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ECONOMIC RESEARCH DEPARTMENT

Eco WEEK

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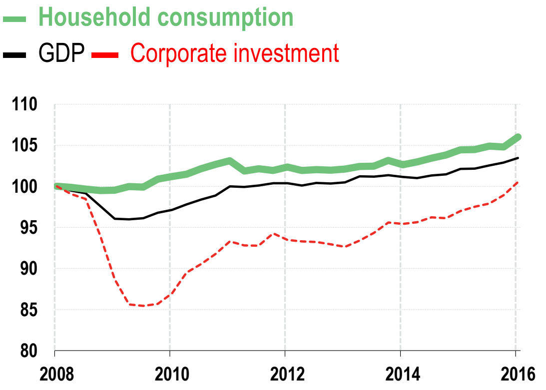
French growth beats expectations

■ French GDP rose 0.5% in Q1 2016 ■ Household consumption and corporate investment were the main drivers

French GDP growth was 0.5% q/q in Q1 2016, according to preliminary INSEE estimates published this morning. Economic growth beats expectations of 0.4% and marks an acceleration with the confirmed 0.3% growth reported in Q4 2015. The good news concerns household consumption, which swung from -0.1% in Q4 2015 to +1.2%. This was probably driven by purchasing power gains generated by the decline in oil prices, and by a catching up effect after November's terrorist attacks, which eroded household spending in the year-end period. The other good news concerns investment, which rose 0.9% after a 0.7% increase in Q4 2015. The improvement can mainly be seen at the corporate level, while investment by public administrations slowed sharply and household investment continued to contract, albeit at a slower pace. All in all, firming domestic demand is fuelling vigorous economic growth despite the negative contribution of foreign trade, which was hit by the decline in exports. Thanks to this Q1 momentum, French growth is already poised to exceed 1% in 2016. It remains to be seen whether growth will be significantly higher. For that to happen, the global economy mustn't slow down any further and the first signs of improvement in the job market must be confirmed.

GDP and components (Q1 2008=100)



Source: Insee

THE WEEK ON THE MARKETS

Week 25-4 16 > 28-4-16

↘	**CAC 40**	4 570	▶ **4 557**	**-0.3**	%
↘	**S&P 500**	2 092	▶ **2 076**	**-0.8**	%
↗	Volatility (VIX)	13.2	▶ 15.2	+2.0	%
↘	**Euribor 3M** (%)	-0.25	▶ **-0.25**	**-0.3**	bp
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Source: Thomson Reuters

Global

Helicopter money

- **"Helicopter money" is a term coined by Milton Friedman in his 1969 book, "The Optimum Quantity of Money". It illustrates the monetary causes of inflation.**
- **The term owes its popularity to Ben Bernanke, who envisioned it as a tool for combating deflation. It consists of an expansionary fiscal policy financed by the central bank.**
- **Unlike the equilibrium situation imagined by Milton Friedman, in which the increase in money supply does not have any effect on real variables, Ben Bernanke envisions a deflationary environment in which the economy is operating below potential. Here, a helicopter money policy could positively affect real growth.**
- **To evaluate its effectiveness, a helicopter money policy must be compared to a debt-financed fiscal stimulus combined with a quantitative easing programme (QE) by the central bank.**
- **For there to be a difference, we must first assume that the behaviour of economic agents is based on rational expectations. Second, we must assume that helicopter money is synonymous with a permanent increase in money supply. This is equivalent to raising the central bank's inflation target, which can also be achieved by promising infinite QE.**

There has been renewed interest in the concept of helicopter money recently, notably in the eurozone. When asked whether there was a possibility the ECB would resort to this kind of policy instrument, Mario Draghi responded that it was a very interesting concept, but that the ECB has not studied it *yet*[1]. Although several Governing Council members were quick to reframe his statement[2], the subject continues to fuel debate about the effective limits of monetary policy. Without addressing the question of its feasibility, notably from a legal perspective, we examine the economic aspects of helicopter money, especially by focusing on what sets it apart from already used macroeconomic policies.

Inflation, a monetary phenomenon

The expression "helicopter money" was first coined by Milton Friedman in 1969 in his book "The Optimum Quantity of Money". To illustrate the relation between the quantity of money and price levels, M. Friedman proposed a thought experiment: A helicopter flies over an economy in state of equilibrium (at full employment) dropping bills so that each citizen finds himself twice the cash he held before. It is also assumed that this is a unique event which will never be repeated. After a transition period, the only change observed would be in terms of prices, which would double, without a permanent change in any of the real variables (output, employment). Keys to this thought experiment are assumptions of the equilibrium state of economy and the uniqueness of the liquidity drop. It explains why economic agents would decide to spend money that falls from the sky (why double their savings rate if it is already at an equilibrium level and nothing else has changed?). It also explains why production remains unchanged (there is no idle production capacity). In this case, only higher prices can absorb the excess liquidity. Nominal revenues increase, but not real income.

