Consumer prices

In November 2016 inflation stood at +0.5% year on year, according to provisional estimates. Through to mid-2017 it should see a moderate increase, to +1.0% year on year, with the recovery of energy prices and a rise in tobacco prices. After picking up in 2015, core inflation[1] virtually stabilised in 2016, mainly because the past depreciation of the Euro was no longer contributing to the increased cost of imported products. Through to June 2017, it should increase only slightly, by +0.7% year on year (against +0.5% in October 2016): it is likely that the earlier drop in commodity prices and the high level of unemployment will continue to limit inflationary pressures.

Headline inflation should rise moderately

In November 2016, according to the provisional estimate of the consumer price index, headline inflation rose to +0.5% year on year, after +0.4% in October (*Graph 1*). Energy prices picked up (+2.1% after +0.7% in October), food prices recovered (+0.3% after –0.1%) while the price of manufactured products continued to fall at the same pace (–0.6%). The prices of services increased once again by 1.0%.

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

Headline inflation is likely to increase moderately during H1 2017 and should settle at +1.0% in June 2017. It should be driven mainly by energy prices and the price of tobacco, with the increase in taxes on these products in January 2017, while core inflation is unlikely to be much higher in mid-2017 than in autumn 2016.

Energy prices should continue to rise

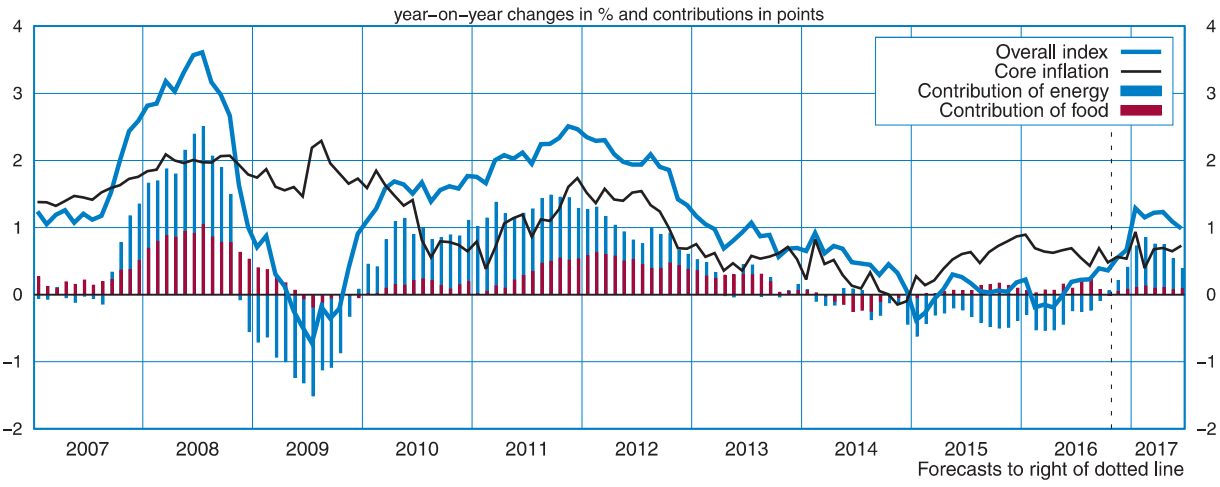
In November 2016, energy prices increased by 2.1% year on year, following the recent rise in crude oil prices. Assuming that the price of a barrel of Brent remains stable at $50 (€47.2), the rise in energy prices is set to continue mechanically due to the effect of the exit from the year-on-year figures of the sharp fall in prices at the beginning of 2016. In addition, energy taxation will increase again in January 2017. All in all, the rise in energy prices should settle at +3.8% year-on-year in June 2017.

Small rise in food inflation

Food prices should continue to pick up, but are expected to remain sluggish over the next half-year: +0.5% year-on-year in June 2017, after +0.3% in November 2016.

After variations due to weather conditions – which were particularly unfavourable for production in spring 2016, then favourable during the summer – and assuming normal conditions for the coming seasons, the prices of fresh food are likely to slow slightly through to mid-2017 (+1.4% in June 2017 after +2.1% in November 2016).

1 - Inflation in France



Source: INSEE

Excluding fresh products, food prices should start to rise again slightly (+0.4% in June 2017, after 0.0% in November). The prices of dairy products in particular are likely to pick up due to the recovery in world prices and the dairy industry's undertakings with regard to the price paid to farmers.

The prices of manufactured goods are set to decline further

The prices of manufactured goods should decline further, by 0.3% year-on-year in June 2017, after –0.6% in November 2016. The high level of unemployment and the gradual spread of the past fall in commodity prices are likely to continue to influence prices. However, the tightening of the "bonus-malus" scheme covering carbon emissions should contribute to an increase in the price of new cars.

Prices in clothing-footwear should remain stable overall at the beginning of 2017. However, a one-off increase is expected in June 2017, to +1.8% year-on-year, because of the later start to the summer sales.

Prices of healthcare products should continue to decrease substantially (–2.9% year-on-year in June 2017 after –2.5% in October 2016), especially drug prices, in line with the objective set out in the Social Security Financing Act for 2017, and the price of glasses and lenses, under the 2014 Consumer Law.

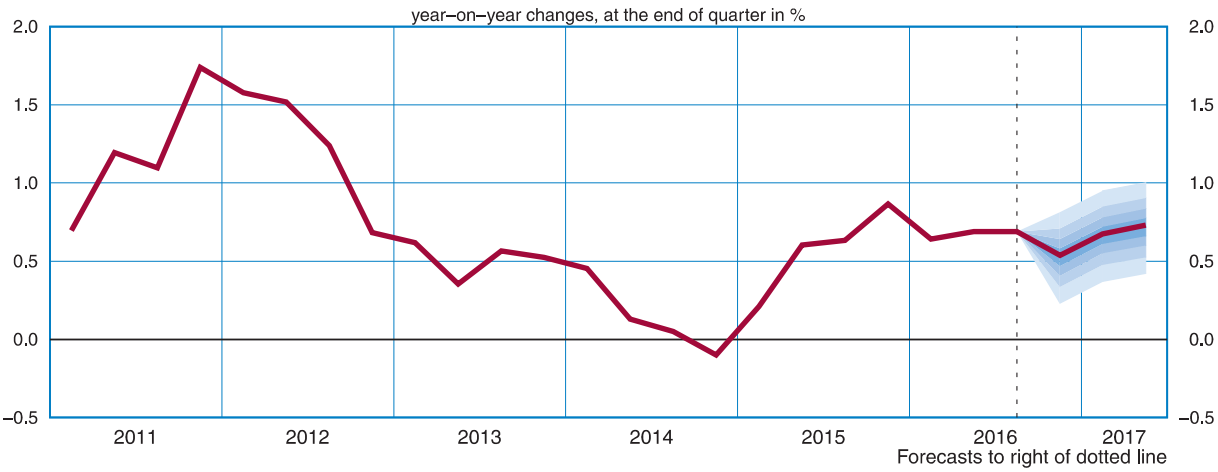
Prices of services are expected to accelerate slightly

The prices of services are expected to accelerate slightly through to June 2017 (+1.2% after +1.0% in November 2016). Prices of transport services should pick up with the gradual dissipation of the effects of the fall in oil prices on air transport (+0.8% year-on-year in June 2017 after –0.5% in October 2016). The prices of health services should accelerate significantly (+1.4% year-on-year in June 2017 after +0.3% in October), driven by the increase in the tariff for a general practitioner consultation in May 2017. The increase overall is likely to remain limited, however, due to the sluggishness of rents (+0.4% in June 2017 after +0.2% in October 2016), indexed against past inflation (*Focus*).

Core inflation should increase hardly at all

After recovering in 2015, core inflation was virtually stable in 2016, as import prices were no longer bolstered by the past depreciation of the Euro. By June 2017, it should increase very slightly, to +0.7% year-on-year, after +0.5% in October (*Graph 2*). ■

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



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

Source: INSEE

French developments

Consumer prices

changes as %

CPI* groups (2016 weightings)	October 2016		November 2016		December 2016		June 2017		Annual averages	
	yoy	cyoy	yoy	cyoy	yoy	cyoy	yoy	cyoy	2015	2016
Food (16.2%)	**–0.1**	**0.0**	**0.3**	**0.0**	**0.5**	**0.1**	**0.5**	**0.1**	**0.5**	**0.6**
including: fresh food (2.2%)	*0.0*	*0.0*	*2.1*	*0.0*	*3.6*	*0.1*	*1.4*	*0.0*	*5.3*	*3.5*
excluding: fresh food (14.0%)	*–0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.4*	*0.1*	*–0.2*	*0.1*
Tobacco (2.0%)	**0.1**	**0.0**	**0.1**	**0.0**	**0.1**	**0.0**	**4.0**	**0.1**	**0.3**	**0.1**
Manufactured products (26.5%)	**–0.6**	**–0.2**	**–0.6**	**–0.2**	**–0.7**	**–0.2**	**–0.3**	**–0.1**	**–0.9**	**–0.5**
including:										
clothing and footwear (4.1%)	*0.2*	*0.0*	*0.3*	*0.0*	*0.3*	*0.0*	*1.8*	*0.1*	*-0.9*	*0.2*
medical products (4.7%)	*–2.5*	*–0.1*	*–2.3*	*–0.1*	*–2.4*	*–0.1*	*–2.9*	*-0.1*	*–3.5*	*–3.0*
other manufactured products (17.7%)	*–0.4*	*–0.1*	*–0.3*	*–0.1*	*–0.4*	*–0.1*	*–0.1*	*0.0*	*–0.3*	*–0.1*
Energy (7.7%)	**0.7**	**0.1**	**2.1**	**0.2**	**4.2**	**0.3**	**3.8**	**0.3**	**–4.7**	**–2.8**
including: oil products (4.2%)	*1.8*	*0.1*	*4.1*	*0.2*	*7.3*	*0.3*	*4.1*	*0.2*	*–10.8*	*–5.4*
Services (47.7%)	**1.0**	**0.5**	**1.0**	**0.5**	**0.9**	**0.4**	**1.2**	**0.6**	**1.2**	**1.0**
including: rent-water (7.7%)	*0.2*	*0.0*	*0.3*	*0.0*	*0.3*	*0.0*	*0.4*	*0.0*	*0.9*	*0.6*
health services (6.0%)	*0.3*	*0.0*	*0.2*	*0.0*	*–0.3*	*0.0*	*1.4*	*0.1*	*0.5*	*0.2*
transport (2.8%)	*–0.5*	*0.0*	*0.1*	*0.0*	*–0.2*	*0.0*	*0.8*	*0.0*	*0.9*	*–1.6*
communications (2.5%)	*3.2*	*0.1*	*2.9*	*0.1*	*2.9*	*0.1*	*1.0*	*0.0*	*1.2*	*2.1*
other services (28.8%)	*1.3*	*0.4*	*1.3*	*0.4*	*1.3*	*0.4*	*1.5*	*0.4*	*1.5*	*1.3*
All (100%)	**0.4**	**0.4**	**0.5**	**0.5**	**0.7**	**0.7**	**1.0**	**1.0**	**0.0**	**0.2**
All excluding energy (92.3%)	0.3	0.3	0.4	0.4	0.4	0.4	0.7	0.7	0.5	0.5
All excluding tobacco (98.1%)	0.4	0.3	0.6	0.5	0.7	0.6	0.9	0.9	0.0	0.2
Core inflation (60.8%)**	**0.5**	**0.3**	**0.6**	**0.3**	**0.5**	**0.3**	**0.7**	**0.4**	**0.5**	**0.6**

Provisional — Forecast

yoy : year-on-year

cyoy : contribution to the year-on-year value of the overall index

*Consumer price index (CPI)

**Index excluding public tariffs and products with volatile prices, corrected for tax measures.

Source: INSEE

The differences in price dynamics between France and its neighbours can be ascribed more to fiscal policy than to underlying inflationary pressures

In 2016, changes in prices as measured by the Harmonised Index of Consumer Prices (HICP) are expected to be similar in France and Germany, i.e. up by 0.2% on average over the first ten months of 2016 (*Graph 1*). However, prices are expected to have fallen in Spain (–0.6%) and Italy (–0.1%). French inflation stands out as a result of its energy component, which has fallen less than in neighbouring countries, especially due to differences in the taxation of these products.

