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EDITORIAL

Monetary policy supports growth in conjunction with other economic policy

29 SEP 2016 11:00 AM • BANK OF FINLAND BULLETIN 4/2016 • EDITORIAL

Thanks to the Eurosystem's comprehensive monetary policy measures, monetary conditions in the euro area have been favourable. This is supporting recovery in the euro area economy. Euro area GDP is, in fact, expected to grow at a moderate pace in the immediate years ahead, and inflation is expected to gradually accelerate. This view is also supported by the Bank of Finland's forecast for the global economy. Risks to the economic recovery relate mainly to developments in the external environment.

According to the forecast by Bank of Finland experts, the global economy is expected to grow by a full 3% annually in 2017–2018. The outcome of the Brexit referendum and the expected lengthy negotiations over the exit process will cast a shadow over the growth outlook over the next few years, particularly for the United Kingdom, but also to some extent for the rest of Europe. In the United States and China, economic growth will continue to be strong and will sustain global growth. Japan's economic policy challenges will be considerable during the forecast period. The Bank of Japan's new monetary policy measures are expected to support the growth and inflation outlook. A slight rise in the price of oil is expected to support economic recovery in Russia.

Due to the global risks and the weak inflation expectations in the euro area, the Governing Council of the ECB has stressed that the accommodative monetary policy measures will remain in place until inflation is restored to a stable path towards the

medium-term objective, i.e. below but close to 2 % per annum. The Eurosystem will use all available means, as needed, to achieve this objective. With an eye to future monetary policy decision-making, the Governing Council has given the relevant committees the task of assessing the various alternative means for ensuring frictionless implementation of the expanded asset purchase programme (EAPP).

On account of the uncertainties surrounding developments in the foreseeable future, the Governing Council will continue to monitor developments in the real and monetary economies very carefully. Although the euro area economy is expected to recover and inflation to gradually accelerate, in the current situation it is particularly important to monitor short-term economic developments and estimate changes in medium-term growth potential and inflation expectations. Moreover, new information is constantly coming in on the impacts of monetary policy – including the non-standard measures. In assessing monetary policy impacts, it is essential to remember their transmission to the real economy takes time.

The Governing Council's decisions also take account of the risks posed by very low interest rates, in the shape of negative effects on banks' lending capacity and the stability of the financial system. Vulnerabilities related to household indebtedness, the housing market and the risk-bearing capacity of credit institutions are managed primarily using macroprudential tools, the sufficiency of which must be ensured at national level.

In difficult times, monetary policy is the focus of a lot of hopes and expectations. Although the current monetary policy stance in the euro area is supportive of economic developments, monetary policy alone cannot achieve long-term economic growth. Therefore, there is a need to substantially accelerate the process of structural reform in all euro area countries in order to speed up potential growth in output.

The simultaneous slower growth in the working-age population and in productivity is a phenomenon that is currently the focus of intensive debate and research. With an ageing population approaching retirement age in the advanced economies and seeking to save allied to a high rate of savings in Asian countries, too, there is strong demand worldwide for safe investment targets. This drive to save is leading to a fall in real long-term interest rates globally. All economic policy decision-makers should seek to prevent sluggish growth and slow inflation becoming a long-term phenomenon.

Helsinki, 28 September 2016

Erkki Liikanen

Governor of the Bank of Finland

Tags

- global economy
- inflation
- monetary policy

Growth overshadowed by hard-to-quantify risks

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 4/2016 • MONETARY POLICY

Euro area monetary policy has been eased significantly in recent years. The most important of the measures applied are the expanded asset purchase programme (EAPP), targeted longer-term refinancing operations and the introduction of a negative interest rate on the deposit facility. The Governing Council of the ECB has emphasised its commitment to securing a sustained adjustment in the path of inflation consistent with its inflation target, i.e. a level below, but close to, 2%. The asset purchase programme has proceeded as planned and has led to reductions across a broad spectrum of euro area interest rates.

In the Bank of Finland's September 2016 forecast for the global economy, the most significant change concerns the Brexit vote in the United Kingdom. Particularly in 2017, UK growth will be markedly more subdued than projected prior to the EU referendum. Despite Brexit, euro area internal economic fundamentals continue to be supportive of growth. Monetary policy will remain accommodative for an extended period. The private sector's debt-servicing burden will diminish, near-term fiscal policy will be broadly neutral and the labour market will continue to improve. In these respects, the favourable trend in the euro area is projected to continue.

Euro area inflation has entered positive territory, but the pace of increase in prices continues to be very slow. Inflation is still weighed down by the low price of oil. The underlying inflation rate (which excludes energy and food price changes) has also persisted below 1%, as a reflection of limited price pressures on the domestic markets. The improved economic outlook and the ongoing accommodative stance of monetary policy will gradually begin to boost inflation.

The risks to the forecast for the global economy are predominantly on the downside. A potential upside risk relates to improved productivity. However, the outlook for the United States and the global economy as a whole could also weaken significantly, especially if the protectionism-related discussion that has already flared up were to extend to political decisions. Chinese growth will continue its strong momentum, but debt-driven growth will also expose the Chinese economy to financial market disruptions.

A factor posing one obvious risk to euro area economic activity is the departure of the United Kingdom from the EU, the effects of which are shrouded in a substantial degree of uncertainty. Brexit negotiations are only just being launched, with unknown objectives, and are likely to last a long time.

Monetary policy to remain accommodative for an extended period

Euro area consumer price inflation has remained around zero for about three years, but it is expected to accelerate in the next few years, supported by the accommodative monetary policy. The inflation rate will also accelerate during the next 12 months on the back of an expected moderate rise in the price of oil. The Governing Council of the ECB has emphasised its commitment to securing a sustained adjustment in the path of inflation consistent with its inflation target, i.e. to a level below, but close to 2%.

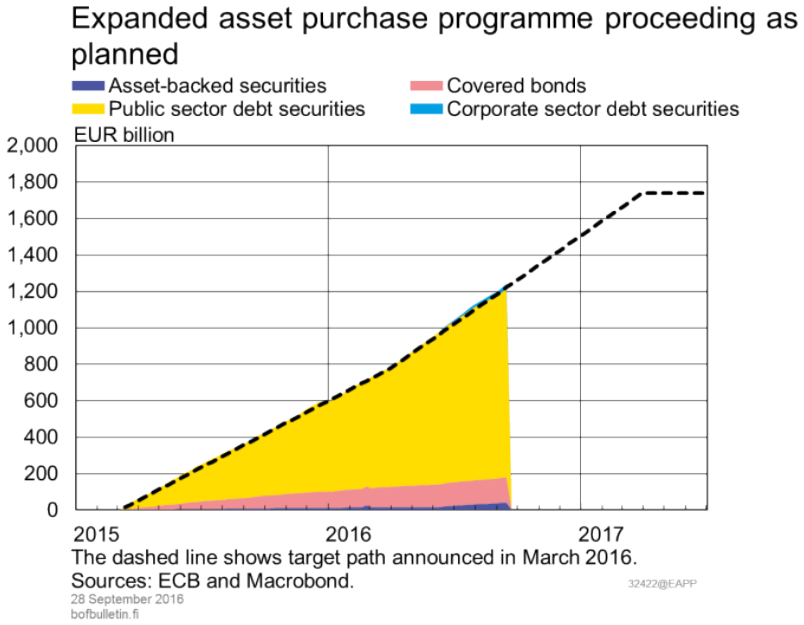
The Governing Council has significantly eased monetary policy since mid-2014 in order to maintain price stability in the euro area. The most important of these measures are the expanded asset purchase programme (EAPP), targeted longer-term refinancing operations and the introduction of a negative interest rate on the deposit facility. As part of this package of measures, the transmission of monetary policy is strengthened by forward guidance. Forward guidance provides the Governing Council with an opportunity to convey information on the duration of the asset purchase programme and the low interest rate environment. The main message is that the ECB is committed to continuing these measures for as long as necessary for maintaining price stability. With a strong commitment to price stability, inflation expectations remain anchored, thereby enhancing the effectiveness of the purchase programme and credit operations.

At its September 2016 meeting, the Governing Council decided that the interest rate on the main refinancing operations and the rates on the marginal lending facility and the deposit facility will remain unchanged at 0.00%, 0.25% and -0.40% respectively. The Governing Council has also indicated that these rates will remain at their present or lower levels well past the horizon of net asset purchases.In addition, the Governing Council continued to emphasise that the monthly asset purchases of EUR 80 billion, which belong to the non-standard monetary policy measures, are intended to run until the end of March 2017, or beyond, if necessary, and in any case until the Governing Council sees a sustained adjustment in the path of inflation consistent with its inflation target.

The EAPP has proceeded as planned and has led to reductions across a broad spectrum of euro area interest rates. The expanded programme consists of purchases of debt

instruments issued by the euro area public sector, covered bank bonds, asset-backed securities and, since June 2016, also corporate bonds. [Box: ECB purchase programme expanded to include corporate sector debt instruments] Monthly asset purchases since March 2015 amounted to EUR 60 billion, from which the amount was raised to EUR 80 billion in April 2016. Purchases totalling around EUR 1,230 billion had been effected within the framework of the EAPP by the end of August 2016. Of these, the public sector purchase programme accounted for about EUR 1,000 billion. In September, the Governing Council of the ECB announced the Eurosystem's intention to evaluate different options to ensure smooth implementation of the asset purchase programme going forward.

Chart 1.



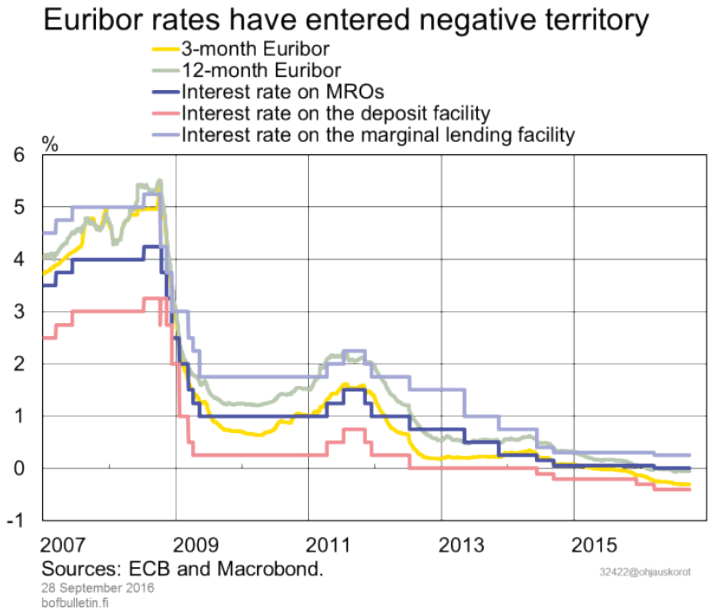
In addition to asset purchases, a second series of targeted longer-term refinancing operations (TLTRO-II) is under way, on which the Governing Council decided in March 2016. Operations are to be conducted from June 2016 to March 2017 at a quarterly frequency.[1]

These operations are designed to increase bank lending to non-financial corporations, in particular, and thereby to support the recovery of the real economy. In these operations, banks are able to borrow with a four-year maturity at the interest rate on the main refinancing operations, which is currently 0.0%. However, at its lowest, the interest rate may fall to the level of the interest rate on the deposit facility at the time of take-up (currently -0.4%), provided that the bank has increased its lending to non-financial corporations and households (excl. housing loans). As banks are thus offered attractive long-term funding conditions for several years, they will be able to lower their interest rates on household and corporate lending.

1. The amount borrowed in the June TLTRO II operation totalled about EUR 400 billion, of which a significant proportion was due to the fact that banks were allowed to roll over amounts borrowed under the previous TLTRO I programme into TLTRO II.

Of the key ECB interest rates, the interest rate on the main refinancing operations was decreased to zero in March 2016. A negative interest rate on the deposit facility was introduced for the first time in June 2014. The Governing Council has subsequently lowered the interest rate on the deposit facility stepwise, in September 2014 (to -0.2%), December 2015 (to -0.3%) and March 2016 (to -0.4%). Given that owing to the EAPP, in particular, there is an abundance of excess liquidity in the banking system, short-term money market interest rates follow the development of the interest rate on the deposit facility rather than the interest rate on the main refinancing operations. The negative deposit facility interest rate has brought short-term money market interest rates down into negative territory. This benefits e.g. mortgage borrowers, whose bank loans are tied to short-term money market interest rates. The negative deposit facility interest rate also has a downward impact on longer-term interest rates, thus underpinning economic recovery.

Chart 2.



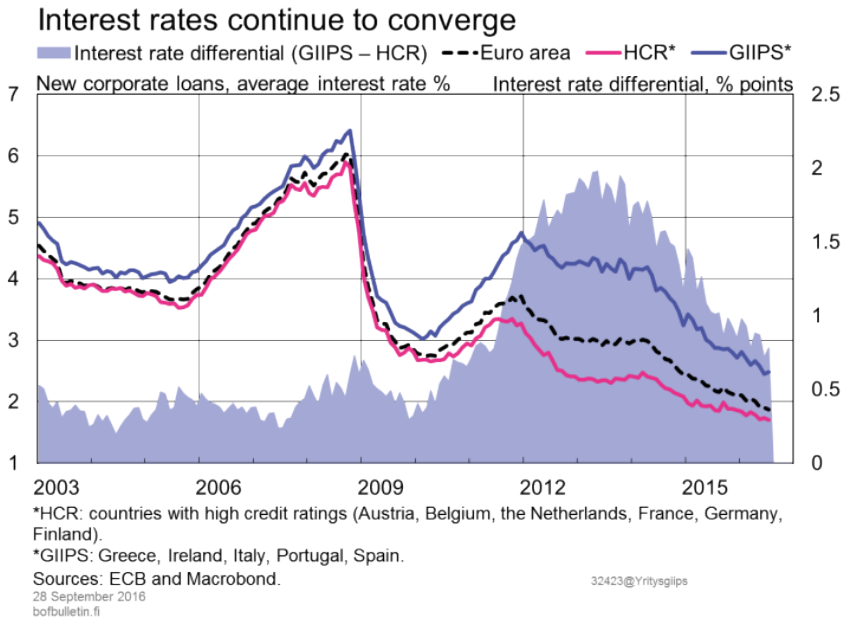
Monetary policy measures constitute a comprehensive response, aimed at ensuring a broad-based easing of financial conditions (cutting long-term interest rates and interest rates for households and non-financial corporations on their bank loans and maintaining asset prices). An accommodative monetary policy keeps inflation expectations anchored to the price stability objective even if actual inflation for the present is still below the targeted level.

Cost of finance declined further

Average interest rates on new corporate loans granted by banks continued to fall during the course of summer 2016 in Greece, Ireland, Italy, Portugal and Spain, which the debt crisis hit the hardest. Spain, in particular, has witnessed significant cuts in these interest rates. In countries with high credit ratings (here, the Netherlands, Belgium, Austria, France, Germany and Finland) the decline has been considerably more subdued. Convergence of interest rate levels between these two groups of countries continues. The

interest rate differential has narrowed by more than one percentage point during the last three years and is currently almost as small as in spring 2011, i.e. prior to the onset of the euro area debt crisis.

Chart 3.



Apart from bank loans, market-based funding, too, has become cheaper for non-financial corporations. Corporate bond yields have decreased markedly since the beginning of 2016 in response to the ECB's announcement of the inclusion of investment-grade corporate bonds in the purchase programme. Interest rate differentials among investment-grade debt instruments have also narrowed discernibly since the beginning of the year.

The average interest rate on new housing loans has fallen by approximately 0.3 of a percentage point in the euro area since early 2016 and was 1.9% in July. Of large euro area countries, France in particular has seen a significant decline of more than ½ of a percentage point during the last six months. By contrast, Spain has witnessed considerably more moderate cuts.

Interest rates pass through to the economy faster via variable-rate loans

Interest rates brought down by the accommodative monetary policy are transmitted more rapidly to the economy for households and non-financial corporations the shorter the interest rates are to which bank loans are tied. Lower debt-servicing costs boost domestic demand, thereby supporting economic growth and a return of inflation rates towards the target.

Chart 4.

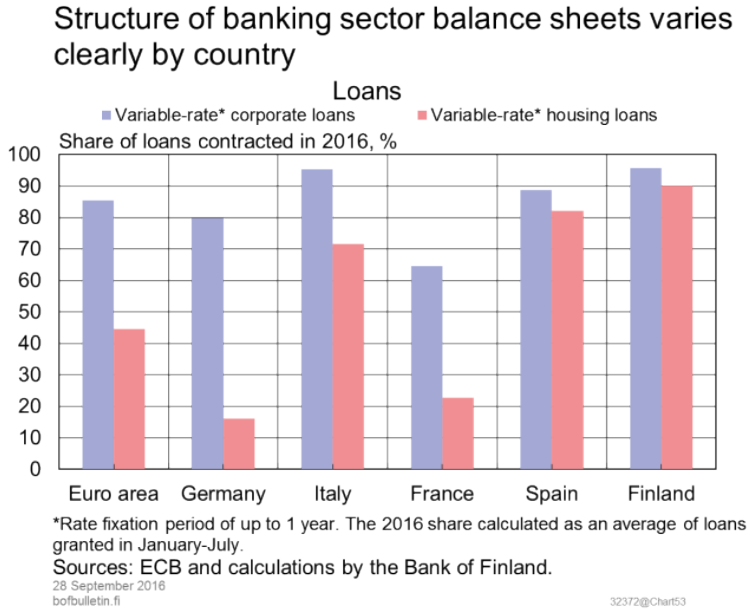
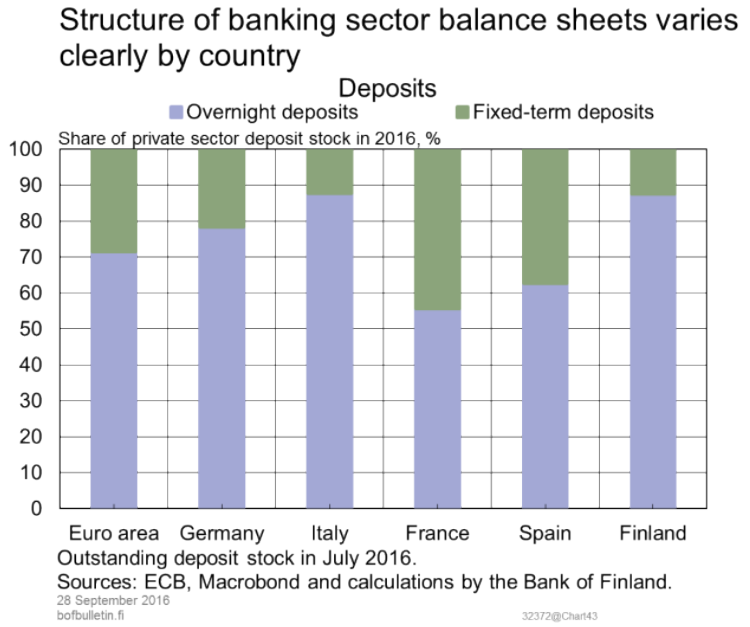


Chart 5.

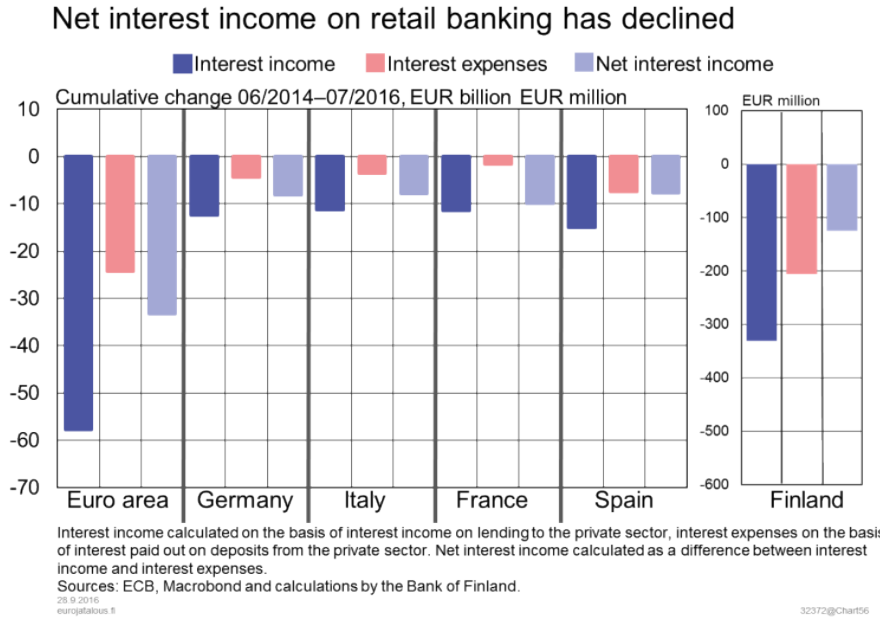


Of new housing loans granted in the euro area in 2016, 45% are tied to market interest rates of up to one year. This share has grown over the years, with only a fifth of new housing loans being granted at variable interest rates as recently as the early years of the new millennium. With corporate loans, there has been no corresponding change. A total of 85% of new loans contracted in the euro area in 2016 are variable-rate loans; this share was already almost equally large just after the turn of the millennium. Among large euro area countries, the lowest levels of loans granted at variable rates in relative terms are observed in France and Germany.

Banks traditionally make use of maturity transformation, i.e. acquire short-term debt at low interest rates and lend it further at higher interest rates as long-term loans. When the difference between short- and long-term interest rates in the economy narrows; in other words, when the yield curve flattens, the interest margin received by banks declines. Although short-term market interest rates have entered negative territory, banks have not been able to pass these negative interest rates on in full to their customers. Hence, the interest rate differential has narrowed further still. Interest revenues generated by banks in net terms are affected not only by loans and deposits but also by other interest expenses and interest income, arising e.g. from various debt instruments, derivatives and debt instruments issued by banks themselves.

Net interest income from traditional retail banking (the difference between interest charged on the stock of loans to the private sector and interest paid out on deposits) received by the euro area banking sector from traditional retail banking has declined in recent years. The difference calculated in euro terms between interest income from loans to the private sector and interest paid out on deposits from the private sector has narrowed by more than EUR 30 billion in the euro area since mid-2014 (10%).

Chart 6.



Of large euro area countries, Spain has suffered most, witnessing a fall of approximately EUR 8 billion (15%) in net interest income since mid-2014. Interest income in Spain has dropped by nearly EUR 15 billion on account of both a smaller stock of loans and lower interest rates. At the same time, however, interest expenses have also fallen, driven by lower deposit rates. Germany and France have experienced almost equally large cuts in interest income in relative terms. The interest rate level is higher in Germany, but the impact of a lower interest rate level in France is compensated for by a faster-growing loan stock. Interest expenses have not fallen in France by as much as in other countries, due to the large share of fixed-term deposits remunerated at relatively high interest rates. Net interest income has thus declined in France in relative terms by more (13%) than in Germany (8%).

Over the long term, however, the very low level of interest rates also contributes to bank profitability. Low interest rates bolster activity in the real economy, thus adding to credit demand in the private sector. Growing lending volumes increase interest income, and a contraction in loan losses reduces the resultant costs incurred by banks. The reduction in the overall interest rate level has also made market-based funding more favourable for banks. In addition, the particularly attractive terms of the ECB's targeted longer-term refinancing operations continue to bring down banks' funding costs.

