

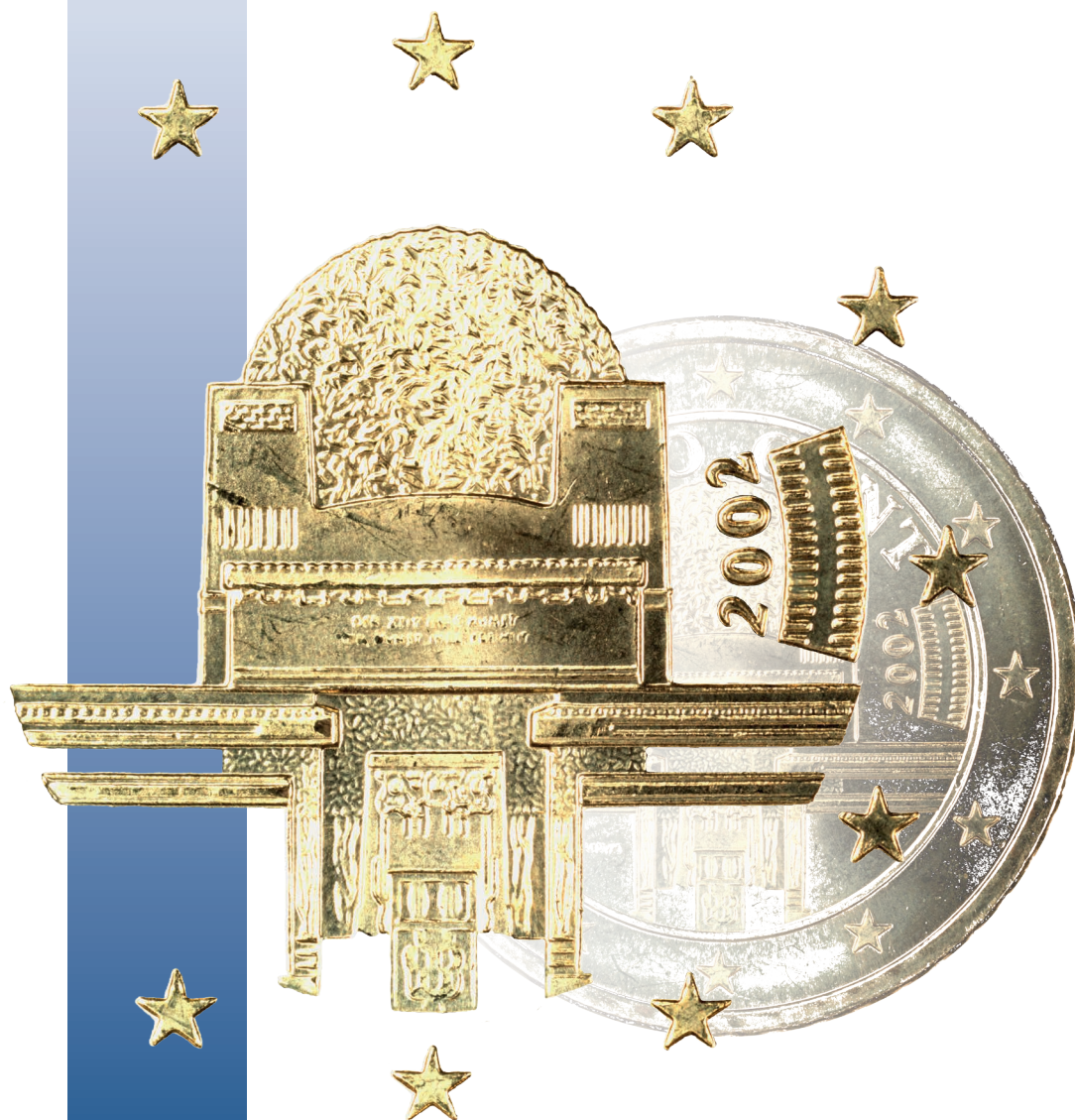


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Monetary policy and the global economy



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The cover picture depicts the national motif on the Austrian 50 cent coin:
The Vienna Secession Building, home of the Secessionist visual artist.

Monetary policy and the global economy

5 September 2014

Executive summary

A time for decisive action

In September six years ago the financial crisis developed into a full-blown global economic crisis. During the years since then, the advanced economies have performed poorly and global growth has depended largely on the emerging economies. Reflecting the fragility of the recovery, monetary policy has been strongly accommodative of growth. Since interest rates reached the zero lower bound, central banks have continued to relax financial conditions with the help of non-standard measures.

During the past year and a half, confidence in growth in the advanced economies has strengthened. The euro area, too, now has a grip on growth. However, in summer 2014 the new optimism took another blow. Euro area growth ground to a halt in the second quarter, and recent indicator data suggests developments since then have been weaker than expected.

The Bank of Finland's September 2014 forecast for the international economy estimates that global growth in 2014 will be slower than previously estimated. Growth is, however, expected to gather pace during the forecast period, and the growth forecast for the global economy for 2015 and 2016 is unchanged. The US economy will grow during the forecast period by around 3% per annum. The Chinese economy is forecast to continue growing briskly, if a little more slowly than in earlier years. In contrast, the growth forecast for the EU21 has had to be lowered in respect of 2014. The forecast for Russia has also been reviewed downwards. In reflection of the weak growth outlook for the near future, world trade growth will only pick up during 2015.

The differences in growth outlook are also reflected in the Bank of Finland's inflation forecasts. US inflation is forecast to remain close to the Fed's 2% price stability target throughout the forecast period. Inflation in the EU21 has been around ½%. In the Bank of Finland forecast, inflation in the EU21 will gather pace during 2015 to over 1% and end up at around 1½% towards the end of the forecast period. The forecast is based on inflation expectations remaining anchored plus a gradual recovery in domestic demand and the ending of the counterinflationary effect of euro appreciation in 2012–2014.

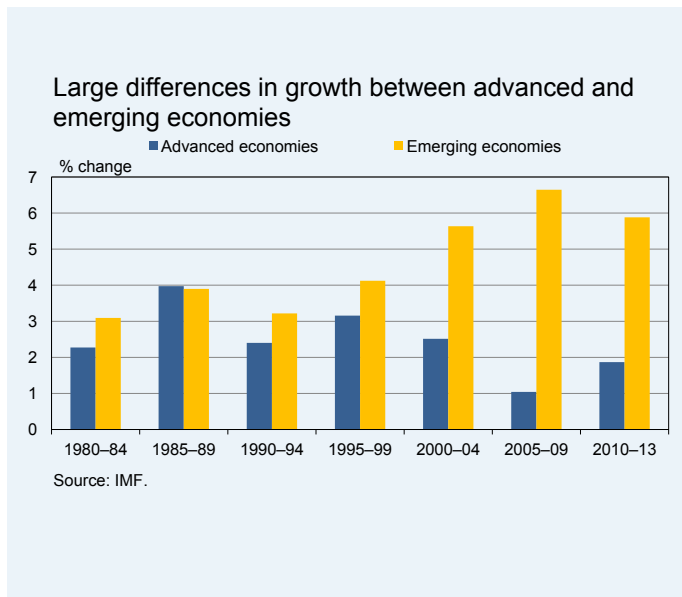
On account of the extremely subdued inflation outlook and weak economic developments, the Governing Council of the ECB decided in June on a large package of monetary policy measures, which was further augmented and strengthened in September. Among the measures included were reductions in key policy interest rates, targeted longer-term refinancing operations and purchase programmes for both asset-backed securities and covered bonds. With the reduction in interest rates and the deposit rate moving into negative territory, short-term market rates have come down close to zero. The long refinancing operations beginning in September and the purchase programmes beginning in October are designed particularly to support lending to business.

In addition to direct impacts, the purchase programmes can also serve as a catalyst for a deepening of the European capital markets. Banks' ability to extend credit to SMEs can be enhanced if they can convert asset items on their balance sheets into liquid securities. This will reinforce credit intermediation to SMEs and households and contribute to a deepening of the single market in the euro area.

The comprehensive assessment of euro area banks due to be completed in October will reinforce the impact of monetary policy measures. Banks will have to correct any capital deficits within 6–9 months of publication of the results of the assessment. A healthy banking system is an essential requirement if the actions of the ECB Governing Council are to lead to the intermediation of finance to those households and businesses that need it.

As a whole, the global economy is standing on the edge of major questions. To what extent is slow growth still a consequence of the need to digest the causes of the debt crisis? And to what extent is the fading of growth a longer-term phenomenon influenced by the slowdown in population growth, and even in productivity? Is the real interest rate at which savings and investment are in balance now lower than before? Although the most acute phase of the crisis is now behind us, the challenges for economic policy remain considerable.

Chart 1.