M. Friedman used this image of helicopter money to illustrate the monetary nature of price inflation. It justifies the central bank's mandate: as the institution in charge of printing money, it is in the best position to control inflation, which makes it the guarantor of purchasing power, i.e. the value of money expressed as a quantity of goods and services.

Combating deflation

Although the term was first coined by M. Friedman, the concept owes its popularity to Ben Bernanke, who in a speech in 2002[3], insisted on the symmetrical nature of the central bank's mandate of price stability: it must avoid deflation just as much as inflation.

Deflation is not simply a decline in prices, but a general, self-sustaining decline in prices and activity due to insufficient demand. An expansionist monetary policy is thus needed to combat deflation. In an "extreme" case, when monetary policy is no longer able to normalise the situation, it could become more effective through cooperation with the fiscal authorities, via a tax credit financed by printing money. B. Bernanke described this policy as equivalent to the helicopter money imagined by M. Friedman. Indeed, there is no difference between the direct distribution of money to economic agents and its indirect distribution channelled through the Treasury.

From a balance sheet perspective, it consists of an increase in the supply of money (liability side of the central bank's balance sheet) that is not directly linked to an asset purchase. The equilibrium of the balance sheet can be obtained either by recording a perpetual government bond on the asset side or by creating a negative equity as a compensating item on the liability side.

All in all, helicopter money can take two different forms: 1) the direct distribution of money by the central bank, or 2) a fiscal stimulus financed by monetisation. In the first case, Mr. Bernanke recently signalled a problem of political legitimacy[4]: although the central bank is in charge of printing money, it cannot unilaterally decide how to use the funds which is the government's job. This brought him to the idea that helicopter money should be seen in terms of the cooperation between the central bank and the fiscal authorities.

[1] "It's a very interesting concept that is now being discussed by academic economists and in various environments. But we haven't really studied yet the concept" (M. Draghi, ECB press conference, 10 March 2016).

[2] "We are not considering anything of that sort. So it's not on the table in any shape or form" (V. Constancio).

[3] Bernanke B. (2002), *Deflation: Making Sure 'It' Doesn't Happen Here*, Federal Reserve Board November.

[4] See Bernanke B. (2016), *What tools does the Fed have left?*, Brookings, April.

Naturally, the way they go about it can change: the fiscal stimulus can take the form of a tax credit and/or increased public spending. Similarly, monetisation can be direct, if the central bank credits the Treasury's account, or indirect, if it cancels a previously purchased debt instrument.

Permanent QE

Unlike the equilibrium economy in M. Friedman's thought experiment, in which the increase in money supply does not have an impact on real variables; B. Bernanke starts with a deflationary environment in which the economy operates below potential. Within this framework, a money-financed fiscal stimulus will have a positive impact on growth. It would end up increasing the production of goods and services and fuelling job creations, which in turn would generate additional activity etc. This is the idea of the fiscal multiplier. As activity returns to its equilibrium level, it would be accompanied by the return to price stability (i.e. moderate inflation). The effectiveness of a helicopter money policy can be evaluated by comparing it with a fiscal stimulus financed through government bond issues combined with a quantitative easing programme by the central bank.

Let us first look at the effects of fiscal stimulus alone. Its effectiveness can be measured by the increase in activity in response to a 1-point increase in public spending. When it is debt-financed, its effectiveness depends heavily on whether or not there are any Ricardian effects[5]. According to Ricardian equivalence, any debt-financed public spending will be offset by an increase in private sector savings in preparation for the future increase in fiscal pressure. By internalising the government's fiscal constraint, the private sector reduces or cancels out the expansionary effect of public spending.

The presence of Ricardian effects assumes that the behaviour of economic agents is based on rational expectations. Even with this assumption, their intensity is still a subject of fierce debate, notably when the output gap is negative[6]. Let us simply say that a debt-financed fiscal stimulus would have positive effects in a depressed economic environment, but that its effectiveness could be reduced by any potential Ricardian effects, especially when the public debt is already at very high levels.

Let us now introduce the option that the government finances the increase in spending by issuing bonds that are purchased by the central bank under QE. Consolidating the balance sheets of the central bank and public administrations (central bank profits are transferred to the Treasury), it would be the same as cancelling out the interest charge: the government pays interest to the central bank which in turn are passed on to the government in the form of profits. In this case, there is *almost* no difference between a helicopter money policy and a policy combining a fiscal stimulus and QE.

The only difference -- but a fundamental one – lies in the temporary nature of the increase in money supply. A quantitative easing policy is not supposed to last indefinitely. After a certain amount of time, the central bank will begin reducing the size of its balance sheet by selling bonds or by no longer rolling over bonds that reach maturity, which are transformed back into government debt. In a Ricardian world of rational and far-sighted economic agents, this would be the equivalent of a debt-financed fiscal stimulus.

