

The rise in the Yen and past fall in commodity prices no longer holding back inflation which should rise to +1.5% in mid-2017

In Japan, after a peak at +3.4% (year on year) in spring 2014 resulting from the 2% VAT hike, consumer prices have been close to stable since mid-2015, with inflation oscillating between -0.5% and +0.7% year on year (*Graph 1*).

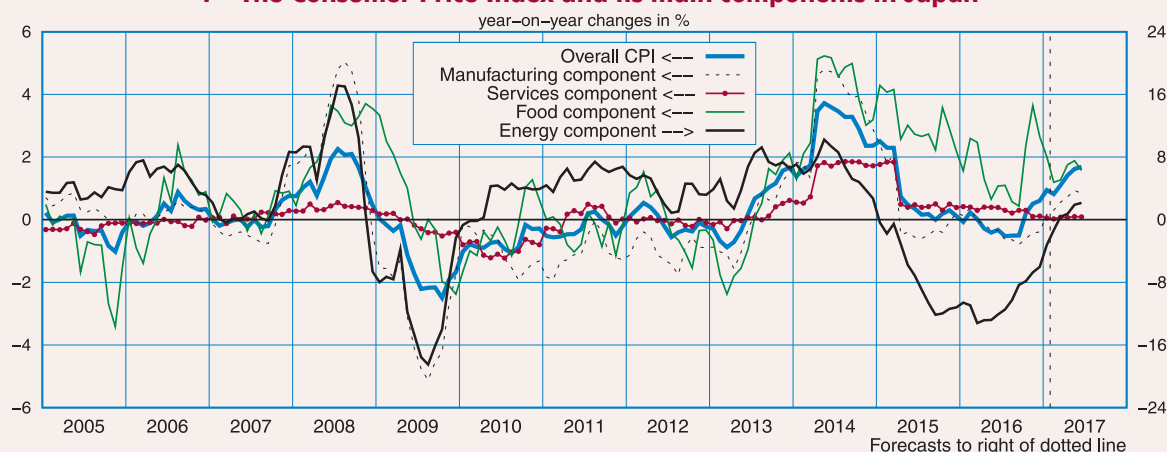
Why is Japanese inflation not picking up when the central bank has been implementing an expansionist monetary policy since 2012? Several factors have contributed to this weak inflation since mid-2015. The econometric model used to forecast inflation (*Method*) suggests that it has been held down in particular by commodity prices, mainly oil, which knocked an average of 0.5 points off year-on-year inflation in 2015 and 0.4 points over the first six months of 2016 (*Graph 2*). The rise in the Yen against the Dollar in particular has worked through more slowly than the fall in commodity prices, via the prices of manufactured goods; in H1 2016, it contributed to reducing inflation by about 0.3 points. All in all, from the beginning of 2015 through to mid-2016, the cumulative effects of these factors would seem to have taken as much as 0.8 points off headline inflation year on year. Prices in

services, meanwhile, have been increasing by about 0.5% year on year since early 2015, after falling by an average of 0.5% between 2009 and 2013: this turnaround reflects the fact that wages have started rising again.

Since summer 2016, Japanese inflation has been rising again. After weighing down considerably on inflation, the contribution of commodity prices has become neutral once again. In addition to this, the Yen has again slipped against the currencies of Japan's main trading partners, after rising continuously since the beginning of 2015. As a result, the negative contribution of exchange rates faded out in H2 2016. Japanese inflation therefore rose distinctly to almost +1.0% in December, against -0.3% in June: according to the model used here, commodity prices contributed +0.6 points to this acceleration, while exchange rate variations accounted for +0.4 points.

