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Monetary policy and the global economy



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The cover picture depicts the national motif on the Monaco 2 cent coin: The coat of arms of the Sovereign Princes of Monaco.

Monetary policy and the global economy

17 March 2014

Executive summary

The outlook for the global economy improved in the second half of 2013. The financial crisis has, however, left a long shadow. In the euro area, in particular, GDP remains low, and in many countries the unemployment situation is extremely difficult. Reflecting underutilisation of resources, inflation has slowed in many of the main economic regions below the medium-term target set by the central banks.

Recent years have seen progress in the process of restructuring euro area economies. The imbalances are, however, so substantial that it will take time to restore balance. On the whole, the focus of economic policy is shifting from combating the crisis itself to sorting out the remaining problems caused by it. Productive resources – both labour and capital – must be reallocated. This structural change will weigh economies' ability to adapt to a new environment and places major demands on economic policymakers.

According to the Bank of Finland's March 2014 forecast for the global economy, the growth outlook remains moderate. Of the major economic regions, GDP in the EU21 is forecast to grow around 1.5% in 2014–2016. US growth is stabilising at around 3%, while Chinese growth is forecast to slow to 6% by the end of the forecast horizon.

The subdued outlook is also reflected in the Bank of Finland's inflation forecasts. The slowing of inflation in the EU21 will come to a halt during the course of 2014. Thereafter, it is forecast to pick up from around 1% in 2014 to 1.6% in 2016. The gradual normalisation of inflation will be helped by the economic recovery and contraction of the output gap as well as long-term inflation expectations continuing to be anchored.

The global economy remains vulnerable to downside risks. In the euro area, the period of low inflation could turn out to be longer than forecast. Low inflation and the rigidity of relative prices could also make it more difficult than forecast for the entire economy to move towards a new equilibrium. A new downside risk is posed by the Ukrainian crisis. So far, its greatest economic impact outside Ukraine itself has been in Russia,

whose already underperforming economy is suffering from the increased uncertainty.

In some emerging economies, financial conditions have tightened considerably since summer 2013. It is nevertheless unlikely that the present uncertainty will spread in the manner of the late 1990s. This is particularly on account of the buffers accumulated by the emerging economies of Asia, and China's role as the motor of growth for this group of countries. In terms of scale, a risk of a very different size relates to the sustainability of the financial sector in China, by far the largest of the emerging economies.

The euro area's monetary policy interest rates have already been exceptionally low for over 5 years. The Governing Council of the ECB has eased both its current monetary policy and expectations over its future monetary policy stance, because the recovery from the financial and debt crisis is still keeping the economic and price outlook for the euro area very muted. Monetary policy has been eased both by lowering the key policy rate very close to zero and by communicating more directly than before on the longer-term monetary policy stance.

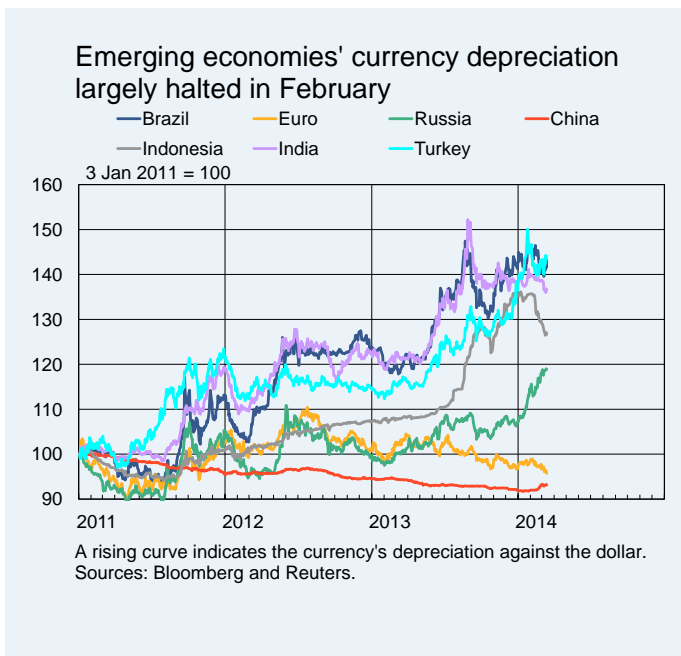
Reduced tensions and improved confidence have also been reflected in the euro area banking sector. Despite the positive developments, however, the banking sector as a whole remains fragile. The comprehensive assessment of the condition of the banks to be carried out by the ECB before it takes up its supervisory role within the Single Supervisory Mechanism (SSM) in November 2014 will help build trust in the financial system and bolster banks' lending capacity for the future.

In the overall spectrum of economic policy, monetary policy has its own special role: to maintain price stability. When price stability is not threatened, monetary policy can also be used effectively to support other economic policy objectives. The other topical areas of economic policy are restoring health to the banking sector, structural reforms to boost growth and general government consolidation. It is essential that all these areas are addressed if the shoots of growth are to be nurtured and strengthened in the manner forecast.

Chart 1.



Chart 2.



I Cyclical conditions and outlook for the global economy

Global growth strengthened as expected in the second half of 2013. Growth was particularly brisk in the United States, where e.g. the increase in jobs and rising asset prices fed consumer demand (Chart 1). In contrast, the euro area's recovery from the crisis remains slow and coloured by continued substantial unemployment and partly resultant weak consumer demand. In Japan, the end of 2013 was characterised by continuation of a strongly expansionary monetary policy and the consequent correction of the deflationary spiral.

The pace of growth in the emerging economies stabilised during the course of 2013, and at the end of the year their exports benefited from the quickening of world trade growth. Recent years' strong growth in debt accumulation in many emerging economies has, however, increased the risks to the financial sector in these countries, deepened the current account deficits of some emerging economies and made them more dependent than before on external finance. These challenges re-emerged into prominence at the start of the current year, when the improved economic outlook in the United States caused the Fed to begin running down its programme of securities purchases. Combined with the weaker growth expectations for emerging economies, this has diverted capital flows away from these countries and placed pressure on their currencies (Chart 2).

So far, however, the response on the financial markets has affected only

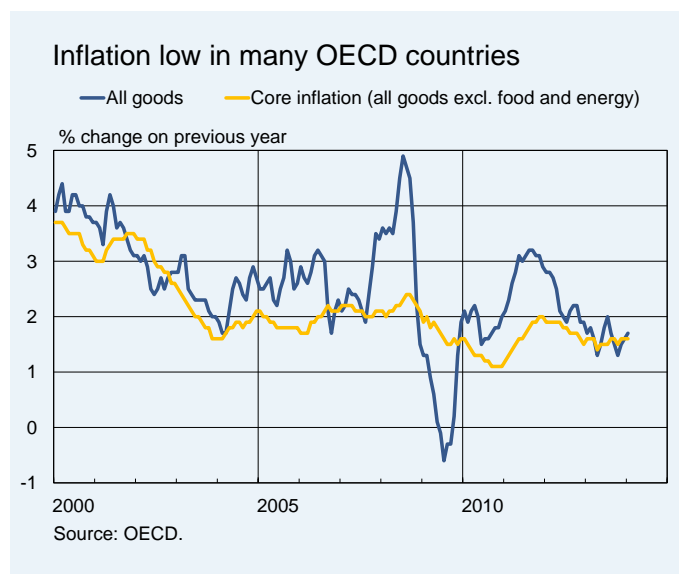
a few emerging economies, and the impact on the global economy has been slight. In fact, the increased uncertainty in the emerging economies has been reflected in a growth in currency flows into the advanced economies, causing lower government bond yields in the euro area, for example.

Inflation very low

Average inflation in the OECD countries slowed further in 2013 (Chart 3) and in many countries is now below the central bank's medium-term inflation target. Of the major economic regions, inflation is lowest in the euro area, where the annual change in consumer prices in January-February 2014 was only 0.8% on a year earlier. In the United States, consumer prices in January were 1.6% higher than a year earlier, and in many emerging economies, too, inflation has remained at historically moderate levels. As an exception to the general trend, inflation has accelerated in recent months in Japan, where the relaxed monetary policy has led to a depreciation of the yen and rising import prices.

Behind the low inflation lies, in the first place, the very moderate trends in energy and other commodity prices (Chart 11). The world market prices for foodstuffs fell in 2013 by around one fifth, primarily due to good harvests. This slowed the pace of inflation, particularly in the emerging economies, where foodstuffs take a very substantial share of the consumption basket. Moreover, the price of oil is at present slightly lower than a year ago.

Chart 3.



Although underlying inflation, calculated without reference to food and energy prices, has eased much less than consumer price inflation, it, too, is at an historically low level. The moderate price trends are based on the continued weak cyclical conditions, which are restricting both demand and growth in production costs. As an example, the capacity utilisation rate in industry is, across all major economic regions, still much lower than before the crisis, and the weak employment situation is curtailing wage rises in both the United States and the euro area. Moreover, estimates regarding output gaps reinforce the impression that, of the main economic regions, in the United States and the euro area, in particular, resources remain underutilised (Chart 4). In addition, the tight market situation serves to limit price rises and forces companies to reduce their margins and improve productivity. In the euro area, in

Chart 4.

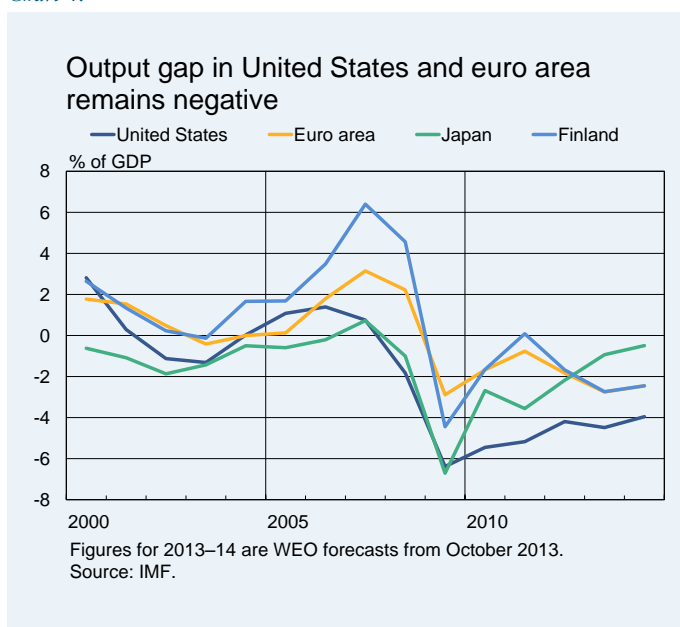
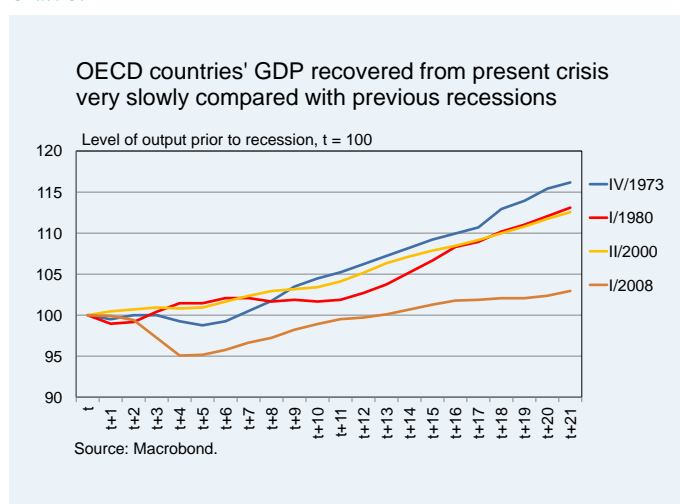


Chart 5.



particular, weak developments in the money supply and credit volumes have contributed to the low inflation.

Growth forecast almost unchanged

Compared with previous recessions, the advanced economies' recovery from the present crisis has been exceptionally

slow (Chart 5). There are several reasons for this. In the first place, the rapid economic growth in the years before the crisis was based in many countries on private sector debt, and the winding down of these debt burdens has hampered growth since the crisis. In addition, a rapid rise in house prices in some countries prior to the crisis led to an unfavourable channelling of resources, for instance into excessive housing investment. Now, post-crisis, production resources – both labour and capital – need to be reallocated. This restructuring weighs up economies' ability to adapt to the new environment and places substantial demands on economic policy.

Recovery is also being slowed by features that relate to financial crises in general. It is highly likely that the problems of the financial sector have reduced access to finance particularly for companies seeking to expand, thereby hampering renewed growth. This is partly reflected in the very weak trend in capital investment. Meanwhile, the slow recovery has prolonged the problems with unemployment, whereby labour force skills have been eroded and there has been an increase in structural unemployment. In many economies, the employment rate is still below the level prior to the crisis (Chart 6). It has not been possible to compensate for the weak investment and employment trend through improvements to total factor productivity, which has led to sluggish output growth.

The Bank of Finland forecast for the global economy published here remains in broad outline the same as the

autumn 2013 forecast, as, for the reasons outlined above, the global growth outlook for the immediate years ahead remains very moderate. Particularly in many countries of the euro area, substantial levels of unemployment and the adjustment of high debt ratios in both private and public sectors are still hampering growth, which will pick up only marginally from the present rate. The pace of growth in the United States and the emerging economies is expected to continue more or less as at present. These expectations are supported by the latest corporate and household confidence indicators, which suggest growth has continued in the early months of 2014 at more or less the same pace as at the end of 2013 (Chart 7). Developments in financial conditions in the advanced economies – high stock prices, continued low interest rates and the changes in indicators of the markets’ capacity to withstand risk – also support current expectations regarding continued growth.

Economic policy in the immediate years ahead is expected to be supportive of growth. In the first place, very moderate inflation forecasts will facilitate the continuation of an accommodative monetary policy in almost all the advanced economies. Economic growth will also gain from the fact that many governments’ consolidation programmes have already peaked and the largest short-term growth-inhibiting impacts of expenditure cuts and tax hikes are now in the past. In some euro area countries, the situation has also been eased by the fact that the return to growth coupled with the already

Chart 6.

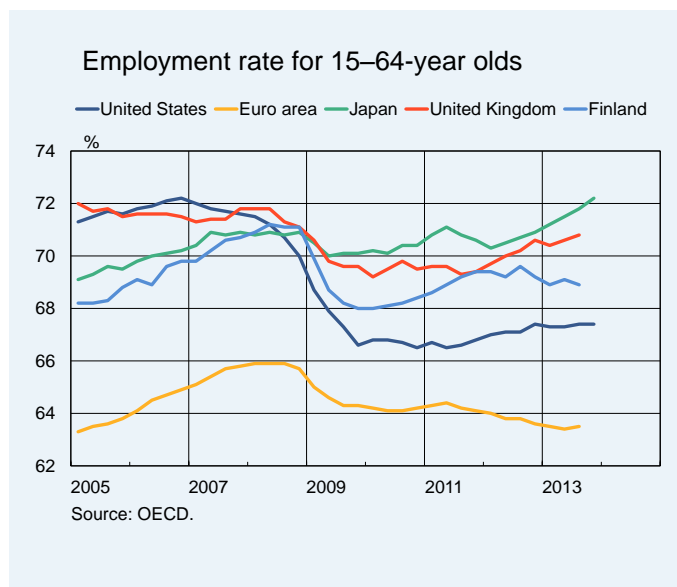
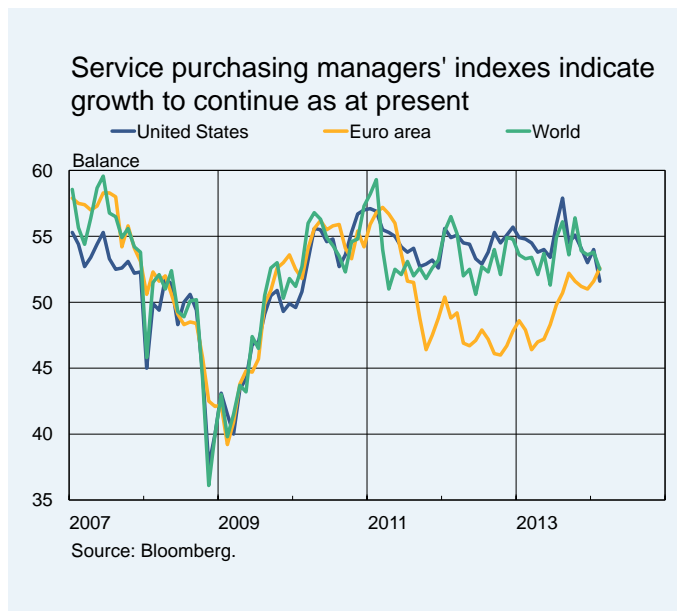


Chart 7.



applied consolidation programmes appears to be cutting further accumulation of public debt, which has increased market confidence in governments’ ability to service their debts and lowered these countries’ interest rates.

Chart 8.

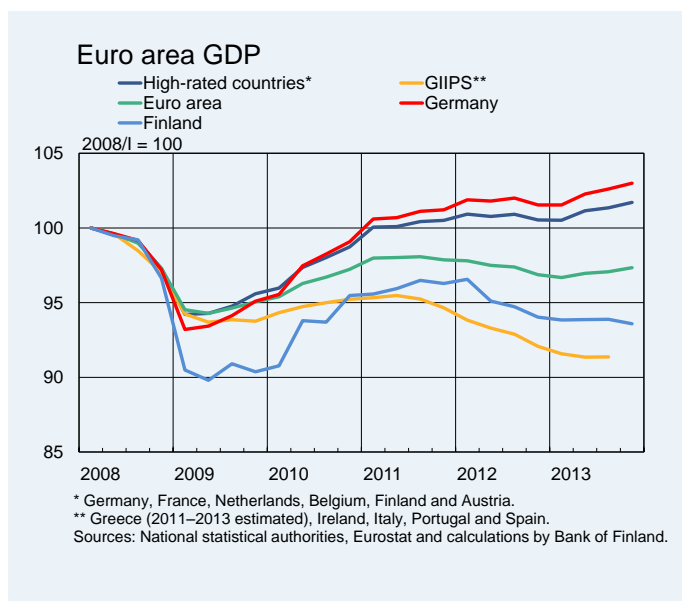


and product markets. In addition, agreement over the federal budget in the United States and the policy commitments over banking union in the euro area since last autumn have reduced the uncertainty surrounding economic policy (Chart 8). These factors are expected to be gradually reflected in investment activity, in particular.

Euro area recovery continues at a slow pace

The economic recession in the EU21² came to an end in the second quarter of 2013, and the second half of the year witnessed a gradual pick-up in economic activity. In line with market developments to date, the forecast contains an assumption that the worst phase of the debt crisis is now over and in the future the problems of individual countries will be reflected at aggregate level in the euro area directly in accordance with their GDP weightings. The new forecast anticipates continued slow growth as in the autumn forecast. Growth will continue to be subdued by weak income development, substantial unemployment, the winding down of debt (both public and private) and sluggish investment activity. GDP in the EU21 countries is expected to grow 1.4% in 2014, 1.6% in 2015 and 1.7% in 2016. According to the forecast, the area's GDP will reach the pre-crisis level (the second quarter of 2008) only at the end of 2015. Country differences in GDP will remain substantial in the forecast period (Chart 9).

Chart 9.



Progress was also made during the crisis in regard to structural reforms.¹ In particular, the euro area countries forced to accept EU and IMF programmes have reformed their labour

¹ OECD (2014) Economic Policy Reforms 2014 – Going for Growth.

² The euro area plus the United Kingdom, Sweden and Denmark.

Private consumption within the EU21 will develop relatively sluggishly in the immediate quarters ahead due to weak employment and income developments and the large burden of debt on the household sector. Uncertainty over the strength of growth and demand will undermine companies' willingness to recruit new employees. The tightness of banks' credit terms could also serve to put a brake on investment. Moreover, fiscal policy and measures to boost debt-sustainability will continue to cramp growth in the euro area. All in all, the sluggish economy will mean a continued weak employment situation in many euro area countries.

The **German** economy grew steadily in the second half of 2013, and by the end of the year the country's GDP was approximately 3% above the pre-crisis level in the second quarter of 2008. Confidence has continued to grow in Germany in the early months of 2014. According to the forecast, German growth will continue relatively strongly, as the economic fundamentals are sound: structural reforms have progressed faster than in other euro area countries, exports are competitive, household indebtedness is relatively moderate, unemployment is among the lowest in the euro area and the need for consolidation in fiscal policy and government debt is less than in other euro area countries.

French economic growth in 2013 was weak, but on the plus side and better than previously forecast. In customary fashion, growth was sustained by domestic demand, which in turn is sustained by, for example,

population growth. During the forecast period, investment will begin to grow gradually as confidence improves and due to the effects of structural changes to boost competitiveness and the functioning of the labour market. Substantial unemployment and general government consolidation will continue to moderate growth in domestic demand in the immediate years ahead.

Although **Italian** GDP contraction gave way at the end of 2013 to very slow growth, the country's real GDP remains 10% below the pre-crisis level. A substantial contraction in domestic demand has moved Italy's current account slightly into positive territory. The new government is expected to accelerate structural reforms to facilitate cautious growth in the economy and a downturn in the debt ratio in the immediate years ahead.

In **Spain**, the success of the programme for restructuring the banking sector will support the economy's recovery from the deep crisis following the bursting of the financial bubble. The programme came to an end in January 2014. The Spanish government needed to borrow approximately EUR 41 billion to recapitalise the country's banks. GDP began to grow in the second half of 2013, bolstered by positive net exports. Several factors continue to undermine domestic demand: despite a slight dip, the unemployment rate is extremely high and there remains a lot of work still to do to wind down the large level of both public and private debt. Inflation slowed during the course of 2013 to close to zero.

The pace of growth in the **United Kingdom** in 2013 was a positive surprise. GDP was up 1.8% over the year, and growth is expected to accelerate further in the coming years. The strong current on the labour market, reflected in both employment and unemployment figures, has, together with slowing inflation, low interest rates and rising house prices, bolstered domestic consumption even more than expected. On the other hand, the lacklustre performance of the loan stock and wages could in the years ahead put a stronger-than-expected brake on growth. In addition, the current account deficit is one of the weaknesses of the UK economy.

In **Sweden** and particularly in **Denmark**, growth was lacklustre in 2013, but in both countries it is expected to accelerate in 2014, largely reflecting growth in domestic –

particularly household – demand. However, in both countries the household debt burden weighs on the long-term outlook for growth.

US growth expected to continue, developments in Japan marked by uncertainty

In the **United States**, economic growth picked up more than expected in the second half of 2013. A positive trend on both the labour market and the housing market paved the way for growth in both domestic consumer demand and construction investment. Moreover, resolution of the budget disputes reduced the uncertainty surrounding future economic policy at the same time as the Fed's successful communication relaxed the atmosphere on the country's financial markets.

Despite the weaker-than-expected early-year trend, GDP growth is expected to continue steadily – at around 3% per annum – through the forecast period. There has been a clear improvement in households' asset position, which is expected to be reflected in consumption growth. This view is supported by data showing growth in consumer credit coupled with the impression that the winding down of debt is coming to an end. Although public sector consolidation will continue throughout the forecast period, the main negative impact on economic growth was passed in 2013. One of the biggest questions regarding the future trend of the US economy relates to the development of capital/business investment. Although large profits and liquidity have been more-

Table 1.

Growth in GDP and world trade				
<i>% change on previous year (previous forecast in parentheses)</i>				
GDP	2013	2014^f	2015^f	2016^f
<i>United States</i>	1.9 1.6	2.8 2.5	3.1 2.9	3.1
<i>EU21</i>	0.0 -0.1	1.4 1.2	1.6 1.6	1.7
<i>Japan</i>	1.5 1.6	1.3 1.5	1.2 1.2	1.1
<i>China</i>	7.7 7.5	7.0 7.0	7.0 7.0	6.0
<i>Russia</i>	1.3 1.8	0.5 3.3	1.0 3.2	2.0
World	3.0 3.0	3.5 3.7	3.7 3.8	3.7
<i>World trade</i>	3.2 2.7	4.8 5.2	5.4 5.9	5.5

^f = forecast
EU21 = euro area, Sweden, Denmark and United Kingdom
Source: Bank of Finland.

than-normally concentrated on a fairly small group of companies, these are expected to increase their investment in the immediate years ahead as the growth outlook improves and financial conditions continue to be relaxed.

The growth outlook for **Japan** in the immediate years ahead is marked by uncertainty. The increase in consumption tax, essential to consolidate the public finances, is scheduled for 2014 and 2015. Its short-term impact on consumption and on the economy as whole could, however, be negative. In addition, the position of households will not be improved by the fact that, although the vigorous monetary policy stimulus has weakened the yen and accelerated inflation, this has not yet been reflected in wage development. Real wages are therefore now lower than a year ago. Concern over developments in Japan is increased by the fact that, despite the depreciation of the yen, exports have performed weakly. All in all, the population trend and general government consolidation push the growth expectations for the immediate years ahead down to the region of a good 1%. The need for structural reforms to boost the longer-term growth outlook remains considerable.

Structure of growth in emerging economies at a turning point

In the emerging economies, growth is supported by major trends such as urbanisation, service-sector growth and technological progress. There are, however, major differences between countries in these developments. Recent

market movements in some economies reflect more broadly the challenges facing the emerging economies in the immediate years ahead: economic growth based on rapid credit growth has run its course and growth in the next few years is expected to be much slower than in the pre-crisis years.

The significance of the emerging economies to the global economy is already considerable: in 2013, measured by purchasing-power-adjusted prices, the share of the emerging economies outstripped that of the advanced economies for the first time.³ Thus developments in the large emerging economies, in particular, significantly affect the entire global economy.