I Cyclical conditions and outlook for the global economy

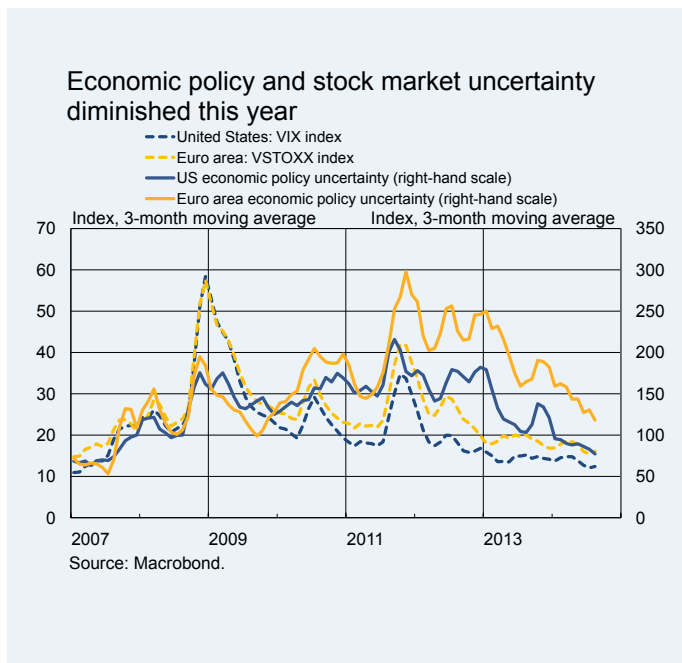
Economic developments differ

Over the six years since the financial crisis, global economic growth has rested largely on the emerging economies, as the recovery in the advanced economies has been sluggish (Chart 1). Since the middle of 2013, however, the differences in relative performance between these country groups started to narrow. Of the advanced economies, the United States in particular has shown signs of strengthening, whereas the growth outlook for the emerging economies has generally declined. The euro area, too, began to show flickers of growth, although there remained large differences between euro area countries.

In recent months the differences between the economic situations in the various advanced economies have grown once more. Despite a weaker start to the year due to temporary factors, the US economy has continued to grow in strength, whereas euro area growth came to a standstill in the second quarter of 2014.

In China, economic growth has slowed as expected, while, during the year, the economic situation has also deteriorated in other emerging economies, such as the countries of South America. The weaker growth has been partly due to the modest growth in world trade giving less support to emerging economies than in earlier years. In addition, expectations over a change of direction in US monetary policy in 2013 diverted capital flows

Chart 2.



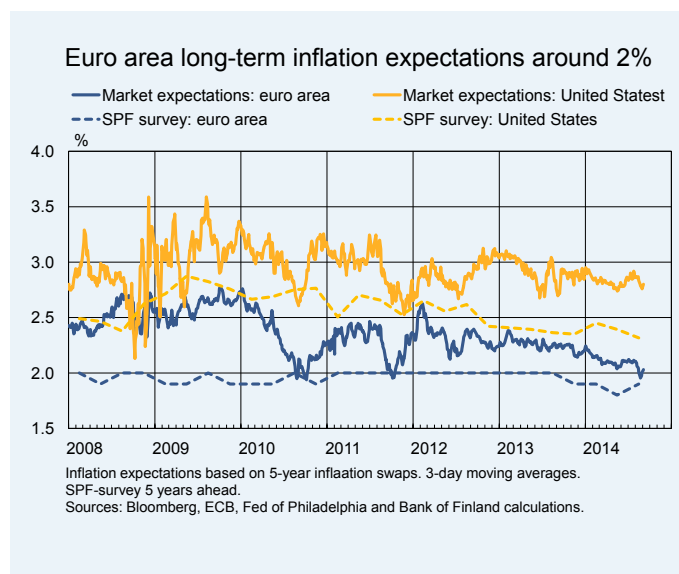
away from the emerging economies, weakening exchange rates, particularly in the most vulnerable economies, and tightening financial conditions. Geopolitical tensions have increased, particularly in Europe and its vicinity. During the summer, the Russia-Ukraine crisis has deepened and the situation in many countries of the Middle East and North Africa has become unstable. To date, however, these events have had only a limited impact on the global economy and, for instance, uncertainty indicators have remained very low (Chart 2).

Slow inflation a problem particularly in the euro area

As with economic performance, so inflationary trends in the advanced economies are becoming differentiated. Euro area inflation has continued to slow, whereas in the United States, and particularly in Japan, inflation has accelerated since the Bank of Finland's March 2014 forecast. According to advance data, consumer price inflation in the euro area was 0.3% in August. In the United States, inflation during the summer months has been running at around 2%, and in Japan the increase in consumption tax in April has caused inflation to accelerate to over 3%.

The slower rate of inflation in the euro area has passed through to short-term inflation expectations on the markets. Expectations have already been fading for some time. Moreover, longer-term inflation expectations derived from market information weakened during August, while still remaining around 2% (Chart 3). Meanwhile, in the United States,

Chart 3.



short-term expectations turned slightly upwards during the spring and long-term expectations have remained more-or-less unchanged. In Japan, inflation expectations have steadied since the consumption tax hike.

Current-year growth slower than expected, outlook for 2015–2016 unchanged

Global growth has weakened somewhat in recent months, a fact reflected in the Bank of Finland's current international economic forecast. Growth is, however, expected to accelerate, and the global economic forecast for 2015 and 2016 is unchanged. The pace of global growth will nevertheless be much slower than in pre-crisis years. The baseline forecast contains the assumption that geopolitical tensions will not get any worse (see Risk assessment) and that the process of adjustment will continue in the advanced economies. Commodity price

Chart 4.

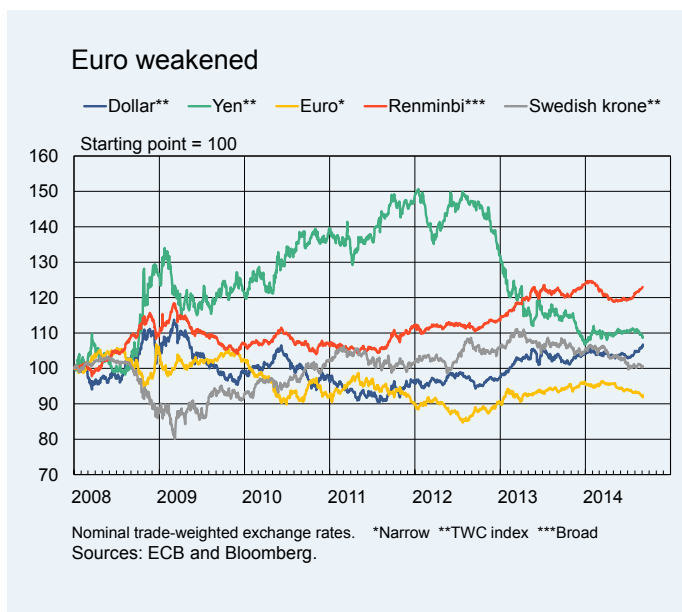
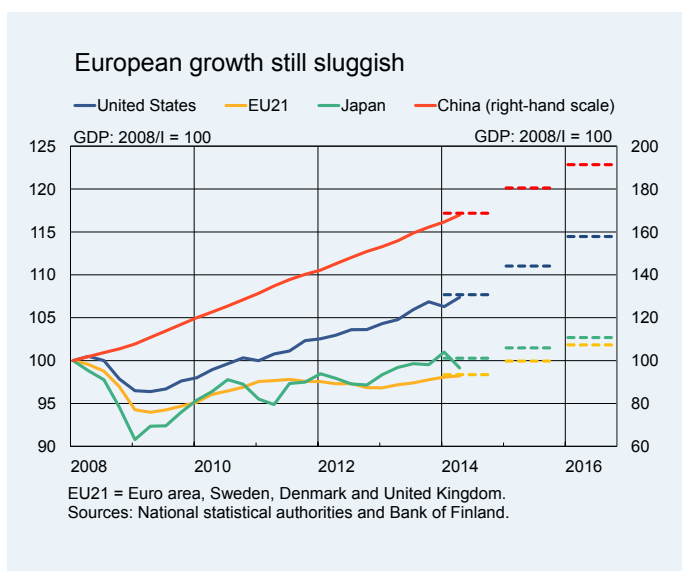


Chart 5.



assumptions are based on market futures, and nominal exchange rates are expected to remain stable (Chart 4).

During the forecast period, economic conditions in the advanced economies will become even more

differentiated. The US economy is expected to grow strongly, while euro area growth will accelerate only very slowly (Chart 5). According to the forecast, the EU21 economy will not reach its pre-crisis dimensions until 2015. The period of sluggish growth in Europe has been much longer than expected, with recovery progressing considerably more slowly than in the other main economic regions. Within Europe, as well, the differences between countries are growing, with the UK economy continuing to perform more strongly than the euro area.

During the forecast period, capital investment growth is expected to accelerate, particularly in the advanced economies. Since the financial crisis, corporations have been very moderate in their investments, which has generated pent-up investment needs. Capacity utilisation rates have been rising and the financial position of non-financial corporations appears to have improved. In addition, in the advanced economies, monetary policy is expected to continue to be accommodative, and market expectations suggest that the level of interest rates, particularly in the euro area and Japan, will continue to be extremely low throughout the forecast period.