The same problem arises for a helicopter money policy if economic agents anticipate that at some point the government will have to recapitalise the central bank. For there to be a difference between helicopter money and a debt-financed fiscal stimulus, the increase in money supply would have to be irreversible, i.e. the central bank would have to operate permanently with negative equity as mentioned above. De Grauwe and Ji (2013)[7] argue that without a gold standard system or a fixed exchange rate regime, the central bank's only promise is to maintain a currency's purchasing power. Therefore, a credible central bank can operate with permanently negative equity. An equivalent but more satisfying solution from an accounting perspective would be to record a zero coupon perpetual bond on the central bank's balance sheet. In this case, the net public debt would remain unchanged, as would expectations about future tax increases. Ricardian effects would no longer be pertinent[8].

So far, we have considered helicopter money solely from a fiscal angle. Yet the concept clearly corresponds to a fiscal stimulus *and* a monetary support. Once again, the difference with quantitative easing lies in the permanent nature of the increase in money supply.

A quantitative easing policy helps to lower interest rates over the entire yield curve. Once interest rates reach a certain level, however, economic agents become indifferent about holding liquidity or bonds; and the marginal increase in money supply has no effect on interest rates: the economy falls into a liquidity trap. When there is deflation, real interest rates might be too high to strike the balance between savings and investment at full employment.

The only leverage that monetary policy can provide is to raise inflation expectations, an option that is only possible if monetary creation is considered to be permanent. As Mr. Bernanke points out, over the long term (i.e. once the economy has reached a state of equilibrium), price levels are proportional to money supply. In other words, an effective helicopter money policy, i.e. one that is better than a fiscal stimulus associated with QE, is theoretically equivalent to raising the inflation target, which can also be achieved by promising permanent QE.

[5] Theoretically, it can also have a crowding-out effect, if the call on market funds raises interest rates, which would discourage private sector investment. Yet such a reaction is unlikely to happen during a period of deflation.

[6] DeLong and Summers (2012), for example, esteem that in a very depressed economy, the fiscal multiplier is big enough to even lower the public debt ratio, cancelling any Ricardian effects.

[7] De Grauwe, P. and Ji, Y. (2013), *Fiscal Implications of the ECB's Bond-buying Programme*, CEPR, June.

[8] Here the central hypothesis is that monetary financing, unlike debt financing, will not generate interest payments for the government. In practice, however, liquidities deposited by commercial banks with the central bank do generate interest (which is not the case in the eurozone, where the key deposit rate is negative). In this case, for helicopter money policy to be effective, the central bank would not pay interest on the liquidities created to finance the fiscal stimulus.

United States

Déjà vu?

■ GDP growth was disappointing in Q1 2016, but this was no surprise. Unlike previous years, however, this sluggish performance cannot be blamed on exogenous shocks, weather conditions or strikes.

■ Mirroring a dynamic job market, household spending is holding up well, and public spending continues to turn around.

■ In contrast, productive investment contracted. Although this reflects the deterioration in corporate margins, what is alarming is its effect on productivity and potential growth.

Like most years recently, 2016 began with virtually zero growth in the first quarter. The similarities are so striking that it is tempting to reprint word for word our commentary from the previous year or two. Yet there are some key differences. First, weather conditions are not to blame in 2016. Second, growth was not particularly strong in late 2015, at an annualised quarterly rate of only 1.4%. And last but not least, it is the breakdown of growth, or the lack thereof, that differentiates Q1 2016 from previous years.

GDP rose 0.5%, with all main components making smaller contributions to growth: changes in inventory, foreign trade and final domestic demand. The decline in domestic demand was due less to household consumption and public sector spending, than to corporate spending. Government spending increased at roughly the same pace as in previous quarters. Household spending slowed slightly but was still solid, notably residential investment.

Non-residential investment, in contrast, contracted for the second consecutive quarter, and the year-on-year rate of change slipped into negative territory for the first time since the end of the recession in 2009. At first sight, spending on structures would seem to be the main source of weakness. Yet this component of corporate investment integrates spending commodity extraction structures, which pulled down its overall contribution. Without this element, non-residential construction held up almost as well as its residential counterpart.

In the end, productive investment, i.e. spending on equipment and software, was the main source of weakness. Spending declined in late 2015, and this trend accelerated in early 2016. Short-term prospects are not very encouraging either: new orders of durable goods (excluding defence equipment and aircrafts) remained flat in March after a sharp decline in February.

This shortfall of investment is alarming in terms of future labour productivity gains. Since the revival of the job market in 2011, labour productivity has barely increased (up 0.5% a year on average). This sluggish pace has driven up unit labour costs despite wage moderation, which explains part of the slowdown in corporate margins. Higher unit labour costs coupled with the dollar's appreciation eroded America's external competitiveness at a time of sluggish world growth.