In 2013, **China's** GDP grew 7.7%, and the overall picture of developments in China corresponds well with earlier assessments. In the immediate years ahead, GDP growth is expected to slow gradually, while still remaining at a healthy 6–7%. The preconditions exist for a continued favourable trend, as the policy decisions of 2013 demonstrate that China's decision-makers are committed to thoroughgoing reforms. Confidence that the reforms will be pushed through to conclusion is increased by the fact that the situation on the financial markets, in particular, effectively forces continued liberalisation of deposit rates and an enhanced role for interest rates in China's monetary policy. Moreover, the positive employment situation and moderate inflation give room to concentrate on the reforms.

³ The calculation has drawn on the IMF division into emerging and advanced economies.

China's growth outlook is overshadowed by risks of a debt bubble and historical experiences of financial market liberalisation.

The structures of the Chinese economy are gradually changing, although the share of private consumption in the forecast period would still appear to be smaller than that of investment. The structural changes are also visible in China's foreign trade, with a rapid increase in tourism by Chinese people and a decline in the significance of assembly production. China's current account surplus contracted to 2% of GDP in 2013, but the accelerating inflow of capital saw the country's currency reserves grow to over USD 3,800 billion. International use of the yuan is increasing as a consequence of market liberalisation and China's continued rapid economic growth. One interesting question in the forecast period is the abandonment of exchange controls, which is expected to happen by the end of 2015.

Besides growing debt, uncertainty on China's financial markets has also been increased by the rapid growth but weak supervision of shadow banking. This will also cast a shadow over developments in the years ahead, although China does have the ability to prevent the problems spreading: it can use banks' buffers or ultimately prevent the spread of problems through public intervention. However, international experience with debt bubbles and excesses relating to financial market liberalisation suggest we should be prepared for the problems being greater than estimated, and Chinese growth slower than forecast.

Russia's economic growth has slowed dramatically. In 2013, GDP grew just 1.3%, with a contraction in investment by the large state-owned

energy companies. In the current year, growth will slow further, despite the pick-up in global economic and trade growth. Investments will be postponed even further, as the events in Crimea have considerably increased the level of uncertainty. Reflecting the forecast drop in the price of oil, among other factors, Russian GDP is forecast to grow only a good 1% per annum in the forecast period. Private consumption will slow. Exports will grow slowly, and, after a dip in the current year, imports will grow by a couple of per cent per annum.

An improvement to the growth outlook would require rapid economic reforms, but progress with planned changes is slow. Some precisely targeted changes have been made, motivated by the objective of quickly improving Russia's position in international comparisons of the business environment. The appetite for economic expansion has gradually grown, and the targeted central government deficit is slightly larger than before, if still small. The impacts of monetary policy measures on interest rates and borrowing are still unclear. An inflation rate of over 6% still exceeds the target level. The rouble depreciated due to market pressures, and the Bank of Russia has moderated the trend by buying up roubles. The impact of the Crimean crisis on the Russian economy is examined more closely in Box 2.

Most intense phase of globalisation now over

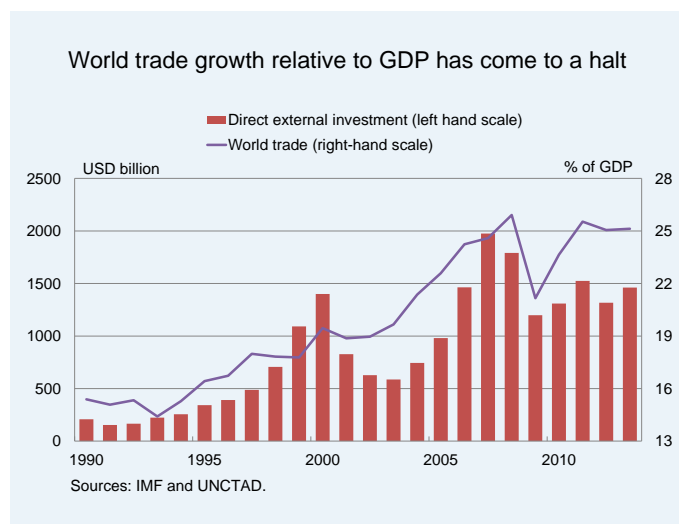
In the years before the crisis, the opening up of trade (including Chinese membership of the WTO) and the

transfer of production to the emerging economies boosted world trade much more quickly than output (Chart 10). However, the crisis cut this trend, and world trade in recent years has been lacklustre. There are several reasons for this. In the first place, the weakness of investment in the advanced economies has been a factor, as capital goods and consumer durables account for a large share of world trade. Secondly, emerging economies (with their enhanced role) have a lower propensity to import than the advanced economies, as poor countries consume relatively more domestically produced products than other countries, for instance foodstuffs. Moreover, in these countries the obstacles to imports, such as import duties, are on average higher than in the advanced economies. In addition, the sluggish flows of international direct investment in recent years would suggest that the internationalisation of production chains has slowed (Chart 10).

Although recent months have seen brisker growth in investment and world trade, international trade is expected, for the reasons outlined above, to grow in the immediate years ahead only slightly faster than output. Although the international relocation of production is a ceaseless process, due for instance to rising costs in China, it will no longer necessarily lead to as fast a growth in international trade as in the 2000s. It is, however, worth noting that trade growth can be accelerated by the removal of obstacles to trade.

The imbalance in world trade has remained almost constant in the post-crisis years. In the forecast period,

Chart 10.



growth in the US trade deficit will be held in check by the United States' increasing self-sufficiency in energy production. The euro area surplus, meanwhile, will be increased by the continued adjustments in domestic demand in euro area countries. The Chinese trade surplus is forecast to continue as at present.

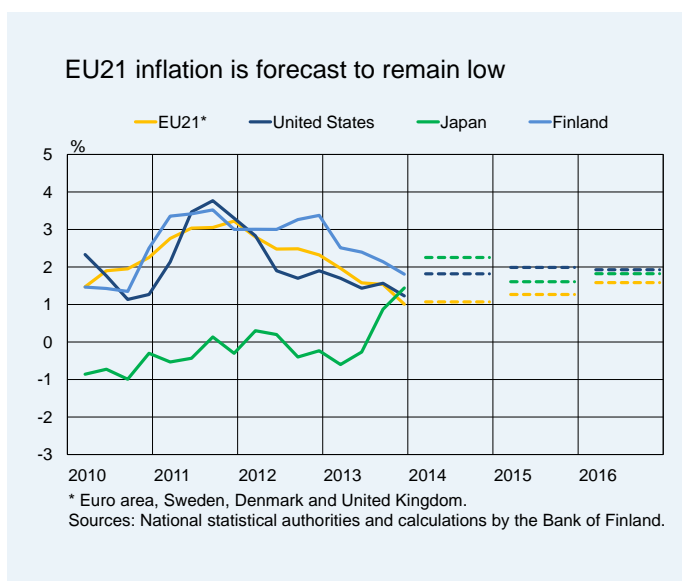
Inflation forecast to remain low

The global economy's slow recovery from the crisis will continue to temper inflation in the immediate years ahead by holding the output gap in negative territory in many advanced economies. The subdued demand outlook will also be reflected in the prices of oil and other commodities, which in the present forecast are expected to follow futures prices on the markets (Chart 11). The declining trend in oil futures is supported by growth in oil production in North America and the fact that currently occurring breaks in production are expected to end during

Chart 11.



Chart 12.



the forecast period, contributing to increased supply of oil. The moderate outlook for metals prices, in turn, is based largely on the gradual slowing of growth in China.

According to the forecast, the downward trend in inflation in the EU21 will come to a halt during the

course of 2014. Inflation is forecast to be around 1% in 2014, thereafter accelerating in 2015 to around 1.3% (Chart 12). By the end of the forecast period, inflation is forecast to be running at 1.6%. The acceleration will be caused by the cautious recovery in the economy and narrowing of the output gap as well as the continued anchoring of long-term inflation expectations.

In the United States, inflation is forecast to accelerate during the current year to around 2%, and thereafter to remain stable until the end of the forecast period. The expected pace of inflation is explained by the positive growth and employment outlook for the US economy.

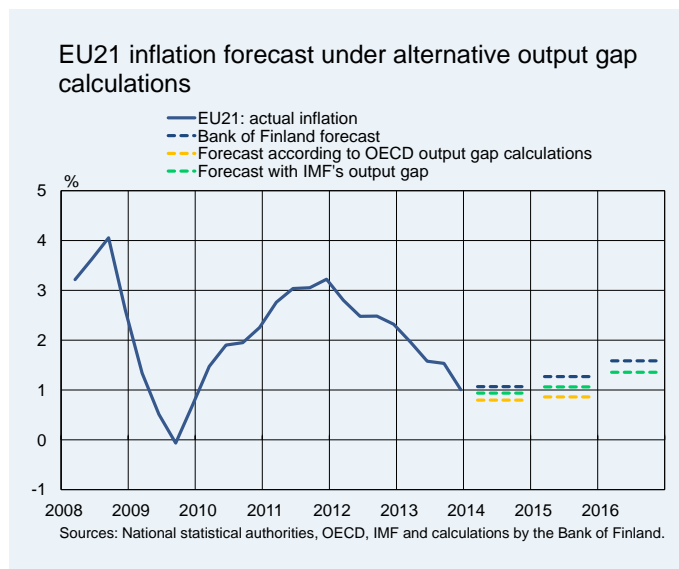
Japanese inflation will, according to the forecast, pick up this year to around 2.5% and then remain at that level until the early months of 2015. The rapid acceleration is due to the increase in consumption tax coming into force in spring 2014 and the continued relaxed monetary policy. However, as the statistical impact of the consumption tax hike fades, inflation is forecast to ease back over the course of 2015 to around 1%, and then to accelerate again to 2% as a result of a second increase in consumption tax that will come into force in the autumn. In Japan, price pressures will come primarily from expensive import prices caused by the weakness of the yen, and the aforementioned tax increases. If the Bank of Japan's target of 2% inflation is to be achievable more permanently, the rise in consumer prices will also need to be reflected in wages, which have so far barely grown at all.

Despite the deceleration in actual inflation, inflation expectations – which are very important in making forecasts – have for the most part remained anchored close to central bank definitions of price stability, both in the euro area and in the United States. Another factor that increases uncertainty relating to the forecasts is how large the potential level of output is estimated to be in each economic region. This is because inflation is significantly affected by how far each region is from its potential output, i.e. how large its output gap actually is. If the output gap is markedly negative, which in current circumstances is a customary feature, the economy has plentiful unutilised capacity and price pressures will be minor. For inflation forecasts the problem is that estimates of potential output, and hence the output gap, vary e.g. according to the applied methodology. For example, in the methodology applied in the Bank of Finland, the negative output gaps in the euro area and the United States are presently estimated to be a degree smaller than the figures achieved with the output-function-based methods of international institutions. Thus, using the OECD's or IMF's alternative estimates in the Bank of Finland forecast produces inflation curves that accelerate somewhat more slowly than in the baseline forecast (Chart 13).

Biggest risks relate to extremely low euro area inflation and China's shadow banks

In the forecast, global growth is expected to continue more or less as at

Chart 13.



present in the immediate years ahead. The growth forecast is, however, attended by considerable risks, which are slightly weighted on the downside. If these risks materialise in practice, the effects could be extremely damaging to the entire global economy, whereas the positive effects of the upside risks, if realised, would be very moderate.

The relatively moderate growth forecast raises the possibility of faster-than-expected growth, particularly in the euro area. Especially in the German economy – the motor of growth in the euro area – there are signs that growth could recover more than forecast. Sentiment on the housing and labour markets, in particular, has been relatively positive. The need for consolidation in respect of fiscal policy and government debt is milder than in other euro area countries. Structural reforms have progressed faster than in the other countries. Moreover, the much lower levels of investment in machinery and

The largest economic impact from the crisis in Ukraine has so far focused on Russia.

equipment in Germany relative to the situation before the crisis allows for an acceleration in investment growth. Against this background we cannot rule out the possibility that growth in domestic demand will be faster in Germany than estimated in the Bank of Finland forecast. Reinvigorated growth in by-far-and-away the euro area's biggest economy would have positive knock-on effects for recovery across the area as a whole.

On the other hand, the outlook for the euro area could actually be weaker than forecast due to the negative effects on the economy of extremely low inflation. This could make it harder to run down the large debt burdens by inflating their value in real terms. Prolonged low inflation could further weaken the operation of price adjustments in the euro area, preventing sufficient flexibility in the relative prices of goods and services according to supply and demand. Such an outcome, rigidity in relative prices, could further hamper and prolong recovery from the financial crisis (see Box 1).

A new downside risk to growth in the euro area is the crisis in Ukraine that came to a head in February-March. So far, the largest economic impact outside Ukraine itself has been in Russia, whose already flagging economy is suffering from the increased uncertainty (see Box 2).

Financial conditions in some emerging economies have tightened considerably since summer 2013 in response to deteriorating growth expectations in these countries and the curtailment of the United States'

monetary policy stimulus. However, there is little probability that the present uncertainty will spread in similar fashion to the late 1990s. This is due to the buffers put in place particularly by emerging economies in Asia, and the fact that China's importance as the engine of growth among the emerging economies has grown.

However, in terms of scale, a risk of a very different size relates to the sustainability of China's financial sector. In China, by far the largest of the emerging economies, the gradual liberalisation of the financial markets and the weakly supervised shadow banking combined with an already substantial level of debt have increased uncertainty on the country's financial markets. The possible escalation of problems into a crisis extending to the country's entire financial system and economy would, via raw material markets and trading channels, have a considerable impact on other emerging economies, but also on the entire global economy. The possibility that such a risk could materialise is backed up by international experience of debt bubbles and excessive financial market liberalisation. With the debt stimulus of recent years and financial market developments, these are already a reality in China. Potential funding problems that would particularly hit investment and construction would rapidly erode growth in a manner that could not be compensated by increasing consumption or exports. Although China's links to external funding are still just developing, in the event of a crisis the size of the Chinese economy

Box 1.

Inflation and relative prices in the euro area

The pace of euro area inflation faded substantially in the course of 2013. At the same time, the rate of change in relative prices has slowed down. Low inflation and rigid relative prices suggest that the pace of recovery from the financial crisis remains slow.

The flexibility of relative prices constitutes a key element of the price mechanism. In an environment of low inflation, the flexibility of prices normally presupposes that some nominal prices will decrease. A lack of downward flexibility in prices results in rigid relative prices, which hampers the functioning of the price mechanism. If moderate levels of inflation are accepted, more room is created for an increase in relative prices, thereby potentially reducing the necessary drop in nominal prices. In the euro area, the definition of price stability targets an inflation rate below, but close to, 2%.

An analysis of the inflation rate and changes in relative prices in the euro area shows that, with declining inflation, the share of price hikes among overall price changes has decreased in the course of 2013 (Chart A). In contrast, the share of price decreases has grown somewhat. In December 2012, the contribution of price increases to the inflation rate was still about 2.5 percentage points (the highest

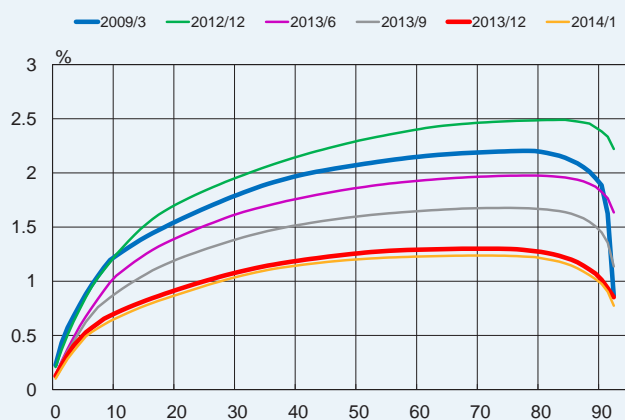
point of the curve in Chart A), while price decreases were relatively rare. The contribution of rising prices diminished in the course of 2013, standing at mere 1.3 percentage points in December 2013. At the same

time, the share and contribution of price decreases have grown. The situation remained similar in January 2014.

Low inflation does not automatically imply rigid relative prices. The same pace of inflation

Chart A.

Inflation and changes in relative prices in the euro area¹



Sources: Eurostat and Bank of Finland.

¹ The graphs in the chart are based on price change data from the past 12 months for 93 goods included in the consumer price index, and the respective weights of these goods. Each graph has been obtained by placing individual goods in order of their inflationary contribution (the product of price change and weighting) and calculating the cumulative sum of these contributions. In other words, the component with the greatest positive contribution to the increase in the price index is placed farthest to the left, followed by the component with the second strongest positive contribution, then next strongest, until the territory of price decreases is reached. The greatest negative contribution is added to the sum as the last element. The cumulative sum of the contributions arranged in this way is equal to the pace of change in the whole consumer price index. Arranging the contributions of various consumer price index components in order of magnitude as described, and calculating their cumulative sum, makes it possible to draw a graph that presents an overview of the frequency of rising and decreasing prices as well as of the pace of change in the whole price index. The graph is convex upwards as a direct consequence of the fact that the contributions have been arranged in order of magnitude.

can mask very different developments in relative prices. At the turn of the year 2013–2014, the euro area inflation rate hardly differed from that observed in the early phase of the financial crisis in 2009. Despite this, there were rather significant differences in the pace of change in relative prices. In March 2009, the contribution of price increases was sizeable and the reduction in inflation was only due to a decrease in some prices (mainly those of energy products). In January 2014, the contribution of price increases was smaller and price decreases were very common. In addition, the contribution of price decreases has

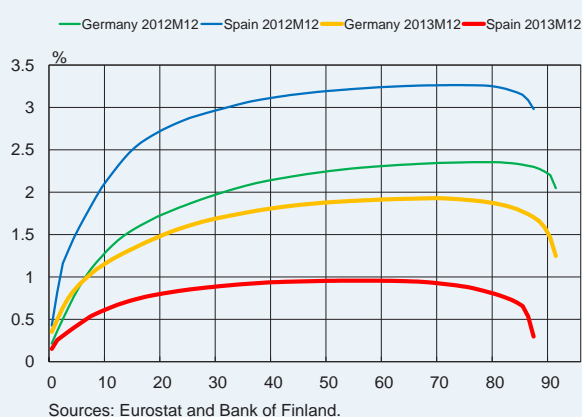
grown bigger during the past year. It is obvious that the proper functioning of the price mechanism in the euro area has been somewhat hampered. Overall, the rigidity of relative prices, together with low inflation, still indicate a slow and dragging recovery from the financial crisis.

Inflation has decreased to levels well below 2% in almost all euro area countries, but cross-country differences in the pace of change in relative prices are significant. Relative prices are changing in Germany, although inflation decreased by 0.8 percentage points between December 2012 and December

2013 (Chart B). In Spain, in contrast, the pace of change in relative prices has slowed significantly over the same period. In December 2012, the contribution of price increases to the inflation rate still exceeded 3 percentage points, while price decreases were relatively rare. By December 2013, the share and contribution of price increases had diminished and the share of virtually unchanged prices (the flat part of the graph in Chart B) had grown. Although the share and contribution of price decreases have also grown in Spain, the functioning of the price mechanism has, overall, become more rigid. However, the developments in Spain have been influenced by the VAT rise in September 2012 that exerted an upward impact on inflation for 12 months. Nonetheless, even adjusted for VAT, the drop in inflation in Spain from December 2012 to December 2013 was nearly twice as strong as in Germany. Even if no detailed VAT-adjusted price data is available, it is obvious that the functioning of the price mechanism in Spain has become more rigid.

Chart 14.

Inflation and changes in relative prices in Germany and Spain²



² The graphs in the chart are based on price change data from the past 12 months for 92 goods included in the consumer price index in Germany and the respective weightings of these goods, as well as on price change data from the past 12 months for 88 goods included in the consumer price index in Spain and the respective weightings of these goods.

Box 2.

Crisis in Crimea increases risks to Russian economy

The escalation of the situation in Crimea in February–March 2014 led to a significant increase in uncertainty not only in Ukraine but also in Russia. This box analyses the impact of increased uncertainty on macroeconomic developments in Russia. The assessment is based on calculations made using the model for Russia¹ developed by the Bank of Finland's Institute for Economies in Transition (BOFIT).

Uncertainty hampers growth

Crisis are associated with increased uncertainty, and recent weeks' events in Ukraine are no exception. Although measuring and modelling economically harmful uncertainty is not straightforward, quickly available financial market information helps in estimating its level. The level of uncertainty hampering Russia's economic growth can be estimated using information on the expectations over depreciation of the rouble, combined with other information.

The Bank of Finland's model for Russia illustrates this harmful uncertainty using a variable based on actual exchange rate changes (see Chart). In the model used in the calculations, this variable depicts

expectations of uncertainty. The variable is constructed such that an increase in uncertainty in any given quarter is reflected in gradually weakening strength through the subsequent three quarters. In addition to the historical path of the variable, the attached chart shows the projected level of uncertainty in 2014 as estimated before the events in Crimea (black line), as well as an update of the projection from early March (red line).

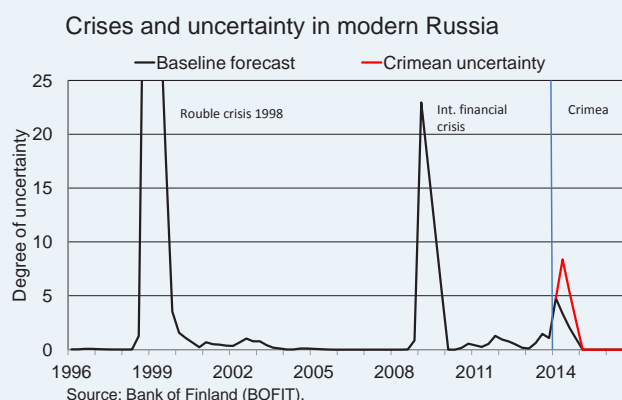
The value of the variable as such does not lead to any particular interpretation, but it can be usefully compared with its path during previous crises. The rouble crisis of 1998 was in a

class of its own, but thereafter the level of harmful uncertainty remained very low until the outbreak of the international financial crisis. The level of uncertainty was already growing as a result of domestic factors towards the end of 2013 and in early 2014, ahead of the events in Crimea at the end of February and beginning of March.

A dark shadow over the whole of 2014

The Russian financial market experienced serious turbulence as the situation in Crimea escalated. On 3 March, listed Russian corporations lost USD 60 billion of their stock exchange value and the value of the rouble

Chart.



¹ For more information on the model for Russia, see Rautava, J. (2013) 'Oil Prices, Excess Uncertainty and Trend Growth', Focus on European Economic Integration 4/2013.

depreciated significantly, although the Bank of Russia increased its lending rate by 1.5 percentage points and intervened to support the rouble on foreign exchange markets.

The situation may eventually calm down, but the uncertainty caused will cast a long shadow and weigh on Russia's economic growth at least until the end of the current year. The magnitude of the bill can be estimated by comparing the forecasts produced by the econometric model used by BOFIT for forecasting the Russian economy. The model's baseline forecast was produced using an uncertainty profile applied before the Crimean crisis, while the alternative scenario takes account of the increased uncertainty caused by the crisis (see Chart).

According to the model calculations, as a consequence of the 'Crimea weekend' at the turn of the month February–March and the extra uncertainty it caused for the Russian economy, Russia's GDP growth this year could dip and turn out one

percentage point smaller than estimated before the crisis. At the same time, Russia's real import growth risks remaining 4 percentage points lower than estimated before the crisis. The calculations take into account the slight rise in the price of oil caused by the crisis, but this eases Russia's position only marginally.

This simple model does not tell precisely which transmission channels are operational in the pass-through of the uncertainty into the Russian economy. It is, however, known that uncertainty leads to caution among both businesses and consumers, and the slowdown in output reflects a weakening of both investment and consumption demand.

Difficult times ahead

The assessment presented here is based on the assumption that economically harmful uncertainty is limited to the crisis experienced at the turn of February–March and its gradually waning spillover effects. The magnitude of the consequences naturally grows if the Crimean crisis deepens and the threat of

economic and financial counter-measures increases. The nature of this crisis also differs greatly from previous ones, so in the current situation corporations and other actors may see the threats in a different light than in prior crises. In that case, the spillover effects of uncertainty could be much deeper and last much longer than estimated in this context.

In any case, it is obvious that the events in Crimea will further aggravate Russia's already difficult economic position. The pace of growth in Russia has faded in recent years, and in 2013 the country's GDP grew a mere 1.3%. The slowing of growth is not due to the trends in energy and other commodity prices, but to deeper problems stemming from the economy's one-sided structure and lack of competition. The slower growth makes it harder to resolve the existing problems and generates increased uncertainty over the future. Such uncertainty is poison to investment and economic growth.

and the expectations invested in it would mean effects would certainly be felt on the global financial markets as well. The global problems would be balanced by the fact that a drop in raw material prices would benefit the advanced economies and other importers of raw materials. Problems and risks relating to China are likely to be weighted towards the latter half of the forecast period.