Core inflation gives the underlying trend in the variation in prices by excluding the most volatile prices (energy and agri-food products).[1] Over the first ten months it was higher in Germany (+1.1%) than in France (+0.6%). The underlying increase in French prices was closer to that of Spain (+0.6%) and Italy (+0.5%).

1. This indicator of core inflation is slightly different to the one calculated by INSEE, as the latter also corrects for public tariffs, tax measures and seasonal variation.

In France, energy prices fell less sharply, mainly due to increases in taxes on these products

In the wake of the fall in oil prices, prices of energy products fell back in the Eurozone. This decline was less pronounced however in France (–3.6% on average) than in the other countries (–6.4% in Germany, –6.1% in Italy, and –10.6% in Spain).

This gap is mainly due to the taxation of these products, whose changes and structure differ from one country to the next. Thus, in January 2016 indirect taxation on energy products increased in France. The TICPE (domestic consumption tax on energy products) was raised by 3 cents per litre for diesel and 1.7 cents per litre for premium-grade petrol (excluding VAT). Similarly, the domestic consumption tax on gas (TICGN) and the domestic final consumption tax on electricity (TICFE) also increased. These hikes contributed +2.3 points to energy inflation in 2016 in France, and +0.2 points to headline inflation. In the other countries, changes in taxation had a neutral effect on prices.

Neutralising the effects of the variation in taxes would mean that the fall in the price of energy products in France was close to that in Germany and in Italy (*Graph 2*). In Spain, the fall is more pronounced. Electricity prices in particular fell considerably there in 2016, contributing –3.5 points to the decline in energy prices. In addition, fuel prices in Spain were adjusted downwards more in line with the fall in oil prices. In the tax-inclusive price of fuels, the share of excise duties on the quantities consumed is in fact lower in Spain than in the other countries: in October 2016, these indirect taxes represented approximately 47%[2] of the total price of 95-octane lead-free petrol in Spain compared to 59% in France and 60% in Italy. The prices of petroleum products therefore react to variations in oil prices more in Spain.

Core inflation is higher in Germany

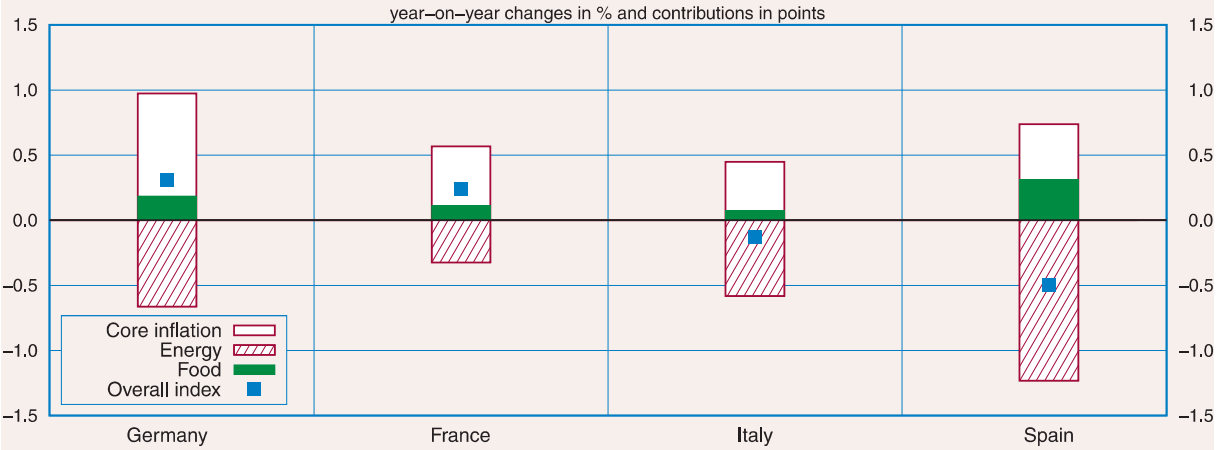
German core inflation (+1.1%) is higher than that of its neighbours and in particular higher than in France (+0.6%). This difference may be due to substantially lower unemployment than in the rest of the Eurozone (4.0% compared to 10.0% in France, 11.5% in Italy and 19.4% in Spain) and markedly more vigorous wages: the German average wage increased by 2.1% over the year to Q2 2016, compared to 1.1% on average in the other three countries.

Nevertheless, considered by product, the greater vigour of core inflation in Germany compared to France is concentrated on only four items: private vehicles and their maintenance, transport services, healthcare, and rents and housing-related services.

First of all, purchase prices and the costs of using private vehicles (excluding fuel) were less buoyant in France (+0.2%) than in Germany (+1.5%), due to slower increases in the prices of new cars. Prices of repair services increased much less in France than in Germany. Only this item, whose contribution to the core inflation differential amounts to +0.13 points, seems to reveal a real difference in the underlying inflationary pressures between the two economies (*Table*).

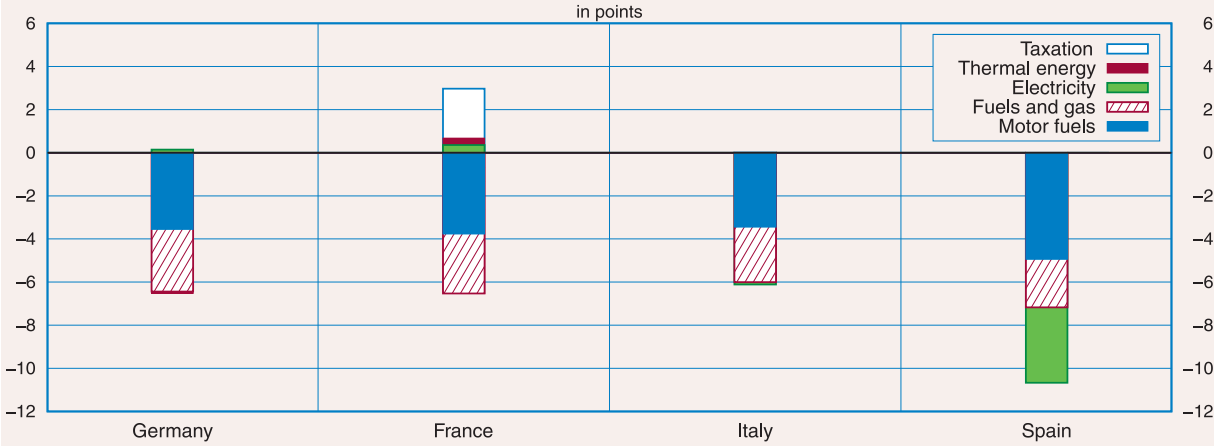
2. According to the European Commission's Weekly Oil Bulletins in October 2016.

1 - Average inflation in 2016 and contributions of the different components



Note: inflation for 2016 is calculated by the year-on-year averages of the index from January to October 2016.
Source: Eurostat

2 - Contributions of energy products to inflation in 2016



Note: inflation for 2016 is calculated by the year-on-year averages of the index from January to October 2016.
Source: Eurostat

For the three other items, the gap is of a rather different nature.

Prices of transport services fell in 2016 in France, especially in air transport, with prices coming down due to the past drop in oil prices. Conversely, transport prices rose in Germany, as the fall in oil prices had already been passed on more quickly than in France. Also, in France the price of public transport fell in September 2015 (in particular the Navigo season ticket in the Paris region), influencing the overall decline in 2016. The transport sector thus contributed +0.14 points to the difference in core inflation.

In addition, the reinforcement of savings measures in health insurance in France also led to considerable efforts to reduce the prices of pharmaceutical products (–2.5%), whereas, on the contrary, in Germany drug prices rose (+2.4%). The healthcare sector thus contributed +0.14 points to the difference in core inflation. The gap on this item appears above all to be a consequence of drug pricing policies, without revealing any difference in inflationary pressures.

Finally, the prices of rents and housing-related services increased more moderately in France (+0.6%) than in Germany (+1.1%), contributing +0.10 points to the difference in core inflation between the two countries. This gap is explained by a difference in the regulation on rent increases. In particular, the increase in rents on main residences slowed in France (+0.3% on average over the year in 2016) because rents are mainly indexed on past inflation. In Germany, although controlled, rent increases are generally freely decided between landlord and tenant. This differential is not expected to ease before mid-2017, in view of the method of calculating the index for rent increases in France. ■

Table - Annual changes in the different components of core inflation and contribution to the difference in inflation between France and Germany

	Annual changes (%) 2016		Contribution to the gap between France and Germany
	France	Germany	
Core inflation	**0.6**	**1.1**	**0.43**
Purchase prices and costs of using private vehicles (excluding fuel)	0.2	1.5	0.13
Transport services	–2.0	1.4	0.14
Health products and services	–0.6	1.4	0.14
Rents and housing-related services	0.6	1.1	0.10
Communications	0.7	–1.1	–0.08
Other	1.0	1.1	0.00

Sources: Eurostat, INSEE calculations

Wages

In 2016, nominal wages in the market sectors are expected to increase at almost the same rate as in 2015, as an annual average: +1.2% for the basic monthly wage and +1.5% after +1.6% for the average wage per capita. Prices are likely to be stable, so wages in real terms should slow in 2016: +1.4% after +1.8% for the average wage per capita.

In H1 2017 the average nominal wage per capita is expected to increase at a similar pace as in H2 2016. However, the anticipated upswing in inflation is likely to undermine the purchasing power of the wage per capita, for which the annual growth overhang is expected to be +0.4% in mid-2017, compared to +1.3% one year earlier.