Banking resilience improved

The European Banking Authority (EBA) published EU-wide stress test results at the end of July. There were 51 participating banks, covering around 70% of assets in the EU banking system. Of these, 37 are banks subject to direct ECB supervision. The ECB also conducted the same stress test for an additional 57 banks under its supervision, as an internal supervisory measure. The results for these banks are not published, but the banks themselves may disclose the results, if they so wish.

The banks' ability to absorb shocks was tested in an adverse scenario extending over a three-year period. The adverse scenario envisaged markedly weaker-than-forecast economic activity and serious financial market disruptions. The banks' starting point capital position was an average Common Equity Tier 1 (CET1) capital ratio of 13.2%. In the adverse scenario, European banks saw an average reduction of 3.8 percentage points in the capital ratio, bringing it to 9.4% at the end point of the adverse scenario, i.e. at the end of 2018.

Although the banks passed the test well on average, there were major differences among bank results. However, with the exception of one bank, all banks' CET1 capital clearly exceeded the reference value of 5.5% applied in the adverse scenario of the 2014 stress test.

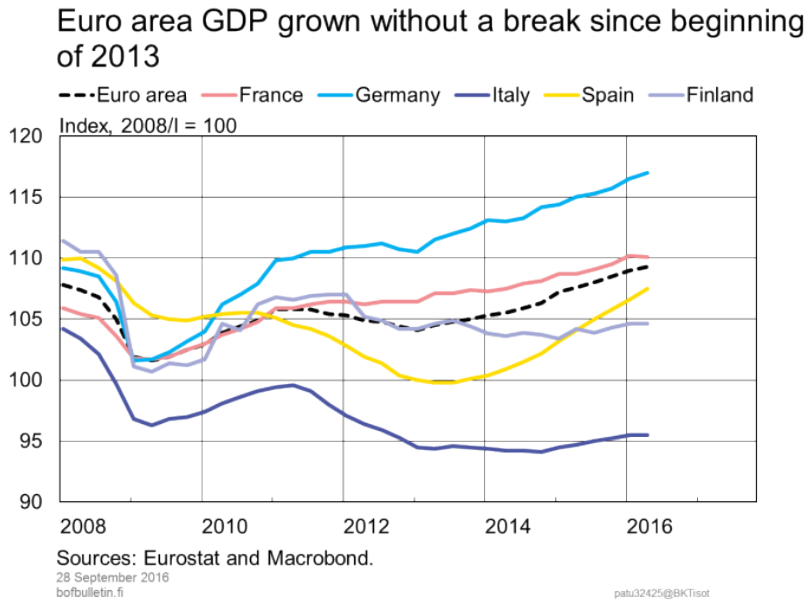
Despite the stress test results, the European banking sector's significant structural problems are still unresolved. The bulk of European banks continue to struggle with profitability problems caused by the low growth and low interest rate environment and by other factors. The causes underlying weak profitability vary across countries and banks. Bank profitability in distressed countries is impaired as a legacy from the crisis by high amounts of non-performing loans that weaken their operational capacity and role in financial intermediation. In some countries, the banking sectors suffer from over-capacity and inefficiency. In large investment banks, profitability is eroded, in particular, by the unstable market situation and the adjustment of operations to match revised financial market regulation. Banks struggling with profitability challenges must be capable of adapting to tighter regulation and reforming their operations in order to ensure that profitable business models will be in place in the future, too.

Brexit will dampen growth in Europe

Euro area GPD growth in the first half of 2016 was slightly faster than foreseen previously. Private consumption, in particular, has grown at a brisk pace, but export performance has been weaker than expected. Soft indicators for the real economy point

to ongoing growth in the immediate quarters ahead at the same pace as in the second quarter.

Chart 7.



Euro area internal economic fundamentals have not changed during the past six months and are supportive of growth. The accommodative stance of monetary policy will continue, the private sector's debt-servicing burden will diminish, fiscal tightening will abate and the employment situation will improve. In this respect, the favourable trend that commenced in the euro area in 2013 is projected to continue throughout the forecast horizon.

In the June referendum in the United Kingdom, about 52% of voters supported the country's departure from the EU. As an immediate consequence of the voting result, an across-the-board repricing on the financial markets took place, accompanied by an overall increase in uncertainty and depreciation of the pound sterling relative to key currencies. After the initial surprise, the stock markets have partly recovered and financial market uncertainty has receded. However, the lower level of the pound sterling appears to be more permanent. But the final outcome of the Brexit process – what kind of economic relationships the United Kingdom will conclude with the EU – will remain an open question for some time to come. See Three months after the Brexit vote – the current state of play.

At this stage, the economic implications of the Brexit vote for the euro area can mainly be assessed via trade channels. The Bank of Finland forecast assumes Global economy slowly gathers pace a Brexit-induced contraction in UK imports in line with the Bank of England's projection and foresees no change in euro area exporters' market share in the United Kingdom, nor any shift in the ratio of investments to exports. More reliable statistical data on the effects of the Brexit vote are not likely to be available until the end of the year. A further assumption in the Bank of Finland forecast is that any new spikes

in uncertainty that may be experienced on the financial markets with regard to Brexit negotiations will remain short-lived.[2]

Another factor dampening future growth in the euro area real economy to some extent is the weak economic situation in Italy. Problems related to the country's banking sector will erode corporate and household confidence in the economy. The performance of retail sales and industrial output has been weak in the first part of the year.

Domestic demand still a driver of euro area growth

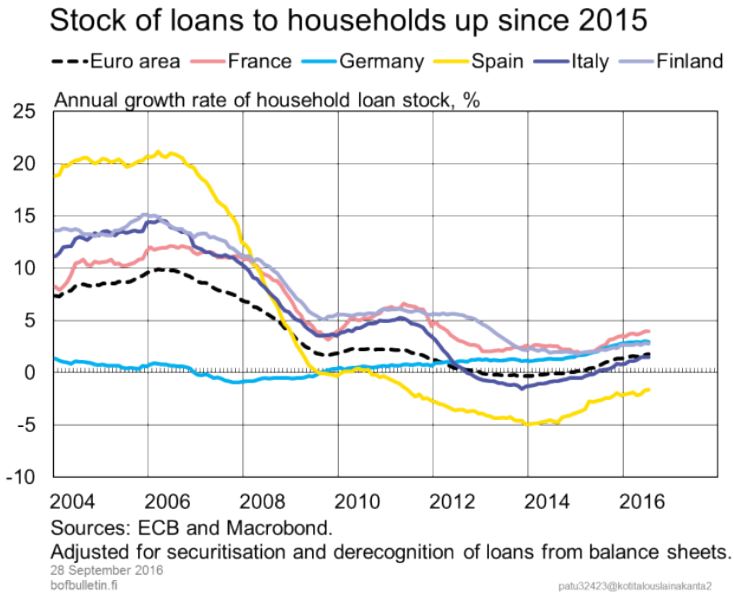
Private consumption and private investment were the components of aggregate demand that made the strongest contribution to euro area growth in 2015 and early 2016. The composition of growth will be similar throughout the forecast period. The average contribution of net exports to growth will be slightly negative.

Private consumption will be bolstered by an increase in households' disposable income amid a steadily improving employment situation and higher labour income per employee. With the ratio of total household debt to disposable income continuing to decline and interest rates remaining very low, households' debt-servicing costs will decrease.

Annual average growth in the stock of loans to euro area households continued on a moderate upward trajectory during the first half of 2016. In July, the stock of loans to households was 1.8% up on a year earlier. Differences across countries are also significant in this segment. In France, annual growth is already approaching 4%, while, of large euro area countries, Spain is still experiencing negative annual growth rates in the stock of loans to households.

2. See also Hukkinen, Juhana – Kortela, Tomi (2014) Kriisien vaikutus euroalueen talouteen ('Impact of crises on the euro area economy'). BoF Online 15 December 2014.

Chart 8.

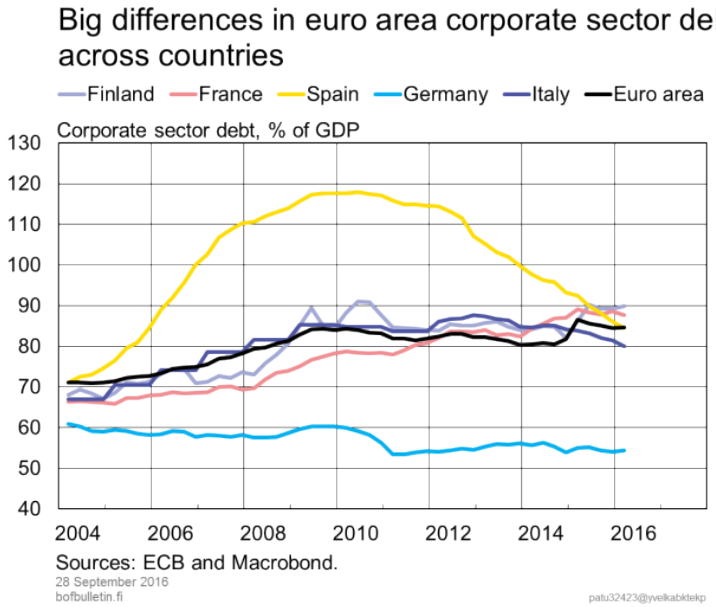


Household indebtedness in France has continued to grow. However, on the back of low interest rates, the increase in debt-servicing costs relative to income has flattened out. In Italy, total debt to income has remained relatively stable in recent years, but in the low interest environment debt-servicing costs relative to income have declined, approaching their long-term average. German households will continue to reduce their debt levels, and lower debt-servicing costs will sustain private consumption. In Spain, the household sector balance sheet adjustment will continue, debt-servicing costs relative to income are falling and the new positive trend in housing prices will increase household wealth, thereby strengthening domestic demand.

Growth in private **fixed investment** picked up in the euro area to 2.7% in 2015, and growth continued at an almost equally strong average pace in the first half of 2016. This reflects an increase in the capacity utilisation rate, better access to finance and temporary tax reliefs for investment in France and Italy. Investment growth will be buttressed by the very low interest rate environment, the improved availability of finance, the need to renew the capital base after weak investment activity in 2008–2013 and the lower level of the capital ratio for corporate sector debt. Even so, investment growth will be held back by Brexit and the uncertainty related to its consequences and, in part, also by labour and commodity market rigidities. Nevertheless, the contribution of investment to growth will be significant in the forecast period.

Average annual growth in the euro area corporate loan stock has strengthened in 2016 and was 1.9 % in July. The euro area aggregate, however, conceals a large degree of volatility across countries. See Why are euro area corporate loans growing so slowly?

Chart 9.



According to the Survey on the Access to Finance of Enterprises in the euro area, published in June 2016, the amount of rejected loan applications by small and medium-sized enterprises in the latter half of 2015 was the smallest since the crisis. Similarly, more loan applications were approved in full than at any time since 2008. The low level of interest rates is also reflected in the debt-servicing costs of non-financial corporations, which have continued to fall relative to net income and helped ease the deleveraging process in the corporate sector. The corporate sector's total debt relative to GDP in the first quarter of 2016 was about 3% lower than a year earlier.

Of the large euro area countries, Italy's situation is still fragile

Economic fundamentals in **Germany** are in good shape. In 2015, the German economy grew by 1.7%, and growth continued at the same pace in the first half of 2016. Private consumption has maintained its robust growth, and housing investment has increased fairly strongly. The growth outlook in the forecast period is good against a backdrop of vigorous domestic demand. Household indebtedness is at a moderate level and the unemployment rate ranks among the lowest in the euro area. The contribution of private consumption to growth will also remain strong during the forecast period. Growth in housing investment will continue in the wake of housing price increases. Despite Germany's high competitiveness, the slower expansion of export markets due to Brexit will also put a drag on German exports and GDP growth during the forecast period. Growth in the country's economy as a whole will be good, on average, during the forecast period. On the back of a balanced budget and the lowest debt ratio among large euro area countries, the public finances will be well-equipped to adjust to a period of slightly slower growth.

In 2015, the **French** economy already expanded markedly better than in the preceding years (1.2%). According to IMF projections, the impact of Brexit on the French economy

will be of a similar scale to the euro area average. Unlike in preceding years, France's public finances will not be consolidated in net terms in 2016, but fiscal adjustments are forecast to restart towards the end of the forecast horizon. Although unemployment will only decline slowly during the forecast period, the long-term outlook has been improved by the labour market reforms approved in the summer.

Following the turn in the economy in 2013, economic growth in **Spain** accelerated to 3.2% in 2015. Growth is expected to continue at a notably stronger pace than the euro area average, but will moderate in 2017. Brexit will slow Spain's economy slightly in the immediate years ahead, due to the dampening of exports to the United Kingdom, and to some extent also to the other euro area countries. Economic growth is supported by improvements in price competitiveness, as well as by structural reforms and the fact that the aftermath of the housing bubble bursting has finally bottomed out. Favourable developments are also bolstered by a strong easing of financing conditions, reflecting the accommodative monetary policy and consolidation in the banking sector. The continued brisk pace of growth in the economy will lower unemployment and fuel inflation in the forecast period. The general government deficit is, however, still large, and government debt has risen to around 100% of GDP. The current outlook for the Spanish economy is overshadowed by what are already the second parliamentary elections within a year and the difficulties of forming a government.

The growth projections for **Italy** have been revised downwards over the entire forecast horizon. The weakness of the Italian economy is due mainly to uncertainties related to the banking sector that are eroding corporate and household confidence. The economy does, however, also include elements that support growth. The number of people employed has increased in the first half of the year, and economic growth continues to be supported by monetary policy. The most significant risks to the outlook for the Italian economy relate to the banking system and the referendum to be held in December.

UK referendum changed assumptions

For the United Kingdom, a significant downside risk materialised as those in favour of Brexit won the referendum in late June. The new Prime Minister, Theresa May has announced that she will submit the notification of withdrawal to the European Council not earlier than the end of 2016, and in practice, this means that the United Kingdom will remain a member of the European Union until the end of the forecast horizon. The Bank of Finland's forecast is based on the Bank of England's assessment of the impact of Brexit on the UK economy. As a result of the uncertainties, companies are postponing new investment and recruitment. The depreciation of the pound sterling will fuel inflation via import prices. The corporate sector is expected to act in advance and to gradually adjust to a trading environment that is slightly less open. In early August, the Bank of England announced a larger-than-expected stimulus package. In its meeting in September, the Bank of England's Monetary Policy Committee did not change its view on the impact of Brexit, and the Committee announced its preparedness to introduce further measures towards the end of the year. Economic growth will remain at 2% in 2016 as a result of strong dynamics in the first half of the year. Growth will slow during the forecast period, reflecting the weakening of investment sentiment and domestic demand. In the baseline scenario of the Bank of Finland forecast, economic growth in the UK will,

however, remain positive throughout the forecast period. (For a more detailed examination of the situation following Brexit. See Three months after the Brexit vote – the current state of play.

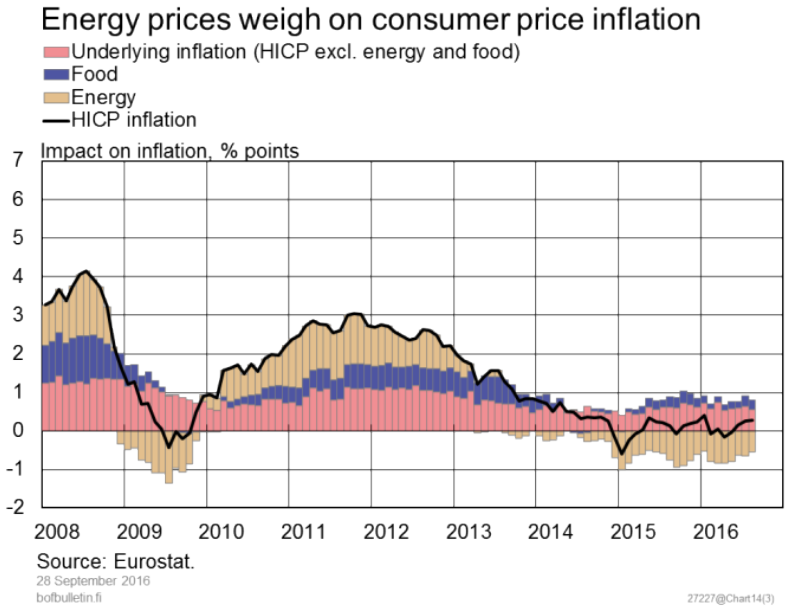
Sweden's economy grew by 4.2% in 2015. In the first half of 2016, the positive trend was supported particularly by private consumption and investment – of which housing investment, in particular, grew at a rapid pace. Economic growth in 2016 will, in fact, remain over 3%. Due to slower growth in the export markets, the economy will slow in the next couple of years, to approximately 2.5% growth. The greatest downward risk to economic balance remains the growth in household debt, maintained by the low level of interest rates, and the overheated housing market. Without the necessary macroeconomic measures, the imbalance in Sweden's economy will continue to grow.

In **Denmark**, the economy grew by 1.2% in 2015. Private consumption, and the domestic market as a whole, are developing favourably. The employment rate is rising (75.3% in the second quarter of 2016), the unemployment rate is low (4.2%) and real income is growing. Extra-EU services exports (particularly vessel chartering) have, however, developed only modestly, which is also reflected in the low GDP growth rates.

Inflation still low

Inflation according to the harmonised index of consumer prices for the euro area turned positive during summer 2016, but the rate of increase in prices is still very slow. In August, inflation was 0.2%, and since the start of the year, it has averaged close to zero. Inflation continues to be dampened by the low level of oil prices. However, underlying inflation (excl. energy and food prices) has also remained below 1% for a protracted period, reflecting subdued price pressures on the domestic market. Inflation has also been subdued in the other EU countries. In Denmark, consumer price inflation is close to zero, and in Sweden and the UK inflation has also been moderate in 2016. However, in Sweden and Denmark inflation will accelerate more than in the euro area in the immediate years ahead, due to their more positive growth outlook. In the UK, inflation is fuelled by Brexit, via in particular the depreciation of the pound sterling.

Chart 10.

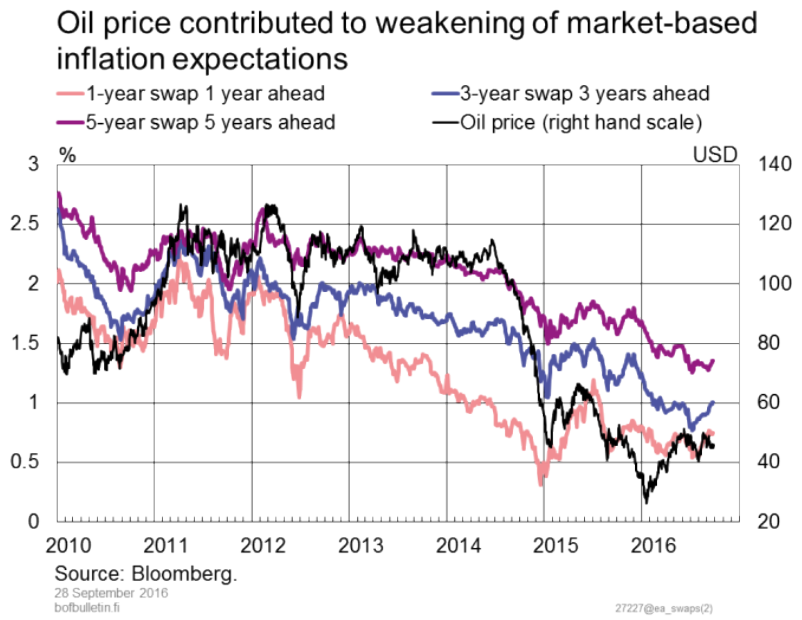


The Bank of Finland's view on the outlook for inflation is based on three key factors: the price of crude oil, inflation expectations and the output gap.

The price of oil is still fairly low, and due to oversupply it is forecast to remain at low levels until late 2017. See Oil markets seeking a new balance. Changes in oil prices are, however, expected to cause a temporary acceleration in inflation at the turn of the year 2016/2017. This is due to the base effect. The price of oil has stabilised to levels clearly higher than at the previous turn of the year, and as inflation is measured as the year-on-year change in prices, this has an upward impact on prices.

The direct effects of oil prices on inflation are, however, one-off by nature. An increase in oil prices will raise the general level of prices but will not have a permanent impact on inflation, i.e. the 12-month change in consumer prices. Based on futures prices, the annual rate of increase in oil prices will level off, which will decrease the impact on inflation. Oil price fluctuations are thus not a major concern over the medium term, the relevant horizon in terms of price stability. However, the fluctuations in oil prices may also have longer-lasting, indirect effects that are eventually reflected in wage-setting, via inflation expectations.

Chart 11.

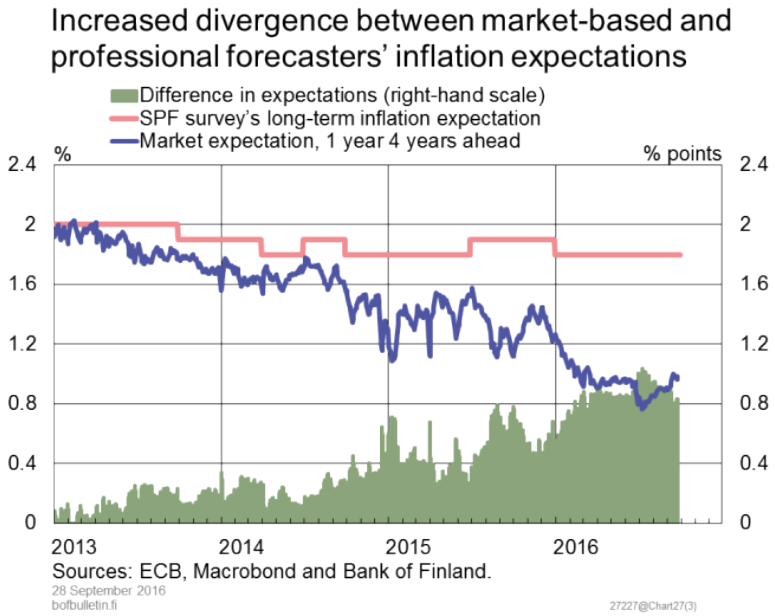


The renewed fall in oil prices at the end of 2015 and in early 2016 was reflected in a broadly based dampening in market-based inflation expectations. In contrast, the rise in oil prices in spring 2016 strengthened only short-term inflation expectations. Medium-term inflation expectations have subsequently also resumed an upward path. Longer-term expectations have, however, remained muted, and they are currently exceptionally moderate. This is not a problem for the euro area alone; in the United States, too, long-term inflation expectations have weakened, albeit recently slightly less than in the euro area.

The decline in long-term inflation expectations is a worrying trend. Inflation expectations reflect economic agents' perception of inflation developments, and are thus a key factor in inflation dynamics. A decrease in inflation expectations may drive the economy into a state in which the pace of rise in wages slows and therefore so does consumer price inflation.

Market-based inflation expectations do, however, also reflect to some extent factors other than simply perceived inflation, and therefore they are not the only relevant measure of inflation expectations. See How well do inflation swaps reflect expected inflation? Survey-based (SPF) average long-term inflation expectations for the euro area have remained broadly stable, and the expectations of professional forecasters can thus be considered as having remained anchored close to the objective of price stability. Various sources, however, show that there is slight divergence between different reported inflation expectations. In recent years, the difference between market-based inflation expectations and those of professional forecasters has increased. Assessments of the inflation outlook should, therefore, consider developments in inflation expectations in a broad-based manner.