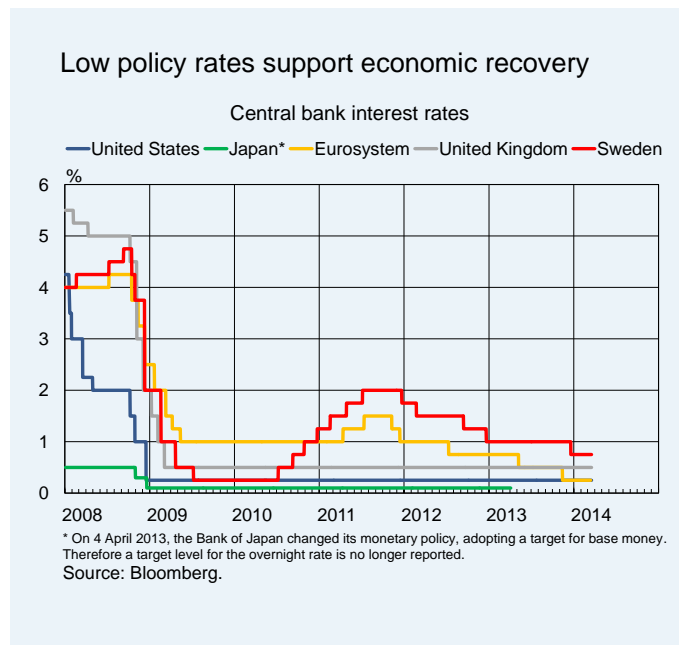
II Monetary policy and its transmission to the real economy of the euro area

Eurosystem monetary policy facing challenge of low inflation and zero interest rate floor

The Eurosystem's policy interest rates have already been exceptionally low for over five years (Chart 14). The Governing Council of the ECB eased its monetary policy stance most recently in November 2013 by lowering its key policy rate to 0.25%. The marginal lending rate was lowered to 0.75%, and the deposit rate was held at 0%.

In July 2013, the Governing Council introduced the practice of forward guidance as part of its monetary policy arsenal. This enables it to indicate in advance the interest rate policy it expects to pursue in the future. The Governing Council has from the outset communicated it expects Eurosystem policy rates to be held at their current levels or lower 'for an extended period of time'. Forward guidance reinforces the accommodative monetary policy stance by reducing

Chart 14.



uncertainty over the future development of the policy rates.

The Governing Council has eased its monetary policy stance and expectations relating thereto because the recovery from the financial and debt crisis is still keeping the euro area economic and inflation outlook sluggish. Monetary policy has been eased both by lowering the main policy instrument (the key policy rate) very close to zero and by expanding the toolbox. In addition to extremely low interest rates and forward guidance, other non-standard measures have been the shift to offering credit with no advance limit (the policy of full allotment in monetary policy refinancing operations), broadening the criteria for eligible collateral and the introduction of long-term refinancing operations (LTROs) and securities purchase programmes. The measures

taken by the ECB's Governing Council have been key in restoring financial market confidence in the euro area.

Euro area recovery will, however, take time, and the area is at the same time undergoing substantial reforms. The decisions taken in 2013 on banking union will strengthen transmission of monetary policy throughout the euro area. The comprehensive assessment of the condition of euro area banks to be conducted by the ECB before it takes up its supervisory responsibilities within the Single Supervisory Mechanism (SSM) in November 2014 will, for its part, help build confidence in the financial system. The problems in the banking system are slowing the transmission of monetary policy to the real economy and subduing credit growth. It is essential to restore health to the banking sector if it is to be able to support economic recovery. This will

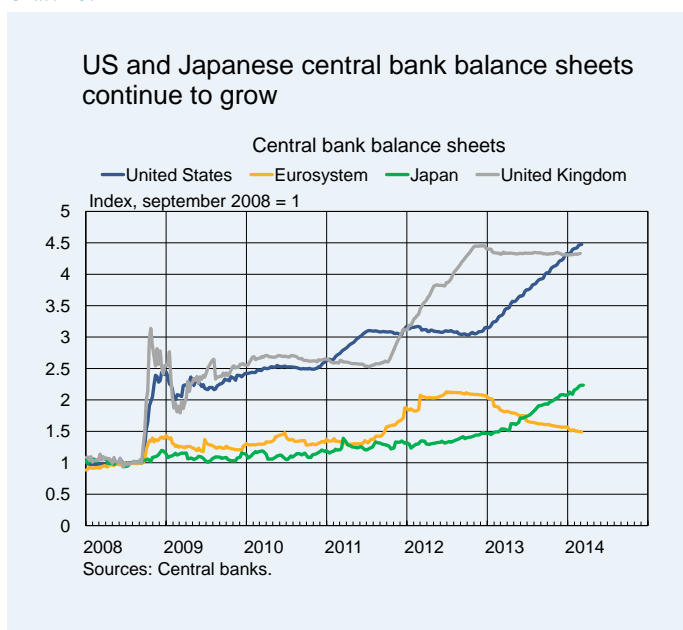
also substantially reduce the risk of deflation in the euro area.

Within the whole spread of economic policy, monetary policy has its own special role: the maintenance of price stability. When price stability is ensured, monetary policy can also be employed effectively to support other economic policy objectives, such as sustainable growth and employment. Realistic expectations on the actions of the Eurosystem are part of a balanced recovery of the economy from the effects of the financial crisis. The progress of structural reforms and continued consolidation of the public finances remain important. The division of labour between the central bank and other actors needs to be clear, if the central bank is not to be the focus of expectations it is unable to meet.

Bank of Japan seeks to cut prolonged deflationary spiral

Many key central banks, such as the US Federal Reserve, the Bank of Japan and the Bank of England, have since the end of 2008 conducted extensive securities purchase programmes with the objective of a quantitative easing of their monetary policy. These central banks have focused their securities purchases to a large degree on government debt instruments. The programmes have swollen central bank balance sheets relative to the pre-crisis period. The balance sheets of the US Federal Reserve and the Bank of England have more than quadrupled, while that of the Bank of Japan has more than doubled in size (Chart 15). The Fed's balance sheet now stands at

Chart 15.



24% of the country's GDP, the Bank of England's at 25% and the Bank of Japan's at 47%. The corresponding figure for the euro area is 24%.

Of the aforementioned central banks, only the Bank of Japan has had to combat deflation. The deflationary spiral in Japan began as far back as the early 1990s as a consequence of a serious economic crisis. The Bank of Japan has recently sought to cut the deflationary spiral by raising the inflation target and purchasing securities. At the beginning of 2013, the central bank relinquished its earlier interim inflation target and is now directly targeting 2% inflation. It also announced an open-ended securities purchase programme that will continue until a sustainable rate of 2% inflation has been reached. The Bank of Japan's actions to cut the deflationary spiral have considerably weakened the yen's exchange rate, which had appreciated during the global economic crisis. Since the latter part of 2012, the yen has depreciated almost 30% against the dollar, and a good 20% measured by the nominal trade-weighted exchange rate index. Consumer price inflation has accelerated to approximately 1.5%, primarily on account of the high price of energy imports due to the weakness of the yen.

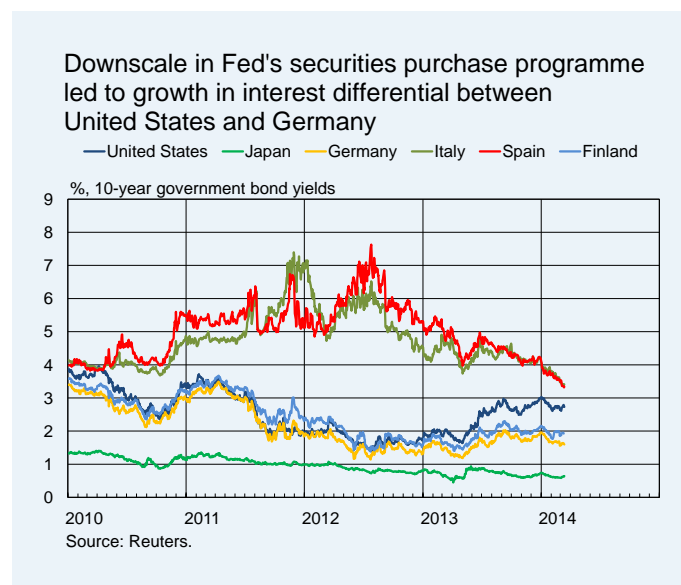
US Federal Reserve reduces its securities purchases as the economy improves

The US Federal Reserve has linked a reduction in its securities purchases to improvements in the outlook on the labour market. The purchase programme is aimed at producing more relaxed financial conditions to support economic

recovery. The Fed held the volume of securities purchased unchanged throughout 2013, as reflected in the growth in its balance sheet (Chart 15). With the US economy continuing to improve as expected, the Fed decided in December to begin tapering its securities purchase programme, initially reducing its monthly purchases from USD 85 billion to USD 75 billion. In February, at the last meeting under Chairman Ben Bernanke, purchases were reduced by a further USD 10 billion to USD 65 billion.¹ Looking ahead, the Fed expects to continue at future meetings to gradually wind down its securities purchases (Chart 16). The central bank's balance sheet will continue to grow until it no longer purchases any

¹ The US Federal Reserve purchased USD 40 billion worth of mortgage-backed securities per month from September 2012, and USD 45 billion per month of government bonds beginning in January 2013. The reductions decided in December and January are divided equally between the two types of securities.

Chart 16.



The different rhythms of the monetary policies pursued by different central banks could in the future, too, cause capital flows between countries.

further securities. Thus, the reduction in the amount of purchases is in fact a gradual reduction in the relaxation of monetary policy.

At the same time as reducing its securities purchases, the Fed has intensified its forward guidance on interest rates. It has indicated its key policy rate will still remain low for a prolonged period, even if the unemployment rate were to fall below the 6.5% threshold mentioned in previous forward guidance, particularly if inflation remains below the 2% target, as forecast. The US unemployment rate has already come down to 6.7%.

The first signs the Fed was considering reducing its securities purchases came in May 2013, in a speech by then Chairman Bernanke. Expectations over a reduced volume of purchases were strongly visible last summer on the financial markets of the emerging economies, and to an extent also in the euro area, and, among other things, the currencies of many emerging economies depreciated substantially. In September, the markets were surprised when the volume of securities purchased actually remained unchanged. This was due particularly to a rapid tightening in financial conditions coupled with uncertainty over the effects of fiscal tightening and the challenges of fiscal policy decision-making. When, in December, the Fed decided to reduce its purchases, the financial markets were already prepared for this decision. The markets were also better able to distinguish that the monetary policy stance would continue to be eased despite the slower pace of bond purchases.

Interest rate rises in emerging economies have subdued capital outflows

The tapering of the Fed's securities purchases shows that, although the dismantling of central banks' non-standard monetary policy measures and normalisation of interest rates are at present just a gleam on the distant horizon, the approach of the turning point and its anticipation are already affecting the financial markets. The asynchronicity of monetary policy between different central banks may in the future, too, cause capital flows between countries. The focus has been on those emerging economies with weaknesses relating to either endogenous or exogenous imbalances.

In the early months of 2014, the central banks of many emerging economies have sought to subdue the outflow of capital, for instance by raising their key interest rates. In January and February, Brazil continued the series of interest rate rises it began in April 2013 by raising its key policy rate to 10.75%. This was in response to continued rapid inflation and exchange rate pressures. The depreciation of the Brazilian real has also been dampened by exchange rate interventions. As well as Brazil, India and Indonesia have also tightened their monetary policy earlier than many other emerging economies that have faced downward pressures on their currencies. Particular problems have been experienced by Turkey and Argentina. Turkey was forced to raise interest rates at an emergency meeting, before which the government had pressured the central bank to keep the

policy rate unchanged despite strong downward pressures on the Turkish lira. At the end of January 2014, the Argentine peso was forced into a downward spiral after the central bank ended its interventions in support of the currency.

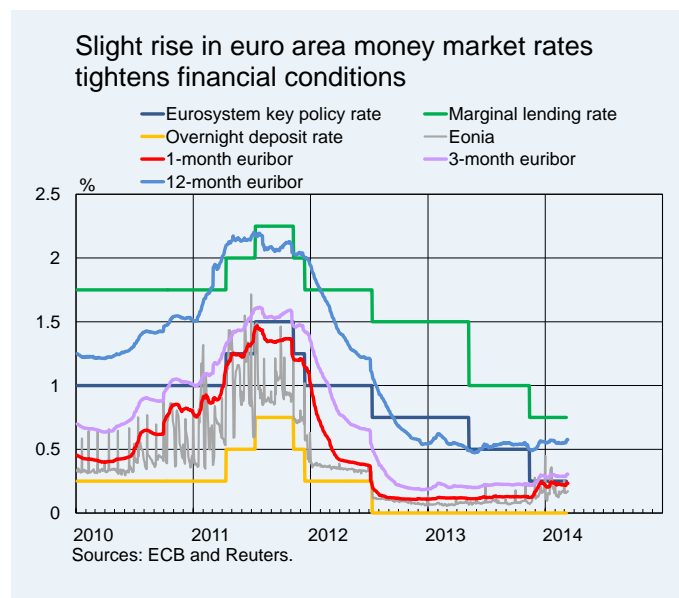
Although financial market reactions have for now become more muted, the turning of capital flows away from emerging economies and the consequent impacts on both emerging economies and the entire global economy have caused concern and continue to pose an economic risk to the whole world.

Main central banks indicate a further prolonged period of low policy rates

In the United States and the United Kingdom, unemployment rates are declining. The central banks in both countries initially indicated in their forward guidance a threshold unemployment rate below which unemployment had to fall before they would consider raising interest rates. When this threshold was reached, the Bank of England shifted focus from this single indicator and began to monitor the underutilisation of economic resources more broadly. Inflationary pressures remain mild, with resources such as labour and capital still underutilised. The Fed's communications are also being closely followed, as, in the United States, too, the threshold looks likely to be crossed in the near future.

Recovery in the real economy of the euro area has only just begun and the position of the economy differs significantly from the situations in both the

Chart 17.



United States and the United Kingdom. The exceptionally large difference in yields between US and German 10-year government bonds (Chart 16) illustrates the divergence of economic performance between the euro area and the United States. Of concern for the Eurosystem is an unfounded rise in money-market interest rates and a premature tightening of financial conditions in the euro area in the wake of recovering economies such as the United States and the United Kingdom (Chart 17). In conditions where the financial markets are largely integrated globally, the different pace of economic developments in the euro area and, among others, the United States increases the communication challenges surrounding monetary policy. As of early 2014, the financial markets expect a rise in US and UK interest rates at the earliest in 2015, and the key euro area policy rate is expected to remain low for even longer.

The communication of monetary policy will in the future, too, be of key importance. Forward guidance enhances the effectiveness of monetary policy in a situation where interest rates are very close to zero and judging the state of the economy presents challenges. The Eurosystem's forward guidance helps keep short-term money-market interest rates in line with a monetary policy stance based on the medium-term inflation outlook (Chart 17). For example, the fluctuations in short-term money-market rates in early 2014 has not been reflected in longer-term money-market rates.

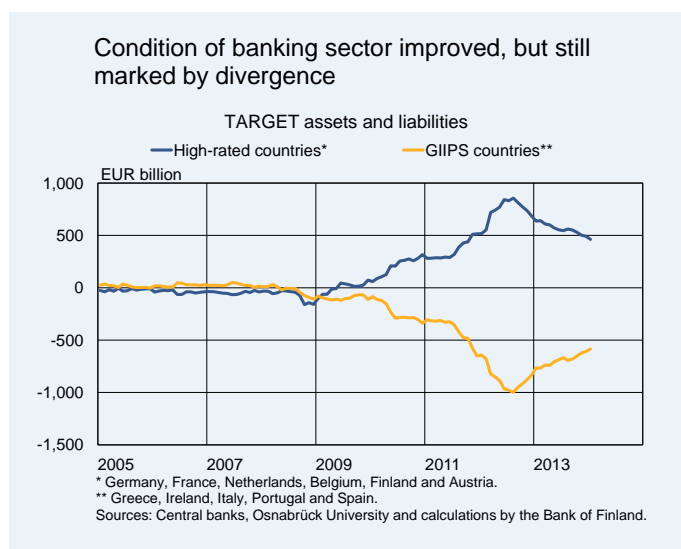
Eurosystem monetary policy accommodative of growth – voluntary repayments of long-term credits have reduced balance sheet

The Governing Council of the ECB is supporting bank lending by continuing the fixed-rate tender procedure with full allotment in central bank refinancing

operations. In November 2013, the Governing Council also reinforced banks' confidence regarding liquidity by extending the minimum period when this procedure will be followed until July 2015. The Governing council has underlined that it will continue fixed-rate tenders with full allotment as long as is necessary.² The volume of central bank financing in the euro area declined over the course of the past year. Among other factors, once repayment became possible at the beginning of 2013, banks voluntarily began to gradually repay the exceptionally long 3-year loans they took out in December 2011 and February 2012. On account of the voluntary repayments, the GDP ratio of the Eurosystem balance sheet contracted from around 31% at the beginning of 2013 to 24% at the end of the year.

The premature repayment of the liquidity provided in the three-year longer-term refinancing operations illustrates improved confidence and some degree of reduction in fragmentation on the financial markets as well as a reduction of indebtedness on the part of euro area banks. Although banks operating in many of the GIIPS countries³ still rely in their acquisition of funding on central bank credit rather than market funding, the TARGET balances (intra-Eurosystem assets and liabilities) that reflect uneven distribution of central bank finance have contracted (Chart 18). Banks operating in countries running a TARGET surplus, like Germany, are still net depositors of funds with the central bank.

Chart 18.



² See Tuomas Välimäki's article elsewhere in this issue.

³ Greece, Ireland, Italy, Portugal and Spain.

Besides muted inflation, another area of concern in the euro area is the weakness of credit developments. The stock of private sector loans has been contracting for the past two years (Chart 19). This is a welcome trend insofar as it relates to the unwinding of overindebtedness and particularly a reduction in the credit that fuelled overcapacity in the real estate sector. A pick-up in the pace of growth in the loan stock should preferably be related to business investment rather than a new real estate bubble.

Following a significant contraction in the loan stock in the United Kingdom, the Bank of England launched in July 2012 a programme to reduce the funding costs of participating banks and encourage them to increase their lending to non-financial corporations and households (funding for lending scheme, FLS).⁴ There have in fact been signs of stronger growth in the UK loan stock. Opinion is, however, divided over how much this is due to the central bank's programme.

Divergence still a feature of euro area banking sector

The general reduction in tensions and improvement in confidence on the financial markets are reflected in the euro area banking sector. Banks' share prices have risen to their pre-2011 level, and many risk premia have shrunk to an even lower level than at that time.

For some banks in the crisis countries, the improved climate of

⁴ A similar programme is also underway in Japan. The Bank of Japan decided in February to continue and extend its programmes to encourage lending.

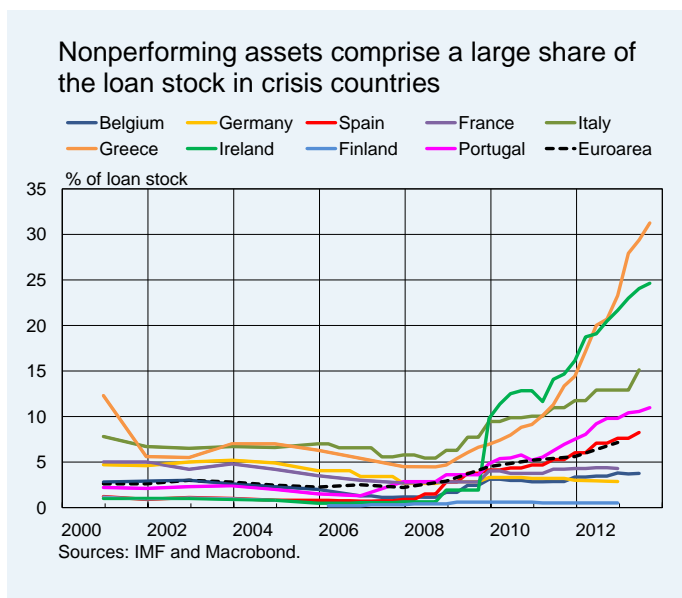
Chart 19.



confidence has opened access to both the money markets and the bond markets and reduced their funding costs. The positive trend in deposits has continued in most euro area countries, reflecting the restoration of confidence in the euro area banking sector.

Despite these positive developments, the condition of the banking sector as a whole remains fragile. The improved availability of market funding is vulnerable to changes in risk propensity, and the improved situation does not reflect equally on all banks. In respect of financial intermediation the banks can still be divided into two groups in terms of operating capacity, and the differences between banks in the crisis countries and the core countries remain substantial. Growth in non-performing assets is showing signs of a slight levelling off, but the positions of banks in the crisis countries and

Chart 20.



elsewhere still differ substantially from each other in this respect (Chart 20).

In addition to the differences between countries, differences can also be discerned between banks in the euro area banking sector in terms of size. The non-performing assets of smaller banks are growing faster than those of the large banks, while the latter have also been able to build their loan loss reserves better than the small banks. Low interest rates and a weak real economy together create a challenging operating environment for traditional banking activities. Small banks that concentrate on this area can suffer from the profitability problems caused by low interest rates more than large banks, as they have less other business to compensate for weak net interest income. Small banks also typically operate more locally than large banks, hence they can suffer from weak and uneven macroeconomic developments

Low interest rates and a weak real economy are combining to create a challenging operating environment for traditional banking activities.

more than large banks spread across several different geographical areas.

Comprehensive assessment of banks' balance sheets a significant step for euro area economy

At the same time as credit risks have grown due to the weak performance of the economy and the low level of interest rates has caused problems with profitability, the recovery of the banking sector has slowed due to uncertainty over the quality of their balance sheets. In 2014, there will be two significant projects aimed at restoring confidence: a comprehensive assessment of the banks by the ECB in preparation for the Single Supervisory Mechanism (SSM) and stress tests conducted by the European Banking Authority (EBA) covering the whole of the EU.

The ECB assessment will comprise a risk assessment, assessment of the quality of balance-sheet assets and a stress test. It will cover approximately 85% of the euro area banking sector as measured by balance-sheet assets. The aim of the risk assessment is to generate a clear and comparable picture of banks' overall risks by examining, using common methods and definitions, each bank's most important risks, such as liquidity and financial risks and risks relating to declining equity ratios.

The asset quality assessment takes into account the assets on banks' balance sheets on 31 December 2013. The assessment will focus on the assets of each bank held to bear the greatest risk or that are the most complex, and the assessment will be very wide-ranging. It will be conducted under the tight

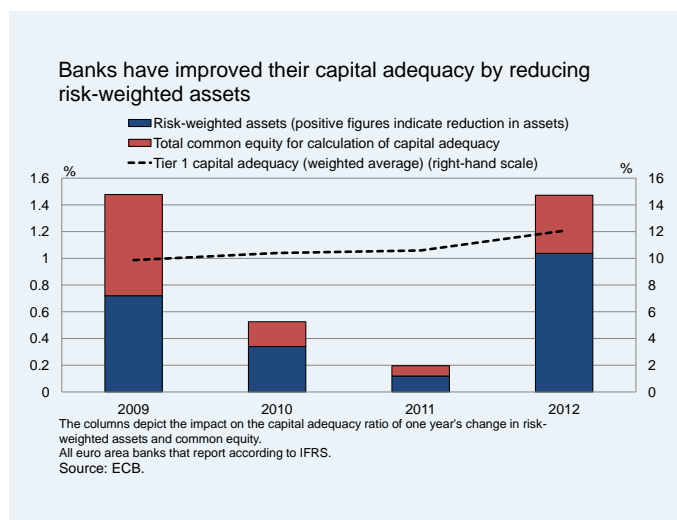
guidance of the ECB, and banks will where necessary have to increase their impairment recognition. It is probable the comprehensive assessment will also identify banks that need to be recapitalised or even wound up.

The purpose of going through the balance sheets is to ensure that banks are on the same starting line prior to the stress test. The stress test itself will be conducted in conjunction with the EBA and using procedures agreed under its leadership. The EBA's stress test, which will cover the entire EU, will cover 124 EU banks and at least 50% of each country's banking sector. Banks' robustness will be examined over a three-year period (2014–2016), and the scenario will seek to take better account than previous stress tests of country-specific special sensitivities and risks. This is to ensure the scenario is sufficiently stressful from the perspective of all the Member States' banking sectors participating in the exercise. More precise information on the stress test's methodology and the scenario will be published in April 2014 and the results of the test by the end of October 2014.

Euro area banks have been improving their capital adequacy since 2012. In 2012, the average capital adequacy ratio based on core capital was approximately 12%. The figures for the end of 2013 are not yet available, but in June 2013 the ratio was approximately 12.5%. Most banks actually already comply with the full minimum capital requirements contained in the Capital Requirements Directive and Regulation.

The change began with the EBA's

Chart 21.



recapitalisation project, which boosted banks' capital by over EUR 200 billion between December 2011 and June 2012. Although banks' capital did grow more in 2012 than in the two preceding years, the improvement in capital adequacy was influenced more by a reduction in risky assets (Chart 21).

The changes banks have made to their balance sheets are also visible in the change in size of the euro area banking sector. The aggregate balance sheet of the euro area banking sector shrank during the course of 2013 by around EUR 2,500 billion. This was largely due to a reduction in central bank deposits, in activity on the interbank loan market and in derivative positions. Approximately 6% of the balance sheet contraction was due to a reduction in the loan stock.

Data for 2013 on changes in capital and risky assets are not yet available, but according to preliminary assessments there was a slowing in the pace of capital growth. This would

If the banks continue to consolidate their balance sheets in 2014, financial conditions will presumably continue to be tight in the short term.

Chart 22.