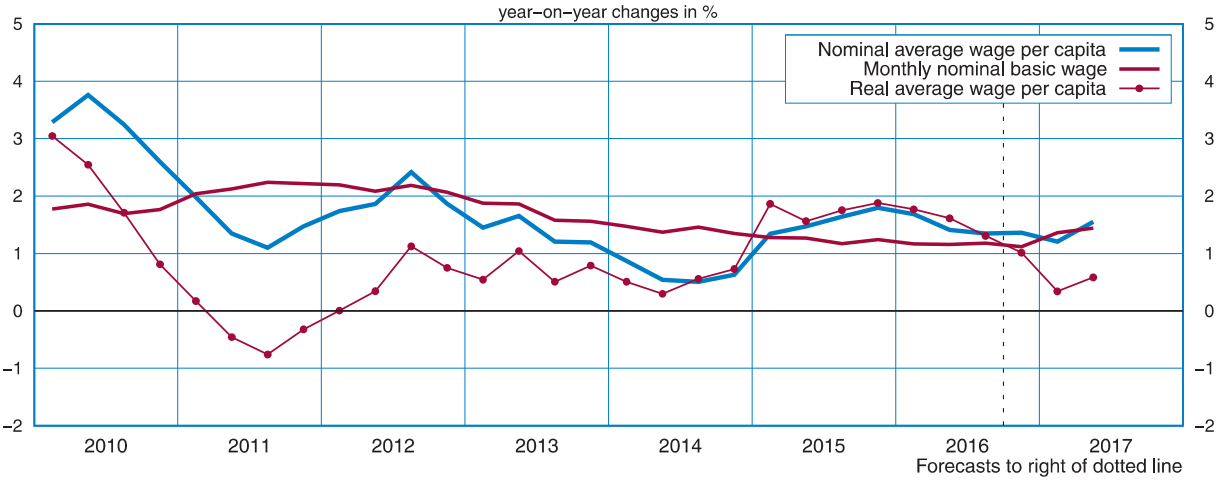
In general government, the average nominal wage per capita should accelerate sharply in 2016 (+1.4% after +0.5% in 2015), as a result of the increase in the index point for civil servants and statutory measures. It should also accelerate in real terms (+1.4% after +0.7%). The slight increase in the index point in February 2017 will raise nominal wages in H1, but the anticipated increase in prices is likely to hold back the average wage per capita in real terms: its annual growth overhang should be +0.6% in mid-2017, compared to +1.2% one year earlier.

In 2016, wages are expected to rise at almost the same pace as in 2015 in nominal terms, but should slow in real terms

In 2016, the minimum wage was raised slightly less (+0.6%) than one year earlier (+0.8%) and inflation has remained very low; however, unemployment has edged down slightly. Consequently, the basic monthly wage[1] in the non-agricultural market sectors should rise at the same pace as in 2015 (+1.2% as an annual average, *Graph* and *Table*). The average wage per capita, which covers a broader scope of remunerations (bonuses, profit-sharing, and overtime payments) has an irregular quarterly profile: it increased sharply in Q1 (+0.6%) – especially due to bonuses being paid earlier this year than previously – before slowing significantly in reaction in Q2 (+0.1%). In H2, the average wage per capita is expected to increase at the same rate as in H1 (+0.7% half-year on half-year). On average over the year, it should rise by 1.5% after +1.6% in 2015.

1. For a definition of *basic minimum 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

In H1 2016, since prices[2] were stable, real wages increased at the same pace as nominal wages (+0.7% over the half-year). In H2, the anticipated slight acceleration of prices (+0.4%) is likely to have undermined the purchasing power of wages (+0.3%). Over 2016, as a whole, the increase in real wages is likely to slow down: +1.1% after +1.4% in 2015 for the basic monthly wage and +1.4% after +1.8% for the average wage per capita.

In early 2017, wages should continue to rise at almost the same pace as in H2 2016

Assuming that there is no "extra", the minimum wage should be increased by 0.8% on 1st January 2017. In H1 2017, the upturn in inflation is expected to be only partly reflected in wages and the average nominal wage per capita should barely pick up (+0.8% after +0.7% half-year on half-year). In real terms, wages are likely to rise at the same pace as in H2 2016 (0.3%).

By mid-2017, the annual growth overhang for the average wage per capita in real terms is expected to be +0.4%, compared to +1.3% in mid-2016, due to a higher price growth overhang (+0.8% after –0.1% one year earlier).

In the civil service, nominal wages are likely to accelerate in 2016

In the civil service, the index point rose in July 2016 (+0.6%) for the first time since 2010. In addition, the civil servants' purchasing power guarantee scheme was renewed. However, the increases negotiated in the framework of the agreement on "professional career paths, careers and remunerations" in October 2015 have had only a limited effect on wages in 2016, as they are mainly implemented by converting bonuses into index points. Throughout 2016, the average wage per capita is expected to have picked up, both in nominal terms (+1.4% after +0.5% in 2015), and in real terms (+1.4% after +0.7%).

In 2017, the purchasing power guarantee scheme should be renewed. The index point will be increased by 0.6% in February 2017. Consequently, the average nominal wage per capita should accelerate slightly in general government, with a growth overhang of +1.5% in mid-2017, compared to +1.1% one year earlier; in real terms, however, the average wage per capita should slow down significantly, with a carry-over effect of +0.6% in mid-2017 compared to +1.2% one year earlier. ■

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-agricultural market sector and in general government

in %

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

Forecast

Sources: INSEE, Dares

Household income

In 2016 household purchasing power appeared to have picked up moderately: +1.8% after +1.6% in 2015. This slight acceleration would seem to be mainly the result of a rise in gross disposable income (GDI) (+1.8% in 2016 after +1.4%), in particular wage income. At the same time, consumer prices are expected to have stabilised after falling 0.2% in 2015.

In H1 2017, gains in household purchasing power are expected to slow down (+0.4% half-year on half-year after +0.6% in H2 2016). Indeed, growth in GDI is expected to slow slightly (0.9% after +1.0%), whilst consumer prices should pick up a little (+0.6% after +0.4%).

Earned income is expected to remain buoyant in 2016 and into H1 2017

In 2016 households' earned income picked up slightly (+1.8% after +1.7% in 2015, *Table 1*), in particular wages received by households (+2.1% after +1.6%). Payroll employment in the non-agricultural market sector is expected to increase by 0.9% in 2016, on average over the year, after 0.0% in 2015 (*Graph*) and the average wage per capita is expected to rise at virtually the same rate as in 2015 (+1.5% after +1.6%). However, the earned income of self-employed workers is expected to slip back in 2016 (–0.1% after +2.4% in 2015). In H1 2017 wage income is expected to rise at the same pace as in H2 2016 (+1.1% half-year on half-year) whilst the income of self-employed workers is expected to gather pace (+1.0% after +0.7%). All in all, earned income is expected to grow by 1.1% during H1 2017, after +1.0% in H2 2016.

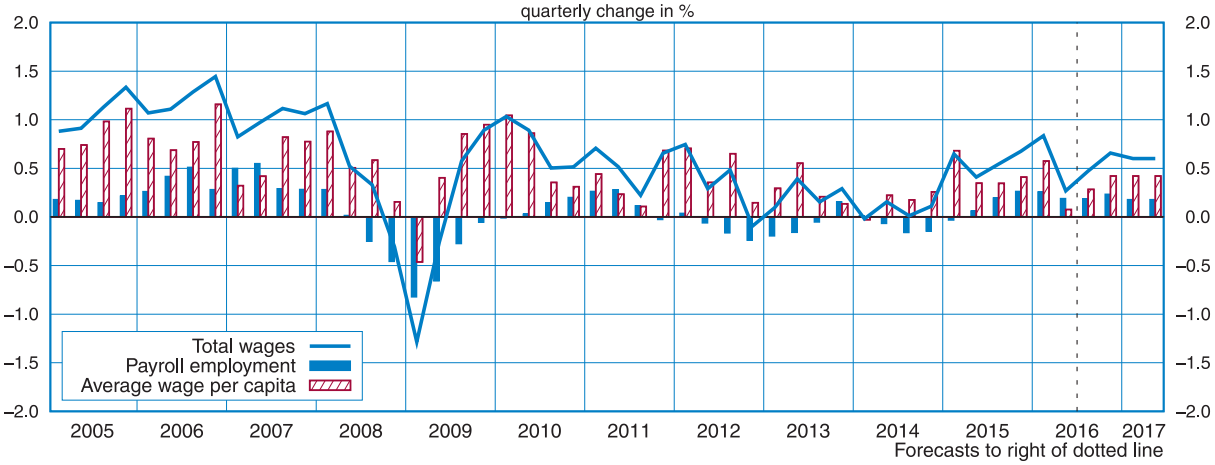
Net property income is expected to have recovered a little in 2016 (+0.9%) after a decline in 2015 (–1.2%). Households are still benefiting from a fall in interest rates, amplified by much renegotiation of existing mortgages. In addition, in the absence of further reductions in the rate paid on the Livret A savings account in 2016, interests received by households are expected to have declined less than in 2015. However, income from life insurance is likely to have fallen. At the beginning of 2017, property income is expected to slip back slightly again (–0.3% over the half-year) as the effect of mortgage renegotiations is expected to fade a little.

The gross operating surplus of pure households is expected to slow slightly, from +1.2% in H1 2016 to +0.9% in H2 2016 and then +1.0% in H1 2017.

Social benefits are expected to have increased in 2016 as they did in 2015

Social benefits in cash are expected to have increased 1.9% over 2016 as a whole, as in 2015 (*Table 3*).

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



Source: INSEE

French developments

Social security benefits are expected to have slowed down in 2016 (+1.8% after +2.0% in 2015). Indeed, family benefits appear to have fallen back on average over the year, under the effect of a full year's application of the means testing of family allowance and the dip in young child allowance (PAJE). Retirement pensions have also contributed to this slowdown due to lower raises than in previous years given the low rate of inflation. Welfare benefits are likely to have accelerated a little over the year. They fell back at the start of the year due to the ramping up of the activity premium, the amounts of which did not immediately equal those of the old RSA (earned income supplement) and the employment premium; they then bounced back considerably, as the rate of applicants for the activity premium progressively increased.

In H1 2017, social security benefits are expected to pick up slightly: +1.0% half-year on half-year after +0.8%. Family allowances are expected to return to a rate of growth closer to their trend, as the effect of the change to means testing no longer holds them back. Retirement pensions are also expected to gather pace a little. On the other hand, welfare benefits are expected to slow down. All in all, social benefits in cash should rise in H1 2017 at virtually the same rate as in H2 2016 (+1.0% after +0.9%).