In the advanced economies, there are numerous problems with the labour markets. In the euro area, unemployment remains high (Chart 6). Meanwhile in the United States, despite a rapid drop in unemployment, the labour force participation rate has remained low. Moreover, economic growth in the advanced economies

(excl. the United States) and some emerging economies (such as China) is being hampered by a contraction in the size of the working-age population (Chart 7). In addition, labour productivity growth, particularly in the advanced economies, has faded in recent years. Although the forecast expects productivity growth to accelerate somewhat, it is still set to be fairly slow, viewed historically. In fact, the condition of the labour market in many advanced economies merely underlines the need for structural reforms. Carrying through these reforms has, however, proved to be a rather slow process in many countries.

Recovery in European economy delayed again

Although the most difficult phase of the debt crisis would appear, based on market developments to now be largely overcome, growth in the EU21 area was slower than forecast during the first half of 2014. Growth is, however, expected to pick up somewhat over the course of 2015. The depreciation in the external value of the euro will slightly improve the cost-competitiveness of euro area companies, thereby boosting exports. Corporate investment needs are also expected to increase. Surveys indicate that demand for corporate loans has already begun to firm up. Moreover, during the forecast period, investment growth in the euro area will be boosted by the ECB's comprehensive assessments of bank balance sheets and the further relaxation of monetary policy. In addition to the interest rate cuts in June and September, the ECB's

Chart 6.

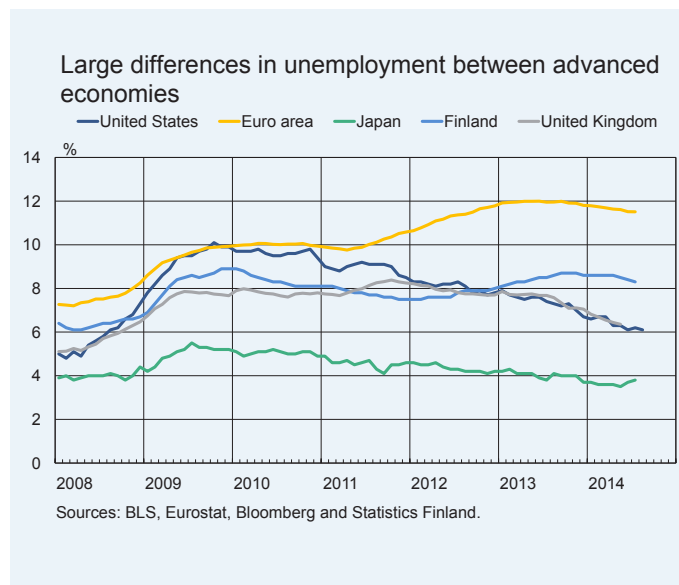
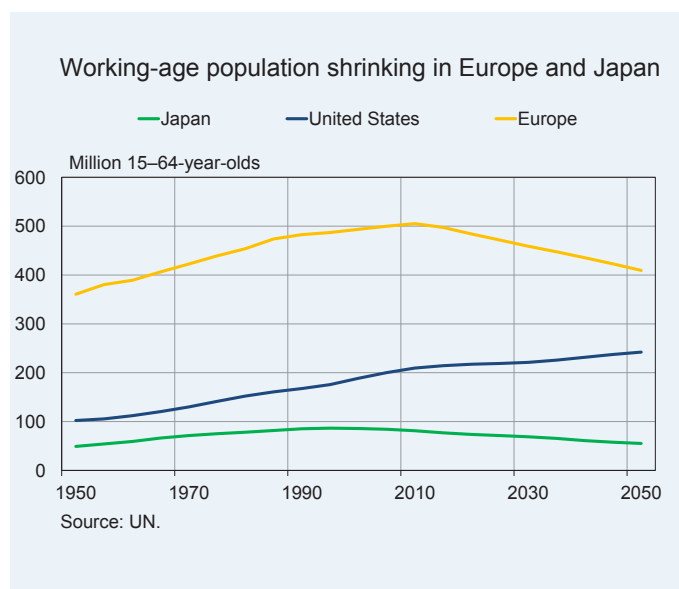


Chart 7.



targeted longer-term refinancing operations (TLTROs) and asset-backed securities plus the purchase programmes for covered bonds issued by the banks will reinforce the trans-

mission of the accommodative monetary policy, thereby lowering the interest rates on corporate loans.

In the forecast period, there will be major differences in developments between the countries of Europe (Chart 8). In many countries, private consumption and growth are still being stifled by high unemployment and the deleveraging of household debt. In addition, the general government consolidation measures dictated by the rules of fiscal policy will slow short-term growth in many countries. Growth would appear to be healthier where the most progress has been made with structural reforms to improve industrial competitiveness and the functioning of the labour markets, as, for example, in Germany and Spain.¹ France and Italy have also embarked upon reforms, but they have more still to do. This assessment also applies to Finland. Sluggish economic develop-

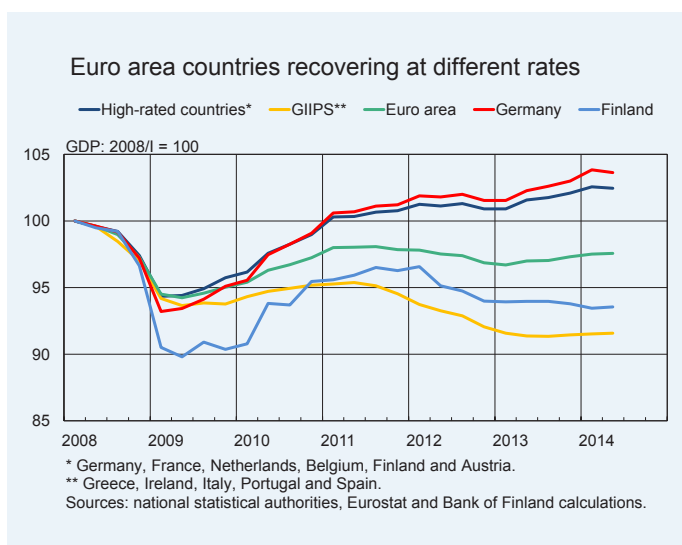
¹ For more detail see Marko Melolinna's article, below.

ments in many countries mean improvements to the employment situation remain slow.

After a strong first quarter, the German economy contracted slightly in the second quarter of 2014, when both net exports and investment developed more weakly than expected. Declining confidence during the summer was visible in the German economy, and growth for the current year will be somewhat slower than forecast. The fundamentals of the German economy are, however, sound: structural reforms have progressed faster than in other euro area countries, exports are competitive, household indebtedness is relatively moderate and unemployment is amongst the lowest in the euro area. In addition, the need for consolidation in fiscal policy and government debt is less than in many other euro area countries.

In France, economic growth came to a halt in the first half of 2014, as domestic demand was weak and there was no pull from exports. Growth will, however, pick up in the years ahead. Corporate taxation will be substantially relaxed during the forecast period (by 2% of GDP in the years 2014–2017), and the regulatory burden on SMEs in particular will be dismantled. Together with a gradual strengthening of world trade, these measures will generate both the opportunities and the need for corporate investment and boost employment. However, unemployment will come down only slowly, and continuing general government consolidation measures will subdue private consumption growth in the immediate years ahead.

Chart 8.



In 2014, the Italian economy has sunk back into recession. However, both corporate and household confidence improved during the spring, and unemployment fell in the summer. The economic contraction is expected to be over by the end of the year, and the country is forecast to embark on moderate growth during the course of 2015. In the area of economic policy, Italy is expected to take forward structural reforms to strengthen the foundations of growth and improve the condition of the public finances. Although government bonds yields have contracted and debt-servicing costs declined, the reduction of debt ratios will be hampered by slow economic growth and sluggish price developments.

Spain's recovery from deep crisis has accelerated in the current year, with a slight pick-up in domestic consumer demand. The economic recovery has been bolstered by the successful banking sector reform and structural reforms that have enhanced labour market flexibility. Although we have already seen a turn for the better, many deep problems will continue to plague Spain in the immediate years ahead. General government consolidation must be continued, and both non-financial corporations and households will have to reduce their heavy debt burdens. The position of the household sector will continue in the future to be difficult, on account of the high unemployment rate and the fact that house prices are around 40% below the heights of 2007. As in Italy, the slow (and at times in recent years actually negative) inflation

will make it even harder to reduce debt ratios.

In the UK, growth continued at a fairly brisk pace in the first half of 2014. In the immediate years ahead, too, the UK economy will grow much more briskly than the euro area, driven by private investment and consumption. Weak productivity development, the lacklustre rise in real wages and the consolidation of general government balance sheets will, however, somewhat restrict the pace of growth. There is also cause for concern in the housing sector, where prices have risen very rapidly.

