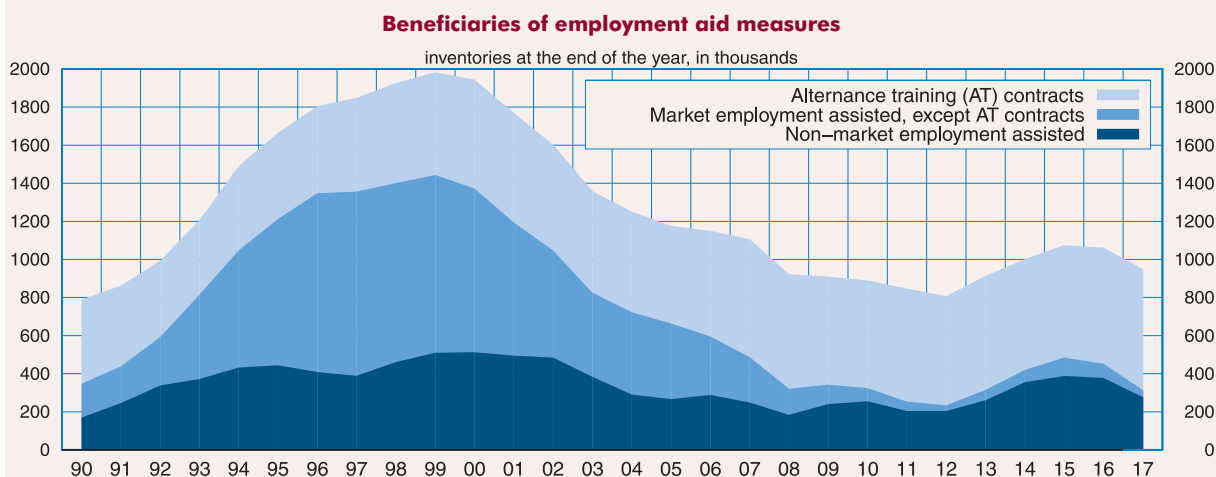
The number of signings or renewals of Future jobs contracts was much lower in 2017 than the previous year (6,000 after 16,000 in 2016) and the number of beneficiaries of these contracts practically halved (16,000 at the end of 2017 against 28,000 at the end of 2016).

At the end of 2017, 636,000 people were beneficiaries of Alternance training contracts, of whom 412,000 had apprenticeship contracts and 224,000 had professionalization contracts. These figures were up slightly compared with the end of 2016 (609,000).

Lastly, the number of beneficiaries of social charge exemption measures in rural regeneration zones (ZRR) or urban regeneration zones (ZRU) increased slightly in 2017 (4,000 by the end of 2017 after 2,000 at the end of 2016). ■

Bibliography

Dares (1996), « 40 ans de politique de l'emploi », La Documentation française.



Scope: Metropolitan France

Sources: Dares, Agence de services et de paiement

Unemployment

In H2 2017, the number of unemployed in France decreased by 139,000. Thus the ILO unemployment rate fell by 0.5 points, to 8.9% of the labour force, after 9.4% in mid-2017. Over the year, the drop in the unemployment rate was 1.1 points, the largest fall since the beginning of 2008.

Over the forecasting period, the rise in employment is expected to almost match the increase in the labour force, so the unemployment rate is likely to remain the same: by mid-2018, it should stand at 8.9% in France, the same as at the end of 2017, or 0.5 points lower than in mid-2017.

The unemployment rate fell by 0.5 points in H2 2017

In H2 2017, the number of unemployed declined by 139,000 (Table) and the unemployment rate fell by 0.5 points (Graph), after -0.6 points in H1: it stood at 8.9% in France (excluding Mayotte), after 9.4% in mid-2017. This was its lowest level since 2009. Set against the Q4 2016 level, the drop in the unemployment rate was 1.1 points, the highest year-on-year since Q1 2008.

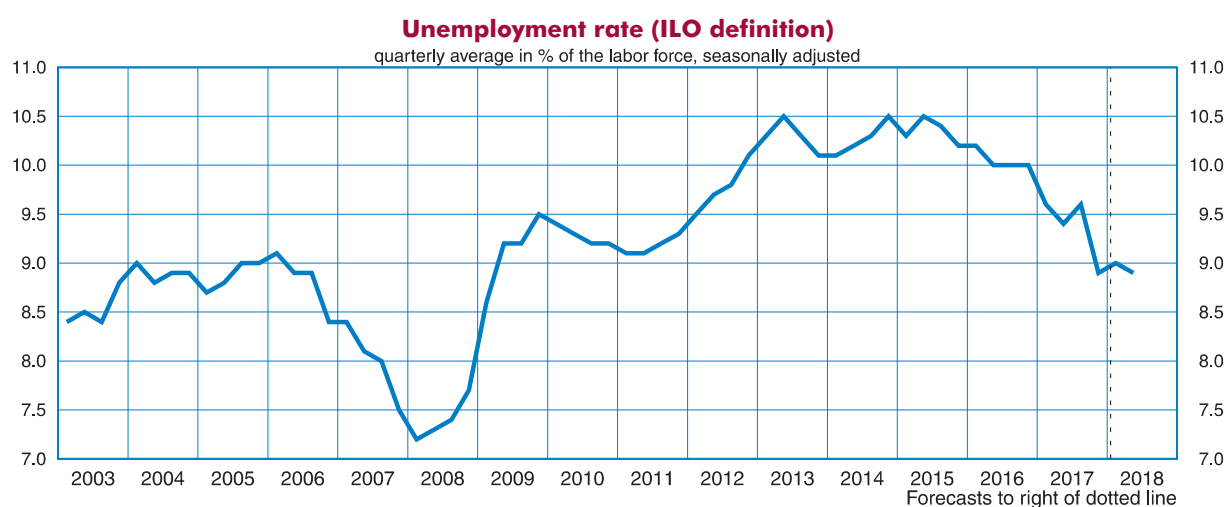
In Metropolitan France, the halo of unemployment¹ remained virtually stable across 2017 (+12,000).

The youth unemployment rate fell sharply in 2017

The unemployment rate in France dropped for all age brackets, especially for 15-24-year-olds. In Q4 2017, the youth unemployment rate fell by 1.1 points compared with the previous quarter, and by 2.6 points compared with Q4 2016. It stood at 21.3% of the labour force, its lowest level since the end of 2008. The unemployment rate for 25-49-year-olds stood at 8.3%: it decreased by 0.9 points between Q3 and Q4 2017, and by 1.1 points over the year. The rate for over-50s fell by 0.2 points over the quarter and by 0.5 points over the year, to stand at 6.4% at the end of 2017.

Between Q3 and Q4 2017, the unemployment rate dropped a little more sharply for women (-0.8 points) than for men (-0.6 points). The unemployment rate for women thus remains slightly lower than that for men. In Q4 2017 it was 8.8%, the same level as early 2009, and the rate for men was 9.1%, the same as in Q2 2010.

1. The halo of unemployment is made up of economically inactive persons as defined by 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.



Scope: France (excluding Mayotte), population of households, people aged 15 or over
Source: INSEE, Employment Survey

French developments

Over one year, the unemployment rate fell in very similar proportions for men (-1.1 points) and for women (-1.0 point).

After its sharp fall, the unemployment rate should remain unchanged through to mid-2018

In 2017, the spontaneous growth in the labour force (+91,000) was slightly less than in 2016 (+103,000): the scheme for long careers partly offset the impact of the age of pension eligibility being raised once again at the beginning of 2017, this time to 62 years old. The jobseekers' training plan, which resulted in some jobseekers leaving the labour force temporarily, culminated at the end of 2016 and its after-effect contributed to the slight rise in the labour force in 2017. The fall in unemployment would also appear to have encouraged some inactive people to enter the

labour market, through an economic downturn effect. Finally, when the different sources that provide employment data were compared, a substantial divergence was observed in 2017: employment estimates based on declarations by enterprises to the administrations that collect social security contributions ("Employment" line in the table) increased less quickly than employment as measured in the Labour Force Survey, which is used when calculating the unemployment rate. This deviation in momentum in 2017 can be interpreted as a catch-up effect, after three consecutive years of differences in the opposite direction. Assuming a moderate backlash and a narrowing of these divergences in H1 2018, the unemployment rate should remain unchanged over the forecasting period: in mid-2018, it is expected to be 8.9% in France, the same as at the end of 2017. ■

Changes in the labour force, employment and unemployment

in thousands, SA, and in %

	Quarterly changes										Annual changes			
	2016				2017				2018		2015	2016	2017	2018 S1
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2				
Population of the 15-64 age bracket	-6	-6	-6	-6	1	1	1	1	-5	-5	-77	-22	3	-10
Population of the 15-59 age bracket	1	1	1	1	-3	-3	-3	-3	-6	-6	-63	4	-11	-12
Labour force	54	-16	72	83	-58	46	128	-147	89	21	19	193	-31	110
including:														
(a) Contribution of the population and the trend activity rate	26	26	26	26	23	23	23	23	21	21	121	103	91	42
(b) Estimated effects of economic downturns	2	2	2	2	5	5	5	5	0	0	-4	8	21	0
(c) Estimated effects of public policies	-3	-18	-5	-3	14	6	3	1	1	0	3	-29	24	1
(d) Other short-term fluctuations (residual)	29	-26	49	58	-100	11	98	-176	67	0	-101	110	-167	67
Employment	50	55	69	73	69	79	63	57	67	56	92	246	268	123
Reminder: End-of-period employment (see "Employment" sheet)	50	59	79	66	72	85	41	73	60	52	105	254	271	113
ILO unemployment	4	-71	3	11	-127	-33	65	-204	22	-35	-72	-53	-298	-13
	Quarterly average										Average in the last quarter of the period			
ILO unemployment rate (%)														
France excluding Mayotte)	10.2	10.0	10.0	10.0	9.6	9.4	9.6	8.9	9.0	8.9	10.2	10.0	8.9	8.9

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.

Scope: France (excluding Mayotte for employment, unemployment and estimated effects of public policies)

Source: INSEE

Consumer prices

In February 2018, the year-on-year inflation rate stood at +1.2% according to the provisional estimate. Through to mid-2018, it is expected to rise anew, to +1.6%, its highest level since October 2012. Tobacco prices are expected to accelerate sharply with the tax increase, and energy inflation should rise due to the base effect. Excluding tobacco, inflation is likely to reach a year-on-year rate of +1.3% by June 2018. After slipping back at the end of 2016, core inflation remained weak throughout 2017, before picking up again in January 2018 (+0.9% in January 2018, compared to +0.5% on average over 2017). Between now and June 2018, it should remain relatively stable, at +0.8% year-on-year, in spite of rises in the prices of services driven by vigorous wages: the fall in social housing rents should curb inflation, while prices of manufactured goods are expected to fall slightly.

Headline inflation is expected to rise again

In February 2018, according to the provisional estimate of the consumer price index, headline inflation decreased slightly over the year, to +1.2% after +1.3% in January (*Graph 1*). Prices of food

products slowed (+0.8% after +1.2%) as did those of services (+1.1% after +1.3%). Energy prices increased by 5.2%, as in January. However, prices of manufactured goods picked up a little (+0.1% after 0.0%).

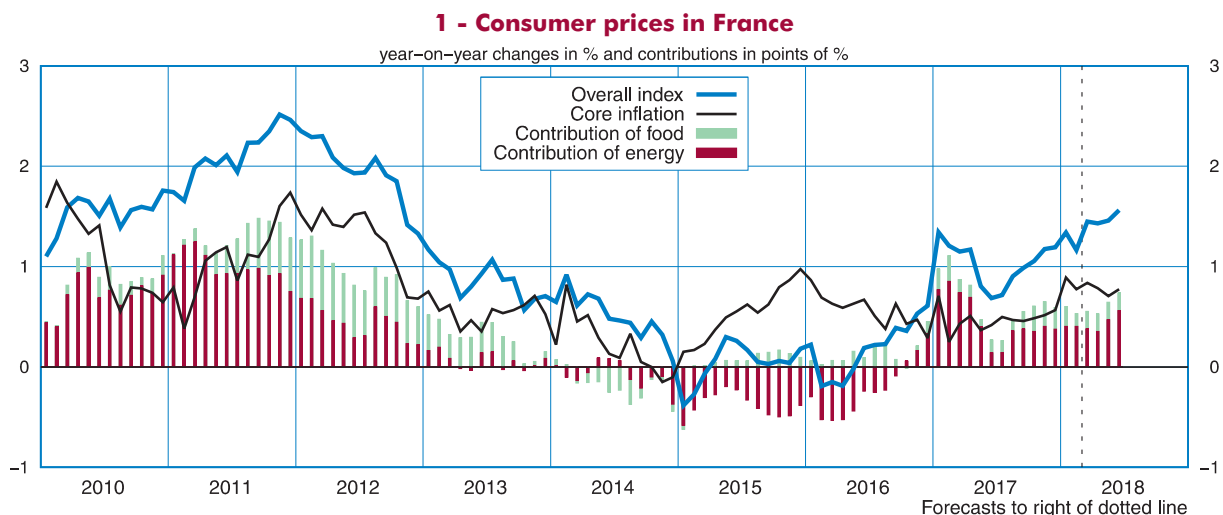
Headline inflation is expected to rise again in H1 2018 to reach +1.6% in June 2018 (*Table*), a level that has not been reached since October 2012. It is expected to be driven by a substantial increase in tobacco prices (+17.0% over the year to June 2018, compared to +4.9% in February 2018) and by the acceleration in energy prices (+7.2% against +5.2%).

Energy price rises are expected to accelerate due to the base effect

The increase in energy prices became more marked during H2 2017, due to the upturn in crude oil prices. At the beginning of 2018 it remained sustained, at +5.2% in February 2018, due to the increase in energy taxes. Assuming that the price of a barrel of Brent crude remains stable at \$63 (€51.2), the rise in energy prices is likely to pick up due to the base effect, 2 to +7.2% over the year to June 2018.

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

2. Prices having fallen over spring 2017, the assumption of a price for a barrel of Brent crude remaining at \$63 until June 2018 mechanically leads to an increase in the year-on-year rate.



Source: INSEE

French developments

Tobacco prices are due to surge

Tobacco prices gathered pace at the end of 2017, with the tax increase. In February 2018 they had risen by 4.9% year-on-year. By June, they are expected to have accelerated sharply to +17.0% year-on-year, with the new tax increase on 1st March. This rise is nevertheless expected to be slightly lower than initially envisaged in the Social Security Financing Act for 2018, some manufacturers having opted to rein in their margins to cushion the effect on sales.

Food prices are expected to pick up slightly

Food inflation is likely to increase slightly by June 2018, to +1.1% compared to +0.8% in February. Fresh food prices dipped in February (-1.5%), due to the exit from the year-on-year figures of the sharp increase of early 2017. Based on the assumption that production conditions will be normal over the coming seasons, prices should pick up by June 2018 (+2.3% year-on-year), due to the base effect. Excluding fresh food, food inflation picked up again in 2017, driven by dairy produce and meat prices in particular. It stood at

+1.2% in February 2018, its highest level since the beginning of 2013. However, it is expected to dip by June 2018, tempered by the recent appreciation of the euro and the fall in world prices, to stand at +0.9%.

Prices of manufactured goods should fall only slightly

Prices of manufactured goods are barely expected to fall by mid-2018 (-0.2% year-on-year in June 2018, compared to +0.1% in February). Prices of "other manufactured goods" (excluding clothing and health products) should continue to increase (+0.2% year-on-year in June 2018 compared to +0.3% in January), under the influence of past increases in commodity prices. However, the recent appreciation of the euro should curb price rises.

After enduring a series of jolts 2017 due to the sales being held later than in previous years, prices of clothing and footwear fell slightly at the end of 2017, before picking up again at the beginning of 2018 (+0.4% year-on-year in January). Between now and June 2018, they are expected to pick up only slightly (+0.5%), in line with past changes in the price of textile fibres.

Consumer prices

changes as %

CPI* groups (2018 weightings)	January 2018		February 2018		March 2018		June 2018		Annual averages	
	yoy	cyoy	yoy	cyoy	yoy	cyoy	yoy	cyoy	2016	2017
Food (16.3%)	1.2	0.2	0.8	0.1	1.1	0.2	1.1	0.2	0.6	1.0
including: fresh food (2.4%)	1.8	0.0	-1.5	0.0	0.7	0.0	2.3	0.1	3.7	3.3
excluding: fresh food (13.8%)	1.1	0.2	1.2	0.2	1.1	0.2	0.9	0.1	0.1	0.6
Tobacco (1.9%)	5.8	0.1	4.9	0.1	16.7	0.3	17.0	0.3	0.1	2.7
Manufactured products (25.9%)	0.0	0.0	0.1	0.0	-0.1	0.0	-0.2	-0.1	-0.5	-0.6
including:										
clothing and footwear (4.2%)	0.4	0.0	1.1	0.0	0.4	0.0	0.5	0.0	0.1	0.0
medical products (4.3%)	-2.1	-0.1	-2.4	-0.1	-2.4	-0.1	-2.6	-0.1	-3.0	-2.1
other manufactured products (17.5%)	0.3	0.1	0.3	0.1	0.2	0.0	0.2	0.0	-0.1	-0.2
Energy (7.8%)	5.2	0.4	5.2	0.4	4.9	0.4	7.2	0.6	-2.8	6.2
including: oil products (4.1%)	7.9	0.3	7.0	0.3	7.9	0.3	11.2	0.5	-5.4	10.3
Services (48.1%)	1.3	0.6	1.1	0.5	1.3	0.6	1.2	0.6	0.9	1.0
including:										
rent-water (7.6%)	0.6	0.0	0.7	0.0	0.6	0.0	-0.4	0.0	0.6	0.4
health services (6.2%)	2.0	0.1	2.0	0.1	2.0	0.1	1.0	0.1	0.2	1.3
transport (2.8%)	-0.2	0.0	0.3	0.0	1.1	0.0	1.4	0.0	-1.5	2.0
communications (2.2%)	-0.2	0.0	-0.9	0.0	-0.8	0.0	1.7	0.0	2.0	-3.5
other services (29.2%)	1.6	0.5	1.3	0.4	1.5	0.4	1.6	0.5	1.3	1.4
All (100%)	1.3	1.3	1.2	1.2	1.5	1.5	1.6	1.6	0.2	1.0
All excluding energy (92.2%)	1.0	0.9	0.8	0.8	1.2	1.1	1.1	1.0	0.5	0.6
All excluding tobacco (98.1%)	1.3	1.2	1.1	1.1	1.1	1.1	1.3	1.2	0.2	1.0
Core inflation (60.4%)**	0.9	0.5	0.8	0.5	0.8	0.5	0.8	0.5	0.6	0.5

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

On the other hand, the decrease in the prices of medical products should become more pronounced by mid-2018 (–2.6% year-on-year in June 2018 compared to –2.1% in January), particularly the prices of medicines, in line with the target set in the Social Security Financing Act for 2018. However this should be tempered by the buoyancy of prices of spectacles and contact lenses, which have stopped falling since the effects of the March 2014 “Consumption Act” wore off.

Service prices are expected to pick up slightly

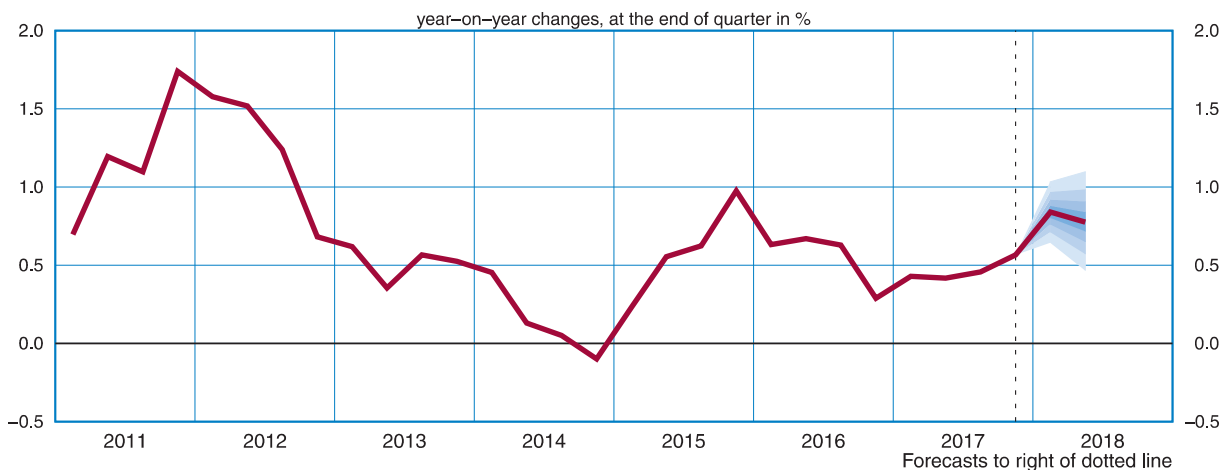
Prices of services should accelerate very slightly between now and mid-2018 (+1.2% year-on-year in June 2018 compared to +1.1% in February), in spite of price rises buoyed by the dynamism of nominal wages. Prices of communication services virtually stopped falling in January (–0.2% compared to –4.0% in December 2017), as the sharp decreases seen early in 2017 are no longer included in the year-on-year figures. Between now and June 2018, they are expected to pick up a little due to the base effect (+1.7%), but price increases are expected to remain limited due to the pressure of competition, which remains high in this sector. Prices of transport services stalled at the beginning of 2018 (–0.2% year-on-year in January 2018

compared to +2.7% six months earlier), due to lower prices in air transport. By June 2018, they should bounce back slightly (+1.4%), in the wake of the rise in oil prices, but the level of dynamism is expected to remain moderate. As for prices of health services, they are expected to slow (+1.0% year-on-year in June 2018 compared to +2.0% in January), due to the exit from the year-on-year figures of the May 2017 increase in the doctor’s consultation rate. Finally, rent prices should fall (–0.4% in June 2018, after +0.6% in January), with the decrease in social housing rents voted in the Finance Law, despite the expected upturn in private housing.

Core inflation is expected to be virtually stable

After falling back at the end of 2016, core inflation remained sluggish throughout 2017 (Graph 2), before picking up again in January 2018 (+0.9% compared to +0.5% on average over 2017). Between now and June 2018, it should remain relatively stable, at +0.8% year-on-year: vigorous nominal wages should drive increases in service prices, but the decrease in social housing rents should curb inflation, while prices of manufactured goods are expected to fall slightly. ■

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

Wages

In 2017 the basic monthly wage in the market branches increased by 1.3% as an annual average, a similar pace to that of 2016 (+1.2%). The average wage per capita would appear to have accelerated sharply (+2.0% after +1.2%). However, in real terms, it seems to have slowed very slightly (+1.1% after +1.3%) due to the acceleration of prices in 2017.

In H1 2018, the upturn in inflation is likely to stimulate a further acceleration of the nominal average wage per capita compared with H2 2017. However, this is only likely to be a partial adjustment and the average wage per capita should slow in real terms with a growth overhang of +0.5% by mid-2018. Net wages should be more dynamic, however, as the decrease in contributions is greater than the rise in the Generalised Social Contribution (CSG) for private sector employees.

In general government, the nominal average wage per capita would appear to have picked up substantially in 2017 (+2.2% as an average over the year after +0.8% in 2016) as a result of a rise in the index point and statutory measures. In real terms, this acceleration would appear to be more moderate (+1.3% in 2017 after +0.9%).

In H1 2018, the modalities for offsetting the increase in the general social security contribution for general government are different from those in the private sector and come partly in the form of an allowance which should contribute to maintaining sustained growth in the nominal average wage per capita,

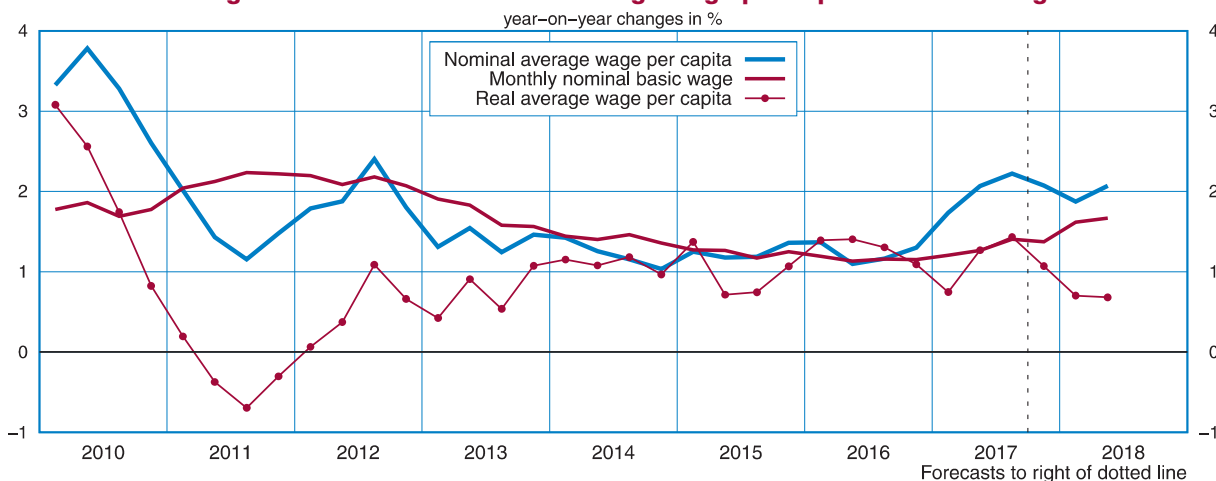
despite no increase in the index point this year and despite a one-year deferral of certain modalities of the protocol for career paths and wages (PPCR). The annual growth overhang is likely to reach +1.6% by mid-2018 (after +2.0% in 2017). In real terms, the average wage per capita in general government should slow, with a growth overhang of +0.4% by mid-2018.

As an annual average, the average wage per capita would appear to have picked up sharply in 2017

In 2017, the minimum wage was increased by a little more than the previous year (+0.9% after +0.6%), unemployment fell significantly and inflation picked up again. In the non-farm market branches, the basic monthly wage increased by 1.3% as an annual average, almost the same as in 2016 (Graph and Table). The average wage per capita, which covers a wider range of remunerations (bonuses, profit-sharing, overtime payments) would appear to have accelerated more significantly (+2.0% in 2017 after +1.2%), mainly as a result of a dynamic first quarter. In H2 2017, the rise in the average wage per capita would seem to have been slightly less marked than in H1 (+0.9% half-year on half-year after +1.3%).

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, Acoss

Across 2017, prices² picked up pace more sharply than the nominal average wage per capita, so the real average wage per capita would seem to have slowed at the end of the year (+0.4% in H2 after +0.8%). Growth in the real basic monthly wage remained moderate: +0.2% in H2, as in H1.

In early 2018, nominal wages should remain buoyant but real wages are likely to slow down considerably

The minimum wage was raised by +1.2% on 1st January 2018, a greater increase than in the previous two years. In H1 2018, this acceleration in the minimum wage, combined with the expected upturn in inflation and growing hiring difficulties, should help to boost wages. The nominal average wage per capita in the market branches is expected to rise by 1.2%, after +0.9% half-year on half-year. In real terms, the average wage per capita should pick up slightly (+0.4% after +0.3%).

By mid-2018, the annual growth overhang of the nominal average wage per capita should reach +1.7%. In real terms, however, the growth overhang is likely to be only +0.5% after +1.1% in 2017 due to the expected ramp-up of prices. Since the rise in the general social security contribution is more than offset by the drop in other social contributions (health and unemployment), net wages should be a little more dynamic.

In the civil service, gross nominal wages accelerated in 2017 and are unlikely to weaken at the beginning of 2018

In general government, the index point was increased by 0.6% in February 2017. In addition, the protocol for "career paths and wages" (PPCR) was boosted during 2017 with measures for revising the wage grids, in addition to bonus/points transfer operations. Across the year, the average wage per capita in general government would therefore appear to have accelerated substantially in nominal terms: +2.2% in 2017 after +0.8% in 2016. Given the rise in prices, the real average wage per capita seems to have accelerated less than the nominal average: +1.3% after +0.9% in 2016.

For 2018, the index point is frozen and the application of certain modalities of the PPCR protocol have been deferred by a year. However, the terms of compensation for the rise in the Generalised Social Contribution are different from the private sector and come partly in the form of an allowance, contributing approximately +0.8 points to the rise in the average wage per capita in 2018. For these reasons, gross wages should remain buoyant: the annual growth overhang is likely to be +1.6% by mid-2018 after 2.2% in 2017. In real terms, it is expected to decline significantly to +0.4% mid-2018 after +1.3% the previous year. ■

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

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

in %

	Quarterly growth rates						Half-yearly rates			Annual averages		
	2017				2018		2017 H1	2017 H2	2018 H1	2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2						
Basic monthly wage	0.3	0.4	0.4	0.3	0.5	0.4	0.6	0.8	0.9	1.2	1.3	1.4
Average wage per capita in the non-farm market branches	0.8	0.4	0.5	0.4	0.6	0.6	1.2	0.9	1.2	1.2	2.0	1.7
Average wage per capita in general government (GG)										0.8	2.2	1.6
Household consumer price index (quarterly national accounts)	0.5	-0.1	0.1	0.5	0.7	0.2	0.4	0.6	0.8	-0.1	0.9	1.2
Real basic monthly wage	-0.2	0.4	0.3	-0.1	-0.2	0.2	0.2	0.2	0.1	1.2	0.4	0.2
Real average wage per capita (non-farm market branches)	0.3	0.4	0.4	0.0	-0.1	0.4	0.8	0.3	0.4	1.3	1.1	0.5
Real average wage per capita (GG)										0.9	1.3	0.4

Forecast

Sources: INSEE, Dares

Household income

In 2017, the purchasing power of household income would appear to have increased by 1.7%, a similar pace to that of 2016 (+1.8%). Earned income appears to have picked up substantially (+2.9% after +2.0%), with a similar recovery in consumer prices (+0.9% after -0.1%).