Chart 12.



The third factor affecting the outlook for inflation is the output gap, which is a measure of the state of the real economy. The output gap is the difference between potential and actual output. A negative output gap means that there is unused capacity in the economy, which is reflected e.g. as a low level of employment. If there is unused capacity in the economy, there is only a modest upward pressure on wages and hence prices. According to various estimates, the output gap in the euro area is not expected to close until the end of the decade. Therefore, even though longer-term inflation expectations remain anchored, underlying inflation will probably remain subdued in the immediate years ahead and the price stability objective recede somewhat into the distance. It is, however, very difficult to estimate the actual size of the output gap.

Overall, if the market-based longer-term inflation expectations do not improve and the output gap in the euro area is towards the end of the forecast horizon still of the same size as currently assessed, inflation in the immediate years ahead will remain moderate but still on a sustainable path towards price stability. In 2016, inflation will still be dampened by the base effect of the fluctuations in oil prices. Thereafter, an improvement in the outlook for the economy and the sustained accommodative monetary policy stance will gradually push up inflation. The forecast is, however, surrounded by uncertainty, and, for example, larger-than-expected changes in oil prices, the development of which is difficult to anticipate, may have a significant impact on inflation.

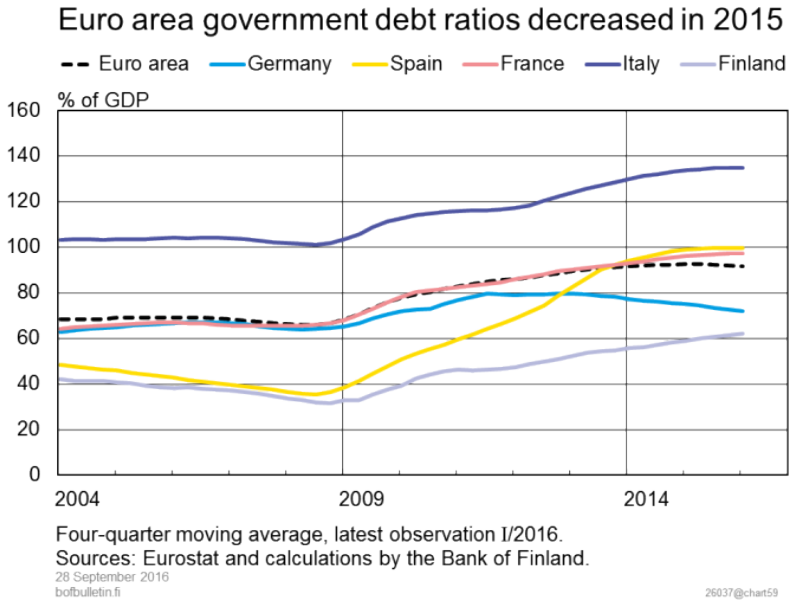
Cyclical conditions and smaller interest payments continue to improve euro area public finances

Discretionary fiscal measures and improved cyclical conditions have in recent years been reflected in the decline in the euro area general government deficit, which had increased significantly as a result of the escalation of the financial crisis in 2008. A sign of the long shadow of the financial crisis is that the euro area general government debt ratio started to decline only in 2015.

The overall general government deficit is projected to decrease slightly in 2016 to stand below 2% of GDP. The deficit will continue to improve in subsequent years, too, albeit at a slower-than-forecast pace in 2017. The deficit is also projected to decline in 2018, but not yet to below 1% of GDP. The size of the deficit differs significantly between countries.

Among large euro area countries, only Germany's debt ratio will decrease in 2016–2017. In Italy and Spain, the debt ratio will start to contract in 2018; in other words, debt ratio developments will be weaker than forecast. In France, the increase in the debt ratio is expected to come to a halt only in 2018. These forecasts are, however, surrounded by significant uncertainty, as they depend crucially on actual economic growth.

Chart 13.



The state of and outlook for the public finances are affected by the prevailing level of interest rates, cyclical conditions and discretionary fiscal measures. Of these factors, the prevailing level of interest rates is currently particularly favourable, which means that the interest payments on government debt will continue to decrease.

In many euro area countries, cyclical conditions are still by far the most important factor improving the general government primary balance, whereas until 2014 discretionary fiscal measures played a key role. In 2016, fiscal policies in the euro area are even slightly expansionary, which is partly due to the growth in public expenditure in response to the refugee crisis. The Stability and Growth Pact, however, will require renewed tightening of fiscal policy in many euro area countries towards the end of the forecast period.

In summer 2016, the Ecofin Council found that Spain and Portugal had not taken effective action in response to its recommendations on measures to correct their excessive deficits. The countries had not reduced their excessive deficits by the recommended deadline and their fiscal efforts had fallen significantly short of the Council's recommendations. Spain is required to take additional measures worth 0.5% of

GDP in both 2017 and 2018, and Portugal to take measures in the amount of 0.6% of GDP in 2017. The fines imposed on these two countries were, however, cancelled as a result of the reasoned requests they submitted to the European Commission.

There has also been discussion recently regarding the appropriate fiscal stance for the euro area.[3]

Germany, in particular, has been encouraged to take domestic stimulus measures that also support growth in the other euro area countries, for example infrastructure investments that improve productivity and boost economic growth. Germany could take these measures, considering its budget surplus. On the other hand, the government debt ratio of Germany is still somewhat above the threshold of 60% of GDP, despite its positive trend.

Risks predominantly on the downside

The risks to the forecast for the global economy are once again on the downside. The main risks to the baseline forecast are those related to the global economy and the internal risks facing the EU22.

Risks relating to the global economy

One possible positive risk relates to the growth outlook for the US economy, which may turn out to be better than expected. This may be the case if **US productivity growth** accelerates, closer to the levels prevailing in 1995–2004. The factors affecting labour productivity can be divided into the skills of the workforce, capital deepening and total factor productivity. Of these factors, the low level of investment and, in particular, weak growth in total factor productivity have contributed to the subdued developments in labour productivity in recent years. The low level of interest rates provides support to corporate investment. In contrast, it is very difficult to estimate developments in total factor productivity. If the growth outlook for the US economy improved significantly, it would also boost euro area economic growth, as a result of an improvement in extra-euro area demand.

However, the outlook for the US economy, and the global economy, may weaken significantly, particularly if protectionist rhetoric spreads all the way to political decision-making in the advanced economies. Particular question marks relate to the possible failure of the Trans-Pacific Partnership Agreement (TPP) and the Transatlantic Trade and Investment Partnership (TTIP). Developments related to **protectionism and turning inwards** are political by nature, and it is therefore very difficult to assess their probability and impacts by means of economics tools.

Chinese economic growth in the first half of the year was more rapid than expected. Nevertheless, it is unlikely that Chinese growth will in future surprise significantly on the upside. The rapid pace of growth in the Chinese economy is increasingly based on leverage, which in the short-term will expose the economy to financial market shocks. A

3. The rules of the Stability and Growth Pact do not obligate individual euro area countries to take into consideration the euro area aggregate fiscal stance.

longer-term problem in the development of the Chinese economy has been the fact that growth is largely export-driven and based on investment. Efforts have thus been taken to move towards a more balanced economic structure with a higher share of consumption demand, which would provide better tools for maintaining sustainable economic growth in the long term.

Risks to the Chinese economy are tilted significantly on the downside, due to major imbalances in the economy, the disorderly unwinding of which could lead to financial market shocks that are considerably bigger than those China has experienced in recent years. Corporate debt, in particular, has increased at a very rapid pace, and the bulk of the debt is held by inefficient companies with a weakened capacity to service debt. A possible **financial market shock in China** could escalate into an economic crisis, with increasing uncertainty and a rapid deterioration in confidence in the economy. An increase in uncertainty would push up corporate sector risk premia, i.e. companies' financing costs, thereby cutting investment. Higher financing costs would also be reflected in a decrease in production levels and demand for labour, slowing the rise in wages. Weaker developments in employment and wages would decrease household income and therefore also slow the growth in private demand. Due to China's large economic significance and deep integration into the world economy, the effects would also reflect on the emerging economies. According to calculations made at the Bank of Finland, using the Global Integrated Monetary and Fiscal model (GIMF), a deceleration in China's growth by one percentage point would cut US and euro area growth by about 0.3–0.4 of a percentage point.

Internal risks to EU22

An obvious risk in the euro area is the impact on economic developments of the **UK's departure from the EU** (Brexit). When and how the departure will take place in practice is, however, still unclear. See Three months after Brexit vote – the current state of play. The short term economic impacts of Brexit will emerge via the confidence, wealth and exchange rate channels. In the longer term, the issues of free movement of labour and possible customs duties will be become increasingly important.

Brexit scenarios are typically based on two or three assumptions on how the UK will arrange its trade relations with the EU (and the rest of the world). In the calculations, UK customs duties (in relation to the EU27) will increase permanently. In the favourable scenario, the customs duties between the UK and EU will be similar to those in Norway's EEA agreement (a good 1%, on average), in which case the direct effect on trade will remain minor. If, however, we assume that the customs duties will rise to the level of WTO tariffs (nearly 5%), the impacts would be significantly larger.

An increase in customs duties will be reflected as a permanent contraction in UK imports from and exports to the EU. The rise in the prices of imported goods will push up costs, leading to a long-term decrease in corporate investment and the capital stock. Correspondingly, households will have to cut consumption expenditure. In the calculations, the pound sterling depreciates as companies try to sell their output abroad on account of the weak domestic demand. In addition to the trade in goods, another significant channel of effect will be financial services.

Another concern relating specifically to the euro area are the **Italian banking system's** non-performing loans, amounting to EUR 360 bn. According to estimates by the Italian Ministry of Economy and Finance, of this amount, some EUR 85 billion are bad loans for which there are no loan loss provisions or banks' own funds to cover them. The Italian problem of non-performing loans may escalate if doubts arise on the financial markets as to the condition of Italian banks and/or if the referendum on constitutional reform leads to political deadlock. Financial market disturbances triggered by concerns about Chinese growth in early 2016 and the outcome of the Brexit referendum also spread extensively to the share prices and the prices of credit default swaps of banks that the markets considered to be weak.

Portuguese banks also have a considerable volume of bad loans (about EUR 30 bn). In addition to the state of the banking sector, Portugal's situation is made increasingly fragile by the fact that the country's credit rating, which is e.g. a criterion for the eligibility of government bonds as collateral in ECB monetary policy operations, hinges on a single credit rating agency (DBRS).

Tags

- economic growth
- global economy
- inflation
- monetary policy

Global growth remains sluggish

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 4/2016 • ECONOMIC OUTLOOK

The global economy is expected to grow by a full 3% annually in 2017–2018, i.e. only slightly faster than in 2016. World trade growth will remain slow relative to GDP growth, as in recent years. In the United States and China, economic growth will continue to be strong and will sustain global growth. A slight rise in the oil price will support gradual economic recovery in Russia. Euro area growth is expected to remain relatively brisk, driven by domestic demand. Brexit will cast a shadow over the growth outlook, particularly for the United Kingdom but also to some extent for the rest of Europe. Emerging economies will continue to develop at a relatively steady pace during the forecast period and are not expected to be much affected by the dip in European growth.

Brexit took financial markets by surprise

The first interest rate rise in the United States in December 2015 heightened concerns about the emerging economies in early 2016. This related particularly to the depreciation of emerging market currencies against the US dollar, which substantially increased the debt burden in domestic currency terms of companies holding debt denominated in US dollars.

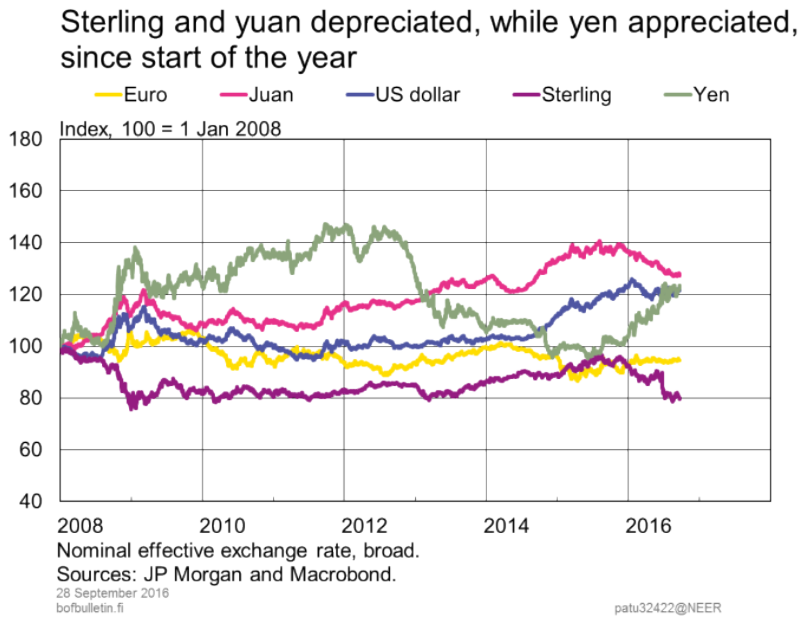
So far, the first US interest rate hike has not been followed by others, and concern about the emerging economies has currently eased somewhat, reflected in rising share prices on both US and emerging markets. According to many analysts, the US economy has (at least) almost achieved full employment, and inflation – although still slightly below

target – has picked up notably since 2015. Despite lacklustre GDP growth in early 2016, the US economy is projected to remain on its growth path.

Chart 1.

The tranquillity on the financial markets ended in late June with the UK referendum vote in favour of leaving the EU, which took the markets by surprise. However, except for the exchange rate impact, the immediate financial market effects of the Brexit vote were short-lived, and the markets have already mostly recovered. This recovery was buttressed by a substantial package of stimulus measures announced by the Bank of England in early August. However, the trade-weighted exchange rate of the pound sterling, which had already depreciated slightly prior to the referendum, has remained well below pre-referendum levels, while long-term-term sterling rates are lower than before.

Chart 2.

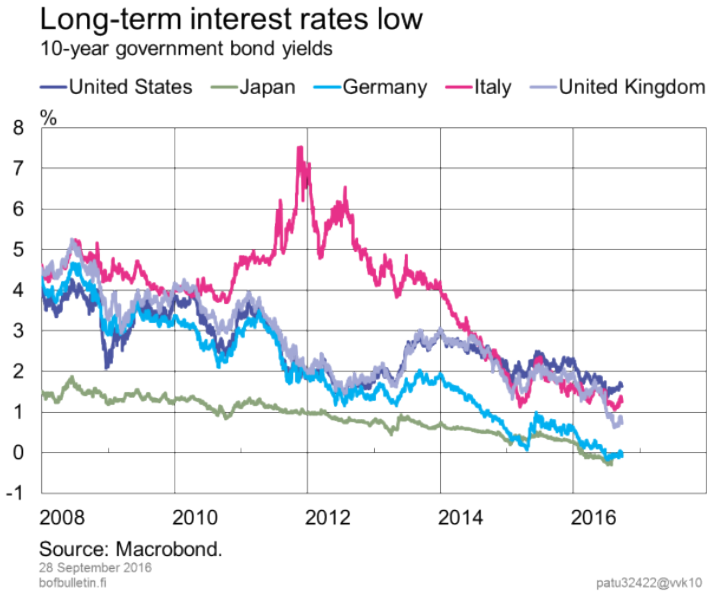


The longer-term growth prospects for the advanced economies have remained subdued, due e.g. to low productivity growth, while long-term interest rates have plunged to a record low during the course of 2016. The price outlook also remains subdued. Markets expect major central banks to keep their respective monetary policies accommodative for a prolonged period, although interest rates in the United States are expected to rise slightly. The European Central Bank (ECB) relaxed its monetary policy stance significantly in March. In September, the ECB Governing Council stressed that the measures will remain in place until it sees a sustained adjustment in the path of inflation consistent with its inflation target.

In Japan, growth and inflation trends have been particularly lacklustre, and additional measures have also been adopted by the Bank of Japan. Regardless of the monetary accommodation, the trade-weighted exchange rate of the yen has appreciated strongly in the course of 2016. By contrast, the trade-weighted exchange rate of the Chinese yuan has depreciated slightly since the start of the year. The Chinese economy performed steadily during the early part of the year.

The continued abundant supply of oil has kept the price of oil low, at just under USD 50 per barrel in early autumn. In the forecast period, the oil price is assumed to climb to around USD 55 per barrel, on average, in 2018. See Oil markets seeking a new balance.

Chart 3.



Global growth picks up only slightly

The global economy is projected to grow by a full 3% annually in 2017–2018, i.e. only slightly faster than in 2016. The outcome of the Brexit referendum and the expected lengthy negotiations over the exit process will cast a shadow over the growth outlook over the forecast period, particularly for the United Kingdom, but also to some extent for the rest of Europe. See Three months after the Brexit vote – the current state of play.

The immediate financial market volatility following the Brexit vote announcement was relatively short-lived, however. The impact of Brexit on the cyclical forecast is, therefore, mainly reflected in trade flows: UK imports will contract substantially in the immediate years ahead, cutting back European exports to the United Kingdom as well as investments in the export industry. In the forecast, Brexit is, on a European scale, a minor, slightly adverse shock to growth and inflation over the forecast years. This assessment is, nevertheless, subject to downside risks of the emergence of more profound and widespread implications for Europe and the global economy as a whole.

Euro area growth is also dampened by internal problems that are unrelated to Brexit, such as the renewed deterioration in the growth outlook for Italy and the difficulties of the Italian banking sector.

In the United States and China, economic growth will continue to be strong, and this will sustain global growth. After a temporary slowdown in 2016, US growth is projected to climb to a full 2%. China will see a controlled moderation in growth, in response to the restructuring of the economy away from investments towards private consumption. The Brexit-induced dip in the European economy will not have any notable effects on US and Chinese growth. The rate of US inflation is expected to increase to around 2%.

In the EU22 countries (euro area, UK, Sweden and Denmark) inflation trends are polarised: euro area inflation will pick up in the forecast period but still remain below the medium-term objective of just under 2%. The acceleration in inflation is stronger in the United Kingdom than in the euro area, with the Brexit-induced depreciation of the pound sterling fuelling import price inflation.

Japan's economic policy challenges will be considerable during the forecast period, and unless substantial changes are made to economic policy, the growth and inflation outlook will remain very subdued. However, due to the ageing of the population, the ratio of GDP growth to the working-age population will be reasonably good.

A slight rise in the price of oil will support economic recovery in Russia, with the pace of growth in the Russian economy picking up to around 1.5% in 2018.

The emerging economies will continue to perform at a relatively steady pace during the forecast period and are not expected to be much affected by the dip in European growth. Having been exceptionally lacklustre in 2016, world trade is projected to gather some momentum in the forecast period. As in the past few years, world trade growth will, nevertheless, remain slow relative to GDP growth throughout the forecast period.
See Why has world trade slowed?

Table 1.

GDP and the change in world trade

% change on previous year (previous forecast below)

GDP	2015	2016[f]	2017[f]	2018[f]
United States	2.6	1.6	2.3	2.2
	(2.4)	*(2.2)*	*(2.3)*	*(2.2)*
EU22	2.0	1.7	1.3	1.6
	(1.7)	*(1.6)*	*(1.8)*	*(1.8)*
Japan	0.6	0.4	0.9	1.0
	(0.5)	*(0.4)*	*(0.7)*	*(1.2)*
China	6.9	6.5	6	5
	(6.9)	*(6)*	*(6)*	*(5)*
Russia	–3.7	–1.0	1.0	1.5
	(–3.7)	*(–3)*	*(0)*	*(1)*
World	*2.9*	*2.8*	*3.1*	*3.1*
	(2.8)	*(2.8)*	*(3.2)*	*(3.2)*
World trade	2.3	1.5	3.2	3.5
	(1.4)	*(2.7)*	*(3.8)*	*(4.0)*

f = forecast

EU22 = euro area, Sweden, Denmark and UK.

Source: Bank of Finland.

Table 2.

Inflation in key economies

% change on previous year (previous forecast below)

Year	2015	2016[f]	2017[f]	2018[f]
EU22	0.0	0.4	1.4	1.5
	(0.0)	(0.2)	(1.2)	(1.6)
United States	0.1	1.1	2.1	2.2
	(0.1)	(1.0)	(2.3)	(2.2)
Japan	0.8	–0.1	0.6	1.0
	(0.8)	(0.2)	(1.5)	(1.4)

f = forecast

EU22 = euro area, Sweden, Denmark and the UK.

Sources: National statistical authorities and calculations by the Bank of Finland.

Brexit dampens growth in Europe

For the United Kingdom, Brexit marks a great change, the full extent of whose implications will only be seen many years ahead. UK growth in 2017 will notably be much below pre-referendum forecasts. Against this backdrop, euro area, Swedish and Danish exports to the United Kingdom will decrease, which, at the same time, will reduce investments particularly in the export industries of these countries and slightly drag on growth.

The effects of Brexit are, however, shrouded in major uncertainties. In addition to the trade effects, Brexit may have several other implications for the economies of the euro area, Sweden and Denmark that have not been captured by the baseline forecast.

Euro area growth is expected to continue at a relatively brisk pace, driven by domestic demand, despite a minor slowdown in 2017. Growth will be buoyed by an accommodative monetary policy and a broadly neutral fiscal policy over the forecast period. Continued growth will support employment gains and boost inflation in the forecast period.

However, the slight moderation in growth due to Brexit will hamper euro area recovery and add to the fiscal challenges of many countries. The euro area public debt-to-GDP ratio will decline only marginally over the forecast period. Of the big euro area countries, the economic outlook for Italy in particular looks highly subdued, not least owing to the problems in the country's banking sector.

Overall, Brexit has a significant impact on the Bank of Finland's most recent forecast for the real economy of the EU22 countries. The growth forecast for the United Kingdom has been subject to the strongest downward revisions, but the effects of Brexit will also erode growth in other EU22 countries. Due to the downward revision of the forecast, the output gap, i.e. the difference between potential and actual GDP, will be wider than before at the end of the forecast horizon. EU22 inflation will still be low in 2016, but will accelerate in the years to come.

US economic growth and inflation gather pace

Industrial output and investment growth in the United States have been weak for more than a year already, which is above all related to the adjustment of the minerals industry to the low oil price. Oil production has been curtailed and overcapacity in the sector wound down, and this has also been reflected in many related sectors.

The contraction in investment in the minerals industry has been drastic. In the second quarter of 2016, the volume of investment was nearly 50% down on the year before and more than 62% lower than three years earlier. The forecast is based on the assumption that this adjustment is now largely completed, which will greatly improve the conditions for industrial output and investment growth.

