

ECOWEEK

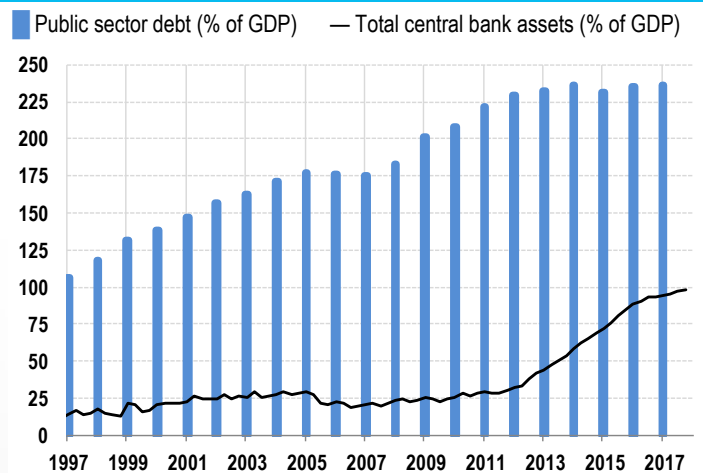
No. 18-42, 16 November 2018

Central banks: An effective upper bound to QE?

■ The balance sheet of the Bank of Japan is now equivalent to the country's GDP, yet inflation remains stubbornly low compared to the official target ■ Years of quantitative easing have caused distortions in equity markets and weighed on liquidity in the market for JGBs ■ There is concern that the marginal effect of BoJ purchases will wane, leading to an effective upper bound to QE. If this were to be the case, the relevance would go well beyond Japan and cause doubts about the effectiveness of more QE in case of a new downturn

Policy leeway is like an airbag in your car: the knowledge that it will be used in case of a shock provides comfort even when everything is still looking fine. In many if not most advanced economies, high public sector debt levels have reduced fiscal policy leeway very significantly. In the years after the 2008 recession, the zero lower bound of official interest rates has been reached. Moreover, the combination of a drop in the neutral rate of interest, a slow recovery and ongoing subdued inflation despite a big decline in the unemployment rate means that monetary policy normalisation has been slow (US, UK) or hasn't even started (eurozone, Japan). As a consequence, the cyclical peak in official rates should be well below previous peaks implying more limited leeway in terms of conventional monetary policy. Clearly, forward guidance and QE will be called upon when the next recession hits. With respect to QE, the size of the central bank balance sheet at the cyclical peak will determine the leeway for unconventional monetary policy during the downturn: one can suppose that eventually there would be an effective upper bound to QE. 'Effective' in the sense that beyond this point the effects of additional purchases become negligible and/or because of increasingly larger unintended consequences. These issues have received some attention in Japan, where the central bank balance sheet is now as big as the country's GDP. Concerning the unintended side-effects, research shows that bond market liquidity has declined whereas the BoJ's purchases of equity ETFs invested in the Nikkei index (where companies have weights corresponding to their individual share price) has caused valuation distortions compared to the Topix index, which is market capitalisation weighted. To the extent that portfolio rebalancing is an important transmission channel of QE, the bigger the balance sheet, the more downside pressure on risk premia, the higher the valuation of asset prices and the bigger the concern about a possible hit to asset prices when the central bank decides to shrink the balance sheet. These factors may end up weighing on the macroeconomic effectiveness of ongoing asset purchases. If this were to be the case the importance of this outcome would go well beyond Japan and cause doubts about the effectiveness of more QE in case of a new downturn.

JAPAN: PUBLIC SECTOR DEBT AND CENTRAL BANK BALANCE SHEET



Source: Thomson Reuters, BoJ, BNP Paribas.