In H1 2018, earned income is set to gather pace once again. Households' purchasing power is expected to stall temporarily in Q1, mainly as a result of an upturn in inflation related to the increase in indirect taxes, and should then rebound in Q2.

In H1 2018, earned income should remain buoyant

In 2017, households' earned income appears to have accelerated again (+2.9% after +2.0% in 2016 and +1.5% in 2015; *Table 1*), particularly wages received by households (+3.2% after +2.0%). In the non-farm market sectors, the strong

acceleration in both the average wage per capita (+2.0% in 2017 after +1.2% in 2016) and operating payroll (+1.5% after +1.1% in 2016; *Graph*) appears to have contributed to this. Meanwhile, the operating income of sole proprietors would appear to have slowed (+1.3% after +1.6%). At the start of 2018, the payroll received by households is expected to remain buoyant (+1.7% half-year-on-half-year after +1.3%).

Property income appears to have recovered slightly in 2017 (+0.8% after -3.2% in 2016): the increase in distributed dividends seems to have offset the drop in life insurance income, related to the decline in interest rates paid to policyholders. In H1 2018, property income is likely to maintain its solid growth (+1.9% half-year-on-half-year after +1.9%): the reduction in taxes and social contributions on investment income linked with the introduction of the single flat-rate tax could encourage companies to increase the dividends they distribute.

Table 1

Household gross disposable income

	Quarterly changes in %										Annual changes in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Gross disposable income (100%)	0.2	0.3	0.8	0.5	0.8	0.6	0.6	0.6	0.2	1.1	1.7	2.6	1.9
including:													
Earned income (71%)	0.5	0.3	0.6	0.7	1.0	0.7	0.6	0.6	0.9	0.7	2.0	2.9	2.4
Gross wages and salaries (63%)	0.5	0.3	0.7	0.8	1.1	0.7	0.6	0.6	1.0	0.8	2.0	3.2	2.5
GOS of sole proprietors ¹ (8%)	0.7	-0.2	0.3	0.1	0.3	0.6	0.7	0.4	0.3	0.3	1.6	1.3	1.3
Social benefits in cash (35%)	0.4	0.5	0.4	0.3	0.4	0.4	0.5	0.5	0.6	0.6	1.8	1.7	1.7
GOS of "pure" households (13%)	0.4	0.5	0.6	0.9	0.7	0.5	0.5	0.6	0.2	0.2	2.2	2.6	1.2
Property income (8%)	-1.0	-0.9	-0.5	-0.1	0.0	0.8	1.0	1.0	0.9	0.9	-3.2	0.8	3.1
Social contributions and taxes (-27%)	1.1	0.4	-0.5	1.0	0.6	0.7	1.1	0.7	2.1	-0.8	1.5	2.5	2.7
Contributions of households (-11%)	0.7	0.6	0.5	0.6	0.7	0.6	0.8	0.7	-8.5	0.9	2.2	2.7	-6.9
Income and wealth tax (including CSG and CRDS) (-16%)	1.3	0.2	-1.2	1.2	0.6	0.8	1.3	0.7	9.6	-1.8	1.1	2.4	9.6
Household consumer prices (quarterly national accounts)	-0.3	0.1	0.1	0.2	0.5	-0.1	0.1	0.5	0.7	0.2	-0.1	0.9	1.2
Purchasing power of gross disposable income	0.5	0.2	0.7	0.3	0.3	0.6	0.5	0.1	-0.4	0.9	1.8	1.7	0.8
Household purchasing power by consumption	0.4	0.1	0.6	0.2	0.2	0.5	0.4	0.0	-0.5	0.8	1.4	1.3	0.4

Forecast

How to read it: the figures in parentheses give the structure of the year 2016.

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 entrepreneur.

Source: INSEE

The gross operating surplus of pure households¹ should slow at the start of 2018, dropping from +1.1% in H2 2017 to +0.6% in H1 2018, as the effects of lower interest rates fade after an exceptional wave of loan renegotiations in 2016 and 2017.

Social benefits should pick up slightly in H1 2018

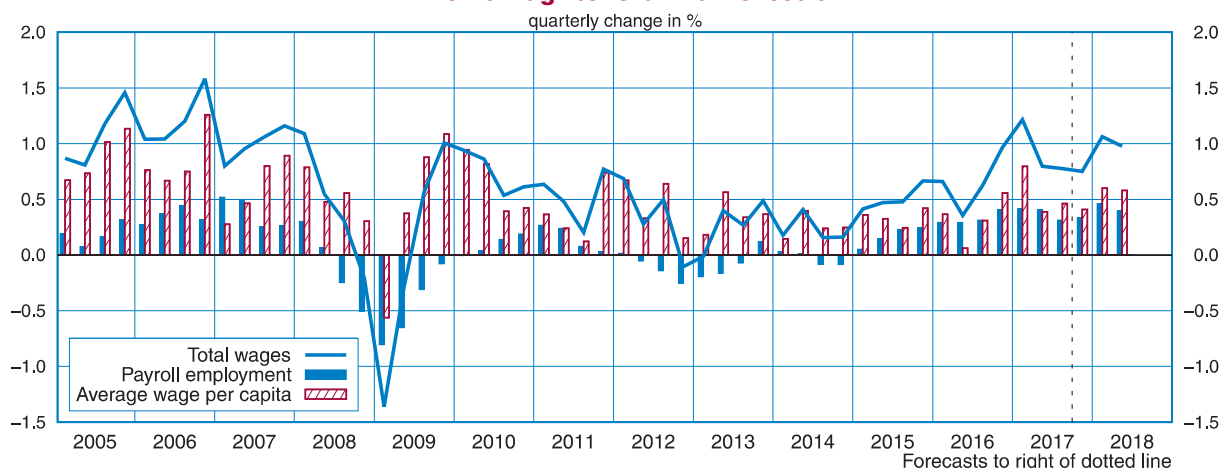
In 2017, social benefits in cash would appear to have slowed slightly (+1.7% after +1.8%; *Table 3*), and there appears to have been a slowdown in social security benefits (+1.5% after +1.8% in 2016). Unemployment benefits in particular would appear to have fallen, in step with the decline in the unemployment rate in 2017. Social welfare benefits would appear to have slowed

in 2017 (+1.8% after +2.8%) with the end of the ramp-up phase of the activity bonus. Conversely, “other social insurance benefits” appear to have picked up in 2017 (+2.3% after +1.6%).

In H1 2018, social security benefits are expected to accelerate a little: +1.2% half-year-on-half-year after +1.0%. Retirement pensions should return to growth rates similar to previous trends with the effect of the end of the shift in the legal retirement age. 2018 is expected to be the first year since 2011 where those retiring represent an entire generation. Family benefits should remain almost unchanged: the expected reduction in the early childhood benefit on 1st April 2018 is likely to be more than offset by the end of the freeze on the “birth bonus” and the increase in the family support benefit (ASF). Social assistance benefits are expected to pick up slightly, with an increase in the take-up rate for the adult disability allowance (AAH). All in all, social benefits in cash should accelerate a little in H1 2018 compared with H2 2017 (+1.1% after +1.0% half-year-on-half-year).

1. In the national accounts, the gross operating surplus of pure households takes account, among other things, of housing services: the added value is the difference between the rent (actually paid by tenants or imputed for home owners) and the intermediate consumption of the owners, notably banking margins on real-estate loans.

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



Source: INSEE

Table 2

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

	Quarterly changes in %										Annual changes in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Non-financial enterprises (67%)	0.7	0.4	0.6	1.0	1.2	0.8	0.8	0.7	1.1	1.0	2.5	3.6	3.0
Financial corporations (4%)	0.1	0.0	0.8	1.0	0.6	0.5	1.0	0.3	1.2	1.1	1.5	2.7	2.8
General government (22%)	0.0	0.2	0.8	0.5	0.9	0.6	0.3	0.2	0.7	0.3	0.8	2.5	1.4
Households excluding sole proprietors (2%)	-1.1	-0.3	-0.1	-0.3	0.5	0.1	-0.4	0.7	0.0	0.0	-1.8	0.2	0.4
Total gross wages received by households (100%)	0.5	0.3	0.7	0.8	1.1	0.7	0.6	0.6	1.0	0.8	2.0	3.2	2.5
<i>including: Non-agricultural market sectors</i>	0.7	0.4	0.6	1.0	1.2	0.8	0.8	0.7	1.1	1.0	2.4	3.6	3.0

Forecast

How to read it: the figures in parentheses give the structure of the year 2016.

Source: INSEE

French developments

Taxes and social contribution measures are likely to have calendar effects in 2018

Across 2017 as a whole, taxes and social contributions borne by households are expected to have accelerated (+2.5% after +1.5%). Social contributions borne by households appear to have grown at a slightly more sustained pace than in 2016 (+2.7% after +2.2%). Employee contributions appear to have increased in line with payroll, whereas contributions by the self-employed are likely to have decreased again. Taxes on income and wealth appear to have accelerated more significantly in 2017 (+2.4% after +1.1%), as the effect of tax-reduction measures (especially the 20% reduction in income tax for modest households) was lower than in 2016. In addition, the wealth tax (ISF) would appear to have been more dynamic in 2017 than in 2016, driven by the recovery in property prices and the introduction of a mechanism to limit tax base optimisation possibilities.

At the start of 2018, social contributions and taxes are expected to ramp up in Q1 before falling back in Q2. A number of measures are to be implemented in 2018 with a significant calendar effect. On 1st January 2018, the general social security contribution rate (CSG) was increased by 1.7 points while the contribution rate was reduced by 2.2 points for private sector employees, and by 2.15 for the self-employed. The contribution rate will go down again in October 2018 with the elimination of the remaining unemployment insurance contributions for employees. For civil

servants, the exceptional solidarity contribution was ended on 1st January 2018 and a compensatory payment was created (see *Wages sheet*).

Households will benefit from tax cuts with the introduction of the single flat-rate tax and the transformation of the wealth tax into a tax on property wealth. The effects of the reduction in housing tax will mainly be felt in H2 2018.

Purchasing power is expected to stall in Q1 2018 then bounce back in Q2

In 2017, nominal household disposable income would appear to have picked up sharply (+2.6% after +1.7%), in line with earned income. However, consumer prices seem to have recovered significantly as an annual average (+0.9% after -0.1%), with the result that the purchasing power of gross disposable income seems to have maintained a similar pace to that in 2016 (+1.7% after +1.8%). When reduced to an individual level to take demographic changes into account, purchasing power per consumption unit would also seem to have increased comparably in 2017 to 2016 (+1.3% after +1.4%).

In H1 2018, despite vigorous earned income, the purchasing power of gross disposable income is expected to experience contrasting growth at aggregate level: it should stall in Q1, notably due to the rise in indirect taxation on energy products and tobacco, and then bounce back in the following quarters. Its growth overhang is expected to be +0.8% at the end of H1 2018. ■

Table 3

Social transfers received and paid by households

	Quarterly changes in %										Annual changes in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Social cash benefits received by households (100%)	0.4	0.5	0.4	0.3	0.4	0.4	0.5	0.5	0.6	0.6	1.8	1.7	1.7
Social Security benefits in cash (72%)	0.5	0.3	0.4	0.3	0.3	0.3	0.4	0.6	0.6	0.6	1.8	1.5	1.8
Other social insurance benefits (19%)	0.7	0.3	0.5	0.4	0.6	0.6	0.9	0.4	0.5	0.5	1.6	2.3	1.9
Social assistance benefits in cash (8%)	-1.2	3.3	0.7	0.0	0.4	0.2	0.1	0.1	0.3	0.3	2.8	1.8	0.7
Total social contribution burden by households (100%)	0.7	0.6	0.5	0.6	0.7	0.6	0.8	0.7	-8.5	0.9	2.2	2.7	-6.9
Employers contributions ¹ (80%)	1.4	0.7	0.5	0.8	1.0	0.8	0.9	0.8	-8.6	0.9	3.0	3.4	-6.8
Contributions of households (20%)	-1.7	0.2	0.7	-0.1	-0.5	-0.2	0.3	0.2	-8.2	0.9	-0.6	-0.1	-7.3

Forecast

How to read it: The figures in parentheses give the structure of the year 2016.

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

Indirect taxation, tax revenue, purchasing power and well-being: how are they linked?

The December 2017 issue of *Conjoncture in France* analysed the effects on purchasing power of some of the tax measures voted in the Finance Bill (PLF) and the Social Security Financing Bill (PLFSS) for 2017 and 2018, including the indirect taxation of tobacco and energy products.¹ This Focus looks again at the way these effects were calculated and interpreted, and how they differ from the effects on tax revenue. Although *Conjoncture in France* is not proposing a tax revenue forecast, it is useful to show how sometimes fiscal effects do not coincide with standard of living effects, and the way in which they are evaluated in national accounting.

Effect on purchasing power

In *Conjoncture in France*, household purchasing power is forecast from the ratio of the forecast of households' nominal gross disposable income to the forecast of price levels. This is a complex procedure, but for our purposes it is similar to the forecast of a Laspeyres price index. This takes as a reference the structure of consumption on date t and shows how much the cost of this basket of goods increases with a shift from date t to date t' . Let $(p_{1,t}, \dots, p_{n,t})$ and $(p_{1,t+1}, \dots, p_{n,t+1})$ denote the price vectors of n goods on the two dates and $(q_{1,t}, \dots, q_{n,t})$ the quantities consumed on date t . The price index for date $t+1$ is written:

$$\frac{\sum_{i=1,n} q_{i,t} p_{i,t+1}}{\sum_{i=1,n} q_{i,t} p_{i,t}}$$

Let us look at an indirect tax measure that affects the price of good 1, increasing its price by $\Delta p_1 = p_{1,t+1} - p_{1,t}$. Expressed as a %, the price growth between t and $t+1$ will be:

$$100. \frac{q_{1,t} p_{1,t} \cdot \left(\frac{p_{1,t+1} - p_{1,t}}{p_{1,t}} \right)}{\sum_{i=1,n} q_{i,t} p_{i,t}} = 100. \lambda_{1,t} \frac{\Delta p_1}{p_{1,t}}$$

where $\lambda_{1,t}$ is the initial share of good 1 in the total household budget and $\Delta p_1 / p_{1,t}$ the relative change in its price between the two dates. If the former is 2% and the latter around 15%, the rise in the index between the two dates will be 0.3% and the loss of purchasing power will therefore be -0.3%, all other things being equal. These figures correspond approximately to the share of tobacco consumption in the household budget and to the assumption of an increase that was adopted in the December *Conjoncture in France*. There was also the addition of 0.2 points as a result of the rise in energy taxation.

One of the limitations of this calculation is that it disregards the fact that price variations lead to a reallocation of consumption which can limit the loss of well-being: this is what is called a substitution effect. However, we can show that this has only a second-order effect on purchasing power. A simple case is where consumption evolves in inverse proportion to price, i.e. a price elasticity of demand equal to -1. Under this assumption, the 15% rise in the price of good 1 brings its consumption down by 15% in volume. Consumption will therefore remain the same in value, as will the consumption of the other goods in value and volume. To take this substitution effect into account, we could weight price rises according to the consumption structure after rather than before the price rise. This is what is done in another type of index, the Paasche index, where the variation is written:

$$100. \frac{q_{1,t+1} p_{1,t} \cdot \left(\frac{p_{1,t+1} - p_{1,t}}{p_{1,t}} \right)}{\sum_{i=1,n} q_{i,t+1} p_{i,t}} = 100. \lambda_{1,t+1} \frac{\Delta p_1}{p_{1,t}}$$

We can see that this time, as a result of the 15% drop in the volume of q_1 , the 15% price rise is multiplied by a new, lower coefficient $\lambda_{1,t+1}$, equal to about $2\% \times (1 - 15\%) = 1.7\%$. The Paasche index therefore gives a loss of purchasing power or "monetary" well-being of $1.7\% \times 15\% = 0.255\%$.

1. *Conjoncture in France* simulated all the measures planned in the PLF and PLFSS. The Box on pages 95-96 focused on measures relating to taxes and social contributions, in particular the switch between social contributions and the Generalised Social Contribution (CSG), and described the sub-annual calendar effects. It did not cover measures relating to benefits or direct compensation for the increase in CSG for civil servants, but these were taken into account in the forecast of total household resources.

French developments

As expected, this decline is less pronounced than that produced by the Laspeyres index. It is very similar in scale, however, despite using a fairly strong elasticity. In addition, what is produced by the Paasche index this time is a lower bound of the loss of monetary well-being. For example, if the rise in the price of a good is such that it results in its being given up completely, the Paasche index would tell us that there is no drop in purchasing power or well-being since the subsequent weighting of this good would be zero, which is obviously not acceptable.

To deal with these substitution effects better, there is a more rigorous type of theoretical index (Magnien & Pougard, 2000; Sillard, 2017), a “constant-utility index”, which measures by how much the nominal income must increase in order for the satisfaction level to remain unchanged when prices go from p_t to p_{t+1} . Its value will generally lie between those of the Laspeyres and Paasche indices but it can only be calculated if household preferences are perfectly known. This is the reason why we can be satisfied with an approximation by the Laspeyres or the Paasche indices, with results that ultimately are not very different, even when the variation in price is fairly large.²

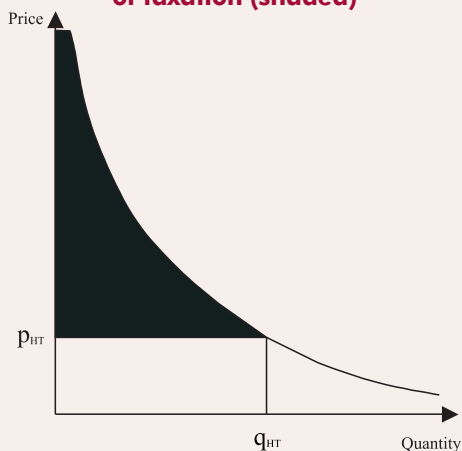
The effect on tax revenue

Although it has only a second-order effect on calculating loss of purchasing power, taking the behavioural reaction into account has a significant impact on tax revenue. Let us keep the example of a price elasticity of -1 . In this case, the drop in consumed volume entirely offsets the increase in tax revenue per unit consumed. The reduction in household consumption and the resulting loss of activity for producers does not give rise to any additional tax revenue, nor to any other gains elsewhere in the economy since the other consumptions are stable both in value and volume.

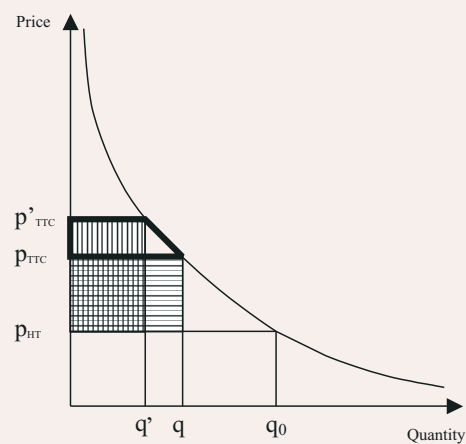
This phenomenon of uncompensated loss is what the economic theory of taxation describes as “deadweight loss”, associated with the distortions that it induces in behaviour. The graphs below show the usual example given in microeconomics textbooks. The consumer’s “monetary” well-being is measured by what is called his surplus, which is the difference between what he pays for the good being considered and the sum of what he would be prepared to pay for each unit consumed. The surplus is positive because the first units consumed are valued more than the last, even though the same price is paid. This surplus is represented by the dotted area on the left-hand graph, where taxation is absent. The graph on the right shows the effect of taxation and of a variation in its level in a shift from price p_{TTC} to price p'_{TTC} . The difference between prices including VAT and prices excluding VAT shifts the amount consumed to the left, from value q_0 to values q and q' . The two hatched rectangles represent tax revenue, with horizontal hatching for revenue associated with price p_{TTC} and vertical hatching for revenue associated with price p'_{TTC} . A comparison of these two rectangles shows the compensation phenomenon between the effect of rate (increase in height) and reduction of the tax base (narrowing of the base). Here, compensation is total, and there is therefore no gain in tax revenue. Nonetheless, there is a reduction in consumer surplus, represented by the area with the thick border: it is this variation that is approximated by the Laspeyres index.

2. The *ex post* weighting used for the national accounts is the Laspeyres method for volumes and the Paasche method for prices. Over the long run, the choice of one or other method can result in significant differences, as the base prices or volumes gradually age. However, this problem can be solved by using the chaining technique: whether in terms of volumes or prices, weightings are updated every year and it is these annual indices with year-on-year weightings which are chained to calculate the national accounting aggregates.

1 - Consumer surplus in the absence of taxation (shaded)



2 - Variation in surplus and tax revenue for two levels of taxation



In practice, the rate and base effects do not cancel each other out. We might think that the latter would predominate, with a "Laffer effect" according to which increasing the tax rate decreases revenue. In a more realistic example where price elasticity is between zero and -1 , the drop in consumption by volume does not fully make up for the price rise, hence an increase in spending on tobacco in value compensated by decreases in value and in volume for the consumption of other goods or for savings. The net effect on tax revenue will correspond to the difference between increased revenue from tobacco and the decline in indirect tax revenue from other goods. A more comprehensive analysis should also take into account the reaction of producers and distributors, depending on whether or not they make up for the tax increase by squeezing their margins. There is also the question of illegal imports and trade which enable the consumer to avoid the increase in taxation.

From purchasing power to well-being: other effects to take into account

There are still other effects that determine whether a true analysis is possible in terms of consumer well-being, but they are outside the conceptual framework of national accounting.

Firstly, national accounting reasons on the basis of aggregates. It therefore best reflects the loss of standard of living or of well-being by the average consumer. However, consumption patterns vary from one household to another and not all are affected in the same way by a given price rise. This is particularly true for tobacco which some households do not consume at all, and it is also the case for diesel as it affects rural households. Calculating differentiated impacts is possible, for example by using the price index with tobacco excluded or the customised price index simulator available on the INSEE website. However, it is nevertheless still essential to have information on the average individual.

Secondly, national accounting does not only take market effects into account. In the case of environmental taxation, it does not include greenhouse gas emissions associated with the rise in the carbon component nor the health benefits of less pollution in the air. Similarly, in the case of tobacco, a price rise is certainly disadvantageous for consumers in the short term, but the aim is to improve their well-being in the long term, by improving their health. In fact this is the main aim of these policies, more so than looking to achieve additional tax revenue. It can also be argued that, once they have overcome their addiction, former smokers no longer experience any desire for tobacco since their consumption q_1 has now fallen to zero, and the income that they have released increases the possibility that they will consume other goods, such that their well-being is also improved. However, quantifying this effect would involve including an endogenous preference distortion assumption over time.

Quantifying all these benefits is the motivation for the search for indicators to complement the aggregates used in the national accounts, following on from the Stiglitz-Sen-Fitoussi report. However, this is beyond the aims of Conjoncture in France: here we focus on short-term developments, and on monetary exchanges specific to national accounting, valuing goods according to current preferences, as revealed by current prices and consumer behaviour. ■

Bibliography

Magnien F. and **Pougnard J.** (2000), "Les indices à utilité constante: une référence pour mesurer l'évolution des prix", *Économie et Statistique*, n° 335, p. 81-94.

Sillard P. (2017), "Les indices de prix à la consommation", *Document de travail*, INSEE n° F1706.

Household consumption and investment

In Q4 2017 household consumption expenditure slowed (+0.2% after +0.6%): although consumption of services remained relatively buoyant (+0.5% after +0.6%), consumption of goods fell back (-0.2% after +0.6%), in particular spending on energy and textiles. On average over 2017, household consumption increased at a far lower rate than in 2016 (+1.3% after +2.1%).

In Q1 2018 consumption should continue to grow at a moderate pace (+0.3%), with households offsetting the temporary sag in their purchasing power by a reduction in their savings ratio. Spending on services should remain vigorous (+0.7% after +0.5%) while the consumption of goods is expected to slip back again (-0.2% after -0.2%).

In Q2 2018 consumption should pick up slightly (+0.4%), assuming there is a rebound in expenditure on goods (+0.4% after -0.2%), food in particular. The savings ratio is expected to stand at 13.7% in Q1, before rising to 14.1% by mid-2018.

Household investment accelerated sharply as an annual average in 2017 (+5.4%), after a rebound in 2016 (+2.4% after -2.1%). However, it is expected to slow in H1 2018, with the slowdown in sales of new-build housing.

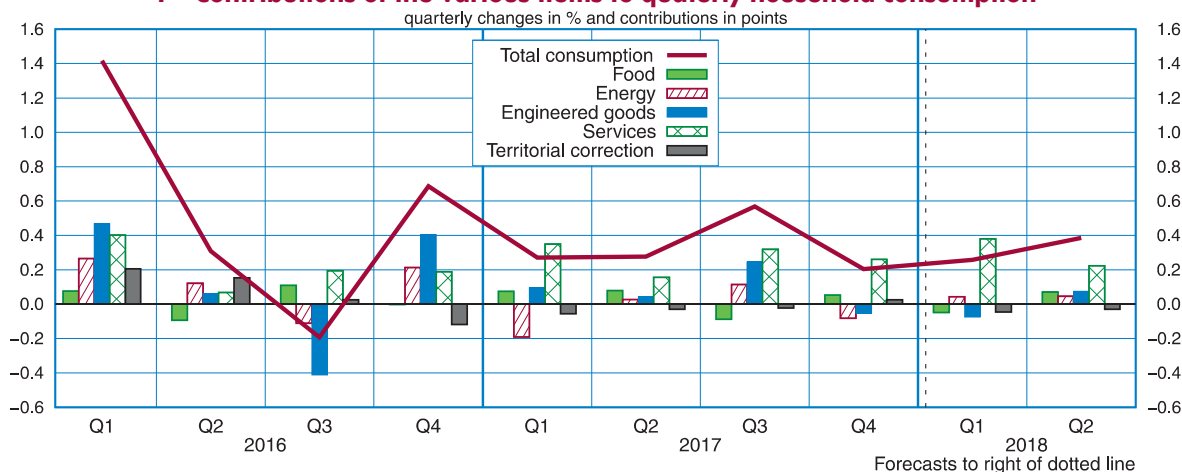
Consumption slowed in Q4 2017

In Q4 2017, total household consumption slowed markedly (+0.2% after +0.6% in Q3; *Graph 1*). Consumption of goods declined slightly (-0.2% after +0.6%), while consumption of services remained vigorous (+0.5% after +0.6%).

Consumption of manufactured goods fell back (-0.3% after +1.2%): indeed, buoyant spending on cars (+0.8% after +0.0%) and other consumer durables (+0.7% after +1.0%) was not enough to make up for sluggish consumption of household durables (+0.0% after +2.8%) and a very marked downturn in consumption of clothing and textiles (-2.1% after +2.0%). In addition, spending on energy fell (-1.0% after +1.4%), dampening household consumption in spite of a rebound in food consumption (+0.3% after -0.5%).

In services, household consumption of transport services bounced back strongly (+1.7% after +0.1%), in accordance with the return of tourists to France in 2017.

1 - Contributions of the various items to quarterly household consumption



Source: INSEE

In H1 2018, consumption should continue to grow at a moderate rate

In Q1 2018 total household consumption is expected to rise by 0.3%, the drop in the consumption of goods (−0.2% after −0.2%) being offset by an acceleration in the consumption of services (+0.7% after +0.5%). Household consumption should therefore remain relatively steady, with households smoothing the effects of the temporary dip in their purchasing power.

Spending on energy is expected to be up slightly (+0.5% after −1.0%): indeed, gas and electricity consumption is expected to bounce back (+0.6% after −0.6%) as is that of fuel (+0.5% after −1.6%). However, consumption of consumer durables is likely to experience a substantial downturn (−0.9% after +0.5%), as the slight recovery in the consumption of household durables (+0.2% after +0.0%) is insufficient to make up for the sharp slowdown in the consumption of other consumer durables (+0.1% after +0.7%) as well as the marked drop in cars spending (−1.8% after +0.8%). Across all manufactured goods, household consumption is therefore expected to decline (−0.4% after −0.3%) even though spending on clothing and textiles should bounce back slightly (+0.4% after −2.1%). Food consumption is also likely to fall in Q1 2018 (−0.3% after +0.3%). All in all, consumption of manufactured goods is

expected to be down slightly (−0.2% after 0.0%). However, consumption of services should pick up considerably (+0.7% after +0.5%), mainly driven by transport, accommodation and food and leisure services, which should benefit from the staggering of the 2017-2018 winter holidays.

In Q2 2018, consumption is expected to gather pace slightly (+0.4% after +0.3%), carried by the recovery in goods consumption (+0.4% after −0.2%) and in spite of a slowdown in spending on services (+0.4% after +0.7%). In particular, spending on automobile-related goods and food is expected to recover in the spring.

The savings ratio is expected to fall to 14.1% by mid-2018

Over the whole of 2017, the savings ratio stood at 14.3%, a slight increase on 2016 (*Graph 2*). In Q1 2018, households are likely to compensate for the slight sag in their purchasing power and the savings ratio should experience a clear dip (to 13.7%), before recovering to reach 14.1% by mid-2018. This smoothing behaviour is all the more logical since households are expecting an improvement in their gross disposable income, as a result of the second phase of reductions in social security contributions and the reduction in local residence tax to come in H2 2018.