Torn between the desire to move away from the zero lower bound as far and as quickly as possible, and the need to counter growing job market tensions and deteriorating medium-term prospects, the Fed faces a big dilemma. It was not surprising that the monetary status quo was maintained at the last FOMC meeting, despite dissent from Esther L. George (President of the Kansas City Federal Reserve Bank). Although many welcomed the decision to no longer mention the risks related to global growth, a more pessimistic interpretation is also possible: this decision could also be explained by the increase in domestic risks more than by the easing of external risks.

Growth and its components

Quarterly growth, annualised rate, %	2016Q1	2015Q4	2015Q3
GDP	**0.5**	**1.4**	**2.0**
Final Domestic Demand	1.3	1.7	2.9
Private consumption	1.9	2.4	3.0
Government spending	1.2	0.1	1.8
Fixed Investment	-1.6	0.4	3.7
Residential	14.9	10.1	8.2
Non residential	-5.8	-2.1	2.6
Equipment & Software	-8.6	-2.1	9.9
Structures	-10.6	-5.1	-7.2
Intellectual Property Products	1.7	-0.1	-0.8
Change in inventories (contrib.)	-0.4	-0.2	-0.7
Net exports (contrib.)	-0.4	-0.1	-0.3
Exports	-2.6	-2.0	0.7
Imports	0.2	-0.7	2.3

Table 1 Source: US Bureau of Economic Analysis

Non-farm productive sector

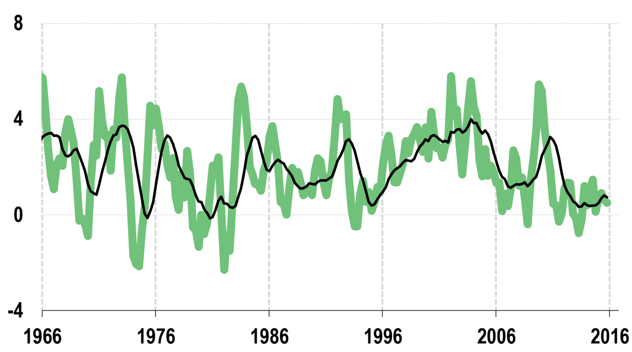

Chart 1 Source: US Bureau of Labor Statistics

European Union

The Juncker Plan is still on track

■ **The European Commission posts regular updates on the advancement of the European Investment Plan, which was launched by Jean-Claude Juncker at the beginning of his mandate.**

■ **To date, the European Fund for Strategic Investments (EFSI) has already approved over EUR 10 bn in financing, and will contribute a total investment volume of EUR 76 bn according to the Commission.**

■ **The success of the programme will depend on how well it juggles its size target against the imperative to concentrate on projects that cannot find alternative sources of financing.**

The latest information released by the European Commission provides a good idea of the advancement of the European Investment Plan as of late March 2016. First announced by Jean-Claude Juncker when he started his mandate, the Juncker Plan was not officially launched until year-end 2014, and the first projects were not examined until April 2015.

In March 2016, a year after the start-up of the operational phase, the European Fund for Strategic Investments (EFSI) has apparently approved as much as EUR 10.6 bn in project and corporate financing, according to the European Commission. More precisely, the European Investment Bank (EIB) has approved 54 infrastructure and innovation financing projects sponsored by the EFSI, representing EUR 7.2 bn in commitments, and the European Investment Fund (EIF) has approved more than 150 financing projects for SME and mid-caps, also sponsored by EFSI, for a total of EUR 3.4 bn.

Little information is available on the regional or sector breakdown of these investments, but they generally are in line with expectations. The lion's share of infrastructure projects are in the energy and transport sectors, both in terms of the number of projects approved (31 of the 54 projects identified in the EU) and apparently the amount of financing as well. At this point, 22 of the 28 EU member states are involved in at least one investment project. The EU's five biggest economies – Germany, France, the UK, Italy and Spain, which together account for more than 70% of EU GDP – will receive 63% of EIB and EIF commitments made so far. There were some fears that the programme's funding would be concentrated in the countries that tend to work regularly with the European Investment bank, or whose national development banks have mobilised the most funds to co-finance projects[1]. So far, however, these fears do not seem to be justified, since the breakdown of projects and funding does not seem to be very different from the country weightings within the EU. That said, it is unfortunate that investment decisions were not concentrated somewhat more in the countries that are supposedly suffering from a shortage of investment.

[1] France, Germany, Italy and Poland each announced EUR 8 bn in possible co-financing via their national development banks, while Spain announced EUR 1.5 bn and the UK, EUR 6 bn.