In Sweden and Denmark, economic growth in 2014 has been somewhat slower than expected, but in both countries confidence has remained relatively good. Although the respective growth outlooks have weakened somewhat since March, growth should

Table 1.

Growth in GDP and in world trade				
GDP	2013	2014^f	2015^f	2016^f
<i>United States</i>	2.2 (1.9)	2.1 (2.8)	3.1 (3.1)	3.1 (3.1)
<i>EU21</i>	0.0 (0.0)	1.1 (1.4)	1.6 (1.6)	1.9 (1.7)
<i>Japan</i>	1.5 (1.5)	1.1 (1.3)	1.2 (1.2)	1.2 (1.1)
<i>China</i>	7.7 (7.7)	7.0 (7.0)	7.0 (7.0)	6.0 (6.0)
<i>Russia</i>	1.3 (1.3)	0.0 (0.5)	0.5 (1.0)	1.5 (2.0)
World	3.1 (3.0)	3.2 (3.5)	3.7 (3.7)	3.7 (3.7)
<i>World trade</i>	3.2 (3.2)	3.9 (4.8)	5.1 (5.4)	5.4 (5.5)

^f = forecast
 EU21 = euro area, Sweden, Denmark and United Kingdom.
 % change from previous year (previous forecast in parentheses)
 Source: Bank of Finland.

still be slightly faster than in the euro area and become brisker towards the end of the forecast period as demand becomes firmer in their most important export markets. Their growth outlooks are, however, depressed by fairly large household debt burdens.

Growth strengthens in the United States – in Japan, economic policy takes centre stage

Due to extraordinary factors in the first quarter, US growth in the current year will be slower than expected. Growth has, however, noticeably picked up during the spring and summer and over the next couple of years will clearly outstrip the potential pace of growth. Compared with most other advanced economies, the economic fundamentals are sound. Growth will be sustained by a stable rise in consumption, indicated by solidifying confidence, strong developments in retailing and an expansion in consumer credit.

Capital investment will also grow during the forecast period, as industrial confidence has improved, industrial output growth has picked up, capacity utilisation rates have risen and corporate borrowing is expanding briskly. Corporations also have a pent-up need for investment. In contrast, the recovery in housing investment will be slowed by the continued abundance of the existing vacant housing stock and still fairly tight financial conditions. Confidence in the construction sector has, however, grown over the summer.

The US economy is relatively well insulated from fluctuations in world

trade, as foreign trade is fairly negligible relative to the size of the economy.

Moreover, growing self-sufficiency in oil gives the United States some degree of protection from global economic fluctuations. One cause for concern is a drop in the labour force participation rate, which it is feared has already become a structural problem. The public finances have been through a strict process of consolidation, but fiscal policy in the years ahead is expected to be less restrictive, or even neutral. The public finances are, however, not yet on a sustainable footing. Consolidation must be continued if the public sector is not to begin accumulating debt once again after 2018, when population ageing begins to increase public expenditure more than before.

The direction of the Japanese economy is signposted by the Abenomics launched by Prime Minister Shinzo Abe in December 2012. The goal of this three-arrow economic policy programme is to improve the competitiveness of Japanese businesses, boost economic growth and price rises and reduce public debt. The programme has indeed helped achieve faster growth, but the long-term growth outlook is still rather subdued. With regard to the most important, and at the same time most difficult, prong of the programme – structural reforms – progress has been slow, and the reforms are only expected to begin to slightly support growth towards the end of the forecast period. Although Japan is adjusting its public finances, general government debt will not stop growing during the forecast period.

China will manage even with slower growth – in Russia, uncertainty is eroding growth

China's GDP grew 7.7% in 2013, slowing to around 7.5% in the first half of 2014. The slowdown in growth is expected to continue such that in 2014 and 2015 growth will be approximately 7%, and thereafter will slow gradually to 6% by the end of the forecast period in 2016. Despite the slower growth, there are no signs of an increase in unemployment, nor does the price trend threaten the economic outlook in the foreseeable future. China could clearly cope well with slower growth.

The slowdown in growth is due both to the sheer size of the Chinese economy, its resource needs and rising level of development and to myriad other factors. After the intensity of an investment boom that lasted for a decade, new investment no longer generates economic growth as effectively as before, the ageing population is reducing the volume of labour input and enormous environmental problems are pushing up costs and already now eroding economic growth. The slowing pace of growth means a gradual shift in the structure of the economy as the 36% GDP share of private consumption grows and the 47% share of investment shrinks to a more normal level. The rising standard of living and change in the structure of the economy are also visible in the external sector, where, among other factors, increased tourism by Chinese people is one cause of the current account surplus falling below 2% of GDP.

China's controlled slowdown in growth and restructuring cannot be taken for granted; continuation of the positive trend will require a strong economic policy and robust reforms. The most glaring problem in the area of economic policy remains the growing burden of debt on non-financial corporations and local government, which, together with e.g. the problems of the real estate sector, will, if prolonged, threaten the stability of the financial sector. Reducing risks and reinforcing the new drivers of growth will require the implementation of deep economic reforms on the financial markets and in state-owned enterprises as well as in the public finances and social security systems. So far, the reforms have been progressing. However, due to the nature of China's economic policy problems, it is more difficult than before to master the whole picture, and there are therefore sizeable downside risks to the forecast presented here. Even in a best-case scenario, China will be unable to avoid intermittent economic disturbances, of which the problems already experienced on the financial markets have provided a foretaste.

The Russian economy has weakened further in 2014. Seasonally adjusted GDP grew only marginally in the first half of the year and was 1% up on the same period a year earlier. In the early months of 2014, certain temporary factors have bolstered consumption and output, but the Russian economy is not expected to grow at all this year, with the increasing uncertainty caused by the events in Ukraine weighing particularly on

China could cope well with slower growth.

investment. Since the depreciation of the rouble in 2013, Russian imports have noticeably declined and are set to decline further in the current year.

In 2015–2016, economic growth will recover, very slowly, if the financial market reactions increasing instability prove to be limited and the sanctions remain as now. Private consumption and exports will increase slowly. Investment could recover. The drop in imports will flatten out and import activity will revive slightly towards the end of the forecast period.

The risks to the Russia forecast are very significant and extensive in scope, particularly with regard to investment. As private investment is postponed, so the prospects for economic growth and development will weaken and be eroded even more insofar as Russia begins to put into practice the ideas floated regarding a move towards self-suffi-

ciency at the cost of market reforms and open competition. New restrictions or events that cause increased instability could lead to an increase in capital outflow and depreciation of the rouble. During the forecast period, growth could pick up more than estimated should the Russian Government decide to stimulate the economy using government finance or the banking system.

World trade growth accelerating, but will be slower than previously forecast

We are still having to wait for world trade to pick up. Whereas before the financial crisis trade grew around twice as fast as the global economy, since the crisis they have grown at approximately the same pace. The reduction in the elasticity of trade has both structural and cyclical roots. The structural factors relate to e.g. the fact that companies are no longer dispersing their production chains to the same extent as before (Chart 9). This is suggested by a further contraction in global direct investment. Falling transport costs, easier communications, removals of obstacles to trade and the related integration of China into global production chains that previously drove the dispersal of production chains are no longer supporting trade growth to the same extent as before. Of cyclical factors, demand for capital goods, which typically gives a cyclical boost to world trade, has been fairly subdued.

World trade growth in 2014 will be well below the level forecast in the spring. It is, however, expected to pick up during the forecast period as global

Chart 9.



economic growth gathers strength and the elasticity of trade grows slightly as capital investment in the advanced economies revives. Even so, world trade growth will be slightly slower than forecast and much weaker than before the financial crisis.

Inflation accelerating only slowly in the EU21

According to the Bank of Finland forecast, inflation in the EU21 will accelerate slightly towards the end of the forecast period, while nevertheless remaining subdued for the entire forecast period. The slowdown in inflation will continue until the end of 2014, after which it will begin to slowly gather pace (Chart 10). At the end of 2016, according to the forecast, inflation will stand at 1.6%.

Within the EU21, the differences between the economic situations in the United Kingdom and the euro area are also visible in inflation. The UK economy is growing at a good pace and inflation is forecast to remain throughout the forecast period close to the Bank of England's inflation target. Inflation will be sustained by growth in domestic demand and an accommodative monetary policy. Price pressures will be dampened by the prolonged (around 1½ years already) appreciation of the pound and continued moderate wage developments.

There are several factors explaining the recent slow inflation in the euro area. Of external factors, fairly weak global demand has minimised price pressures on oil and many other commodities on global markets (Chart

Chart 10.