Household consumption and investment expenditure

at chain-link previous year prices, SA-WDA

	Quarterly changes in %										Annual changes in %			
	2016				2017				2018		2015	2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2				
Total household consumption expenditures (1)+(2)+(3)	1.4	0.3	−0.2	0.7	0.3	0.3	0.6	0.2	0.3	0.4	1.3	2.1	1.3	1.1
Services (1)	0.7	0.1	0.4	0.4	0.7	0.3	0.6	0.5	0.7	0.4	0.8	1.6	1.8	1.8
Goods (2)	1.7	0.2	−0.9	1.3	0.0	0.3	0.6	−0.2	−0.2	0.4	1.9	1.8	1.0	0.4
including:														
Food	0.4	−0.5	0.6	0.0	0.4	0.4	−0.5	0.3	−0.3	0.4	1.1	0.9	0.8	0.1
Agriculture goods (AZ)	2.7	−1.4	−0.6	0.5	−1.8	3.1	−1.3	−1.3	−0.6	0.4	−0.4	2.2	−0.8	−1.1
Agri-food products (C1)	0.0	−0.4	0.9	−0.1	0.9	−0.1	−0.3	0.6	−0.2	0.4	1.4	0.6	1.1	0.4
Energy	3.2	1.5	−1.4	2.6	−2.3	0.3	1.4	−1.0	0.5	0.6	1.4	2.1	0.0	1.0
Energy, water and waste (DE)	4.6	3.4	−3.3	3.9	−3.6	0.1	1.7	−0.6	0.6	0.5	2.0	2.8	−0.9	1.4
Coke and refined petroleum (C2)	1.7	−1.0	1.3	1.0	−0.6	0.7	1.1	−1.6	0.5	0.7	0.9	1.3	1.2	0.5
Engineered goods (C3 to C5)	2.2	0.3	−2.0	2.0	0.5	0.2	1.2	−0.3	−0.4	0.4	2.6	2.4	1.7	0.4
Manufactured goods (C1 to C5)	1.3	−0.1	−0.6	1.1	0.5	0.1	0.6	0.0	−0.2	0.4	2.0	1.6	1.4	0.4
Territorial correction (3) = (4)−(5)	−49.6	−74.1	−47.1	416.9	39.0	14.3	9.7	−10.3	19.7	10.6	−2.0	−78.6	111.5	28.6
Imports of touristic services (4)	3.5	2.0	0.5	−1.5	0.2	0.7	0.7	0.9	0.8	1.0	−5.2	5.2	0.9	2.8
Exports of touristic services (5)	−2.9	−2.7	−0.3	2.2	1.9	1.6	1.3	0.1	2.0	1.7	−4.7	−6.9	4.6	4.6
Investment expenditure	0.6	0.7	1.1	1.5	1.8	1.4	0.9	0.6	0.5	0.2	−2.1	2.4	5.4	1.9

Forecast

Source: INSEE

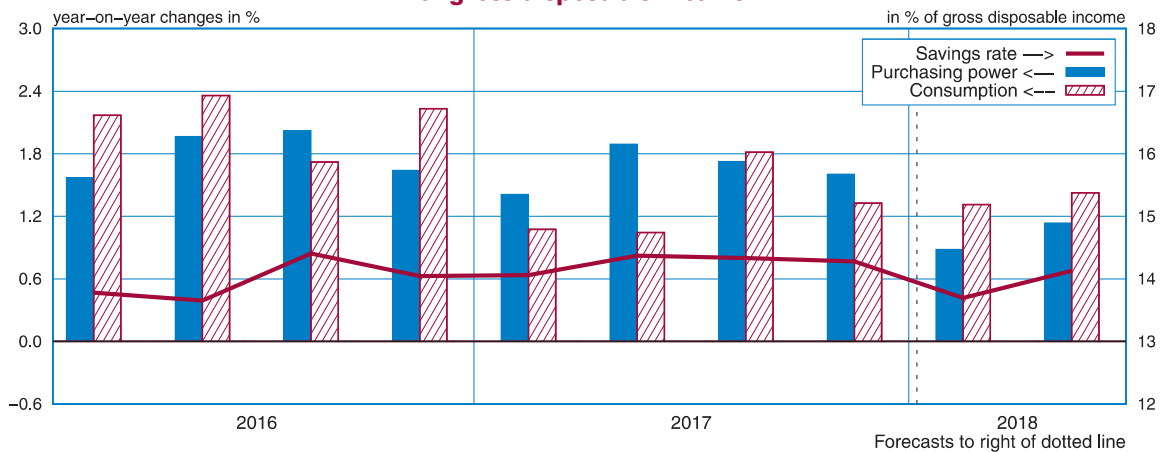
French developments

Household investment is expected to slow in 2018, after exceptional growth in 2017

In Q4 2017 household investment slowed slightly, although it remained dynamic (+0.6% after +0.9%). After two years of strong growth, sales of new-build housing have been tailing off since the beginning of 2017, which has had a knock-on effect on building permits (*Graph 3*). Given the usual time lag between permits being granted and actual construction, household investment is

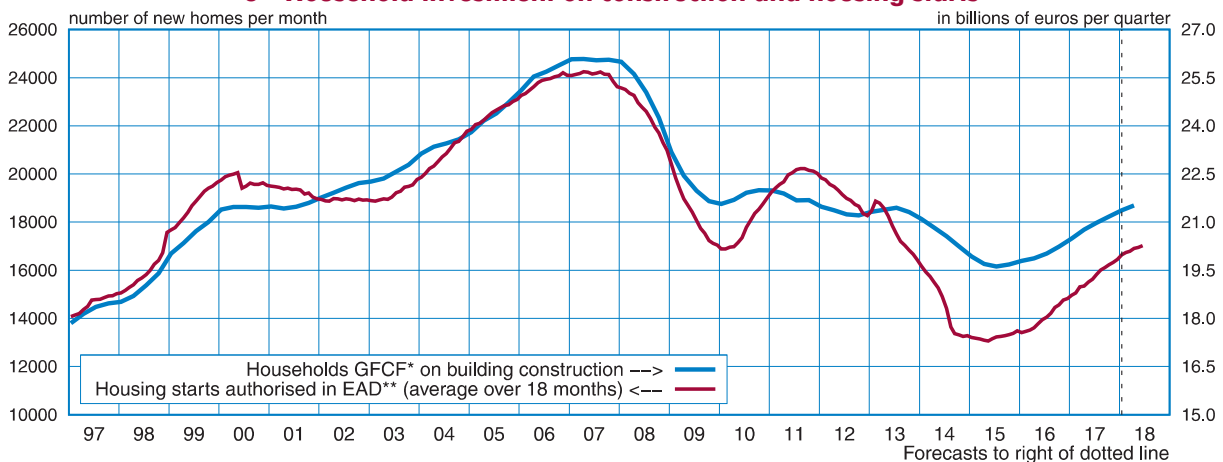
expected to slow gradually until mid-2018. Furthermore, the number of real estate transactions reached a record level in 2017 and is not expected to grow any further in 2018, which will logically lead to a slowdown in household investments in services (mainly agency and notary's fees). As an annual average, the rate of household investment, after an exceptional year of growth in 2017 (+5.4% after +2.4%), is expected to fall back in H1 2018: by mid-2018 the annual growth overhang of household investment is expected to stand at +1.9%. ■

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



Source: INSEE

3 - Household investment on construction and housing starts



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

Sources: INSEE, SDES

Enterprises' earnings

At the end of 2017, the margin rate of non-financial corporations (NFC) would appear to have been higher than at the end of 2016, at 32.0% against +31.6%. It remained stable at the beginning of the year then rose from Q2 onwards, mainly because of the fall in the price of Brent. Then in H2, it appears to have increased further, as productivity gains seem to have more than offset the dynamism of wages and the slight upturn in Brent oil prices.

At the start of 2018, the margin rate is expected to remain stable in Q1, as the effect of the increase in the rate of the CICE tax credit is offset by the downward trend in energy prices and wages. It is then likely to slip back to 31.8% by mid-year as a result of the effect of the acceleration in real wages.

The margin rate at the end of 2017 would appear to have been higher than at the end of 2016

On average in 2017, the margin rate of non-financial corporations (NFCs) appears to have remained stable at 31.8%. It weakened slightly in 2016 (-0.1 points), after a strong

rebound in 2015 (+1.5 points). Real wages again appear to have been more buoyant than productivity gains and the rise in oil prices is expected to have eaten into margins to some extent.

The margin rate dropped to 31.6% in Q1 2017 due to the rise in oil prices, but then rose to 31.8% in spring with the drop in the price of Brent (Table). Overall in H1 2017, the acceleration in productivity more than offset that in wages. In Q3 2017, wage rises compensated for productivity gains and the margin rate remained stable. In Q4, real wages appear to have come to a standstill due to the rise in inflation, whereas productivity appears to have gathered pace, contributing to the increase in the margin rate. At year's end, the increase in oil prices nevertheless seems to have driven the margin rate down by -0.3 points and all in all, the rate appears to have increased only slightly, to 32.0%. It seems to have remained below the average seen between 1988 and 2007 (Graph 1), largely due to the service branches. Conversely, in industry, it looks set to have been at its highest level since 2000 (Graph 2).

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

in % and in points

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Margin rate (in level)	32.3	31.8	31.7	31.6	31.6	31.8	31.8	32.0	32.0	31.8	31.8	31.8	31.8
Variation in margin rate	0.3	-0.4	-0.1	-0.1	0.0	0.2	0.0	0.2	0.0	-0.2	-0.1	-0.1	0.1
Contributions to the variation margin rate													
Productivity gains	0.3	-0.4	-0.1	0.0	0.3	0.3	0.2	0.4	0.0	0.1	0.0	0.6	0.6
Real wage per capita	-0.4	0.0	-0.1	-0.2	-0.2	-0.3	-0.2	0.0	0.0	-0.3	-0.9	-0.7	-0.4
Employer contribution ratio	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
Ratio of the value-added price to the consumer price	0.4	-0.2	0.0	0.0	-0.2	0.2	0.0	-0.3	-0.1	0.1	0.6	-0.2	-0.2
Other factors	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.1

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

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

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

French developments

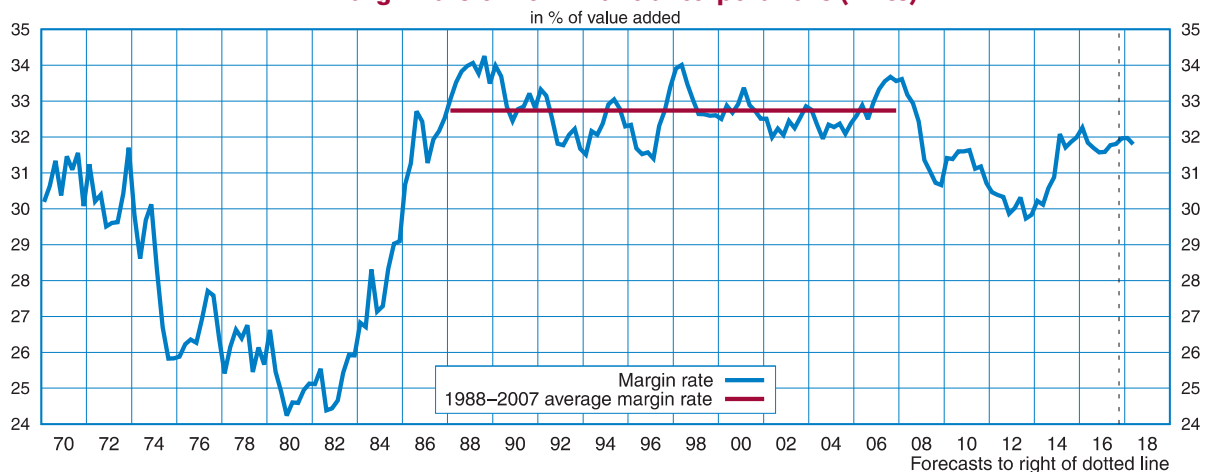
The margin rate is likely to fall slightly in H1 2018

In Q1 2018, the margin rate of NFCs should stabilise, at 32.0%, before slipping back in Q2 to reach 31.8% by mid-year. Productivity gains are unlikely to offset the buoyancy of real wages. Meanwhile, consumer prices should rise faster than value-added prices, due to the increase in energy taxes on 1st January followed by the increase in taxes on tobacco on 1st March. In

accounting terms, this is expected to have an impact on the margin rate, contributing -0.1 points in Q1.

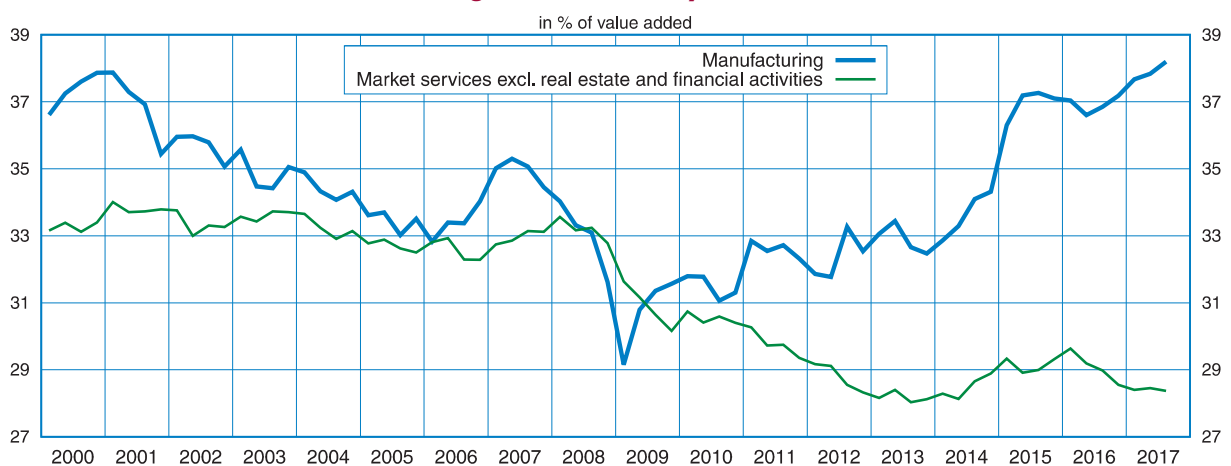
Lastly, the tax credits granted in 2018 under the CICE initiative should increase sharply, since the rate rose from 6% to 7% of total payroll costs in 2017. This rise is likely to be partially offset by the reduction in the amounts of the hiring premium offered to SMEs, as the closing date for applying to the scheme was 30 June 2017. ■

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



Source: INSEE, quarterly national accounts

2 - Margin rate in industry and services



Source: INSEE, quarterly national accounts

Corporate investment and inventory

Investment by non-financial enterprises (NFEs) increased sharply in Q4 2017 (+1.6% after +1.1%). Investment in services accelerated sharply (+2.3% after +1.2%) and that in manufactured goods continued to rise (+1.7% after +1.8%). Over the year 2017 as a whole, NFE investment gathered pace once again (+4.4% after +3.4% in 2016 and +2.9% in 2015), thanks to the buoyancy of spending on services and capital goods. The investment rate is at a high level and is continuing to rise (22.2% on average over the year, after 21.7% in 2016). In H1 2018, corporate investment is expected to remain steady (+1.1% in Q1 then +1.2% in Q2), still sustained by favourable demand prospects and financing terms. For 2018, the growth overhang at the mid-year point is expected to be +4.1%. The investment rate should increase further to reach 22.7% by mid-2018.

In Q4 2017, changes in inventories contributed negatively to growth (-0.4 GDP points), a reversal of the situation in the previous quarter (+0.3 points). Most of this reversal can be explained by changes in inventories in manufactured goods (contribution of -0.6 GDP points after +0.4 points), particularly transport equipment, following large deliveries of aircraft at the end of the year. In Q1 2018, the contribution of inventories to growth is expected to be neutral, with the return to normal in aeronautical deliveries being offset by the running down of crude oil inventories and the delivery of an ocean liner. In Q2, changes in inventories in shipbuilding are expected to increase in reaction to Q1 and the contribution of inventories to growth should then be positive (+0.2 points).

Corporate investment gathered pace at the end of 2017

In Q4 2017, investment by non-financial enterprises (NFEs) accelerated (+1.6%, after +1.1%; *Table 1*). Investments in manufactured goods again grew at a brisk pace (+1.7% after +1.8%), whilst investment expenditure on services gathered pace markedly (+2.3% after +1.2%). Expenditure on information and communication services was buoyant once again and that on business services regained some momentum after shrinking in the previous quarter. Only investment in construction kept a weak growth (+0.2% after +0.1%), a new drop in civil engineering expenditure practically cancelling out an increase in spending on building.

Over the year 2017 as a whole, NFE investment increased sharply (+4.4%), faster than in the previous two years (+3.4% in 2016 and +2.9% in 2015), thanks to investment expenditure on services, especially IT services and purchases of capital goods. The investment rate of NFEs increased again to reach 22.4% at the end of 2017 (*Graph 1*). At the beginning of 2017, it exceeded the previous high, recorded in 2008, driven by the trend increase in investment in services in value added since the 1980s.

Investment is likely to remain sustained in H1 2018

For Q1 2018, the business tendency surveys in industry suggest still-robust growth in investment expenditure. According to the survey on activity in industry, the demand placed on production capacities is indeed constantly increasing: the production capacity utilisation rate rose again at

Table 1

Investment by non-financial enterprises (NFEs)

at chain-link previous year prices, SA-WDA

	Quarterly changes										Annual changes		
	2016				2017				2018		2016	2017	2018 ovhng
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Manufactured products (34%)	3.3	-1.6	-2.7	0.7	3.1	1.1	1.8	1.7	0.6	1.2	4.2	4.0	4.0
Construction (24%)	0.5	0.5	-0.2	0.7	0.1	0.7	0.1	0.2	1.0	0.6	1.9	1.3	1.8
Other (42%)	1.1	0.4	2.4	0.2	3.0	1.0	1.2	2.3	1.6	1.5	3.7	6.5	5.4
All non-financial enterprises (100%)	1.7	-0.3	0.0	0.5	2.3	1.0	1.1	1.6	1.1	1.2	3.4	4.4	4.1

Forecast

Source: INSEE

French developments

the beginning of 2018. In addition, more and more industrial enterprises consider that they could not produce more if they received more orders: the proportion with production bottlenecks has been increasing since the end of 2016 and in January 2018 reached its highest level since 1990 (Graph 2). According to the January survey of investments in industry, more firms than average are planning to increase rather than reduce their investments in H1 2018.

The balances of opinion on investment are slightly less favourable in the service sector. The balance on planned investments fell in December and January before picking up again in February (Graph 2).

Financing terms continue to favour investments. On the one hand, corporate margins benefited from robust activity in 2017, and are expected to rise again at the beginning of 2018 thanks to the increase in the competitiveness and employment tax credit (CICE) from 6% to 7%, applicable to remunerations paid in 2017. On the other hand,

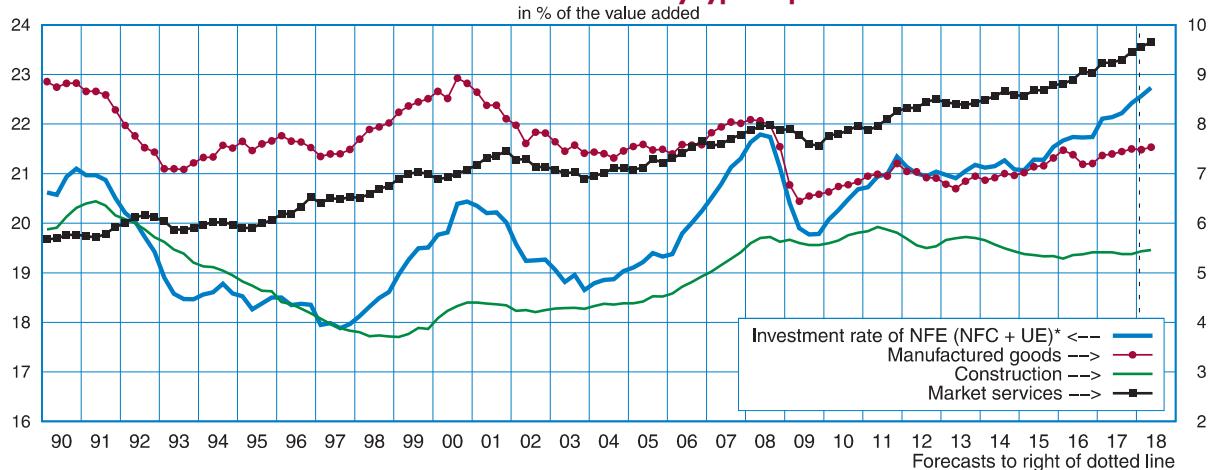
interest rates should remain low until mid-2018, in spite of a slight increase in the wake of sovereign yields. Enterprises' self-financing ratios are likely to fall slightly at the beginning of 2018, although they should remain high.

This means that investment expenditure by NFEs should remain vigorous in H1. It is expected to slow down in Q1 (+1.1% after +1.6%), due to a temporary dip in investment in automobiles, and pick up again slightly in Q2 (+1.2%). The annual growth overhang is expected to be high at the mid-year point (+4.1%), and the NFE investment rate should increase a little more (22.7% by mid-2018).

Investment in manufactured goods should be buoyant in spite of a slowdown in Q1

At the beginning of 2018, the quarterly profile of NFE investment in manufactured goods is expected to be impacted by investment in automobiles. Vehicle registrations recorded until February do in

1 - Investment rate of SNF by type of product

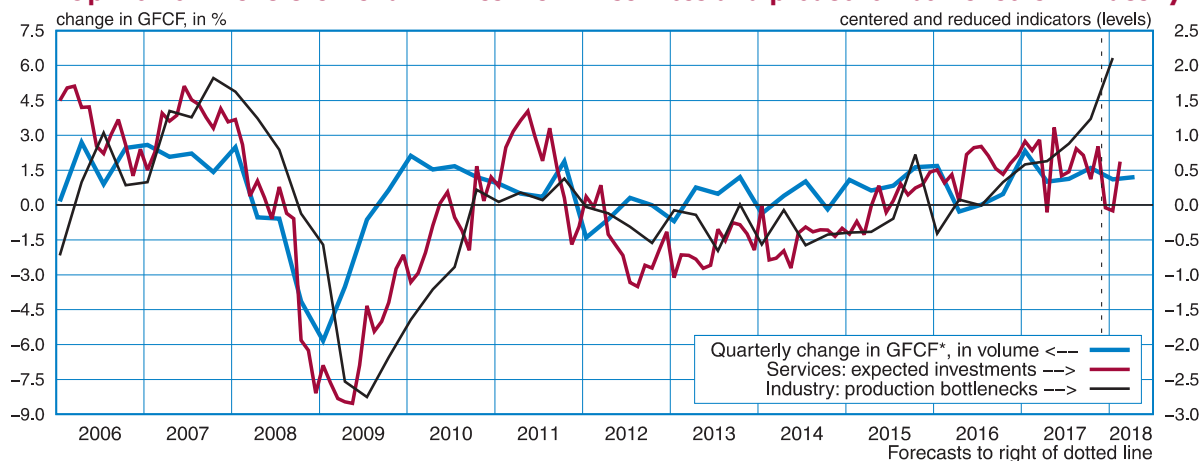


* Non-financial enterprises: non-financial corporations (NFCs) and unincorporated enterprises (UEs)

** 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

fact suggest a downturn in this type of investment in Q1 after a very vigorous Q4 2017. However, investment in capital goods and other industrial goods should remain buoyant in a context of high production capacity tensions.

All in all, NFE investment in manufactured goods is expected to slow down in Q1 (+0.6%), but then regain momentum in Q2 (+1.2%). Its growth overhang for 2018 should already be +4.0% at the end of H1, i.e. as high as its annual growth rate in 2017.

The carry-over effect in investment in construction is already expected to reach +1.8% by mid-2018

Corporate investment in construction should gather pace in Q1 2018 (+1.0%), due to an upturn in civil engineering investment expenditure, and then slow in Q2 (+0.6%) with corporate investment in building.

On the one hand, civil engineering companies responding to the business tendency surveys report very full order books, which suggests an upswing in this type of investment in Q1 after two quarters of decline. On the other hand, non-residential building starts have stabilised since the beginning of 2017, and this slowdown is expected to initiate a knock-on effect on corporate investment in building in Q2. All in all, the growth overhang for investment in construction should stand at +1.8% by the end of H1 2018, after annual growth of 1.3% in 2017.

Investment in services should continue to rise sharply in H1 2018

After a very dynamic 2017, NFE investment in services is expected to remain vigorous in H1 2018. According to the January and February business tendency surveys, the sectors whose activity depends on this type of expenditure are optimistic about growth in their turnover. Investment in services is expected to slow down after a very vigorous Q4 2017, but should see continued high levels of growth until mid-2018 (+1.6% in Q1 then +1.5% in Q2). Its growth overhang should be 5.4% by mid-year.

On average over 2017, the contribution of changes in inventories to growth was clearly positive

In Q4 2017, the contribution of changes in inventory became clearly negative again (-0.4 points) essentially due to destocking of transport equipment (-0.4 points). Indeed, deliveries of aeronautical equipment were exceptionally high. However, over 2017 as a whole, the series of transport equipment deliveries and the rebuilding of inventories of agricultural produce led to a contribution by changes in inventories to growth that was clearly positive (+0.4 points; *Table 2*).

In Q1 2018, the contribution of changes in inventories to growth is expected to be nil as the delivery of an ocean liner and the running down of crude oil inventories should cancel out the effect of the return to normal in aircraft deliveries. In Q2, the after-effect of the delivery of the ocean liner in the previous quarter is expected to lead to another positive contribution of changes in inventories to growth (+0.2 points). ■

Table 2

Contribution of inventory changes to growth in GDP points

	Quarterly changes										Annual changes		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural products	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0
Manufactured products	-0.1	-0.6	0.4	-0.4	0.7	-0.4	0.4	-0.6	0.1	0.2	0.0	0.2	-0.2
Agrifood products	-0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	-0.1					
Coke and refined petroleum products	0.1	-0.1	0.1	-0.1	0.0	0.0	-0.1	0.0					
Machinery and equipment goods	-0.1	0.0	0.2	0.0	0.0	0.1	0.0	-0.1					
Transport equipment	0.2	-0.3	0.2	0.0	0.5	-0.5	0.5	-0.4					
Other industrial goods	-0.1	-0.1	0.1	-0.2	0.3	0.0	0.0	0.0					
Energy, water and waste	-0.2	-0.1	0.2	0.2	-0.1	-0.1	-0.1	0.2	-0.1	0.0	0.0	0.1	0.0
Others (construction, services)	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL¹	-0.5	-0.6	0.7	-0.2	0.6	-0.5	0.3	-0.4	0.0	0.2	-0.1	0.4	-0.2

Forecast

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

Source: INSEE

International developments



Oil and raw materials

American output should absorb the increase in world demand

In Q4 2017, the Brent crude price hovered around \$61 per barrel, an 18% increase on the average value recorded in Q3. Supply decreased, largely as a result of the reduction in output agreed upon by the OPEC nations. Demand also declined, particularly in the emerging economies. All in all, the physical market maintained its equilibrium according to the IEA. Stocks fell again, and prices rose to hit \$67 per barrel of Brent at the end of December.

Through to the end of Q2 2018 the physical market should remain balanced, and stocks should remain high. The conventional assumption is that oil prices should stabilise at around \$63.

Demand should bounce back, primarily driven by the emerging economies. Supply should also increase, but this forecast is subject to various uncertainties which could create pressure on prices: the extent of the rebound in unconventional oil production in the USA, along with the degree to which the OPEC nations' agreement to reduce output is implemented (with exemptions for Libya and Nigeria).

Rising once again in December after a slump in October, commodity prices in euros in Q4 2017 were close to the levels observed in Q3.

In Q4, the average price of Brent crude stood at \$61 per barrel

In Q4 2017, the average price of Brent crude stood at \$61 per barrel (*Graph 1*), up 18% on Q3 2017 (\$52) and up 20% on Q4 2016 (\$51). The level of crude oil stocks fell again, exerting inflationary pressure on prices.

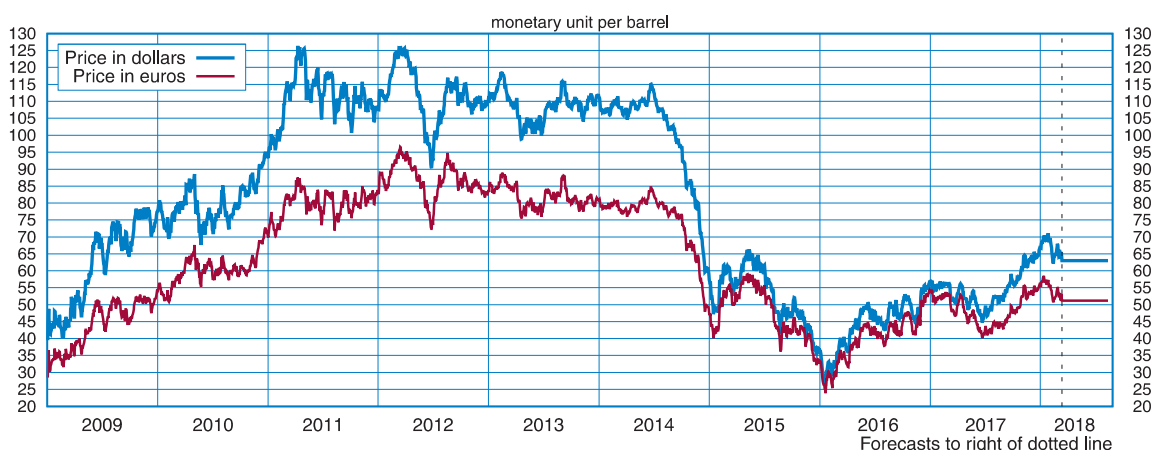
For this forecasting period the crude oil price is provisionally set at \$63, its level as of mid-February.