EUR 10bn of approved financing

Infrastructure and innovations (EUR 7,2 bn) ; SMEs and mid-caps financing (EUR 3,6 mds)

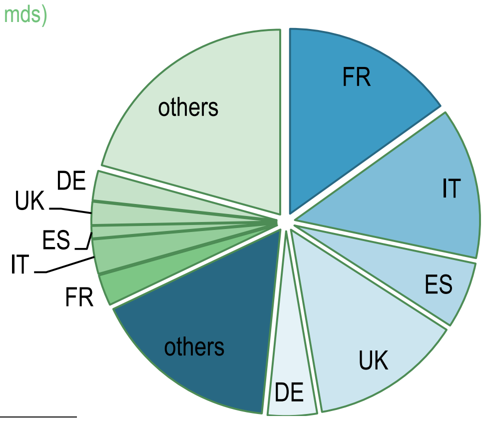

Chart Source: European Commission

A tough juggling act

A large part of the identified financing has not been approved yet, and it will apparently take some time before some of these investments are actually made and begin to have an impact on activity. On the whole, the European Commission considers that total investment spending associated with EFSI-related financing over the past year will eventually reach EUR 76 bn. Yet the pace will have to accelerate if the plan is to reach its ambitious target of triggering EUR 315 bn in investment in the European Union by the end of 2017.

Yet should top priority really be given to the programme's size? Granted, one of its key goals is to maximise leverage and to encourage large-scale investment (more than EUR 300 bn or just above 2% of EU GDP) with a minimum amount of public funds (EUR 21 bn in guarantees granted by EFSI, which could generate about EUR 60 bn in EIB or EIF financing)[2]. As another recent report[3] warns, however, placing priority on the volume of commitments increases the risk that the plan will favour investments that are easiest to implement (either because they are not very risky or benefit more easily from public or private co-financing…) or that could have been financed through the classic funding activities of the EIB, national development banks or through private investment. This would counter the initial purpose of the programme, which is to trigger more risky investments that might not have been made without the programme's contribution. It is precisely because resources are so scarce that the rest of the Juncker Plan should make a difference.

[2] For further information, see: "Eurozone: The Juncker Plan running" and "Juncker Plan: hard to implement".

[3] Investment in Europe: getting the most from the Juncker Plan, Notre Europe, Institut Jacques Delors, Rubio E., Rinaldi D. & Pellerin-Carlin T., March 2016.

France

Stable business climate masks contrasting trends

- **In April, the Insee's composite business climate indicator held steady at 101, a level compatible with quarterly growth of about 0.3-0.4%.**
- **This stability masks contrasting sector trends. The business climate gained two points in the industrial and construction sectors, but shed one point in services and two points in retailing.**
- **These results suggest a mixed cyclical environment in which growth is holding up but still lacks vigour.**

In April, the Insee's composite business indicator held steady at 101, slightly above the long-term average of 100. This mixed performance masks both positive and negative developments: a net upturn in the industrial and construction sectors contrasts with a downturn in services and retailing. The business climate has not improved over the past six months, after picking up throughout 2015. This extended pause can be attributed to the opposing forces at work in the French economy. On the negative side, there is the slowdown in world growth, high uncertainty, jittery financial markets and ongoing fiscal consolidation. Positive factors include the low level of interest rates, the euro and commodity prices, the eurozone recovery and domestic measures to support competitiveness and employment.

There is nothing particularly alarming about the stability of the composite business climate indicator, since the current level is compatible with quarterly growth of about 0.3-0.4%, just below the 0.5% q/q recorded in Q1 (see editorial, on page 1). Although we see no signs of acceleration, this stability is nonetheless a comforting sign of the economy's resilience. What is disappointing, however, is the limited effect of the support factors for growth, which have failed to prevail over headwinds. At best, they only seem to offset these headwinds.

If we look at the sector breakdown of the business climate, we can see several trends. First, there is a mild but unmistakable upturn in the construction industry (see chart). Although relatively mild in scope, this is a very welcome trend because it signals that a major obstacle to French growth is in the process of disappearing. In the industrial sector, the business climate's resilience during the recent period is also worth noting given the deterioration in the external environment. The 2-point gain in April (to 104) is significant and encouraging, even though the details are more mixed (more favourable assessment of past production, order books and general production prospects, but another decline in the balance of opinions of personal prospects, and higher-than-normal inventories). The results of the latest quarterly industrial survey are also rather positive: an upturn in the production capacity utilisation rate (+1.2 points to 82.1%); business leaders are relatively optimistic about past and future trends in demand; and the balance of opinions has improved again concerning competitiveness outside of the EU. The

Business climate by sector

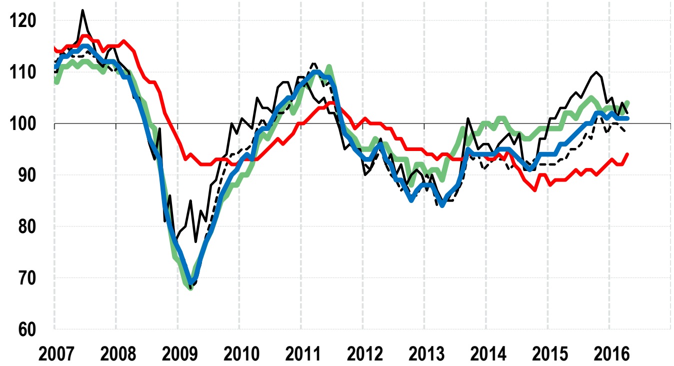

Chart 1 Source: INSEE

biggest clouds on the horizon are the deterioration in the assessment of export prospects and foreign demand.