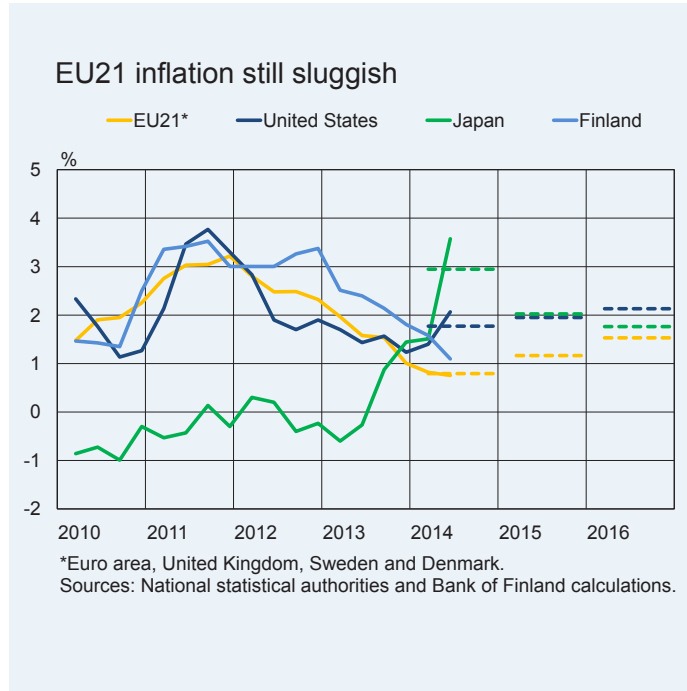
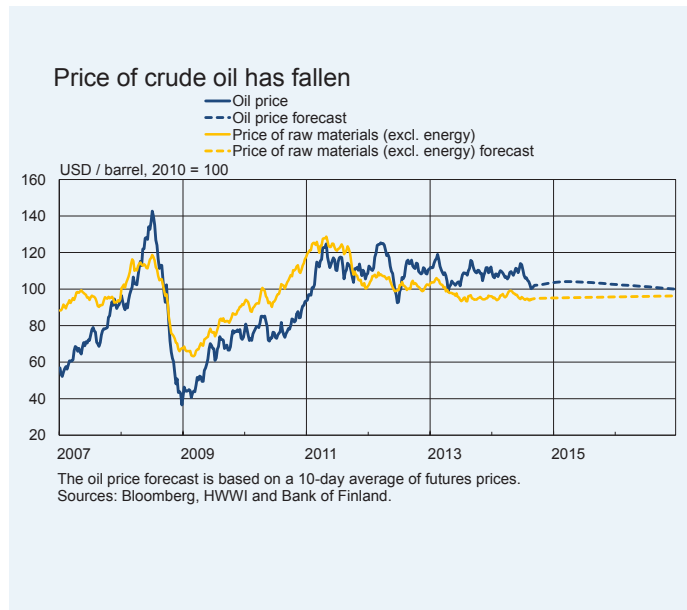


Chart 11.



The ECB's accommodative monetary policy is expected to accelerate inflation during the forecast period.

11). In addition, the sustained appreciation of the euro between summer 2012 and May 2014 has also reduced price pressures (Chart 4). Of internal factors, inflation has been restrained by weak domestic demand. Unemployment is still considerable, and growth in the loan stock is slow. Moreover, many countries have carried through extensive measures of economic adjustment with the aim of establishing external balance and improved competitiveness. These measures will foster economic growth in the longer term, but the short-term effect is to depress domestic demand, thereby reducing inflationary pressures. This has been visible in the weak trend of prices, particularly in services in the GIIPS countries, which has played a considerable role in slowing inflation in the euro area. The ECB's accommodative monetary policy, further relaxed during the summer and autumn, will serve to accelerate inflation during the forecast period, although it is not expected to yet reach the medium-term inflation target by the end of 2016.

In the United States, inflation will remain at around 2% through the end of the forecast period. The economy is recovering and the output gap being slowly eroded, which will mean somewhat higher inflation than in the euro area. The pace of inflation will,

however, be moderated by the fall in the world market prices of commodities and the United States' increasing energy self-sufficiency combined with the Fed's gradual winding down of the bond purchasing programme introduced as a stimulus. In addition, the economy still has an abundance of unused capacity, which it will take some time to wind down.

In Japan, the inflation outlook has two phases. The 3 percentage point increase in consumption tax in April 2014 will push inflation up to a good 3% until the early part of 2015, whereafter the pace is expected to slow gradually to around 1.5%. Inflation will, however, pick up again towards the end of 2015, when a new 2 percentage point consumption tax hike is planned to come into effect. This will push inflation up to around 2%, although, once its effect wears off, inflation will slow at the end of 2016 to around 1.3%. Japanese inflation is still down primarily to a combination of tax increases and the Bank of Japan's accommodative monetary policy as well as expensive import prices due to the low value of the yen. Domestic demand continues to be lacklustre, a consequence of the slow development of nominal earnings. This is depressing real wages and hence weakening consumers' purchasing power.

Box 1.

Sensitivity of euro area inflation expectations to actual inflation

Inflation expectations play a major role in monetary policy. The fact that medium and longer-term inflation expectations have remained anchored close to the ECB's target for price stability is proof of the credibility of Eurosystem monetary policy. Euro area inflation has already for some time been close to ½%. Under these circumstances it is important to assess the pass-through of low inflation rates to longer-term inflation expectations.

Inflation expectations play a key role in the formation of actual inflation rates. Controlling inflation expectations is therefore an important element of a central bank's monetary policy. A central bank must be able to communicate to economic agents in a credible manner its monetary policy targets and principles. A credible monetary policy can help the central bank anchor economic agents' inflation expectations close to its price stability target.

The anchoring of expectations can be examined based on longer and medium-term inflation expectations. If a central bank's inflation target and the monetary policy conducted for the achievement of this target is credible, inflation expectations should remain close to the central bank's objective of price stability

and should not react to possible short-term fluctuations in actual inflation.

The euro area has already for quite some time witnessed a period of low inflation. Inflation has for more than one year remained below the central bank's target for price stability. The annual pace of increase in prices has since 2013 remained below 1%. Longer-term inflation expectations have also fallen recently. This has raised the question of whether the credibility of the central bank's monetary policy has weakened and whether inflation expectations are increasingly linked to the actual rate of inflation.

Connection between actual inflation and inflation expectations

This box examines the connection between inflation expectations and actual inflation, based on a VAR model with two variables.¹ The period under review is year 2005 onwards. Based on the results, we can assess to what extent a shock in inflation expectations has an effect on actual inflation, and

vice versa. The analysis is based on short, medium and long-term inflation indicators,² derived from inflation swaps.³

There are significant differences between inflation expectations for different time horizons. Short-term expectations correlate clearly with actual inflation and also reflect strongly the state of the real economy. The time horizon for longer-term expectations extends over the business cycle and expectations are based mainly on the credibility of monetary policy. Long-term inflation expectations have remained close to the target for price stability for the entire review period (Chart A). A good example of the anchoring of long-term expectations is that they remained relatively stable during the period of fairly high inflation caused by the post-2007 cyclical peak, and also in the financial crisis that followed. Inflation expectations have however been falling since 2012, as measured by all the various time horizons, but they are still above actual inflation.

An examination of the effect of an inflation shock on inflation

¹ The examination is based on impulse response analysis derived from VAR models, in the period of 2005M1–2014M7. In VAR models, lag lengths are defined based on information criteria, a lag exclusion test and residual autocorrelation analysis. The lag lengths are as small as possible, varying from three to six months.

² Short-term means one-year inflation expectations prevailing one year ahead, medium-term to three-year inflation expectations three years ahead, and long-term to five-year inflation expectations five years ahead.

³ In an inflation swap, one party pays a fixed rate and the other party pays a rate linked to actual inflation.

Chart A.

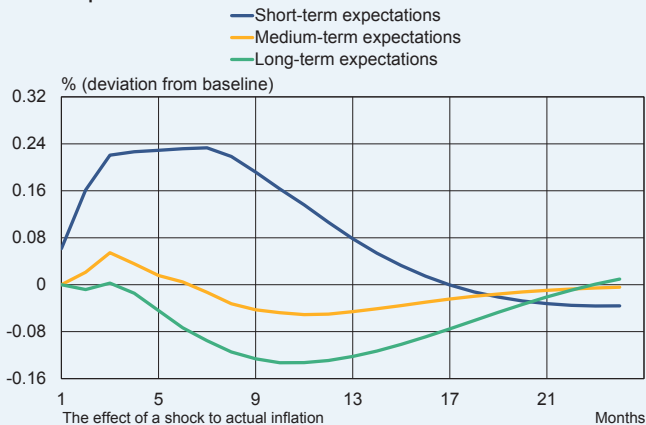
Actual inflation and inflation expectations in the euro area



* Derived from inflation swaps, one-year inflation expectations one year ahead.
 ** Derived from inflation swaps, three-year inflation expectations three years ahead.
 *** Derived from inflation swaps, five-year inflation expectations five years ahead.
 Sources: Eurostat and Bloomberg.

Chart B.