William De Vijlder

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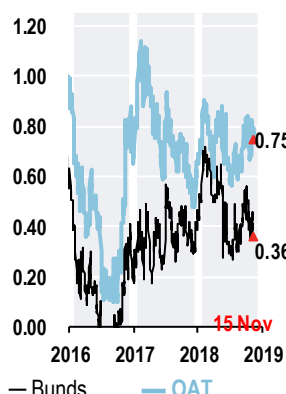
Markets overview

The essentials

Week 9-11 18 > 15-11-18

| | | | |
|--------------------|-------|---------|---------|
| ➤ CAC 40 | 5 107 | ➤ 5 034 | -1.4 % |
| ➤ S&P 500 | 2 781 | ➤ 2 730 | -1.8 % |
| ➤ Volatility (VIX) | 17.4 | ➤ 20.0 | +2.6 pb |
| ➤ Euribor 3M (%) | -0.32 | ➤ -0.32 | +0.0 bp |
| ➤ Libor \$ 3M (%) | 2.62 | ➤ 2.63 | +1.1 bp |
| ➤ OAT 10y (%) | 0.79 | ➤ 0.75 | -4.2 bp |
| ➤ Bund 10y (%) | 0.41 | ➤ 0.36 | -5.0 bp |
| ➤ US Tr. 10y (%) | 3.19 | ➤ 3.12 | -7.8 bp |
| ➤ Euro vs dollar | 1.14 | ➤ 1.13 | -0.3 % |
| ➤ Gold (ounce, \$) | 1 211 | ➤ 1 213 | +0.2 % |
| ➤ Oil (Brent, \$) | 70.1 | ➤ 67.2 | -4.1 % |

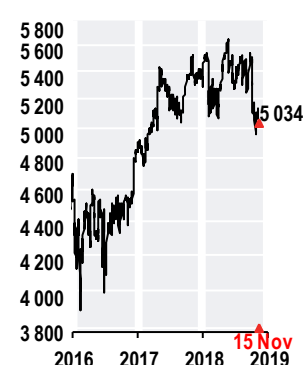
10 y bond yield, OAT vs Bund



Euro-dollar



CAC 40



Money & Bond Markets

| Interest Rates | highest' 18 | lowest' 18 |
|----------------|----------------|----------------|
| € ECB | 0.00 at 01/01 | 0.00 at 01/01 |
| Eonia | -0.37 at 31/10 | -0.37 at 18/05 |
| Euribor 3M | -0.32 at 08/11 | -0.33 at 01/01 |
| Euribor 12M | -0.15 at 24/10 | -0.19 at 19/02 |
| \$ FED | 2.25 at 27/09 | 1.50 at 01/01 |
| Libor 3M | 2.63 at 14/11 | 1.69 at 01/01 |
| Libor 12M | 3.13 at 09/11 | 2.11 at 01/01 |
| £ BoE | 0.75 at 02/08 | 0.50 at 01/01 |
| Libor 3M | 0.89 at 14/11 | 0.52 at 04/01 |
| Libor 12M | 1.17 at 14/11 | 0.76 at 03/01 |

At 15-11-18

| Yield (%) | highest' 18 | lowest' 18 |
|--------------|----------------|----------------|
| € AVG 5-7y | 0.86 at 19/10 | 0.41 at 18/04 |
| Bund 2y | -0.63 at 25/09 | -0.79 at 29/05 |
| Bund 10y | 0.36 at 15/02 | 0.27 at 19/07 |
| OAT 10y | 0.75 at 08/02 | 0.57 at 13/07 |
| Corp. BBB | 1.89 at 15/11 | 1.17 at 08/01 |
| \$ Treas. 2y | 2.86 at 08/11 | 1.89 at 01/01 |
| Treas. 10y | 3.12 at 08/11 | 2.41 at 01/01 |
| Corp. BBB | 4.74 at 15/11 | 3.59 at 01/01 |
| £ Treas. 2y | 0.69 at 05/10 | 0.40 at 01/01 |
| Treas. 10y | 1.38 at 10/10 | 1.23 at 01/01 |