Between now and June 2018, demand should follow its trend rate

After declining slightly in Q3, world demand fell once again in Q4 2017. Demand from outside the OECD nations (excluding China) fell, particularly in Russia and the Middle East as a result of climate conditions, and also in Latin America. For the year 2017 as a whole, demand grew by 0.4 Mbpd (million barrels per day), a less substantial increase than that seen in 2016 (+1.2 Mbpd) and 2015 (+0.7 Mbpd).

Demand should bounce back in Q1 2018, boosted by demand from non-OECD nations (excluding China) which should continue to rise in Q2 2018.

1 - Price of Brent in euros and in dollars



Source: Commodity Research Bureau

International developments

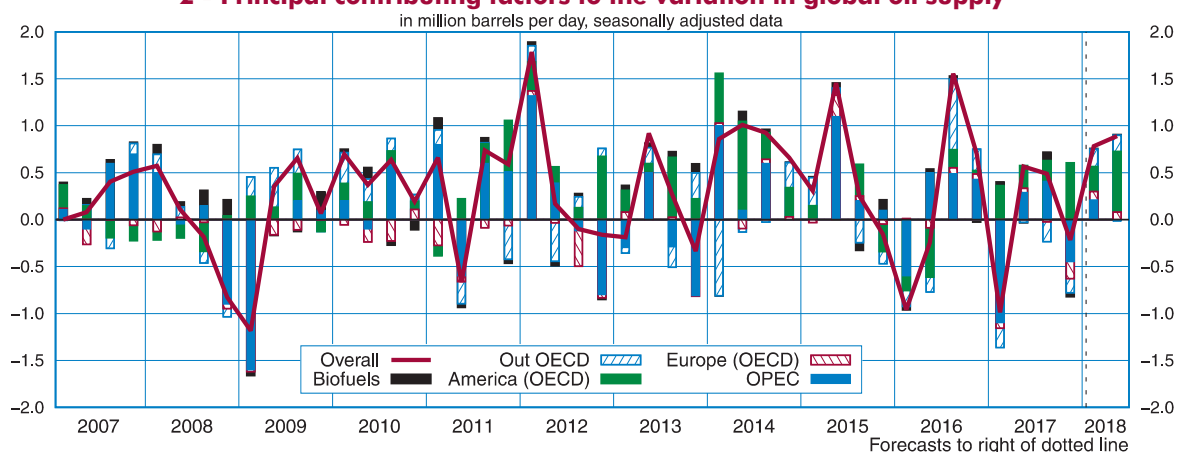
Supply should grow in H1 2018

Global output fell in Q4 2017, largely as a result of the OPEC nations (*Graph 2*). In particular, Venezuelan output fell by 0.14 Mbpd due to the deteriorating oil network. Saudi Arabia's output stabilised at a level well below the threshold set by OPEC. Iraqi output was down on Q3. Iran and Nigeria stabilised their output at the maximum level permitted by their production capacities. Libyan output, on the other hand, continued to bounce back. Russia, also bound by the OPEC agreement, stabilised its output at a level close to the target set in the agreement. In the USA, output increased in Q4 and the rig count for new wells slowed then stabilised in December.

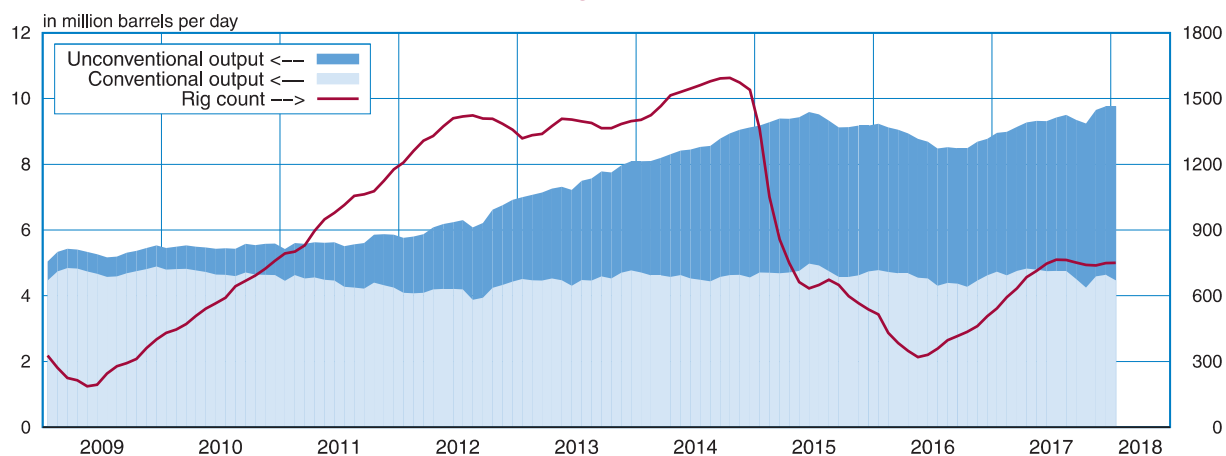
In Q1 2018, OPEC output should increase slightly. Output from Venezuela should continue to fall and that from Iraq should still be hampered by tensions

with Iraqi Kurdistan. Output from Libya and Nigeria should continue to grow, while that from Saudi Arabia and Iran should remain at its 2017 level. According to the International Energy Agency (IEA), Russian output should maintain a level close to that seen in Q4. American output should continue to increase, boosted by the addition of new rigs at wells drilled in H1 2017. Over H1 2018 as a whole, OPEC output should increase slightly, still driven by those countries exempted from the supply restriction agreement. Stimulated by the rise in per-barrel prices in 2017, the increase seen in the American rig count in 2017 should be reflected in a pronounced increase in unconventional output (*Graph 3*), forecast by both the US Department of Energy and the IEA. Nonetheless, the volume of American output remains the main uncertainty surrounding Brent crude prices.

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



3 - Production and rig count in the United States



All in all, world output should increase over the forecasting period. As demand is expected to increase at the same rate, the market should maintain its equilibrium (*Graph 4*).

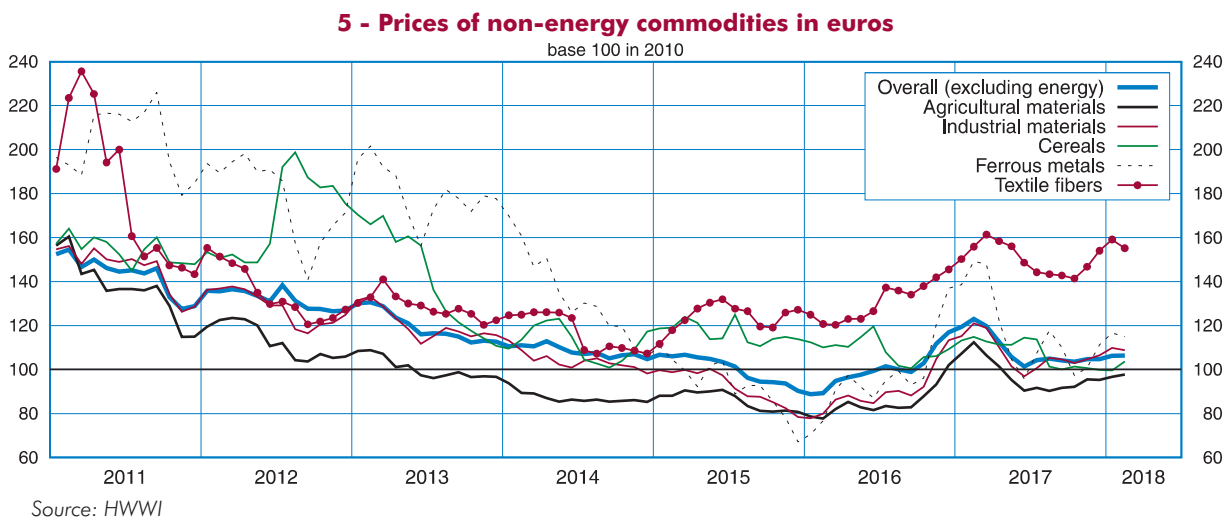
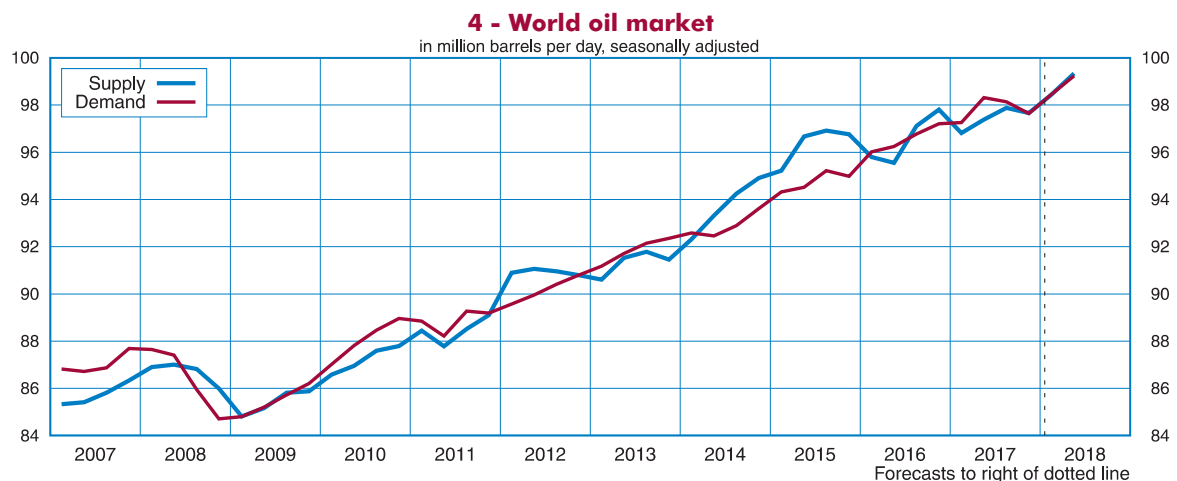
The level of reserve stocks is down, but remains high

Crude oil reserves in the USA decreased over the past three quarters to reach 436.8 million barrels in December 2017, according to the figures issued by the US Department of Energy. This is well below the level seen in December 2015, but still significantly higher (+29%) than the average level observed over the period 2011-2014. Any inflationary pressure on oil prices could thus be

offset by the release of these commercial reserves, which are still at a high level.

Commodity prices slip back slightly

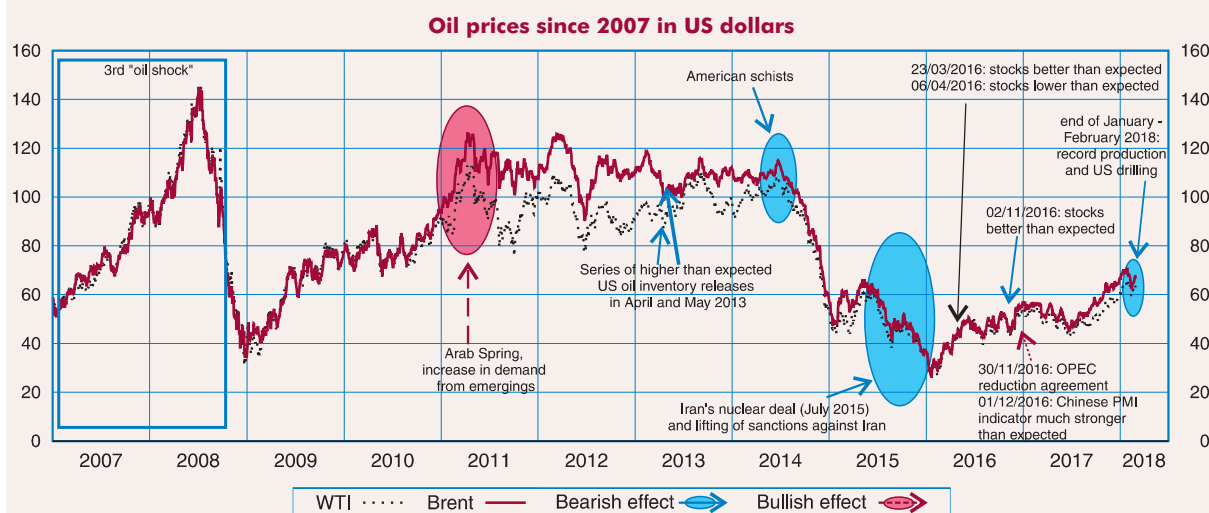
In Q4 2017, commodity prices as a whole in euros fell slightly (-0.1%), growing in December after slumping in October (*Graph 5*). On average, the prices of cereals and ferrous metals fell in Q4 (-4.2% and -7.8%). However, the prices of other commodities rose, particularly that of agricultural commodities as a result of price increases for textile fibres (+2.7%). Cotton prices have risen as a result of the damaging impact of the hurricane season on cotton harvests in the USA. ■



Macroeconomic publications on short-term trends have little influence on variations in oil prices

The price of oil is subject to strong fluctuations. It declined almost fourfold from \$115 in August 2013 to under \$30 in January 2016, before rising again to \$64 by mid-February 2018. Oil prices have a significant impact on economic activity, affecting household purchasing power and hence household consumption and it also influences companies' production costs. Although forecasting the price of a barrel can prove difficult, its determinants can nevertheless be studied, whether they are impacted mainly by supply or demand.

Many factors can affect the supply of oil, such as geopolitical tensions and the arrival of new producers on the market, such as shale oil in the United States. The economic situation and the short-term outlook in importing countries influence world demand and hence prices. Once long-term factors have been isolated, the price of oil still remains very volatile in the short term. Since financial operators pay close attention to the macroeconomic calendar and publications of short-term trends, some of this volatility could perhaps be explained by recent news of this kind. However, the short-term impact on oil prices of publishing short-term macroeconomic indicators, such as the Purchasing Managers Index (PMI) or GDP growth, appears to be very small.



Source: INSEE

Some notable macroeconomic or geopolitical events and announcements are shown on the graph, in red for bullish events and in blue for bearish events. For example, the Arab spring and the sharp rise in oil demand from the emerging countries in 2011, the announcement by OPEC on 30 November 2016 of an agreement to cut oil production and the publication of a much higher China Manufacturing PMI than expected on 1st December 2016 all put upward pressure on oil prices. In contrast, the prospect of lifting sanctions against Iran at the end of 2015 and hence of a recovery in Iranian oil exports led to a significant fall in prices. In spring 2016, the sharp upward trend in oil prices was halted briefly by the announcement on 23 March 2016 of larger-than-expected inventories. The price of a barrel also plummeted after US production topped the 10 million barrels a day milestone at the end of January and beginning of February 2018. Some macroeconomic announcements that are out of step with expectations seem to have taken the markets by surprise and to have had an impact on oil prices. However, isolated incidents are not sufficient to produce statistical regularity; it is therefore necessary to study whether the effects of these surprises can be identified and estimated statistically.

In the long term, oil prices balance out according to supply and demand

To estimate the effects of macroeconomic surprises on short-term variations in oil prices, the long-term relations that determine prices need to be identified. The aim here is not to produce a forecasting model but rather to isolate the variables that influence the price of oil in the long term. These variables are used to evaluate oil supply and demand: US oil inventories, the PMI Manufacturing indices in the United States, China and Russia, average US oil production over the last six months, the International Energy Agency (IEA) forecast for non-OPEC global oil supply and the euro/US dollar exchange rate, expressed in US dollars to the euro.

The results confirm the existence of a long-term relationship between the price of oil and the selected variables. Supply variables (Russia PMI, inventories, production, supply forecasts) have a negative effect on oil prices, while demand variables (China and United States PMI, euro/dollar exchange rate) have a positive effect on price formation.

The impact of macroeconomic surprises on short-term oil price variations can then be isolated and estimated by taking into account the main determinants of the price of a barrel within the long-term relationship.

Publications on short-term trends may have a short-term impact if they differ from expectations

The financial markets anticipate the values given in short-term publications. Thus the effect on oil prices of new macroeconomic data in line with these expectations is basically zero, as the price already includes the anticipated information. Macroeconomic surprises, on the other hand, defined as deviations between published values and what was anticipated by the financial markets, may have an impact on the price of oil.

Like long-term variations, short-term variations in oil prices may be influenced by surprises in supply and demand variables. For example, changes in inventories and revisions to the IEA forecasts of global oil supply provide new information on supply. On the demand side, PMI indicators, industrial production and the GDP of certain countries as well as revisions to IEA estimates and forecasts of global oil supply are also to be taken into consideration. Some of these variables describe economic activity over a period in the past when they are published. They provide financial players with a concise knowledge of recent economic developments and may surprise observers.

In addition to the effect of macroeconomic news, the difference between the observed price of oil and its theoretical level in the long term may also account for some of the daily variations in the price of a barrel. For example, if this price is higher than its long-term level in respect of its fundamental determinants, it will tend to decrease in order to reach this level.

Unexpected variations in oil inventories account for some price variations

According to estimates, upward surprises in inventories (i.e. when the level of inventories is higher than anticipated) have a significant downward effect on oil prices, both Brent¹ and WTI.² If annual growth in industrial production in the Eurozone is different from expected growth, this also has a significant impact on Brent, just as growth in annual American GDP that differs from what was expected has a significant impact on the WTI. Surprises related to the publication of other macroeconomic data, however, and revisions to the supply forecasts do not have a significant effect. Revisions by the IEA to its global oil demand forecasts have a substantial positive effect on changes in WTI oil prices but not in the case of Brent.

According to the model used, if the Brent or WTI prices are one dollar higher than their long-term equilibrium level, then, all other things being equal, their variations will be reduced by \$0.03. This is a callback mechanism specific to the macroeconomic equilibria between the variables considered. As there is a long-term relationship between the price of a barrel and its fundamental determinants, short-term divergences between the price and its determinants have a tendency to diminish.

Looking at data from 25 June 2014 to 13 February 2018, it can be seen that the difference between the real variation in commercial oil inventories in the United States and market anticipations is around the standard deviation (or around 4.8 million barrels). This reduces prices by an average of \$0.20 for Brent and \$0.24 for WTI.

In addition, all other things being equal, an upward revision of one million barrels per day to the IEA global oil demand forecast for the following quarter generates an increase in the price of WTI oil of \$2.10. The price of Brent probably increases by the same amount after such a revision, but its daily variations seem to be influenced more by other factors or specific features of the local market: this revision is not significant and is therefore not used in the equation.

Lastly, when annual growth in industrial production in the Eurozone is less than the standard deviation (0.8 points) of what was expected, the price of Brent increases by \$0.36, and when quarterly GDP growth in the United States is less than the standard deviation of what was expected (0.5 percentage points), this increases the price of WTI by \$0.40. This latter effect may be explained by an expectation of a backlash: since growth in production was not as high as expected, it may return to its trend levels the following quarter, and hence demand increases by a catch-up effect. In addition, if production growth was higher than expected, it is less likely that it will increase further and that demand will grow further and exceed its level of the previous quarter, which was already particularly high compared to expectations. On 30 January 2015 and 29 May 2015 for example, US GDP growth was less than expected, at +2.6% instead of 3.3% and -0.7% instead of +0.2% respectively, in other words, negative surprises of standard deviations of around -1.3 and -1.7 respectively. They coincided with a rise in the price of WTI oil by \$3.7 between 29 and 30 January 2015, and \$2.6 between 28 and 29 May 2015.

Another possible channel is the anticipation of monetary policy: higher-than-expected growth may increase inflationary tensions, and thus lead to monetary tightening, reducing anticipated demand and hence the price of oil.

1. Brent is oil from the North Sea, a benchmark for European supplies.

2. WTI (West Texas Intermediate) is a light oil, produced and refined in North America.

However, explained volatility remains very low: most variations in oil prices depend on other factors

Long-term oil price differentials and inventory surprises account for only about 3.6% of the volatility of Brent oil prices and about 2.5% for WTI oil prices. Over 96% of daily variations are therefore unexplained by the factors considered here. This result is consistent with several conclusions on this subject in the literature, for example the work by Kilian and Vega (2011). Thus, macroeconomic news has virtually no immediate effect on oil prices, which reinforces the theoretical and empirical methods used elsewhere for forecasting and which are based on this hypothesis. ■

Bibliography

Coffinet J. and Gouteron S. (2009), "Euro-Area Yield Curve Reaction to Monetary News", *German Economic Review*, 11(2), p. 208-224.

Jess N., Roucher D., Bernard J.-B. and Cléaud G. (2013), "Comment prévoir le prix du pétrole?", *Conjoncture in France*, INSEE, June, p. 41-58.

Kilian L. and Vega C. (2011), "Do Energy Prices Respond to U.S. Macroeconomic News? A Test of the Hypothesis of Predetermined Energy Prices", *The Review of Economics and Statistics*, 93 (2), May, p. 660-671.

King K., Deng A. and Metz D. (2012), "An Econometric Analysis of Oil Price Movements: The Role of Political Events and Economic News, Financial Trading and Market Fundamentals", *Bates White Economic Report*, January. ■

Methodology

The collected data are based on general macroeconomic indicators or variables concerning the oil market (rig count and output in the United States published every Friday, commercial oil inventories in the United States, forecasts of oil supply and demand published by the International Energy Agency, IEA). Data relating to economic indicators are taken from the tradingeconomics.com website, which consolidates the latest published value, the consensus of analysts (average of expectations of a number of market economists) and the previous value.

The period of analysis selected runs from 25 June 2014 to 13 February 2018, taking into account price levels and their daily variations in order to estimate the impact of a surprise event on the variation in oil prices between the day of the announcement and the day before. This exercise was inspired by the method used by several authors, such as Kilian and Vega (2011) and Coffinet and Gouteron (2009), but who studied sub-daily variations, looking at a few minutes before the announcement and a few minutes after. Only daily, not hourly variations are studied here, because of data availability and the economic focus of the analysis.

The surprise (difference between the figure actually published and the consensus of the analysts) was calculated either as a percentage, or standardised by its standard deviation, as in Kilian and Vega (2011).

A standard assumption when using vector autoregressive models (VAR) is the absence of an immediate effect of macroeconomic aggregates on the price of oil. However, oil can be seen as a storable and homogeneous asset; its price, determined by supply and demand, can react to any news that provides information or indices on anticipated supply and demand, and hence to macroeconomic news, such as stock prices or exchange rates (e.g. see Kilian and Vega, 2011). For example, a positive surprise in values for current or future production or employment could be associated with a positive variation in the price of oil, due to demand being greater than expected. In their article, Kilian and Vega found that macroeconomic surprises had only a small effect on the price of WTI oil.

Long-term relationships between price levels and their determinants are as follows:

$$\begin{aligned}
 WTI_t = & -204.5 - 0.00031^* \Delta stocks_t + 4.12^* PMI_{USA,t} + 5.53^* PMI_{China,t} - 1.8^* PMI_{Russie,t} \\
 & - 0.0075^* Prod_{moyenne}_{USA,t} + 86.0^* tx_{EUR/USD,t} - 3.1^* Offre_prévue_proc \\
 & - 0.12^* Offre_prévue_cur + Résidus_{WTI,t}
 \end{aligned}$$

$$Adjusted R^2 = 0.91$$

$$Brent_t = -298 - 0.0058 * Prod_{moyenne_{USA,t}} - 0.00026 * \Delta stocks_t + 6.29 * PMI_{China,t} \\ + 4.9 * PMI_{USA,t} + 89.1 * tx_{EUR/USD,t} - 3.1 * Offre_pr\u00e9vue_proc + R\u00e9sidual_{Brent,t}$$

Adjusted R² = 0.92

For these two equations, the period of estimation is the same, from 25 June 2014 to 13 February 2018 (920 observations).

The notations are as follows:

- WTI_t and $Brent_t$ represent the prices of WTI oil and Brent (North Sea oil), respectively, on date t ;
- $\Delta stocks_t$ represents the latest available inventory change published by the EIA (Energy Information Administration), an agency attached to the American Department of Energy, on date t ;
- $PMI_{USA,t}$, $PMI_{China,t}$ and $PMI_{Russie,t}$ represent respectively the latest available manufacturing PMI on date t for the United States (published by Markit), China (published by the National Bureau of Statistics of China) and Russia (published by Markit);
- $Prod_{moyenne_{USA,t}}$ represents average US oil production calculated over the last 6 months;
- $tx_{EUR/USD,t}$ represents the EUR/USD exchange rate on date t , expressed in dollars to the euro;
- $Offre_pr\u00e9vue_cur$ and $Offre_pr\u00e9vue_proc$ represent the latest available IEA (International Energy Agency) forecasts for global non-OPEC production for the current quarter and the following quarter, respectively;
- $R\u00e9sidual_{WTI,t}$ and $R\u00e9sidual_{Brent,t}$ represent the residual components not explained by the variables above, i.e. the difference between the values predicted by these variables and the prices observed on date t .

The short-term equations for variations in oil prices are the following:

$$\Delta Brent_t = -0.20 * Surprise_Stocks_t - 0.36 * Surprise_prodindus_ZE_t - 0.03 * R\u00e9sidual_{Brent,t-2}$$

Adjusted R² = 0.030

Estimation period : 27 June 2014 to 13 February 2018 (918 observations)

$$\Delta WTI_t = -0.05 - 0.24 * Surprise_Stocks_t - 0.43 * Surprise_USAgrowth_t \\ + 2.1 * RevDemande_prochainTrimestre - 0.029 * R\u00e9sidual_{WTI,t-1}$$

Adjusted R² = 0.029

Estimation period : 27 June 2014 to 13 February 2018 (918 observations)

With the following notations:

- $\Delta Brent_t$ and ΔWTI_t represent the arithmetic differences in the price of Brent and WTI respectively from one day to the next (between $t-1$ and t);
- $Surprise_Stocks_t$ represents the surprise introduced by the EIA's publication of the variation in the level of stocks. This variable is 0 on the days when there is no publication. On days when the variation is published, it equals the ratio of, on the one hand, the difference between the value published by the EIA and market expectations, and on the other hand, the standard deviation of this difference calculated across all the days when the sample is published;
- $Surprise_prodindus_ZE_t$ represents the surprise on date t introduced by the monthly publication of annual growth in industrial production in the Eurozone (month-on-month over a 12-month period), calculated in the same way as the surprise over stocks;
- in the same way, $Surprise_USAgrowth_t$ represents the surprise on date t introduced by the publication of the US GDP;
- $RevDemande_prochainTrimestre$ represents the revision by the IEA of its forecasts for world demand for oil for the next quarter, in millions of barrels per day. This variable is 0 on the days when the IEA does not publish an Oil market report and on days when it is published the variable is equal to the revision percentage over the quarter under consideration;
- $R\u00e9sidual_{WTI,t-1}$ and $R\u00e9sidual_{Brent,t-2}$ represent the residuals of the long-run equations for WTI and Brent respectively, as presented above, one day before (in the case of the WTI) and 2 days before (in the case of Brent), respectively, i.e. the difference observed the previous day (WTI) or two days previously (Brent) between the level observed and the long-run equilibrium level simulated by these variables and the corresponding equation. ■

Financial markets

Stock market turmoil is not holding back a dynamic financial market

The central banks are seeking to gradually scale back their accommodating monetary policies without hampering economic growth. The Federal Reserve raised its base rates in December 2017 and is expected to raise them three or four more times in 2018, reassured by American inflation settling around its target of 2% and a still very buoyant labour market. The European Central Bank (ECB) is extending its quantitative easing programme until September 2018, but halved its asset purchase programme from January 2018 onwards.

The credit situation continues to improve across the entire Eurozone, although with some disparities: outstanding loans to the non-financial private sector, enterprises and households are stable in Spain, but rising strongly in France and Germany. Outstanding loans in France are distinctly more buoyant than in its neighbouring countries, with equivalent interest rates for enterprises and lower rates for households. European banks are expecting to stabilise their credit terms after easing them recently. The proportion of non-performing loans is declining.

The euro has been appreciating against the dollar since January 2017, topping \$1.24 in January 2018 with the improvement in the economic outlook in Europe, before slipping back in February and stabilising at about \$1.23.

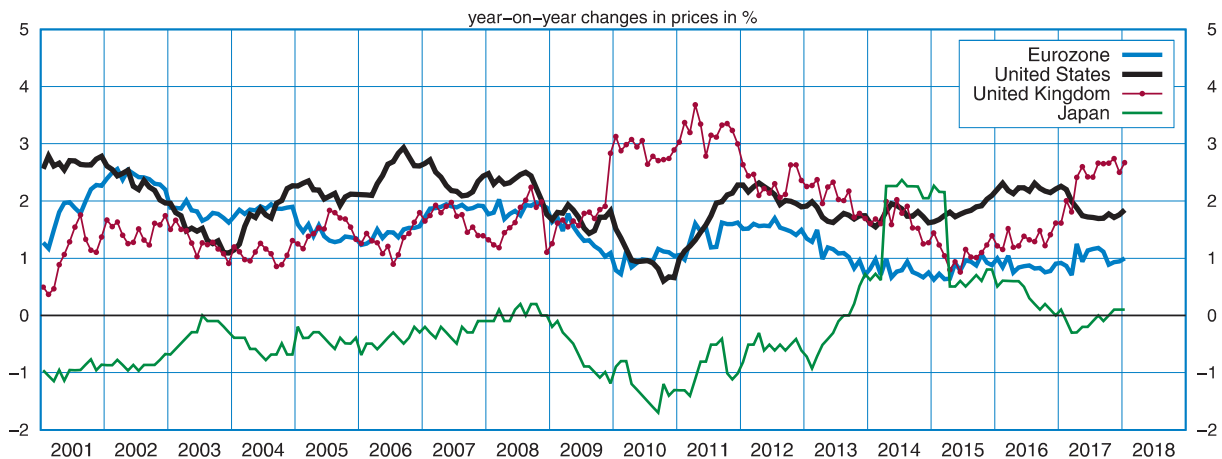
The real effective exchange rate rose strongly for French exporters in Q3 2017 before stabilising in Q4. By convention, the euro exchange rate is fixed in the forecasts at 1.23 dollars, 0.87 pounds sterling and 135 yen.