Effect of a shock: from actual inflation to inflation expectations



The effect of a shock to actual inflation the size of one standard deviation.
 Sources: Eurostat, Bloomberg and calculations by the Bank of Finland.

expectations (Chart B) shows that the shock is reflected in short-term expectations and that the impulse is statistically significant for a period of five months.⁴ Actual inflation is however not reflected in medium and long-term expectations because their response to the inflation shock is minor and statistically insignificant. The same effect works also in reverse. Short-term expectations have an effect on inflation, whereas the impulse response of longer-term expectations is insignificant. The results therefore confirm the view that long-term inflation expectations have remained anchored, despite the occasionally large fluctuations in actual inflation.

Finally, we examine how changes in expectations with different horizons respond to each other (Chart C). We find that a shock to short-term expectations is not reflected all the way to long-term expectations. Short-term expectations do, however, have a statistically significant effect on medium-term expectations, and medium terms have a statistically significant effect on long-term expectations. In the review period, the size of the effect was, however, very marginal, and therefore it can be concluded that an inflation shock does not have even an indirect effect on longer-term expecta-

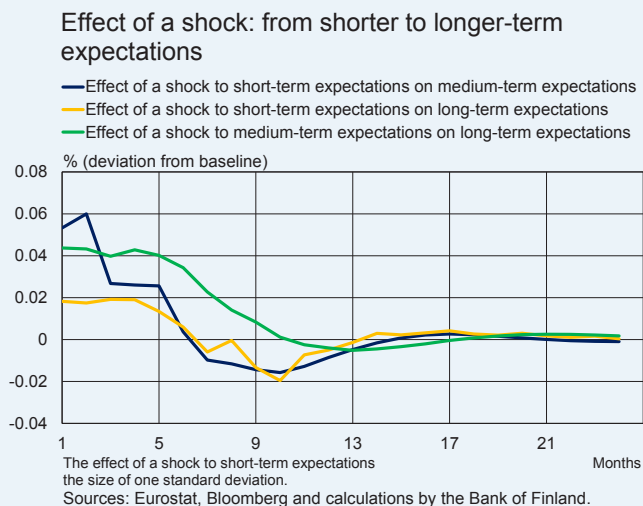
⁴ The results show the effect of a shock the size of one standard deviation on another variable. Statistical significance is defined based on the standard errors for the impulse responses.

tions. We also found that a shock to long or medium-term expectations is not reflected in short-term expectations. Long-term expectations are, however, reflected in medium-term expectations, which means that there is a two-way connection between them.

Inflation expectations must be monitored closely

Based on the statistical analysis described in this box, we may conclude that euro area inflation expectations have thus far remained anchored. Long-term inflation expectations are based on a credible monetary policy, and they have not been affected by fluctuations in actual inflation rates. The results are, however, based on average effects in the period under review. As stated above, however, the results do show that there is also a channel from actual inflation to long-term expectations, via short-term expectations, through which effects can occur.

Chart C.



A prolonged period of current low rates of inflation can, therefore, eventually lead to a fall in long-term inflation expectations. This poses a risk of a spiral of falling expectations and continuously lower inflation. The decisions taken by the ECB Governing Council in June and September is therefore to underpin the firm anchoring of medium to long-term inflation

expectations in line with the target for price stability. The Governing Council also underlined that it is unanimous in its commitment to using additional unconventional instruments should it become necessary to further address risks of too prolonged a period of low inflation.

II Monetary policy and its transmission

ECB enhances transmission of accommodative monetary policy to the real economy

The primary objective of the European Central Bank (ECB) is to maintain price stability. The Governing Council of the ECB has defined price stability to be in place when annual inflation rates as measured by the Harmonised Index of Consumer Prices are below, but close to, 2% over the medium term. Without prejudice to this objective, monetary policy can also support other economic policy goals, such as balanced economic growth and full employment.

Inflation has already been very low for some time, and inflation forecasts for the immediate years ahead have generally been revised down. Thus, the current key objective for monetary policy measures is to ensure that inflation expectations over the medium to long term continue to be firmly anchored in line with the aim of maintaining price stability and that prevailing inflation rates return to levels close to 2%. In practice, this means a high degree of monetary accommodation.

Against this backdrop, the Governing Council of the ECB decided in June 2014 on a sizeable combination of monetary policy measures, which were further supplemented and reinforced in September. The measures constitute a package of actions including reductions in ECB policy rates, targeted long-term refinancing operations and purchase programmes

of asset-backed securities and covered bonds.²

The package of monetary policy measures means an overall easing of monetary policy by lowering the interest rate and extending the period of time for low interest rates. Moreover, long-term refinancing operations and private sector asset purchase programmes help support bank lending to the euro area corporate sector, ease funding conditions for non-financial corporations and further the functioning of euro area capital markets.

The Governing Council of the ECB lowered policy rates in two stages at its June and September meetings. Following the September meeting, the interest rate on the Eurosystem main refinancing operations is 0.05%. This is lower than ever before and 0.20 of a percentage point lower than before June. The rate on the marginal lending facility was lowered by 0.45 of a percentage point, to 0.30%, and the rate on the deposit facility by 0.20 of a percentage point, to -0.20%. The deposit rate has been negative since June. This means banks need to pay for holding deposits with the central bank.

The policy rates have now in practice been brought as low as possible. In its forward guidance on monetary policy in June–September, the Governing Council emphasised that the policy rates would remain at present levels for an extended period of time.

The interest rate cuts and the forward guidance provided have led to

² The Governing Council also decided to continue conducting fixed rate tender procedures with full allotment and to suspend the weekly fine-tuning operations sterilising the liquidity injected under the Securities Markets Programme (SMP).

The current key objective for monetary policy measures is to ensure that inflation expectations over the medium to long term continue to be firmly anchored in line with the aim of maintaining price stability.

money market interest rates falling to exceptionally low levels. Measures aimed at providing liquidity, such as the suspension of operations sterilising the liquidity injected via purchases under the Securities Markets Programme, contributed to bringing down the shortest money market interest rates during the summer. Lower Euribor rates provide immediate benefits to non-financial corporations and households with debts, throughout the euro area (Chart 12).

As well as the lowering of policy rates, central to the package of measures is the provision of credits with exceptionally long maturities (a maximum of 4 years) to banks at a very low fixed rate of interest. These will be conducted as targeted long-term refinancing operations (TLTROs) in order to ensure a stronger allocation of bank lending to the real economy, notably non-financial corporations.

The interest rate on the TLTROs will be fixed over the life of each operation, at the rate on the main refinancing operations (MROs) prevailing at the time of take-up, plus a fixed spread of 0.10 of a percentage point. All TLTROs will mature in September 2018, ie in around 4 years.

The first two TLTROs will be conducted in succession in September and December 2014. The refinancing to be provided at attractive terms and conditions in September and December is limited to 7% of outstanding loans to non-financial corporations,³ which

³ Of the stock of loans granted by banks to the euro area private sector (excl. loans to households for house purchase).

Chart 12.

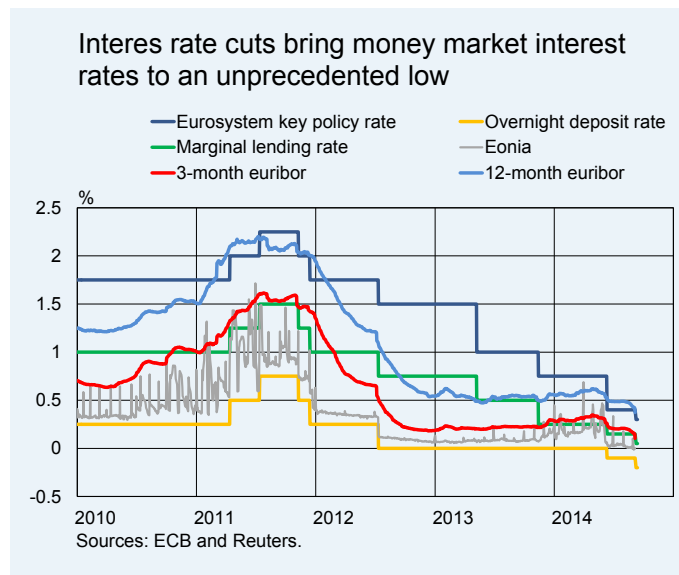
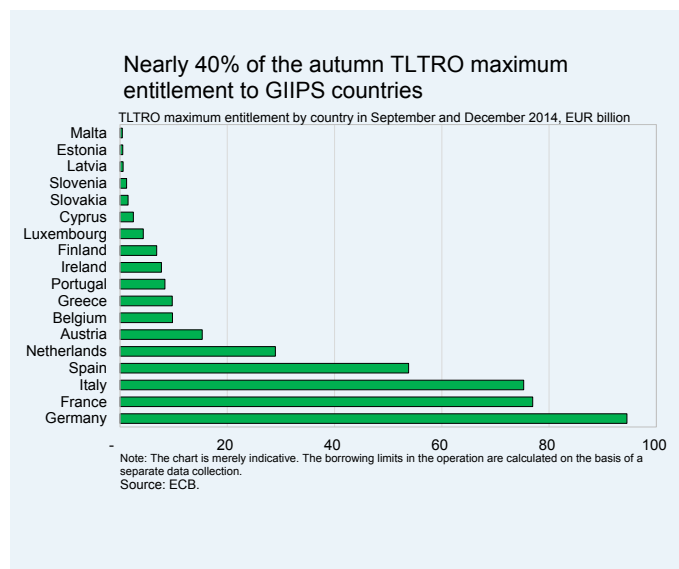
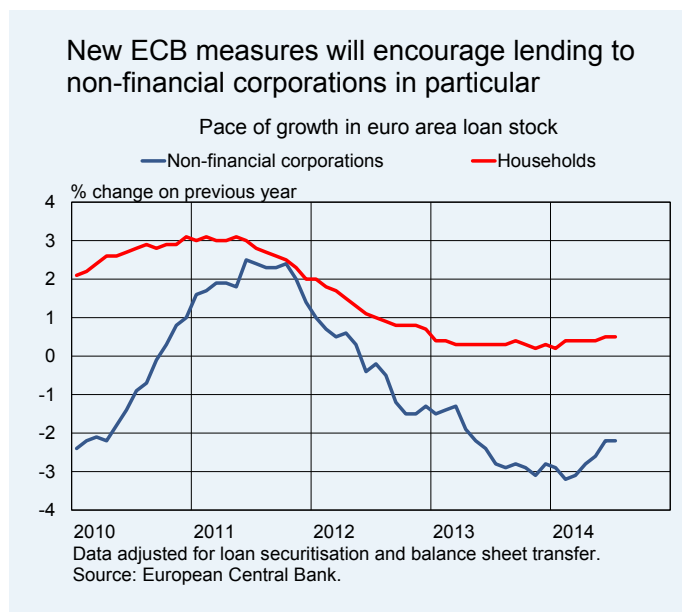


