Gross domestic product and main aggregates of Eurozone economies

levels ; percentage changes from previous period

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

Forecast

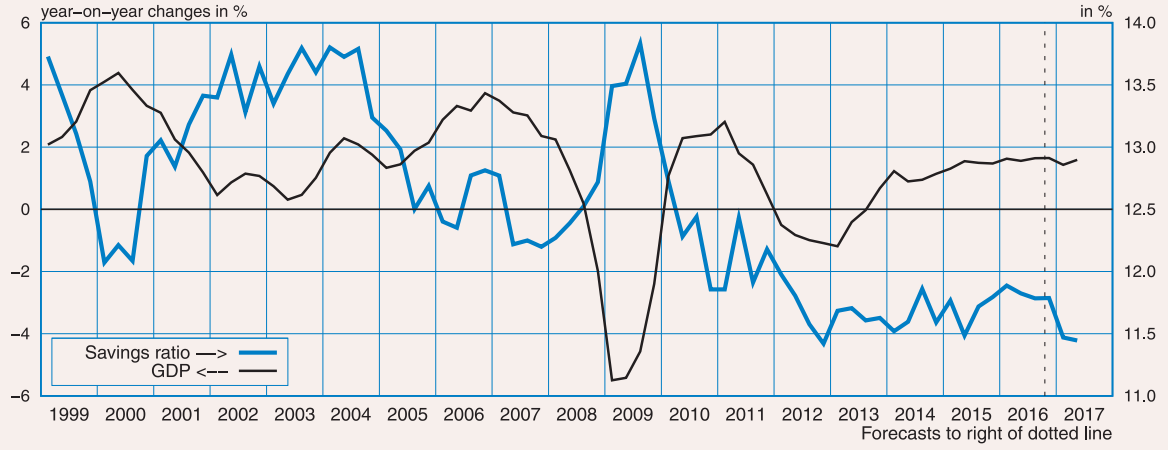
* Eurozone excluding Ireland, as this country's accounts present a break in series in Q1 2015
Source: Eurostat, national statistical institutes, INSEE forecast