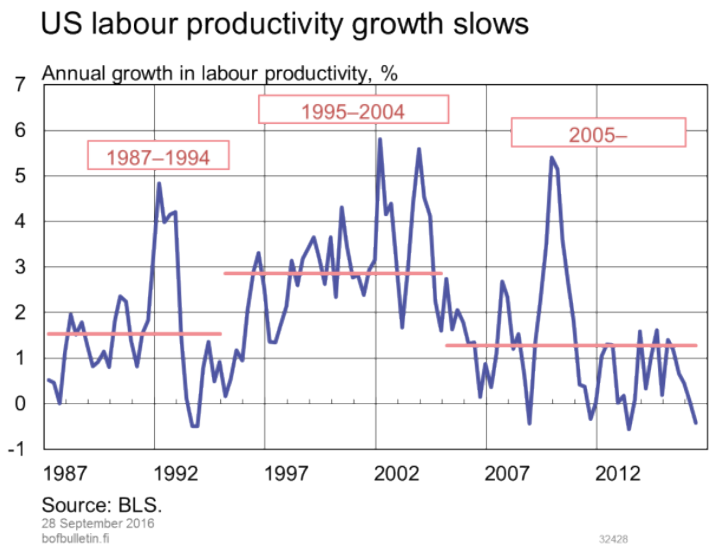
Owing to the weakness of the first six months of the year, GDP growth will reach only 1.6% in 2016 but will climb to 2.3% and 2.2% in 2017 and 2018, respectively. In the current year, growth will hinge on private consumption, but over the next couple of years it will also be supported by both fixed investment and housing investment. The growth contribution of net exports will remain weak throughout the forecast period, with the strong dollar bolstering imports and eroding exports.

The labour market has performed well and the unemployment rate has already dropped to slightly below 5%. Consumer price inflation will remain just above 1% in 2016, but is projected to rise above 2% next year already, as economic growth begins to revive and the oil price effect subsides.

US economic growth is hampered by slow improvements in productivity. Labour productivity growth has edged down for more than ten years already, but notably so during the past few years (Chart 4). In the second quarter of 2016, labour productivity even declined on the year before.

The deceleration in labour productivity growth also concerns a large group of countries other than the United States. The phenomenon may be partly related to unsatisfactory investment in the renewal of production capacity. However, the poor performance of total factor productivity is considered a more important explanation than subdued investment. Several explanations for this phenomenon can be found in the research literature, such as delays in the introduction of new technologies and their slower diffusion, as well as the fading of dynamics in the operating environment for non-financial corporations, e.g. in the face of slower reallocation of work and capital from unproductive to more productive sectors.

Chart 4.

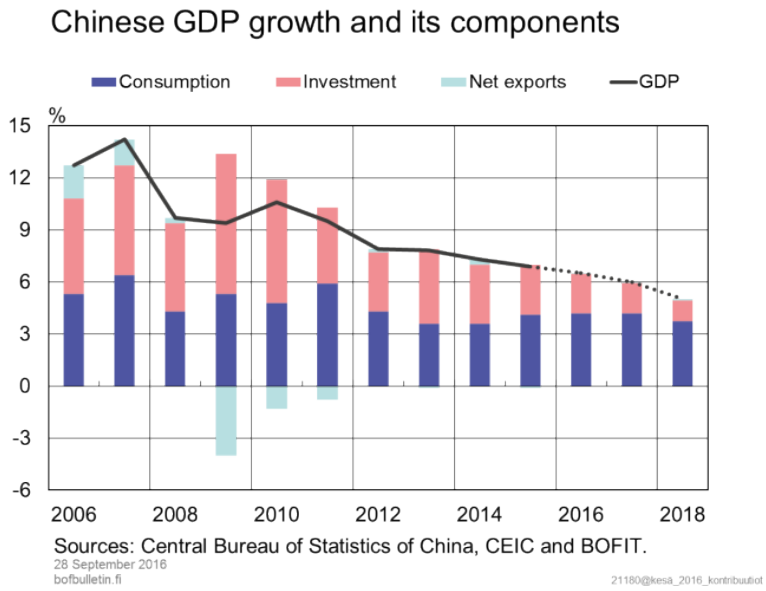


Chinese growth loses momentum amid mounting risks

In China, GDP growth to date in 2016 has been faster than expected, driven by the government's stimulus policy. Accordingly, the GDP growth forecast for 2016 was revised up from 6% to 6.5%. Growth prospects remain unchanged, however, and growth is expected to fall back to 6% in 2017 and 5% in 2018.

The deceleration in growth reflects a variety of factors, including contraction of labour, slower improvement in productivity and the ongoing process of economic restructuring that depresses investment growth. In the years ahead, the economy will be mainly bolstered by a stable and strong increase in domestic consumer demand. Consumer price inflation is expected to remain moderate, while monetary and fiscal policy are expected to remain accommodative.

Chart 5.



Concerns about economic developments in China have increased further and scenarios pointing to a much faster-than-predicted deceleration in growth cannot be ignored. The financial sector, in particular, is being put to the test. Corporate debt accumulation remains very high, with the debt concentrated in overcapacity sectors and inefficient state-owned companies, many of these with difficulties fulfilling their obligations and with meagre future prospects. In addition, the performance of many state-owned companies has weakened and an increasing number of companies have very high interest expenditure relative to earnings.

The large shadow banking sector blurs the picture of the financial sector and makes supervision more challenging. The links between financial sector participants have also increased, facilitating the spread of potential individual problems to other participants.

The forecast expects investment growth to slow steadily. In 2016, growth in investments has been largely government-driven, while annual growth in private real investment has been depressed. Considering that investment accounts for nearly half of the Chinese economy, a much faster-than-projected slowdown in investment growth would have a tangible effect on the economic outlook.

On the political front, the situation is difficult, with the liberalisation of the economy and the tightening of internal policy (including stricter and broader censorship, increasing internet restrictions and supervision of civil society) on a collision course. It also appears that members of the Chinese government do not see eye to eye on the focus of economic policy. While some are in favour of sustaining strong growth in line with official growth targets, others are pushing for reforms that would probably cause growth to fall below official targets in the short term. Foreign policy risks have also been increased by the situation in the South China Sea.

Growth and price outlook for Japan remains lacklustre

In Japan, economic growth remains lacklustre. The strong appreciation of the yen is eroding the cost competitiveness of the export sector, thus weighing on exports. Additional challenges are posed by the more sluggish growth in world trade and the moderation in growth in China, Japan's main trading partner.

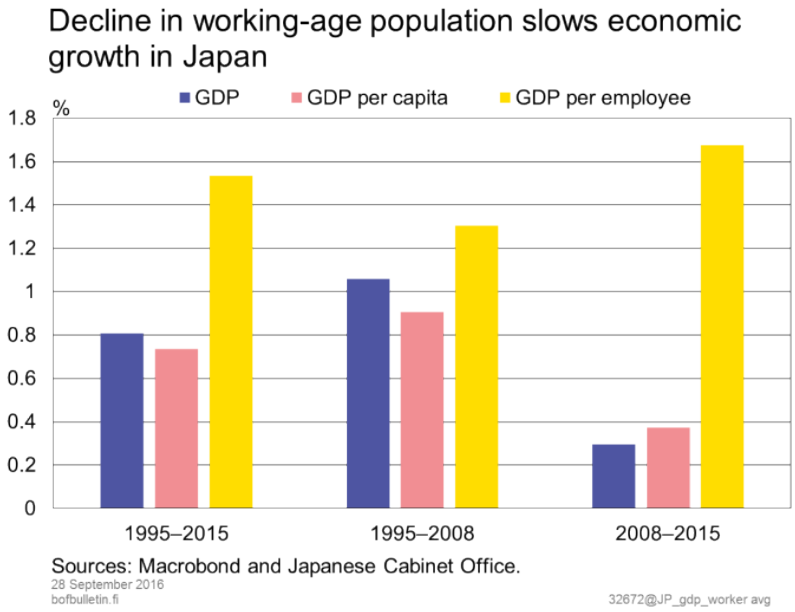
Domestic demand has also been muted. Private consumption growth continues to be restrained by moderate earnings development. Nominal wages have risen slightly and real earnings have been improved by the low inflation. However, this has coincided with an increase in the labour force share of low-income part-time and temporary employees, which erodes the total wage bill of the economy and, hence, growth in purchasing power.

Corporate appetite for domestic investment is, in turn, dampened by the ageing and shrinking of the Japanese population. Corporate profits are record high, but instead of making domestic investments, Japanese companies are seeking rather to expand abroad in search of brighter prospects.

In fact, growth in Japanese domestic demand will largely hinge on public consumption in the immediate years ahead. The Japanese government is endeavouring to boost economic growth by pursuing an expansionary fiscal policy. This expansionary fiscal stance, however, increases the indebtedness of the country and adds to the longer-term challenges of achieving debt sustainability.

As well as the economic trough, the changing demographic structure, too, weighs on economic growth. The elderly share of the population is increasing, while the working-age share is declining. In fact, measured against the working-age population, the Japanese economy has grown relatively briskly (Chart 6).

Chart 6.



Consumer price inflation has turned negative again in the face of lacklustre economic growth, a stronger yen and a persistently low oil price. The weakness of domestic demand has pushed core inflation down close to zero. The rate of inflation will continue to be moderate in the immediate years ahead, as inflation expectations are muted, the inflation-fuelling consumption tax increase was deferred until 2019 and no significant depreciation of the yen from current levels is foreseen.

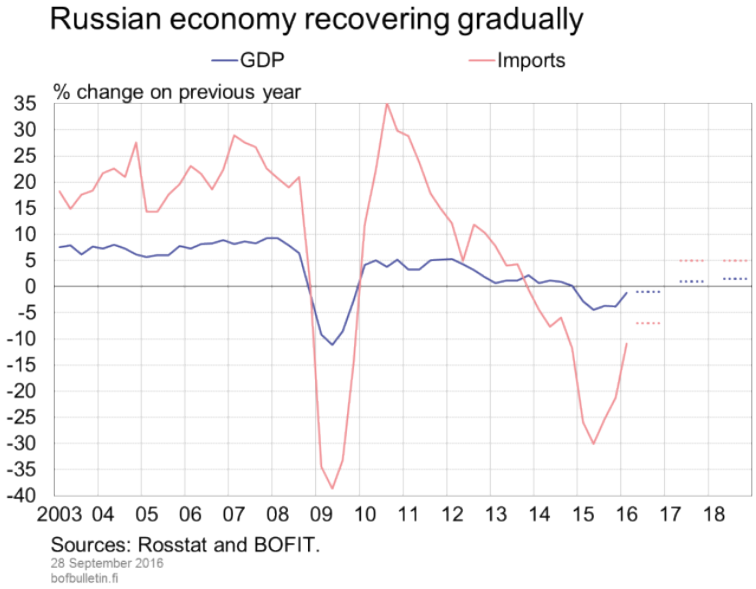
The Bank of Japan continues to pursue a highly accommodative monetary policy. At its September meeting, the central bank refined its strategy and, among other things, announced a shift of monetary policy focus towards a yield curve objective. The primary aim is to keep long-term 10-year sovereign bond yields close to zero. The Bank of Japan also announced that it would continue to expand the monetary base until it sees a sustainable increase in the rate of inflation above the 2% target.

Forecast for Russian economy revised slightly up

The Russian economy will contract slightly less in 2016, and recover slightly faster in 2017, than foreseen in the Bank of Finland's March forecast. This reflects the higher price of oil and the weak real exchange rate of the rouble, which has been substantially weaker in 2016 than a year earlier. Therefore, Russian imports have contracted to an unusually great extent relative to the GDP slide.

Russian GDP is down by 1% in 2016, while imports are down by 7%. Over the years 2017-2018, the economy will gradually recover in step with the rise in the oil price and the revival in imports. However, growth will be sluggish, considering that the long-term growth forecast remains unchanged (1-1.5% per annum).

Chart 7.



Russian exports are expected to gradually emerge from the dip witnessed in 2016. Private consumption will recover from the collapse in 2015–2016, with slower inflation

bolstering growth in purchasing power. The increase in consumption is restricted by the slow improvement in productivity, which narrows the scope for private sector wage increases.

Fixed investments are expected to revive only slowly. This is partly related to the uncertainty surrounding the longer-term outlook for the economy. The volume of investments has been contracting ever since the beginning of 2013.

Central government expenditure will decline much less in real terms in 2017-2018 than in 2016, even assuming that the announced budget deficit reduction targets are met. The significance of monetary policy for economic recovery is likely to remain negligible.

Forecast risks remain elevated. Oil price developments may take a different path than assumed, and geopolitical risks cannot be ruled out. As before, the effects of these factors may pass through very quickly, particularly to the rouble, the rate of inflation and imports. The decline in people's living standards and the political pressures faced by the country's leaders may result in a more favourable development in central government expenditure than projected.

Tags

- forecast
- global economy
- gross domestic product
- inflation

ECB purchase programme expanded to include corporate bonds

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 4/2016 • MONETARY POLICY

When the Governing Council of the ECB decided in March 2016 to increase monthly purchases under the expanded asset purchase programme (EAPP) from EUR 60 billion to EUR 80 billion, it also decided to add corporate sector bonds to the programme. Purchases under the corporate sector purchase programme (CSPP) began at the beginning of June and are intended to run – as is the whole APP – until the end of March 2017, or beyond, if necessary. The purchases are carried out by six national central banks, including the Bank of Finland, acting on behalf of the Eurosystem.

The basic principles of corporate bonds do not differ from government bonds that yield a coupon rate. Banks issue the bonds on behalf of companies, and they are also traded on the secondary markets, in the same manner as government bonds. The Eurosystem may purchase corporate bonds both on the primary and on the secondary markets.

Since the corporate bond markets are considerably smaller than the government bond markets, it requires special expertise to operate on them. For this reason, only certain Eurosystem central banks participate in implementation of the programme. In addition to the Bank of Finland, the national central banks of Germany, France, Spain, Belgium and Italy will purchase bonds of companies operating in their own country. The Bank of Finland will also purchase bonds issued by Irish, Austrian and Baltic corporations, while the Belgian central bank will operate on the Portuguese, Luxembourgian, Slovak, Slovenian, Cypriot, Maltese and Dutch markets. As many international businesses operating in different European countries issue bonds in the Netherlands, Dutch corporate bonds are allocated between the large national central banks under the CSPP mainly according to the actual location of the company.

In order to qualify for purchase under the CSPP, corporate bonds must comply with the programme's eligibility criteria, which are based on the Eurosystem's collateral framework for monetary policy operations. The bonds must be denominated in euro and have a credit assessment obtained from an external credit assessment agency of which at least one has provided the bonds an investment grade rating (equivalent to a rating of BBB-). The bonds must have a minimum remaining maturity of six months and a maximum remaining maturity of 30 years at the time of purchase.

The bond issuers must be companies operating in the euro area, but bonds of international corporations whose parent undertaking is located outside the euro area are also eligible for purchase under the CSPP. By contrast, banks and other credit institutions or companies whose parent undertaking is a credit institution are excluded from the programme. Public sector corporate bonds are also eligible for purchase under the CSPP. Limitations on these are more or less similar to those on the Eurosystem's public sector purchase programme.

The ECB Governing Council has decided that the Eurosystem may hold a maximum of 70% of bonds issued. Stricter limits apply if the undertaking is classified as a public sector corporation or a publicly owned company. In order to maintain market liquidity, national central banks participate in securities lending schemes in which corporate bonds are lent to market participants.

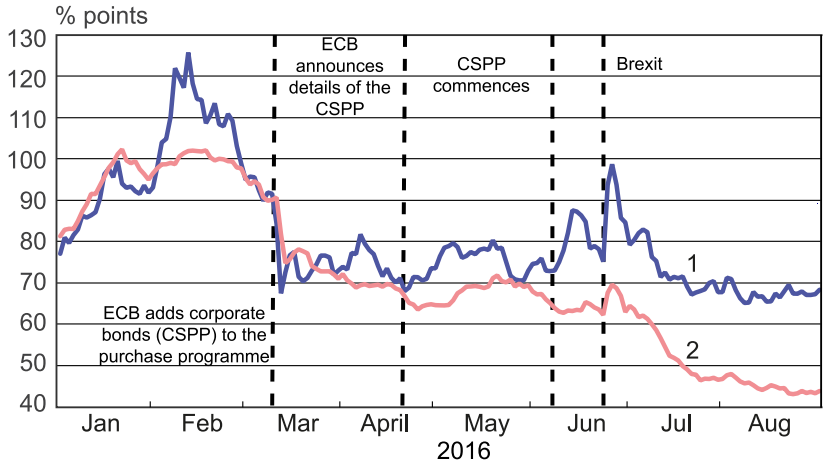
By September 2016, the Eurosystem's purchases of corporate bonds amounted to EUR 20.5 billion. Purchases have been targeted on a broad range of sectors and countries. However, they have been larger on the markets of countries with sizable issues, compared with countries with small corporate bond markets. Monthly purchase volumes vary, since there is monthly fluctuation in the volume of corporate bonds available on the secondary markets and because businesses do not issue bonds evenly throughout the year. Consequently, the Eurosystem's monthly purchases may be above average in months of sizable corporate bond issuance.

The CSPP complements the EAPP, which covers purchases of public sector debt securities, banks' covered bonds and asset-backed securities. The purpose of the programmes is to further enhance the transmission of monetary policy and ease borrowing conditions for businesses, contributing to a return of inflation rates to levels consistent with the objective of price stability. The announcement of the commencement of corporate sector bond purchases narrowed corporate bond spreads by 0.20 of a percentage point (Chart 1). When interest rates on corporate loans fall, companies' funding costs decrease, and thereby also their expectations of investment returns. For this reason, many solid European companies have issued bonds at negative interest rates. The CSPP is intended to encourage companies to seek market-based funding. This would stimulate euro area capital markets and offer an alternative funding channel to traditional bank financing.

Chart.

Announcement of commencement of corporate sector bond purchases narrowed corporate bond spreads by 0.20 of a percentage point

1. Credit risk index for investment grade corporate bonds (iTraxx)
2. Spreads of euro-denominated investment grade corporate bonds



Source: Bloomberg.

7.9.2016
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Tags

- capital markets
- corporate sector purchase programme (CSPP)
- expanded asset purchase programme (EAPP)

Three months after the Brexit vote – the current state of play

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 4/2016 • MONETARY POLICY

At the end of June, 17.4 million people voted for the United Kingdom to leave the EU. Share prices plummeted, the value of the pound crashed and the country was plunged into high political turmoil. The faster-than-expected appointment of a new prime minister helped to dampen political uncertainty, and market reaction quickly subsided. The effects on the real economy will be evident only later. Three months after the referendum, the UK has still not notified the European Council of its intention to leave and is still an official EU member state.

Surprising result of the historic vote

In January 2013, David Cameron, the leader of the Conservative Party, promised to hold an in–out referendum on EU membership if the Conservative Party won the 2015 general election. With the Conservatives winning the election, David Cameron became the Prime Minister and the referendum was held on 23 June 2016. To Cameron's surprise, the Brexit camp won by 51.9% to 48.1%. The turnout of voters was the highest since the 1992 parliamentary election, which was preceded by, among other things, Margaret Thatcher's resignation, the Persian Gulf War and signing of the Maastricht Treaty.

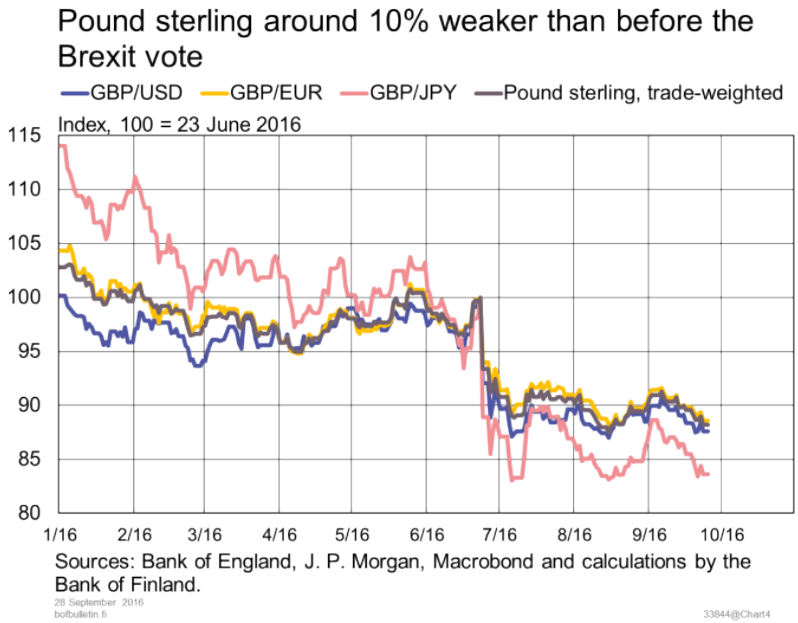
Political turmoil in the aftermath of the referendum was high within the government and opposition parties alike. Cameron announced that he would resign, but judged that his successor would not be known before the autumn. However, the new Leader and Prime Minister was chosen by mid-June, with the appointment of Theresa May, the former Home Secretary. The faster-than-expected appointment of the new Prime Minister eased political uncertainty considerably. Theresa May appointed David Davis as Secretary of

State for Exiting the European Union, Boris Johnson as Foreign Secretary and Liam Fox as International Trade Secretary. All three had publicly campaigned for the Leave camp.

The pre-referendum assessments of the Brexit's impact channels were unanimous. The short-term effects would be reflected in increasing political and economic uncertainty, higher financial market volatility, increased equity market risk premia and a weaker pound. Shaken economic confidence would erode investment sentiment and rein in recruitment.

The longer-term effects depend on the future bilateral relations between the UK and the EU. In an unfavourable scenario, foreign trade declines, capital inflows decrease and the financial sector contracts. Labour market mobility weakens and technological development and productivity suffer. The weaker pound leads to inflation rising above the target level. Consumption and investment edge down.

Chart 1.



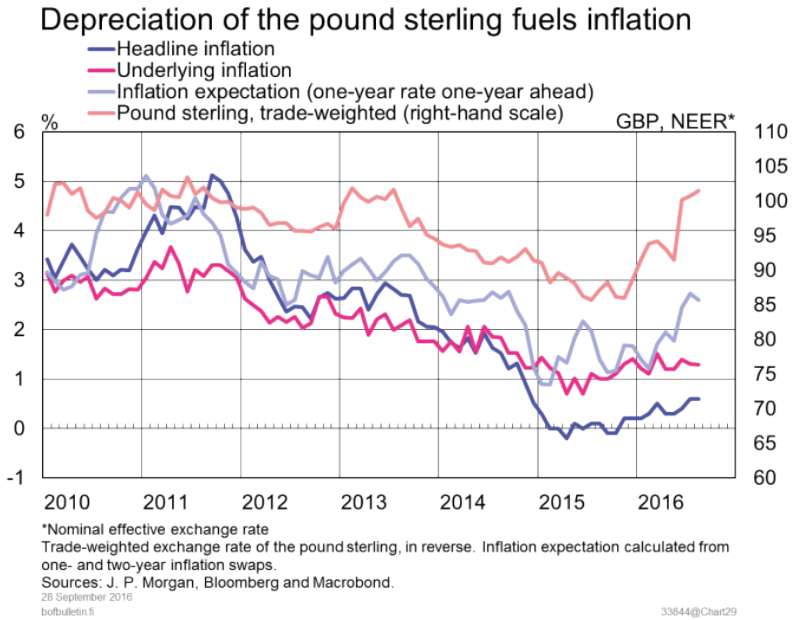
The short-term effects materialised as expected. The markets reacted instantly to the surprising referendum outcome. The pound weakened and global stock markets lost over USD 2000 billion in value the day after the vote. Fuelled by weaker economic prospects and safe haven demand, government bond yields fell and the price of gold rose. Market turbulence was short-lived, however. Share prices have largely rebounded and market volatility has moderated. The depreciation of the pound has also supported UK stock indices. The pound has stabilised on a trade-weighted basis at a level more than 10% below the pre-referendum level. The longer-term effects depend largely on the outcome of future negotiations. So far, there is little statistical evidence available on the effects of the Brexit vote on the real economy.