Table 1

Household gross disposable income

	Quarterly changes in %										Annual changes in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Gross disposable income (100%)	**0.6**	**0.2**	**0.7**	**0.5**	**0.5**	**0.3**	**0.7**	**0.3**	**0.4**	**0.5**	**1.4**	**1.8**	**1.5**
including:													
Earned income (70%)	0.7	0.3	0.5	0.5	0.6	0.2	0.4	0.6	0.5	0.5	1.7	1.8	1.7
Gross wages and salaries (62%)	*0.6*	*0.4*	*0.5*	*0.6*	*0.7*	*0.3*	*0.5*	*0.6*	*0.6*	*0.6*	*1.6*	*2.1*	*1.7*
GOS of sole proprietors[1] (8%)	*1.8*	*–0.5*	*0.2*	*0.0*	*0.2*	*–0.6*	*0.2*	*0.5*	*0.5*	*0.5*	*2.4*	*–0.1*	*1.2*
Social benefits in cash (35%)	0.3	0.4	0.4	0.6	0.4	0.4	0.5	0.4	0.5	0.5	1.9	1.9	1.5
GOS of "pure" households (13%)	–0.1	–0.1	0.3	0.7	0.6	0.6	0.5	0.4	0.5	0.5	0.1	2.0	1.6
Property income (8%)	–0.4	0.0	–0.4	0.1	0.6	0.3	0.4	0.2	–0.1	–0.2	–1.2	0.9	0.1
Social contributions and taxes (–27%)	0.1	0.8	–0.6	0.9	0.8	0.5	–0.4	1.0	0.7	0.4	1.8	1.8	1.7
Contributions of households (–11%)	*0.9*	*0.7*	*0.5*	*0.8*	*0.7*	*0.4*	*0.3*	*0.5*	*0.8*	*0.4*	*2.0*	*2.3*	*1.7*
Income and wealth tax (including CSG and CRDS) (–16%)	*–0.4*	*0.8*	*–1.3*	*0.9*	*0.9*	*0.5*	*–0.9*	*1.4*	*0.7*	*0.4*	*1.7*	*1.4*	*1.6*
Household consumer prices (quarterly national accounts)	**–0.1**	**0.2**	**–0.1**	**0.0**	**–0.1**	**0.1**	**0.1**	**0.3**	**0.4**	**0.2**	**–0.2**	**0.0**	**0.8**
Purchasing power of gross disposable income	**0.7**	**0.0**	**0.8**	**0.5**	**0.6**	**0.2**	**0.6**	**0.1**	**0.0**	**0.3**	**1.6**	**1.8**	**0.6**
Household purchasing power by consumption	**0.6**	**–0.1**	**0.7**	**0.4**	**0.5**	**0.1**	**0.5**	**0.0**	**–0.1**	**0.2**	**1.2**	**1.4**	**0.2**

Forecast

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

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

Source: INSEE

Table 2

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

	Quarterly changes in %										Annual changes in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Non-financial enterprises (67%)	0.7	0.4	0.6	0.7	0.9	0.3	0.5	0.7	0.6	0.6	1.7	2.4	1.9
including: Average wage per capita	*0.7*	*0.3*	*0.4*	*0.4*	*0.6*	*0.1*	*0.3*	*0.4*	*0.4*	*0.4*	*1.6*	*1.4*	*1.2*
Financial corporations (4%)	–0.3	0.5	–0.1	0.7	0.5	0.5	0.6	0.6	0.7	0.7	–0.4	1.9	2.1
General government (22%)	0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.5	0.4	0.5	1.0	1.5	1.5
Households excluding sole proprietors (2%)	0.9	0.2	–0.1	–0.3	–0.7	0.0	–0.3	0.0	0.0	0.0	–0.3	–1.1	–0.1
Total gross wages received by households	**0.6**	**0.4**	**0.5**	**0.6**	**0.7**	**0.3**	**0.5**	**0.6**	**0.6**	**0.6**	**1.6**	**2.1**	**1.7**
including: Non-agricultural market sectors	*0.6*	*0.4*	*0.5*	*0.7*	*0.8*	*0.3*	*0.5*	*0.7*	*0.6*	*0.6*	*1.5*	*2.3*	*1.9*

Forecast

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

Source: INSEE

Taxes and social contributions are likely to gather pace at the beginning of 2017

Over 2016 as a whole, taxes and social contributions paid by households are expected to have risen at the same pace as in 2015 (+1.8%). The acceleration in households' social contributions (+2.3% after +2.0% in 2015) is expected to offset the slowdown in income and wealth taxes (+1.4% after +1.7%).

As every year, the measures decided concerning income and wealth taxes for 2016 affect the quarterly tax profile in H2. In particular, income tax relief benefiting low-income households and the indexing of the income tax brackets would seem to have led to a drop in Q3 (+0.9%) followed by a rebound in Q4 (+1.4%).

In H1 2017, income tax is expected to gather pace in reaction to this situation (+1.0% half-year on half-year after +0.4%). As for households' contributions, they are expected to gather pace slightly compared to H2 2016 (+1.2% after +0.8%): the increase in the pension contributions of salaried workers on 1st January is expected to be only partly offset by the reduction in those of self-employed workers. All in all, taxes and social contributions are expected to pick up in H1 2017 (+1.1% after +0.6%).

After a slight acceleration in 2016, purchasing power is expected to slow down in H1 2017

All in all, the nominal gross disposable income (GDI) of households is expected to pick in 2016 (+1.8% after +1.4% in 2015). As consumer prices stabilise (0.0% after –0.2%),household purchasing power is expected to rise slightly faster (+1.8% after +1.6% in 2015). Adjusted to an individual level to account for demographic changes, purchasing power per consumption unit is expected to rise by 1.4%, after +1.2%.

In H1 2017, the increase in households' GDI is expected to slow slightly (+0.9% after +1.0% in H2 2016). In addition, consumer prices are expected to gather pace a little, with the result that the purchasing power of GDI is likely to see a downturn in the first part of the year (+0.4% after +0.6%). ■

Table 3

	Quarterly changes in %										Annual changes in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Social cash benefits received by households (100%)	**0.3**	**0.4**	**0.4**	**0.6**	**0.4**	**0.4**	**0.5**	**0.4**	**0.5**	**0.5**	**1.9**	**1.9**	**1.5**
Social Security benefits in cash (72%)	0.3	0.4	0.4	0.6	0.6	0.1	0.4	0.3	0.5	0.5	2.0	1.8	1.4
Other social insurance benefits (19%)	0.4	0.3	0.3	0.6	0.8	0.5	0.7	0.4	0.4	0.6	1.9	2.3	1.7
Social assistance benefits in cash (8%)	–0.1	0.2	0.6	0.8	–1.8	3.0	0.7	0.6	0.3	0.4	1.7	1.9	2.2
Total social contribution burden by households (100%)	–0.1	0.5	0.6	0.7	0.7	0.0	0.3	0.5	0.7	0.5	1.3	2.0	1.6
Actual social contributions paid	–0.1	0.6	0.7	0.7	0.8	–0.1	0.3	0.6	0.8	0.5	1.4	2.1	1.7
including: Employers contributions[1] *(63%)*	*–0.6*	*0.5*	*0.8*	*0.7*	*0.9*	*–0.4*	*0.3*	*0.6*	*0.7*	*0.5*	*1.0*	*2.0*	*1.7*
Contributions of households (37%)	*0.9*	*0.7*	*0.5*	*0.8*	*0.7*	*0.4*	*0.3*	*0.5*	*0.8*	*0.4*	*2.0*	*2.3*	*1.7*

Forecast

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

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

Source: INSEE

Household consumption and investment

In Q3 2016, household consumption stagnated once again. Expenditure on goods fell back, in particular those on furnishings and automobiles, while consumption of services picked up again. In Q4 consumption is expected to rise anew (+0.5%) thanks to a recovery in the purchase of goods. Energy expenditure is set to pick up, as are purchases of consumer durables. Furthermore, consumption of services is likely to continue to grow at a moderate rate. In H1 2017 household consumption is expected to rise by 0.3% per quarter, driven by the recent purchasing power gains. On average over the year 2016, household consumption expenditure is expected to grow in line with 2015 (+1.5%), even though household purchasing power gains are expected to be slightly higher (+1.8% after +1.6% in 2015). For this reason the savings ratio is expected to rise on average over the year 2016 by 0.2 points, reaching 14.7%. It is expected to fall in H1 2017 to return to virtually the same level as mid-2016.Over the year 2016 as a whole, household investment in housing is expected to bounce back (+1.4% on average) after four years of decline. It should continue to increase sharply in H1 2017.

Consumption stagnated once again in Q3 2016

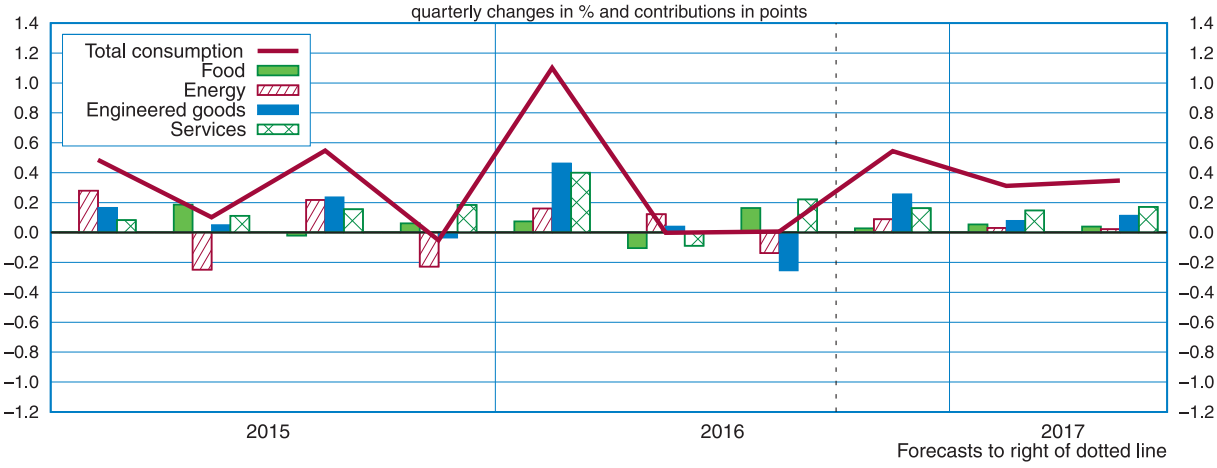
In Q3 2016 household consumption stagnated for the second quarter running (*Graph 1*). The recovery in consumption of services (+0.4% after –0.2%) offset the marked decline in expenditure on goods (–0.5% after +0.1%). In particular, expenditure on furnishings slumped (–6.1%) after a very vigorous first quarter, and automobile purchases continued to slip back (–0.3% after –1.0%), as did expenditure on clothing (–0.8% after –0.6%). Energy consumption decreased substantially in summer (–1.7%) as temperatures in September were higher than the seasonal norms, after a fairly cold winter and spring.

Consumption of services picked up in summer (+0.4% after –0.2%), most notably due to a recovery in transport expenditure and a rebound in accommodation and food services, in spite of further terrorist attacks in France and the end of the Euro 2016 football tournament. However, purchases of leisure services did not recover (–0.2%) after the downturn in Q2 (–2.0%) which came in reaction to the Euro 2016 football ticket sales in Q1.