At 15-11-18

10y bond yield & spreads

| | | |
|-------|-------------|--------|
| 5.03% | Greece | 466 pb |
| 3.50% | Italy | 313 pb |
| 1.97% | Portugal | 161 pb |
| 1.64% | Spain | 128 pb |
| 0.81% | Belgium | 44 pb |
| 0.75% | France | 38 pb |
| 0.66% | Ireland | 30 pb |
| 0.64% | Finland | 27 pb |
| 0.60% | Austria | 23 pb |
| 0.49% | Netherlands | 13 pb |
| 0.36% | Germany | |

Commodities

| Spot price in dollars | lowest' 18 | 2018(€) |
|-----------------------|----------------|---------|
| Oil, Brent | 62.2 at 13/02 | +7.0% |
| Gold (ounce) | 1 179 at 17/08 | -1.2% |
| Metals, LMEX | 2 820 at 15/08 | -10.7% |
| Copper (ton) | 5 759 at 15/08 | -8.8% |
| CRB Foods | 316 at 30/08 | +4.6% |
| wheat (ton) | 155 at 16/01 | +29.9% |
| Corn (ton) | 115 at 18/09 | +10.7% |

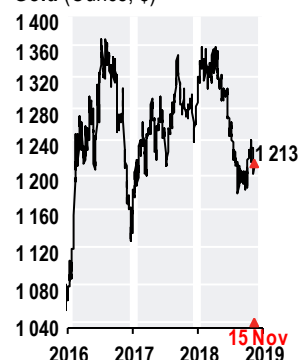
At 15-11-18

Variations

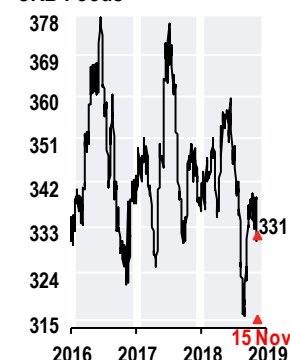
Oil (Brent, \$)



Gold (Ounce, \$)



CRB Foods



Exchange Rates

| 1€ = | highest' 18 | lowest' 18 | 2018 |
|------|-----------------|-----------------|-------|
| USD | 1.25 at 25/01 | 1.13 at 12/11 | -5.7% |
| GBP | 0.91 at 28/08 | 0.86 at 17/04 | -0.3% |
| CHF | 1.20 at 19/04 | 1.12 at 07/09 | -2.7% |
| JPY | 128.18 at 02/02 | 124.96 at 15/08 | -5.2% |
| AUD | 1.56 at 11/09 | 1.53 at 09/01 | +1.6% |
| CNY | 7.85 at 25/09 | 7.42 at 29/05 | +0.4% |
| BRL | 4.28 at 14/09 | 3.87 at 08/01 | +7.5% |
| RUB | 75.09 at 10/09 | 68.06 at 09/01 | +8.6% |
| INR | 81.47 at 11/10 | 75.92 at 08/01 | +6.3% |

At 15-11-18

Variations

Equity indices

| Index | highest' 18 | lowest' 18 | 2018 | 2018(€) |
|---------|-----------------|-----------------|--------|---------|
| CAC 40 | 5 640 at 22/05 | 4 953 at 24/10 | -5.3% | -5.3% |
| S&P500 | 2 931 at 20/09 | 2 581 at 08/02 | +2.1% | +8.3% |
| DAX | 13 560 at 23/01 | 11 192 at 24/10 | -12.1% | -12.1% |
| Nikkei | 24 271 at 02/10 | 20 618 at 23/03 | -4.2% | +1.1% |
| China* | 73 at 26/01 | 68 at 30/10 | -16.7% | -11.9% |
| India* | 531 at 29/01 | 487 at 26/10 | -2.1% | -7.9% |
| Brazil* | 1 967 at 26/01 | 1 561 at 11/09 | +10.9% | +3.1% |
| Russia* | 601 at 26/02 | 551 at 23/08 | +12.6% | +5.6% |