Chart 13.



amounts to a combined borrowing entitlement of about EUR 400 billion at the level of the euro area as a whole. German banks cover about a quarter of this sum. The share of both French and Italian banks is about a fifth (Chart 13).

Chart 14.



If banks increase their lending in the immediate years ahead, they will be entitled to more long-term refinancing. In these refinancing operations, account has been taken of some banks' need to continue reducing their balance sheets. Such banks will be entitled to obtain more central bank credit at long maturities if their lending to the corporate sector exceeds a specific benchmark that allows a contraction in corporate lending during the first year. Thereafter, all banks are in the same situation, ie lending to the corporate sector must grow in order for the bank being entitled to borrow more from the central bank under the programme. These longer-term fixed rate credit operations thus encourage banks to step up their lending to non-financial corporations (Chart 14).

If counterparties fail to fulfil the conditions regarding the volume of their net lending to the real economy, they

will be required to pay back their borrowings in September 2016. In order to prevent these potential repayments from posing a threat of disruption to financial markets, the ECB Governing Council decided, as part of the package of measures, to provide liquidity to banks against eligible collateral in weekly tender operations, for as long as necessary, at least until the end of 2016. In addition, with a view to facilitating bank participation in long-term refinancing operations, the Governing Council of the ECB decided to extend the existing eligibility of the current extended range of assets as collateral at least until September 2018.

Targeted long-term refinancing operations help reduce banks' longer-term funding costs. This will enable a fall in interest rates paid by non-financial corporations on their bank credit, notably in financially stressed countries. Consequently, the package of measures by the ECB Governing Council specifically focuses on addressing the problem that the exceptionally low level of the policy rate has failed to pass through fully to bank lending rates and that bank lending to non-financial corporations has been subdued (Chart 15). Contraction in the corporate loan stock and weak investment performance jeopardize the recovery of the euro area. There is a danger of stagnation and a prolongation of the period of low inflation in the euro area.

In September, the Governing Council of the ECB decided to start outright purchases of asset-backed securities and covered bonds in October

2014, with a view to enhancing the functioning of the monetary policy transmission mechanism. Within the framework of the ABS purchase programme (ABSPP), the Eurosystem will buy simple and transparent asset-backed securities with underlying assets consisting of claims against the euro area non-financial private sector. As regards the covered bond purchase programme (CBPP), the issuers of the bonds will be MFIs domiciled in the euro area. Both programmes will start in October.

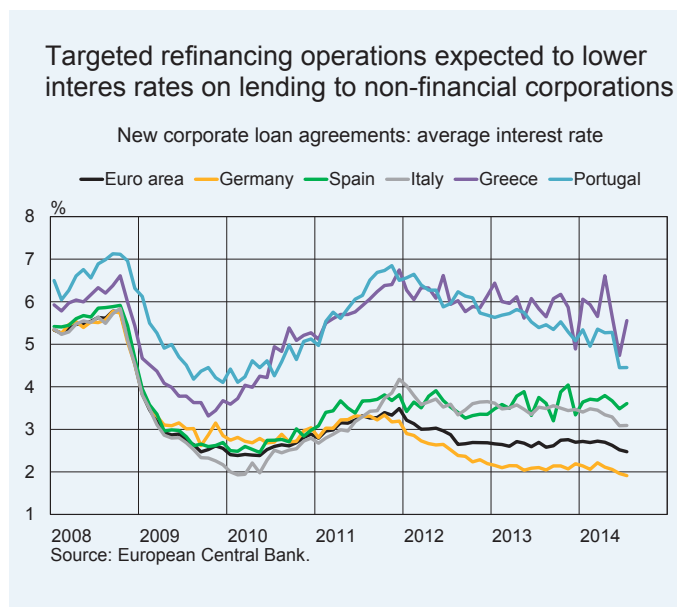
In addition to immediate effects, the ABS purchase programme can act as a catalyst for a deepening of European capital markets. Against this background, the ECB is involved in supporting the evolution of capital markets in the euro area.⁴ However, to improve the functioning of the euro area ABS market, actions by several parties will be needed. One necessary measure would be regulatory changes permitting to treat simple derivative products differently from complex derivatives in the assessment of bank and insurance company solvency.

Improvements in the functioning of the euro area ABS market could facilitate funding for small and medium-sized enterprises (SMEs). Banks' capacity to finance SMEs could strengthen if banks were able to more easily convert illiquid on-balance-sheet assets, such as corporate loans, into liquid securities.

Targeted long-term refinancing operations (TLTROs) and purchases of

⁴ See e.g. 'The case for a better functioning securitization market in the European Union', Discussion Paper, Prepared by Bank of England and European Central Bank staff. May 2014.

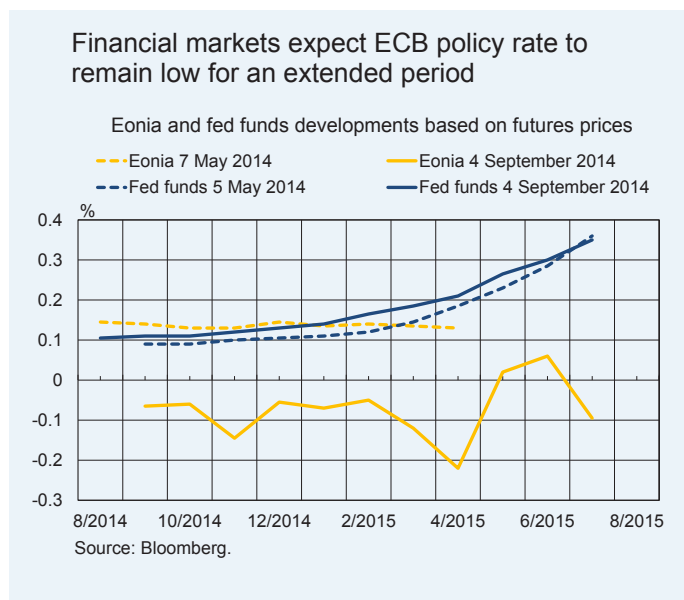
Chart 15.



private sector assets will provide a significant support to the recovery of the euro area real economy, even if their effects are not seen until later. Thanks to their fixed low interest rate and long maturities, TLTROs enhance the Governing Council's forward guidance: The ECB's policy rates will remain at present levels for an extended period of time in view of the current outlook for inflation. Interest rate expectations have declined markedly, and the policy rate is expected to remain low, at least in 2015 (Chart 16).

Despite the sizeable package of measures, the Governing Council has the potential of acting swiftly with further monetary policy easing, if required. The Governing Council is unanimous in its commitment to also using unconventional instruments within its mandate should it become necessary to further address risks of too prolonged a period of low inflation.

Chart 16.



Monetary policy stances diverging: interest rate rises looming in the United Kingdom and United States

Following the global financial crisis and the ensuing great recession, the economies of both the United States and the United Kingdom have recovered steadily, albeit slowly. By contrast, the euro area economy fell into double-dip recession as the sovereign debt crisis came to a head in 2010–2011. Although the double-dip recession ended as early as 2013, the euro area business cycle clearly lags behind that of the United States and the United Kingdom. This also maintains a divergence in the central banks’ monetary policies.