Actual effects on the real economy will become evident later

The referendum outcome was immediately reflected in survey results. In July, the purchasing managers' indices (PMI) for manufacturing, services and construction fell below 50. The composite PMI index combining all the sectors fell from 52.5 in June to 47.5 in July. A value below 50 forecasts contraction in economic activity. However, the initial shock had already abated in August and, except for the construction sector, the PMI indices rebounded to over 50. In July, retail trade confidence continued the downward trend that had begun in the early part of the year, and consumer confidence plummeted. In August, confidence improved notably also according to these survey results, even though it was still markedly weaker than in the early part of the year.

Statistical data released after the vote have partly been stronger than expected. Retail sales were considerably above expectations in July, growing by 1.5% from June, but dipped in August. Industrial production fell behind expectations in July. The depreciation of the pound supports export companies but, at the same time, pushes up import prices, weakens developments in household real income and fuels inflation – the first indications of which were already evident in June as higher inflation rates. With the weakening of the pound, import prices rose in July by 6.5% year on year, and headline inflation picked up to 0.6% in July–August. The first official GDP data for the third quarter will be published at the end of October.

Chart 2.



In August, the Bank of England cut its economic growth forecast for the UK for 2017 by 1.5 percentage points, to 0.8%. It also announced more extensive quantitative easing than expected. Even though the statistical data released towards the end of summer were partly better than expected, the Bank of England also held to its view on the effects of the Brexit in its September meeting. If the next economic forecast published in November remained consistent with August projections, the Bank of England would be ready to cut

the Bank Rate further. In September, the British Chamber of Commerce also downgraded its growth forecast for 2017 to 1%. The downward revisions to the economic forecasts are particularly based on a sharp decline in imports and investment as a response to the weaker pound and increased uncertainty surrounding the business environment. Corporate fixed investment was already contracting in the UK in the first half of 2016, and the trend is projected to continue. The stock of foreign investment also contracted in the first half of 2016, by 10% on the previous year.

When will Brexit actually take place?

Article 50 of the Lisbon Treaty provides guidelines for a member state's process for leaving the EU. The process is initiated when the UK notifies the European Council of its intention to leave[1]. The terms of the departure will be negotiated in accordance with guidelines agreed by the European Council by unanimity. The withdrawal agreement will need to be adopted in the EU by a qualified majority by the Council (without the UK's participation) and will also require the consent of the European Parliament and that of the UK. Until the negotiations are closed, the UK remains an official EU member state.

Article 50 provides a two-year time-limit for the withdrawal negotiations, which can be extended by a joint decision. If no agreement has been concluded by the deadline and there is no unanimity about the extension of the negotiations, the UK's membership in the EU ends and the UK becomes a country outside of the union. It could, for example, trade under the terms of the World Trade Organization for international trade (WTO rules).

Theresa May has stated that she will not submit the Article 50 notification to the European Council before the end of 2016. The UK needs time to prepare its own negotiation strategy. The negotiations would accordingly commence in the early part of 2017, at the earliest. It is unclear whether negotiations on future bilateral relations between the UK and the EU would start simultaneously with the withdrawal negotiations or only after the UK has officially departed from the EU. The more tailored the new relations will be, the longer it will take to negotiate on them. The agreement will probably necessitate both unanimity and national ratification. It takes on average several years to conclude free trade agreements. The CETA agreement between the EU and Canada has been cited as the most ambitious trade agreement so far in the EU, and it has still not been ratified, even seven years after the start of the negotiations.

Trade policy falls within the competence of the EU and trade agreements are concluded at the Union level. When the UK leaves the EU, trade agreements made by the EU also cease to apply to the UK. This means that the UK needs to negotiate new trade agreements with all trading partners outside the EU. Since trade policy has been centralised in the EU for decades, the UK also presently lacks the national resources and expertise for trade negotiations.

1. There is currently a dispute in the UK over whether the submission of the withdrawal notification to the European Council, and hence triggering of Article 50, necessitates official Parliamentary approval.

There are several alternatives for bilateral relations between the UK and the EU. For the UK it is a question of choosing between two dimensions: the tighter relations with the EU are preferred, the more the UK must give up of its political independence. Economically, without doubt the most negative alternative would be for the UK to become a fully external country, in which case WTO rules would apply to trade between the EU and the UK. At the other extreme, the UK would follow Norway and join the European Economic Area. In that case, the price for the UK to access the single market would be both acceptance of the four freedoms (goods, services, people and capital) and volumes of EU legislation with no possibility of influencing decision-making in the Union.

The EU Commission named former EU Commissioner Michel Barnier as the chief Brexit negotiator. Barnier takes up his post at the beginning of October. He has served as the Vice President of the Commission and has previously been in charge of internal markets and financial services, for example. The EU has repeatedly stressed its basis for the negotiations: there is no access to the single market without acceptance of all four freedoms. It is almost certain that the fog surrounding the negotiations will not clear during this three-year forecast horizon. The longer the uncertainty about the future lasts, the greater the effects of the referendum will be.

Tags

- United Kingdom
- markets
- Brexit
- withdrawal negotiations

Why are euro area loans to non-financial corporations growing so slowly?

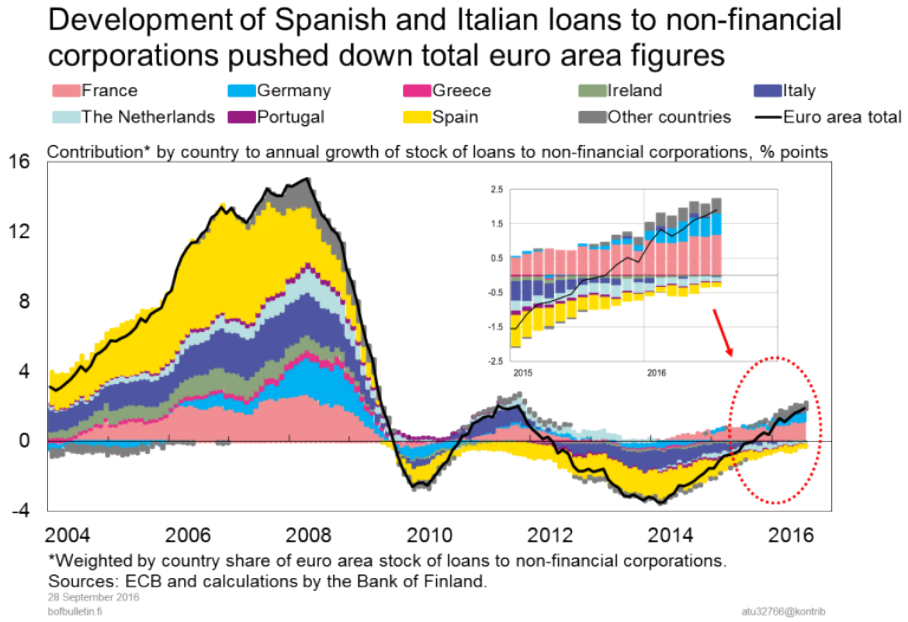
TODAY 1:00 PM • BANK OF FINLAND BULLETIN 4/2016 • ECONOMIC OUTLOOK

In spite of an accommodative monetary policy and a general economic recovery, growth of loans to non-financial corporations has remained weak in the euro area. The consistently poor growth is largely due to extensive real estate market bubbles in a few countries, which then burst as a result of the financial crisis. The amount of non-performing loans on the balance sheets of banks significantly weakens banks' ability to offer new loans.

Average state of the euro area does not tell the whole story

From the beginning of 2012, the stock of euro area loans to non-financial corporations contracted for nearly three consecutive years. A closer look at developments country by country reveals that half of the negative growth originates from the declining stock of loans to non-financial corporations in the Spanish banking sector. One third of the decline is caused by the development of Italy's stock of loans to non-financial corporations.

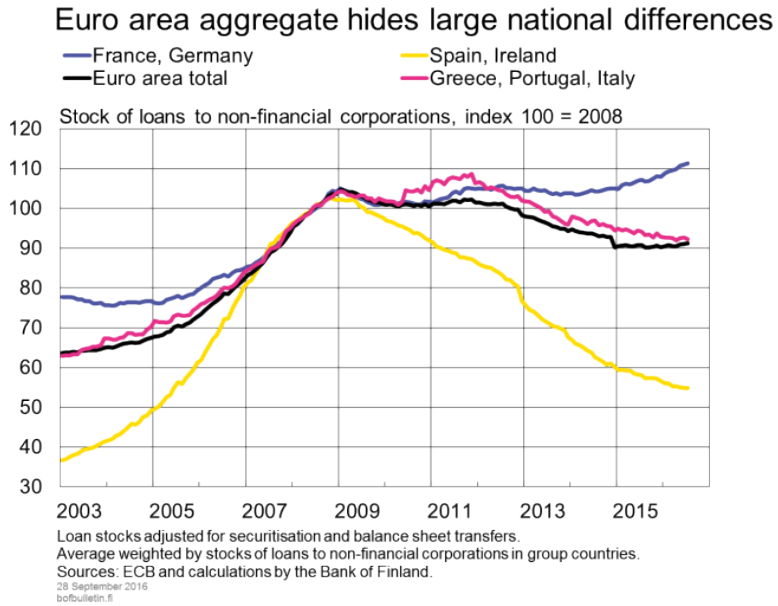
Chart 1.



From the beginning of 2016, annual growth of the euro area stock of loans to non-financial corporations has suffered from a declining loan stock in the Netherlands and Spain. Growth of the euro area stock of loans to non-financial corporations has remained clearly positive, however, due to a strong growth particularly in France and Germany.

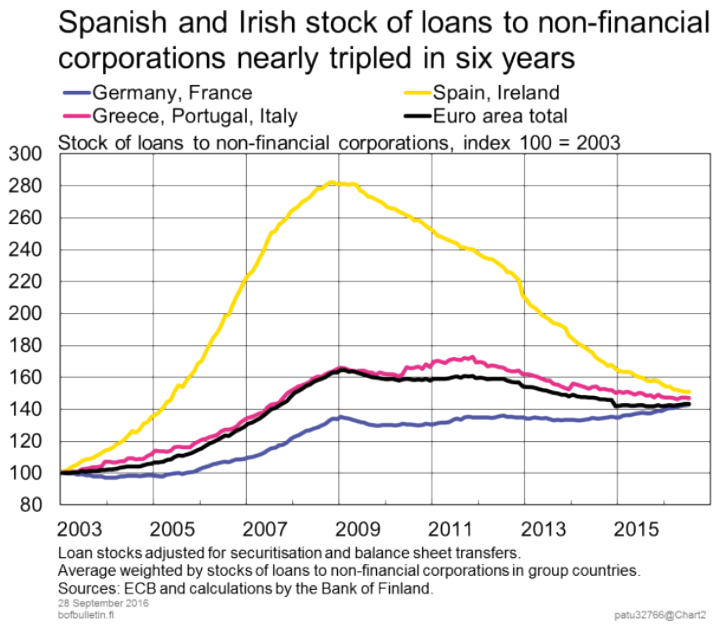
Since 2008, the volume of loans to non-financial corporations calculated on the basis of cumulative net flow has grown by about 10% in France and Germany. On the other hand, the average loan stock in Spain and Ireland has contracted to nearly half of the stock in 2008. The diverging development has kept growth of the stock of loans to non-financial corporations subdued at the euro area level.

Chart 2.



The countries where recently the stock of loans has continued to contract can be divided roughly into two categories. The first includes the countries with deeper economic difficulties (Greece, Portugal and to a lesser extent Italy). In these countries, the contraction of the loan stock did not start until later, and it has largely affected all sectors. The generally weak economic conditions have also clearly weakened the banking sector in these countries, and companies have experienced limited availability of funding as one major business obstacle. However, the modest growth of the stock of loans to non-financial corporations is a result of problems on both the demand and supply side. Weak corporate sector profitability, high indebtedness and bleak prospects not only reduce the availability of funding but also the need for funding.

Chart 3.



The second category includes countries where the construction sector grew substantially in the pre-crisis period and where the real estate market collapsed as a result of the crisis (particularly Spain and Ireland[1]). Banks provided funding for the overheating real estate market, and loans to the construction sector and real estate activities rapidly accumulated on the balance sheets. Even though general economic conditions have already improved significantly in these countries, the large size of the construction sector and its close links with the banking sector will still dampen growth of the stock of loans to non-financial corporations for a long time to come.

Banking and construction sectors strongly connected

Loans to the construction sector and other real estate acitivities account for a good third of the total stock of loans to non-financial corporations on the balance sheets of euro area

1. The real estate market also collapsed in the Netherlands, and the Government bailed out the largest banks in the country. Due to better economic developments in the Netherlands, the difficulties of the banks were not reflected in financing conditions.

banks. When housing loans are added, real estate acitivities account for around 60% of the stock of lending to the private sector. This represents about 20% of the financial assets of the euro area banking sector, or 60% of the euro area's aggregate GDP.

Chart 4.

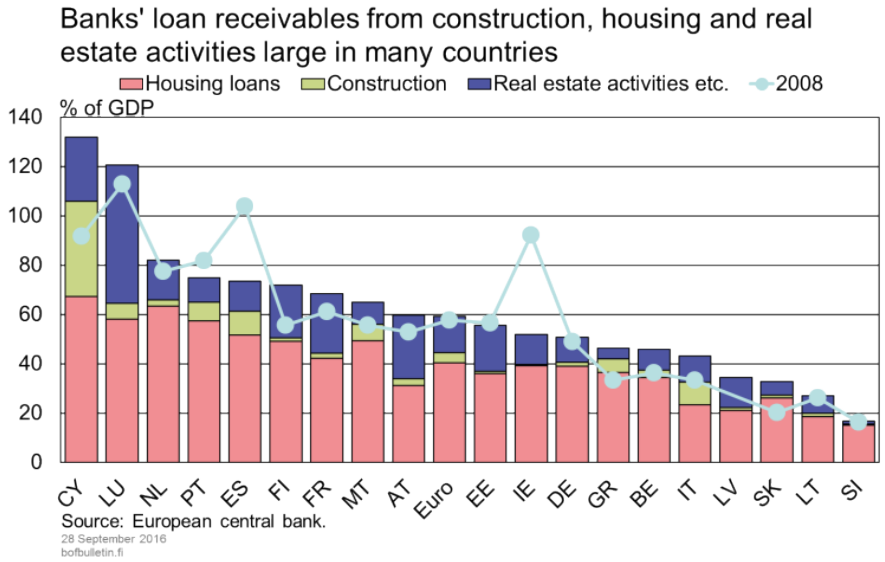
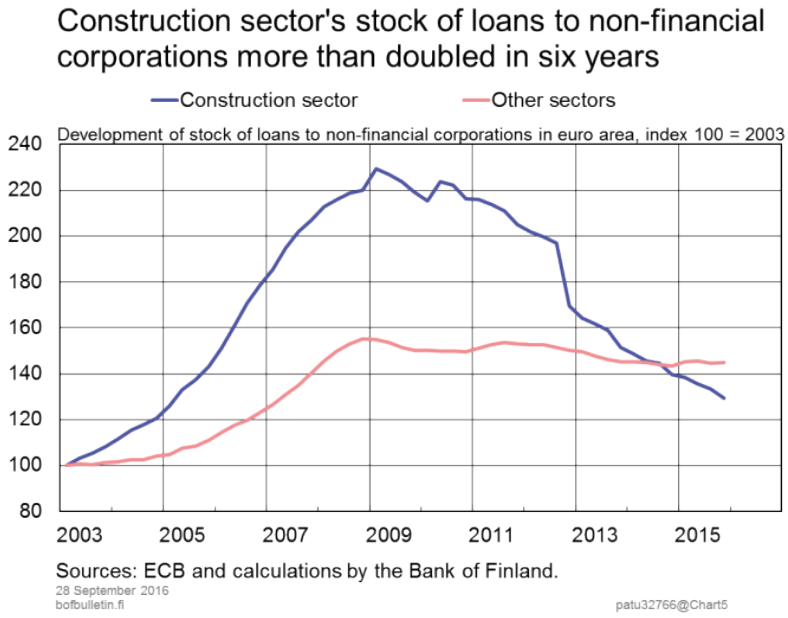


Chart 5.



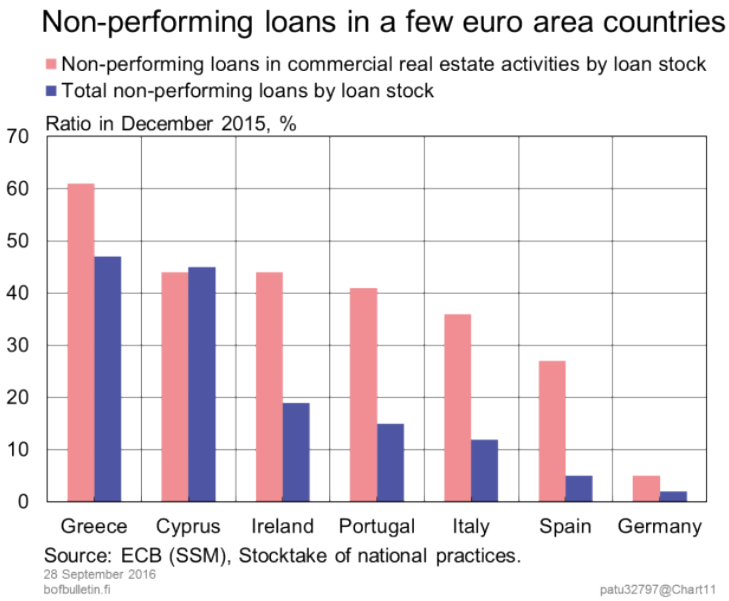
In the construction sector and other real estate acitivities, the portion of small and medium-sized enterprises (SME) is significant in the euro area (nearly 90% of the companies in question). Thus the victims of the burst real estate market bubble have mainly been SMEs, whose opportunities to obtain alternative funding from sources outside the banking sector are fewer to begin with.

Amount of non-performing loans exploded when the bubble burst

The problems of the construction sector and in real estate activities have accumulated on the balance sheets of euro area banks. According to the US company Cushman & Wakefield, which provides real estate services, non-performing real estate loans and so-called non-core[2]investments on the balance sheets of European banks amounted to no less than EUR 264 billion at the end of 2015. This was the case despite the fact that European banks have transferred investments representing more than EUR 360 billion of the original amount to different state-owned asset management companies.[3]

According to the latest Financial Stability Review[4] by the ECB, the average ratio of non-performing exposures in commercial real estate yields in relation to the sector's stock of loans was about 20% at the end of 2015. This problem is particularly due to the steep decline in commercial and residential real estate prices after the financial crisis. The steep fall in prices and weak economic development quickly infected construction and other real estate acitivities, which have been heavily bank-funded in several countries.

Chart 6.



Recently, in little more than a year, real estate prices in the commercial real estate market have taken an upward turn in many countries. This is due to both the economic recovery and the search for yield by international institutional investors as well as banks' need to streamline their balance sheets.[5]

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2. High-risk objects. Normally the investment strategy involves use of leverage, real estate repairs, development etc., which not necessarily imply a buy-and-hold investment. The gains may be substantial.

3. A significant portion of these assets have either been sold or otherwise removed from the balance sheets of the asset management companies, as the amount was only EUR 173 billion at the end of 2015.

4. https://www.ecb.europa.eu/pub/pdf/other/financialstabilityreview201605.en.pdf?e1a2bef79ed901d8ceaee004f2fcecdd

The sharp rise in commercial real estate prices has led to increased loan portfolio and real estate sales in many European countries, which in turn has speeded up market recovery. Various real estate backed loans and real estate investments were sold for a record amount of EUR 85.9 billion in 2015. On the basis of the figures for the early part of the year, it seems that 2016 will be a good year in the loan market, despite market turbulence early in the year and the Brexit referendum[6].

Although secondary markets for real estate backed loans have increased in Europe, traditionally the trade has mainly been concentrated to Ireland and the UK. Combined, these two countries accounted for 70% of sales in 2015. The third significant target country is Spain (11%), which also has Europe's largest amount of non-core loans. Undoubtedly the development of the loan market in these countries has been favoured by the vast size of the housing and real estate markets and the public sector's considerable significance in the capitalisation of banks and management of non-performing loans. The problem is that implementation of corresponding arrangements in other EU countries has changed with the entry into force of resolution procedure and Government subsidy regulations at EU level.

Nevertheless the secondary loan market is also opening up in other countries, such as Italy[7]. The secondary loan market in Europe is continuing to grow; the amount of planned and settled transactions in 2016 has already exceeded the 2015 level. There are still EUR 300 billion of non-performing assets[8] on the balance sheets of Italian banks, which makes the market attractive from the investors' point of view. Various reforms in recent years have supported the development of the Italian secondary market, although the measures have not been as comprehensive as in, for example, Spain and Ireland.[9]

Ineffective resource allocation slows down recovery

During the dramatic rise of the construction sector, labour and other resources were excessively allocated to this sector in comparison with the national economy. In 2007, around every seventh Spanish and Irish employee worked directly in the construction sector or in real estate activities[10]. In Ireland and Spain, the gross value added produced in the construction sector represented about 10% of the GDP of these countries prior to the collapse of the real estate market. In the first quarter of 2016, the gross value added produced in the construction sector was just 2.5% in Ireland and 5.1% in Spain.

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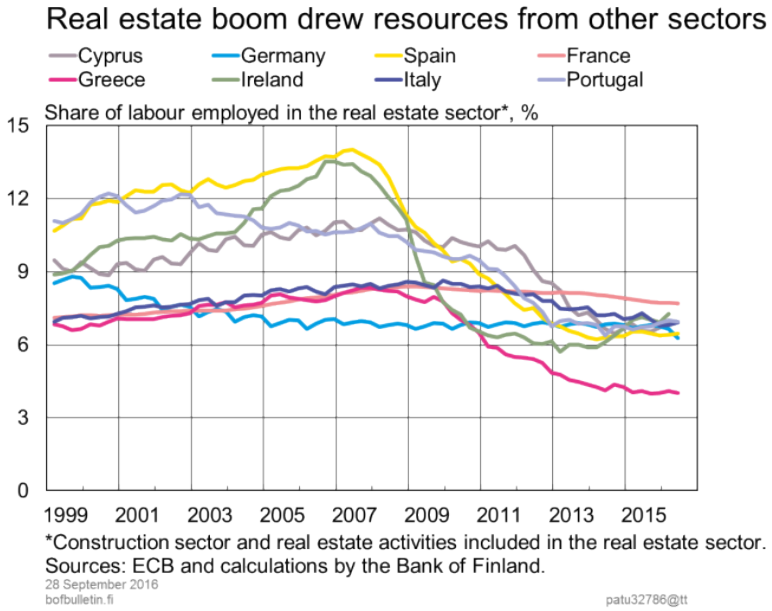
5. In the European Banking Authority's (EBA) latest Risk Assessment Report on the banking sector, banks recently declared commercial properties to be the most significant object of balance sheet cleaning.
6. There is reason to carefully monitor Brexit's impact on the commercial real estate market in Britain, but also in the rest of Europe.
7. In 2015, Italian banks sold various loan portfolios for a record amount of EUR 20 billion.
8. The loan portfolios sold by Italy mainly comprise, however, corporate and household loans other than commercial real estate loans.
9. In recent years efforts have been made to advance the development of the Italian secondary market through, among other things, a new type of guarantee arrangements (GACS), a fund (Atlante) specialised in acquisitions of non-performing loans, and amendments to bankruptcy and execution legislation.
10. Real estate activities comprise real estate sales, acquisitions and rentals as well as other real estate services, such as assessment. Real estate management is also included in this main category.