At 15-11-18

Variations

* MSCI index



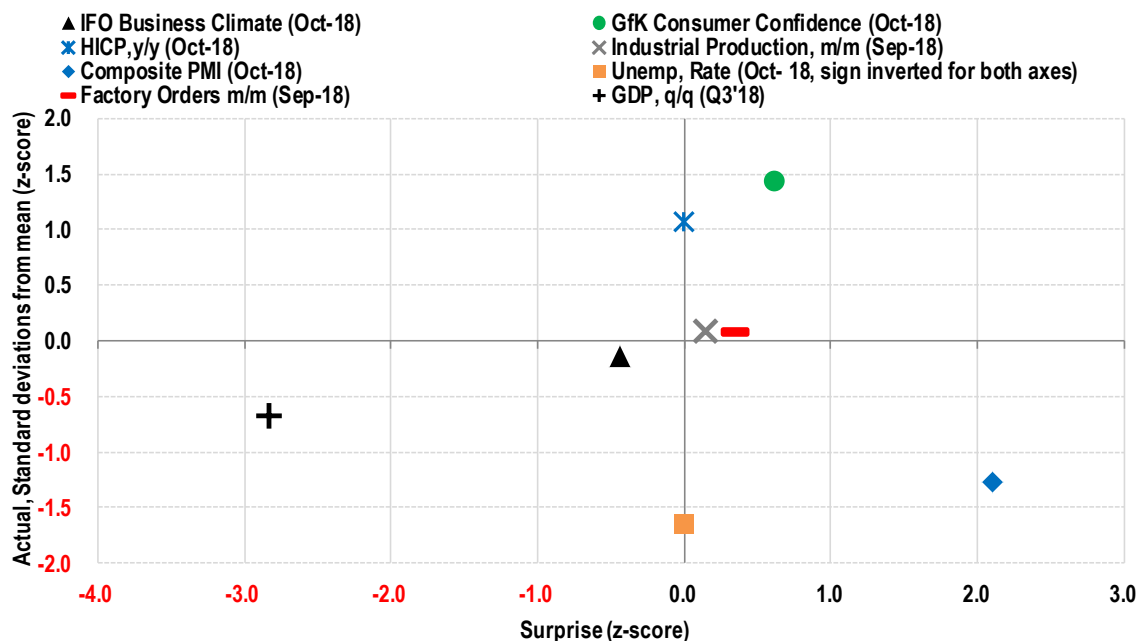
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Pulse

Germany: Activity slowed faster than anticipated

This week's GDP release for Q3 at -0.2% q/q was much weaker than generally predicted. The year-on-year growth rate declined to 1.1%. A specific reason was the temporary problem in the German car industry in adapting to the stricter European rules concerning CO2 emissions. A more structural problem for the manufacturing sector is weakening global demand, particular from China related to domestic problems and to the trade conflict with the US. It is also affecting the IFO business climate index that declined in October more than expected. Nevertheless, it is holding up quite well thanks to the good performance of construction and services. The composite PMI for manufacturing and services actually surprised on the upside in October, as it declined less than expected (to 53.4 against 52.7 expected by the Bloomberg panel). Largely supported by domestic demand, German activity is expected to rebound in Q4, before slowing down to its potential growth rate, estimated at 1.5%.



Source: Bloomberg, Markit, BNP Paribas

Indicators preview

In the US we will see the publication of several data concerning the housing market (housing starts, building permits, new house sales). Also worth noting are University of Michigan sentiment and durable goods orders. In France we will have the unemployment rate and business confidence, in Germany the details for 3rd quarter GDP and for the eurozone the important consumer confidence data for November. Finally we will also have the November PMI data for several countries.