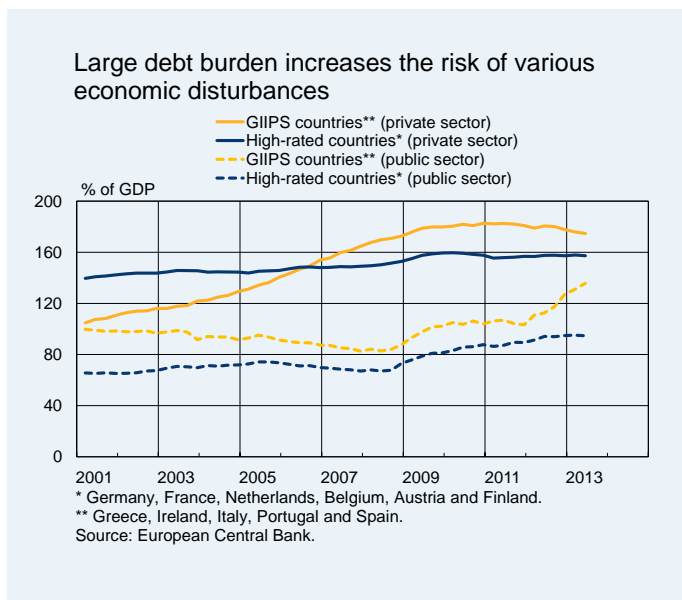
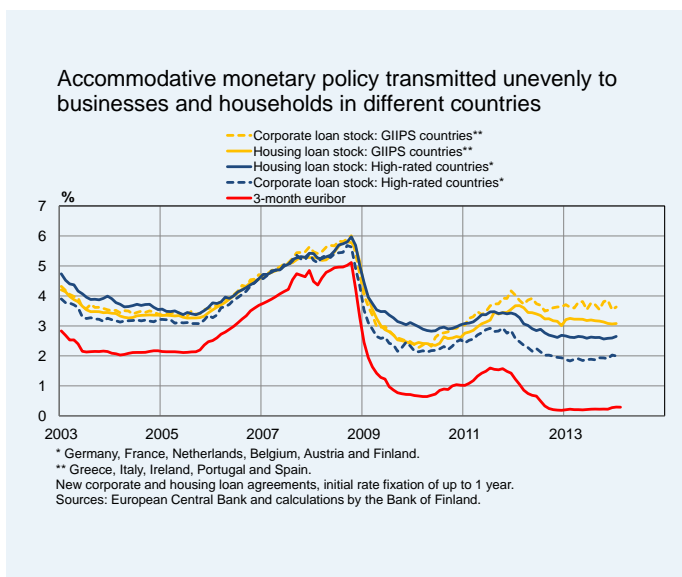


Chart 23.



suggest that a growing share of the improvement in capital adequacy is explained by the reduction in risky assets.

Looking to the future, if the banks continue to consolidate their balance

sheets in 2014, financial conditions will presumably continue to be tight in the short term. However, over the long term, restoration of health to the banking sector by cleaning up the banks' balance sheets is essential for the sector's operating capacity and the smooth transmission of monetary policy. The comprehensive assessment and stress tests will play a major role in the restoration of health to and confidence in the euro area banking sector. Success will require open communication irrespective of the outcome of the assessment, congruent methodologies in the different participating countries and sufficient advance preparation for the possible recapitalisation requirements.

Euro area facing a headwind: high debt and tight financial conditions

The comprehensive assessment of bank balance sheets and restoration of health to the banking sector are essential if banks are to be able support economic recovery in the euro area. There is, however, one clear obstacle to a rapid recovery: the high level of private and public sector debt.

Public debt in the euro area relative to GDP will, according to forecasts, peak in the current year. Private sector indebtedness has been receding somewhat since 2011. This has happened primarily in the GIIPS countries, where debt grew strongly throughout the decade from 2000 onwards (Chart 22). In respect of public debt, the GIIPS countries' debt will peak at the earliest in 2015. The unwinding of private sector debt is

expected to continue in the immediate years ahead, and the aggregate public sector level of debt in the euro area will begin to contract in 2015. Deceleration in the pace of inflation will, however, increase the debt burden in real terms and delay its reduction. Simultaneous reduction of both private and public sector debt will be a slow process and will dampen economic growth. Moreover, the heavy debt burden increases the risk of turbulence of various types.

The difference between the interest rates payable by non-financial corporations and households on their new loans and e.g. the 3-month Euribor scarcely contracted at all in 2013 (Chart 23). Financial conditions in the GIIPS countries remain tighter than in the countries with a high credit rating. In the former, non-financial corporations pay almost twice as much interest on their loans as companies in the high-rated countries. In the crisis countries, the funding costs of SMEs in particular are well above the euro area average. The difference in respect of housing loans is slightly less, but, all in all, the level of interest rates in high-rated countries is well below that of the GIIPS countries. Despite the general calming of financial market conditions, 2013 did not yet bring any clear respite in the negative spiral of tight financial conditions and weak economic performance in the GIIPS countries. A faster transmission of the Eurosystem's accommodative monetary policy stance than is currently the case, especially in the GIIPS countries, would boost economic recovery.

Chart 24.

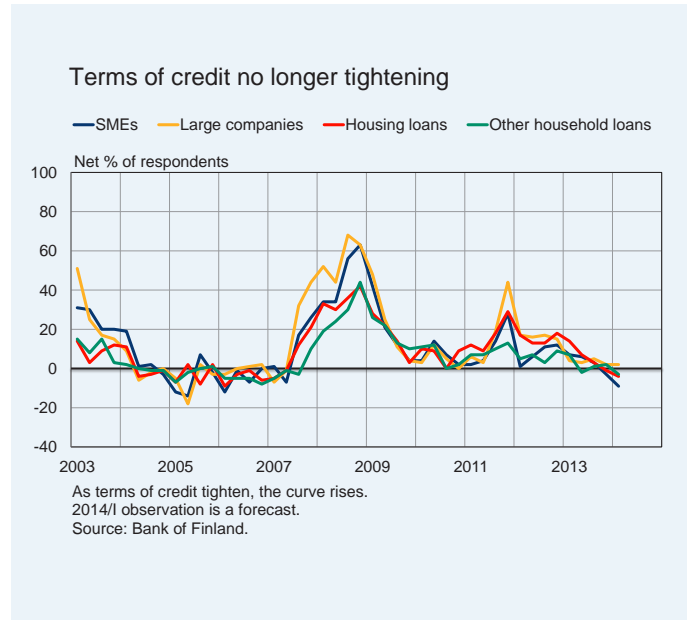
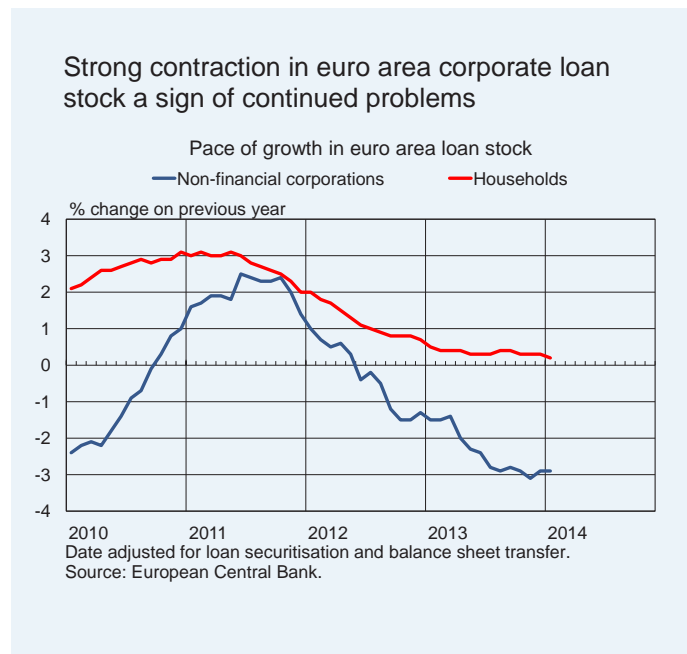
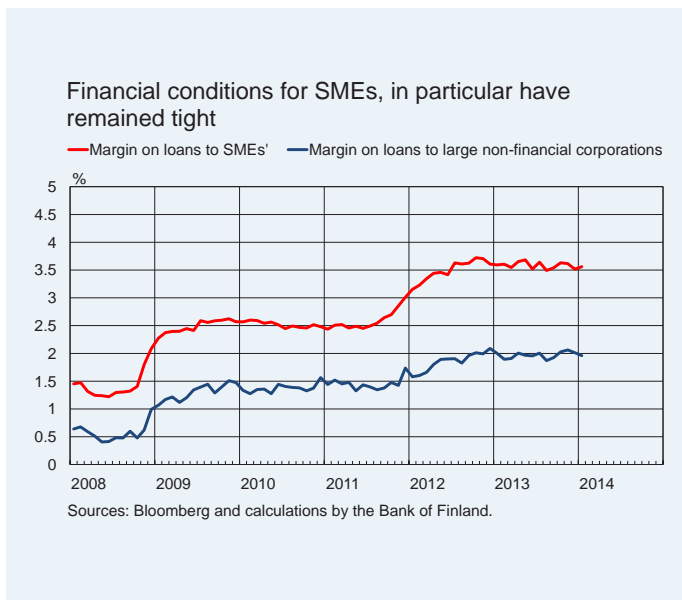


Chart 25.



A recent bank lending survey would suggest the terms of lending have already stopped getting tighter in the euro area (Chart 24). The terms of

Chart 26.



immediate prospect of a significant relaxation in financial conditions.

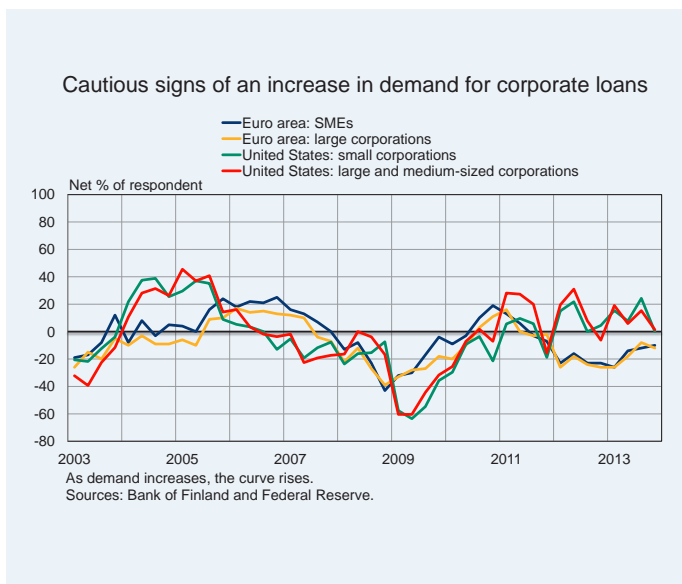
Corporate loan stock contracts and financial conditions for SMEs remain tight

Monetary dynamics in the euro area remain very weak: in 2013, the stock of corporate loans contracted by around 3%, while the stock of household loans grew by only 0.3% (Chart 25). The corporate loan stock has already been contracting strongly in the euro area for a number of years.

The tight financial conditions and already high indebtedness undermine businesses' ability to invest. The financial conditions for SMEs, in particular, have remained much tighter than for larger companies (Chart 26).

The weak economic outlook has meant demand for corporate loans has been sluggish for many years. Although the bank lending survey indicates demand for these loans remains weak, corporate demand for credit in the euro area would appear to be improving (Chart 27). Demand for corporate loans has in recent years been much weaker in the euro area than in the United States. The tightness of bank lending has caused large companies to seek market funding instead of bank loans.

Chart 27.



lending had, however, already been tightening for several years prior to the survey. Although the terms of lending are no longer getting any tighter, neither have they relaxed; hence there is no

Scarcity of investment weakening output potential, household loan stock growing sluggishly

Side by side with the weak developments in the corporate loan stock there is a contraction of investment in the euro area (Chart 28). The background to this is, however, partly in the

overheating of housing investment in many countries before the outbreak of the financial crisis (Chart 29). It has been essential to wind down the overcapacity in housing construction, for example in Spain and Ireland. To some extent the winding down of capacity may still be incomplete.

The pace of growth in the household loan stock continued to be very muted through autumn and winter, declining from approximately 0.5% at the beginning of 2013 to approximately 0.2% in early 2014 (Chart 25). Growth in the household loan stock is attributable to housing loans, where the stock has grown constantly since the short dip in 2009. The stock of consumer loans has, meanwhile, declined without a break since the end of 2009.

There are signs of a reduction in household indebtedness in some countries, but the overall level of debt remains high and the pace of reduction is slow (Chart 30). The slow unwinding of debt is, in fact, to be expected, as households reduce their debt primarily by paying the instalments on their loans and not taking out new, larger loans.

In many countries, however, household debt has actually grown from the situation in 2009; thus, in these countries, households have not reduced their debts, but continued to accumulate further debt, both relative to GDP and in absolute terms.

Position of households challenging in many countries

The overall position of many households remains difficult. Unemployment has begun to fall in some

Chart 28.

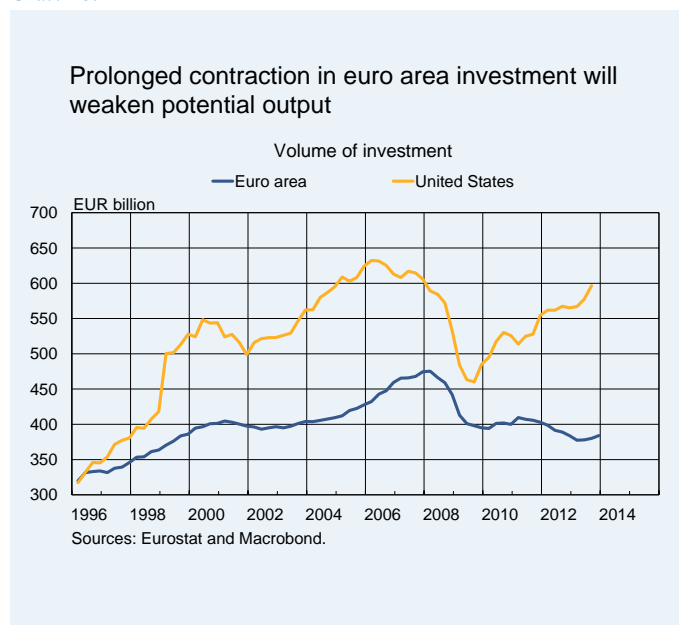
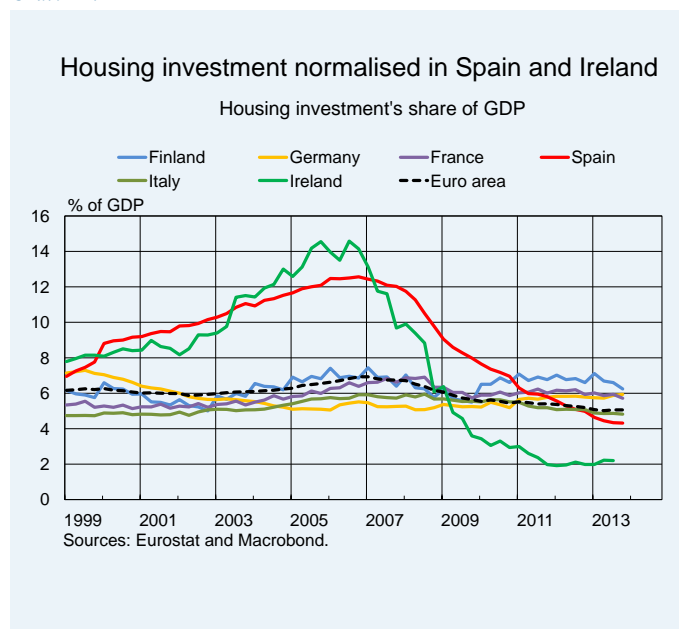
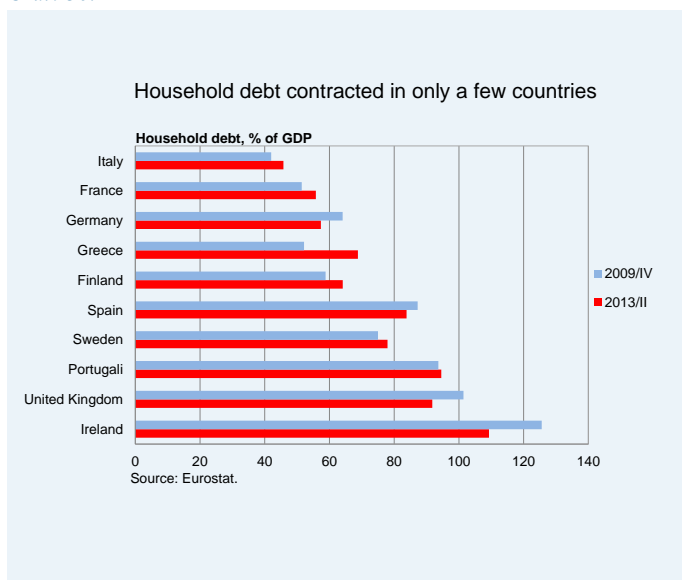


Chart 29.



countries, but the number of unemployed is still extremely large in Spain and Greece, in particular. The halving of nominal house prices in Ireland, and the drop of around 35% in

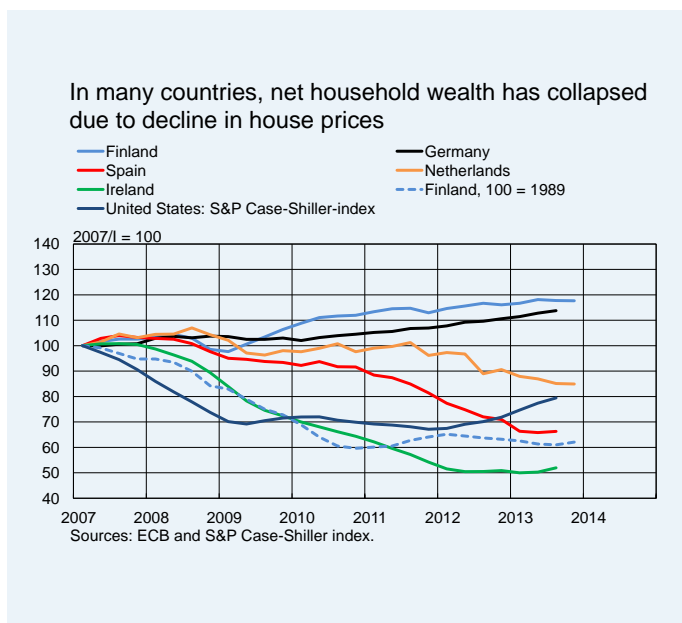
Chart 30.



prolonged period of unemployment, servicing the housing loan can be very difficult or even lead to the household having to sell their home instead of waiting for house prices to rise again (Chart 31).

The drop in house prices would appear to have run its course in Ireland, where prices rose slightly in 2013. In Spain, the downward trajectory seems to have become less marked during 2013, but as yet there is no clear sign of a turnaround. The stabilisation of house prices in these countries would support household balance sheets and their financial position and boost household confidence.

Chart 31.



If we compare the situation in these countries to that of Finland during the crisis years of the 1990s, housing prices in both Ireland and Spain have developed very similarly to Finnish housing prices during the 1990s crisis. In Finland, nominal house prices fell by around 40% over the years 1989–1992, reaching lowest point in the first quarter of 1993.

The euro area housing market is still marked by divergent trends. In Finland, Germany and Belgium, house prices have continued to rise since 2007. In France, the pace of rise has slowed, although there has been no sign of any downturn.

Spain and almost 20% in the Netherlands, has led to a situation in which the value of a dwelling can be less than the loan attached to it. If this sort of situation is accompanied by a

Euro area public debt will peak this year – large debt burden contains risks

Euro area countries and the advanced economies more broadly have accumulated a great deal of public debt. In the G7, general government debt has been growing ever since the 1970s

(Chart 32). The contraction in GDP following the financial crisis and lacklustre economic growth have further swollen the GDP ratio of general government debt in recent years. In many countries, the level of public debt is so great that debt accumulation can no longer be used to fuel growth; on the contrary, debt ratios must be reduced to enable continued improvements in confidence in the public finances.

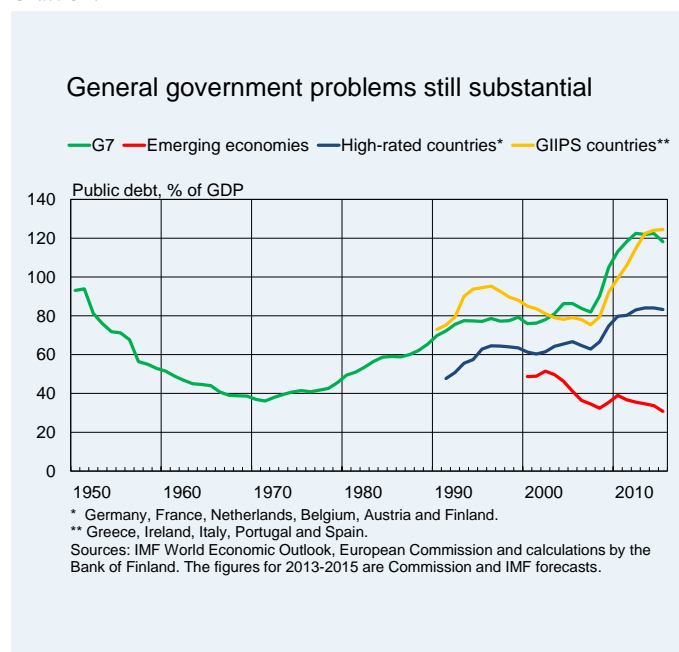
Recent years have seen a great deal of discussion of the connection between sovereign debt and economic growth. The debate has touched on both the short-term optimal pace of deficit reduction⁵ and the longer-term growth-inhibiting effects of a large sovereign debt.⁶ There is, however, no single threshold for the general government debt ratio beyond which there would be a dramatic weakening in medium-term growth.⁷ The largest possible debt ratio consistent with sustainable economic growth depends on the individual country and the prevailing circumstances. If the debt ratio is declining, the debt contains a large domestic funding share and the country has an advanced financial market, the debt ratio can be high without significant problems emerging. A large debt ratio neverthe-

⁵ IMF (2012) 'Are We Underestimating Short-Term Fiscal Multipliers?', World Economic Outlook, Box 1.1; European Commission (2012) 'Forecast errors and multiplier uncertainty', Autumn Economic Forecast, Box 1.5; Blanchard & Leigh (2013) Growth forecast errors and fiscal multipliers; Ikonen, Saarenheimo & Virén (2013) 'Fiscal multipliers revisited', Bank of Finland Bulletin 4/2013.

⁶ Reinhart, Reinhart & Rogoff (2012) 'Public Debt Overhangs: Advanced-Economy Episodes since 1800', Journal of Economic Perspectives 26, no. 3: p. 69-86.

⁷ Pescatori, Sandri & Simon (2014) Debt and Growth: Is There a Magic Threshold? IMF working paper 14/34.

Chart 32.



less increases the risks to growth.

Among other things, these relate to the fact that a crisis triggered by market jitters can make rapid consolidation of the public finances unavoidable.

According to current forecasts, sovereign debt in the euro area will peak in 2014 and begin to decline in 2015. This turnaround is very welcome, but there is still a long way to go to achieve a much smaller debt ratio. Moreover, the trend shows differences between countries. Some euro area countries, such as Spain, will continue to accumulate debt in 2015 and even later. As the level of debt will remain substantial for a long time still, the government bond markets contain risks, particularly for the GIIPS countries.

The slower growth in the GDP ratio of sovereign debt in the euro area

According to current forecasts, sovereign debt in the euro area will peak in 2014 and begin to decline in 2015.

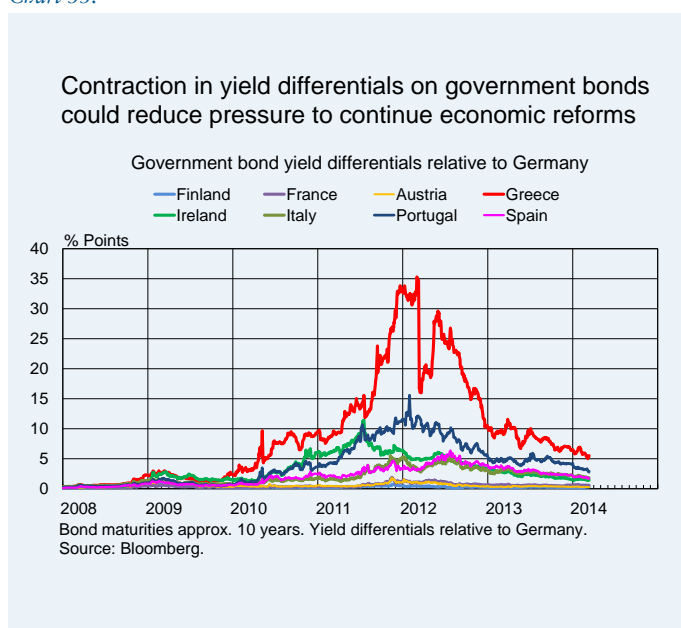
that can now be glimpsed ahead is grounded in improvements in three factors that affect the trend in public debt. These are economic growth, the general government primary balance and general government interest expenditure to creditors. In the euro area, the shoots of growth are still modest and fragile. Many euro area countries have, however, implemented structural reforms that will improve their long-term growth potential and employment. This work is still ongoing. According to OECD estimates, particularly welcome would be structural reforms to improve the workings of the labour market.⁸ According to the OECD, the structural reforms to the economy have been strongest in those

⁸ OECD (2014) Economic Policy Reforms 2014: Going for Growth Interim Report. OECD Publishing.

countries forced to grapple with pressure from the financial markets.