The Fed cautiously normalises its monetary policy

The Fed raised its base rates in June and December 2017 and is expected to raise them again three or four times in 2018. It is also speeding up measures to reduce its balance sheet, which currently stands at to \$4,400 billion, at a rate of \$20 billion a month since January 2018. The scale of this reduction will gradually intensify until it reaches \$50 billion a month by the end of 2018. The Fed has been encouraged to pursue this policy by the drop in unemployment to 4.1% and by dynamic inflation – both headline and core – that is close to the target of 2% (Graph 1).

Although the appointment of Jerome Powell, the new Chairman of the Board of Governors of the Fed, replacing Janet Yellen, does not seem to indicate a dramatic change in short-term monetary policy, the forthcoming replacement of three governors out of seven is likely to alter the direction of American monetary policy.

1 - Core inflation in the world



Sources: Eurostat, BLS, JSB, ONS

The ECB reduces its accommodating monetary policy

Meanwhile, in January the Central European Bank (BCE) confirmed that it is prolonging its accommodating policy and extending its asset purchase programme at least until September 2018. But it has publicly remarked on the “stronger than expected” acceleration in economic activity in the Eurozone, strengthening expectations of a gradual end to quantitative easing. Core inflation remains close to 1%, below the target of 2%. Base rates remain at a historically low level: the deposit facility rate has stood at -0.40% since March 2016 (*Graph 2*). The Governor of the ECB, Mario Draghi, has announced that the three base rates would remain at their current levels for “an extended period (...) well beyond” the end of the securities purchase programme. This programme will be maintained until at least September 2018, although at a more moderate rate: €30 billion a month from January 2018, instead of €60 billion until now.

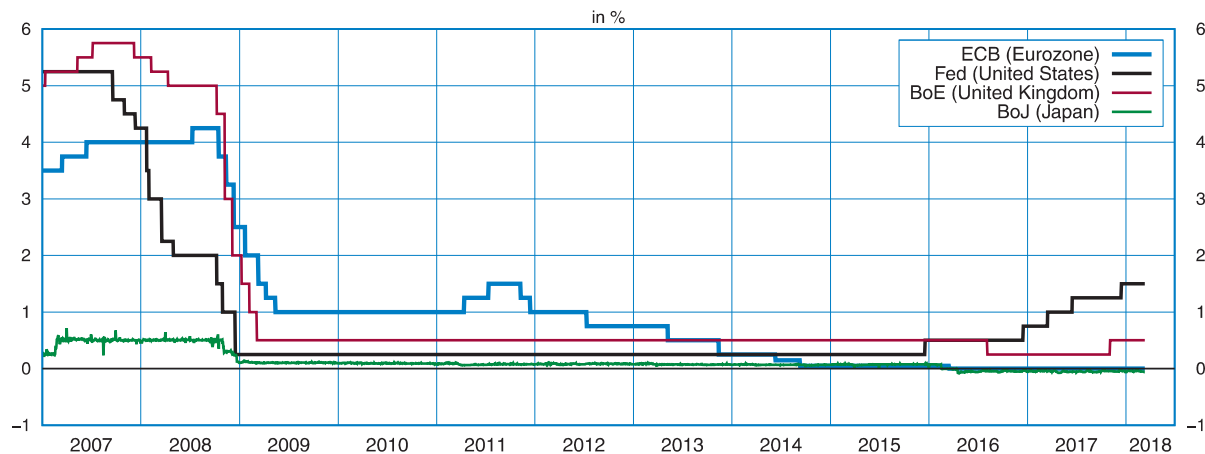
European and American sovereign yields are increasing

The sovereign yields of the advanced countries grew fast in January 2018 under the effect of the expected gradual end to accommodating monetary policies. They do not seem to be suffering from the uncertainties linked to the political crisis in Catalonia, the more difficult than expected process of forming a government in Germany and the Italian elections. Spreads are decreasing slightly: the France-Germany spread is hovering around 30 basis points, while the Italy-Germany spread has been reduced to about 130 basis points, compared to the 200 recorded in Q1 2017.

Credit is very buoyant in the Eurozone, especially in France

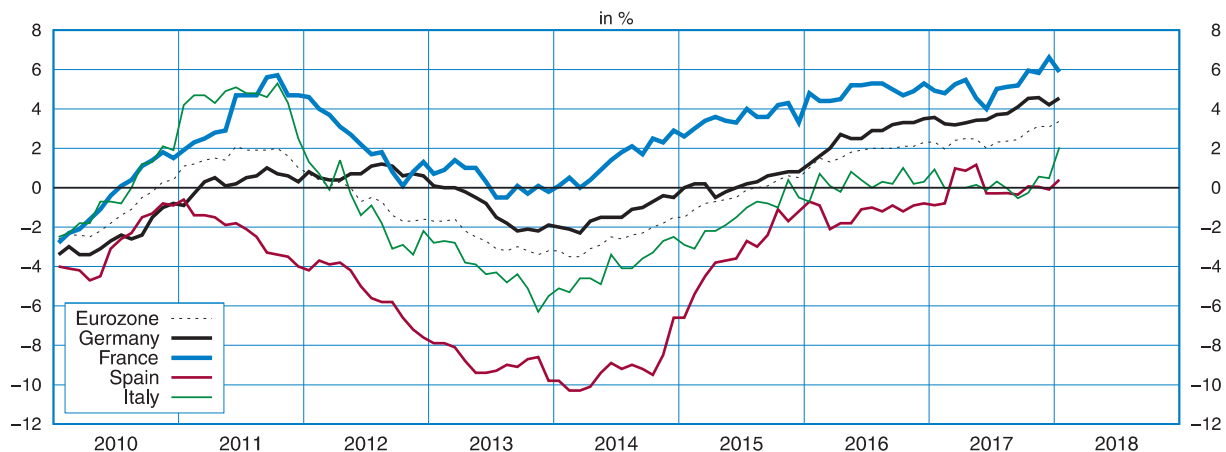
Credit terms continue to be very favourable overall in the Eurozone, with some disparities between countries. Outstanding loans to non-financial corporations in the Eurozone continue to rise (*Graph 3*): in January 2018, their year-on-year

2 - Base rates of the main central banks



Sources: Fed, ECB, BoJ, BoE

3 - Annual growth rate of outstanding corporate loans in the Eurozone



Source: ECB

International developments

growth reached +5.9% in France after +6.6% in December 2017 and +4.5% in Germany after +4.2%. They are increasing again in Italy (+2.1% after +0.5%) and in Spain (+0.4% after -0.1%). The interest rates charged to enterprises are stabilising in the four large countries: they are fluctuating around 1.5% in Germany, France and Italy and around 2% in Spain.

France stands out from its main European partners when it comes to household lending, with a lower interest rate and more a vigorous situation as regards outstanding loans: the annual rise in these outstanding loans reached +5.9% in January 2018 compared to +2.9% for the Eurozone as a whole. This trend does not seem to be adversely affected by the slight increase in the rates on new loans to households.

Stock markets were on an upward trend until a market correction in early February 2018

Low interest rates and a favourable economic outlook took stock market indices to historically high levels at the end of January 2018, with volatility at historically low levels. At the beginning of February 2018, a higher than expected increase in wages in the United States led to a correction of stock market indices and a sudden increase in volatility, with investors expressing alarm at the inflationary risks in the United States and rising interest rates (*Graph 4*).

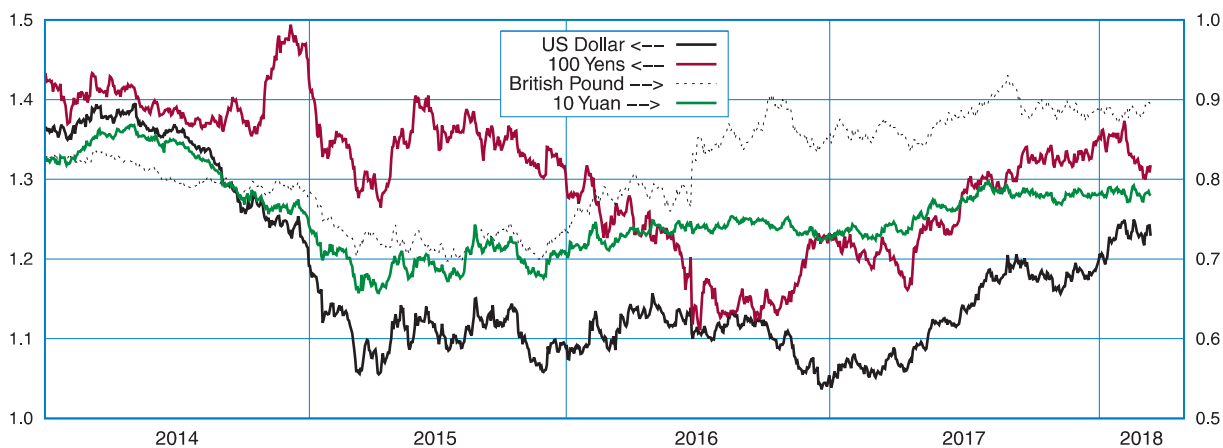
The euro appreciated in January 2018

In 2017 and in January 2018 the Euro appreciated significantly against the dollar and other currencies (*Graph 5*), driven by favourable economic

4 - Stock market indices of the advanced countries



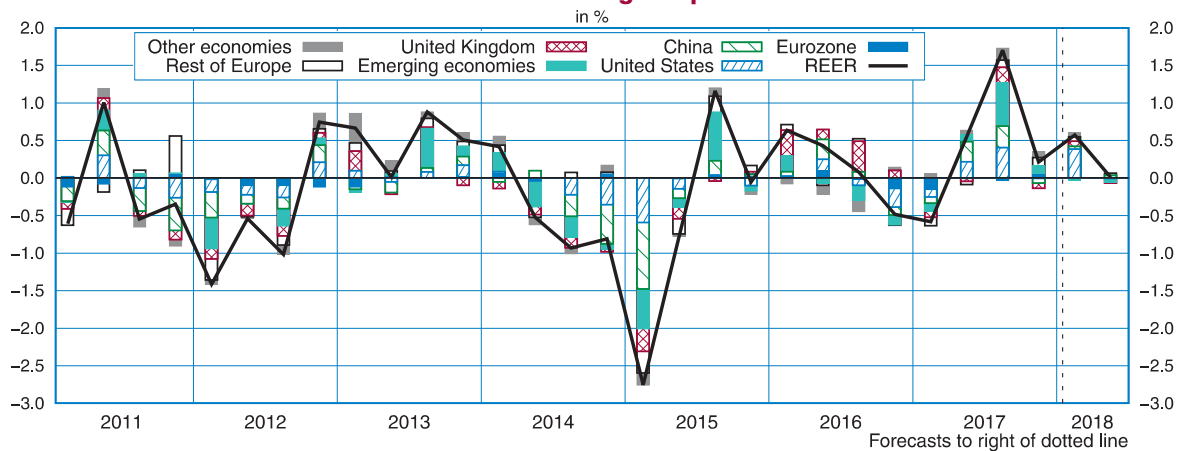
5 - Ten-year European sovereign yields



prospects. This led to a sharp increase in the real effective exchange rate for French exporters in Q3 2017(+1.7%), as well as in Q1 2018 (+0.5% expected, *Graph 6*). At the beginning of February, the euro depreciated slightly due to a rise in interest

rates and the stock market correction and is now hovering around the \$1.23 mark. By convention, the exchange rate of the euro has been set at £0.87, ¥135 and \$1.23 through to the end of the forecasting period. ■

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



Sources: Banque de France, National statistical institutes, INSEE calculations

Eurozone

Growth remains buoyant

In Q4 2017, Eurozone GDP increased by +0.6%, as forecast in the December issue of *Conjoncture in France*. Once again it was buoyed by foreign trade (contribution of +0.4 points), as in Q3. Activity was vigorous in the main European countries. With a business climate at a very high level, growth should continue to be sustained (+0.5% per quarter) in H1 2018, in spite of a slight slowdown in the construction sector. The carry-over effect in activity is expected to reach +1.8% by mid-2018, after +2.5% on average over 2017. This buoyancy should pave the way for a fall in unemployment from 8.7% at the end of 2017 to 8.5% by June 2018 (after 9.8% at the end of 2016).

Activity remains solid in the Eurozone

In Q4 2017, activity grew at a sustained pace once again (+0.6% after +0.7%, *Table*), as forecast in the December issue of *Conjoncture in France*. It was vigorous in the four large European countries, Germany (+0.6%), Spain (+0.7%) and France (+0.6%), and to a lesser degree in Italy (+0.3%). In February 2018, the business climate remained very favourable even though the progress underway since mid-2016 has come to an end (*Graph 1*). Growth is therefore expected to remain solid in H1 2018 (+0.5% per quarter), in spite of the

political uncertainty in Germany and Italy. The growth overhang of activity is set to reach +1.8% by mid-2018 after +2.5% in 2017.

Employment prospects are high in the surveys, in particular in services where they are at their highest level since 2001. Employment is therefore expected to remain buoyant, so unemployment should continue to fall and reach 8.5% by June 2018.

Consumption is expected to remain robust, driven by buoyant wages

Private consumption should remain vigorous until mid-2018 (+0.5% per quarter), in line with the high level of household confidence in February. Wage growth should pick up, driven in particular by Germany and Spain (*Graph 2*) while inflation is expected to reach +1.5% year-on-year by mid-2018. Core inflation, which rose timidly to +0.9% at the end of 2017, is expected to stay close to this level.

This increase in prices is likely to have eroded the purchasing power gains made in 2017 (+1.5% after +1.8% in 2016). At the start of 2018, thanks to dynamic wages, purchasing power should keep up the same pace of growth, leading to a carry-over effect of +1.2% by mid-2018.

Gross domestic product and main aggregates of Eurozone economies

quarter-on-quarter and year-on-year changes in %

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Eurozone	0.5	0.4	0.4	0.6	0.6	0.7	0.7	0.6	0.5	0.5	1.8	2.5	1.8
France	0.6	-0.1	0.2	0.5	0.7	0.6	0.5	0.6	0.4	0.4	1.1	2.0	1.6
Germany	0.6	0.5	0.3	0.4	0.9	0.6	0.7	0.6	0.6	0.5	1.9	2.5	1.9
Spain	0.7	0.8	0.7	0.7	0.8	0.9	0.7	0.7	0.7	0.6	3.3	3.1	2.3
Italy	0.3	0.1	0.2	0.4	0.5	0.4	0.4	0.3	0.4	0.4	1.0	1.5	1.2
Household purchasing power in the Eurozone (year-on-year changes)	0.1	-0.1	0.3	0.7	1.8	1.5	1.4	1.4	1.3	1.5	0.2	1.5	1.3
ILO unemployment rate in the Eurozone	10.3	10.1	9.9	9.8	9.5	9.1	9.0	8.7	8.6	8.5	10.0	9.1	8.5

Forecast

Sources: Eurostat, National statistical institutes, INSEE forecast

Equipment investments are not expected to weaken

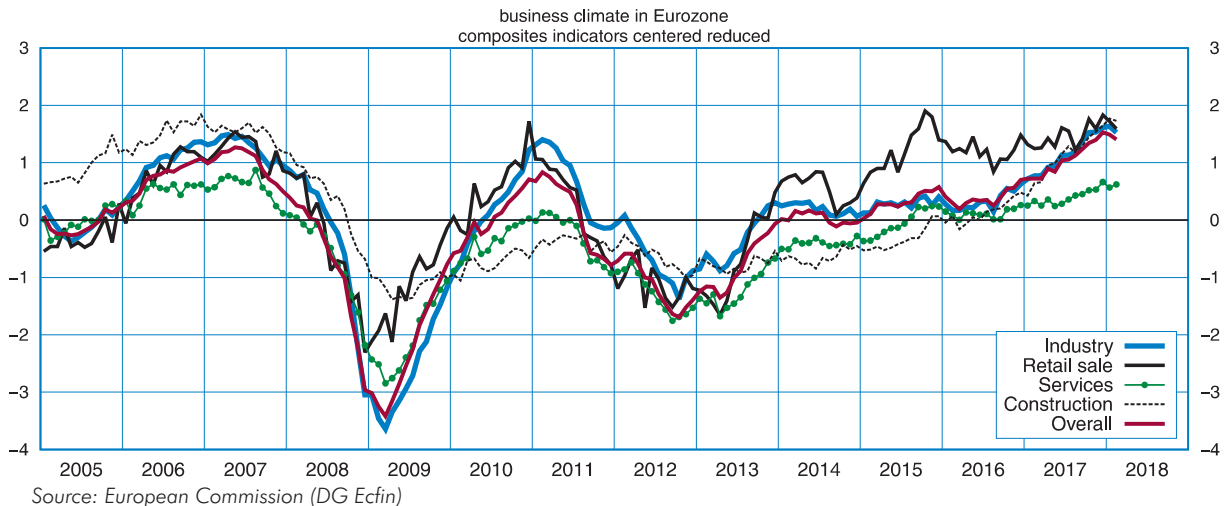
In Q4 2017, investment in the construction sector slowed slightly (+0.7% after +0.9%). It is expected to increase on average by +0.7% per quarter from now to mid-2018. Building permits have lost some of their momentum in France and Germany (*Graph 3*). However, investment in the construction sector should continue to sustain activity (carry-over effect of +2.4% by mid-2018 after +3.5% on average over 2017). Equipment investment also slowed in Q4 2017 (+1.3% after +2.4%). It should keep up a high pace until mid-2018, driven by demand prospects and the flourishing financial situation of European businesses, in a context of growing

production capacity tensions. Its annual growth overhang should reach +5.1% by mid-2018 after +4.9% on average in 2017.

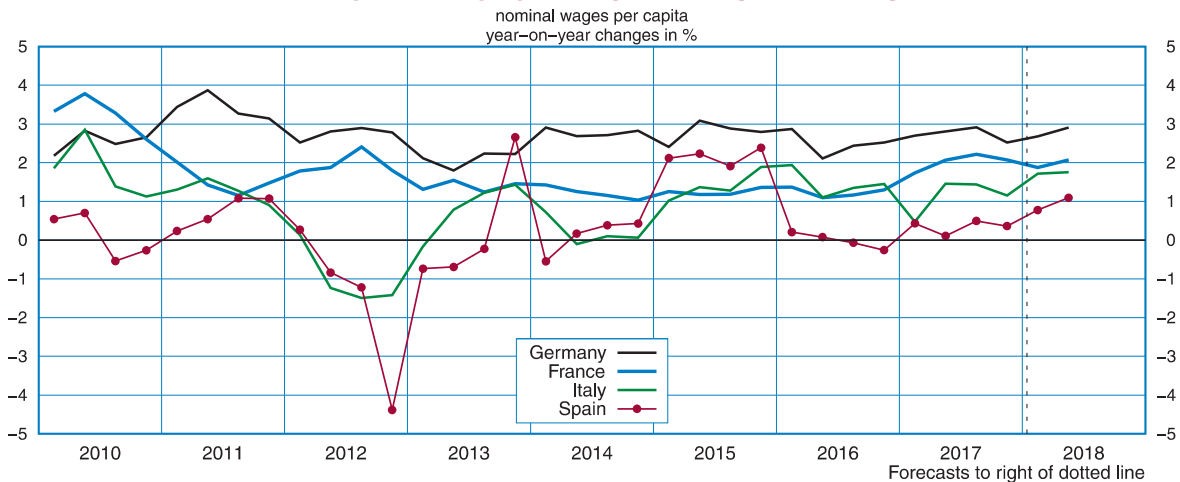
The appreciation of the euro is expected to hold back exports slightly

In Q4 2017, exports are expected to have maintained a high rate of growth (+1.9% after +1.6%), driven by French aviation sales in December and a record level of buoyancy in Germany. They are likely to slow at the beginning of 2018 (+0.9% per quarter), due to the appreciation of the euro in January 2018 and slightly less vigorous world demand.

1 - Entrepreneurs' confidence has reached peak levels



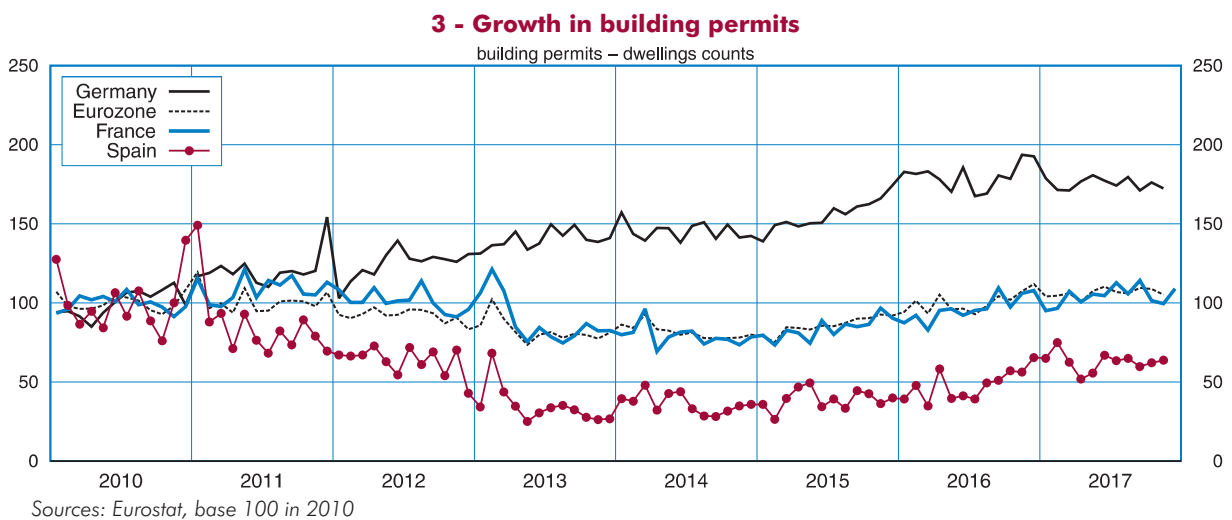
2 - Vigorous wage growth, particularly in Germany



International developments

Imports gathered pace in Q4 2017 (+1.1% after +0.6%). Through to mid-2018, they should remain solid to serve domestic demand in a tight supply context (+1.1% in Q1 then +1.2% in Q2).

All in all, the contribution of foreign trade to the economic growth overhang in mid-2018 should be positive (0.4 points after 0.6 points in 2017 and -0.5 points in 2016). ■



Germany

Growth is expected to remain solid

In Germany, growth in activity remained solid in Q4 (+0.6%) after a very dynamic Q3 (+0.7%). Once again foreign trade boosted growth and government consumption remained buoyant. In 2018, household expenditure is expected to be vigorous once again, encouraged by dynamic wages and a very low unemployment rate. But exports are expected to lose some momentum, which is likely to cause activity to slow slightly (+0.6% then +0.5%) in spite of dynamic investments. Gross domestic product grew 2.5% over the year 2017 after +1.9% in 2016. For 2018, the growth overhang at the end of H1 is expected to be +1.9%.

Household consumption is likely to pick up sharply

In Q4, household expenditure stagnated after falling (0.0% after -0.2%). Wages slowed considerably and purchasing power fell. Government consumption remained buoyant (+0.5% after +0.5%).

Wages are expected to pick up again at the beginning of 2018 (+0.9% then +0.8%), boosted by the increase in the minimum wage applied progressively since the beginning of 2017 and wage negotiations. Purchasing power should bounce back at the beginning of 2018 in spite of a rise in inflation to 2.0% mid-year. Job creation is set to remain vigorous (+0.4% then 0.3%) and the unemployment rate should stabilise at a very low level. A rebound is expected in private consumption (+0.6% per quarter), sustaining growth (Graph). The uncertainty surrounding the formation of a government has not affected

household confidence. The savings ratio is expected to remain stable. Furthermore, government consumption is set to slow slightly (+0.4% per quarter).

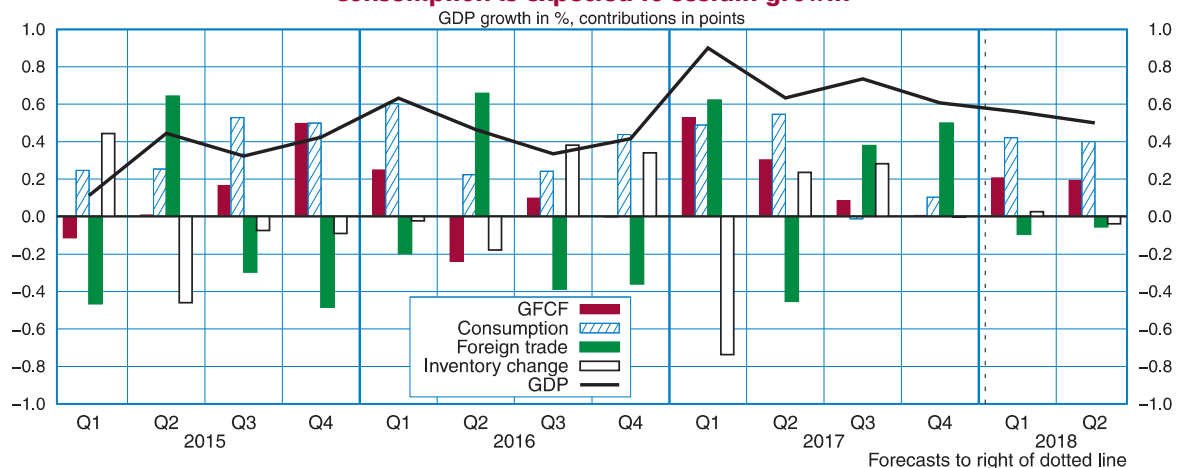
Investment should bounce back

Activity slowed slightly in Germany in Q4 2017 (+0.6% after +0.7%). Indeed, investment slowed again at the end of 2017, due to a decline in construction (-0.4% after -0.3%) and a slowdown in investments in capital goods (+0.7% after +1.3%). Investment in construction is expected to bounce back in Q1 as suggested by the high levels in the surveys (+0.7%), but then is expected to fall back in Q2 in line with the lower number of building permits granted at the end of 2017 (+0.5%). Investment in capital goods is also expected to accelerate as an after-effect in Q1 and to maintain this pace in Q2 (+1.8% per quarter).

Foreign trade is likely to weigh down a little on growth at the start of 2018

Foreign trade sustained growth significantly in Q4 (+0.5 points), with exports growing faster than imports (+2.7% compared to +2.0%). However, foreign trade is expected to weigh down on growth at the beginning of 2018 (-0.1 point per quarter), with exports slowing more markedly (on average +1.0% per quarter) than imports (+1.4% per quarter). Hence German activity is likely to slow down slightly in Q1 and Q2 2018 (+0.6% then +0.5%). GDP growth improved considerably in 2017 to reach 2.5%, after 1.9% in 2016. The growth rate carried over for 2018 at the end of H1 is expected to be +1.9%. ■

Consumption is expected to sustain growth



Sources: Destatis, INSEE calculations

Italy

Growth is expected to stand up to political uncertainties

In 2017, Italian activity grew 1.5%, its most substantial increase since 2010. At the end of the year, it rose by 0.3%, after +0.4% in Q3. This improvement should continue at a fairly sustained pace in H1 2018 (+0.4% per quarter), in line with private consumption. Investment is unlikely to suffer from a wait-and-see attitude in the context of the legislative elections on 4 March. The growth overhang is expected to be +1.2% by mid-2018.

Household consumption should return to a lively pace

In Q4 household consumption slowed (+0.1% after +0.4%). Purchasing power is expected to slow down in Q1 2018, as nominal wages are increasing less quickly than inflation, but should bounce back in Q2 (+0.0% then +0.5%). Nevertheless, the rise in employment should absorb the growth in the labour force, so that unemployment rate is expected to decrease (to 10.8% in Q2 against 11.2% a year earlier). The labour force participation rate is very dynamic and appears to be driven by an increased participation among older workers in the labour market (*Focus*).

Household confidence remained high in January and precautionary savings should now come down a little, so that consumption can return to a steady pace (+0.4% per quarter).

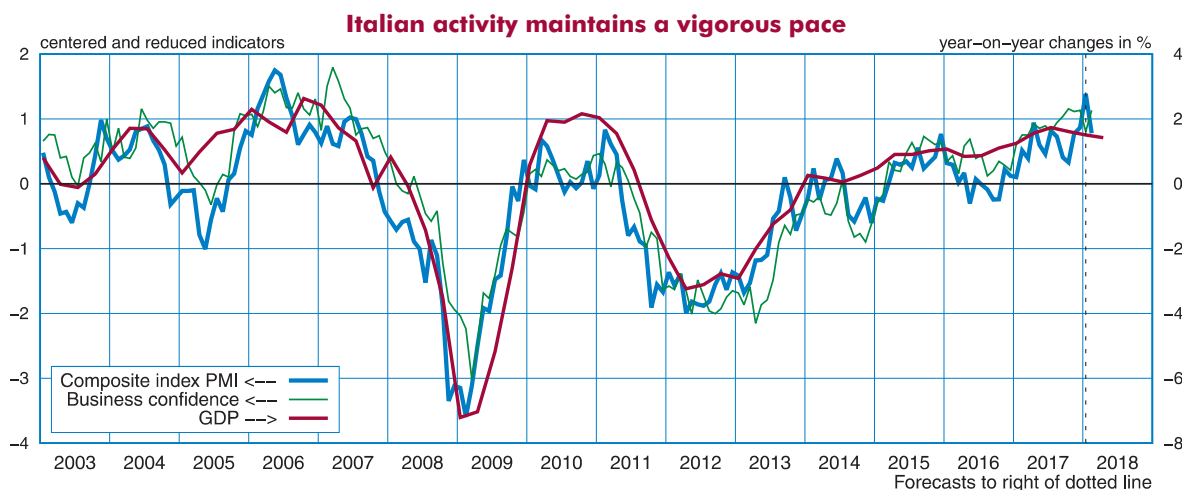
Equipment investment is set to sustain growth

After strong expansion in Q3 2017 (+8.0%), equipment investment increased slightly slower in Q4 (+3.5%). However, it continues to take advantage of favourable conditions: industrialists' confidence is rising and self-financing capacities are high. Investment in equipment should therefore maintain a sustained pace (+1.2% per quarter) until mid-2018. The growth overhang is already expected to reach +9.8% in June 2018, as investment seems not to be suffering from a wait-and-see attitude with the legislative elections in March.