In retailing, the business climate has deteriorated sharply in recent months, although this follows a stronger improvement than in the other sectors of activity. The business climate indicator for this sector is still holding above the benchmark level of 100. This is not the case in services, where the recent downturn in the business climate is more alarming given the sector's weighting within the economy. In both sectors, the business climate is still showing traces of the sharp decline reported in December. In April, the downturn in confidence in both sectors can be attributed to the deterioration in the balance of opinions pertaining to prospects (activity, prices, employment and investment). It is too early to blame this decline on the winding down of the positive effects of purchasing power gains generated by the decline in oil prices, although this factor is worth watching.

To sum up, these results continue to suggest a lacklustre cyclical environment, an analysis backed by the preliminary results of the Markit PMI indexes for April. The composite index gained half a point to 50.5, thanks to a 0.9 point gain in services (to 50.8), but this masks a net decline in manufacturing (-1.3 points to 48.3). In other words, the economic environment is uncertain, as illustrated by the Insee's turning point indicator: after holding in favourable territory (about 1) between July 2015 and February 2016, the indicator has moved into an area of uncertainty since March, at between -0.3 and +0.3 (unfavourable territory is close to -1). Let's hope we can move rapidly out of limbo and back into positive territory.

Markets overview

The essentials

Week 25-4 16 > 28-4-16

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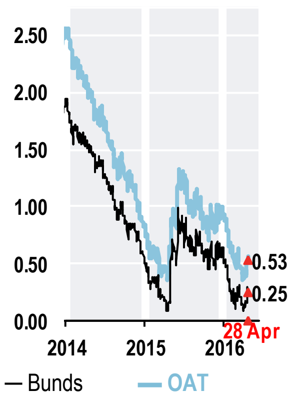
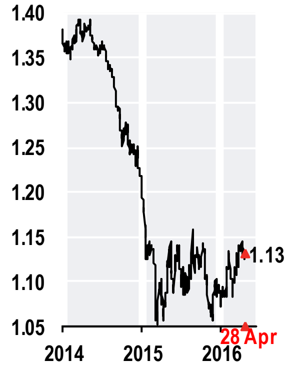
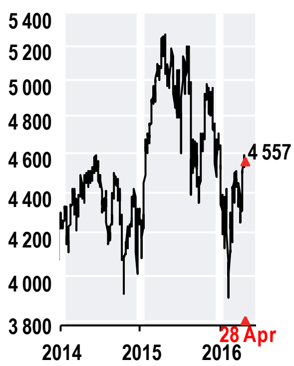
10 y bond yield, OAT vs Bund



Euro-dollar



CAC 40



Money & Bond Markets

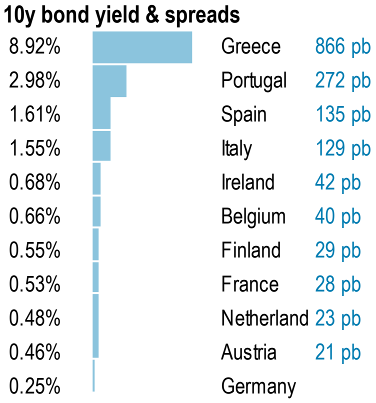
Interest Rates		highest' 16		lowest' 16	
€ ECB	**0.00**	0.05	at 01/01	0.00	at 16/03
Eonia	**-0.34**	-0.13	at 01/01	-0.35	at 24/03
Euribor 3M	**-0.25**	-0.13	at 01/01	-0.25	at 26/04
Euribor 12M	**-0.01**	0.06	at 01/01	-0.03	at 04/03
$ FED	**0.50**	0.50	at 01/01	0.50	at 01/01
Libor 3M	**0.64**	0.64	at 15/03	0.61	at 04/01
Libor 12M	**1.24**	1.24	at 16/03	1.12	at 12/02
£ BoE	**0.50**	0.50	at 01/01	0.50	at 01/01
Libor 3M	**0.59**	0.59	at 15/02	0.58	at 08/03
Libor 12M	**1.03**	1.07	at 01/01	0.98	at 12/02