Improvements to the euro area's general government primary balance are also useful in cutting growth in the GDP ratio of sovereign debt. The primary balance has improved as the public finances have been consolidated by tax rises and expenditure cuts. General government consolidation will continue for a long time yet in many euro area countries. Although tax increases are in the short term a rapid means to improve the primary balance, for long-term growth it makes sense to emphasise expenditure cuts in those countries where the tax burden is already substantial. As a third factor, particularly in the GIIPS countries, general government interest expenditure is declining due to lower yields on the bond markets for these countries' government bonds.

Chart 33.



Reduction in government bond yield differentials aids more even transmission of monetary policy

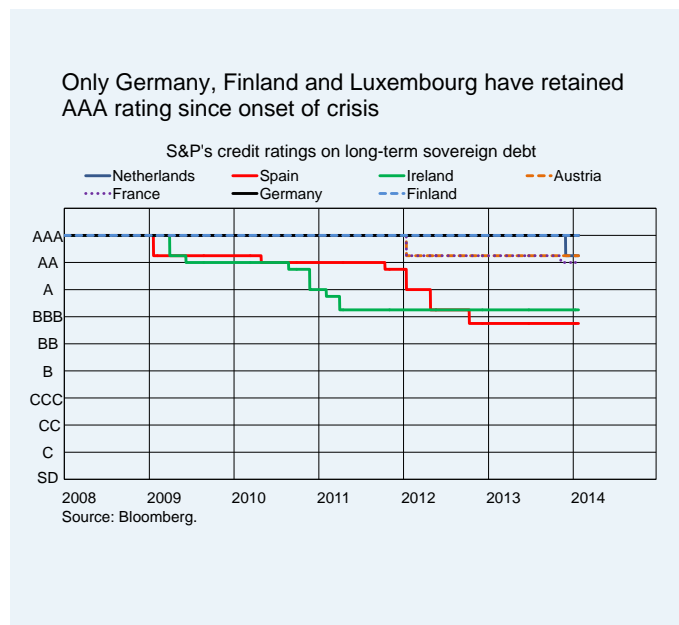
Government bond yields came down significantly in the GIIPS countries in 2013. This was due to a number of factors. There was improved confidence in these countries' public finances and their current accounts moved into surplus. Foreign investors' interest in these countries' government bonds has also been restored. This has been reflected, for example, in the return of both Ireland and Portugal to market-based funding.

Interest rates rose slightly in the high-rated countries in 2013, with the growth outlook strengthening,

particularly in the United States, and a decline in demand for government bonds from these countries, which had been shown to be safe havens for investment. This is a cause of the strong contraction in government bond yield differentials that has served to even out differences in banks' funding costs and also in the valuations placed on the securities on bank balance sheets. This development will assist the even transmission of the single monetary policy. Large differentials in government bond yields are no longer a major problem. The danger is that lower yields could reduce the incentives for consolidation of general government finances and structural reforms (Chart 33).

As sovereign debt has also grown in countries with high credit ratings, the long-term risks relating to their general government sustainability have grown. For example, France and the Netherlands have recently suffered a downgrade in their credit ratings. Before the crisis most euro area countries enjoyed a high credit rating, but the crisis brought a dramatic downgrade in credit ratings, particularly in the GIIPS countries. For example, Standard & Poor's rapidly downgraded the ratings of Ireland and Spain, although only a little earlier, in the early years post-2000, they had

Chart 34.



placed them in the highest category, AAA. In addition, Standard & Poor's dropped Portugal and Greece completely out of the investment grade category. The other GIIPS countries retained that rating. At the present juncture only three countries in the euro area enjoy the highest credit rating from all the leading rating agencies (Chart 34). These are Germany, Finland and Luxembourg.

Keywords: inflation, monetary policy, economic situation

Box 3.

Quotation uncertainties have increased the need to reform benchmark rates

Euribor and Libor are public benchmark interest rates used in defining, for example, the lending and deposit rates applied by banks and the value of many derivative contracts. The benchmark rates are also a key channel for the transmission of monetary policy. In recent years the calculation of the benchmark rates has been shrouded in uncertainty and even manipulation.

By far the most commonly used benchmark rate in the euro area is Euribor (Euro Interbank Offered Rate). It is the rate at which banks operating in Europe estimate that the leading (prime) banks will be willing to extend unsecured credit to each other for a fixed period. Euribor is calculated from quotations provided by panel banks (a panel comprising 29 large European banks and two international banks).

Libor rates (London Interbank Offered Rate), meanwhile, are similar to Euribor, but are primarily benchmark rates from Anglo-American markets based on quotations from a panel of banks operating on the London money markets. The banks on the Libor panel estimate their own loan costs instead of the costs incurred by a hypothetical prime bank.

Both Euribor and Libor are computational interest rates that

are not based on actual deals. Each is calculated as the average of the panel banks' quotations, some of which are excluded. Excluded are 15% of the highest and lowest quotations from the Euribor panel and the four highest and lowest Libor panel quotations. According to an estimate by BIS, the value of financial transactions linked to Euribor or Libor in 2012 totalled over EUR 1,000 trillion.

Benchmark rates are the key channel for monetary policy transmission

Central banks implement standard monetary policy by steering short money-market interest rates. The short-maturity benchmark rates normally move in the same direction as the central bank's key policy rate. Banks then price the interest rates on their lending linked to short rates in such a way that the final lending rate comprises the benchmark rate plus a margin calculated separately for each loan. If the interest channel works without problems, changes in the policy rates are directly reflected, via the benchmark rates, in the costs of bank finance for households and businesses. On average, 40% of household loans in the euro area and 75% of corporate loans are variable-interest loans, despite major cross-country differences in

interest linkages. In Finland, 82% of households' housing loans are Euribor-linked.

Interest rate expectations also operate reciprocally, as the central bank uses them in assessing its monetary policy stance. There is a large degree of interdependence between interest rate expectations and reference interest rates: the value of various standardised and liquid interest rate derivatives such as futures, forwards and swaps is based on benchmark rates. For banks and non-financial corporations, interest rate derivatives are important tools for managing risk; market assessments of overall risks therefore become distorted if the benchmark rates underlying the risk assessment do not give an accurate picture of banks' true funding costs.

Market fragmentation and small size make giving benchmark rate quotations more difficult

The system of reference interest rates developed in the 1980s, at a time when the financial markets were very bank-centred. The interbank wholesale market in unsecured short-term liquidity was an important channel for refinancing, and the benchmark rates served as useful indicators of funding costs. However, the arrival on the market of new actors and products reduced the importance of the interbank

money markets. Although in the early years of the new millennium benchmark rates no longer provided such a precise measure of average interbank funding costs, they still retained their position as reference values for comparison, and the volume of contracts linked to them grew.

Before the financial crisis, the interest differential on loans between European banks was small. As a result of the crisis, country- and bank-specific risks have grown, weakening the connection between the interest on individual banks' unsecured loans and the benchmark rates. At the same time, the market for unsecured loans has also contracted, with banks going over to secured loans. As the number of contracts based on some benchmark rate maturities is small, panel banks' discretion in relation to interest rate quotations has grown. Moreover, the defining of Euribor rates is made harder by a lack of clarity in concepts such as 'prime bank'. Where there is a dispute, it is hard for authorities to judge whether a bank has quoted the required best estimate of its interbank funding rate.

Perhaps the greatest operational risk regarding Euribor has been the departure of 14 banks from the panel. These banks have explained their decision to go by the difficulty of assessing quotations in an economic situation where Euribor depicts the funding costs

of a small and shrinking number of banks.

Suspicious of manipulation of Euribor and Libor

In addition to the aforementioned irregularities, there have been straightforward cases of manipulation in both Euribor and Libor quotations, which have been examined in recent years by supervisory authorities in a number of countries. Dealers at some panel banks came together to agree quotations that would improve the returns on their own investments and inflate their bonuses. In summer 2007, some Libor panel banks believed benchmark rate quotations indicated the creditworthiness of a bank, whereupon they quoted interest rates below their actual funding costs.

In 2010, the UK supervisory authority, the Financial Service Authority (FSA) became the first official body to commence investigation of manipulation, and, as a result, in July 2012 the first bank was convicted of both underquoting of interest rates and making improper agreements on quotations. In December 2013, the European Commissioner for Competition announced the decision to penalise three large European banks for manipulation of Euribor. The bank that had blown the whistle avoided a fine. Investigation of the web of manipulation is ongoing, and there is still no clear picture of its extent.

Reforming procedures for calculating the benchmark rates

The abuses have accelerated reform of the benchmark rates, and new means to combat manipulation have already been adopted. For example, the number of Libor rates to be quoted has been cut by reducing the number of quoted currencies from ten to five and cutting the maturities. The publication of quotes from individual banks was postponed by 3 months, which it is hoped will reduce the possible reputational risk of public quotations. New quotation practices for the Euribor came into effect in October 2013 with a 6-month transition period. In the new procedural guidelines, the number of Euribor maturities to be quoted was reduced and the definitions drawn more precisely. The changes to both Libor and Euribor have also led to institutional changes, which are not actually due to abuses by the old institutions. For example, the administration of Libor is to be transferred from the British Bankers' Association (BBA) to NYSE-Euronext during the course of 2014, while the calculation of Euribor is being moved from Thomson Reuters to Global Rate Set Systems Ltd.

Further development work on the benchmark rates will continue through broadly based cooperation between international organisations, governments, central banks and commercial banks. One proposal

is that in future benchmark rates should be based on actual concluded deals, like the Eonia overnight rate calculated by the ECB. The method used for calculating that is not, however, entirely practicable, as, although there are an abundance of contracts fixed to the 3-month Euribor, banks make few unsecured 3-month deposits with each other. According to the ECB, on 13% of days there were no deals at all or else they were concluded between just a few participants. Transaction-based estimates can nevertheless still be used in quality assessments for Euribor.

Although the increased regulation gives banks an incentive to go over to secured funding, and the usefulness of Euribor and Libor as currently

constituted in measurement and comparison in regard to banks' funding costs is declining, benchmark rates will still be needed in the future. Part of the reform process involves development of a backup system for calculation of Euribor and Libor, in order to ensure continuity during disruptions to the system. The reforms to improve the administration, transparency and security of the benchmark rate systems are important to the preservation of confidence and the reliable functioning of the systems. From the point of view of credit market functioning and monetary policy transmission, having the key benchmark rates at the correct level is in the common interests of consumers, banks and central banks alike.

Economic policy options in conditions of weak growth and low inflation

20 February 2014

Five years have now passed since the most acute phase of the financial crisis. Despite substantial monetary and fiscal policy measures to stimulate the economy, the global recovery has been fragile and uneven. During the course of 2013, recovery finally got underway in the euro area, too, and economic activity is slowly reviving. With the weak economic trajectory, inflation has come down to a very low level, and the pace of change in relative prices has faded. Low inflation and the rigidity of relative prices suggest recovery from the financial crisis will continue to be slow.

This article examines the economic policy alternatives in conditions of weak

growth and low inflation. The sluggish performance of the post-financial-crisis euro area economy in the years 2009–2013 is modelled using a dynamic stochastic general equilibrium (DSGE) model developed at the IMF.¹ Understanding the causes of slow growth and weakening inflation will provide a basis for future policy choices. The article also examines structural, fiscal and monetary policy options for boosting the pace of economic growth. Based on our observations, no single policy alternative will on its own suffice to close the output gap. If we really want to accelerate recovery from the financial crisis, all segments of economic policy must be harnessed.



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The financial crisis that began in 2007–2008 came to a head when the American investment bank Lehman Brothers filed for bankruptcy in autumn 2008. This led immediately to funding difficulties for other large American investment banks, insurance corporations and other monetary financial institutions. The crisis also spread via the financial markets to other economies in Europe and Asia. Funding difficulties led to reduced consumption by both businesses and households and thence to a decline in output and trade. The financial crisis metamorphosed into an economic crisis.

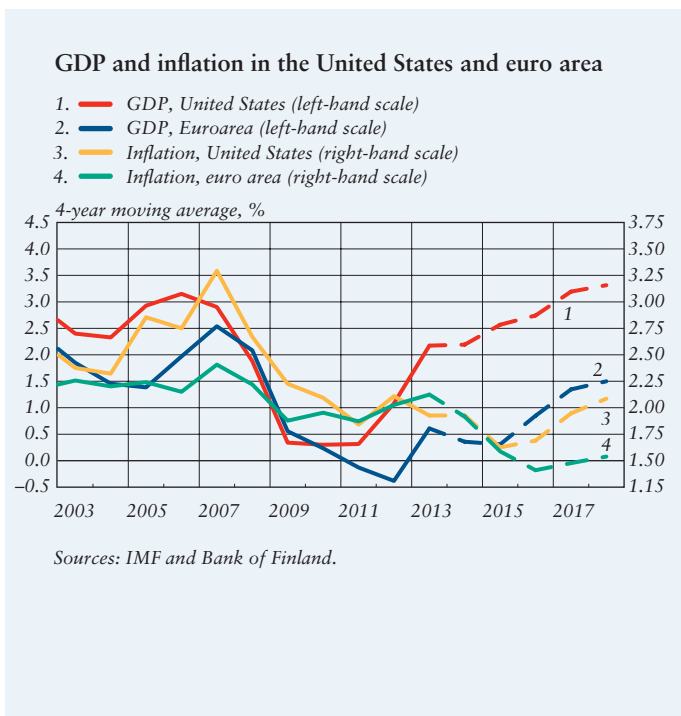
All major central banks effectively lowered their policy rates close to zero while also deploying non-standard monetary policy measures in order to inject excess liquidity into the financial markets. In addition, governments in different countries launched substantial

stimulus measures. In many countries, however, fiscal policy collided very soon with the problems of debt-sustainability, which forced governments to abandon the idea of an extensive fiscal-driven recovery.

In the early months of 2014, US GDP has grown to approximately 6% above the average for 2008, but euro area GDP is still 2% below its pre-crisis level. According to the data available at the moment of writing, US inflation is running at 1.2%, with 0.8% in the euro area. Based on these figures, it is clear that the recovery in euro area growth has been sluggish and the pace of inflation has slowed substantially. Forecasts also suggest that euro area growth and inflation will continue to be sluggish in the immediate years ahead (Chart 1).

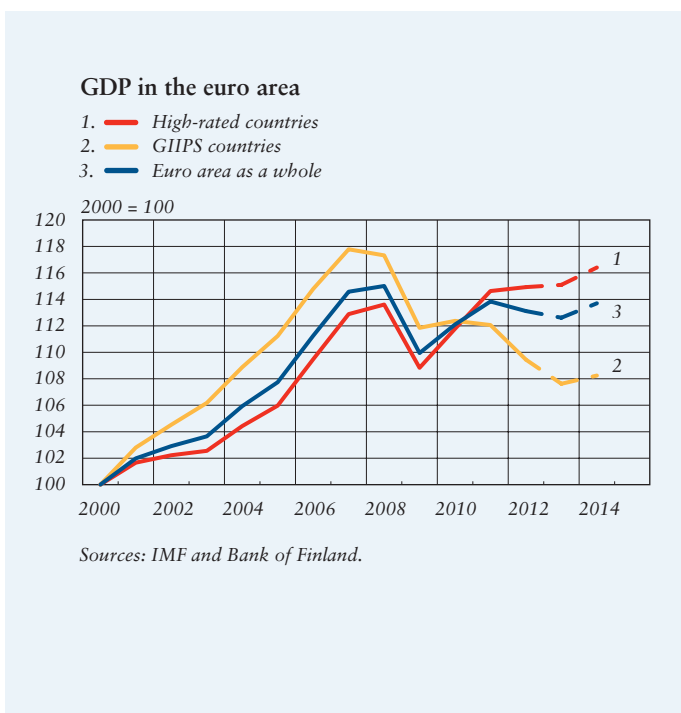
¹ Mika Kortelainen has contributed to the design of the calculations presented in this article.

Chart 1.



Within the euro area, there have been two divergent trends in output, employment and inflation. While in the GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) GDP in 2013 was 8.3% below the 2008 average, in those euro area countries with a high credit rating the corresponding figure shows 1.3% growth. Forecasts indicate the difference will continue to be substantial through the immediate years ahead (Chart 2). The inflation difference between high-rated countries and the GIIPS countries grew in 2013 such that in November inflation in the GIIPS countries was 0.2%, against 1.3% in the high-rated countries (Chart 3). The low inflation is forecast to continue, particularly in the GIIPS countries.

Chart 2.



From the perspective of economic policy, it is important to know the size of the output gap in the economy. By output gap is meant the difference between actual and potential output, i.e. the maximum level of output not associated with inflationary pressures. If the output gap is negative, the economy is underperforming and counter-cyclical economic policy can be deployed to provide a boost. In contrast, if the output gap is positive and the economy is threatened with overheating, counter-cyclical policy can be used to restrain it. If, however, there is a structural weakness in the economy, i.e. a permanent slowing in the pace of growth, the situation cannot be corrected sustainably using counter-cyclical policy; there is then a need for structural policy solutions.

Since 2008, the output gap has been negative throughout the euro area.

The IMF estimated it was approximately 2.5% across the euro area as a whole in 2013, a combination of 1.5% in the high-rated countries and around 5% in the GIIPS countries. According to an IMF forecast, the euro area output gap will remain negative over the years 2014–2018 (Chart 4).

Below, with the help of the GIMF model (Global Integrated Monetary and Fiscal model)² developed by the IMF, we explore the economic policy alternatives in a time of slow growth and inflation. Our examination begins with a counterfactual simulation focused on clarifying the role of supply and demand factors in the causation of the experienced slow growth. In this way, we seek to create a basis for the analysis of different policy choices. As we progress, our examination involves simulation of the growth and inflation effects of structural, fiscal and monetary policies. The calculations in this article use an extension of the model calibrated for the five economic regions of the United States, the euro area, Japan, Asia and the rest of the world, in which the euro area is divided into high-credit-rated countries and the GIIPS countries.

Reproducing the effects of the financial crisis in a DSGE model

The GIMF model developed by the IMF enables us to examine the economic developments observed in the euro area since the financial crisis. In using the model we seek to reproduce the actual post-crisis economic developments with

² Kumhof et al. (2010); Anderson et al. (2013).

Chart 3.

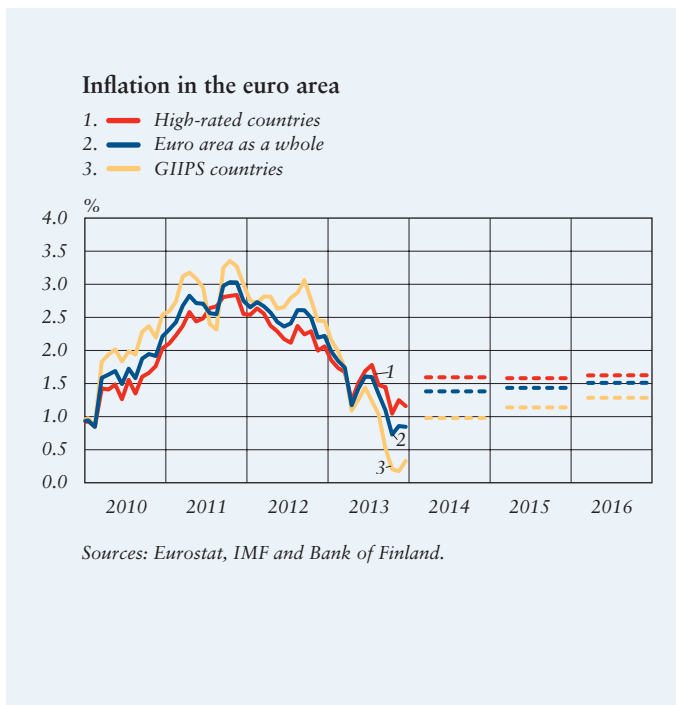
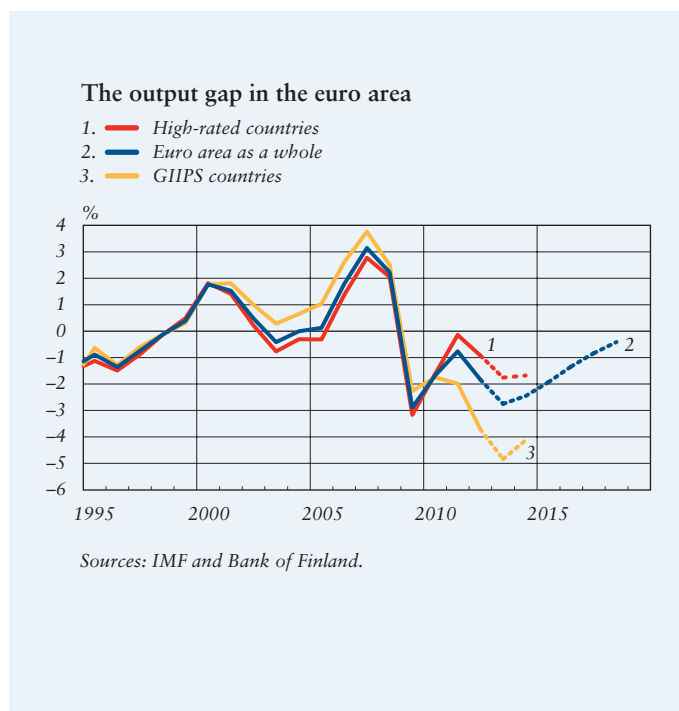


Chart 4.



The world described by the model is a simplification, but consistent.

the aid of the model and its exogenous variables.³ This is done by the monetary policy defined in the model producing for the euro area largely the same policy interest rate as applied by the ECB in reality, while the model's economic dynamics produce growth shocks for the highly rated and GIIPS countries that correspond rather well to the output gaps in these country groups as estimated by the IMF. The DSGE model and the 'possible' world it is used to describe are naturally simplifications, but of the available alternatives⁴ probably the most consistent presentation of the observed world and its dynamics.

In the GIMF model, post-2008 economic developments in the euro area can be explained with the aid of three main factors. In the first place, the financial crisis that began in the United States spread rapidly through the financial markets to other economies. In the euro area, the crisis was reflected fairly quickly in a sudden growth in risk premia. In the simulations related to risk premia growth, the appetite for risk declines in the GIIPS countries twice as strongly as in the high-rated countries. In the GIIPS countries, the one-year risk premium on sovereign bonds suddenly increases by around 1 percentage point, and the risk premium on corporate bonds by approximately

³ There have also been attempts to explain the economic developments observed in the United States using a DSGE model, but without demonstrating any connection to the observed policy interest rate or output gap. See Del Negro et al. (2013).

⁴ Complementary material could include partial treatments, such as Virén, M (2012), and deeper analyses of the sources of productivity growth, such as Jones and Romer (2010) and Bouis & Duval (2011).

2/3 of a percentage point. The growth in risk premia is temporary, contracts by a half in 5 years and is in practice totally eroded in around 10 years.

Secondly, aggregate demand in the euro area turned downwards due to economic agents' substantial indebtedness and the deteriorating outlook for earnings, household consumption declined and corporate investment stagnated. The financial crisis leads to an abrupt increase in uncertainty. This, in turn, immediately reduces corporate willingness to invest. Households, for their part, respond to the increased uncertainty with a corresponding increase in savings. The increase in the savings ratio causes a corresponding decline in private consumption. In the demand shock simulation, a negative shock is applied to household consumption and corporate investment, which in the GIIPS countries continues for longer than in the high-rated countries.

Thirdly, euro area aggregate supply experienced a negative productivity shock due to the growing risk premia, declining demand and growing uncertainty. In the supply shock simulation, productivity growth among companies producing intermediate goods slows in the GIIPS countries about three times more strongly than in the high-rated countries. Productivity growth in the GIIPS countries is assumed to slow ¼ of a percentage point over the next 10 years.

If we examine the impact of these three shocks on growth and inflation (Charts 5 and 6) we notice that growth and inflation slow relative to the

Chart 5.