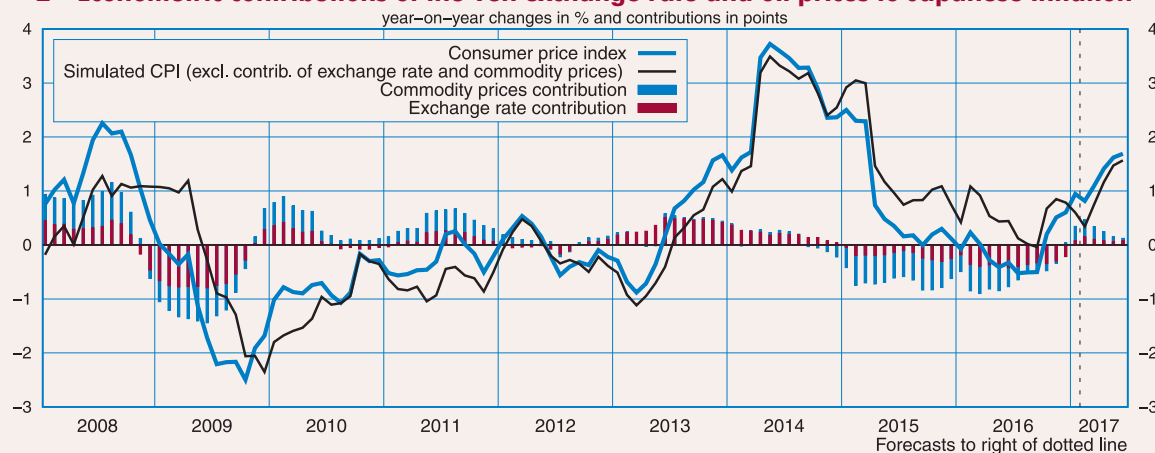
In H1 2017, the recent depreciation of the Yen is likely to continue working through and inflation should reach +1.5% in mid-2017. ■

1 - The Consumer Price Index and its main components in Japan



Source: Japanese Statistical Bureau, INSEE forecast

2 - Econometric contributions of the Yen exchange rate and oil prices to Japanese inflation



Source: Japanese Statistical Bureau, INSEE forecast

The method

To identify the contributions of the oil price and real effective exchange rate of the Yen to inflation in Japan, error-correction models were estimated making a distinction between the manufacturing, energy and food components of the Japanese consumer price index (CPI). The contributions obtained for each component were then multiplied by the weight of that component in the total CPI (about 8% for energy prices, 23% for manufacturing prices and 12% for food prices).

The equations obtained were as follows:

$$\begin{aligned} \Delta ipc_énergie_t = & 0,076 - [0,024 ipc_énergie_{t-1} + 0,002 brent_{t-1} + 0,003 yen / dollar_{t-1}] \\ & (0,22) \quad (-2,2) \quad (20,2) \quad (6,9) \\ & + 0,048 \Delta brent_{t-11} + 0,094 \Delta yen / dollar_{t-1} + 0,286 \Delta ipc_énergie_{t-11} \\ & (5,8) \quad (3,2) \quad (4,6) \end{aligned}$$

$R^2 = 0,38$; estimation period: February 2000 to January 2017

$$\begin{aligned} \Delta ipc_manuf_t = & 0,19 - [0,038 \times ipc_manuf_{t-1} - 0,004 TCER_{t-1}] + 0,17 \Delta ipc_manuf_{t-1} \\ & (1,7) \quad (-1,8) \quad (-8,6) \quad (2,7) \\ & + 0,001 TUC_{t-1} - 0,05 \Delta TCER_{t-1} \\ & (2,3) \quad (-4,8) \end{aligned}$$

$R^2 = 0,46$; estimation period: January 2005 to January 2017

$$\begin{aligned} \Delta ipc_alim_t = & 0,2 - [0,087 \times ipc_alim_{t-1} - 0,005 TCER_{t-1} + 0,02 prix_riz_{t-1}] - 0,336 \Delta ipc_alim_{t-2} \\ & (3,6) \quad (-3,6) \quad (-3,7) \quad (3,2) \quad (-5,0) \\ & - 0,17 \Delta ipc_alim_{t-3} \\ & (-1,9) \end{aligned}$$

$R^2 = 0,23$; estimation period: January 2000 to January 2017

where:

- $ipc_énergie$, ipc_manuf and ipc_alim are the energy, manufacturing and food components of the Japanese CPI;
- $TCER$ is the real effective exchange rate of Japan in relation to its main trading partners;
- $brent$ is the (Brent) oil price per barrel in Dollars;
- $yen/dollar$ is the exchange rate of the Yen against the Dollar (number of Yen per Dollar);
- TUC is the production capacity utilisation rate;
- $prix_riz$ is the price of rice in Yen.

Except for the capacity utilisation rate, the variables are expressed as logarithms and the coefficients can be interpreted approximately as elasticities. ■