Chart 7.



Between 2008 and 2013, the turnover of the construction and real estate activities declined by more than 40% in Ireland, nearly 60% in Spain and Portugal and nearly 70% in Cyprus. In 2015, construction investment in these countries was more than 40% down from 2008.

According to a corporate information database maintained by the French Central Bank, the profitability of equity in construction companies operating particularly in the SME sector of the crisis countries clearly weakened after the crisis. In Portugal and Spain, nearly half of small construction companies were unprofitable during the height of the debt crisis.

As the oversized construction sector collapsed, a vast number of abandoned worthless properties and low-education workers remained. The movement of labour to other sectors has proved to be very difficult and rates of unemployment have stayed persistently high. Uncertain economic conditions and weak demand may slow down the rise of profitable companies and the winding up of unprofitable ones. Unemployment remains high and productivity suffers.

However, there are small positive signs in the air. Production in the Irish construction sector picked up after 2011 and housing prices started to rise in 2013, while the turnover of the Portuguese construction sector has grown since 2013. In Spain, the decline in the housing price index ended in 2015.

Solution to construction sector problems important

In a few euro countries, the construction sector has suffered from severe problems after the burst of the real estate market bubble. This is reflected not only in the collapse of companies' turnover but also as a decline in construction investments. After the burst of

the bubble, the concentration of resources in real estate activities caused high unemployment figures and left banks with worthless properties provided as collateral.

Non-performing loans still form a considerable burden for some euro area banks. In a number of cases, the difficulties are due to poor quality loans related to construction of residential and commercial real estate and other real estate activities. It has proved to be difficult to get rid of the bad loans, because there is no approach that would be clearly suitable for all countries. Application of resolution models in the private sector has been slowed down by differences in legislation from one country to another and an underdeveloped European secondary market for loans. The entry into force of resolution procedure and Government subsidy regulations at EU level also limit the range of measures available.

Due to a large amount of bad loans, the banking sector's ability in many crisis countries to provide funding for higher-risk customers has declined significantly. In the crisis countries, a considerable part of the cleaning of banks' balance sheets in order to fulfil the requirements of the capital adequacy regulation, has been achieved by reducing lending and higher-risk exposures, such as corporate loans to the SME sector. From the perspective of monetary policy transmission and financial stability, it is particularly important to solve the problem of non-performing assets in the real estate sector.

Tags

- real estate market
- monetary policy
- loans to non-financial corporations

Oil markets seeking a new balance

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 4/2016 • ECONOMIC OUTLOOK

The oil market drifted into an imbalance in 2014 as supply grew and demand was subdued. Oil prices have subsequently dropped, from around USD 110 per barrel to the current level of just under USD 50 per barrel. According to futures prices monitored in the Bank of Finland forecast for the international economy, oil prices will rise only slightly in the near future. Futures prices are however surrounded with considerable uncertainty.

Oil is still the world's most important source of energy, accounting for approximately one-third of world energy consumption. Even though oil demand is forecast to continue to grow, the share of oil in energy consumption will decrease. In the longer term, oil market trends will be impacted by, for example, environmental pressures and urbanisation as well as technological and demographic developments.

The price of oil was fairly stable – around USD 110 per barrel – from the beginning of 2011 until summer 2014. Since autumn 2014, the price of oil has fallen by half on two occasions, in autumn 2014 to around USD 60, and again in autumn 2016, to around USD 30. The oil market shock was due to both supply and demand factors. In recent years, supply factors have played a larger role. Prior to the collapse in prices, oil production rose significantly for a number of years due, in particular, to US shale oil production and many other new sources of oil. As a result, the United States became the world's largest oil producer, in addition to already being the largest consumer of oil.

Table.

World's largest oil producers and consumers 2015*

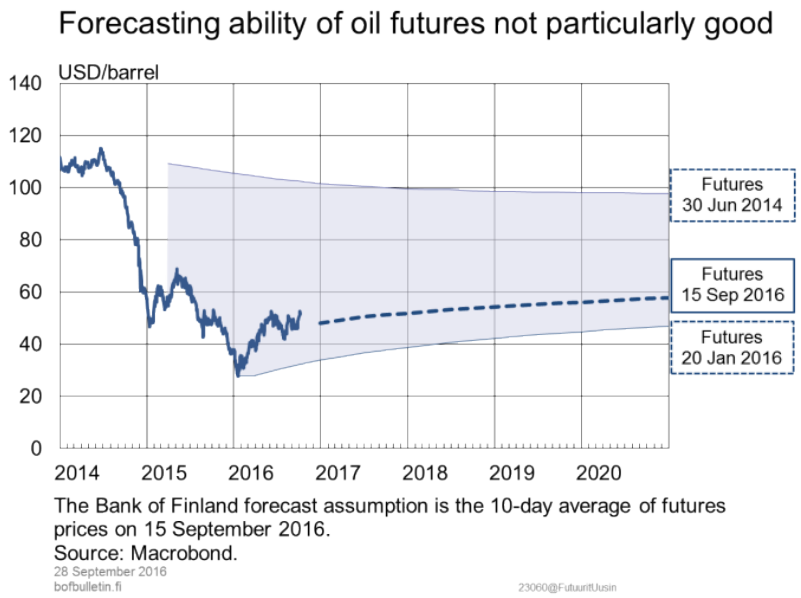
Producers	Thousands barrels/ day	Customers	Thousands barrels/ day
USA	15,044	USA	18,961
Saudi Arabia	11,949	China	10,480
Russia	11,030	Japan	4,557
China	4,723	India	3,660
Canada	4,506	Russia	3,493
Iraq	4,050	Brazil	3,003
United Arab Emirates	3,474	Saudi Arabia	2,961
Iran	3,447	Germany	2,435
Brazil	3,183	Canada	2,374
Kuwait	2,710	South Korea	2,328
Venezuela	2,685	Mexico	2,090
Mexico	2,625	Iran	1,885
Nigeria	2,322	Indonesia	1,718
Qatar	2,053	France	1,713
Norway	1,958	United Kingdom	1,502

*For many of the countries, the latest data refer to 2013.

Source: EIA.

In 2016 the price of oil has risen to around USD 50 per barrel (Chart 1). In the Bank of Finland forecast for the international economy, as in most other macroeconomic forecasts, the oil price assumption is based on market futures. According to these oil futures (15 September 2016), the price of oil will rise only slightly during the forecast horizon, and at the end of the decade, it will still be below USD 60. From a historical perspective, the forecasting ability of oil futures is not particularly good, however. Oil futures reflect the information currently available and may change considerably as a result of new information. (The uncertainty is illustrated in Chart 1 by the grey area, which shows the difference in futures prices in June 2014 and January 2016.)

Chart 1.



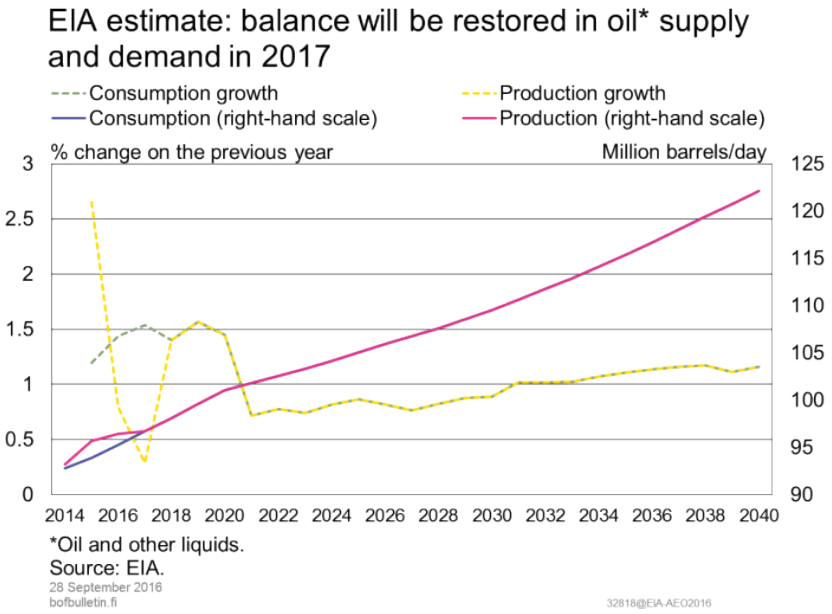
An alternative assessment of oil price developments can be obtained from, among other sources, forecasts by the U.S. Energy Information Association (EIA) and the International Energy Agency (IEA)I[1]. According to the EIA projection, the price of crude oil per barrel is in 2020 significantly higher than futures prices (USD 77/bbl), and exceeds USD 100 in 2029. In addition to cyclical factors, the price of oil is currently affected by a number of structural factors. On the demand side, the structural change is related to slower growth in China and changes in the composition of growth, from investment and industry-based, to growth that is based increasingly on consumption and services. Climate objectives and changes in attitudes are also reflected in the demand for fossil fuels. In transportation, technological advances decrease the demand for crude oil-based fuels. The difficulties of forecasting are illustrated by the fact that, for example, the EIA has cut its projection for oil demand several times in recent years, but actual demand has still remained below the forecast.

Forecasting developments on the supply side has also become more difficult. The Organization of the Petroleum Exporting Countries (OPEC) has previously adjusted its production to stabilise the price of oil, but this time it could not reach a joint decision to restrict output as the price of oil collapsed. The lifting of economic sanctions on Iran at the start of the year brought the country back to the oil market. Iran has an urgent need to return its production to the pre-sanctions level. Saudi Arabia, on the other hand, has not agreed to limit production if Iran does not participate.

In its long-term projection, the EIA estimates that balance will be restored in oil supply and demand already in 2017, and that their annual growth rates will slow in the 2020s to below 1%.[2]

1. EA (2016).
2. EIA (2016).

Chart 2.



Considerable differences in the profitability margins of the various forms of oil production

The cost structure of the various forms of oil production plays a key role in the adjustment of production and investment in the oil sector to lower prices. The least expensive form of oil production is still traditional onshore drilling in the Middle East. When prices are high, producers resort to oil sources that are increasingly difficult to exploit and the costs of which are higher. When prices fall, production is usually cut from these sources first. There is a downward shift in the cost structure of the sector as many unconventional forms of production (such as shale oil, oil sands, and deep-water oil) become unprofitable. The most expensive form of production is the recovery of oil from oil sands in Canada, and the second most expensive form is shale oil production in North America.[3]

The profitability margin of oil production depends mainly on the nature of the oil extracted and the associated geology. However, through experience and technological improvements, costs have declined, even for the new sources of oil. The collapse in oil prices has also boosted other means of improving operational efficiency and cutting costs.

The volume of US shale production remained high for a long period, even after the downturn in oil prices. In shale oil, producers have succeeded, for example, in reducing the margins of the dependent service industry in order to support the upstream sector. A further advantage was that the new sector was only at the onset of the investment cycle, where experience reduces costs more easily and more rapidly than in the traditional forms of oil production.

3. See e.g. Arezki 2016.

Sources:

Arezki, Rabah (2016) Rethinking the oil market in the aftermath of the 2014-2016 price slump. Column. VOX CEPR's Policy Portal see http://voxeu.org/article/oil-market-aftermath-price-slump

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Tags

- energy
- oil
- oil markets
- oil price

How well do inflation swaps reflect expected inflation?

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 4/2016 • ECONOMIC OUTLOOK

Inflation swaps are financial instruments used for the purpose of hedging against future inflation. Inflation expectations extracted from inflation swaps are often used as a measure of the market's inflation expectations, but the evolution of the swaps does not always correspond to actual changes in inflation expectations. When the market's expectations are assessed on the basis of inflation swaps, it is important to pay attention to the specific features of these agreements. Consequently, in assessing changes in short-term inflation expectations, forward inflation (e.g. annual inflation one year ahead) should be used rather than inflation swap rates.

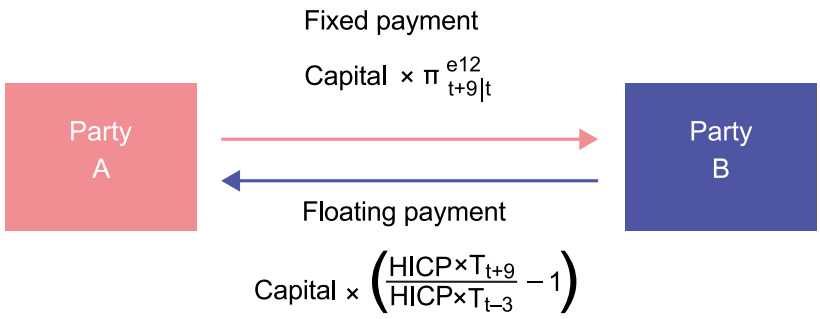
Swap agreements to hedge against future inflation

An inflation swap is a derivative subject to trading on the financial markets and can be used to provide protection against uncertainty about future inflation. Euro area inflation swaps are linked to the Harmonised Index of Consumer Prices (HICP), compiled by Eurostat, excluding tobacco. The market's most actively traded swaps are zero-coupon inflation swaps, in which cash flows based on the agreement are paid in full when the agreement reaches maturity. One of the parties pays a pre-defined amount on the due date, whereas the other party's payment depends on the development of the inflation index during the life of the swap. This exchange of fixed for floating rates is the origin of the term swap.

The use of inflation swaps can be illustrated by looking at a situation where the parties involved have agreed at time t on an inflation swap with 12-month maturity (Chart 1). Party A pays a pre-defined amount that reflects expected annual inflation. The payment of party B is not pre-defined, but depends on actual inflation developments. The cash flow is determined by both HICP inflation with a lag of three months from the agreement date and HICP inflation with a lag of three months from maturity. Values with a lag of three months are used in order to have knowledge of final HICP values at agreement maturity. This type of an agreement can be entered into e.g. in a situation where A wants to hedge future earnings against inflation. The higher inflation is expected, the more A must pay for the swap agreement. The price of an inflation-linked swap thus depends on expected inflation.

Chart 1.

Cash flows of an inflation swap at agreement maturity (12-month agreement)



Source: Bank of Finland.

28.9.2016
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The price of an inflation swap may change while expectations remain unchanged

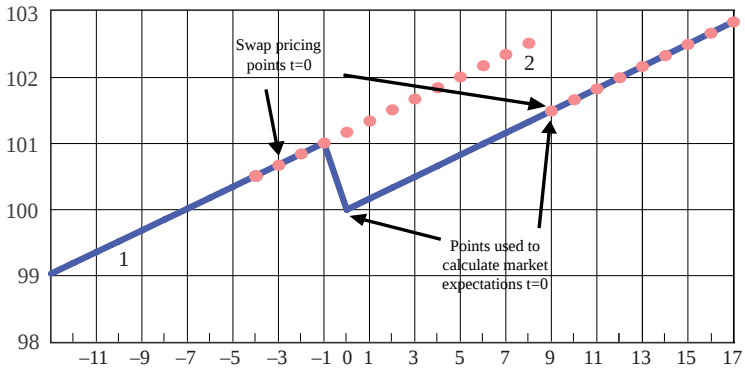
Below, we look at a situation where at time t=0 HICP inflation falls by 1% on the value of the previous period (Chart 2). During other periods, the annual rate of increase of the index is 2%. The red dots in the chart describe the market's annual inflation expectation 9 periods ahead. Even if there is an unexpected and one-time fall in the HICP, it does not affect market participants' inflation expectations, which remain at a stable annual 2% inflation for 9 months ahead.

The price of an inflation swap at time t=0 is determined by HICP levels measured at times t-3 and t+9. If a direct line is drawn between the dots showing these times, its slope coefficient is smaller than before and thus the price of the inflation swap declines (Chart 3). The same holds true for inflation swaps entered into at time t=1 and t=2. At time t=3 the situation changes. The price of the swap is now determined by changes in HICP levels between times t=0 and t=12. Since both of these points in time are already on a new, lower path, the change between them is again consistent with 2% annual inflation. This technical decline in the price of inflation swaps and the price increase three months later are illustrated by the return back to the 2% level at time t=3 of the one-year swap (the blue line in Chart 3). Swaps with longer maturities move simultaneously with the one-year swap, but their movements moderate in a linear fashion relative to the horizon under review. Accordingly, the distorting impact of abrupt price changes is smaller on ten-year swaps than on swaps with shorter maturities.

Chart 2.

A one-off decline in the consumer price index triggers no decline in inflation expectations

1. HICP index
2. Market forecast 9 months ahead



Source: Bank of Finland.

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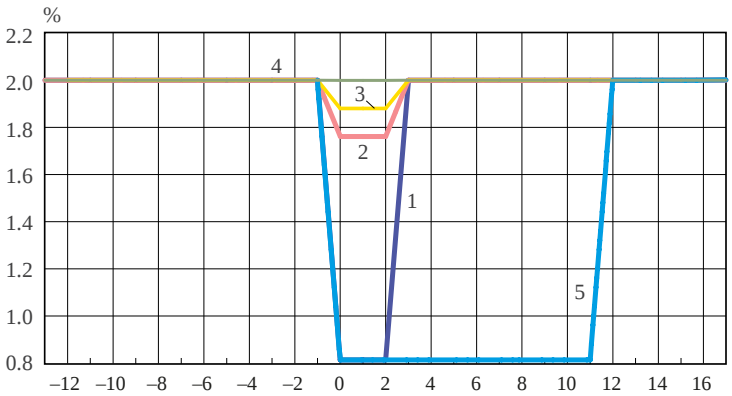
Chart 3.

Inflation swaps change differently in response to a decline in the consumer price index

1. 1-year swap
2. 5-year swap
3. 10-year swap
4. 5-year forward inflation 5 years ahead
5. Inflation



Source: Bank of Finland .

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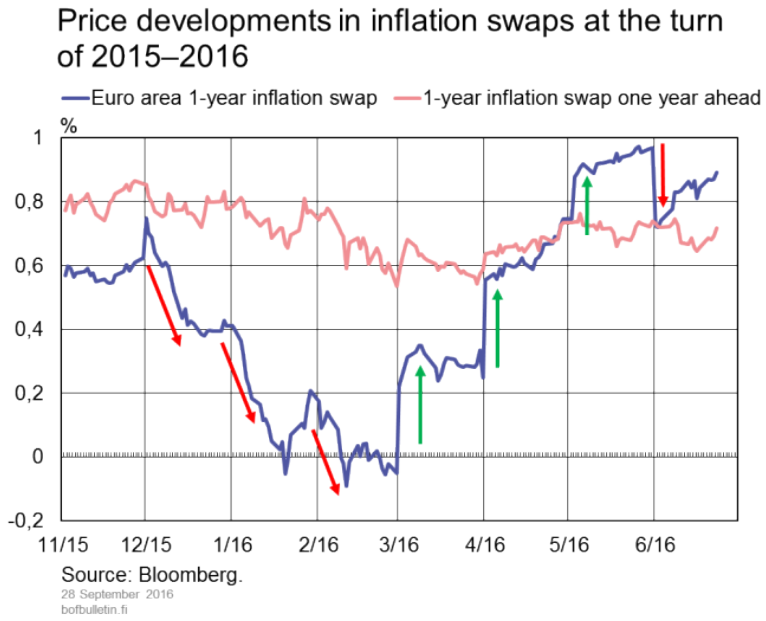
Market implied forward inflation (such as the following year's expected inflation one year ahead or the following five years' average inflation expectation five years ahead) typically used for measuring inflation expectations does not change as a result of a one-off change in the HICP level. Forward inflation thus reflects the evolution of the market's actual inflation expectations better than pure inflation swap rates do.

Unexpected, one-off shifts in HICP levels have recently become increasingly significant for the prices of inflation swaps, particularly amid large fluctuations in oil prices. This becomes apparent when examining the development of both one-year forward inflation one year ahead and one-year inflation swap rates over the period November 2015 to mid-June 2016 (Chart 4).

The sharp drop in the price of oil at the end of 2015 and the beginning of 2016 is reflected in the decline in the price of the one-year swap (red arrows in Chart 4[1]). These changes unwind in the form of a strong opposite movement (three upward green arrows in Chart 4) after three months on the first trading date of the month in March, April and May.

The last red downward arrow in the chart at the beginning of June 2016 reflects the timing of Easter so as to take place already in March this year. The pricing of one-year inflation swaps in June 2016 is based on changes in HICP inflation between March 2016 and March 2017. Given that inflation is normally higher at Easter and in 2017 Easter again falls in April as usual, the prices of inflation swaps entered into in June 2016 decline. By contrast, inflation expectations derived from forward rates (one-year forward one year ahead in Chart 4) remain relatively stable and provide a more reliable picture of the evolution of the market's inflation expectations.

Chart 4.



Premia also affect the price of hedging

In addition to technical transitions due to different seasonal effects and the structure of inflation swaps, the prices of inflation swaps are also affected by a number of factors called premia. For example, the ease of selling a swap on the markets (liquidity), the

1. In January, a particularly large seasonal component also pushed down inflation.

length of maturity or changes in the uncertainty related to inflation may impact the pricing of inflation swaps, whereby the price is no longer merely a reflection of the market's inflation expectations. If the premia are small, the price of a swap can be thought to reflect the market's expected inflation. It is, however, difficult to assess the size of the premia by reliable methods, while their magnitude may also vary over time.

Overall, inflation swaps offer a useful guide for analysing inflation expectations, but expectations derived from forward inflation rates provide a more reliable way of tracking developments in the market's inflation expectations. However, owing to volatility in the magnitude of premia embedded in them, forward inflation rates also fail to provide a fully explicit manner of accounting for market expectations.

Tags

- inflation
- consumer prices
- financial markets
- inflation expectations

Is recovery a myth?

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 4/2016 • ECONOMIC OUTLOOK • JUHO ANTTILA

- Juho Anttila
  Economist

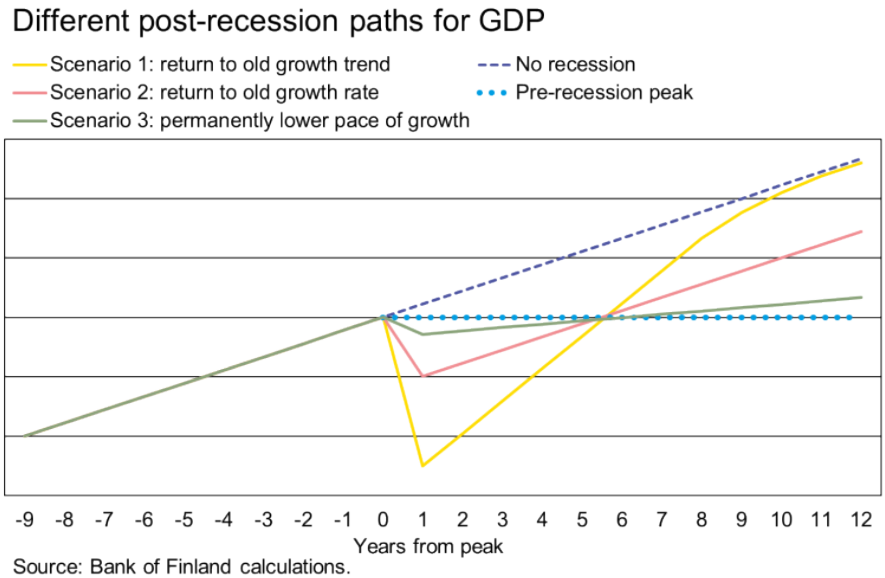
Deep recessions have typically led to a permanent step down to a lower growth trajectory. However, since the financial crisis of 2008, the growth rate itself has also been exceptionally slow, due to weak growth in total factor productivity. In addition to the recession itself, the slow pace of recovery does, in fact, constitute a significant part of the overall costs of the crisis.