In Q4 2017 investment in construction pursued its rapid growth (+0.9%) after a more irregular start of the year. Leading indicators are down, suggesting moderate growth until spring (+0.3% per quarter).

In 2017, foreign trade made a positive contribution to activity

For the first time in four years, foreign trade made a positive contribution to activity in 2017 (+0.3 points). The pace of exports was close to that of world demand in Q4 (+2.0%) and should drop slightly below this level in H1 2018 (+0.9% per quarter), due to the appreciation of the euro. After +6.0% in 2017, the growth overhang of exports for 2018 is expected to be +4.2% by mid-year. Imports remained buoyant at the end of 2017 (+1.0%) and should remain solid until mid-2018, boosted by domestic demand. They are expected to increase at a rate of 0.9% per quarter. All in all, their annual growth overhang should be +3.8% by mid-2018 after +5.7% in 2017. ■



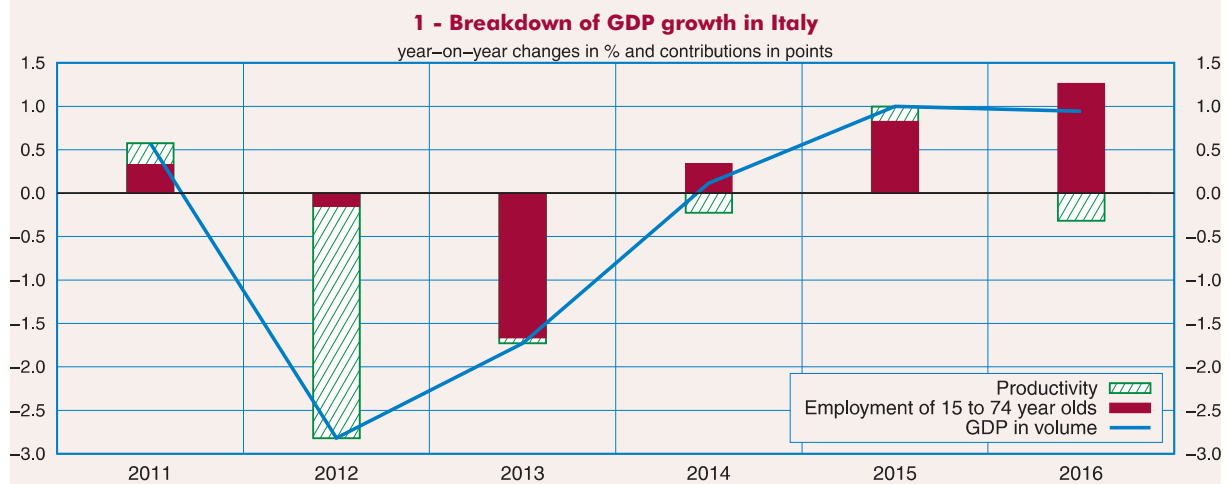
Sources: Istat, Markit, INSEE forecast

Pension reform has boosted the labour force participation rate in Italy

In Italy, the recovery has been accompanied by strong job creation in a context of stable productivity

After the recession that came close on the heels of the sovereign debt crisis in 2012, Italy experienced a major recovery phase: from 2014 to 2016, Italian gross domestic product increased by 1.0% per year on average, whereas between 2011 and 2013, it had fallen dramatically by an average of 2.3% (Graph 1). This growth has been achieved despite the decline in the country's working-age population.

Breaking down GDP as the product of per capita productivity and employment suggests that the recovery is mainly the result of dynamic employment: while it increased by 0.8% per year on average over the period from 2013 to 2016, apparent labour productivity slipped back slightly (–0.1% on average between 2013 and 2016). In 2017, growth in total employment appears to have stabilised at 1.2% over the year after 1.3% in 2016. Per capita productivity is likely to remain stable for 2017.



The strong rise in employment has not only reduced unemployment but also absorbed the increase in the labour force

The dynamic employment situation has helped to bring down unemployment. The rate decreased regularly from 2014 to 2016, from 12.7% to 11.7% of the labour force. However, although part of the population has been able to come out of unemployment, the quality of jobs has declined, with notably an increase in the proportion of involuntary part-time workers in the Italian occupied labour force since 2012. According to Eurostat, the number of people in employment who say they are working part-time because they have been unable to find full-time work has increased by more than 22% in four years. In Italy, this involuntary part-time work represented 63.1% of part-time jobs in 2016 (against 57.4% in 2012) and 11.8% of total employment (against 9.7% in 2012).

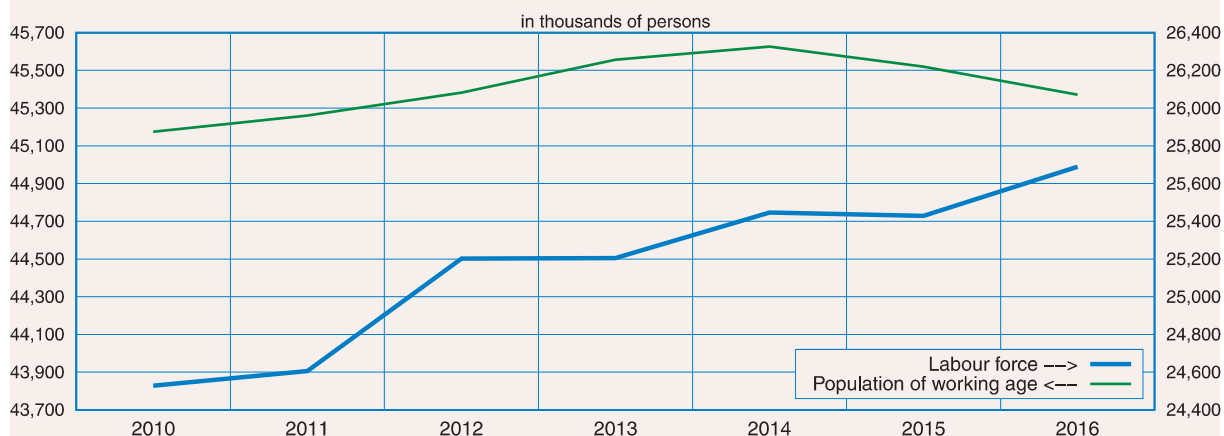
Employment in Italy has been much more dynamic than its demographics, which have declined: the growing demand for labour has only been satisfied thanks to the increase in the labour force. The Italian labour force increased by 0.5% per year, on average, between 2014 and 2016 (Table), whereas the Italian working-age population has declined since 2014 – having increased only slightly between 2012 and 2014 (Graph 2). Despite this slow demographic, the labour force participation rate increased substantially (+0.8 points between 2014 and 2016) and was able to meet the recruitment needs of businesses. This increase in the labour force participation rate can be attributed to the contrasting dynamics within different categories of workers.

Dynamics of the Italian labour market

	in %	
	Annual average variation between 2012 and 2014	Annual average variation between 2014 and 2016
Employment of the 15-74 age	–0.7	1.0
Employment rate	–1.1	0.6
Labour force population	0.5	0.5
of which contribution of labour force participation rate	0.3	0.7
of which working-age population	0.3	–0.3

Source: Eurostat, Labour Force Survey

2 - Change in working-age population and labour force



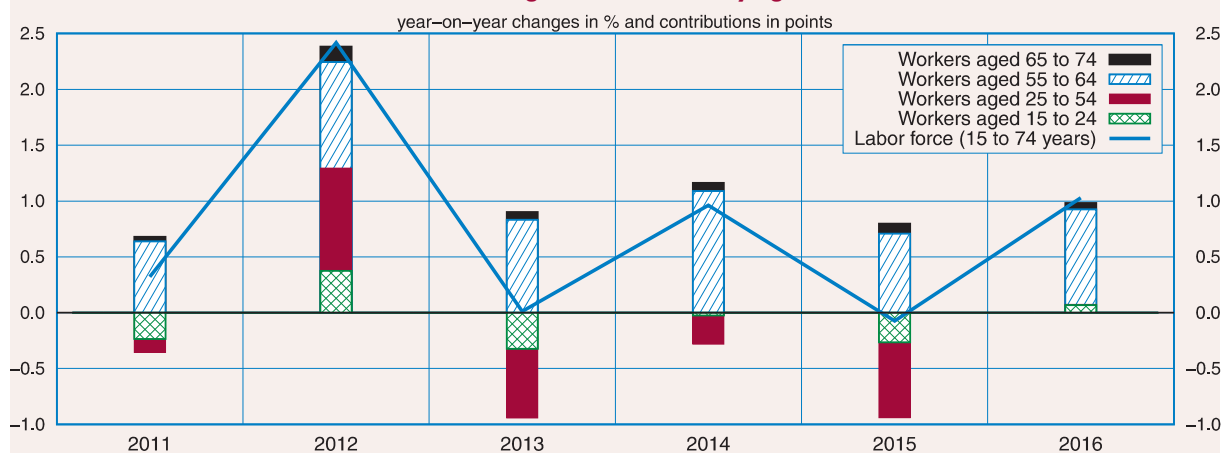
Source: Eurostat, Labour Force Survey

The over-55s are driving growth in the labour force

Workers aged over 55 are the foremost contributors to the growth in the labour force in Italy (Graph 3). Between 2012 and 2016, the active population aged 55 to 64 increased by 29% (their labour force participation rate increased from 42.5% to 53.4% over the same period) and 65 to 74-year-olds by 21% (with a labour force participation rate which rose from 5.9% in 2012 to 6.9% in 2016). This change in the older active population is linked with legislation on pensions: since the Fornero reform in 2011, the legal age for retirement on a full pension has been raised incrementally, in line with the change in life expectancy at 65, which is measured regularly. From 63 years and 9 months for female employees in the private sector and 66 years for men, and 66 years and 3 months for all employees in the public sector in 2014, the legal age of retirement will go up to 67 for both men and women in 2019. Early retirement without penalty is possible from the age of 62, provided workers have at least 42 years and 6 months of contributions for men and 41 years and 6 months for women. Otherwise, each year of early retirement reduces pension entitlements by one to two percentage points. So the proportion of retirees aged between 55 and 64 practically halved between 2011 and 2016 (dropping from 30.2% to 15.9% of the total population of 55 to 64-year-olds).

On the other hand, the increase in activity is not related to a change in the distribution of new workers by gender. From 2012 to 2016, both men and women contributed about 0.3 points to the +0.6% rise in the labour force participation rate. Italy still has few women in the labour market: in 2016, the labour force participation rate for women in Italy was lower than the European average (47.5% against 58.7% in Europe and 58.6% in France), although this gap is gradually closing.

3 - Change in labour force by age

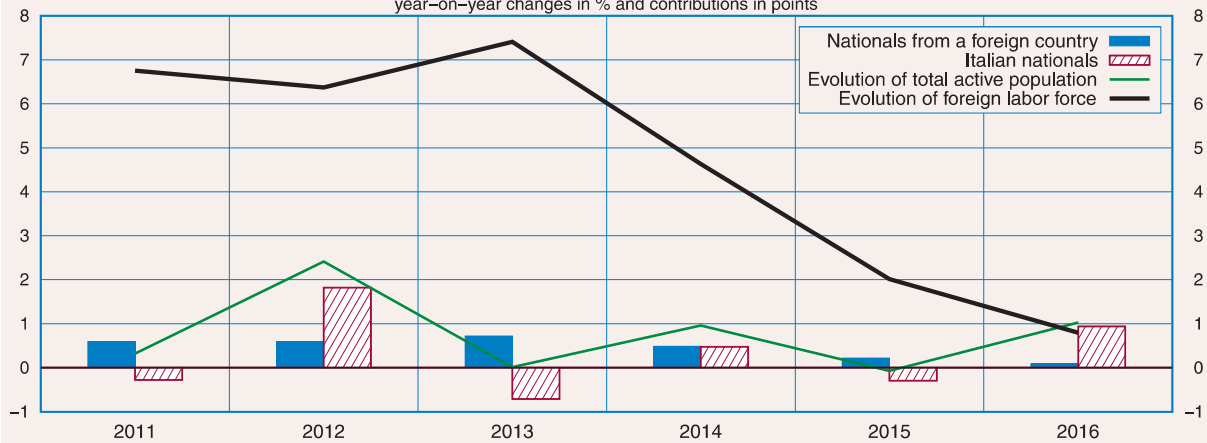


Source: Eurostat, Labour Force Survey

The contribution of foreigners to the increase in the labour force is declining

Foreign nationals have contributed less and less to the change in the labour force since 2014. The foreign active population in Italy, which in 2016 stood at more than 2.8 million, increased by 16% between 2012 and 2016, almost the same pace as the foreign population of working age. However, the contribution of foreign nationals to the change in the labour force has slowed significantly since 2014 (Graph 4). This figure does not seem to correlate with the number of migrants arriving in Italy: in fact, the number of asylum seekers in Italy follows a reverse trend, and has increased sharply since 2014. The number of Italians on the labour market remained stable over the same period, while the population of Italian nationals of working age dropped by 1%.

4 - Change in Italian labour force by origin
year-on-year changes in % and contributions in points



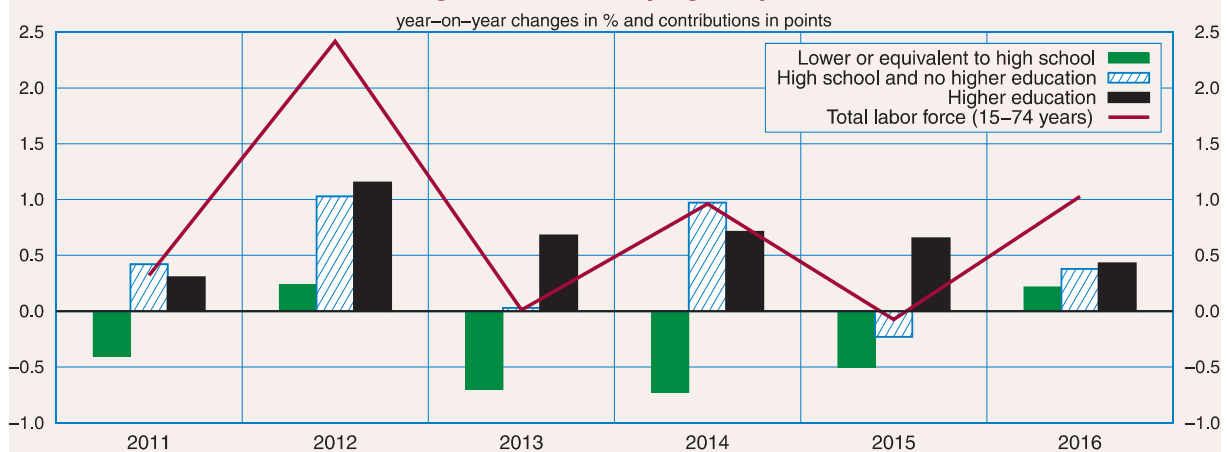
Source: Eurostat, Labour Force Survey

Higher education graduates are particularly active in the labour market

For the last five years, the Italian labour force has been swelled by higher education graduates. In 2016, they accounted for about 0.4% of the rise in the active population (Graph 5). Between 2015 and 2016 the proportion of workers with a higher education qualification increased by 2.2% in Italy (a similar pace to that in France over the same period, while the European level was higher at 2.7%). This trend was mainly due to higher education graduates aged over 50, and especially women graduates (who alone accounted for three quarters of the annual increase in 2016). This change reflects in particular the general European phenomenon of increasing levels of qualifications, a phenomenon that is particularly marked in the contrast between the generations born after the Second War who are retiring and those who have only recently entered the labour market.

On the other hand, the proportion of people in the active population whose qualifications were of primary school or lower secondary school level decreased by 4.8% between 2012 and 2016 (against -3.6% in France and -1.2% in the European Union). Finally, the contribution of high school graduates and those with a post-secondary non-higher education qualification (e.g. professional competence certificates, etc.) has been irregular over the last five years.

5 - Change in labour force by highest qualification



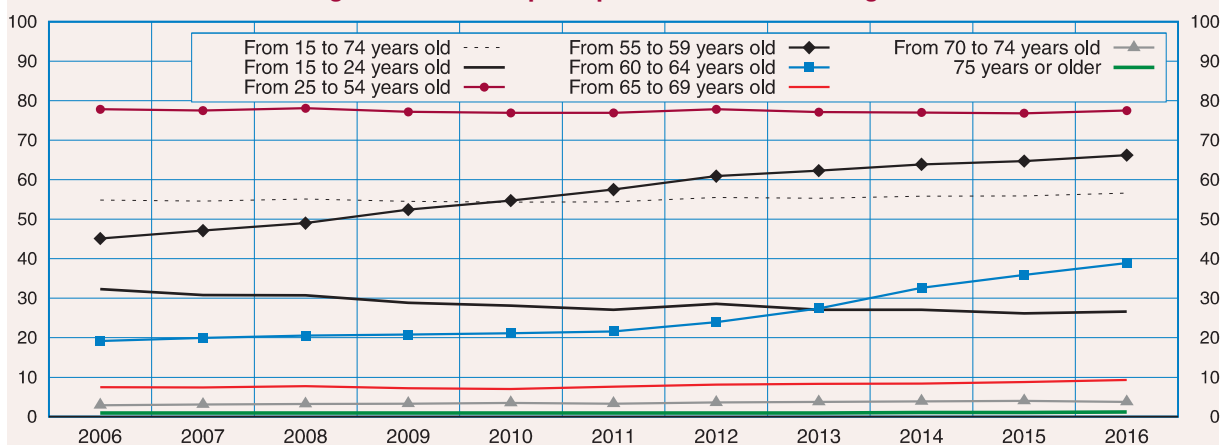
Source: Eurostat, Labour Force Survey

International developments

The dynamics of the labour force participation rate is a growth driver that will be fade away in the medium term but it still keeps a room for improvement

Thus the main reason why the Italian labour force participation rate is in such good health is the increased participation among seniors in the labour market, related to the raising of the retirement age. The labour force participation rate for 60 to 64-year-olds, an age bracket that has increased the most since the reform, has slowed in four years: from 23.9% to 32.6% between 2012 and 2014, then to 38.9% in 2016. If this slowdown were to continue at the same pace (increase of less than 2.4 points every two years), then the labour force participation rate for 60 to 64-year-olds will stabilise before 2020. In addition, the Fornero reform stipulates that the retirement age should increase every three years until 2019, then every two years until 2021. Once this date is reached and unless there is a new pension reform, which is what some politicians are calling for, the source of the country's dynamic activity, the older population, is likely to dry up. ■

6 - Change in labour force participation rate of different age brackets



Source: Eurostat, Labour Force Survey

Bibliography

OECD (2016), "Pensions at a glance 2015: OECD and G20 indicators", OECD Editions, Paris.

Spain

Activity has slowed but continues to show sustained growth

Activity in Spain activity remained buoyant in Q4 2017, as in the previous quarter (+0.7%). Private consumption was the main growth driver. Activity is expected to remain strong until June 2018, again driven by vigorous domestic demand. The contribution of foreign trade is likely to weaken a little due to a stronger Euro. All in all, the growth overhang in mid-2018 is expected to be +2.3%, after +3.1% in 2017.

Entrepreneurs' morale remains high

In February, the indicators from the business tendency surveys remained at high levels in all sectors, suggesting that growth should remain vigorous in Q1 2018 (+0.7%). In Q2, activity is expected to slacken very slightly (+0.6%) in a less favourable foreign trade context. The growth overhang is likely to reach +2.3% by mid-2018.

Consumption is unlikely to pick up in spite of buoyant wages

Household consumption slowed in Q4 2017 (+0.6% after +0.7%). The consumer confidence indices are still high and indicate that it should remain sustained in Q1 2018. Nominal wages are expected to rise, boosted partly by the progressive increase in the minimum wage. Inflation is expected to slip back slightly to 1.4%, against 1.9% in Q3 2017, and households should take

advantage of these conditions to partly rebuild their savings ratio, which stands at its lowest level since 2008.

The investment rate has returned to its pre-crisis level

Investment in capital goods remained strong in Q4 2017 after a very vigorous Q3 (+0.9% after +2.9%). With investment as a share of GDP almost reaching its pre-crisis level (*Graph*) and against a backdrop of political uncertainty in Catalonia, growth in the investment rate is expected to run out of steam. The carry-over effect in investment to mid-2018 is expected to reach +4.0% after +6.2% in 2017. In the construction sector, non-residential investment should remain very strong, reflecting the earlier increase in building permits.

Foreign trade is expected to contribute less to growth

Lastly, in H1 2018, foreign trade is expected to stimulate Spanish growth less markedly than in 2017, due a slight slowdown in world demand and a strong Euro. Its contribution to the growth overhang of GDP in mid-2018 is expected to be +0.2 points, after +0.3 points over the whole year 2017 and +0.7 points in 2016. ■

Investment rate has returned to the pre-crisis observed level



United Kingdom

A consumption slowdown ahead

In Q4 2017, British activity slowed slightly to +0.4%, after +0.5%. It is expected to slow down to +0.3% per quarter in H1 2018: the past rise in inflation is likely to continue adversely affecting household consumption, as they reconstitute their savings. On average over the year, growth reached +1.7% in 2017 after +1.9% in 2016, but year-on-year the slowdown is sharper: at the end of 2017, GDP growth stood at 1.4% over one year compared to 2.0% a year earlier. The growth overhang in mid-2018 is expected to stand at +1.1%.

Households appear to be slowing their consumption in favour of saving

In Q4 2017, British activity slowed slightly (+0.4% after +0.5% in Q3). Indeed, household consumption slowed to +0.3%, after +0.4% in Q3. In H1 2018, purchasing power is expected to rise slightly (+0.3% then +0.4%) thanks to vigorous wages and a fall in inflation, as the past increase in the price of imports stops filtering through to headline inflation. However, growth in household consumption is likely to slow down again to +0.2% per quarter, as suggested by major purchase intentions (Graph), with households gradually rebuilding their saving capacity. Thus the savings ratio, which fell to 3.7% at the beginning of 2017, historically its lowest ever

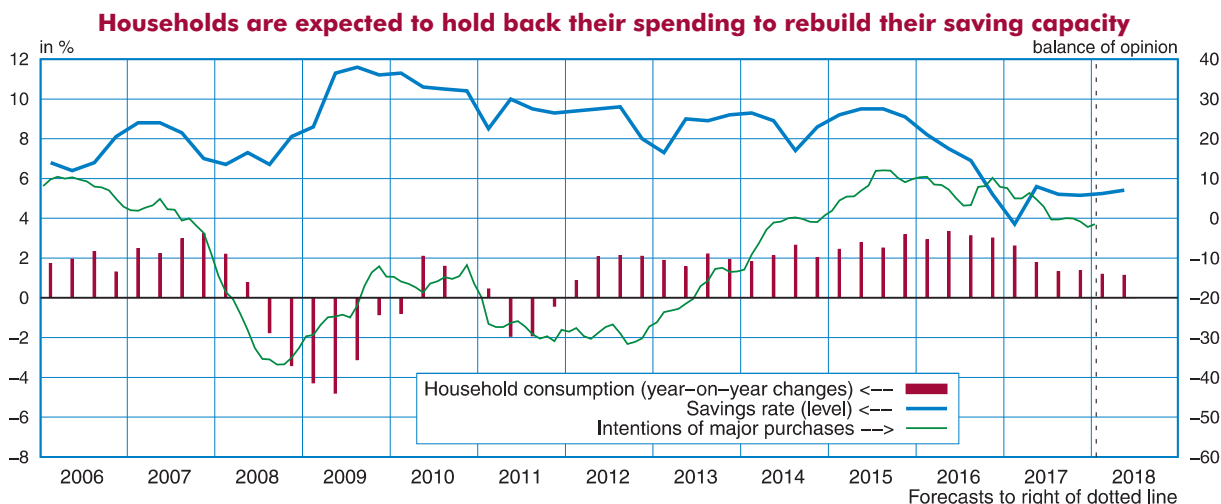
level, is expected to rise moderately to reach 5.4% by mid-2018.

Investment is likely to be penalised by a wait-and-see attitude with regard to Brexit

Corporate investment came to a standstill in Q2 2017 (+0.0% after +0.9%). In H1 2018, it is expected to grow at a moderate pace (+0.4% per quarter). Indeed, in spite of full order books and a high production capacity utilisation rate, planned investments are stagnating, hindered by the uncertainty surrounding Brexit. In line with the bleak business climate in construction, household investment is expected to fall (-0.5% then 0.0%), also hampered by the same wait-and-see attitude.

Foreign trade is expected to benefit from the upswing in world trade

At the end of 2017, exports fell (-0.2% after +0.2%) but are expected to gather momentum again in H1 2018 (+0.9% then +0.7%), driven by world demand. Imports accelerated in Q4 2017 (+1.5% after +1.0%), but are expected to slow down after that (+0.5% per quarter) in line with the slowdown in domestic demand. Accordingly, the contribution of foreign trade to GDP growth is expected to be slightly positive (+0.1 points per quarter). ■



Sources: ONS, European Commission, INSEE forecast

United States

Activity is set to pick up pace, driven by the fiscal stimulus

In Q4 2017, activity slowed in the United States (+0.6% after +0.8%), driven by domestic demand but hampered by the rebound in imports.

In Q1 2018, it looks set to grow at the same pace, held back by a slowdown in exports and consumption. It should bounce back in the spring, with the first effects of the tax reform.

As an annual average, activity accelerated strongly in 2017 (+2.3% after +1.5%) and is likely to hold its momentum until mid-2018, with a growth overhang reaching +2.2%.

The fiscal stimulus should sustain domestic demand this spring

At the end of 2017, the business climate indicators in services slipped back slightly while industrial output bounced back, after having suffered during the hurricanes in September. GDP is therefore expected to grow by 0.6% in Q1 2018, as in the previous quarter, then pick up in spring, to +0.8%, as a result of the first effects of the tax reform voted by Congress in December (*Focus*). Activity accelerated sharply as an annual average in 2017 (+2.3% after +1.5%) and the growth overhang in 2018 should reach +2.2% in June.

This upturn is likely to benefit companies, whose investments gathered pace at the end of 2017 to reach +1.6%, after three vigorous quarters. The one-off additional depreciation allowance planned in the reform should encourage companies to invest from Q2 rather than Q1. By following an acceleration profile in this way (+1.0% then +2.0%) throughout the half-year, this should contribute significantly to a pick-up in US activity (*Graph*).

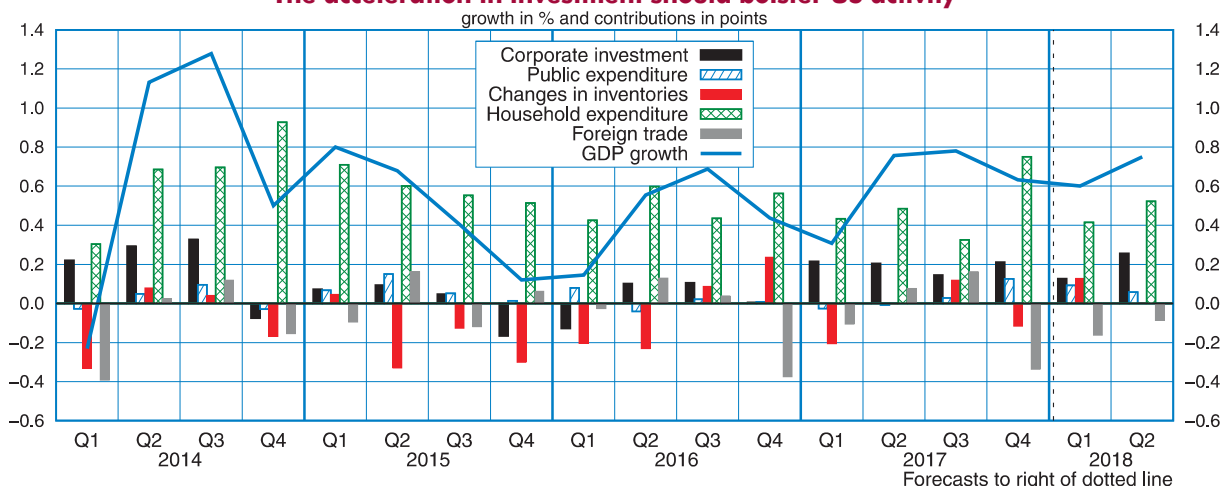
Vigorous wages and a drop in taxes should bolster purchasing power

Household purchasing power accelerated at the end of the year, to +0.3% after +0.2%, despite the rise in both energy inflation and core inflation. It should jump in H1 2018 (+0.9% per quarter), buoyed by wages that are much more dynamic than inflation and a sharp slowdown in taxes and social contributions as a result of the tax reform. Prices are expected to accelerate again, to an annual pace of +2.9% by mid-2018 against +1.9% one year earlier, driven by the rise in oil prices and the solid momentum of the labour market. The unemployment rate should stabilise at over 4.0%, its lowest level since the beginning of the 2000s. Consumption, which picked up sharply at the end of the year (+0.9% after +0.5%), is likely to remain buoyant in H1 2018 (+0.6% then +0.7%).