In Q4 2016, consumption is expected to pick up moderately

In Q4 2016 total household consumption is expected to pick up moderately (0.5%; *Table*). Consumption of goods should regain some momentum (+0.8% after –0.5%). Energy consumption should bounce back (+1.1% after –1.7%), in particular spending on gas and electricity. Purchases of consumer durables are expected to pick up (+2.0% after –2.3%). Expenditure on furnishings is likely to regain momentum (+2.6% after –6.1%), and automobile purchases should rebound sharply (+1.7% after –0.3%). Lastly, consumption of services is expected

1 - Contributions of the various items to quaterly household consumption



Source: INSEE

to grow at a slightly more moderate rate than in Q3 (+0.3%). In particular, expenditure on transport and accommodation and food services is expected to slow down somewhat, while leisure consumption is likely to recover only slightly.

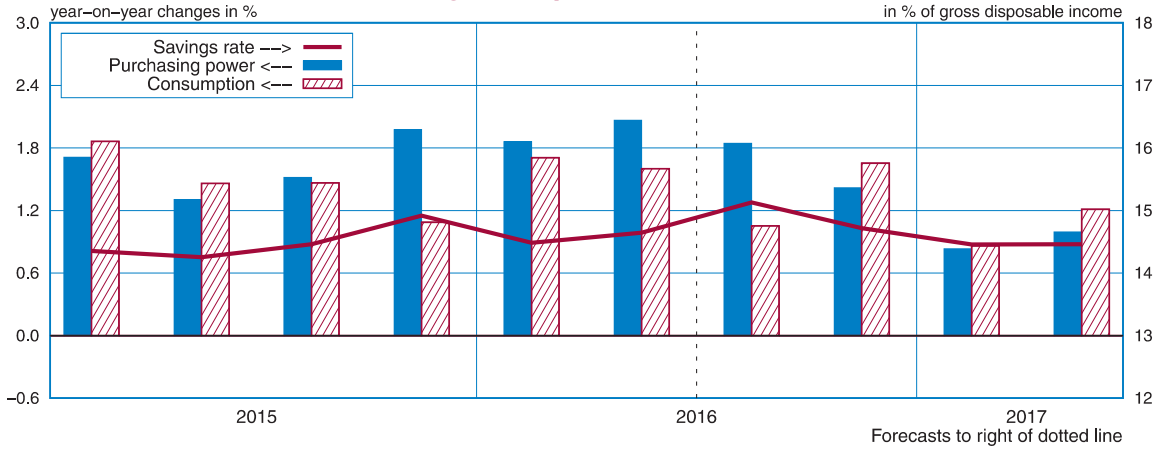
In H1 2017, consumption is expected to increase by 0.3% per quarter

In H1 2017 household consumption is expected to rise moderately once again (+0.3% per quarter), driven by the recent increases in purchasing power. Consumption of manufactured goods is expected to slow whilst remaining sustained, automobile purchases in particular. Consumption of services should continue to grow at the same moderate pace (+0.3% per quarter).

By mid-2017, the savings ratio is expected to stand at 14.5%, virtually the same level as mid-2016

On average over the year 2016, household consumption expenditure is expected to rise in line with 2015 (+1.5%), while the increase in household purchasing power is expected to be slightly higher than last year (+1.8% after +1.6%). As a result, households' savings ratio is expected to increase to 14.7% in 2016, 0.2 points more than in 2015 (*Graph 2*). However, the savings ratio has been uneven: first it was down in Q1 2016 (from 14.9% at end 2015 to 14.5%), due to a sharp rise in household consumption, then it increased strongly as expenditure stagnated, and is thought to have reached 15.1% in the summer. It is then expected to decline moderately, down to 14.5% by mid-2017, virtually the same level as mid-2016.

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



Source: INSEE

Household consumption and investment expenditure

at chain-link previous year prices, SA-WDA

	Quarterly changes in %										Annual changes in %		
	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Total household consumption expenditures (G+S)	**0.5**	**0.1**	**0.5**	**–0.1**	**1.1**	**0.0**	**0.0**	**0.5**	**0.3**	**0.3**	**1.5**	**1.5**	**1.0**
Tourism balance	10.9	–0.3	8.8	6.5	–0.5	–5.0	–2.8	–1.0	0.0	0.0	–11.3	2.8	–3.5
Services (S)	**0.2**	**0.2**	**0.3**	**0.3**	**0.7**	**–0.2**	**0.4**	**0.3**	**0.3**	**0.3**	**1.0**	**1.4**	**0.9**
Goods (G)	**0.9**	**0.0**	**0.9**	**–0.4**	**1.5**	**0.1**	**–0.5**	**0.8**	**0.4**	**0.4**	**1.9**	**1.7**	**1.0**
including:													
Food (AZ-C1)	**0.0**	**1.0**	**–0.1**	**0.3**	**0.4**	**–0.6**	**0.9**	**0.2**	**0.3**	**0.2**	**1.2**	**0.9**	**0.9**
Agriculture goods (AZ)	–0.5	1.3	–0.3	–0.6	1.2	–1.6	–0.8	1.2	0.4	0.2	–0.3	–0.4	0.7
Agri-food products (C1)	0.1	1.0	–0.1	0.5	0.3	–0.4	1.2	0.0	0.3	0.2	1.5	1.2	1.0
Energy (DE-C2)	**3.3**	**–2.9**	**2.6**	**–2.7**	**1.9**	**1.5**	**–1.7**	**1.1**	**0.4**	**0.3**	**1.4**	**1.0**	**1.0**
Energy, water and waste (DE)	7.3	–5.2	2.4	–2.3	2.6	3.0	–3.4	1.9	0.7	0.5	2.1	1.6	1.5
Coke and refined petroleum (C2)	–0.9	–0.2	2.9	–3.0	1.1	–0.4	0.7	0.0	0.0	0.0	0.7	0.1	0.3
Engineered goods (C3-C5)	**0.8**	**0.2**	**1.1**	**–0.2**	**2.2**	**0.2**	**–1.2**	**1.2**	**0.4**	**0.5**	**2.6**	**2.5**	**1.1**
Manufactured goods (C1-C5)	**0.4**	**0.5**	**0.8**	**–0.2**	**1.4**	**–0.1**	**–0.1**	**0.6**	**0.3**	**0.4**	**2.0**	**1.8**	**1.0**
Investment expenditure	**0.0**	**0.1**	**0.1**	**0.4**	**0.3**	**0.4**	**0.6**	**0.6**	**0.6**	**0.6**	**–0.8**	**1.4**	**1.9**

Forecast

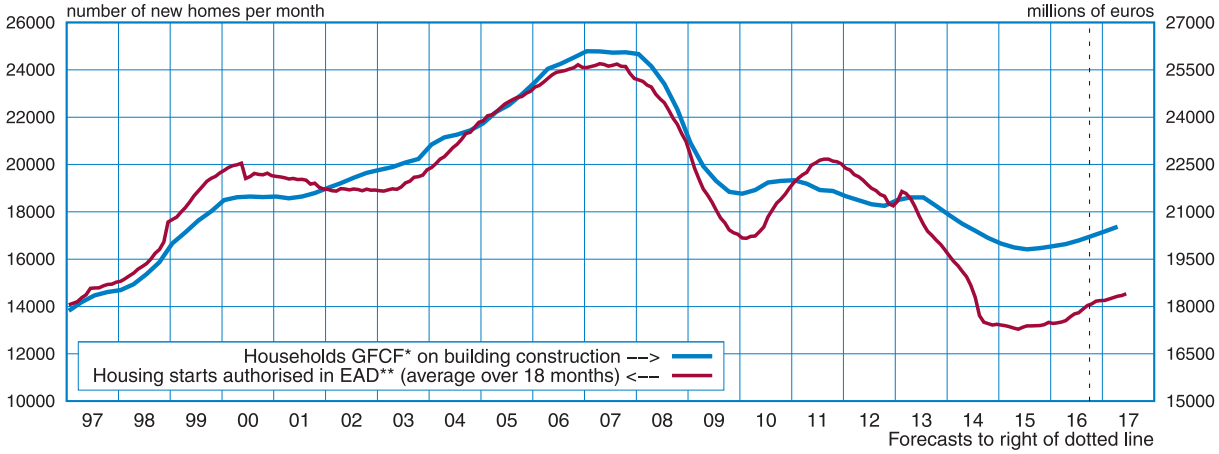
Source: INSEE

Household investment should continue to grow steadily in H1 2017

In Q3 2016 household investment continued to increase sharply (+0.6% after +0.4%), for the fourth consecutive quarter.[1] The number of housing starts authorised has been growing continually since the beginning of 2016 (*Graph 3*). In view of the usual time lags between permits being issued and actual construction, household investment is also expected to see a strong increase once again in Q4 2016 and then in H1 2017 (+0.6% per quarter on average). On average over the year, household investment is expected to bounce back in 2016 (+1.4%) after four years of decline (including –0.8% in 2015). For 2017, the annual carry-over effect of household investment should already stand at +1.9% by mid-year. ■

1. The indicator used for the "new housing investment" series was substantially revised during the first estimation of the quarterly accounts for Q3 2016.

3 - Household investment on construction and housing starts



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

Sources: INSEE, SOeS

Economic outlook publications influence public opinion on unemployment, not on inflation

The monthly economic outlook survey on households helps to monitor household's opinions on their personal economic situation (savings, opportunity for major purchases, etc.) as well as their economic environment (prices, unemployment, etc.). Regarding this environment, how do households form their responses to these questions: do they draw on their own experience of these subjects, or do they adjust their opinion based on the most recent statistical information published and disseminated through the media?

Econometric analyses show that households' responses depend to a large extent on the publications of the Directorate for the Coordination of Research, Studies and Statistics (DARES, Ministry of Labour) and Pôle Emploi (job centres) on the number of registered jobseekers at the end of the month (DEFM); on the other hand, households' responses on inflation do not seem to depend on INSEE's most recent publications.