Long-term effects of recession

Business cycles are generally seen as temporary deviations from long-term growth trends. This view lives very strongly in basic text books on macroeconomics, but also in modern business cycle theory, according to which business cycles derive from shocks to the economy and rigidities and market disturbances that amplify the effects of these shocks. Alongside theoretical macroeconomics there has also emerged a broad range of empirical studies that have produced formalized facts on the effects of business cycles and economic crises on post-recession growth.

Reviews of financial crises and significant recessions often measure how long it takes to recapture the peak reached just before the recession. Reinhart and Rogoff, in particular, in their study from 2009 examine the impacts of economic crises on output in just this way. This approach does not, however, provide a complete picture of economic dynamics in the wake of a recession, as many other development trends are also possible (Chart 1). In the first scenario, a so-called 'traditional' recovery, once the trough has been reached, total output grows faster than trend. Here, the long-term growth trend is achieved before long. In the second scenario, the change in GDP level is permanent, whereupon the economy no longer returns to its previous growth path, even if the pace of growth does recover to accord with the previous trend. In the third scenario, the pace of growth in the economy also remains permanently slower than before.

Chart 1.



Source: Bank of Finland calculations.
28 September 2016
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These three scenarios differ significantly from each other. Although all three achieve the pre-recession GDP level at the same point (Chart 1), the slowdown in the post-recession pace of growth is considerably bleaker than the return to the pre-recession pace of growth or the growth trend. Insofar as a recession has an impact on the long-term pace of growth in the economy, a considerable part of the costs of recession come from the sluggishness of the recovery in addition to the recession itself. In other words, simply examining the time taken to reach the pre-recession peak does not determine the economic costs of the recession. Therefore, this article reviews the pace of GDP growth and the development of its various components both before and after a recession.

Based on our review, we can state that post-WW2 recessions in the advanced economies have on average been followed by a level-shift in the long-term growth path of the sort depicted in scenario 2 (Chart 1). The 2008 financial crisis, for its part, would seem, in addition to a level-shift, to have been followed by a permanent decline in the pace of GDP growth. This is largely explained by the weak trend in labour productivity, and especially total factor productivity. Weak growth in total factor productivity is a problem common both to those countries stuck in negative or zero growth in the wake of the 'Great Recession' (the term generally applied to the recession of 2008–2009) and to those countries that have experienced a stronger recovery.

These results are in line with empirical macroeconomic research, which has found abundant evidence of the long-term impacts of recessions. Cerra and Saxena's (2008) results demonstrated that economic crises typically cause a large, permanent level-shift in GDP, and Furceri and Mourougane (2012) observed a similar effect on the potential output of the economy. Meanwhile, Blanchard et al. (2015) showed that recession is typically followed by a permanent drop in the level of GDP compared with the pre-recession trend. They also observed that after almost one third of recessions the growth rate of the economy, too, was lower than the pre-recession trend growth rate.[1]

Less theoretical macroeconomic research has been conducted into the long-term effects of cyclical fluctuations, and therefore no clear explanatory model has been developed for post-recession shifts in GDP levels or growth rates. However, the 'Great Recession' of 2008 and the slow growth that followed it have led to an increase in theoretical research into this topic. According to both the prolonged slow growth (secular stagnation) model and cyclical endogenous technology models, short-term shocks can also impact on the long-term rate of growth.[2] In Eggertson and Mehrotra's secular stagnation model, an economy can, at the zero lower bound of interest rates, become stuck in an equilibrium of high unemployment and slow growth, whereas in Anzoateguin et al.'s cyclical endogenous technology model, negative demand shocks impact – via product development and the introduction of new technology – negatively on total factor productivity.

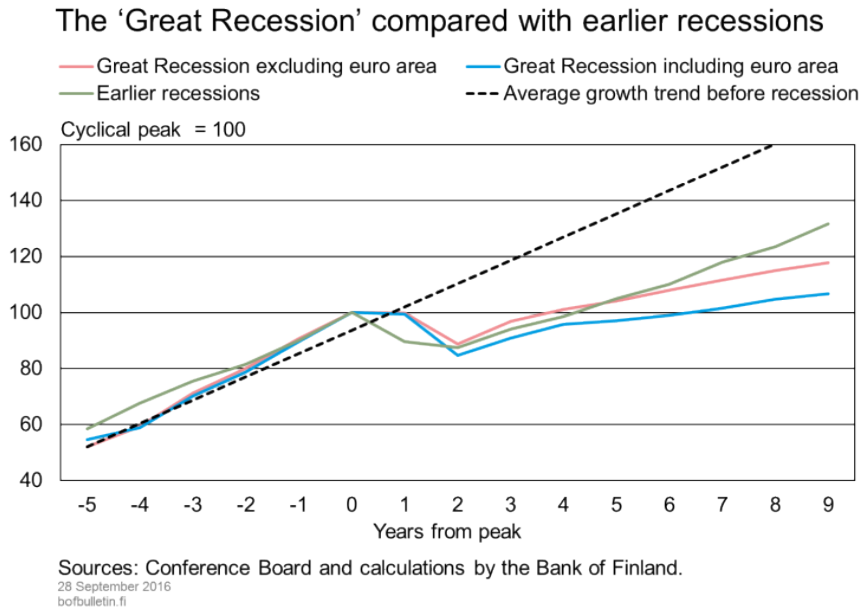
Is the 'Great Recession' different?

This article compares the 'Great Recession' of 2008–2009 with other historically important recessions. The material used covers 42 recessions in 18 countries over the years 1950–2006 and the 'Great Recession' in 26 countries. When examining GDP figures dispersed across factors of production, the material is from a shorter period, 1990–2014. Our analysis, based on growth figures dispersed across factors of production, includes a broader set of countries and covers 14 recessions before the 2008 financial crisis as well as the 'Great Recession' in 43 countries.

Developments leading into recession and those following it are examined by calculating for each recession the average growth rate for the years preceding and subsequent to the peak of the cycle. These averages can be used to construct a time series for an economy's GDP trend that illustrates how the economy developed before and after an average recession, and to present such time series for the 'Great Recession' and previous recessions (Chart 2). Each chart's time series have been indexed so that the value of the GDP logarithm at its peak is 100 (for the 'Great Recession' this was in 2007). For the sake of comparison, we also present the linear trend pre-recession and a series in which the euro area countries have been removed from the set of countries that experienced the 'Great Recession'. This series gives a more precise depiction of the impact of the 2008 financial crisis, as the impact of the euro crisis that followed it is less.

1. Blanchard et al. (2015).
2. Eggertson – Mehrotra (2015) and Anzoateguin et al. (2016).

Chart 2.



Developments leading up to the pre-recession peak in 2007 was similar to earlier recessions: pre-recession GDP growth is according to trend, or faster, until it turns negative and the economy contracts (Chart 2). Immediately after the peak, the dynamics are also rather similar, but over the medium-to-long term two series clearly diverge from each other: in earlier recessions the economy returns, in accordance with scenario 2, to the pre-recession growth rate, albeit the pre-recession trend is not recaptured. In the 'Great Recession', by contrast, the economy is still growing at a slower pace eight years after the peak. The removal of the euro area countries from the data essentially affects only the level of the series: then, too, the pace of growth remains much slower than the pre-recession trend.

Development of GDP both before and after a recession can also be examined by studying how a country-specific average rate of growth has been changed by the recession. This can be illustrated by depicting country-specific average growth rates before and after the recession (Charts 3 and 4). In calculating the country-specific averages, the three years immediately preceding and following the peak have been omitted in order to remove the effects on the average of any possible overheating and the actual recession itself. The recessions have once again been separated out into the 'Great Recession' and other recessions.

The distribution graphs and statistical tests of the change in the average growth rate support the observation of a slowing in the pace of growth. While in earlier recessions the growth rate distribution before and after recession is the same, for the 'Great Recession' the distribution shifts to the left on the graph (Charts 3 and 4). Thus, after the 'Great Recession', the economy has grown by an average of over one percentage point more slowly than the pre-recession growth rate.

Chart 3.

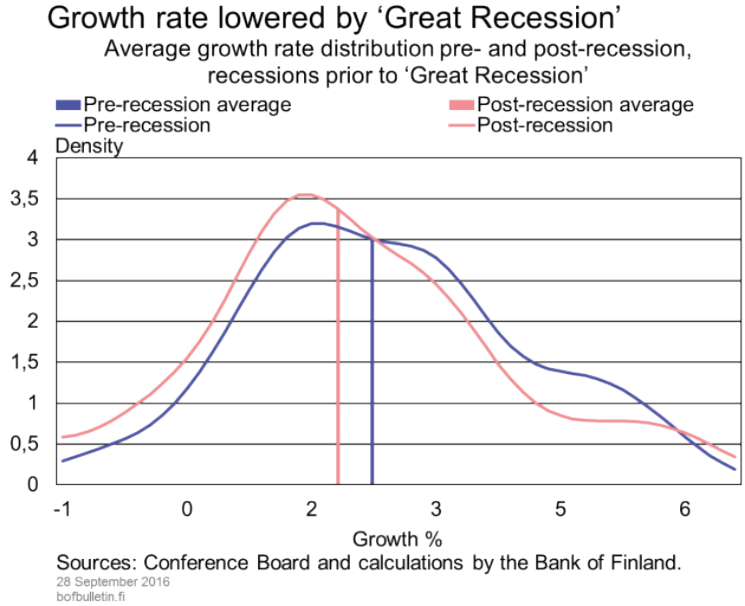
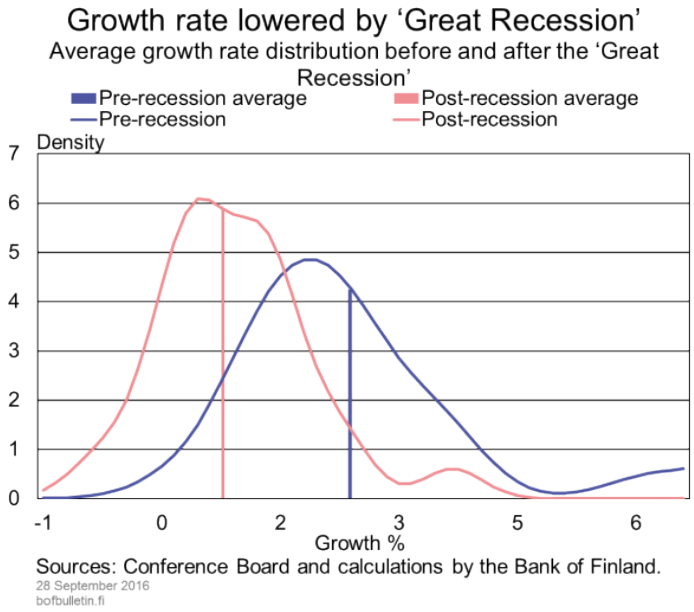


Chart 4.



All in all, developments prior to the 'Great Recession' resemble those before earlier recessions, but the former has been followed by an exceptionally slow recovery. An examination of the growth rates reveals that, although scenario 2 (in Chart 1) is typical for most post-WW2 recessions, the 2008 financial crisis has rather followed scenario 3, with a permanently weakened growth rate. Some of the slow growth can be attributed to the sovereign debt crisis in the euro area, but even if the euro area countries are removed from the data, the outcome still applies. This would suggest that the euro area debt crisis alone cannot explain the slow pace of growth since the 'Great Recession', although it is clear that its negative economic effects do also extend beyond the euro area.

Weak total factor productivity key explanatory factor

Economic growth can be analysed as the sum of labour input and its productivity. Labour productivity is simply GDP divided by the hours worked or the number of persons employed. If data is also available on the capital stock, GDP growth can be more precisely broken down into labour and capital components and total factor productivity. Considering labour productivity or the development of other factors of production provides more detailed information on the factors behind the slower pace of growth than we get by simply looking at the GDP growth figures on their own.

Labour productivity development before and after recession

By examining labour productivity we can estimate the extent to which the slow post-recession growth is due to a decline in labour and to what extent it can be attributed to weak productivity development. Below, we present a country-specific distribution of average labour productivity before and after recession (Chart 5 and 6). The cases have been divided into recessions prior to the 'Great Recession' and the 'Great Recession' itself. We have also once again removed from the data the three years immediately preceding and immediately following the pre-recession peak.

Chart 5.

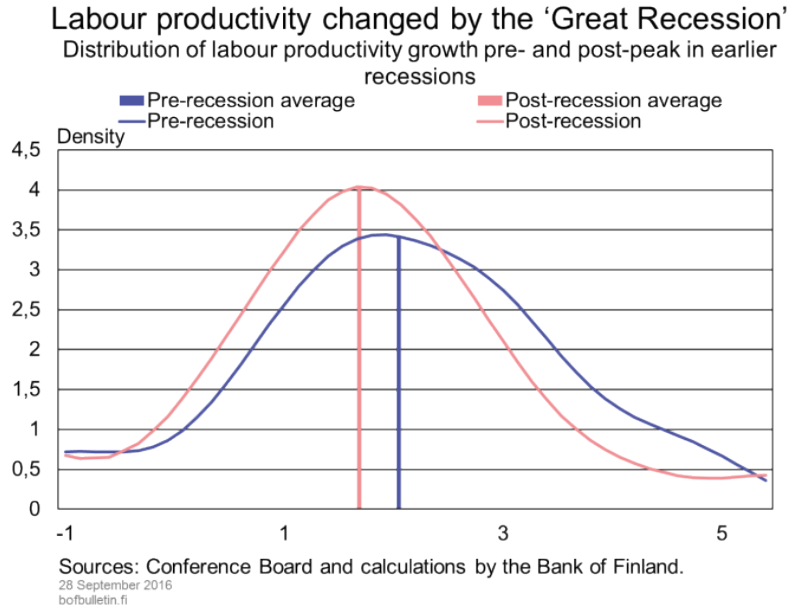
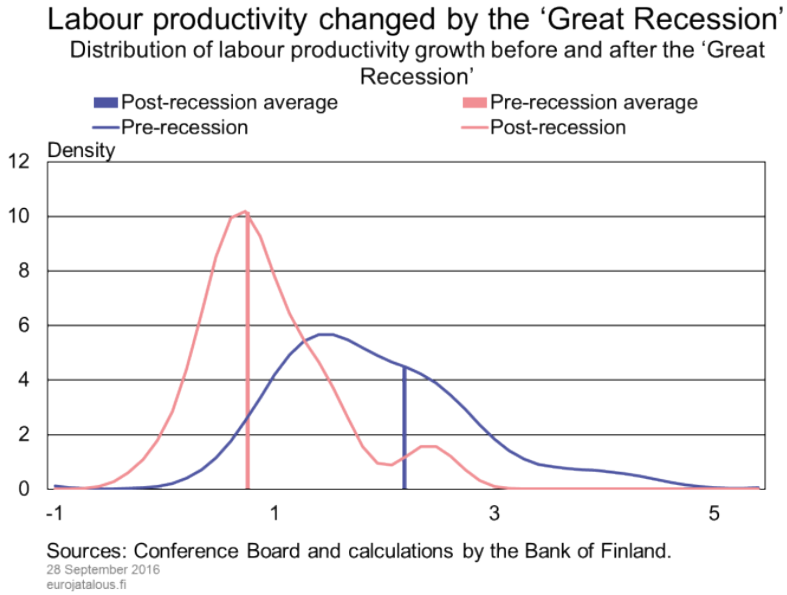


Chart 6.



Moreover, in earlier recessions, labour productivity remains largely stable both before and after the recession, whereas the productivity growth rate around the 'Great Recession' shows a clear change in level (Charts 5 and 6). The statistical tests also support the change in the level of the growth rate visible in the charts. In addition, we can see that the distribution of productivity growth after the 'Great Recession' is much narrower than before it. This means that the country-specific variation in the pace of productivity growth has declined. These outcomes suggest that there is perhaps some common determinant behind the slow productivity growth experienced in the advanced economies.

Changes in labour productivity can be a sign of many different phenomena: a lack of investment can have caused a shrinkage in the capital stock or workers' skills can have deteriorated due to prolonged unemployment. On the other hand, it could be that the production technology has not been developing as rapidly as before. Explanations based on these different factors differ not only in terms of the consequent forecasts, but also with regard to possible policy recommendations, which is why a depiction of productivity development rooted in growth accounting is essential.

Development of GDP growth factors before and after a recession

How individual factors of production influence GDP growth can be estimated using growth accounting. In growth accounting, economic growth is in practice broken down into the impacts of the various factors of production by using labour and the capital stock and weighting them according to their shares of aggregate income. The remaining portion, total factor productivity, comprises the factors that growth in labour and capital volumes alone does not explain: total factor productivity is typically interpreted as advances in production technology.

Next we turn to GDP growth and the impact of various production factors on its growth rate, once again presented separately for the 'Great Recession' and other recessions (Charts 7 and 8). For this purpose we have calculated average values for the various production factors for each year preceding and following the pre-recession peak. Our examination (Charts 7 and 8) shows us how individual factors of production have developed during the different phases of a recession and what their impact has been on the change in the average GDP growth rate.

Chart 7.

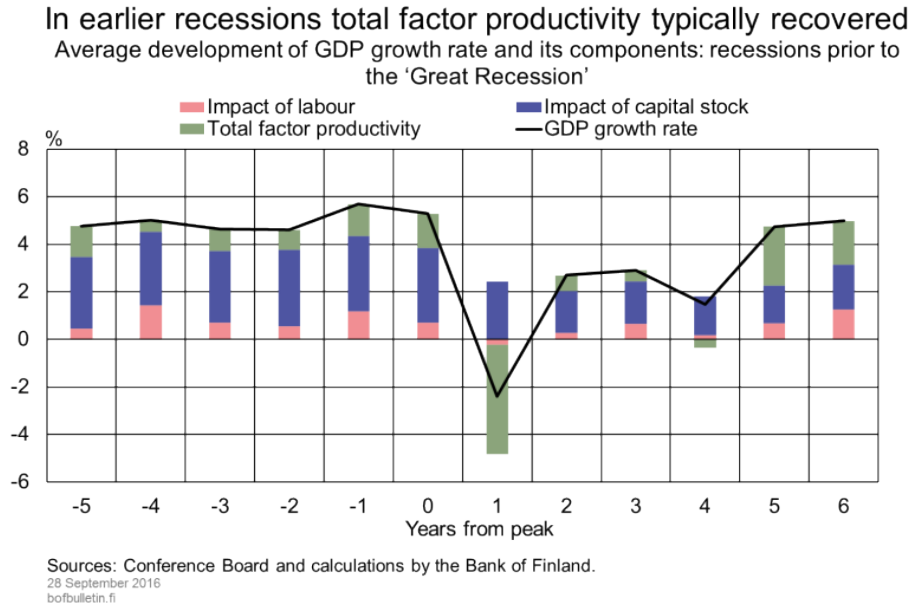
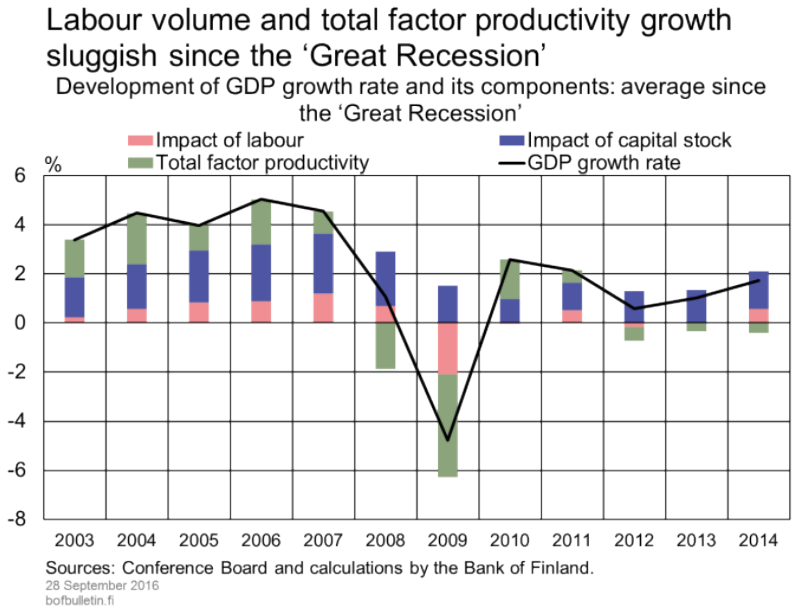


Chart 8.

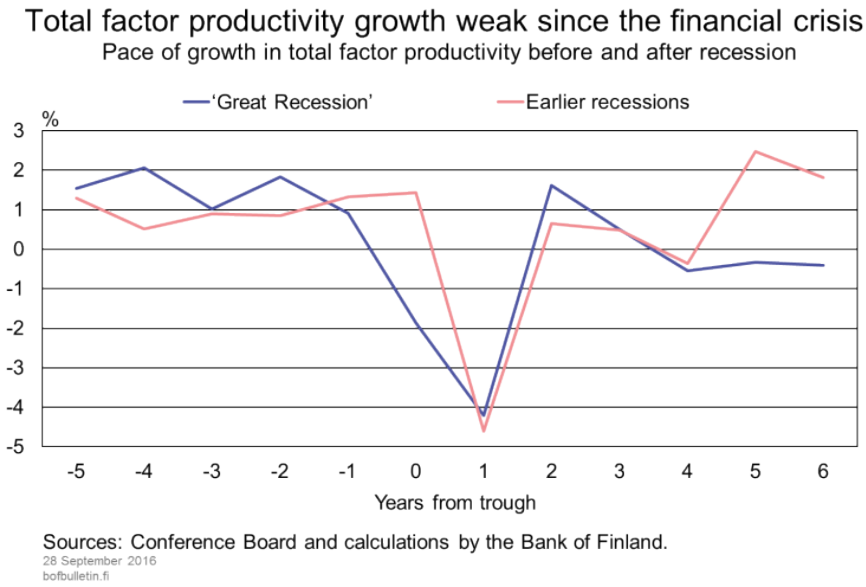


Pre-recession developments are very similar in both cases: the influence of each factor of production remains fairly stable. A significant difference does, however, emerge after the

peak, when the recession begins. In the first place, in the 'Great Recession', the drop in labour is much greater, reflecting the recession-related collapse in output and consequent unemployment. Another striking difference is to do with total factor productivity, which during the 'Great Recession' develops slowly or actually declines even several years after the trough of the recession has passed.

Our examination of the average growth rate of total factor productivity shows it has been weak, actually negative, since the 2008 financial crisis, whereas in earlier recessions on average total factor productivity growth figures were achieved that even exceeded pre-recession levels (Chart 9).