| Date | Country | Event | Period | Survey | Prior |
|----------|----------------|----------------------------------|--------|--------|-------|
| 11/19/18 | United Kingdom | CBI Trends Total Orders | Nov | -- | -6 |
| 11/20/18 | France | ILO Unemployment Rate | 3Q | -- | 9.1% |
| 11/20/18 | United States | Housing Starts MoM | Oct | 1.4% | -5.3% |
| 11/20/18 | United States | Building Permits MoM | Oct | 0.0% | -0.6% |
| 11/21/18 | Eurozone | OECD Economic Forecasts | | | |
| 11/21/18 | United States | Durable Goods Orders | Oct | -- | 0.7% |
| 11/21/18 | United States | Existing Home Sales MoM | Oct | 1.0% | -3.4% |
| 11/21/18 | United States | University of Michigan Sentiment | Nov | -- | -- |
| 11/22/18 | France | Business Confidence | Nov | -- | 104 |
| 11/22/18 | Eurozone | Consumer Confidence | Nov | -- | -2.7 |
| 11/23/18 | Germany | GDP SA QoQ | 3Q | -- | -- |
| 11/23/18 | France | Markit France Composite PMI | Nov | -- | 54.1 |
| 11/23/18 | Germany | Markit/BME Germany Composite PMI | Nov | -- | 53.4 |
| 11/23/18 | Eurozone | Markit Eurozone Composite PMI | Nov | -- | 53.1 |
| 11/23/18 | United States | Markit US Composite PMI | Nov | -- | 54.9 |

Source: Bloomberg, BNP Paribas



Economic scenario

UNITED STATES

- Economy is expected to expand at approximately 2.8% this year on the back of tax cuts, booming profits and credit. However, the slowdown of international trade implies the risk is on the downside.
- Inflation is accelerating in the wake of higher oil prices and a tight labour market.
- The Fed will keep on tightening its policy. We forecast the Fed funds target rate to reach 2.75% in Q1 2019.

CHINA

- Economic growth will decelerate in 2018-2019. The export outlook is significantly darkened by US protectionist measures. Private domestic demand should be affected by the worsening performance of the export manufacturing sector and the continued moderation in the property market.
- In order to contain the slowdown, the central bank has started to ease liquidity and credit conditions. At the same time, the reduction in financial instability risks should remain a top policy priority. Fiscal policy will also be expansionary and infrastructure spending is projected to rise.

EUROZONE

- The recovery is continuing, although it has been weaker than expected at the start of the year. Intra-EU trade grows with domestic demand, especially corporate investment.
- Inflation has rebounded in the wake of higher oil prices, but the core CPI trend remains subdued. This argues for the ECB to maintain the status quo on the refinancing rate for a long period of time.

FRANCE

- Growth slows down but remains above potential. Households' consumption should get a boost from the planned tax cuts and the jobs recovery but inflation reduces purchasing power gains. Business investment dynamics remain favourable. The global backdrop is less supportive. A slight rise in core inflation is appearing but remains to be confirmed.

INTEREST RATES AND FX RATES

- In the US, ongoing strong growth and a very low unemployment rate pave the way for more rate hikes. We expect 1 more this year and 1 in the first half of 2019 after which the Fed will want to see how the economy reacts. As a consequence, US treasury yields should increase, although to a limited degree: the market expects that the tightening cycle is already well advanced. The ECB has announced it intends to stop its net asset purchases at the end of 2018. A first hike of the deposit rate is expected after the summer of 2019. As a consequence, bond yields should increase. No change expected in Japan.
- The narrowing bond yield differential between the US and the eurozone should cause a strengthening of the euro, all the more so considering it is still below its long-term fair value (around 1.34).