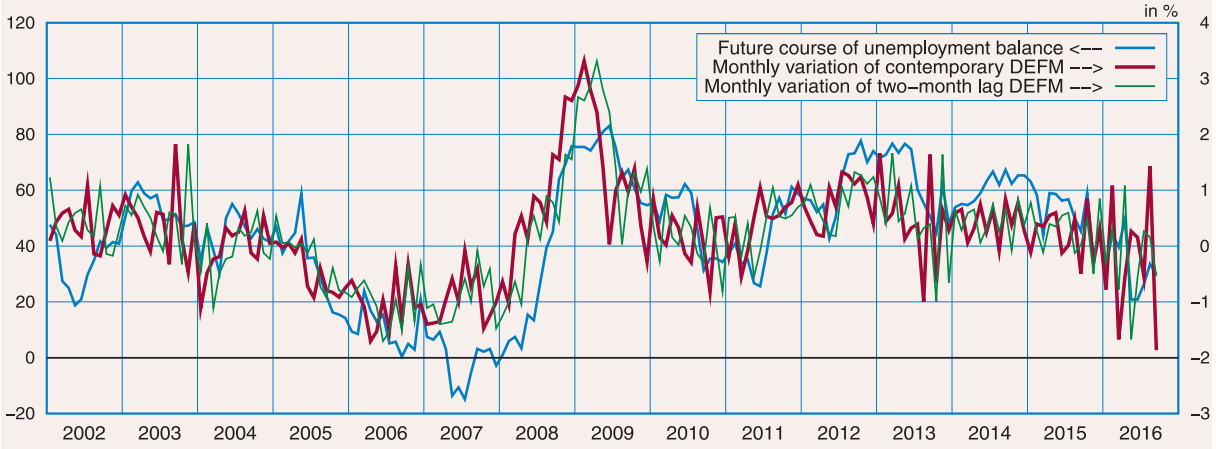
Households' opinions concerning the "future course of unemployment" are strongly influenced by the monthly publication of jobseeker figures

In the monthly economic outlook survey on households ("Camme"), respondents are questioned on their opinion regarding future unemployment: "Do you think that in the next twelve months, the number of people unemployed will… increase considerably (+) / increase a little (+) / stay the same / fall a little (–) / fall considerably (–)?". The balance of opinion derived from their responses on the future course of unemployment can therefore be linked to the change in the number of jobseekers registered at the end of the month (DEFM), in particular for the monthly indicator most often used in the joint publications of the DARES and Pôle Emploi (category A registered jobseekers).

The figure for DEFMs for a given month "m" is published at the end of month "m+1", that is to say after the "Camme" survey for "m+1"[1] is carried out. The potential effect of the publication of the DEFM figures on households' opinion can therefore only be perceived in "m+2". For example, the estimated DEFM figures for October are known at the end of November, and so the possible impact on households' opinions can only be effective in the December "Camme" survey.

Graphically, the balance of opinion on the future course of unemployment appears closer to the DEFM figures with the two-month lag than to the contemporary DEFM figures (*Graph 1*), which suggests that households' responses depend more on the publications on short-term trends than they do on a perception of their own situation or that of the people around them.

1 - Comparison of changes in the balance of opinion on future unemployment and changes in the contemporary and two month-lagged DEFM figures



Source: INSEE

To test this hypothesis, a Granger causality test was conducted. This can determine whether the information known about DEFMs at the time of the survey (two-month time lag and earlier time lags) has an impact on the balance of opinion on future unemployment.
In formalised terms, what is being tested is the hypothesis H0: b0=b1=b2=b3=b4=b5=b6=0 in the following equation:

$$cf_t = \alpha + a_0 cf_{t-1} + a_1 cf_{t-2} + a_2 cf_{t-3} + a_3 cf_{t-4} + a_4 cf_{t-5} + a_5 cf_{t-6} + b_0 \Delta DEFM_{t-2} + b_1 \Delta DEFM_{t-3} + b_2 \Delta DEFM_{t-4} + b_3 \Delta DEFM_{t-5} + b_4 \Delta DEFM_{t-6} + b_5 \Delta DEFM_{t-7} + b_6 \Delta DEFM_{t-8} + \upsilon_t$$

where:
- cf is the balance of opinion on future unemployment;
- $\Delta DEFM_t$ (respectively $\Delta DEFM_{t-1}$, $\Delta DEFM_{t-2}$…) the contemporary time lag in the number of jobseekers (respectively lags of one month, two months, etc.);
- and where $\upsilon_t = \rho \upsilon_{t-1} + \varepsilon_t$ and ε_t are white noise.

1. The monthly economic outlook survey on households for month "m" is published at the end of month "m" using data collected over a period running from the end of month "m–1" to the middle of month "m".

The symmetrical relationship is also tested to determine whether the survey provides information on changes in the number of jobseekers during the month of the survey:

$$\Delta DEFM_t = \alpha + a_0\Delta DEFM_{t-1} + a_1\Delta DEFM_{t-2} + a_2\Delta DEFM_{t-3} + a_3\Delta DEFM_{t-4} + a_4\Delta DEFM_{t-5}$$
$$+a_5\Delta DEFM_{t-6} + b_0cf_t + b_1cf_{t-1} + b_2cf_{t-2} + b_3cf_{t-3} + b_4cf_{t-4} + b_5cf_{t-5} + b_6cf_{t-6} + \upsilon_t$$

The results (*Table 1*) show that there is indeed a causality "in the Granger sense" between the publications of DEFM figures and the balance of opinion on future unemployment. In other words, the balance of opinion on unemployment in the survey depends directly on recent publications on short-term trends. Conversely, the Granger test on the DEFM figures is not very significant: the balance of opinion in the survey provides little information on changes in the DEFM figures in the months of the survey and the previous month and therefore on the situation on the job market as perceived by households at the time of the survey.

Table 1 - Results of the Granger causality test for the balance of opinion on future unemployment

	Degree of freedom of model under H1	Difference in the degree of freedom with the model under H0	Fisher's statistic	Pr(>F)
cf Model	164	6	19.239	$<2.2.10^{-16}$
DEFM Model	164	6	2.175	0.04813

To quantify the share of the balance of opinion that can be ascribed to the publications known at the time of the survey, and that really based on households' own impressions, the model below has been estimated:[2]

$$cf_t = \alpha + \delta_0 cf_{t-1} + \beta_0\Delta DEFM_t + \beta_1\Delta DEFM_{t-1} + \beta_2\Delta DEFM_{t-2} + \beta_3\Delta DEFM_{t-3} + \upsilon_t$$

The variations in the contemporary and the one month-lagged DEFM figures are not known to households whilst all the other time lags have been published at the time when households are surveyed.
The variation in two month-lagged (and more) DEFM figures appears to have a significant impact on the balance of opinion on the future course of unemployment (*Table 2*). An increase in the DEFM figures (two month-lagged) contributes to an increase in the proportion of households stating that they think unemployment will go up. The contemporary increase has a considerably lower impact, and the one month-lagged increase a non-significant effect. Finally, three month-lagged DEFM figures have a negative impact on the balance of opinion in month "m".

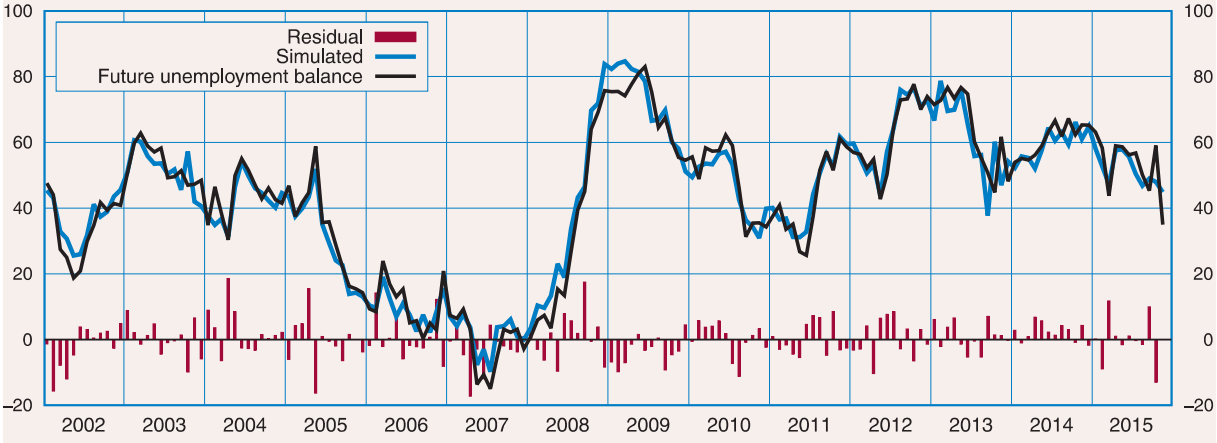
Table 2 - Results of the equation on the balance of opinion on future unemployment

	Coefficient	Student
Constant	7.34	5.21
Balance of opinion time lag	0.79	22.14
Diff DEFM	0.09	2.20
Diff DEFM (t–1)	0.02	0.66
Diff DEFM (t–2)	0.26	8.81
Diff DEFM (t–3)	–0.09	–2.62

R^2 : 0.93 - RMSE : 6.03 - Estimation period: January 2002 to September 2016

Over the period 2002-2016, a variance breakdown shows that 60% of the variations in the balance of opinion are explained by the already known publications of DEFM figures (2-month time lag and more), and only 3% come from the contemporary and one month-lagged variations which are not known. To a large extent, the balance of opinion is therefore largely predictable from the figures published by the DARES and Pôle Emploi (*Graph 2*). On the other hand, the balance of opinion in the survey has a very modest informative content on as yet unpublished changes in the job market.

2 - Balance of opinion on "future course of unemployment" differences between the simulated and the actual balance



Source: INSEE

2. Several models were tested with a certain number of lags on the balance of opinion and the DEFM figures: the one presented is the best one.

Households' opinions concerning "past prices" do not seem to be influenced by the monthly publication of inflation figures.

The "Camme" survey also questions French households on their opinion on past price changes: "Have you found, over the last twelve months, that prices have… increased considerably (–) / increased moderately / increased a little (+) / stagnated (+) / fallen (+)?". The balance of opinion derived from their responses on past price changes (referred to as «pp») can be compared to the annual increase in the consumer price index (CPI), i.e. inflation. The balance of opinion is calculated as the difference between the proportions of responses considering inflation high ("prices have increased considerably») and those considering inflation moderate ("prices have increased little/stagnated/fallen"). As with the publication of jobseeker figures, the CPI for a given month "m" is published at the earliest a few days before the end of the survey for month "m+1". If the publication of this index has an impact on households' opinions, it can only have an effect in the survey conducted in month "m+2"[3].
The different analyses comparing inflation and perceived inflation (Accardo *et al.* 2007, Accardo *et al.* 2012) have shown that there was a distinct unhitching between the two at the time of the changeover to the Euro, and that the gap then persisted. To avoid having to take account of this split, the analysis is restricted to a period beginning in 2002, the date when the link between the two values began to stabilise.
A first graphical analysis illustrates the strong link between actual inflation and perceived inflation, but does not allow the contemporary CPI (measured year-on-year) to be separated from the two month-lagged CPI in their resemblance with the change in the balance of opinion on «past prices» (*Graph 3*).

3 - Comparison of changes in the balance of opinion on past prices and contemporary and two month-lagged inflation

Source: INSEE

First of all, a Granger causality test was conducted to see whether the information on inflation known at the time of the survey (year-on-year price increases with two-month time lags and earlier) had an impact on the balance of opinion on past prices.