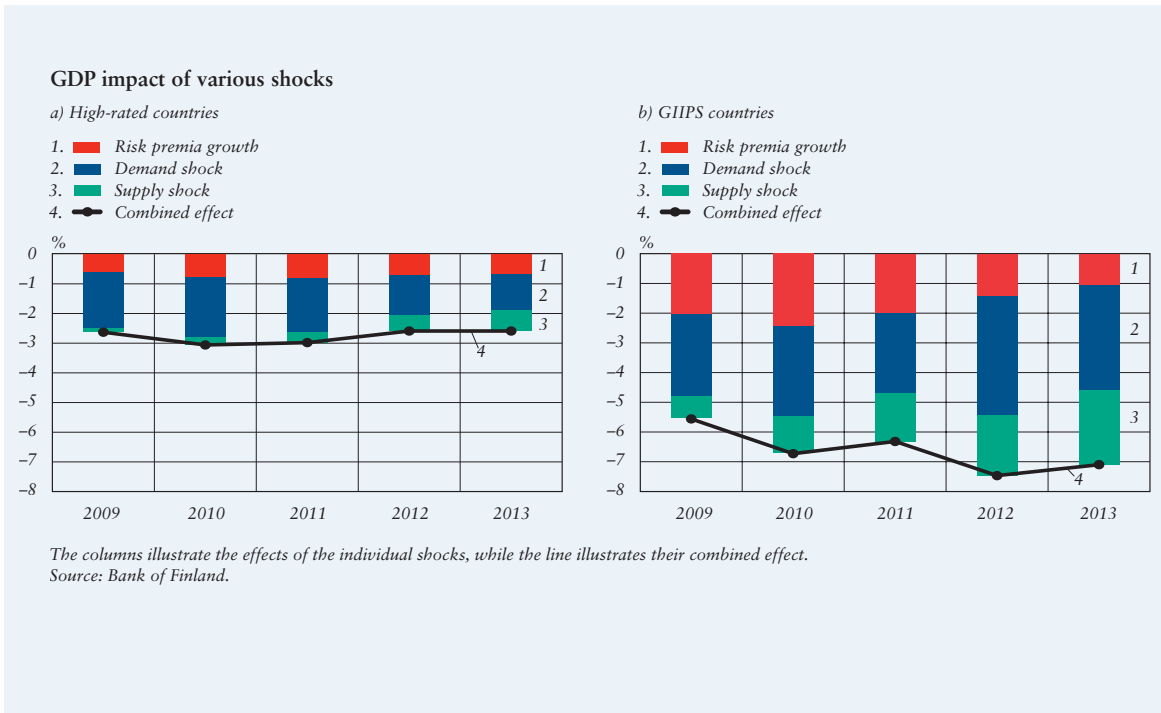
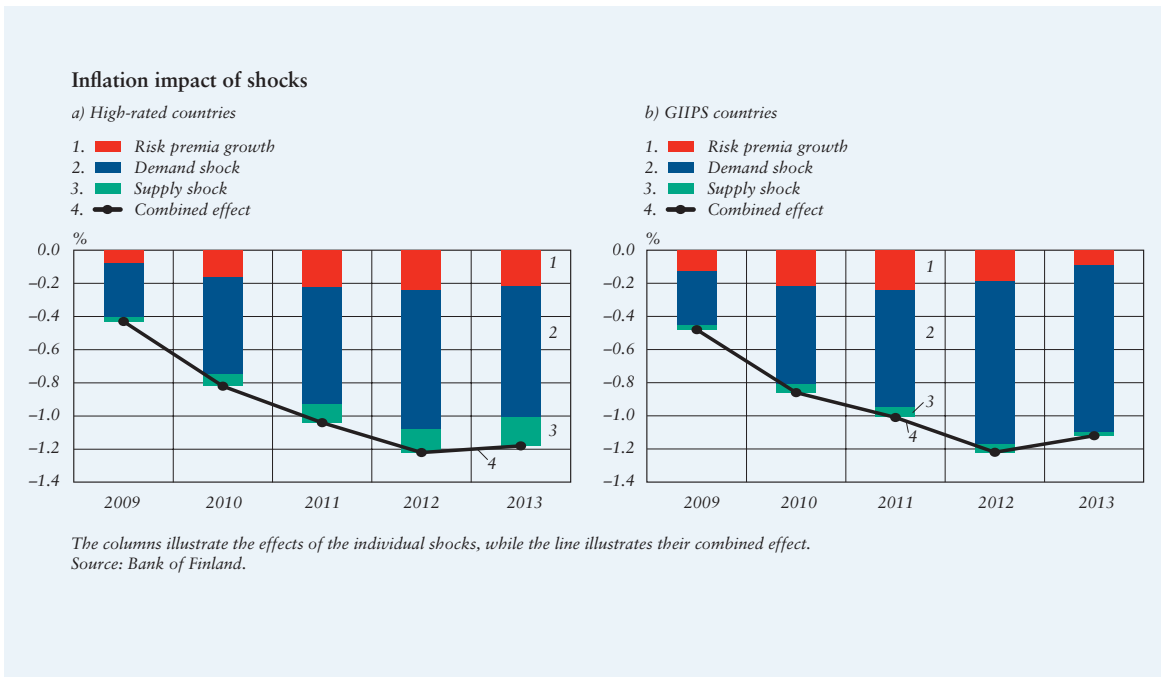


Chart 6.



Viewed historically, the financial crisis of 2008, its spread and the recovery in the euro area are in no way exceptional.

baseline, i.e. the model's steady state without these shocks. In the high-rated countries, GDP dips 2½–3 percentage points, and in the GIIPS countries 5½–7½ percentage points below the baseline. This more or less corresponds to the IMF estimate for these country groups' output gap in the years 2009–2013. These same shocks depress euro area inflation by 0.5–1.2 percentage points relative to the baseline.

Growth in risk premia on government and corporate bonds leads to a decline in domestic demand. Risk premia growth and rising real interest rates together cause an increase in the user cost of capital and households' debt-servicing expenditure, and thereby to a decline in investment and consumption demand. The decline in domestic demand fuels growth in uncertainty amongst indebted households and businesses. Growing uncertainty causes an increase in savings and postponement of corporate investment.

Fading domestic demand causes a contraction in output. This, in turn, weakens demand for labour. Productivity growth slows. Weaker labour demand depresses wages and salaries. For its part, this reduces corporations' marginal costs and they begin to gradually pass these lower costs on to their prices. Thus inflation slows. Households' earned income declines as a consequence of the lower demand for labour and depressed wages and salaries. The weakening economic position of the corporate sector leads to lower profits and hence a smaller flow

of dividends to the household sector. Automatic stabilisers cause the public sector to transfer more income to households. This countercyclical fiscal policy leads to growth in public sector deficits.⁵

All in all, the euro area economic crisis of 2009–2013 can be explained by reference to financial market, supply and demand shocks, with the significance of the financial market shock being less than the demand shock, and the supply shock being the smallest, if most prolonged, of them all. Viewed historically, the financial crisis of 2008, its spread and the recovery in the euro area are in no way exceptional.⁶ Having studied the development of GDP during around one hundred previous financial crises and their aftermath, Reinhart and Rogoff averred that it takes on average 8 years before GDP returns to its pre-crisis level, and that in 45 cases out of a hundred the first phase of GDP contraction and gentle growth is followed by another period of declining GDP.⁷

Although the euro area is currently recovering from the debt crisis and economic activity is now quickening, historical experience suggests there could still be negative surprises in store regarding real economic activity in the future. Moreover, it is worth remembering that, although the risk of deflation is extremely unlikely in the euro area, the pace of positive changes in relative prices in the euro area faded

⁵ On the connection between public debt and growth and for more on fiscal multipliers, see e.g. Hukkinen & Virén (2013) and Ikonen et al. (2013).

⁶ See e.g. Reinhart & Rogoff (2009, 2010 and 2012).

⁷ Reinhart & Rogoff (2014).

during 2013 as inflation slowed. The rigidity of relative prices combined with low inflation still indicate a slow and prolonged recovery from the financial crisis.

The economic policy alternatives

We now turn to examine the impact of structural, fiscal and monetary policies on future economic trends in the euro area. The review of structural policy focuses on three mutually complementary policy segments: reforms in support of labour market, product market and productivity growth. For its part, the review of fiscal policy deals with the easing of taxes on labour, which is funded by an increase in value-added tax in such a way that the GDP ratio of the general government deficit is unchanged ('fiscal devaluation'). The review of monetary policy impacts looks at the effects of non-standard monetary policy measures in shrinking risk premia, in turn easing financial conditions for both the corporate sector and government.

On the structural policy side, the operation of the labour market can be enhanced by, for example, boosting the supply of labour and reducing rigidities in labour supply and demand. At issue is an extensive, multifaceted policy segment, where simulations inevitably require the use of strong assumptions. These are used to tie e.g. structural labour market reforms into the dynamics of the labour market's determination of the price of labour. Here, as in the other structural policy areas (product markets and productivity) we discuss, we lean on studies by the

OECD and IMF,⁸ according to which structural reforms in the labour market lead to a curtailment of wage mark-ups. In the labour market simulations, increasing labour market competitiveness curtails wage mark-ups permanently. The effect in the GIIPS countries is twice as strong as in the high-rated countries. Correspondingly, profit margins on the intermediate goods market are assumed to decline as a consequence of structural reforms to product markets. In the simulations relating to product markets, increasing competitiveness on these markets causes a permanent contraction in profit margins. In the GIIPS countries, the effect is twice as strong as in the high-rated countries. In the case of productivity, structural reforms are assumed to increase the pace of productivity growth as a consequence of stiffer competition. In the simulations relating to productivity, productivity on the intermediate goods market grows over a period of five years three times more strongly in the GIIPS countries than in the high-rated countries.

In fiscal policy, reduction of the tax burden on labour is funded by increases to value-added tax. In the simulations, tax on labour is reduced permanently, while the value-added tax hike is also permanent and approximately twice as large in the GIIPS countries as in the high-rated countries. In the former, labour taxes come down by around 2 percentage points and value-added tax rises by around 2.5 percentage points. In monetary policy,

⁸ See Bassanin & Duval (2006), Bouis et al. (2012), Blanchard et al. (2013) and Anderson et al. (2014).

Structural reforms of labour and product markets have a clearly positive impact on growth.

non-standard relaxation reduces risk premia on corporate and government bonds. In the related simulations, the propensity to take on risk grows in the GIIPS countries around twice as strongly as in the high-rated countries. In the GIIPS countries, the one-year risk premium on sovereign bonds declines by 0.4 of a percentage point and the risk premium on corporate bonds also by 0.4 of a percentage point. The shrinkage in risk premia is halved in about 10 years.

The simulations for these economic policy alternatives do not allow for the pursuit of conventional monetary policy, as the euro area is in reality currently very close to a zero interest rate environment. In the simulation, instead of a Taylor rule, the European Central Bank is tied to a zero interest rate floor for 4 years, after which the ECB's policy reaction function (the Taylor rule tying interest rates to future inflation) is structured to be more rigid than before.

As a consequence of the policy alternatives examined here, both growth and inflation accelerate relative to the baseline (the model's equilibrium position without shocks) (see Charts 7 and 8). As a consequence of these policy measures, GDP in the high-rated countries grows an average of 2 percentage points per annum above the baseline over the next 5 years, and in the GIIPS countries by around 4 percentage points. This is more or less the same as the IMF estimate for the narrowing of the output gap in these countries over the same period. Similarly, these shocks push up euro

area inflation 0.1–0.5 of a percentage point relative to the baseline.

If these various economic policy options (in structural, fiscal and monetary policy) were to be applied in practice, their effects would in reality be manifested more slowly than presented in Charts 7 and 8, due to the rigidities in the real world and the incompleteness of economic agents' expectations. Although DSGE models contain inbuilt rigidities, in these models, economic agents' expectations of their lifespan income significantly influence the present. Limited rigidities and rational expectations mean realisation of the effects of policy alternatives may be in some way frontloaded in a DSGE model world, i.e. realised more quickly than in reality.

Structural reforms of labour and product markets have a clearly positive impact on growth. Increased competition on these markets lowers the prices of both labour and goods and services. This boosts investment and exports. Growth in demand for final goods boosts demand for companies' production factors (labour and intermediate goods) and leads to upward pressures on real wages. Growth in labour demand bolsters household income development and consumption. The growth impact of structural reforms in product markets is considerable, particularly in the GIIPS countries. Improved productivity has a slower effect, but gradually boosts growth, particularly in the GIIPS countries.

The combined effect of structural policy measures on the scale presented here (structural reforms to improve the

Chart 7.

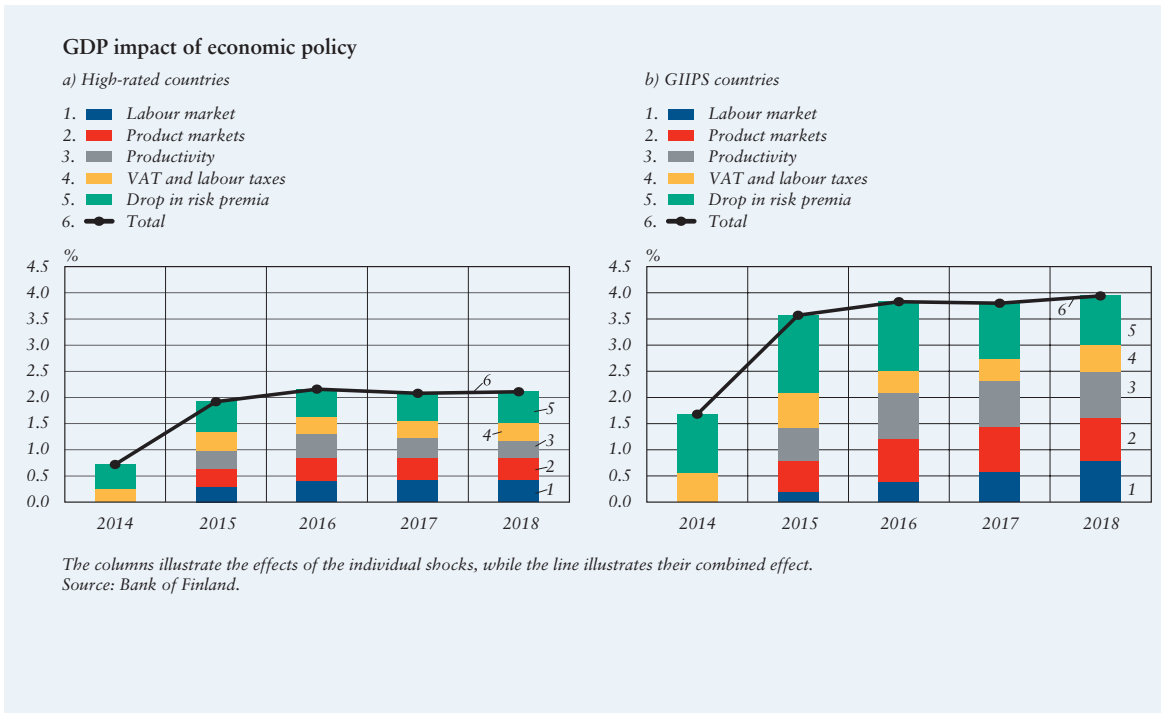
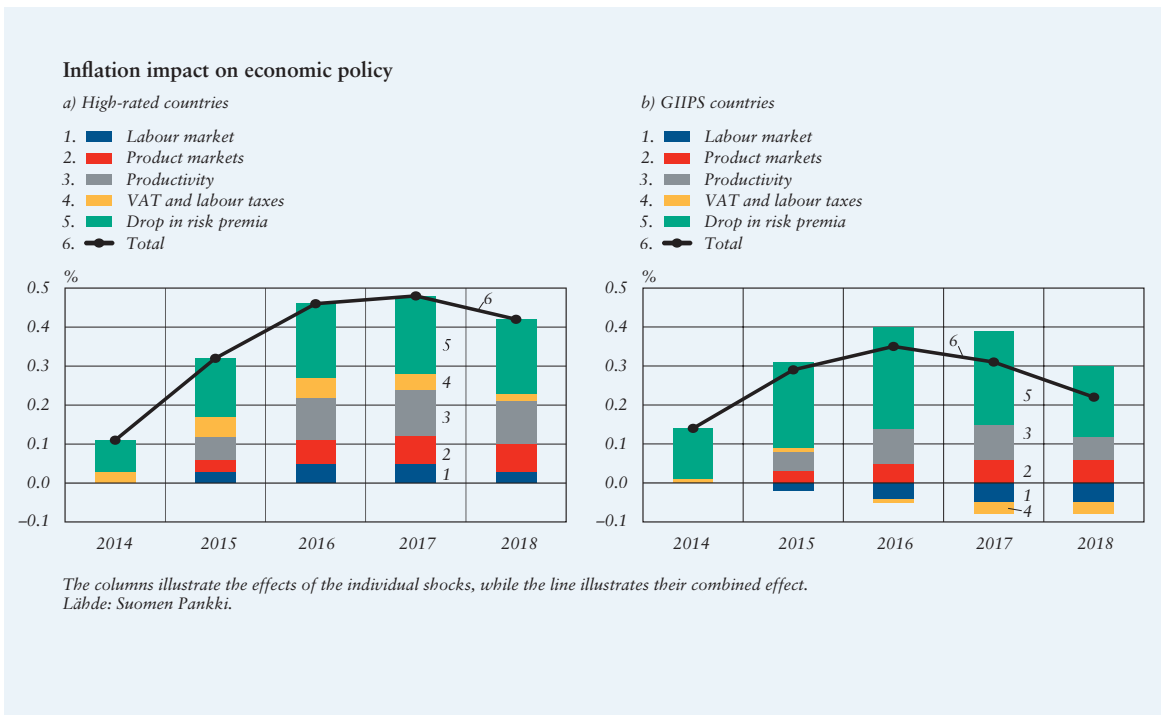


Chart 8.



operation of labour and product markets and boost productivity) would be to boost GDP growth in countries with high credit ratings by around 1.2 percentage points, and in the GIIPS countries around 2.5 percentage points above the baseline over 5 years. The relaxation of labour taxation and its funding by increasing value-added tax would, in turn, see GDP growth in countries with high credit ratings of around 0.3 of a percentage point, and in the GIIPS countries around 0.5 of a percentage point above the baseline over 5 years. Meanwhile, non-standard monetary policy as presented would ease corporate and sovereign financing conditions and over 5 years boost GDP above the baseline by around 0.6 of a percentage point in high-rated countries and slightly over 0.9 of a percentage point in the GIIPS countries.

All in all, the combined effect of these various policy options would almost bridge the output gap in the high-rated countries in 5 years. In the GIIPS countries, however, output would continue to lag approximately 2½% below what the IMF estimates to be these countries' potential output.

According to our calculations, this structural, fiscal and monetary policy package would only rather moderately push up inflation. In the high-rated countries, inflation after 5 years is around 0.4 of a percentage point above the baseline figure, while in the GIIPS countries the corresponding difference is only a good 0.2 of a percentage point. The lower figure for the GIIPS countries stems in part from the fact that as wage margins narrow household

income declines, and the growth in labour demand is not sufficiently strong to compensate for the decline in earned income. Meanwhile, the lower inflation in the GIIPS countries is partly due to the rise in value-added tax depressing consumption and hence also investment, with the result that weaker aggregate demand puts a slight brake on inflation. On the other hand, the output gap in the GIIPS countries five years hence is still around 2½%, which of itself serves to moderate real inflationary pressures.

All segments of economic policy are needed to boost growth

Notwithstanding substantial monetary and fiscal policy measures to stimulate the economy, economic growth and inflation in the euro area remain relatively slow. Viewed historically, this is not exceptional. Although the euro area has begun to recover from the debt crisis and economic activity is currently being slowly reawakened, it is still possible the future could hold negative shocks. It is also worth bearing in mind that, although the risk of deflation across the euro area as a whole remains small, after the deceleration in inflation in 2013 the positive pace of change in relative prices faded somewhat. The rigidity of relative prices coupled with low inflation points towards a slow and prolonged recovery from the financial crisis.

The calculations conducted for this article examined the economic policy options in a time of weak growth and low inflation. Based on our calculations, we can say no individual

economic policy alternative is sufficient to speed up economic activity in the euro area to an extent that could endanger price stability. If we wish to accelerate recovery from the financial crisis, no segment of economic policy should be left unused.

Keywords: monetary policy, fiscal policy, structural policy, financial crisis, DSGE model

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Two targets, one instrument: steering interest rates and preserving financial stability with Eurosystem credit operations

25 February 2014

At the height of the financial crisis some weeks after the collapse of Lehman Brothers, the Eurosystem adopted a full allotment policy in the refinancing of banks. The move from variable rate tenders and controlling the amounts of liquidity provided to the banks towards fixed interest rates was necessary when the financial intermediation capacity of the banking system had been paralysed and the traditional way implementing monetary policy had led to a significant increase in the price of central bank liquidity provision. This article examines how ensuring banks' access to liquidity through central bank operations has resulted in a situation where, for five years already, short-term money market rates have been lower than the interest rate on the main refinancing operations (MRO rate), that is, the Eurosystem's traditional key steering rate. The article discusses central banks' short-term challenges in the steering of interest rates and outlines a longer-term operational model that would enable the dual use of credit operations both for steering interest rates and, in parallel, for ensuring the availability of central bank funding. The model is based on a differentiated use of collateral in different types of operations conducted by the Eurosystem.

In the escalation phase of the financial crisis, some weeks after the collapse of Lehman Brothers, the Eurosystem introduced a full allotment policy in its refinancing operations. Since early 2008, the Governing Council of the ECB has fixed the price of liquidity in its credit operations and allowed the

banks to decide the amount of liquidity they wish to borrow from the central bank at that interest rate. The allotment volume has only been limited by the central bank requiring all credit to be fully collateralised. Until then the amount of money to be lent to banks in money market tender operations had been tightly controlled by the ECB and the interest rate had been allowed to fluctuate to banks' demand for liquidity. The move from variable rate tender operations and controlled credit provision to fixed rate tenders was almost inevitable, as the ability of the banking system to pass on central bank liquidity had been severely impaired and the demand for central bank liquidity had increased significantly. During the weeks preceding the change in the tender procedure, the price of central bank liquidity had increased significantly and exceeded the monetary policy rate in a situation that called for relaxation, rather than tightening, of monetary policy.¹

After this change in the implementation of monetary policy, the full allotment policy has been considered as one of the non-standard monetary policy measures the Eurosystem introduced during the crisis. In several remarks, a return to controlled credit provision has been regarded as an early indicator of a normalisation of financial market conditions. According to this approach, the full allotment policy is a key tool for promoting financial



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¹ In the last main refinancing operation conducted as a variable rate tender, on 8 October 2008, the average price of liquidity exceeded the policy rate by 0.74 of a percentage point.

A central bank can, if it so wishes, both steer interest rates by means of full allotment operations and use its operations to ensure money market stability.

stability, as it removes uncertainty regarding banks' access to central bank liquidity. On the other hand, however, it has been seen as eroding the central bank's power to steer interest rates. This view implies that demand by banks determines how far below the central bank's policy rate money market rates lie, as the central bank no longer maintains a scarcity of liquidity. In this way, a return to controlled supply of central bank liquidity is seen as a precondition for restoring the power to steer interest rates, but the conditions for this are not ripe as long as interbank markets are not able to efficiently redistribute central bank liquidity.

However, the central bank's interest rate steering power is not dependent on controlled allotment amounts, and a full allotment policy might not be required in order to maintain the stability of the money market. A central bank can, in parallel, both steer interest rates by means of operations with full allotment and use its operations to ensure money market stability. This requires either differentiating the collateral requirements for each type of central bank credit operation or standing ready to steer interest rates using liquidity-absorbing operations.²

Why have market rates dropped below the key policy rate?

As such, a full allotment policy does not inevitably result in conditions where short-term money market rates lie

² In this article, (central bank) liquidity refers to amounts held by banks on their accounts at the central bank.

below the central bank's key policy rate, as in recent years. It can be theoretically demonstrated that when a full allotment policy is applied, market interest rates align themselves with the policy rate if the conditions of central bank operations are identical with those on the interbank money market and if the money market can smooth out interbank liquidity needs.³ This view is supported by the Bank of Finland's experience from the years preceding monetary union: by lending money to banks in one-month repurchase operations or by tightening liquidity conditions on the money market by issuing certificates of deposits, the Bank of Finland succeeded in virtually fixing the one-month money market rate (Helibor) at the level of the policy rate between 1996 and 1998.⁴

Why have banks in the euro area been willing to pay for the liquidity they have borrowed in central bank tender operations a price that exceeds the secondary market price of money – in other words, why have the shortest money market rates been lower than the MRO rate for the past five years (see Chart 1)?⁵ There are at least two reasons for this. Firstly, the intermediation capacity of the money market was eroded at the beginning of the financial crisis, which led to an increase in the amount of liquidity in the money

³ See e.g. Välimäki, T. (2001), Fixed rate tenders and the overnight money market equilibrium. Bank of Finland Discussion Paper 8/2001.

⁴ See Välimäki (1998), The Overnight Rate of Interest under Averaged Reserve Requirements: Some Theoretical Aspects and the Finnish Experience. Bank of Finland Discussion Paper 7/1998.

⁵ During the past five years the euro overnight rate (Eonia) has been on average more than 0.5 of a percentage point below the MRO rate.

market considerably above interest-rate-neutral levels. Subsequently, significant amounts of ‘excess’ liquidity were injected into the money market by extending longer-term credits through monetary policy operations.

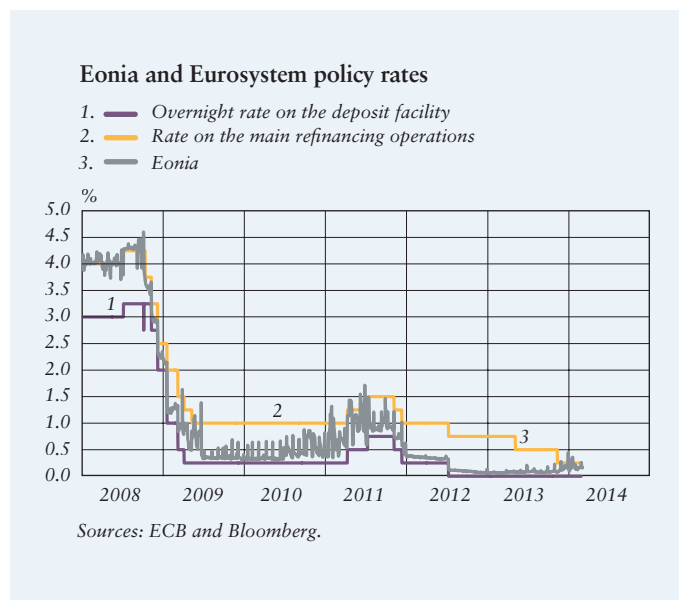
Before the financial crisis, the Eurosystem lent to banks an amount of liquidity that enabled them to fulfil, on an aggregate basis, their structural liquidity needs⁶ arising mainly from demand for banknotes, as well as the minimum reserve requirements imposed by the central banks. Banks’ gross liquidity needs were considerably higher than their net liquidity needs, given the uneven distribution of liquidity in the banking system.