At 28-4-16

Yield (%)			highest' 16		lowest' 16	
€	AVG 5-7y	**0.27**	0.49	at 12/01	0.16	at 01/03
	Bund 2y	**-0.50**	-0.34	at 01/01	-0.56	at 03/03
	Bund 10y	**0.25**	0.63	at 01/01	0.09	at 07/04
	OAT 10y	**0.53**	0.98	at 01/01	0.36	at 05/04
	Corp. BBB	**1.73**	2.50	at 20/01	1.71	at 22/04
$	Treas. 2y	**0.78**	1.06	at 01/01	0.64	at 11/02
	Treas. 10y	**1.84**	2.27	at 01/01	1.64	at 11/02
	Corp. BBB	**3.67**	4.50	at 12/02	3.67	at 28/04
£	Treas. 2y	**0.49**	0.65	at 01/01	0.28	at 08/02
	Treas. 10y	**1.60**	1.96	at 01/01	1.28	at 11/02

At 28-4-16

10y bond yield & spreads



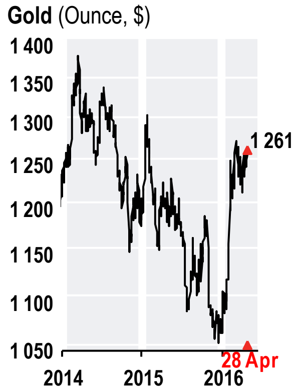
Commodities

Spot price in dollars		lowest' 16			2016(€)
Oil, Brent	**48**	28	at	20/01	**+28.0%**
Gold (ounce)	**1 261**	1 062	at	01/01	**+13.9%**
Metals, LMEX	**2 351**	2 049	at	12/01	**+2.5%**
Copper (ton)	**4 956**	4 328	at	15/01	**+1.1%**
CRB Foods	**365**	329	at	11/01	**+4.7%**
wheat (ton)	**179**	146	at	04/01	**+11.1%**
Corn (ton)	**147**	134	at	31/03	**+2.2%**

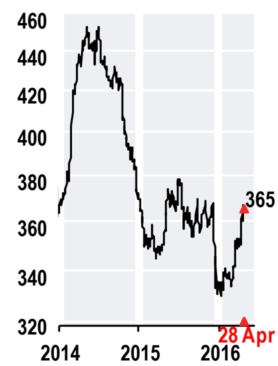
At 28-4-16 *Variations*

Oil (Brent, $)

Gold (Ounce, $)



CRB Foods



Exchange Rates

1€ =		highest' 16			lowest' 16			2016
USD	**1.13**	1.14	at	11/04	1.07	at	05/01	**+4.2%**
GBP	**0.78**	0.81	at	08/04	0.73	at	05/01	+5.3%
CHF	**1.10**	1.11	at	04/02	1.08	at	29/02	+0.9%
JPY	**122.84**	131.84	at	01/02	122.54	at	24/02	-6.0%
AUD	**1.48**	1.60	at	11/02	1.45	at	20/04	-0.6%
CNY	**7.33**	7.45	at	11/02	6.99	at	05/01	+4.0%
BRL	**3.94**	4.53	at	16/02	3.94	at	14/04	-8.2%
RUB	**73.05**	91.22	at	11/02	73.05	at	28/04	-7.9%
INR	**75.27**	77.50	at	11/02	71.42	at	05/01	+4.7%

At 28-4-16 *Variations*

Equity indices

	Index	highest' 16			lowest' 16			2016	2016(€)
CAC 40	**4 557**	4 637	at	01/01	3 897	at	11/02	-1.7%	**-1.7%**
S&P500	**2 076**	2 102	at	20/04	1 829	at	11/02	+1.6%	**-2.5%**
DAX	**10 321**	10 743	at	01/01	8 753	at	11/02	-3.9%	**-3.9%**
Nikkei	**16 666**	19 034	at	01/01	14 953	at	12/02	-12.4%	**-6.9%**
China*	**57**	59	at	01/01	48	at	12/02	-3.9%	**-7.8%**
India*	**448**	460	at	01/01	393	at	11/02	-2.0%	**-6.5%**
Brazil*	**1 451**	1 451	at	28/04	860	at	21/01	+23.4%	**+34.5%**
Russia*	**509**	509	at	28/04	331	at	20/01	+13.9%	**+20.8%**