What is being tested is the hypothesis H0: b0=b1=b2=b3=b4=b5=b6=0 in the following equation:

$$pp_t = \alpha + a_0 pp_{t-1} + a_1 pp_{t-2} + a_2 pp_{t-3} + a_3 pp_{t-4} + a_4 pp_{t-5} + a_5 pp_{t-6} + b_0 GAipc_{t-2} + b_1 GAipc_{t-3} + b_2 GAipc_{t-4} + b_3 GAipc_{t-5} + b_4 GAipc_{t-6} + b_5 GAipc_{t-7} + b_6 GAipc_{t-8} + \upsilon_t$$

where:
- pp is the balance of opinion on past prices;
- $GAipc_t$ (respectively $GAipc_{t-1}$, $GAipc_{t-2}$…) is contemporary inflation (respectively lagged by one month, two months, etc.);
- and where $\upsilon_t = \rho\upsilon_{t-1} + \varepsilon_t$ and ε_t are white noise.

The results (*Table 3*) show the absence of causality in the Granger sense between the publications of inflation figures and the balance of opinion on past prices: the latter is simply influenced by its own time lags. Conversely, the test shows that inflation appears to be influenced by the balance on opinion on past prices (and its time lags), which suggests that the balance of opinion in the survey has an informative content on the prices that households face in the month of the survey, but does not depend on the latest publication of the CPI.

In a second phase, to measure this relationship between actual inflation and perceived inflation, the following equation was estimated[4]:

$$pp_t = \alpha + \delta_0 pp_{t-1} + \beta_0 GAipc_t + \beta_1 GAipc_{t-1} + \beta_2 GAipc_{t-2} + \beta_3 GAipc_{t-3} + \upsilon_t$$

3. Since January 2016, INSEE has been publishing a provisional CPI for month «m» at the end of month «m». For this reason, the calculations will stop in December 2015.
4. Several models were tested with a certain number of lags on the balance of opinion and on inflation: the one presented is the best one.

Table 3 - Results of the Granger causality test for the balance of opinion on past prices

	Degree of freedom of model under H1	Difference in the degree of freedom with the model under H0	Fisher's statistic	Pr(>F)
pp model	164	6	0.283	0.9443
Inflation model	164	6	2.869	0.0111

The analysis of the coefficients (*Table 4*) shows that the contemporary variable of the annual price increase stands out as significant. The two and three month-lagged variables do not stand out as significant. In other words, the publication of inflation figures does not seem to influence the opinions of households, which seem to be basing their responses on their own perceptions. ■

Table 4 - Results of the equation on the balance of opinion on past prices

	Coefficient	Student
Constant	2.72	2.00
Balance of opinion time lag	0.94	31.16
Inflation (t)	6.55	4.09
Inflation (t–1)	0.32	0.13
Inflation (t–2)	–3.56	–1.54
Inflation (t–3)	–1.34	–0.86

R^2 : 0.96 - RMSE : 5.04 - Estimation period : January 2002 to December 2015

Bibliography

Accardo J., **Chevalier P.**, **Forgeot G.**, **Friez A.**, **Guédès D.**, **Lenglart F.** and **Passeron V.** (2007), "La mesure du pouvoir d'achat et sa perception par les ménages", *L'Économie française - Comptes et dossiers* - Edition 2007, *Insee Références* collection.

Accardo J., **Célérier C.**, **Herpin N.** and **Irac D.** (2012), "L'inflation telle qu'elle est perçue par les ménages", *Insee Analyses*, n° 5, July.

Enterprises' earnings

At the end of 2016, the margin rate of non-financial corporations (NFCs) would appear to have returned to its level of end 2015: 31.6%. Its sub-annual profile appeared uneven at the start of the year, primarily due to fluctuations in oil prices. As a result, the margin rate increased by 0.4 points in Q1 2016 (to 32.0%), mainly due to the drop in oil prices. After this it fell by 0.4 points (to 31.7%) as a result of the rebound in oil prices and a downturn in productivity. In H2 2016 then in H1 2017, the margin rate should remain virtually unchanged (31.6% mid-2017).

At the end of 2016 the margin rate should return to its late 2015 level

After a strong increase throughout the year in 2015 (+1.0 point as an annual average), the margin rate again increased significantly in Q1 2016: 32.0% after 31.6% in Q4 2015 (*Table*). The improvement in "terms of trade", which mainly reflects the drop in oil prices, was the main contributory factor in this rise (contributing +0.4 points). However, the increase in the rate of employers' pension contributions on 1st January has slowed it down. The buoyancy of real wages and productivity gains almost completely cancelled each other out in Q1.

In Q2 2016, the margin rate fell by 0.4 points, and so was almost back to its level of the end of 2015 (31.7%). The influence of the rebound in oil prices via the terms of trade was 0.3 points. In addition, apparent labour productivity fell back in Q2 (contributing –0.3 points) in line with the economic slowdown, whereas real wages stabilised. Conversely, the implementation of the second phase of the Responsibility and Solidarity Pact (extending the reduction in contribution rates for families on 1st April 2016) improved the margin rate by +0.1 points.

In H2 2016, the growth in real wages is likely to offset gains productivity (zero contribution overall across the half-year). At the same time, the ramp-up of the hiring premium for SMEs should bolster the margin rate slightly (contributing +0.2 points). Conversely, the slight increase in the price of oil products is likely to weigh a little on

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

in % and in points

	2015				2016				2017		2015	2016	2017 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Margin rate (in level)	**31.7**	**31.2**	**31.3**	**31.6**	**32.0**	**31.7**	**31.7**	**31.6**	**31.6**	**31.6**	**31.4**	**31.8**	**31.6**
Variation in margin rate	**1.1**	**–0.5**	**0.1**	**0.3**	**0.4**	**–0.4**	**0.1**	**–0.1**	**–0.1**	**0.0**	**1.0**	**0.3**	**–0.2**
Contributions to the variation margin rate													
Productivity gains	0.4	–0.1	0.1	0.1	0.4	–0.3	0.1	0.1	0.1	0.1	0.8	0.3	0.2
Real wage per capita	–0.5	–0.1	–0.3	–0.3	–0.4	0.0	–0.1	–0.1	0.0	–0.2	–1.2	–0.9	–0.2
Employer contribution ratio	0.3	0.0	–0.1	–0.1	–0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Ratio of the value-added price to the consumer price	0.3	–0.3	0.4	0.4	0.4	–0.3	0.0	–0.1	–0.2	0.0	0.8	0.7	–0.3
Other factors	0.6	–0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.5	0.3	0.2

Forecast

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

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

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

Source: INSEE

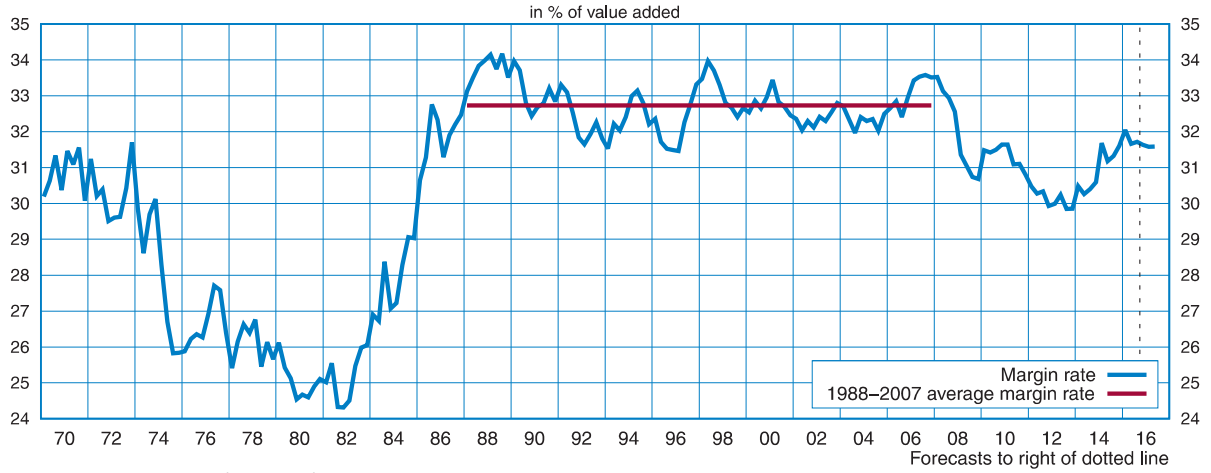
the margin rate (contributing –0.1 points). All in all, the margin rate is set to remain virtually unchanged in the course of H2, and should reach 31.6% at the end of 2016, the same level as one year earlier, although this is still lower than its average between 1988 and 2007 (*Graph 1*).

On average, after a strong upturn, especially in industry (*Graph 2*) in 2014 (+0.4 points) and 2015 (+1.0 point), the margin rate of NFCs should increase slightly in 2016 (+0.3 points).

The margin rate is set to be virtually stable in H1 2017

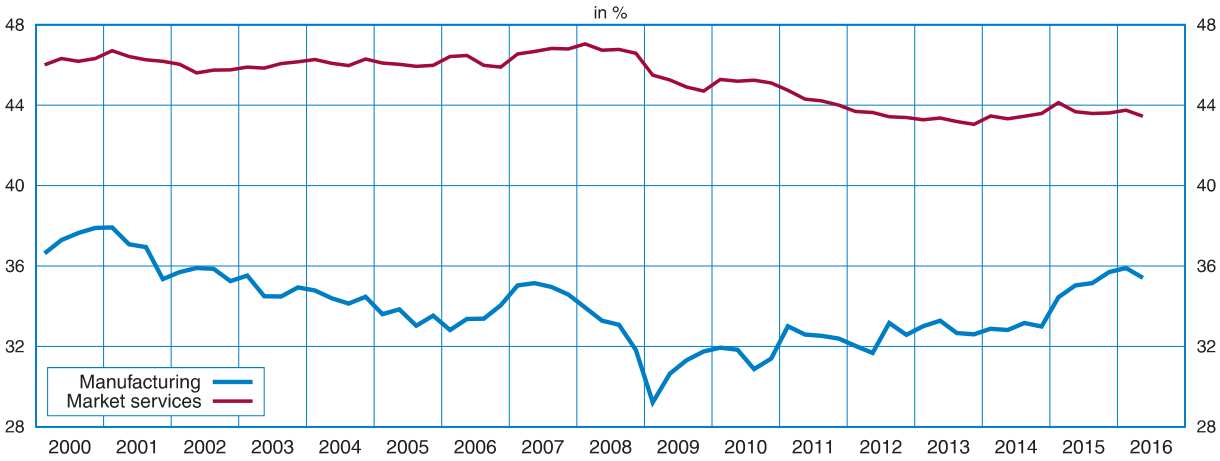
Real wages and productivity gains should grow at practically the same pace in H1 2017. The terms of trade are likely to deteriorate slightly, as consumer prices are scheduled to rise due to the increase in taxes on fuel on 1st January (contributing –0.2 points). The increase in employers' pension contribution rates in January is also expected to have a limited effect on margin rate. Lastly, enterprises should continue to benefit from the ramp-up of the hiring premium. All in all the margin rate is set to stabilise during the coming half-year, remaining at 31.6% in mid-2017. ■

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



Source: INSEE, quarterly national accounts

2 - Margin rate in industry and in services



Source: INSEE, quarterly national accounts

Corporate investment and inventory

Corporate investment fell once again in Q3 2016 (–0.4% after –0.2%), as a result of a sharp decline in expenditure on manufactured products (–3.2% after –0.3%), especially on transport equipment. However, investment in services recovered (+1.3% after 0.0%) and investment in construction bounced back (+0.8% after –0.4%).