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

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

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

1 - Savings ratio and activity in the Eurozone



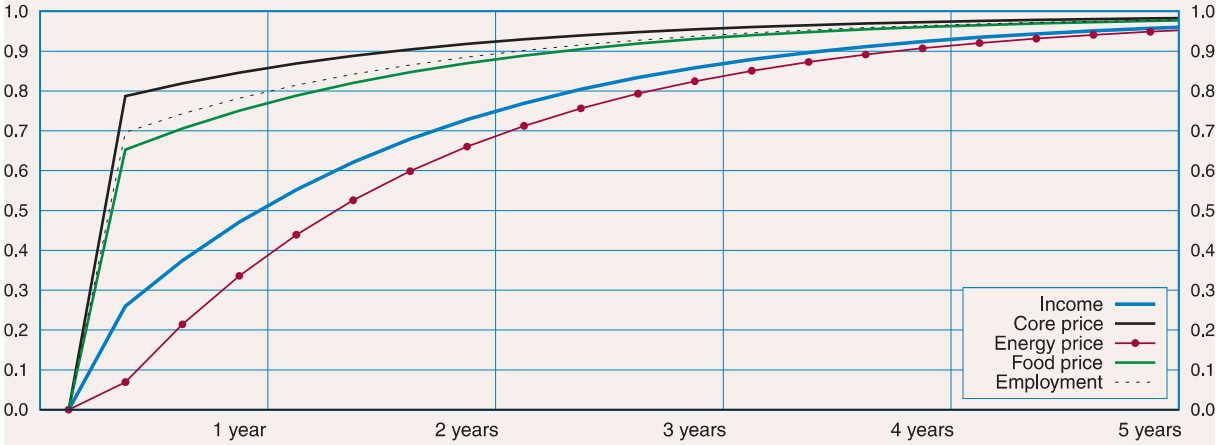
Sources: Eurostat, INSEE forecast

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

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

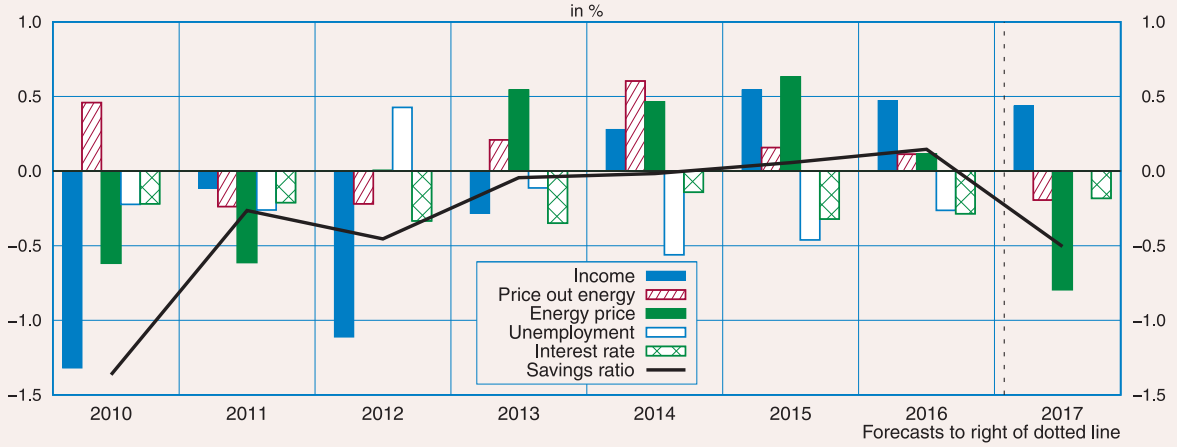
Through to mid-2017, the slowdown in purchasing power via the current upturn in energy prices should work its way slowly through into consumption, driving a fall in the savings ratio (*Graph 3*). ■

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



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

3 - Annual variation in the savings ratio and its contributions



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

The method

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

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

Equation :

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

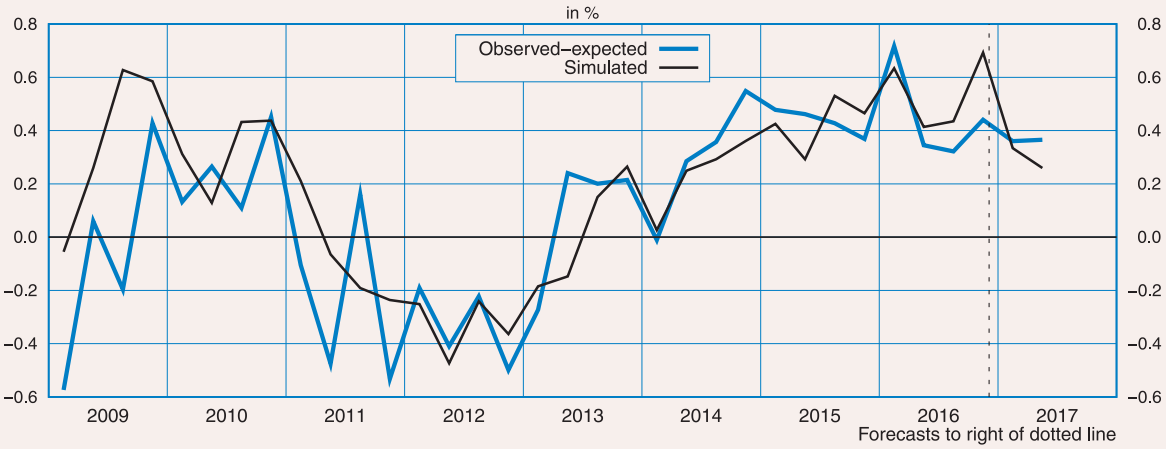
Data : Eurostat, INSEE calculations

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

Where:

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

Observed and simulated changes in consumption



Sources: Eurostat, INSEE calculations and forecast