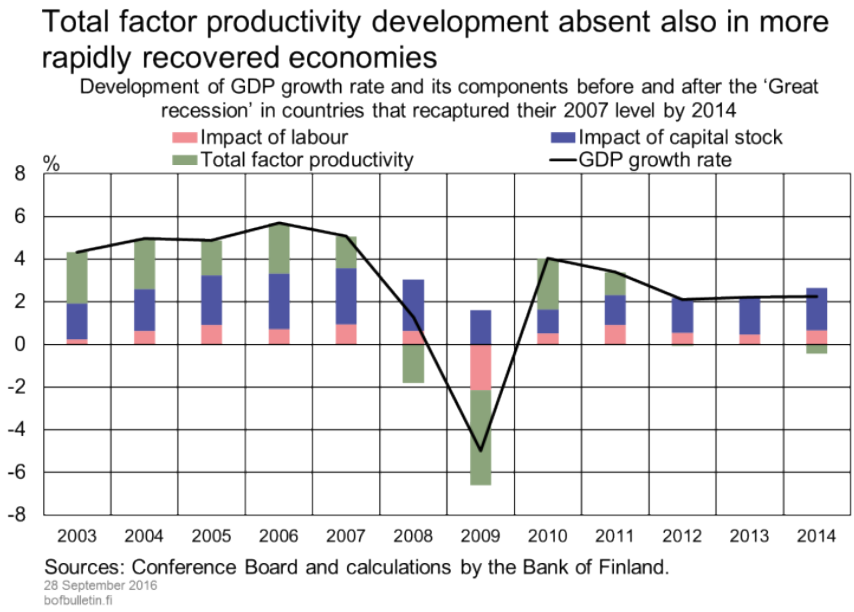
Chart 9.



Can this weak total factor productivity development reflect merely the euro crisis or the weak condition of some individual countries? For an answer to this question we examine the development of the impacts from factors of production in those countries that recaptured their pre-'Great Recession' peak by 2014 (Chart 10). It turns out that even in these countries total factor productivity development is similarly absent or even negative. Thus, productivity development is a problem also in those countries that have recovered from the financial crisis better than the distressed countries.

The slow GDP growth in the wake of the 'Great Recession' is explained by the exceptionally sluggish development of labour productivity compared with earlier recessions. The path of labour productivity is, in turn, primarily attributable to weak or even negative total factor productivity development. Weak total factor productivity development is a common phenomenon globally and has also affected those countries that recovered better from the 'Great Recession', not only those that have become stuck in a period of prolonged negative or zero growth.

Chart 10.



Several causes proposed for weak growth

Our results suggest that a key component of the slow GDP growth since the 'Great Recession' is the sluggishness of labour productivity growth in recent years. A large part of this, in turn, can be explained by the absence or even negative development of total factor productivity. Weak productivity growth is a problem that affects both those economies that have recovered reasonably well from the 'Great Recession' and those still stuck in zero or negative growth.

Because total factor productivity measures an unexplained component of economic growth, it is hard to extract the basic cause of the slow productivity growth from thoroughly aggregated growth figures. As well as technological advances, total factor productivity also includes within itself measurement errors in the recorded volume of capital, an economy's ability to exploit existing technology and other indiscernible factors. Based on theory and on more detailed material, it is, however, possible to estimate the factors that have contributed to the weakness of productivity development. A number of explanations have been offered for the slow pace of growth, some to do with the financial crisis and some to do with other factors.[3]

As a consequence of the 2008 crisis, the availability of external funding for non-financial corporations was considerably weakened, which reduced corporate investment.[4] Credit restrictions and the consequent scarcity of capital investment were reflected above all in the weak contribution of capital growth: the impact on total factor productivity is less clear, if still possible e.g. due to a reduction in investment in human capital or product development. On the other hand, there have recently been numerous views expressed according to which we could be experiencing a longer-term slowdown in total factor

3. Explanatory models for weak growth are examined in more detail in e.g. Haavio (2016).
4. Campello – Graham – Harvey (2010) and Duchin – Ozbas – Sensoy (2010).

productivity development – at least relative to the exceptionally rapid years in the 1990s – a slowdown that began prior to the financial crisis.[5] According to the most pessimistic assessments, current technical innovations are less significant than previous ones, and we are therefore entering a period of prolonged slow productivity growth.[6]

Since the recession, weak total factor productivity growth has also been a problem for economies with more positive economic growth, while in addition inter-country differences in the pace of labour productivity growth have narrowed. This would suggest that behind the weak growth there lie factors independent of the financial crisis, particularly as the trend has continued since the bottoming out of the 'Great Recession' seven years ago. The 2008 financial crisis was, however, a rare event in postwar history. There have only been a few other genuinely global financial crises, and they happened before the Second World War. An additional background factor in the euro area has been the prolonged sovereign debt crisis, which has also had negative consequences for the entire global economy.

A period of exceptionally slow growth

Deep recessions and financial crises are typically followed by a permanent step down to a lower growth path. In the case of the 'Great Recession' of 2008 there has additionally been a period of slow post-recession growth, unique in comparison with other post-WW2 recessions. Sluggish growth has also plagued those economies that returned to growth after the financial crisis. If the slow growth is believed to stem from the 'Great Recession' itself, then it can be said to have substantial long-term costs in addition to the short-term ones. In light of the data presented here and the previous research literature, the rapid recovery often posited in basic macroeconomics textbooks would appear to be rather rare, at least in the case of deep recessions. In actual fact, economies rarely return to their previous growth path following a deep recession.

Behind the slow growth since the 'Great Recession' we can also discern the weak productivity development of recent years, which is the key explanatory factor behind the sluggish GDP growth. Fading productivity growth is a global phenomenon, and no-one has yet been able to suggest a clear reason for this. Several different explanatory models have been offered, some rooted in the financial crisis and some in factors independent of the financial. The relatively long period since the financial crisis and the universality of weak productivity growth across a range of countries would, however, suggest that we could be dealing with a longer-term trend of slower productivity growth.

The final truth of how economies will come to recover from the 'Great Recession' is likely to be clear only several years from now. However, even now we have already seen that recovery has been exceptionally slow and the effects of the financial crisis will still be visible well into the future. The economic effects of prolonged sluggish growth are, after all, at least as significant as the immediate drop following the peak of the business cycle.

5. Fernald (2014).
6. Gordon (2012).

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Tags

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The natural rate of interest – a useful but uncertain indicator for the economy

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 4/2016 • MONETARY POLICY • LAURI VILMI

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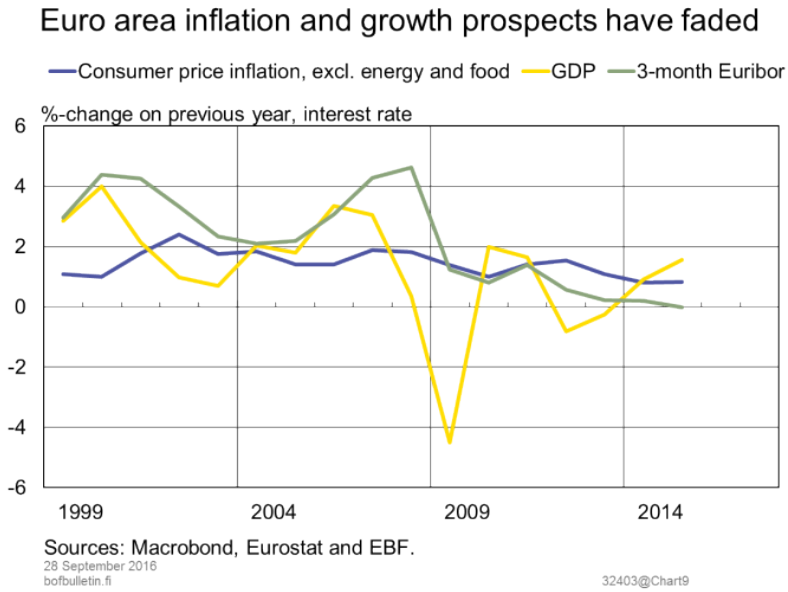
The natural rate of interest is the real interest rate that brings the economy into equilibrium and would prevail if the output of the economy were at its potential level, i.e. in a situation where the economy is neither in an upswing nor in a downswing. The equilibrium would lead to stable inflation over the long term. During the last 10 years, the natural rate of interest in the advanced economies is estimated to have declined substantially. This not only affects the assessment of current monetary policy but also the future challenges facing monetary policy. However, estimates of the level of the natural rate of interest are very uncertain, which hampers the use of this interest rate as a monetary policy guide.

What is meant by the natural rate of interest?

Interest rates have already fallen for several years in most advanced economies. This has also been the case in the euro area. A partial driving factor behind the interest rate decline has been the accommodative monetary policy, conducted as a response to weakening inflation and growth prospects (Chart 1). Despite the prolonged period of low interest rates, economic growth has remained sluggish, and the estimated closing of the negative output gap has been slow. Behind this may lie the decrease of the natural rate of interest, i.e. the equilibrium real interest rate, which has dampened the stimulating impact of low interest rates. The concept of the natural rate of interest originates from

Wicksell (1898), who defined it in respect of prices as a neutral interest rate. There are many interest rates on the financial markets. Analyses of the natural rate of interest typically focus on the level of, and changes in, the risk-free short-term, e.g. 3-month, real interest rate.

Chart 1.



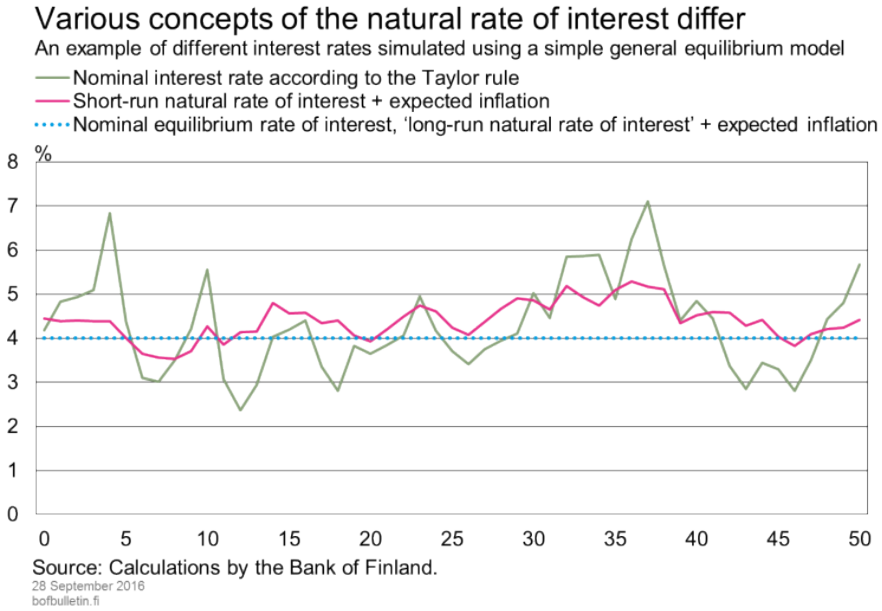
Although the natural rate of interest provides a useful benchmark for measuring the stance of monetary policy, its interpretation is complicated for a variety of reasons. The natural rate of interest is not observable, but it must be estimated on the basis of uncertain calculations using another unobservable factor, i.e. potential output. Therefore, the calculation of the natural rate of interest relies on the use of complex statistical methods, in which a number of assumptions need to made. The results obtained are sensitive to such assumptions.

Different interpretations have also been put forward regarding the concept of the natural rate of interest. Laubach and Williams define the natural rate of interest as an interest rate that would prevail in the economy in the absence of shocks.[1] According to this interpretation, the economy would ultimately stabilise at the level of the natural rate of interest. This may, however, take several years, even a decade. This definition of the natural rate of interest can, in fact, be regarded as a long-run approach. By contrast, in general equilibrium models, the natural rate of interest is understood to mean an interest rate that would close the output gap if there were no nominal rigidities present in the economy.[2] The natural rate of interest according to this short-run definition shows strong variation over time as a consequence of business cycles, for example. Even so, an interest rate level providing the optimal short-term path for economic growth and price stability could deviate from both of these natural rate of interest levels.

1. Laubach – Williams (2003).
2. See e.g. Curdia (2015), Justiniano – Primiceri (2010) or Woodford (2003).

A notional example can be used to illustrate the concepts of different interest rates in a simple three-equation general equilibrium model, in which prices respond with a lag (price rigidities) to changes in demand and which is subject to shocks affecting both output and prices (Chart 2). One can see that the short-run natural rate of interest according to general equilibrium models varies strongly along with business cycles. However, the level of the natural rate of interest according to the short-run approach should fluctuate around the equilibrium interest rate over the longer term. In the absence of shocks, the economy would also conform to this interest rate level. The equilibrium interest rate is, by definition, close to the level of the long-run interest rate referred to by Laubach and Williams. Although this model example assumes a constant long-run equilibrium, the long-run natural rate of interest, in reality, also fluctuates over time, reflecting changes in the structures of the economy, such as volatility in the growth rate of potential output as well as changes in savings behaviour, such as the rate of time preference. Holston, Laubach and Williams, for example, have estimated changes in the level of the natural rate of interest at long horizons.[3]

Chart 2.



Even if the natural rate of interest leads – assuming a state of equilibrium – to the closing of the output gap and stable inflation over the long term, it is not, however, the interest rate level consistent with the objective of monetary policy over the short term. This is because the link between the output gap and inflation may change over time, for example as a result of cost shocks impacting price setting, prices responding slowly to changes or several different rigidities in the real economy (such as those relating to the labour market or investments). The slow closing of the output gap would then be insufficient to restore desired rates of inflation, and the interest rate set for monetary policy purposes must be different from the natural rate of interest. With the actual real interest rate staying below the natural rate of interest, economic growth picks up, adding to price pressures and boosting inflation, which has been brought down, for example, by

3. Holston – Laubach – Williams (2016).

an external shock, and thereby helping to achieve inflation rates consistent with the central bank's target. Correspondingly, the opposite will be the case when the interest rate is above the natural rate of interest.

An interest rate according to the Taylor rule[4] is often seen as representing a guide for monetary policy, and it has also been a good indicator for central banks' behaviour in reality. In a simple model, policies based on the Taylor rule are also very close to optimal monetary policy.[5] Although the interest rate according to the Taylor rule differs from the natural rate of interest over the short term, these interest rates show co-movement over the longer term (see Chart 2).[6]

The level of the natural rate of interest has fallen in the euro area

Since there is no explicit standardised way of estimating the natural rate of interest, analysis of the natural rate of interest and its deployment as a measure of the state of monetary policy incorporate a considerable degree of uncertainty. With the interest rate prevailing at its natural level, however, the output gap should close over time. It is therefore possible to measure the level of the natural rate of interest if the output gap and the impact of an interest rate change thereon are known. There are significant challenges, on the other hand, associated with estimating the output gap.[7] Laubach and Williams sought to gauge the long-run natural rate of interest in 2003 by making use of the Kalman filter in the context of a simple macroeconomic model estimation. In their method of calculation, the level of the natural rate of interest is affected by the growth rate of the economy's potential output and by shocks to the willingness to save or invest.

The euro area long-run output gap and natural rate of interest can be examined on the basis of the definition and model by Laubach and Williams (Chart 3).[8], [9]

According to the estimates thus obtained, the slowdown of growth in potential output has in recent years caused the level of the natural rate of interest to fall from around 2% pre-crisis to less than 1%. These results are, in fact, accounted for almost entirely by deteriorating growth prospects. By contrast, in the results presented, other shocks affecting savings behaviour have had only a small impact on the natural rate of interest.

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4. See e.g. Taylor (1993).

5. See e.g. Galí (2008).

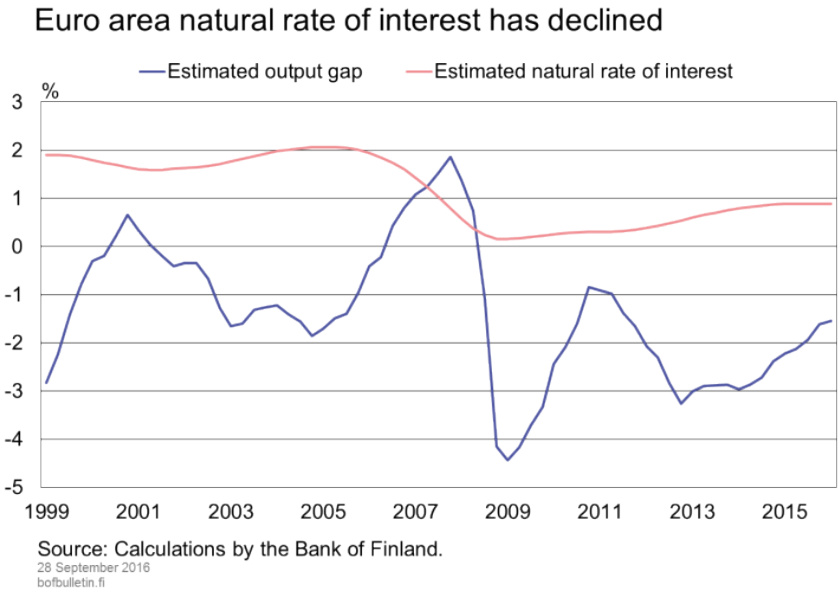
6. In the simple example in Chart 2, the differences between the Taylor rule interest rate and the natural rate of interest arise from cost shocks that influence pricing and cause inflation to change without affecting the output gap. The closing of the output gap would then be insufficient to restore price stability; the interest rate set for monetary policy purposes must be different from the natural rate of interest.

7. See e.g. ECB (2005).

8. The model according to Laubach and Williams(2003) is estimated for the euro area by Bayesian methods, using observations over the period 1999/Q1–2016/Q2. The data employed includes observations of the euro area real GDP, consumer price inflation (excl. energy and food), 3-month Euribor and one-year-ahead inflation expectations in the SPF survey.

9. The estimated assessment of the natural rate of interest is conditional on the estimated assessment of the output gap.

Chart 3.



The method applied in the calculations of the natural rate of interest incorporates, however, a considerable degree of uncertainty in respect of both the model employed and the statistical method. For example, according to the results recently presented by Holston, Laubach and Williams, the euro area natural rate of interest would have remained negative since 2011. The estimation by Holston, Laubach and Williams (2016)is based on an equivalent model but, compared with the above calculation presented here, they use data over longer periods and assume a bigger role for shocks affecting savings behaviour.

According to the results of both estimations, the slowdown of growth in potential output has been a significant factor weighing on the natural rate of interest. The European Commission's Spring 2016 Forecast suggests euro area potential growth has slowed to around 1% from the pre-crisis rate of around 2%. The subdued growth after the financial crisis reflects, in particular, the weak performance of total factor productivity.[10] Accordingly, the waning of the growth rate accounts for about 1 percentage point of the decline in the natural rate of interest during the period following the financial crisis. In the estimation of Holston, Laubach and Williams (2016), the slowdown of potential output also explains the bulk of the decline in the natural rate of interest in the United Kingdom, Canada and the United States.

The natural rate of interest entering negative territory in the euro area, as can be observed in the estimation of Holston, Laubach and Williams (2016), is accounted for by protracted and considerable changes in the willingness to save. The driving factors behind such changes might include, for example, increased uncertainty, changing production structures or population ageing.[11], [12] By contrast, the short-run natural rate

10. See also Anttila, J. (2016) Onko elpyminen myytti? ('Is recovery a myth?'). Bank of Finland Bulletin 4/2016.
11. However, there is no exact information available on the factors affecting the decline of the euro area natural rate of interest.

of interest according to the general equilibrium model could temporarily move into negative territory, driven by business cycles or other provisional shocks, for example.

Measured in terms of several different methods, the current level of the natural real rate of interest is exceptionally low, compared with pre-crisis interest rates of close to 2%. Different estimation methods for the natural rate of interest point to low and possibly even negative levels for the natural rate of interest. Constâncio goes through estimates of the natural rate of interest calculated using different methods, and these suggest that the interest rate would have declined in the euro area in recent years from the pre-crisis level of 1–2% to around -2–0%, depending on the method applied.[13]

Overall, the lower natural rate of interest is accounted for by the economy's uncertainty and weaker growth outlook. These may have added to the willingness to save and dampened the willingness to invest. In order for the economy to be balanced and for saving and investment to be equally high, the equilibrium interest rate must fall to a new level. However, different estimation results assign a role of different size to the interest rate decline and the factors contributing to it.

The level of the natural rate of interest appears to have declined not only in the euro area but also in other advanced economies. Holston, Laubach and Williams (2016) estimated that the interest rate has dropped after the financial crisis to 1.5% in the United Kingdom and Canada and to around 0.5% in the United States. They also find that natural rates of interest move globally to the same direction. This is, in part, explained by interdependencies between the economies, for example in respect of the financial markets and external trade, as well as by expectations of future global growth that have been downgraded, particularly after the financial crisis.

Where is the natural rate of interest heading?

The exceptionally low nominal interest rates prevailing during the current crisis have not so far led to strong economic growth or inflation. The output gap is thus estimated to have remained negative. Inflation has also remained below the monetary policy target for a long time. This can be accounted for by exceptionally permanent and possibly new negative shocks to the economy, but partly also by the lower level of the natural rate of interest.[14]

This lower natural rate of interest, in part, explains why stimulating the economy and achieving price stability have required stronger post-crisis monetary policy measures than in previous decades. These measures have triggered considerable cuts in both short- and long-term interest rates.

Even so, estimates of the exact level of the natural rate of interest and the causes of its decline are highly uncertain.[15]

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12. Summers (2014) reviews a number of potential factors weighing on the natural rate of interest in the United States.
13. Constâncio (2016).
14. Deleveraging and labour market normalisation, for example, take longer. In addition, the sliding oil price has reduced inflationary pressures.

For this reason, it is also challenging to assess how the natural rate of interest will develop going forward. According to several estimates, the level of the natural rate of interest has been exceptionally low for eight years, i.e. for longer than observed at any time earlier. Doubts have, in fact, been voiced about the possibility of the current low natural rates of interest remaining in place for many years to come.[16]

In so far as the lower natural rate of interest is explained by the decelerating growth of potential output, it may well remain lower than in previous years over an extended period of time. On the other hand, as long as economic growth is expected to remain positive, constantly negative natural rates of interest would require considerable permanent changes in households' savings behaviour. For example, should uncertainty about future earnings prospects grow, households would increase savings. Likewise, a higher degree of uncertainty would reduce willingness to invest. Both of these factors would bring the natural rate of interest down. However, savings rates have not risen to exceptional levels in Europe since the eruption of the crisis. It is therefore possible that temporary phenomena, such as the still ongoing debt reduction, potential structural changes in the economies and the temporary uncertainty caused by the euro area crisis, have been instrumental in holding back crisis recovery, have reduced the willingness to invest and thus may have influenced some estimates of the natural rate of interest.

If the natural rate of interest is to remain at its current low level, achievement of price stability will also require lower interest rates in the future than seen in earlier decades. Non-standard monetary policy measures would then be used more frequently than before in an effort to achieve price stability. Accordingly, discussions at the 2016 Jackson Hole Symposium focused on the potential challenges posed by low interest rates for the conduct of future monetary policy.[17]

It is, however, possible for the natural rate of interest to return back to a higher level over time in the context of a rebound of global growth, the dissipation of uncertainty or higher productivity.

The natural rate of interest is a useful, albeit uncertain, benchmark for the purpose of assessing how expansionary the stance of interest rate policy is at a given time. It seeks to measure the longer-run equilibrium interest rate level in the absence of effects from short-term shocks. Owing to short-term shocks and rigidities in the economy, optimal monetary policy differs from the natural rate of interest over the short term. Monetary policy design should therefore be based on the inflation outlook and estimates of the size of the output gap.

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15. See e.g. Hamilton (2015) for the uncertainty related to the estimation of the level of the natural rate of interest.
16. Laubach – Williams (2015).
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Tags

- euro area
- natural rate of interest
- monetary policy

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