In Q4 corporate investment should return to growth (+0.5%) and then remain dynamic throughout H1 2017 (+0.8% in Q1 and +0.5% in Q2), sustained once again by demand prospects and favourable financing conditions, as well as the additional depreciation allowance. As an annual average, investment looks set to increase by 3.4% in 2016, which is more than in 2015 (+2.7%). For 2017, the growth overhang mid-year is likely to be +1.4%.

In Q3 2016 changes in inventories made a positive contribution to growth (+0.7 points of gross domestic product), in contrast with Q2 (–0.7 points). Changes in inventories of manufactured products (+0.4 points after –0.7 points) and energy, water and waste (+0.2 points after –0.1 points) contributed most to this turnaround. Over the next two quarters, it is likely that the contribution of changes in inventories to growth will return to negative (–0.1 points each quarter) after which it should be neutral in Q2 2017. Over 2016 as a whole, changes in inventories should contribute +0.1 points to GDP growth, as in 2015.

In Q3 2016, corporate investment declined once again

In Q3 2016, investment by non-financial enterprises (NFE) fell by 0.4% (*Table 1*). Enterprises substantially reduced their expenditure on manufactured products (–3.2% after –0.3%), especially transport equipment (–7.3% after four highly vigorous consecutive quarters). However, investment expenditure on services recovered (+1.3% after 0.0%). Similarly, investment in construction bounced back (+0.8% after –0.4%), mainly in civil engineering. The investment rate of NFEs therefore seems likely to have decreased slightly in Q3, to 21.6%, while nevertheless remaining high (*Graph 1*).

Investment should bounce back in Q4 2016 and remain vigorous in H1 2017

According to the business tendency survey in industry, production capacity tensions eased slightly in October, although the share of industrialists reporting production bottlenecks increased slightly (*Graph 2*). The investment revision indicator remained positive and more industrialists reported an increase rather than a decline in their investment in the course of H2 2016. In services, while the balance of opinion on past investment had increased since July, the balance on investment planned for the future decreased; however, both balances remained higher than their long-term average.

Financing conditions continued to be favourable to investment. On the one hand, real interest rates were still very low in autumn 2016 and credit terms remained highly advantageous. On the other hand, the 2016 self-financing ratio looks set to achieve its highest level since 2004, with companies able to rebuild their margins as a result of the earlier drop in oil prices and measures to reduce labour costs. Thus investment expenditure by NFEs should bounce back in Q4 2016 (+0.5%) and should remain buoyant in H1 2017. It is expected to accelerate in Q1 (+0.8%) before the announced end of the additional depreciation allowance, then recover a similar growth trend to that of Q2 (+0.5%). On average over the year,

Table 1

Investment by non-financial enterprises (NFE)

at chain-link previous year prices, SA-WDA

	Quarterly changes										Annual changes		
	2015				2016				2017				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	2015	2016	2017 ovhg
Manufactured products (34%)	0.9	0.5	1.7	3.1	3.8	–0.3	–3.2	0.4	1.3	0.5	3.0	5.3	0.2
Construction (24%)	0.1	0.4	–0.3	0.8	0.4	–0.4	0.8	0.3	0.2	0.2	–0.3	1.2	0.9
Other (42%)	1.9	0.9	0.6	0.6	1.2	0.0	1.3	0.8	0.8	0.7	4.2	3.1	2.6
All non-financial enterprises (100%)	**1.1**	**0.7**	**0.7**	**1.5**	**1.9**	**–0.2**	**–0.4**	**0.5**	**0.8**	**0.5**	**2.7**	**3.4**	**1.4**

Forecast

Source: INSEE

investment by NFEs appears to have picked up in 2016: +3.4% after +2.7% in 2015. For 2017, the growth overhang is likely to be +1.4% mid-year. In 2016, the NFE investment rate should return to its 2008 level then remain high (21.7% mid-2017).

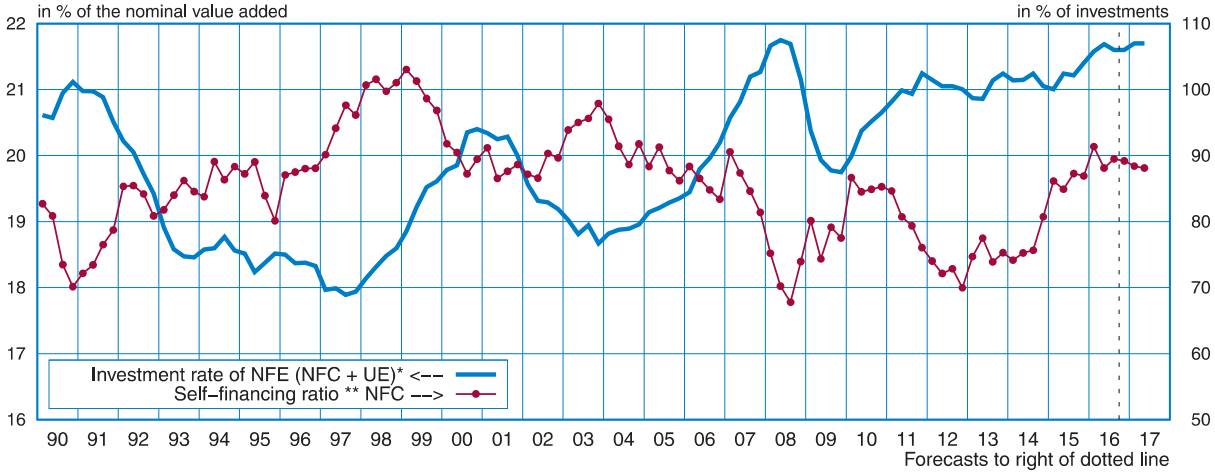
Investment in manufactured products is likely to see modest growth at the end of 2016 then accelerate in H1 2017

NFE investment in manufactured products should pick up moderately in Q4 2016 (+0.4% after –3.2%). On the one hand, car registrations through to November suggest a slight rebound in automobile investment over the quarter. On the other hand, some of NFEs' spending on capital goods will be able to take advantage of the additional depreciation allowance, extended until mid-April 2017: in Q1 2017 this should stimulate investment in manufactured goods, which should accelerate (+1.3%) albeit considerably less than a year previously (+3.8%), before slowing in Q2 (+0.5%). As an annual average, investment in manufactured products is expected to be vigorous in 2016 (+5.3% after +3.0%) before slowing down in 2017.

Investment in construction is expected to slow at the end of 2016

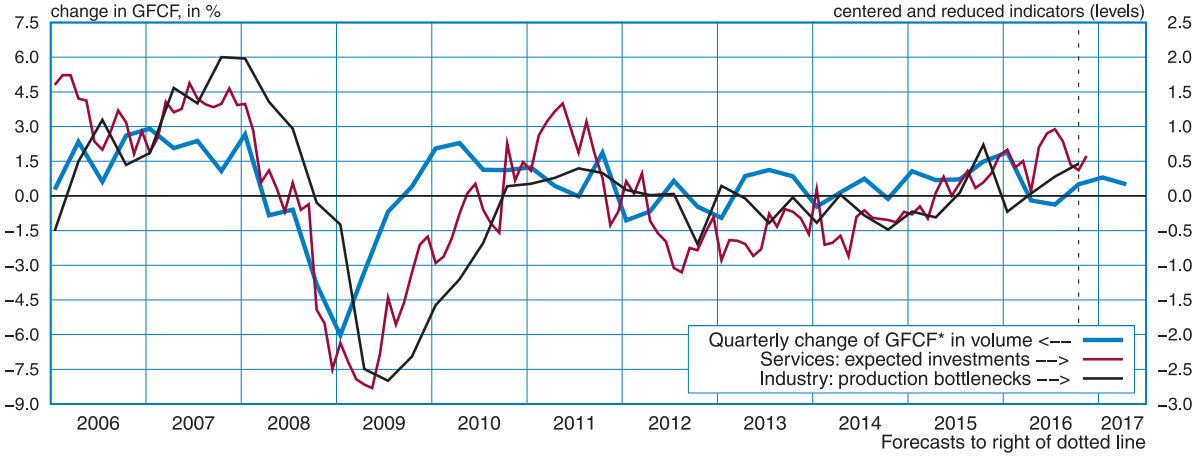
Corporate investment in construction is expected to slow in Q4 2016 (+0.3% after +0.8%) then maintain virtually the same pace in H1 2017 (+0.2% per quarter). Given the past history of housing starts, spending on buildings should accelerate slightly in Q4 then continue to grow at the same pace in the next two quarters. However, investment in civil engineering is likely to slow in Q4 after a very buoyant Q3, and is likely to slow further at the start of 2017 before returning to growth close to its Q2 trend. All in all, investment in construction should pick up in 2016 (+1.2% after –0.3% in 2015) and the growth overhang for 2017 is set to be +0.9% at mid-year.

1 - NFE investment rate and self-financing rate



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

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



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

Investment in services should continue to increase at a sustained pace

After bouncing back in Q3, corporate investment in services is expected to increase at a similar pace to its trend in recent years: +0.8% in Q4 2016 and Q1 2017, then +0.7% in Q2 2017. For 2017, the growth overhang is expected to be +2.6% mid-year, after +3.1% for 2016 as a whole.

On average over the year, the contribution of changes in inventories to growth should once again be slightly positive in 2016

In Q3 2016, changes in inventories made a positive contribution to GDP growth (+0.7 points), after a negative contribution in Q2 (–0.7 points; *Table 2*). This trend was particularly strong in transport equipment (+0.3 points after –0.4 points), as some important shipbuilding contracts were delivered in Q2. The positive trend was also strong for energy, water and waste, as enterprises had rebuilt their inventories after running them down in H1 (+0.2 points after –0.1 points in the first two quarters).

In the monthly business tendency survey in industry in November 2016, the balance of opinion among industrialists on the level of inventory is virtually unchanged and slightly lower than normal. The contribution of changes in inventories of manufactured goods to growth is likely to return to negative (–0.1 points), reflecting the divergence between resources (production, imports) which are likely to narrow while domestic demand is set to bounce back. For 2016 as a whole, changes in inventories should contribute +0.1 points to GDP growth, as in 2015.

The contribution is expected to remain slightly negative in Q1 2017 (–0.1 points), mainly due to deliveries of military equipment; it is likely to be zero in Q2. ■

Table 2

Contribution of inventory changes to growth

in GDP points

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

Forecast

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

Source: INSEE