Imports are likely to remain buoyant

Imports rebounded at the end of 2017 (+3.3% after -0.2%), a knock-on effect of the previous three quarters when domestic demand accelerated. They look likely to slow to +1.4% in Q1 then should rebound to +1.7%. As an annual average, they accelerated in 2017 (+3.9% after +1.3%) and their growth overhang for 2018, which should reach +5.2% by mid-year, suggests that this momentum is likely to hold firm, making the United States one of the main contributors to the upturn in world trade. Foreign trade again hampered US activity in 2017, removing 0.2 growth points, as in 2016, and it is already expected that the growth overhang for 2018 will contribute -0.4 points. ■

The acceleration in investment should bolster US activity



Source: U.S. Bureau of Economic Analysis

US tax reform: a short-term demand shock, with more uncertain effects in the long term

In late December 2017, both houses of the US Congress agreed to vote in a fiscal stimulus plan called the Tax Cuts and Jobs Act. This concerns both households and businesses and represents an overall cost of 1,500 billion dollars over ten years, or around 8 annual GDP points, according to figures from the Congressional Budget Office (CBO)¹. This Focus looks at the first available *ex ante* evaluations from American or international public and private bodies.

Tax cuts are expected to benefit households above all

For households, the plan calls for a simplification of the income tax band system and a lowering of the marginal tax rate for the highest band from 39.5% to 35%. It also includes a substantial reduction in taxes and social contributions for unincorporated enterprises in the form of a flat-rate exemption of 20% of income. All in all, according to the CBO, these tax reductions should represent around 0.4 GDP points in 2018 and twice that for the following years. Over ten years, and not including the possible effects of the reform on the potential growth of the American economy, the entire household block is set to represent a combined expenditure of 7 GDP points. The scenario used in this edition of *Conjoncture in France* forecasts a reduction of 0.2 GDP points as early as H1 2018, or 35 billion dollars. Thus the forecast for growth in taxes and social contributions on households is set to be lowered from a trend rate of +1.0% per quarter, in line with payroll, towards stabilisation in H1 2018. This slowdown in taxes and social contributions is expected to contribute around 0.2 points to the acceleration of household purchasing power. In the long term, the impact on household consumption is likely to be slightly smaller as the tax reduction is mainly targeted at the better-off, who have a lower propensity to consume.

Companies should benefit from a sharp and immediate reduction in their taxes

For companies, the plan provides for a reduction in the nominal rate of corporation tax, from 35% at present to 21%, combined with a one-off initial depreciation allowance. These adjustments are likely to ramp up very rapidly to represent a tax expenditure of around 0.8 GDP points over one year from 2018-2019 before decreasing rapidly from 2020-2021. Their effect is then expected to lessen gradually, as the depreciation allowance measure disappears. All in all, over ten years, these measures are likely to present a cumulative cost of around 3 GDP points. Hufbauer and Lu (2017) believe the measures will bring about a significant reduction in the effective rate of taxes and social contributions on company profits, which should remain relatively high compared with the apparent rate of corporation tax, as there are also additional duties. The first simulations by the Peterson Institute for

International Economics² (PIIE) produced figures that show a rapid fall in the marginal tax rate for corporate investment, especially in equipment and structures, of almost 3 points below the trend, simulated with no reform as of 2019. According to the same simulations, the average rate of corporation tax is expected to tumble rapidly to almost 5 points below trend, again simulated with no reform. All in all, the combined effect of these two measures on annual GDP growth is likely to be an average of around 0.8 points, according to the PIIE.

The effect of the stimulus is likely to be limited by certain points in the plan and by crowding out effects

These initial figures also highlight other effects of the reform, however, which could affect growth. First, some are directly related to additional measures contained in the law, especially the end of the deductibility of interest on loans for businesses and households, and an overhaul of the scope of US taxation, which will now apply to resident units and will no longer apply to agents of American nationality regardless of where they live. On the other hand, the reform does include a one-off measure of a low level of taxation on savings repatriated from abroad by resident businesses, and which until now have not been taxed. This is accompanied by a corporation tax surcharge on dividends and income from assets invested abroad and repatriated to the United States, especially income from patents and other intangible assets (Hufbauer and Lu, 2018). These additional measures are expected to lead to an increase in corporate tax income. According to figures from the CBO, this is likely to result in a three-fold reduction in the size of the tax stimulus for businesses. Thus, by 2021, the

1. <https://www.cbo.gov/system/files/115th-congress-2017-2018/costestimate/53415-hr1-conferenceagreement.pdf>

2. <https://piie.com/system/files/documents/furman20180106ppt.pdf>

marginal tax rate on corporate investment looks set to exceed its pre-reform level, at almost 23.0%. Lastly, in addition to these elements are the traditional effects of budgetary policies being crowded out by interest rates when they significantly increase the scale of public debt. The first figures from the PIIE, using data from the Joint Committee on Taxation, show that financing the reform seems likely to be achieved mainly through budgetary deficit, which should therefore increase by about 2 GDP points by 2027. By combining all these elements, these figures show that the reform has a fairly limited effect on US growth, which will probably be between 0.1 and 0.2 GDP points annually. However, other institutions have produced more favourable estimates: in its January 2018 forecasts, the IMF reckons that the effect is likely to be 0.4 GDP points per year (Table).

The tax stimulus comes with a budgetary stimulus

The bipartisan agreement voted by Congress in early February allowed for the release of 80 billion dollars in 2018, then 85 billion dollars in 2019 for military spending, or around 15% of the defence budget. In addition, 130 billion dollars in non-defence federal spending are also planned, 20 billion of which for infrastructure, or 20% of the total budget excluding defence. This spending on infrastructure is expected to be renewed every year for 10 years, with a quarter of it earmarked for rural areas. Finally, this agreement provides for the release of 90 billion dollars to assist those regions affected by hurricanes. All in all, this new public expenditure represents almost 2 GDP points over two years. ■

Bibliography

Hufbauer G. C. and Lu Z. (2017), "Business tax cuts will boost US competitiveness", *Real Economic Issues Watch*, Peterson Institute for International Economics, November.

Hufbauer G. C. and Lu Z. (2018), "Corporate tax reform favors domestic production, not US multinationals", *Realtime Economic Issues Watch*, Peterson Institute for International Economics, January. ■

Annual average effects of measures (off fiscal stimulus) on GDP over the next ten years, as estimated by various institutes

Institution	Scope	Annual average effect on GDP by 2027
IMF	Enterprises and households	0.4 point
Joint Committee on Taxation	Enterprises and households	< 0.1 point
Peterson Institute for International Economics	Enterprises excluding crowding out effects and excluding international taxation	0.8 point
Peterson Institute for International Economics	Enterprises including crowding out effects and including international taxation	< 0.2 point

Sources: IMF (*World Economic Outlook, January 2018*), Joint Committee on Taxation and PIIE (references: <https://piie.com/system/files/documents/furman20180106ppt.pdf>)

Japan

Domestic demand should remain robust

In Q4 2017, activity in Japan remained buoyant (+0.4%) after two consecutive quarters of sustained growth (+0.6% per quarter). Foreign trade no longer sustained activity (having contributed +0.6 points in Q3). Government investment shrank again (-0.2% after -2.6%), but investment in the private sector remained robust (+0.5% after +0.6%). In H1 2018 activity is expected to accelerate slightly (+0.3% per quarter), sustained by domestic demand, but it should grow less rapidly than it did in 2017.

Household consumption should remain dynamic

In Q4 2017, Japanese activity remained buoyant after several quarters of solid growth (+0.4% after +0.6%). In annual average terms, the acceleration was sharp in 2017 (+1.7% after +0.9%). Activity should see a moderate upturn in H1 2018 (+0.3% per quarter), and the growth overhang for 2018 should stand at +1.3% by mid-2018.

Employment should continue to grow (+0.2% in Q1 then +0.1%), with supply-side tension on the labour market (Graph). The stabilisation of the unemployment rate at just under 3.0%, and Shinzo Abe's plans to encourage wage rises, should lead to an increase in wages in spring 2018. Inflation is set to increase (+1.1% year-on-year in Q1, then +1.3% in Q2), without compromising the increase in purchasing power. Consumption should remain dynamic (+0.5% at the end of the year then +0.4% per quarter), continuing to sustain activity. Over the year 2017 as a whole, consumption rose sharply

(+1.0% after +0.1%) and the growth overhang should stand at +0.9% in mid-2018.

Investment should hold firm

Government investment shrank again in Q4 (-0.2%, after -2.6%). It should bounce back in early 2018 (+0.4%) then accelerate a little in Q2 (+0.6%), boosted in particular by military spending and infrastructure spending in preparation for the Olympic Games in 2020. Corporate investment should remain solid (+0.6% in Q1 then +0.5%), with the rate of profit remaining at a historically high level.

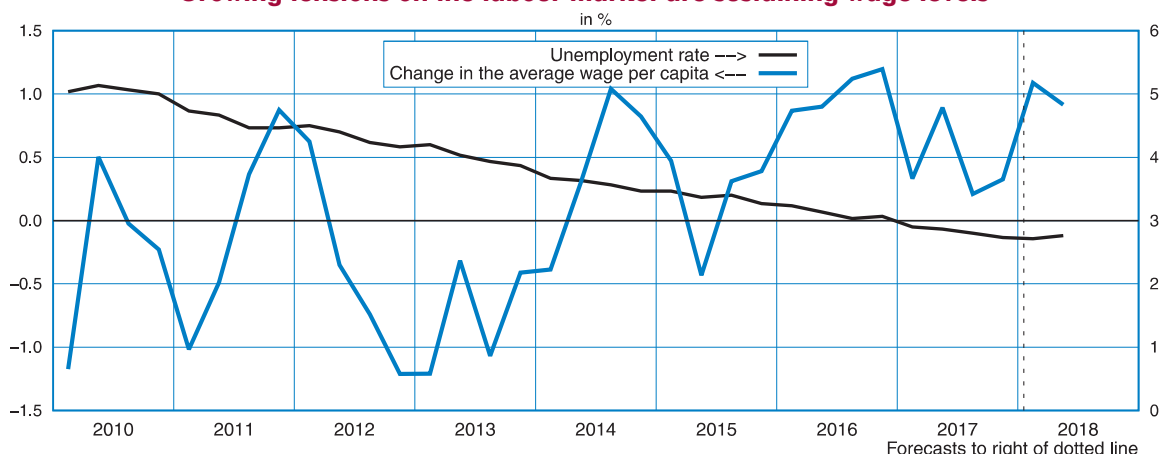
Foreign trade should remain neutral

Having remained buoyant in Q4 (+2.4% after +2.1%), exports should gradually slow (+1.5% then +0.8%) in the wake of Chinese imports. As an annual average, Japanese exports picked up sharply in 2017, to +6.8% after +1.3%. The growth overhang for 2018 should stand at +5.0% at the end of June.

Imports bounced back in Q4 (+2.9% after -1.2%) as consumer spending rallied. They should slow to +1.0% per quarter through to mid-2018. Imports performed strongly in 2017, recording +3.6% of annual growth after shrinking by -1.9% in 2016. The growth overhang for 2018 should stand at +3.8% by the mid-point of the year.

As in Q4 2017, the contribution of foreign trade to activity should be virtually nil through to mid-2018. ■

Growing tensions on the labour market are sustaining wage levels



Sources: Statistics Bureau, Ministry of Internal Affairs and Communications, Cabinet Office of Japan

Emerging economies

Slowdown in China, upturn in the other emerging countries

In China, activity barely slowed in Q4 2017 (+1.6% after +1.7%). Imports contracted (-1.0% after +1.6%) and exports bounced sharply back (+2.0% after -2.4%). Chinese activity is expected to slow down a little by mid-2018 (+1.5% per quarter), in the wake of domestic demand. On average over the year, in 2017 it maintained the pace of the last few years, and its growth overhang should already have reached +5.2% by mid-2018.

In Brazil and Russia, activity picked up again in 2017. Following this strong rebound as they emerge from the crisis, their growth is expected to return to a pace more in line with past performances. After slowing in 2017, Indian GDP is expected to pick up markedly. Likewise, after slowing down in 2016, activity in Turkey picked up in 2017 and should stay buoyant thanks to foreign demand. Finally, growth in Eastern Europe is expected to continue at a sustained pace, driven by demand from the Eurozone.

China: activity slows slightly along with domestic demand

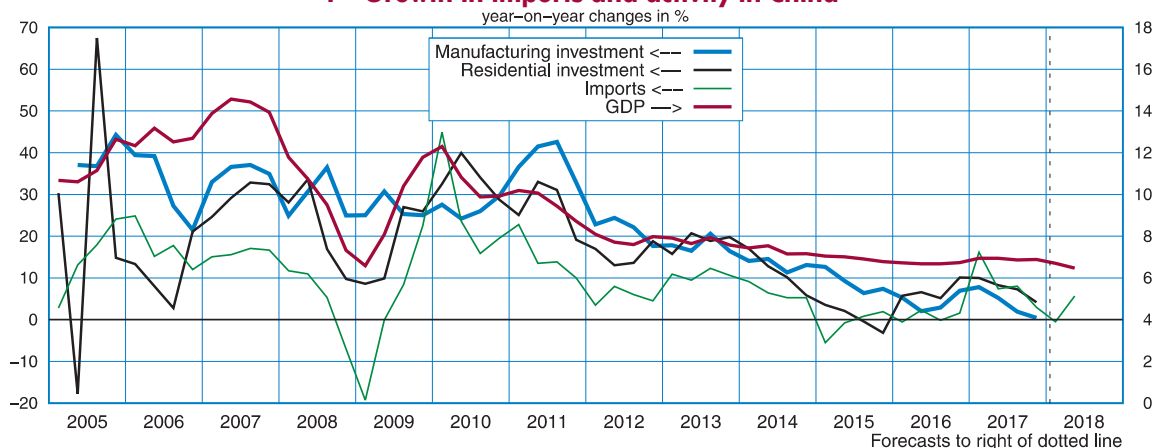
In China, reported activity grew by 1.6% in Q4 2017, a pace very slightly weaker than at the beginning of the year. It is expected to slow down a little more through to mid-2018 (+1.5% per quarter), in the wake of domestic demand. On average over the year, it grew by 6.9% in 2017

after +6.7% in 2016, and its growth overhang should already have reached +5.2% by mid-year.

Domestic demand slackened again in the autumn, after three quarters of acceleration between mid-2016 and the start of 2017 (Graph 1). Industrial production has been slowing gradually since the summer and corporate profits, which bounced back at the end of 2016, have generally stalled since the spring, both in the private sector and for public-sector firms, in particular under the effect of the slump in producer prices. Investment has also continued to slow, in particular in the manufacturing sector, both in equipment and structures, as well as in construction. Finally, growth in retail sales has progressively declined, hampered by an upswing in consumer prices.

Chinese imports contracted at the end of the year after picking up over the summer (-1.0% after +1.6%), in connection with the slowdown in domestic demand. They are expected to rebound by mid-2018 (+3.0% then +2.0%), backed by a strong yuan and as they cease to be adversely affected by the drop in the share of the processing trade in China's foreign trade. On average over the year, imports bounced back in 2017 (+8.5% after +0.8%), making China one of the main drivers of the recovery in world trade. Their growth overhang for 2018, which is expected to reach +3.5% by mid-2018, is nevertheless expected to slow gradually, in the wake of the slowdown in activity.

1 - Growth in imports and activity in China



Source: NBSC

International developments

Exports saw a marked recovery in Q4 (+2.0% after -2.4%) under the effect of buoyant foreign demand, especially from the advanced economies. They are expected to slow gradually, in line with world trade, hampered by the past strength of the yuan: they should increase by 2.0% in Q1 2018, then 1.8% in Q2. On average over the year, they gathered pace in 2017 (+3.7% after -3.0%) and their growth overhang for 2018 should reach +4.7% by mid-year.

Russia: recovering

After two years of recession, activity grew at the beginning of 2017 and then started to gain momentum over the summer (+0.7%). It is expected to remain buoyant: the business climate (*Graph 2*) remains favourable and domestic demand is being driven by the drop in inflation, as can be seen by the continuous increase in retail sales over the year 2017. Economic activity appears to have grown by an annual average of 1.6% in 2017, and the growth overhang in mid-2018 is already expected to stand at +2.2%.

India: activity picks up again after slowing in 2017

In 2017, Indian growth was negatively affected by the surprise demonetisation of 500 and 1,000-rupee banknotes at the end of 2016, as well as the implementation of a harmonized VAT regime in July. Nevertheless, late in 2017 activity started to pick up again, which has been reflected by an improvement in the business climate in the manufacturing sector, now at its highest level since 2012, and a rebound in industrial production. At the start of 2018, India should keep a sustained rate of growth, mainly driven by vigorous domestic demand.

Brazil: activity is set to pick up in the wake of industry

At the end of 2017, falling inflation continued to boost purchasing power. The business climate is improving in industry and to a lesser extent in services. However, activity was at a standstill in Q4 (+0.1%), hit by a fall in exports, but it is expected to regain momentum during H1 2018 (+0.5% per quarter). In 2017, Brazil emerged from the recession (+1.0%), and the growth overhang by mid-2018 is likely to be substantially higher (+1.2%) than growth over the last few years.

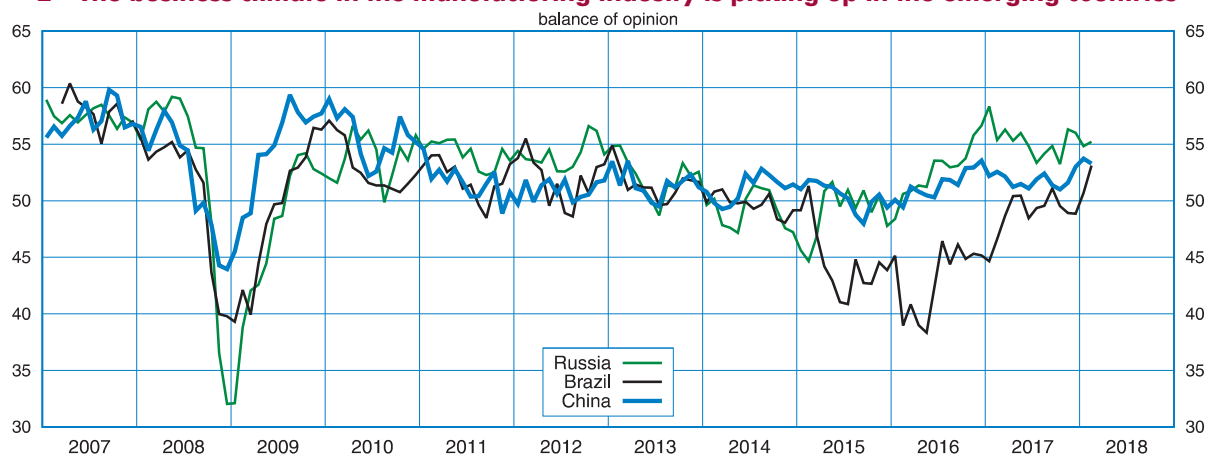
Turkey: activity driven by exports

After slowing in 2016, growth regained its momentum in 2017, with GDP gathering pace continually to reach +1.7% in Q3. At the end of 2017 the business climate remained favourable, at its highest level since 2014, and industrial production continued to rise. Exports picked up sharply, taking advantage of the recovery in world demand and the depreciation of the Turkish lira. In Q4 growth appears to have remained buoyant (+1.0%) and should continue at a sustained pace in early 2018.

CEEC: growth is benefiting from the acceleration in world demand

In the Central and Eastern European Countries (CEEC), the business climate remains very favourable. Activity remained very vigorous in Q4 (+0.9% after +1.2%). Indeed, industrial production gained momentum, boosted by demand from the Eurozone, in particular from Germany. Activity should continue to grow at a steady rate through to mid-2018. On average in 2017, GDP also accelerated to reach +4.6%, and the mid-year growth overhang in 2018 is expected to rise to +4.0%. ■

2 - The business climate in the manufacturing industry is picking up in the emerging countries



Source: Markit

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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Gross domestic product (GDP)	529.4	529.0	529.8	532.2	535.7	539.1	542.0	545.5	547.6	549.7	2120	2162	
% change	0.6	-0.1	0.2	0.5	0.7	0.6	0.5	0.6	0.4	0.4	1.1	2.0	1.6
Imports	174.6	172.8	177.6	179.1	181.1	181.2	185.1	185.6	187.7	190.0	704.1	733.0	
% change	0.4	-1.0	2.8	0.8	1.1	0.0	2.2	0.3	1.1	1.2	4.2	4.1	3.4
Total resources	1165	1161	1168	1176	1185	1193	1204	1213	1219	1226	4669	4794	
% change	0.5	-0.4	0.6	0.6	0.8	0.7	1.0	0.8	0.5	0.6	1.5	2.7	2.2
Household consumption expenditure	283.2	284.0	283.5	285.4	286.2	287.0	288.6	289.2	290.0	291.1	1136	1151	
% change	1.4	0.3	-0.2	0.7	0.3	0.3	0.6	0.2	0.3	0.4	2.1	1.3	1.1
General government consumption expenditure*	138.8	139.2	139.6	140.1	140.6	141.3	142.1	142.5	143.0	143.1	557.8	566.4	
% change	0.3	0.3	0.3	0.4	0.3	0.5	0.5	0.3	0.3	0.1	1.2	1.5	1.0
General government individual consumption expenditure	84.2	84.5	84.9	85.2	85.5	85.9	86.4	86.6	86.8	86.9	338.8	344.4	
% change	0.4	0.3	0.5	0.3	0.4	0.4	0.6	0.2	0.3	0.0	1.5	1.6	0.9
Collective consumption expenditure	43.8	43.9	43.9	44.1	44.2	44.5	44.7	45.0	45.1	45.2	175.8	178.4	
% change	0.2	0.2	0.0	0.5	0.2	0.7	0.5	0.5	0.4	0.2	0.7	1.5	1.4
Gross fixed capital formation (GFCF)	115.7	115.8	116.2	116.8	118.8	119.9	120.9	122.4	123.6	124.7	464.5	481.9	
% change	1.0	0.1	0.3	0.5	1.7	0.9	0.9	1.2	1.0	0.9	2.7	3.8	3.3
of which: Non-financial enterprises (incl. unincorporated enterprises)	66.0	65.8	65.8	66.1	67.6	68.3	69.1	70.2	71.0	71.8	263.6	275.2	
% change	1.7	-0.3	0.0	0.5	2.3	1.0	1.1	1.6	1.1	1.2	3.4	4.4	4.1
Households	25.3	25.5	25.7	26.1	26.6	27.0	27.2	27.4	27.5	27.6	102.6	108.1	
% change	0.6	0.7	1.1	1.5	1.8	1.4	0.9	0.6	0.5	0.2	2.4	5.4	1.9
Government	18.4	18.4	18.4	18.3	18.2	18.2	18.2	18.3	18.5	18.7	73.5	72.8	
% change	-0.9	0.2	-0.4	-0.5	-0.6	0.1	-0.1	0.6	1.2	1.0	-0.1	-1.0	2.4
Exports	158.4	158.1	159.6	161.3	160.2	163.7	165.3	169.3	171.0	171.9	637.4	658.6	
% change	0.4	-0.2	0.9	1.0	-0.7	2.2	1.0	2.4	1.0	0.5	1.9	3.3	4.3
Contributions to GDP growth: (in percentage points)													
Domestic demand excluding inventory changes**	1.1	0.3	0.0	0.6	0.6	0.5	0.6	0.5	0.4	0.4	2.0	1.9	1.6
Inventory changes**	-0.5	-0.6	0.7	-0.2	0.6	-0.5	0.3	-0.4	0.0	0.2	-0.1	0.4	-0.2
Net foreign trade	0.0	0.3	-0.6	0.0	-0.5	0.6	-0.4	0.6	-0.1	-0.2	-0.8	-0.3	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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Output of the branches of activity	0.5	-0.8	0.8	0.4	0.1	0.8	0.8	1.5	0.2	0.6	0.8	2.0	2.4
Value added	0.6	0.0	0.4	0.0	0.5	0.6	0.6	1.5	0.2	0.7	1.4	1.8	2.3
Intermediate consumption	0.4	-1.2	0.9	0.6	0.0	0.9	0.9	1.5	0.2	0.6	0.5	2.1	2.5
Imports	0.7	-0.8	1.8	0.2	2.7	0.3	3.7	-0.7	1.3	1.1	4.4	5.5	3.5
Taxes on products excluding subsidies	1.3	-0.7	0.1	0.6	0.7	0.6	0.4	-0.1	0.1	0.4	1.5	1.6	0.6
Trade and transport margins	1.0	-0.4	-0.5	0.9	0.7	0.7	0.7	0.9	0.5	0.7	1.5	2.2	2.2
Total resources	0.7	-0.7	0.7	0.4	1.0	0.6	1.6	0.6	0.6	0.8	1.9	3.0	2.5
Intermediate uses	0.5	-0.4	0.2	0.6	0.7	0.9	1.0	1.4	0.3	0.5	0.8	2.8	2.6
Household consumption expenditure	1.3	-0.1	-0.6	1.1	0.5	0.1	0.6	0.0	-0.2	0.4	1.6	1.4	0.4
General government individual consumption expenditure	1.2	0.9	1.1	1.4	1.1	1.2	1.6	-0.2	1.2	1.2	3.6	4.7	3.1
Gross fixed capital formation (GFCF)	3.0	-0.6	-2.1	-0.2	1.9	0.3	1.3	1.8	0.9	1.4	6.1	1.8	4.0
Non-financial enterprises (incl. unincorporated enterprises)	3.3	-1.6	-2.7	0.7	3.1	1.1	1.8	1.7	0.6	1.2	4.2	4.0	4.0
Other	1.6	5.5	1.2	-4.9	-5.3	-4.7	-2.0	1.9	2.6	2.9	18.1	-10.8	3.9
Contribution of inventory changes* to manufactured production	-0.2	-1.6	1.1	-1.1	2.0	-1.3	1.2	-1.9	0.2	0.7	-0.1	0.5	-0.5
Exports	0.0	0.7	1.6	1.5	-1.6	3.1	1.4	3.1	1.2	0.2	3.0	4.4	5.2
Domestic demand excluding inventory changes*	1.0	-0.3	-0.3	0.7	0.8	0.6	0.9	0.9	0.2	0.6	1.6	2.2	1.9

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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Gross domestic product (GDP)	0.1	-0.2	0.2	0.2	0.4	0.2	0.1	0.1	0.5	0.2	0.4	0.8	0.8
Imports	-1.9	0.5	0.5	1.1	1.6	-0.8	-0.4	0.9	0.0	-0.1	-2.4	2.2	0.2
Total resources	-0.6	0.1	0.3	0.4	0.7	-0.2	0.0	0.4	0.4	0.1	-0.6	1.1	0.7
Household consumption expenditure	-0.3	0.1	0.1	0.2	0.5	-0.1	0.1	0.5	0.7	0.2	-0.1	0.9	1.2
General government consumption expenditure	-0.1	0.0	0.3	0.1	0.3	0.1	0.0	0.0	0.2	0.1	0.0	0.5	0.3
Gross fixed capital formation (GFCF)	-0.1	0.2	0.3	0.2	0.5	0.3	0.1	0.3	0.4	0.4	0.5	1.2	1.1
of which: Non-financial enterprises (incl. unincorp. enterprises)	0.0	0.1	0.2	0.2	0.4	0.2	0.1	0.3	0.4	0.3	0.6	1.0	0.9
Households	-0.1	0.3	0.6	0.2	0.5	0.5	0.4	0.4	0.6	0.5	0.8	1.8	1.6
Exports	-1.2	-0.5	0.3	0.9	1.0	-0.3	-0.3	0.2	0.2	0.1	-1.7	1.4	0.1
Domestic demand excluding inventory changes*	-0.2	0.1	0.2	0.2	0.4	0.0	0.1	0.3	0.5	0.2	0.1	0.9	0.9

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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Output of the branches of activity	-1.3	-0.1	0.2	0.9	0.9	-0.1	-0.1	0.3	0.5	0.0	-2.0	1.7	0.7
Value added	-0.4	-1.1	-0.1	0.8	0.6	0.2	0.2	-1.0	0.0	0.1	-1.2	0.9	-0.5
Intermediate consumption	-1.7	0.4	0.4	0.9	1.1	-0.2	-0.2	0.9	0.6	0.0	-2.3	2.0	1.1
Imports	-1.6	0.2	0.5	0.9	1.2	-0.6	-0.4	0.1	0.0	-0.2	-2.2	1.6	-0.4
Total resources	-1.1	0.1	0.2	0.7	0.9	-0.2	-0.1	0.3	0.5	0.0	-1.6	1.5	0.6
Intermediate uses	-1.6	0.4	0.4	0.8	1.0	-0.3	-0.2	0.6	0.7	0.0	-2.3	1.7	1.0
Household consumption expenditure	-0.8	0.4	-0.1	0.3	0.5	-0.1	0.0	0.7	1.0	0.1	-0.7	1.0	1.6
General government individual consumption expenditure	-0.3	-0.9	-0.8	-0.6	-0.4	-0.9	-0.7	-0.5	-0.4	-0.4	-2.8	-2.6	-1.6
Gross fixed capital formation (GFCF)	-0.1	-0.1	0.3	0.2	0.2	0.3	-0.3	-0.2	0.0	0.2	0.0	0.5	-0.1
of which: Non-financial enterprises (incl. unincorp. enterprises)	0.0	-0.1	0.4	0.2	0.2	0.3	-0.2	-0.1	0.1	0.2	0.0	0.6	0.1
General government	-0.5	-0.3	-0.2	0.3	0.4	0.0	-0.7	-0.8	-0.7	0.2	0.8	0.0	-1.5
Exports	-1.3	-0.5	0.2	0.9	1.1	-0.3	-0.4	-0.1	0.0	0.0	-2.1	1.3	-0.3
Domestic demand excluding inventory changes*	-1.1	0.3	0.2	0.5	0.7	-0.2	-0.1	0.5	0.7	0.1	-1.5	1.2	1.0