However, central bank operations could be adjusted to banks’ net liquidity needs, since banks with a liquidity surplus used the interbank market to lend central bank money to banks with a liquidity shortage.

During the weeks following the bankruptcy of Lehman Brothers, the interbank market collapsed, as banks were no longer willing to lend to each other due to the unprecedented uncertainty. In these circumstances banks began to rely exclusively on central bank credit for fulfilling their liquidity needs. While the outstanding central bank credit had totalled about EUR 450 billion in August 2008, at the end of October the Eurosystem lent to banks over EUR 800 billion. During the

⁶ Most items on a central bank’s balance sheet affect banks’ structural need for liquidity. The demand for banknotes constitutes by far the biggest item giving rise to liquidity needs, whereas central banks’ holdings of foreign reserve assets are the most important non-monetary policy factor that reduces liquidity needs.

Chart 1.



remainder of 2008, on average, the volume of central bank credit taken by banks exceeded their total structural liquidity needs by over EUR 200 billion. Due to the increased uncertainty regarding access to liquidity, banks accumulated liquidity buffers, and their accumulation was further supported by the fact that the Eurosystem accepted in its credit operations a broader list of collateral than banks did in interbank operations. The demand for buffers caused the shortest interbank lending rates to fall below the price of central bank liquidity supplied in weekly central bank operations.

The European Central Bank lends to banks at a higher interest rate than it pays itself on the overnight deposits that banks use to place their excess liquidity. As a result, if the differential between the lending rate and the deposit rate is 1 percentage point, the cost for the banking system of

borrowing EUR 200 billion in excess of their liquidity needs would amount to EUR 2 billion. Such a cost burden can be regarded, on one hand, as compensation for the additional risk the central bank takes on its balance sheet and, on the other hand, as an incentive for banks to design their liquidity management efficiently and sustain market-based financial intermediation. In an attempt to cut extra costs, the banking system considerably decreased the volume of central bank credit taken as the worst uncertainty dissipated and the functioning of the money market was gradually restored. By summer 2009, the banking system's excess liquidity had indeed sunk to a tenth (slightly over EUR 20 billion) of the levels observed around the turn of the year.

As a result of the liquidity surplus, the shortest money market rates fell well below the central bank's policy rate.

Around Midsummer 2009, the liquidity conditions on the money market again changed substantially, as the European Central Bank began to lend banks liquidity with one-year maturity in operations conducted with full allotment. Although uncertainty had clearly diminished on the money market, banks were willing to take Eurosystem financing with a fixed interest rate and one-year maturity in such amounts that their aggregate excess liquidity again increased to over EUR 200 billion. As a result of the liquidity surplus, the shortest money market rates fell well below the central bank's policy rate. Given that banks' liquidity needs had been fulfilled through the one-year credit operations, they practically stopped borrowing in the main refinancing operations. In

such circumstances, the interest rate the central bank pays on overnight deposits replaces the MRO rate as the key steering rate.

Following the conduct by the Eurosystem of two three-year credit operations with full allotment, the excess liquidity in the euro area banking system grew to record levels of over EUR 800 billion. The euro overnight rate, the Eonia, remained for two years very close to the ECB's overnight deposit rate (see Chart 1). Now that banks have repaid a significant part of the credits, excess liquidity has decreased to levels slightly above EUR 100 billion. As the liquidity surplus has diminished, the Eonia has shifted upwards closer to the MRO rate. Since November 2013, the interest rate charged by the Eurosystem from banks in its main refinancing operations has been 0.25%. Given that overnight deposits have been non-remunerated since July 2012, the differential between the ECB's lending and borrowing rates has been exceptionally narrow, only 0.25 of a percentage point. In January and February 2014, the Eonia rate has averaged about 0.18%.

Current market rates

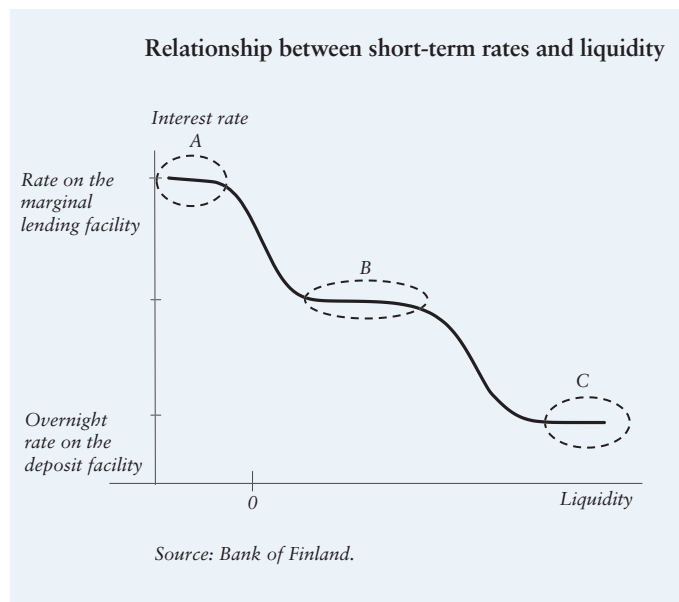
The fall in excess liquidity in recent months and the ensuing slight increase in interest rates reflect a normalisation of the money market. The creeping up of the shortest market interest rates has been associated with increased interest rate volatility. Greater overnight rate volatility does not necessarily give rise to major economic concern, but if the volatility spills over to longer-term

interest rates, it results in a tightening of monetary policy in a way that is difficult for monetary policymakers to control. How can a central bank that applies full allotment policy reduce interest rate volatility and prevent its transmission to longer-term interest rates?

In an interest-rate steering framework that is based on averaging in the fulfilment of reserve requirements, it is possible to identify three levels of liquidity where the path of the shortest-term rates remains stable, as well as two liquidity levels where interest rates respond particularly strongly to the amount of liquidity (see Chart 2). If it is very likely that banks at a given level of central bank liquidity have to have recourse to the marginal lending facility, interbank rates increase to levels very close to the interest rate on the marginal lending facility (see area A in Chart 2). In a similar way, when excess liquidity is very high, banks need to deposit it overnight with the central bank; as a result, interbank lending rates decrease to levels approaching the central bank's overnight interest rate (see area C in Chart 2). The third scenario, in which changes in the liquidity situation result in only very minor interest rate elasticity, occurs when market rates stand close to the MRO rate (see area B in Chart 2).

During the crisis, the level of liquidity in the banking system has ensured to a large extent that the shortest market rates remain close to the overnight deposit rate (area C). Before the crisis, the Eurosystem

Chart 2.



ensured (by controlling supply) that the total amount of liquidity stayed close to the structural need for liquidity (area B). In current circumstances, projecting future developments in the shortest-term interest rates is impeded by banks' repayment of funds borrowed in the three-year operations, due to which the banking system is moving from high levels of excess liquidity (area C) towards neutral liquidity levels (area B). In the transition phase, interest rate volatility inevitably increases.

Short-term options for steering market rates

If the temporary increase in interest rate volatility hinders the fulfilment of its objectives, the central bank can choose among several ways of reducing this volatility. For instance, it can 1) reduce the standing facilities corridor for the overnight rate, 2) increase the level of

Chart 3a. Narrowing the interest rate corridor

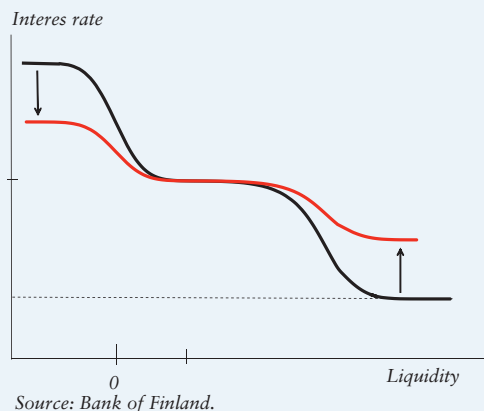


Chart 3b. Increasing excess liquidity

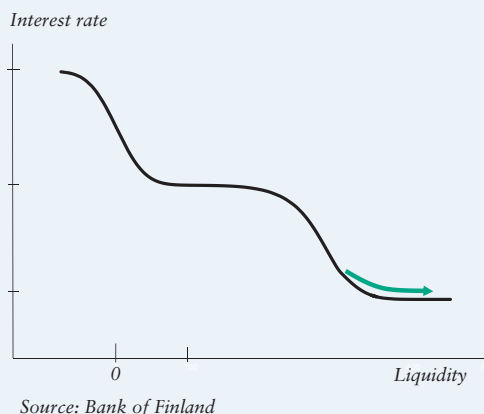
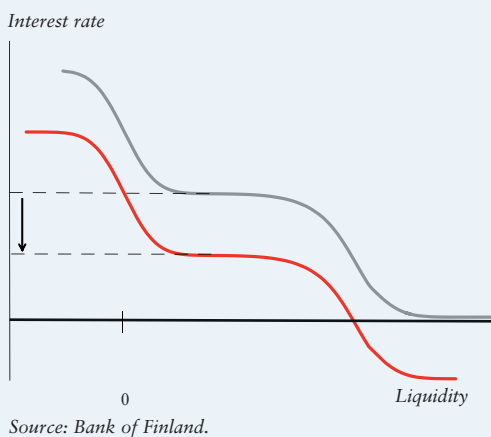


Chart 3c. Decrease in central bank rates



liquidity in the money market so as to push down short-term rates close to the overnight deposit rate, or 3) accept the temporary increase in interest rate volatility and prevent its effects by adjusting all central banks rates in a more active manner than before.

While narrowing the interest rate corridor does not necessarily affect interest rate volatility in all circumstances, it reduces deviations of market rates from policy rates at any given level of liquidity (see Chart 3a). Taken to the extreme, a narrow corridor (for instance a difference of only some hundredths of a percentage point between the MRO rate and the overnight deposit rate) would completely eliminate interest rate volatility at the shortest end, but on the reverse side this would imply that the majority of financial intermediation would shift from money markets to the central bank's balance sheet. The central bank would then both bear the risks associated with refinancing operations and lose an information channel on the condition of the financial markets.

As for increasing the amount of liquidity on the money market, it would restore a state of significant liquidity surplus. The ECB has several options for increasing the level of excess liquidity. It could, for instance, conduct new credit operations with long maturities or, alternatively, stop conducting liquidity-absorbing fine-tuning operations (see Chart 3b).⁷

In the third scenario, the central bank accepts the increase in interest

⁷ The Eurosystem conducts weekly fine-tuning operations to absorb from the market the liquidity it has supplied through the Securities Markets Programme (SMP). The programme has already been terminated.

rate volatility and adjusts the MRO rate in such a way that a shift between two states of money market equilibrium does not cause a change in the monetary policy stance (see Chart 3c). This option would be based on an understanding across different actors that (while applying full allotment policy) interest rate movements resulting from random fluctuations in the level of liquidity do not bear policy messages and are nothing more than short-term fluctuations in interest rates. In this case, interest rate volatility should not pass through to the expected level of future interest rates and should thus affect the level of longer-term interest rates only marginally. When following this model, the duration of the period of interest rate volatility is crucially affected by the size of the liquidity buffer created through the minimum reserve requirements. All other factors being equal, increased reserve requirements reduce random interest rate fluctuations.

Longer-term options

The Eurosystem has announced that it will maintain its full allotment policy for as long as necessary, and at least until the summer of 2015. Taking a longer-term perspective, however, it is necessary to reflect on what kind of operational framework is needed for steering interest rates in the future.

A return to a liquidity management framework based on controlling provided amounts necessitates – or at least would benefit from – a normalisation of the functioning of the interbank market. If banks in euro area countries

lend to each other also across borders, the Eurosystem can once again start lending to banks the amount needed to fulfil their net liquidity needs (that are relatively easy to estimate). The comprehensive assessment of banks taking place this year and the move towards single banking supervision will facilitate re-integration of the money market following the fragmentation that ensued from the crisis.

However, if banks wish to continue borrowing from central banks amounts that exceed their net liquidity needs, the steering of interest rates on the basis of controlling volumes becomes substantially more difficult. In such a situation, the central bank could consider reforming its steering mechanism in a way that would allow, on one hand, restoring the MRO rates' steering power and, on the other hand, fulfilling excess liquidity demand in such a manner that banks would still have an incentive to strive for efficient, market-based liquidity management.

One possible way to achieve this would be to differentiate the sets of collateral that are eligible for different types of operation. In the current framework, securities classified by the Eurosystem as eligible can be used as collateral in any of the Eurosystem's credit operations. This practice enhances the efficiency of the use of collateral by banks, and its operational management is straightforward. However, it entails the risk that the interest rate steering power becomes subject to operational efficiency.

When monetary policy is used to steer the level of interest rates, the aim

Monetary policy is used for steering the path of risk-free interest rates.

The stable relationship between the amount of central bank liquidity and money market rates became unstable during the financial crisis.

is to influence the path of risk-free interest rates. Risk premia, in principle, have to be determined by the market. A natural consequence is that credit operations that are used for steering interest rates are collateralised and have short maturities. The most direct impact on interest rates would be brought about through operations where eligible collateral consists of those securities that are generally accepted in the interbank repo market. When banks can use the same collateral for borrowing from both the market and the central bank, the interest rate differential between the primary and secondary markets should be minimised. In the future, for the purpose of determining such ‘first class’ collateral, it might be possible to apply the category of High Quality Liquid Asset (HQLA) that the supervisory authority has defined for regulatory purposes.

Before the financial crisis, the Eurosystem maintained a significant structural liquidity deficit. In the future, a precondition for this practice is that banks have significant amounts of assets that central banks accept as collateral. Given that not all banks’ balance sheets abound with HQLA-compliant securities, there could be a need for the interest rate steering practice based on a limited set of eligible collateral to be complemented by conducting structural operations with a broader set of eligible assets.

In addition to its main refinancing operations (MROs), the Eurosystem has also always conducted longer-term refinancing operations (LTROs). These

operations could be calibrated to meet e.g. banks’ structural demand for liquidity, in which case banks could satisfy their liquidity needs resulting from the minimum reserve requirements through MROs. In variable-rate LTROs, this model would allow maintaining the current practice of accepting a broad variety of assets as collateral. With interest rates being determined on the basis of demand, long-term lending rates would rise above the MRO rate and, as a consequence, the possibility to use less liquid collateral would be priced on a market-driven basis.

The formerly stable relationship between the amount of central bank liquidity and money market rates became unstable during the financial crisis. Were the central bank to conduct MROs as fixed-rate tenders with full allotment and to only accept as collateral those assets that are accepted in market transactions, it would no longer need to be able to estimate precisely the interest rate neutral amount of liquidity. In this model, market rate deviations from the policy rate would result from the demand by banks and therefore be void of central bank policy messages. Hence, possible volatility in the shortest-term interest rates that could result from stochastic fluctuations in the level of liquidity should not be reflected in expectations regarding future interest rates, nor should they impede interpreting the current monetary policy stance.

Should the banks’ need to obtain central bank liquidity against a broader set of collateral exceed their structural

liquidity deficit, the volume of LTROs could be increased at the expense of MROs. In extreme circumstances – if necessary in order to preserve financial stability – the amount of liquidity lent by the central bank through these longer-term operations could even be increased to levels so high that MROs, in turn, would be conducted as liquidity-absorbing operations. This would enable the central bank, as the only agent genuinely immune to liquidity risk, to shift part of the market risks onto its own balance sheet, if necessary – in particular in the presence of systemic risks. Even if the central bank were ready to accept in its longer-term operations and perhaps even in its marginal lending facility a much broader collateral base than market participants do, this would not automatically mean any substantial increase in the central bank’s risk levels, given the risk management procedures (especially haircuts) it applies in order to harmonise risk levels across different categories of collateral.

Differentiated eligibility requirements as a precondition for a new operational model

The banking system is, and will remain for the next few years, heterogeneous. However, this does not necessarily weaken the central bank’s interest rate steering power. The Eurosystem has several options for enhancing the steering of interest rates in the short and longer term in order to respond to the changes in the money market that lie ahead. The choice of the most appropriate measures is facilitated by

the euro area central banks’ vast experience in conducting monetary policy in various situations and with different tools.

In the light of the Bank of Finland’s experience, interest rate steering based on full allotment policy should not be regarded as a non-standard monetary policy tool that needs to be disposed of as soon as possible. By reforming the Eurosystem collateral framework, it would be possible to obtain a market-driven model for monetary policy implementation where the shortest-term market rates can be steered to a level deemed appropriate and, at the same time, the central bank can accept as collateral more illiquid credits that other parties do not accept. However, such a model presupposes that collateral eligibility requirements for the various types of central bank operations are differentiated.

Key words: monetary policy, interest rate steering, liquidity management, main refinancing operations, collateral

Japan's inflation expectations as a measure of the success of Abenomics

24 February 2014

Japan's policy of actively stimulating the economy has been dubbed Abenomics, after Shinzo Abe, who was elected as prime minister a little over a year ago. The main objective of Abenomics is to bring Japan on to a permanent growth trajectory and leave behind the prolonged deflationary spiral. The Bank of Japan has set a 2% inflation target, which it supports with a monetary policy of zero interest rates and quantitative easing. Both recorded inflation and consumers' and market inflation expectations have firmed up in recent months. It is, however, unclear to what extent the current performance of the Japanese economy is a consequence of the policies pursued and whether the changes will be permanent.

Shinzo Abe and his Liberal Democratic Party (LDP) won the parliamentary elections at the end of 2012 by promising to end Japan's deflationary spiral and place the economy onto a sustainable growth trajectory. Halting the downward trend in prices (deflation) has been one of Abe's key objectives. The drive to escape deflation was due its negative effects on consumption and growth. The causal connection also works in the other direction. Slow economic growth tends to subdue price and wage trends, and therefore, as the situation becomes prolonged, a number of different means are required simultaneously if the situation is to be turned around. Accordingly, Abe's economic policy programme comprises the three 'arrows' composed of fiscal, monetary and structural policy.

In its fiscal policy, the Abe government supports demand in the short term by means of supplementary budgets and various forms of tax relief coupled with direct support measures. At the same time, however, it is striving to ensure longer-term debt-sustainability. The government's aim is in fact to achieve balance in the general government finances by 2020. The Bank of Japan's monetary policy is also closely bound to the expansionary strategy through a considerable expansion of the central bank's securities purchases. In contrast, structural policy, which has been accorded the label 'growth strategy', has not progressed with very significant, concrete steps, even though structural reforms are key to achieving sustainable change.

Deflation is particularly harmful when both businesses and households are seriously indebted, as the real value of debt rises as the general level of prices falls (debt deflation). Another effect of deflation comes via interest rates, since, in an environment with interest rates at the zero bound, deflation pushes up real interest rates (= nominal interest rates minus inflation expectations) and increases the debt-servicing burden. Rising real interest rates weaken demand for credit, which, for its part, subdues consumption and investment. These factors have weakened the expansionary effects of Japan's zero interest rate policy. Following a prolonged period of deflation, psychological factors can also be a problem, as consumers have become accustomed to operating



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better in a context of deflation than with inflation. In Japan, there are signs that consumer confidence weakens as prices rise – particularly if wage rises do not keep pace.

Two lost decades

Japan's spiral of low growth and deflation began already in the 'lost decade' of the 1990s. The economy had overheated and the private sector become excessively indebted at the end of the previous decade. The bubble burst in the early 1990s, with a collapse in share prices and other asset values coupled with a banking crisis. The economy was given a considerable stimulus using both fiscal and monetary policy measures, and the banking sector was supported with public funds. The outcome was a temporary recovery, but a sustainable change was not achieved.

With hindsight, there has been criticism that insufficient structural reforms were carried out at the time while, at the same time, particularly in monetary policy, the response was too slow. Banks continued to fund insolvent companies using government support, and the economy remained burdened by bad debts, which has weakened the efficiency of the financial markets through to the present day.

At the end of the 1990s, the Bank of Japan launched its policy of zero interest rates. This initially had positive effects, but only temporarily. As the central bank could lower interest rates no further, in the early years of the new millennium it turned to quantitative easing by purchasing securities on the

markets, in this way increasing the amount of central bank money¹ in the banking system with the aim of improving access to credit for businesses and households. The fiscal policy stimulus was also continued, which led to substantial levels of general government debt. The measures taken did not work, with the 2000s becoming another 'lost decade' marked by slow growth and deflation, the latter due to the weakness of demand. The structural rigidities in the economy hampered productivity development, and the problems were further exacerbated by unfavourable demographic trends as the population both declined in numbers and aged. On top of all this, the external value of the yen appreciated, weakening the price-competitiveness of the country's export sector.

Japan's economy is in a liquidity trap. This means a situation in which interest rates are around zero and the central bank can no longer expand the economy by lowering interest rates. Under such conditions, further relaxation can be pursued through quantitative easing (expanding the supply of central bank money). In 2006, Lars Svensson² proposed the view that, given that in an environment of zero interest rates the central bank cannot influence interest rate expectations, it

¹ Central bank money is made up of cash in circulation plus commercial banks' deposits with the central bank. When purchasing securities, the central bank credits the seller's central bank account, thereby adding to the commercial bank's deposits with the central bank. The central bank's securities purchases have no effect on the amount of cash in circulation.

² Lars E.O. Svensson (2006) Monetary Policy and Japan's Liquidity Trap, Princeton University, CEPR and NBER CEPR Working Paper No. 126.

Japan's problems with slow growth and deflation have their roots several decades in the past.

should seek to influence inflation expectations, and thereby expectations over the level of real interest rates. Expectations of price rises lower the expected rate of real interest and hence tend to stimulate the economy. Moreover, expectations of higher prices serve to weaken the currency's external value, bolstering exports.

Bank of Japan to increase central bank money until inflation target is reached

In January 2013, the Bank of Japan specified its inflation target as 2% and defined this as a 2% annual rise in the consumer price index.³ This definition of price stability is similar to those of the European Central Bank, the Bank of England and the US Federal Reserve. The Bank of Japan has indicated it will seek to achieve its target 'as soon as possible', which in practice means in a couple of years, during the course of 2015.

In April 2013, the central bank launched a new programme entitled Quantitative and Qualitative Monetary Easing (QQE), the most important cornerstone of which is a substantial expansion of its securities portfolio. The aim is to increase the amount of central bank money in the economy by JPY 60,000–70,000 billion per annum (1 euro is worth around 140 yen), primarily by purchases of securities, until the

inflation target has been reached in a sustainable manner. It also overhauled communication of its monetary policy. This is now distinctively oriented to communicating quantitative easing, with the operative target now the amount of central bank money in the economy, rather than a specific interest rate.

Most of the securities purchases are of Japanese government bonds. The intention is to augment the central bank's holdings of government bonds (long-term debt instruments excl. short-term treasury bills) at an annual pace of JPY 50,000 billion, against an annual increase on the upside of JPY 10,000 billion in the previous 3 years. Purchases will extend to include 40-year government bonds, as against the previous ceiling of 3 years. The central bank's ownership share of Japanese government debt instruments has, in fact, already grown to over 17%. In addition to government bonds, the Bank of Japan is also purchasing more higher-risk assets.⁴ However, the increase here has been moderate. The rest of the growth in the monetary base will be handled through money-market operations.

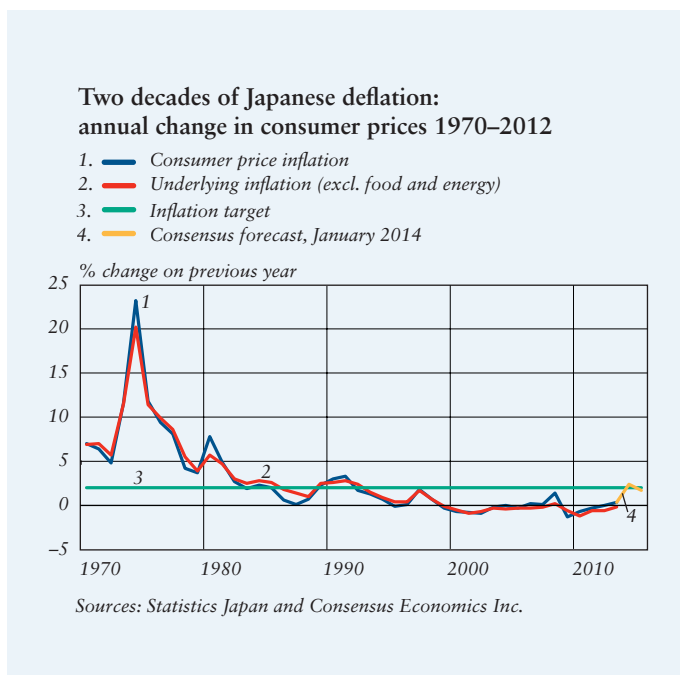
An entire generation with no experience of inflation

In Japan, an entire generation has grown up with no real experience of inflation. Prices had been falling since 1998 and were at their lowest in February 2013, when the general level

³ In February 2012, the Bank of Japan set a somewhat vague intermediate target of 1% inflation. In January 2013, the central bank's position was clarified by withdrawal of the intermediate target. The 2% inflation target refers to the annual change in the entire consumer price index (incl. food and energy prices).

⁴ These include corporate bonds and commercial paper, exchange-traded funds (ETFs) and real estate investment trusts traded on the stock exchange (Japan Real Estate Investment Trust, JREIT).

Chart 1.