At 28-4-16 *Variations*

* Indices MSCI

Economic forecasts

En %	GDP Growth 2015	GDP Growth 2016 e	GDP Growth 2017 e	Inflation 2015	Inflation 2016 e	Inflation 2017 e	Curr. account / GDP 2015	Curr. account / GDP 2016 e	Curr. account / GDP 2017 e	Fiscal balances / GDP 2015	Fiscal balances / GDP 2016 e	Fiscal balances / GDP 2017 e
Advanced	**1.9**	**1.6**	**1.4**	**0.3**	**0.6**	**1.7**						
United States	**2.4**	**1.6**	**1.5**	**0.1**	**1.2**	**2.1**	**-2.7**	**-2.8**	**-2.9**	**-2.5**	**-3.2**	**-3.2**
Japan	0.5	0.1	0.2	0.5	0.0	0.7	3.3	3.6	3.3	-4.6	-3.7	-3.2
United Kingdom	2.3	1.7	2.0	0.1	0.6	1.8	-4.5	-4.8	-3.8	-4.1	-3.0	-2.2
Euro Area	**1.5**	**1.3**	**1.4**	**0.0**	**-0.0**	**1.1**	**3.0**	**2.6**	**2.5**	**-2.2**	**-2.0**	**-1.7**
Germany	1.4	1.4	1.5	0.1	0.1	1.6	8.1	7.7	7.6	0.7	0.3	0.3
France	1.2	1.2	1.3	0.1	0.3	1.2	-0.1	-0.1	-0.8	-3.5	-3.4	-3.2
Italy	0.6	1.0	0.9	0.1	-0.2	0.9	2.1	2.0	2.0	-2.7	-2.8	-2.3
Spain	3.2	2.6	2.1	-0.6	-0.9	1.0	0.9	0.6	0.5	-5.2	-3.8	-2.7
Netherlands	2.0	1.8	1.6	0.2	0.3	1.1	9.6	8.7	8.5	-1.8	-2.0	-1.8
Belgium	1.4	1.3	1.6	0.6	0.5	1.6	0.8	1.4	1.7	-2.7	-2.7	-2.5
Portugal	1.5	1.0	1.3	0.5	0.5	1.5	1.0	1.2	1.4	-4.1	-3.0	-2.5
Emerging	**4.1**	**4.1**	**4.6**	**6.0**	**6.4**	**5.4**						
China	6.9	6.4	6.1	1.4	1.5	1.7	2.8	3.1	2.2	-2.4	-3.0	-3.3
India	7.3	7.9	8.1	4.9	5.8	5.2	-1.3	-0.6	-0.6	-4.1	-3.9	-3.5
Brazil	-3.8	-4.0	0.0	9.0	9.1	7.3	-3.3	-1.0	-1.1	-10.3	-8.4	-8.2
Russia	-3.7	-1.8	0.6	15.6	7.9	6.8	5.4	2.8	7.4	-3.7	-5.3	-4.7
World	**3.1**	**3.0**	**3.2**	**3.6**	**3.9**	**3.8**						

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

Financial forecasts

Interest rates		2015				2016						
End period		Q1	Q2	Q3	Q4	Q1	Q2e	Q3e	Q4e	**2015**	**2016e**	**2017e**
US	Fed Funds	0.25	0.25	0.25	0.5	0.5	0.25-0.50	0.25-0.50	0.25-0.50	0.01	0.25-0.50	0.25-0.50
	3-month Libor $	0.27	0.28	0.33	0.61	0.63	0.70	0.70	0.70	0.61	0.70	1.05
	10-year T-notes	1.93	2.35	2.03	2.27	1.79	1.75	1.65	1.50	2.27	1.50	1.75
EMU	Refinancing rate	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
	3-month Euribor	0.02	-0.01	-0.04	-0.13	-0.24	-0.30	-0.30	-0.30	-0.13	-0.30	-0.30
	10-year Bund	0.18	0.77	0.59	0.63	0.16	0.20	0.00	-0.20	0.63	-0.20	-0.20
	10-year OAT	0.42	1.20	0.90	0.98	0.41	0.50	0.30	0.10	0.98	0.10	0.10
	10-year BTP	1.29	2.31	1.73	1.60	1.23	1.45	1.25	0.95	1.60	0.95	0.80
UK	Base rate	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00
	3-month Libor £	0.57	0.58	0.58	0.59	0.59	0.75	0.75	0.75	0.59	0.75	1.25
	10-year Gilt	1.58	2.03	1.77	1.96	1.42	1.40	1.47	1.50	1.96	1.50	1.80
Japan	Overnight call rate	0.02	0.01	0.01	0.04	-0.00	-0.30	-0.30	-0.30	0.04	-0.30	-0.50
	3-month JPY Libor	0.17	0.17	0.17	0.17	0.10	-0.30	-0.30	-0.30	0.17	-0.30	-0.50
	10-year JGB	0.40	0.44	0.35	0.25	-0.04	-0.35	-0.35	-0.35	0.25	-0.35	-0.50

Exchange rates		2015				2016						
End period		Q1	Q2	Q3	Q4	Q1	Q2e	Q3e	Q4e	**2015**	**2016e**	**2017e**
USD	EUR / USD	1.07	1.11	1.12	1.09	1.14	1.16	1.15	1.14	1.09	1.14	1.05
	USD / JPY	120	122	120	120	112	108	110	115	120	115	124
EUR	EUR / GBP	0.72	0.71	0.74	0.74	0.79	0.77	0.74	0.72	0.74	0.72	0.68
	EUR / CHF	1.04	1.04	1.09	1.09	1.09	1.14	1.14	1.16	1.09	1.16	0.01
	EUR/JPY	129	136	134	131	128	125	127	131	131	131	130

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

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