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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agriculture	-2.3	-1.3	-0.6	0.5	1.1	1.3	0.8	0.5	-0.2	-0.1	-5.6	2.4	0.8
Manufacturing	0.5	-0.8	0.8	0.4	0.1	0.8	0.8	1.5	0.2	0.6	0.8	2.0	2.4
Energy, water and waste	1.5	1.1	-2.4	2.2	-0.4	0.4	1.6	-0.2	0.3	0.2	0.8	1.4	1.2
Construction	0.0	-0.3	0.3	0.9	0.6	1.1	0.4	0.5	0.8	0.6	0.1	2.6	2.1
Trade	1.1	-0.5	-0.2	0.7	0.6	0.8	0.9	0.8	0.3	0.6	1.6	2.1	2.0
Market services excluding trade	0.5	-0.2	0.4	0.5	1.2	0.8	0.7	1.0	0.5	0.5	1.3	3.0	2.2
Non market services	0.3	0.2	0.2	0.3	0.3	0.5	0.6	0.4	0.4	0.2	1.0	1.4	1.3
Total	0.5	-0.3	0.3	0.6	0.7	0.8	0.7	0.9	0.4	0.5	0.9	2.4	2.0

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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agriculture	-4.3	-2.6	-0.9	1.3	2.6	2.6	1.6	0.8	0.0	0.1	-9.8	5.4	2.1
Manufacturing	0.6	0.0	0.4	0.0	0.5	0.6	0.6	1.5	0.2	0.7	1.4	1.8	2.3
Energy, water and waste	2.2	1.1	-3.0	1.8	-0.7	0.3	1.0	-0.3	0.3	0.2	1.2	0.0	0.8
Construction	0.0	0.0	-0.1	0.6	0.4	0.8	0.4	0.4	0.7	0.4	0.1	1.7	1.7
Trade	1.1	-0.5	-0.3	0.4	0.2	0.5	0.7	0.6	0.2	0.4	1.1	1.1	1.4
Market services excluding trade	0.7	-0.1	0.3	0.4	0.9	0.7	0.5	0.9	0.4	0.4	1.4	2.4	1.8
Non market services	0.4	0.2	0.2	0.2	0.2	0.3	0.4	0.2	0.4	0.2	0.9	0.9	1.0
Total	0.6	-0.1	0.1	0.4	0.6	0.6	0.5	0.7	0.4	0.4	1.0	1.8	1.6

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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Manufactured goods	3.3	-1.6	-2.7	0.7	3.1	1.1	1.8	1.7	0.6	1.2	4.2	4.0	4.0
Construction	0.5	0.5	-0.2	0.7	0.1	0.7	0.1	0.2	1.0	0.6	1.9	1.3	1.8
Other	1.1	0.4	2.4	0.2	3.0	1.0	1.2	2.3	1.6	1.5	3.7	6.5	5.4
Total	1.7	-0.3	0.0	0.5	2.3	1.0	1.1	1.6	1.1	1.2	3.4	4.4	4.1

Forecast

Imports (CIF) at chain-linked previous year prices

percentage changes from previous period and previous year

working-day and seasonally adjusted data

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural goods	4.4	-0.6	5.0	0.2	-0.2	1.2	-1.9	-1.9	1.0	1.5	7.2	1.6	0.0
Manufactured goods	0.7	-0.8	1.8	0.2	2.7	0.3	3.7	-0.7	1.3	1.1	4.4	5.5	3.5
Energy, water and waste	-6.2	-14.7	27.3	9.7	-8.2	1.2	-5.4	13.4	-4.0	-2.0	1.2	7.3	1.2
Total goods	0.2	-1.7	3.5	0.9	1.7	0.4	3.0	0.0	0.9	0.9	4.2	5.5	3.2
Total services	0.5	0.9	1.0	1.3	-0.6	-1.6	-0.5	1.1	2.1	2.2	3.9	0.0	3.9
Total*	0.4	-1.0	2.8	0.8	1.1	0.0	2.2	0.3	1.1	1.2	4.2	4.1	3.4

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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural goods	5.9	1.1	-17.3	-4.3	1.0	4.1	9.1	3.0	2.0	2.0	-6.6	-3.7	11.5
Manufactured goods	0.0	0.7	1.6	1.5	-1.6	3.1	1.4	3.1	1.2	0.2	3.0	4.4	5.2
Energy, water and waste	-4.1	-1.6	8.6	-14.0	18.6	10.0	0.1	-5.1	1.0	1.0	-8.6	16.5	0.2
Total goods	0.1	0.7	1.1	1.0	-1.2	3.3	1.6	3.0	1.2	0.3	2.4	4.3	5.3
Total services	2.3	-2.3	0.8	0.9	0.4	-1.0	-1.2	1.2	0.0	1.1	2.6	-0.2	0.8
Total*	0.4	-0.2	0.9	1.0	-0.7	2.2	1.0	2.4	1.0	0.5	1.9	3.3	4.3

Forecast

*Including territorial correction

Changes in inventories at chain-linked previous year prices

Contributions (in percentage points)
working-day and seasonally adjusted data

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural goods	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0
Manufactured goods	-0.1	-0.6	0.4	-0.4	0.7	-0.4	0.4	-0.6	0.1	0.2	0.0	0.2	-0.2
Energy, water and waste	-0.2	-0.1	0.2	0.2	-0.1	-0.1	-0.1	0.2	-0.1	0.0	0.0	0.1	0.0
Other (construction, services)	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	-0.5	-0.6	0.7	-0.2	0.6	-0.5	0.3	-0.4	0.0	0.2	-0.1	0.4	-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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Agricultural goods	2.7	-1.4	-0.6	0.5	-1.8	3.1	-1.3	-1.3	-0.6	0.4	2.2	-0.8	-1.1
Manufactured goods	1.3	-0.1	-0.6	1.1	0.5	0.1	0.6	0.0	-0.2	0.4	1.6	1.4	0.4
Energy, water and waste	4.6	3.4	-3.3	3.9	-3.6	0.1	1.7	-0.6	0.6	0.5	2.8	-0.9	1.4
Trade	1.9	0.3	0.8	0.8	1.0	-0.6	-0.3	1.5	1.1	0.5	3.3	1.9	2.3
Market services excluding trade	0.8	0.2	0.4	0.4	0.7	0.3	0.6	0.5	0.6	0.4	1.7	1.9	1.7
Non market services	0.6	-0.1	0.2	0.0	0.2	0.4	0.8	0.2	1.3	0.3	0.9	1.1	2.2
Territorial correction	-49.6	-74.1	-47.1	416.9	39.0	14.3	9.7	-10.3	19.7	10.6	-78.6	111.5	28.6
Total consumption expenditure	1.4	0.3	-0.2	0.7	0.3	0.3	0.6	0.2	0.3	0.4	2.1	1.3	1.1
Total consumption	1.2	0.3	0.0	0.6	0.3	0.3	0.6	0.2	0.3	0.3	2.0	1.4	1.0

Forecast

Household income account

working-day and seasonally adjusted data, percentage changes from previous period and previous year

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Gross operating surplus	0.5	0.2	0.5	0.6	0.5	0.5	0.6	0.5	0.2	0.2	1.9	2.1	1.2
Unincorporated enterprises	0.7	-0.2	0.3	0.1	0.3	0.6	0.7	0.4	0.3	0.3	1.6	1.3	1.3
Households excluding unincorporated enterprises	0.4	0.5	0.6	0.9	0.7	0.5	0.5	0.6	0.2	0.2	2.2	2.6	1.2
Gross wages and salaries	0.5	0.3	0.7	0.8	1.1	0.7	0.6	0.6	1.0	0.8	2.0	3.2	2.5
Net interests and dividends	-1.0	-0.9	-0.5	-0.1	0.0	0.8	1.0	1.0	0.9	0.9	-3.2	0.8	3.1
Social benefits (in cash)	0.4	0.5	0.4	0.3	0.4	0.4	0.5	0.5	0.6	0.6	1.8	1.7	1.7
Total resources	0.4	0.3	0.5	0.6	0.7	0.6	0.7	0.6	0.6	0.6	1.7	2.5	2.1
Income and wealth taxes	1.3	0.2	-1.2	1.2	0.6	0.8	1.3	0.7	9.6	-1.8	1.1	2.4	9.6
Households' contributions	0.7	0.6	0.5	0.6	0.7	0.6	0.8	0.7	-8.5	0.9	2.2	2.7	-6.9
Total charges	1.1	0.4	-0.5	1.0	0.6	0.7	1.1	0.7	2.1	-0.8	1.5	2.5	2.7
Gross disposable income	0.2	0.3	0.8	0.5	0.8	0.6	0.6	0.6	0.2	1.1	1.7	2.6	1.9
Consumption deflator	-0.3	0.1	0.1	0.2	0.5	-0.1	0.1	0.5	0.7	0.2	-0.1	0.9	1.2
Real gross disposable income	0.5	0.2	0.7	0.3	0.3	0.6	0.5	0.1	-0.4	0.9	1.8	1.7	0.8
Social benefits (in kind)	0.3	0.3	0.6	0.4	0.6	0.5	0.6	0.3	0.5	0.1	1.3	2.0	1.2
Adjusted gross disposable income	0.2	0.3	0.7	0.5	0.7	0.6	0.6	0.5	0.3	0.8	1.6	2.4	1.8

Main ratios (households)

working-day and seasonally adjusted data, in percentage points

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Saving ratio	13.8	13.7	14.4	14.0	14.1	14.4	14.3	14.3	13.7	14.1	14.0	14.3	14.0
Financial saving ratio*	4.7	4.4	5.1	4.6	4.5	4.6	4.6	4.7	4.0	4.5	4.7	4.6	4.3
Weight of taxes and social contributions**	21.4	21.4	21.2	21.3	21.2	21.3	21.3	21.4	21.7	21.4	21.3	21.3	21.4
Gross wages and salaries/gross disposable income	62.6	62.6	62.5	62.7	62.9	63.0	63.0	63.0	63.5	63.3	62.6	63.0	63.3
Social benefits (cash)/gross disposable income	35.2	35.3	35.2	35.1	35.0	34.9	34.9	34.8	35.0	34.8	35.2	34.9	34.8

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

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Value added	1.1	-0.5	0.3	0.6	1.0	1.1	0.8	1.0	0.8	0.7	2.0	3.0	2.8
Subsidies	-0.4	0.9	0.9	1.5	1.7	1.6	0.0	0.1	6.3	0.0	-0.1	4.8	6.8
Total resources	1.0	-0.5	0.3	0.6	1.1	1.1	0.8	0.9	1.0	0.7	2.0	3.1	2.9
Compensation of employees	0.8	0.1	0.6	0.9	1.2	0.9	0.8	0.8	1.1	1.0	2.2	3.5	3.1
of which: Gross wages and salaries	0.7	0.4	0.6	1.0	1.2	0.8	0.8	0.7	1.1	1.0	2.5	3.6	3.0
Employers' social contributions	0.9	-0.7	0.4	0.9	1.1	1.0	0.9	0.8	1.2	0.9	1.4	3.2	3.2
Taxes on production	-0.5	-0.1	0.0	0.0	0.3	1.2	0.3	0.7	1.0	1.0	-0.2	1.6	2.8
Total charges	0.7	0.1	0.5	0.9	1.1	0.9	0.8	0.8	1.1	1.0	2.0	3.3	3.0
Gross operating surplus	1.7	-1.4	0.0	0.2	1.0	1.4	0.9	1.3	0.8	0.2	1.8	2.7	2.7
Unincorporated enterprises	0.7	-0.2	0.3	0.1	0.3	0.6	0.7	0.4	0.3	0.3	1.6	1.4	1.3
Non-financial corporations	2.0	-1.8	-0.1	0.3	1.2	1.7	1.0	1.5	0.9	0.2	1.9	3.0	3.2

Forecast

Non-financial corporations' income account

working-day and seasonally adjusted data, percentage changes from previous period and previous year

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Value added	1.1	-0.5	0.3	0.7	1.1	1.1	0.9	1.0	0.9	0.8	2.1	3.2	3.0
Subsidies	-0.4	1.0	1.0	1.6	1.9	1.8	0.0	0.1	7.0	0.0	-0.2	5.2	7.5
Total resources	1.1	-0.5	0.3	0.7	1.2	1.1	0.8	1.0	1.1	0.7	2.0	3.3	3.1
Compensation of employees	0.8	0.2	0.6	1.0	1.2	0.9	0.8	0.8	1.1	1.0	2.3	3.6	3.1
Taxes	-4.5	1.6	0.5	2.4	-2.3	4.1	-1.1	-1.2	0.6	-1.0	1.6	2.3	-0.7
of which: Taxes on production	-0.5	-0.1	0.0	0.0	0.3	1.2	0.3	0.7	1.0	1.0	-0.2	1.6	2.7
Corporate taxes	-10.2	4.4	1.3	6.0	-6.0	8.5	-3.0	-4.1	0.0	-4.2	4.4	3.5	-5.7
Net interests and dividends	-1.0	-0.8	-1.1	-0.8	-1.0	-0.3	0.8	1.4	3.3	3.2	-2.7	-1.9	7.3
Other net charges	-2.1	-1.3	-0.5	0.4	1.3	1.1	-1.0	0.7	2.3	0.6	-5.1	1.5	3.0
Total charges	0.0	0.2	0.4	1.0	0.7	1.1	0.6	0.6	1.3	0.9	1.6	2.9	3.0
Gross disposable income	5.9	-3.2	0.0	-0.4	3.2	1.3	2.0	2.7	0.2	0.0	3.9	4.8	3.4

Forecast

Breakdown of non-financial corporations' profit share

working-day and seasonally adjusted data, percentage changes from previous period and previous year

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Margin rate* (in %)	32.3	31.8	31.7	31.6	31.6	31.8	31.8	32.0	32.0	31.8	31.8	31.8	31.8
Margin rate % change	0.3	-0.4	-0.1	-0.1	0.0	0.2	0.0	0.2	0.0	-0.2	-0.1	-0.1	0.1
Contributions to margin rate variation													
Productivity (+)	0.3	-0.4	-0.1	0.0	0.3	0.3	0.2	0.4	0.0	0.1	0.0	0.6	0.6
Real wages (-)	-0.4	0.0	-0.1	-0.2	-0.2	-0.3	-0.2	0.0	0.0	-0.3	-0.9	-0.7	-0.4
Employers' social contributions rate (-)	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
Ratio of value added price and consumption price (+)	0.4	-0.2	0.0	0.0	-0.2	0.2	0.0	-0.3	-0.1	0.1	0.6	-0.2	-0.2
Other items	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.1

Forecast

*Gross operating surplus / value added

Main ratios (non-financial corporate sector)

working-day and seasonally adjusted data, in percentage points

	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Wage costs / Value added (VA)	65.2	65.7	65.8	66.0	66.1	65.9	65.9	65.7	65.9	66.0	65.7	65.9	66.0
Taxes on production / VA	5.2	5.3	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.1	5.2	5.2	5.1
Margin rate (GOS* / VA)	32.3	31.8	31.7	31.6	31.6	31.8	31.8	32.0	32.0	31.8	31.8	31.8	31.8
Investment rate (GFCF** / VA)	23.3	23.4	23.3	23.3	23.7	23.8	23.8	24.0	24.2	24.4	23.3	23.8	24.3
Saving ratio (savings / VA)	20.2	19.6	19.5	19.3	19.7	19.8	20.0	20.3	20.2	20.0	19.7	20.0	20.0
Tax pressure (Income taxes / gross disposable income before taxes)	14.1	15.0	15.2	16.0	14.8	15.7	15.0	14.2	14.1	13.6	15.1	14.9	13.8
Self-financing ratio (cash earnings)***	86.6	84.0	83.7	82.8	83.2	83.2	83.8	84.5	83.4	82.1	84.3	83.7	82.4

Forecast

*Gross operating surplus

**Gross fixed capital formation

***Savings / Gross fixed capital formation

Countries Accounts



Eurozone	Quarterly change in %										Annual change in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	0.5	0.4	0.4	0.6	0.6	0.7	0.7	0.6	0.5	0.5	1.8	2.5	1.8
Private consumption (56%)	0.7	0.3	0.3	0.5	0.5	0.5	0.3	0.2	0.5	0.5	1.9	1.7	1.3
Investment (20%)	0.5	2.4	0.7	0.8	0.2	1.7	-0.2	0.9	0.9	0.9	4.5	3.1	2.5
Public consumption (21%)	0.8	0.3	0.2	0.3	0.2	0.4	0.4	0.3	0.3	0.2	1.8	1.2	1.0
Exports (45%)	0.4	1.3	0.4	1.6	1.3	1.2	1.6	1.9	0.9	0.9	3.4	5.3	4.2
Imports (41%)	0.4	2.0	0.6	1.8	0.2	1.8	0.6	1.1	1.1	1.2	4.8	4.3	3.6
Contributions to GDP growth													
Domestic demand excluding inventories	0.7	0.7	0.4	0.5	0.3	0.7	0.2	0.3	0.5	0.5	2.3	1.8	1.4
Changes in inventories	-0.2	-0.1	0.1	0.2	-0.2	0.2	0.0	-0.2	0.0	0.1	-0.1	0.0	0.0
Foreign trade	0.1	-0.2	-0.1	0.0	0.5	-0.2	0.5	0.4	0.0	-0.1	-0.5	0.6	0.4

Forecast

Consumer prices in Eurozone

changes in a % and contributions in points

	Q3 2017		Q4 2017		Q1 2018		Q2 2018		Annual averages	
	yoy	cyoy	yoy	cyoy	yoy	cyoy	yoy	cyoy	2017	2018*
CPI groups (2015 weightings)										
All (100.0%)	1.4		1.4		1.3		1.5		1.5	1.2
Food (including Alc. and Tobacco) (19.6%)	1.6	0.3	2.2	0.4	1.6	0.3	2.3	0.4	1.8	1.7
Energy (10.6%)	3.4	0.3	3.5	0.3	2.8	0.3	3.8	0.4	4.9	3.4
"Core" inflation (69.8%)	1.1	0.8	0.9	0.7	1.0	0.7	0.9	0.7	1.0	0.8

Forecast

*The 2018 figure is the growth overhang at the end of H1

France (21%) ¹	Quarterly change in %										Annual change in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	0.6	-0.1	0.2	0.5	0.7	0.6	0.5	0.6	0.4	0.4	1.1	2.0	1.6
Private consumption (55%)	1.4	0.3	-0.2	0.7	0.3	0.3	0.6	0.2	0.3	0.4	2.1	1.3	1.1
Investment (22%)	1.0	0.1	0.3	0.5	1.7	0.9	0.9	1.2	1.0	0.9	2.7	3.8	3.3
Public consumption (24%)	0.3	0.3	0.3	0.4	0.3	0.5	0.5	0.3	0.3	0.1	1.2	1.5	1.0
Exports (29%)	0.4	-0.2	0.9	1.0	-0.7	2.2	1.0	2.4	1.0	0.5	1.9	3.3	4.3
Imports (31%)	0.4	-1.0	2.8	0.8	1.1	0.0	2.2	0.3	1.1	1.2	4.2	4.1	3.4
Contributions to GDP growth													
Domestic demand excluding inventories	1.1	0.3	0.0	0.6	0.6	0.5	0.6	0.5	0.4	0.4	2.0	1.9	1.6
Changes in inventories	-0.5	-0.6	0.7	-0.2	0.6	-0.5	0.3	-0.4	0.0	0.2	-0.1	0.4	-0.2
Foreign trade	0.0	0.3	-0.6	0.0	-0.5	0.6	-0.4	0.6	-0.1	-0.2	-0.8	-0.3	0.2

Forecast

How to read it: % in brackets represent the weight in the nominal GDP in 2016.

yoy: year-on-year

cyoy: contributions year-on-year

1. Share in Eurozone GDP in 2016

Sources: Eurostat, INSEE

Germany (29%) ¹	Quarterly change in %										Annual change in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	0.6	0.5	0.3	0.4	0.9	0.6	0.7	0.6	0.6	0.5	1.9	2.5	1.9
Private consumption (54%)	0.6	0.2	0.4	0.6	0.8	0.9	-0.2	0.0	0.6	0.6	1.9	2.1	1.2
Investment (20%)	1.2	-1.2	0.5	0.0	2.6	1.5	0.4	0.0	1.0	0.9	2.9	3.9	2.4
Public consumption (20%)	1.5	0.7	0.2	0.5	0.3	0.3	0.5	0.5	0.4	0.4	3.7	1.6	1.4
Exports (47%)	1.0	1.3	-0.2	1.3	1.7	1.0	1.8	2.7	0.9	1.1	2.4	5.3	5.0
Imports (40%)	1.7	-0.2	0.7	2.5	0.4	2.4	1.1	2.0	1.4	1.4	3.8	5.6	5.1
Contributions to GDP growth													
Domestic demand excluding inventories	0.9	0.0	0.3	0.4	1.0	0.8	0.1	0.1	0.6	0.6	2.3	2.3	1.4
Changes in inventories	0.0	-0.2	0.4	0.4	-0.7	0.2	0.3	0.0	0.0	0.0	-0.1	0.0	0.2
Foreign trade	-0.2	0.7	-0.4	-0.4	0.6	-0.5	0.4	0.5	-0.1	-0.1	-0.4	0.2	0.3

Forecast

Italy (16%) ¹	Quarterly change in %										Annual change in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	0.3	0.1	0.2	0.4	0.5	0.4	0.4	0.3	0.4	0.4	1.0	1.5	1.2
Private consumption (61%)	0.2	0.2	0.3	0.3	0.6	0.1	0.4	0.1	0.4	0.4	1.4	1.3	1.0
Investment (17%)	1.0	-0.2	2.0	2.5	-2.1	1.5	3.2	1.8	0.6	0.6	3.3	3.9	4.4
Public consumption (19%)	1.0	-0.3	-0.3	0.2	0.2	0.0	-0.1	0.1	0.1	0.1	0.6	0.1	0.2
Exports (30%)	-0.7	1.8	0.9	1.9	1.9	0.2	2.0	2.0	0.9	0.9	2.6	6.0	4.2
Imports (27%)	-0.7	2.0	1.0	2.3	0.2	2.0	1.9	1.0	0.9	0.9	3.8	5.7	3.8
Contributions to GDP growth													
Domestic demand excluding inventories	0.5	0.0	0.5	0.7	0.0	0.3	0.8	0.4	0.4	0.4	1.5	1.5	1.4
Changes in inventories	-0.2	0.1	-0.2	-0.2	-0.1	0.6	-0.5	-0.4	0.0	0.0	-0.3	-0.2	-0.5
Foreign trade	0.0	0.0	0.0	-0.1	0.5	-0.5	0.1	0.3	0.0	0.0	-0.3	0.3	0.2

Forecast

Spain (10%) ¹	Quarterly change in %										Annual change in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	0.7	0.8	0.7	0.7	0.8	0.9	0.7	0.7	0.7	0.6	3.3	3.1	2.3
Private consumption (58%)	1.0	0.6	0.8	0.4	0.4	0.8	0.7	0.6	0.6	0.7	3.0	2.4	2.1
Investment (20%)	0.6	1.6	-0.3	0.8	2.8	0.6	1.4	0.7	1.0	1.0	3.3	5.0	3.2
Public consumption (19%)	0.1	0.0	0.5	-0.6	1.1	0.5	0.4	0.4	0.2	0.2	0.8	1.6	1.0
Exports (33%)	1.4	2.1	-0.5	1.5	2.4	1.0	0.6	0.3	0.9	0.8	4.8	5.0	2.3
Imports (30%)	0.8	1.9	-1.7	0.6	3.7	0.5	1.0	0.0	0.7	0.8	2.7	4.7	1.9
Contributions to GDP growth													
Domestic demand excluding inventories	0.7	0.7	0.5	0.3	1.0	0.7	0.8	0.5	0.6	0.6	2.6	2.7	2.0
Changes in inventories	-0.2	0.0	-0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0
Foreign trade	0.2	0.1	0.3	0.3	-0.3	0.2	-0.1	0.1	0.1	0.0	0.7	0.3	0.2

Forecast

How to read it: % in brackets represent the weight in the nominal GDP in 2016.
1. Share in Eurozone GDP in 2016

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

United States of America	Quarterly change in %										Annual change in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	0.1	0.6	0.7	0.4	0.3	0.8	0.8	0.6	0.6	0.8	1.5	2.3	2.2
Private consumption (68%)	0.5	0.9	0.7	0.7	0.5	0.8	0.5	0.9	0.6	0.7	2.7	2.7	2.3
Private investment (16%)	-0.1	0.3	0.4	0.4	2.0	0.8	0.6	2.0	0.8	1.8	0.7	4.0	4.1
Government expenditures and public investment (18%)	0.4	-0.2	0.1	0.0	-0.2	0.0	0.2	0.7	0.5	0.6	0.8	0.1	1.6
Exports (13%)	-0.7	0.7	1.6	-1.0	1.8	0.9	0.5	1.7	1.0	1.0	-0.3	3.4	3.6
Imports (17%)	0.0	0.1	0.7	2.0	1.1	0.4	-0.2	3.3	1.4	1.7	1.3	3.9	5.2
Contributions to GDP growth													
Domestic demand excluding inventories	0.4	0.7	0.6	0.6	0.6	0.7	0.5	1.1	0.6	0.9	2.2	2.6	2.6
Changes in inventories	-0.2	-0.2	0.0	0.3	-0.4	0.0	0.2	-0.2	0.0	0.0	-0.4	-0.1	0.0
Foreign trade	-0.1	0.1	0.1	-0.4	0.1	0.0	0.1	-0.3	-0.1	-0.1	-0.2	-0.2	-0.4

Forecast

United Kingdom	Quarterly change in %										Annual change in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	0.2	0.5	0.5	0.7	0.2	0.3	0.5	0.4	0.3	0.3	1.9	1.7	1.1
Private consumption (62%)	0.8	1.1	0.8	0.3	0.4	0.3	0.4	0.3	0.2	0.2	3.1	1.8	0.9
Investment (17%)	0.7	2.0	1.1	0.7	0.8	1.2	0.7	1.1	0.2	0.3	1.8	3.9	1.9
Public consumption (23%)	0.8	-0.2	0.0	0.0	-0.1	0.4	0.0	0.5	0.3	0.2	0.7	0.3	0.9
Exports (30%)	-1.5	2.8	-1.8	5.2	0.0	1.7	0.2	-0.2	0.9	0.7	2.3	5.0	1.8
Imports (32%)	0.2	1.0	3.3	-1.0	1.0	0.5	1.0	1.5	0.5	0.5	4.8	3.5	2.7
Contributions to GDP growth													
Domestic demand excluding inventories	0.8	1.0	0.7	0.3	0.3	0.4	0.4	0.5	0.2	0.2	2.2	1.7	1.0
Changes in inventories	-0.1	-0.9	1.3	-1.3	0.2	-0.5	0.4	0.4	0.0	0.0	0.5	-0.3	0.5
Foreign trade	-0.5	0.5	-1.5	1.7	-0.3	0.3	-0.2	-0.5	0.1	0.1	-0.8	0.3	-0.3

Forecast

Japan	Quarterly change in %										Annual change in %		
	2016				2017				2018		2016	2017	2018 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Supply and use table (in real terms)													
GDP	0.7	0.3	0.2	0.3	0.5	0.6	0.6	0.4	0.3	0.3	0.9	1.7	1.3
Private consumption (60%)	0.2	-0.1	0.4	0.0	0.3	0.9	-0.6	0.5	0.4	0.4	0.1	1.0	0.9
Investment (21%)	-0.1	1.1	0.2	0.7	0.2	1.9	-0.1	0.3	0.4	0.4	1.1	2.6	1.3
Public consumption (21%)	1.1	-1.1	0.4	-0.2	0.1	0.2	0.1	0.0	0.2	0.2	1.3	0.1	0.4
Exports (15%)	0.0	-0.5	2.3	2.7	2.0	0.0	2.1	2.4	1.5	0.8	1.3	6.8	5.0
Imports (17%)	-1.7	-0.9	0.2	0.6	1.7	1.9	-1.2	2.9	1.0	1.0	-1.9	3.6	3.8
Contributions to GDP growth													
Domestic demand excluding inventories	0.3	-0.1	0.4	0.2	0.3	1.0	-0.4	0.4	0.3	0.4	0.6	1.2	0.9
Changes in inventories	0.1	0.3	-0.5	-0.2	0.1	-0.1	0.4	0.1	0.0	0.0	-0.2	-0.1	0.2
Foreign trade	0.3	0.1	0.3	0.3	0.1	-0.3	0.6	0.0	0.1	0.0	0.6	0.6	0.2

Forecast

How to read it: % in brackets represent the weight in the nominal GDP in 2016.

Sources: BEA, ONS, Japan Cabinet Office, INSEE forecast