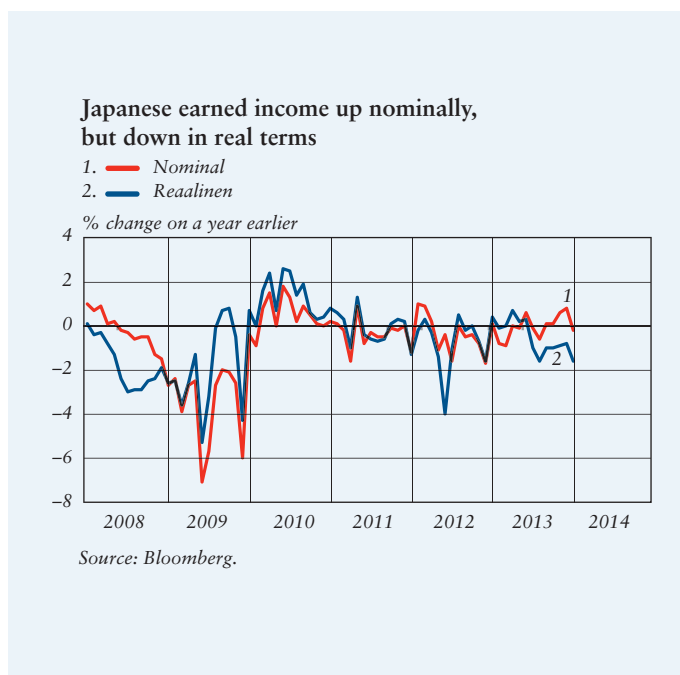


of prices was 4½% lower than 15 years earlier (Chart 1). The persistent deflation was the result of weak domestic demand and a negative output gap (the difference between actual and potential output), weak household income expectations and weak corporate expectations over market developments. In addition, a prolonged period with a strong yen dampened rises in import prices.

The poor income development in Japan (Chart 2) has been due to Japanese employers' weak wage-paying capacity and the changing structures of the Japanese labour market. Corporate wage-paying capacity has, in turn, been weakened by the downward trend in export prices since the 1980s (Chart 3). World market prices have declined due to productivity growth and increased competition in many industrial sectors of importance to Japan, such as electronics. A simultaneous growth in demand for oil and other commodities in the emerging economies has pushed up import prices. Japan's terms of trade have, in fact, weakened considerably over the past 20 years.

The changing structure of the Japanese labour market and demographics is reflected in the weak development of aggregate wages. The spread of part-time and fixed-term employment, particularly among women and the young, has led to a drop in the average level of wages, as wage development is generally more moderate in atypical employment relationships than in full-time and permanent employment. The economy's return to growth has not yet been

Chart 2.



reflected fully in wages, and accelerating inflation has therefore lowered consumers' real incomes and weakened purchasing power. Nominal incomes have grown slightly, but real income development has continued to be negative due to the pick-up in inflation.

Recent months have seen a rise in consumer prices, and the most recent inflation figure, for January 2014, is 1.4%. In similar vein, underlying core inflation, which in Japan is calculated by removing only food prices from the consumer price index, has accelerated to 1.3%. In the more commonly used definition of underlying core inflation, energy prices are also omitted. Calculated in this way, too, underlying core inflation has now clearly entered positive territory, at 0.7%.

The rise in prices in Japan in recent months has stemmed largely from the change in the exchange rate for the yen and the price of imported energy, in particular. Since the natural disaster of March 2011 and the nuclear disaster at Fukushima, Japan has been forced to rely largely on imported energy. As a result, the consumer price of electricity rose at its height to more than 20% above the price in the month preceding the tsunami, primarily due to the depreciation of the yen (Chart 4).

Consumption tax hike causes temporarily higher inflation

Japan's inflation trend and expectations will be significantly affected by the increase in consumption tax planned in order to balance the public finances. The consumption tax currently payable on goods and services is composed of a

Chart 3.

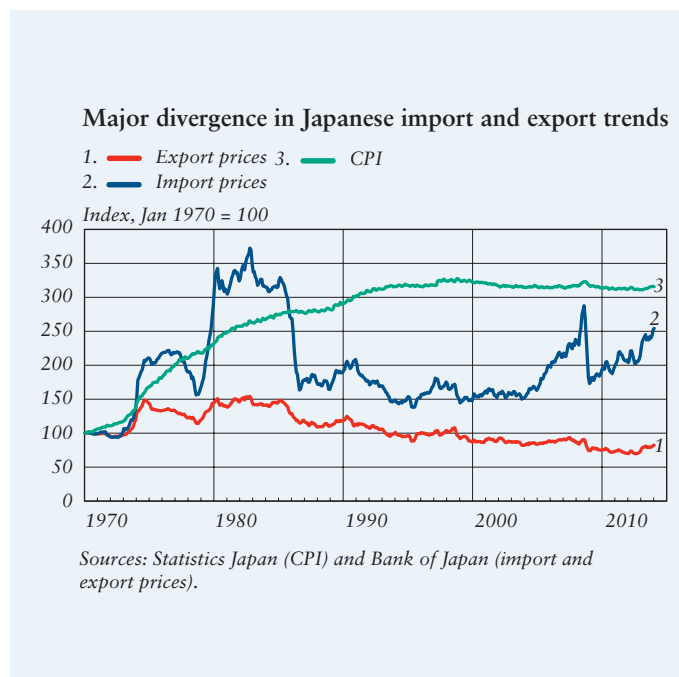
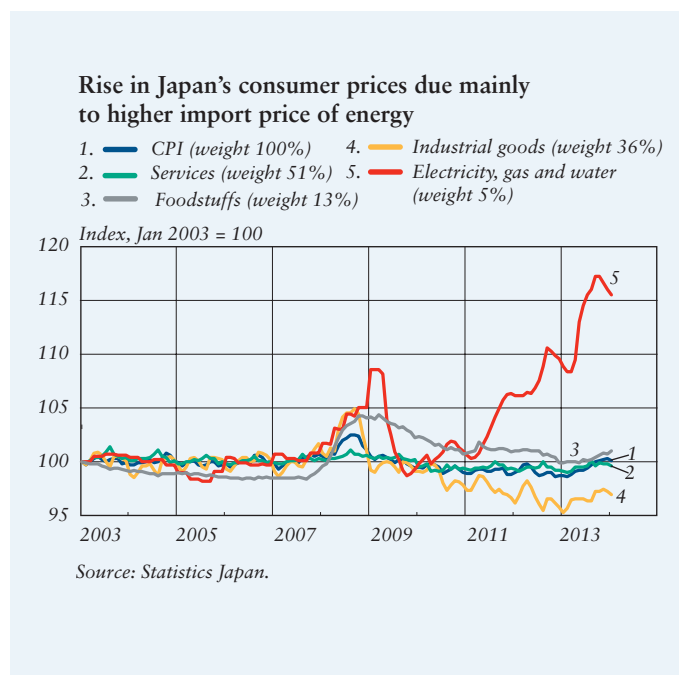


Chart 4.



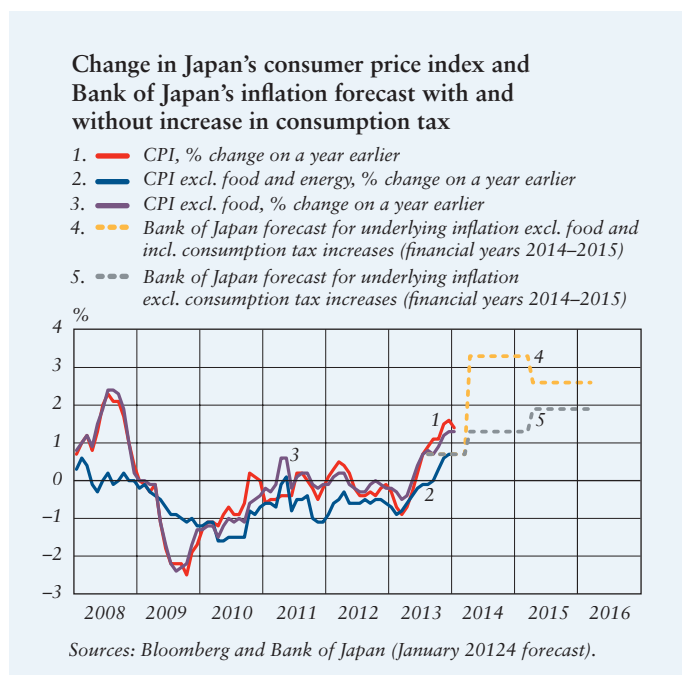
The consumption tax increases complicate interpretation of how consumers view inflation.

4% national component and a 1% local component. The increases already decided will come into effect in April 2014 (up to 8%) and October 2015 (up to 10%). Even after these increases, the level of consumption tax in Japan still will be moderate internationally. Consumption tax was introduced in 1989, when it was only 3%. In 1997, it was raised to 5%, which has been considered in retrospect to have been the cause of the fading of the first shoots of growth at that time and the continuation of recession.

The January median inflation forecast by the Policy Board of the Bank of Japan was 3.3% for the financial year 2014,⁵ and 2.6% for the financial year 2015 (Chart 5). The inflation impact of the consumption tax

rise to be implemented in April 2014 is, according to the Bank of Japan's estimate, 2 percentage points in the financial year 2014 (i.e. inflation without the consumption tax would average 1.3% from April 2014 to March 2015). Meanwhile, the impact of the increase planned for October 2015 will be 0.7 of a percentage point in the financial year 2015 (i.e. inflation without the consumption tax would be 1.9% from April 2015 to March 2016). The consumption tax increases are not factored into the central bank's 2% inflation target. From the perspective of achieving the inflation target, of more interest is the Policy Board's forecast of the rise in prices without the consumption tax. According to that, the inflation target will not be fully reached within the targeted timetable, but it will be close.

Chart 5.



Consumers' inflation expectations higher than inflation target

Japanese consumers are asked their expectations over future inflation through a monthly consumer confidence survey⁶ and on a quarterly basis through the Bank of Japan's quarterly survey of households.

The Bank of Japan's survey of households in December 2013 specified that answers should be based on an assessment excluding the increases in consumption tax. Even so, consumers' median expectations were fairly high: prices were estimated to rise over the next year by 3%, and over the next

⁵ Japan's financial year begins in April each year.

⁶ This survey is carried out by the Cabinet Office, which comes under the auspices of the Japanese Government.

5 years by an annual average of 2.5%. The 5-year expectation had risen slightly from the September survey.

The data on inflation expectations gathered in connection with the monthly surveys of consumer confidence does not generate median or average figures. It merely ascertains which direction prices are expected to move in and what range of variation the changes are believed to fall within. In January 2014, 90% of respondents already believed prices would rise in the coming year (Chart 6). A majority believed inflation one year hence would be within a range of 2–5%, although belief in even higher figures had also grown.

The problem with consumer surveys of inflation expectations is often that the responses mirror more the price trend at the time of the survey than genuine expectations regarding the future. The expectations correlate much more closely with actual inflation at the time than with future inflation (Chart 7). Moreover, at present in Japan, the interpretation of inflation expectations is hampered by uncertainty over whether or not consumers' assessments take into account the coming increases in consumption tax.

Market inflation expectations have risen more moderately

Market-based inflation expectations complement the data gathered by the aforementioned surveys on households' and businesses inflation expectations. Market expectations are the product of competition between well-informed actors, forward-looking and observable

Chart 6.

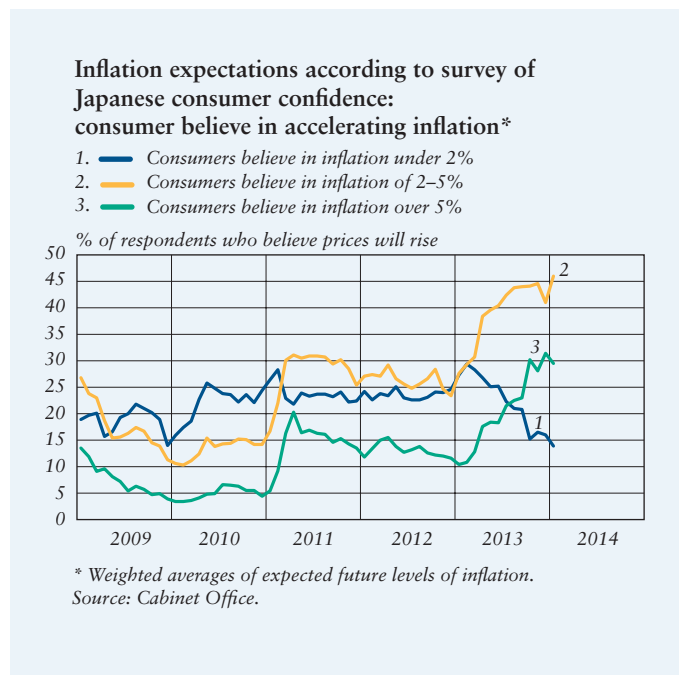
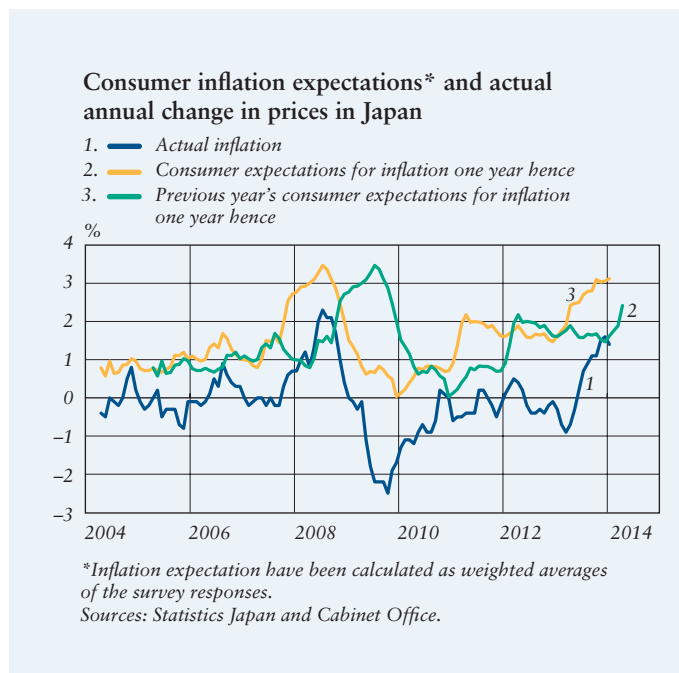


Chart 7.



in real time. Market actors have a strong incentive to assess expected inflation precisely, as their profits or losses depend on the accuracy of their expectations. The problem with market-based indicators is that they are sensitive in the short term to both political and economic policy decisions and seasonal fluctuations. The advantage with very long-term measures of inflation expectations, meanwhile, is that individual decisions such as tax increases do not distort them, as the inflationary impact of said decisions is largely non-recurrent.

Market inflation expectations are traditionally viewed with the help of price trends in inflation swaps⁷ and inflation-linked government bonds. When dealing with bonds, the break-even inflation rate is calculated by subtracting the real yield on inflation-linked bonds from the yield on standard nominal fixed-income bonds of the same maturity. In the case of Japan, measuring market-based inflation expectations is full of uncertainty, as the stock of inflation-linked government bonds is only less than ½% of the overall government debt, and, moreover, the inflation swap market is for this reason very underdeveloped. The thin market increases price fluctuations and weakens the market's capacity to correct price distortions.

Abenomics' inflation target and the economic policy measures in support of it plus decisions on future

increases in sales tax and the Bank of Japan's vigorous quantitative easing have increased investors' interest in purchasing inflation-linked government bonds. This interest can be interpreted as investor confidence that Japan will escape deflation. Demand for the new inflation-linked government bond in the October 2013 auction was, in fact, strong (total bids amounted to 3.7 times the volume on offer), particularly among foreign investors.

Besides the increased interest among investors, the price of hedging against inflation has risen, reflected in a clear rise in market-based inflation expectations (Charts 8 and 9). Even so, the markets do not believe the 2% inflation target can be sustainably achieved, as the longer-term market-based inflation expectations – whether calculated from inflation swap agreements or break-even inflation rate expectations – are just over 1%. For this reason, expectations of additional measures by the central bank have grown during the spring.

The impact of the increase in sales tax is clear if we use inflation swap agreements to calculate market expectations in annual periods for the next ten years⁸ (Chart 10). Average annual inflation expectations – i.e. inflation forwards – calculated from market information indicate that in 2014 and 2015 the increase in sales tax will, according to market expectations, cause a clear inflationary peak, which, after a small dip, will level out at around 1%.

⁷ Inflation swaps resemble interest rate swaps, whereby one market participant pays a fixed price and the other the actual level of inflation.

⁸ If we know, for example, the average market inflation expectation over 5 and 6 years, we can calculate the market inflation expectation for a 1-year period 5 years in the future.

Measuring market expectations based on purchasing-power parity

The problem with Japan's market-based inflation expectations is the small market for inflation-linked products.

An alternative way to assess market inflation expectations is to make use of information from larger inflation-linked product markets and purchasing-power parity. Under the principle of purchasing-power parity, a bilateral change in the nominal exchange rate between two currencies leads to a change of comparable size in the price level in the respective currency areas. Thus, if we assume no significant change in the real exchange rate between, for example, the US dollar and the Japanese yen, inflation expectations for Japan can be calculated using information on inflation expectations for the United States at a given period and the forward exchange rate between the dollar and the yen for the same period.

Benjamin Mandel and Geoffrey Barnes⁹ have used the purchasing-power parity method in calculating indices depicting 5-year, 7-year and 10-year expectations of the level of prices in Japan, the changes in which over time reflect inflation expectations (Chart 11). If, for example, Japan's 5-year inflation expectation grows on average from 0.5% to 0.6%, the index figure rises 20%. According to Mandel and Barnes, parity is better for analysing price changes than price levels.

⁹ Benjamin R. Mandel and Geoffrey Barnes (2013) Japanese Inflation Expectations, Revisited. New York Fed, April 2013. See <http://libertystreeteconomics.newyorkfed.org/2013/04/japanese-inflation-expectations-revisited.html>.

Chart 8.



Chart 9.

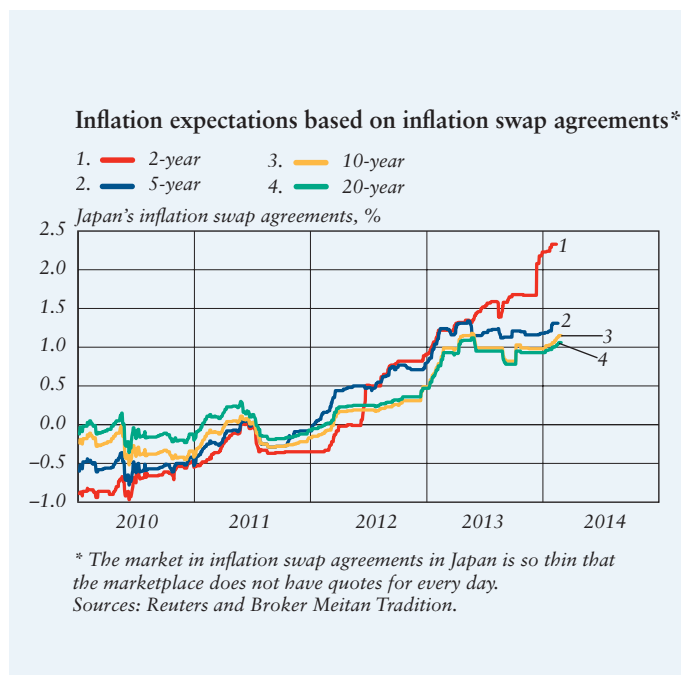


Chart 10.

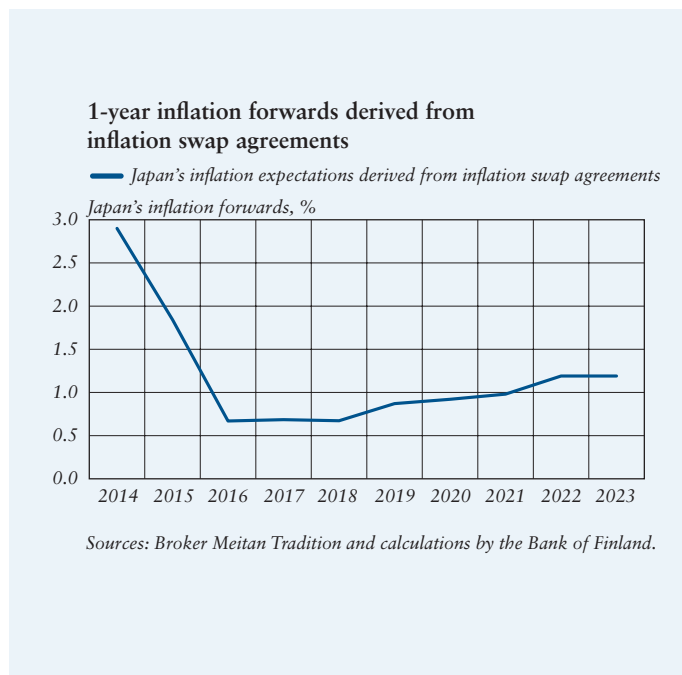
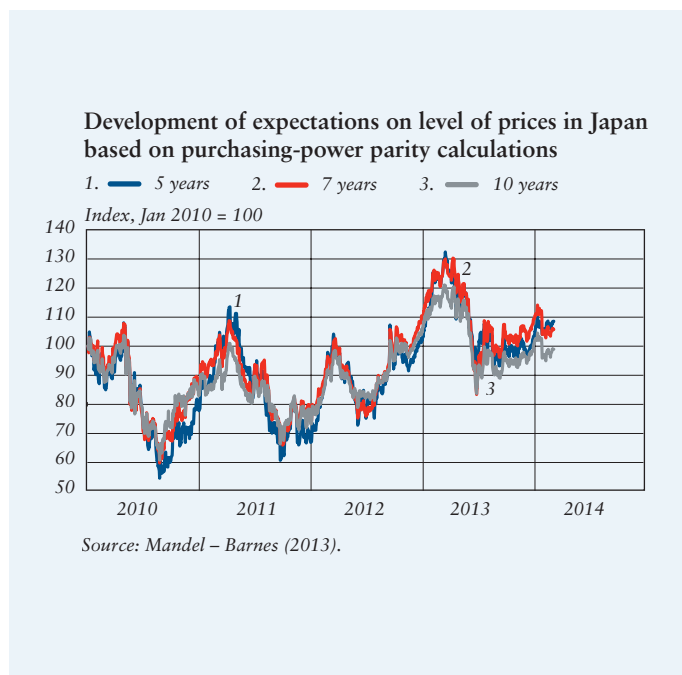


Chart 11.



Mandel and Barnes' indices clearly respond to changes in Japan's monetary policy. In October 2010, the Bank of Japan announced a new securities purchasing programme. This immediately began to raise expectations over the level of prices, although these gradually receded. The next temporary upward shift began in February 2012, when the Bank of Japan announced its 1% inflation target. Once Shinzo Abe had launched his stimulus-oriented election campaign in September 2012, inflation expectations once again climbed. A faster climb began in December 2012 once Abe's party had won the elections. The trend was strongly supported by the new 2% inflation target announced by the Bank of Japan in January 2013 and the strongly accommodative monetary policy announced in April 2013. 5-year and 7-year price level expectations rose by March-April 2013 as much as 30% higher than in early 2010. 10-year expectations also rose, by 20%. However, during summer 2013, market expectations of Japan's price level calculated using purchasing-power parity fell again, settling in the autumn at the same level as in early 2010. This differs from the other available data, in which inflation expectations have clearly risen since 2010.

What do these inflation expectations tell us about developments in Japan?

Central banks guide inflation expectations with, among other things, their inflation target and public pronouncements. There are numerous problems

relating to measuring consumers' and market inflation expectations. From the point of view of the central bank and other economic agents, the expectations are important irrespective of how accurate they turn out to be. Inflation expectations of themselves are significant, as they influence economic behaviour and hence the effectiveness of monetary policy.

Both consumers' and market inflation expectations have been clearly rising in Japan since 2013. Consumers' inflation expectations would appear at the present moment to actually be well above the Bank of Japan's 2% inflation target. Consumers' expectations are clearly now being affected by the forthcoming increases in consumption tax. If a consumption tax rise accompanied by a simultaneous weakening in the external value of the yen pushes up import prices, the rise in the general level of prices could temporarily be very great and even exceed consumers' own expectations. Expectations exceeding the inflation target contains risks, as such expectations could undermine consumers' confidence in their own financial future, particularly if they are accompanied by a decline in real wages.

Market expectations do not appear to be as stable as consumer expectations; in the former we have seen strong, if short-lived, reactions to monetary policy decisions. The markets do expect inflation to gather pace, but to nevertheless remain well below the 2% target. Market expectations are, however, now well above what they were prior to the announcement of the

new inflation target and the accommodative monetary policy stance.

One key difference between consumers' and market inflation expectations is that consumers assess the trend in the general consumer price index, whereas market expectations reflect views on underlying core inflation. This is less important, the longer the period the expectations are focused on, but even for a period of 12 months the difference is significant. This partly explains the current differences between consumers' and market expectations.

The development of inflation expectations would seem to support the idea that the steps taken by the Bank of Japan have succeeded in cutting the deflationary spiral in Japan. It is, however, still too soon to say whether the change will be permanent. In the final analysis, the problems of the Japanese economy are structural. Structural reforms to bolster the longer-term growth outlook (the third arrow of the Abenomics) remain key to reinforcing the present turnaround and bringing the Japanese economy onto a sustainable growth path.

Keywords: inflation, deflation, market expectations, monetary policy

Both consumers' and market inflation expectations have been clearly rising in Japan since summer 2013.

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9 January 2014

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