SUMMARY

| % | GDP Growth | | | Inflation | | |
|------------------|------------|------------|------------|------------|------------|------------|
| | 2017 | 2018 e | 2019 e | 2017 | 2018 e | 2019 e |
| Advanced | 2.2 | 2.2 | 1.5 | 1.8 | 2.1 | 1.9 |
| United-States | 2.2 | 2.8 | 1.8 | 2.1 | 2.5 | 2.1 |
| Japan | 1.7 | 0.9 | 0.6 | 0.5 | 1.0 | 1.0 |
| United-Kingdom | 1.7 | 1.3 | 1.6 | 2.7 | 2.4 | 2.1 |
| Euro Area | 2.5 | 2.0 | 1.5 | 1.5 | 1.9 | 1.9 |
| Germany | 2.5 | 1.9 | 1.6 | 1.7 | 1.9 | 2.1 |
| France | 2.3 | 1.7 | 1.6 | 1.2 | 2.1 | 1.6 |
| Italy | 1.6 | 1.2 | 1.0 | 1.3 | 1.5 | 1.9 |
| Spain | 3.0 | 2.7 | 2.0 | 2.0 | 1.8 | 1.8 |
| Emerging | 5.9 | 5.8 | 5.8 | 2.4 | 2.9 | 2.9 |
| China | 6.9 | 6.4 | 6.1 | 1.6 | 2.1 | 1.9 |
| India | 6.7 | 7.4 | 7.6 | 3.6 | 4.8 | 4.6 |
| Brazil | 1.0 | 1.5 | 3.0 | 3.4 | 3.7 | 3.7 |
| Russia | 1.5 | 1.7 | 1.7 | 3.7 | 2.7 | 4.1 |

Source : BNP Paribas Group Economic Research (e: Estimates & forecasts)

INTEREST RATES & FX RATES

| Interest rates, % | | 2018 | 2019 | | | | | | | |
|-------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| End of period | | Q4e | Q1e | Q2e | Q3e | Q4e | 2017 | 2018e | 2019e | |
| US | Fed Funds | 2.50 | 2.75 | 2.75 | 2.75 | 2.75 | 1.50 | 2.50 | 2.75 | |
| | Libor 3m \$ | 2.36 | 2.80 | 2.85 | 2.65 | 2.55 | 1.69 | 2.36 | 2.55 | |
| | T-Notes 10y | 3.10 | 3.15 | 3.20 | 3.10 | 3.00 | 2.41 | 3.10 | 3.00 | |
| Ezone | ECB Refi | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | Euribor 3m | -0.30 | -0.30 | -0.25 | -0.20 | -0.15 | -0.33 | -0.30 | -0.15 | |
| | Bund 10y | 0.75 | 0.85 | 1.00 | 1.10 | 1.20 | 0.42 | 0.75 | 1.20 | |
| | OAT 10y | 1.00 | 1.10 | 1.25 | 1.35 | 1.45 | 0.66 | 1.00 | 1.45 | |
| UK | Base rate | 0.75 | 0.75 | 1.00 | 1.00 | 1.25 | 0.50 | 0.75 | 1.25 | |
| | Gilt 10y | 1.55 | 1.70 | 1.80 | 1.90 | 2.00 | 1.23 | 1.55 | 2.00 | |
| Japan | BoJ Rate | -0.10 | -0.10 | -0.10 | -0.10 | -0.10 | -0.04 | -0.10 | -0.10 | |
| | JGB 10y | 0.14 | 0.12 | 0.10 | 0.04 | 0.02 | 0.05 | 0.14 | 0.02 | |

| Exchange Rates | | 2019 | | | | | | | |
|----------------|-----------|------|------|------|------|------|------|-------|-------|
| End of period | | Q4e | Q1e | Q2e | Q3e | Q4e | 2017 | 2018e | 2019e |
| USD | EUR / USD | 1.20 | 1.22 | 1.25 | 1.28 | 1.30 | 1.20 | 1.20 | 1.30 |
| | USD / JPY | 106 | 102 | 100 | 99 | 98 | 113 | 106 | 98 |
| | GBP / USD | 1.30 | 1.34 | 1.40 | 1.45 | 1.49 | 1.35 | 1.30 | 1.49 |
| | USD / CHF | 0.97 | 0.97 | 0.96 | 0.95 | 0.94 | 0.97 | 0.97 | 0.94 |
| EUR | EUR / GBP | 0.92 | 0.91 | 0.89 | 0.88 | 0.87 | 0.89 | 0.92 | 0.87 |
| | EUR / CHF | 1.16 | 1.18 | 1.20 | 1.22 | 1.22 | 1.17 | 1.16 | 1.22 |
| | EUR / JPY | 127 | 124 | 125 | 127 | 127 | 135 | 127 | 127 |

Source : GlobalMarkets (e: Estimates & forecasts)



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