Policy rates in the United States and the United Kingdom have already remained unchanged at the ‘zero lower bound’ for about five and a half years. The US Federal Reserve (Fed) lowered its policy rate close to zero in December

2008, and the Bank of England to 0.5% in March 2009. Having reached the zero lower bound, both central banks have conducted large-scale securities purchases in an effort to ease monetary policy. The Bank of England has not conducted new securities purchases since 2012.⁵ In the United States, the securities purchase programme is still in place, but since January 2014 the Fed has been gradually tapering monthly purchases from the original amount of USD 85 billion to the current level of USD 25 billion.⁶ Although securities purchases are currently foreseen to end altogether in the autumn, the Fed expects to keep the policy rate at present levels for a considerable period of time after the termination of the purchase programme.

Both the Fed and the Bank of England have recently taken major steps in their communication towards exit from unconventional monetary policy measures and normalisation of interest rate levels. Financial market expectations of interest rate rises have been brought forward, and signals from both the Fed and the Bank of England regarding the potential timing of the first interest rate rise are being closely monitored (Chart 17).

The timing of the first rate rise will depend particularly on labour market developments in these countries. Initially, each central bank announced in its

⁵ The Bank of England has announced it will keep the stock of its securities holdings unchanged at least until the first interest rate rise.

⁶ Within the framework of its third round of quantitative easing (QE3), the Fed initially conducted monthly purchases of USD 40 billion in mortgage-backed securities (MBSs), starting in September 2012, followed by additional purchases of USD 45 billion in government bonds, from January 2013 onwards.

forward guidance that the unemployment rate must go below a certain threshold before the central bank would consider raising interest rates. Both the Fed and the Bank of England abandoned the threshold for the unemployment rate in their forward guidance during winter 2013–2014, announcing they would assess labour market developments by means of various indicators and undertake a broader analysis of economic slack. Currently, the central banks are carefully assessing the current level of underutilisation of economic resources (such as labour and capital) that is keeping inflationary pressures low. The unemployment rate in both countries has continued to fall and is currently about 6% in the United States and about 6.5% in the United Kingdom.

The Fed and the Bank of England have signalled rate rises will take place gradually and interest rates will remain lower than previously. The Fed expects the policy rate to remain below the normal historical level, even if the employment situation and inflation were to remain close to the Fed's target levels.

Although normalisation of monetary policy looms is still over the horizon, the anticipated consequences already have a bearing on the financial markets. While the US and UK central banks are expected to commence implementing interest rate increases, possibly in early 2015, the ECB is committed via its June and September decisions to the pursuit of a high degree of monetary accommodation over an extended period of time. In the United States and the United Kingdom, for example, ten-year government bond yields have

Chart 17.

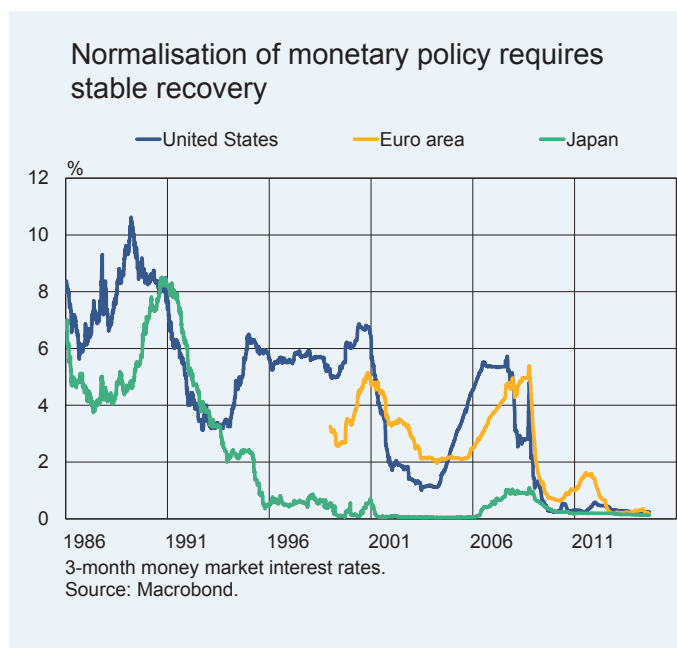
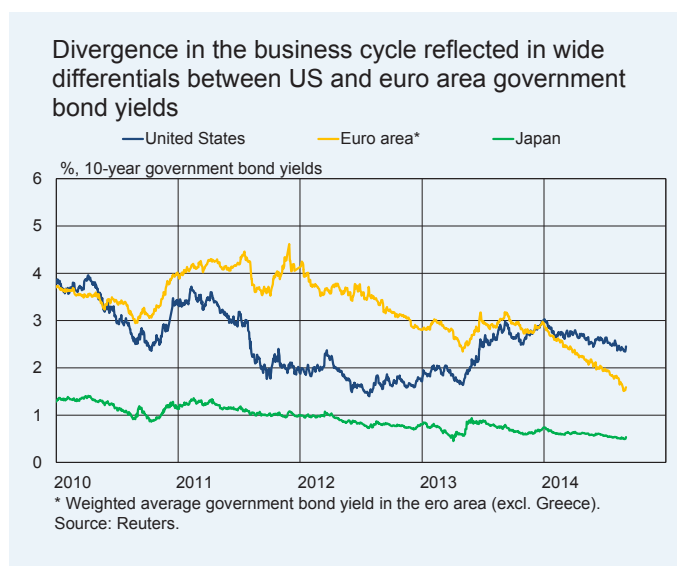


Chart 18.



already risen from their troughs, and the spread vis-à-vis the corresponding euro area bond yield is exceptionally wide (Chart 18). Divergence in the monetary policies of the main central banks is also expected to affect

exchange rates. In particular, the situation is expected to weaken the exchange rate of the euro.

Japan's example illustrates the scale and duration of measures needed to escape a deflationary spiral

In March 2013, the Bank of Japan embarked on determined monetary policy actions to break the protracted deflationary spiral. The most important tools included raising the inflation target to 2% and implementing an open-ended, sizeable asset purchase programme, to be continued until achievement of a sustainable 2% inflation rate. The initial aim was to attain 2% inflation rates in two years, ie by spring 2015. Consumer price inflation has picked up markedly since the beginning of 2013. In April 2014, consumption tax increases boosted inflation from about 1.5% to as high as about 3.5%, but without the tax

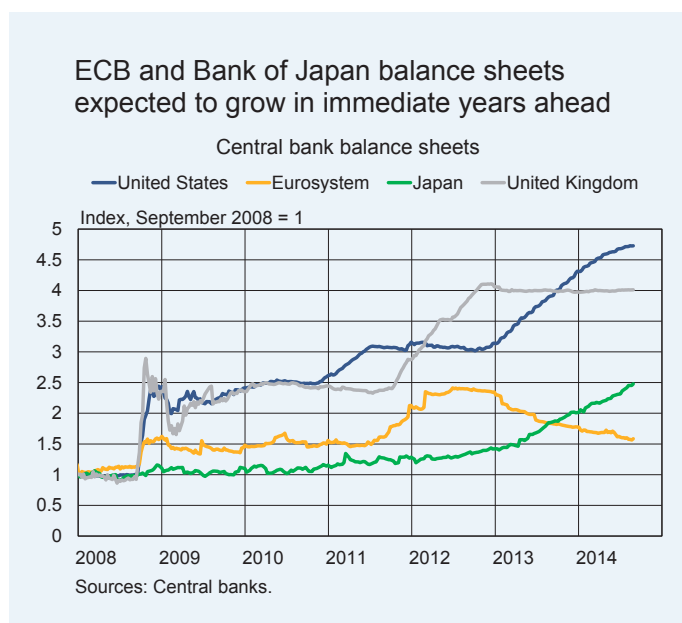
effect the inflation rate is still below the targeted 2%.

Japan's example shows that the scale and duration of the necessary measures are exceptional in a situation where the economy has already been in deflation for a number of years. In Japan, the deflationary spiral commenced as early as the 1990s in response to a severe economic crisis. The challenge in such a prolonged situation is to induce a rise in inflation expectations.

Strong increases in asset purchases since 2013 have accelerated growth in the Bank of Japan's balance sheet. The exchange rate for the yen also depreciated rapidly by a good 20% (nominal trade-weighted exchange rate). During the course of 2014, however, the weakening of the exchange rate has come to a halt.

Following the financial crisis, the balance sheets of other major central banks have also grown. A significant difference arose when the Eurosystem balance sheet began to shrink from the beginning of 2013, on account of banks' voluntary and early repayments of the amounts they were allotted in the three-year long-term refinancing operations (LTROs) at the end of 2011 and in early 2012. The contraction of the Eurosystem balance sheet has been due to the decisions of MFI counterparties and the maximum three-year maturities of the operations. From the latter half of 2014 onwards, the new targeted long-term refinancing operations (TLTROs) and securities purchase programmes will increase the balance sheet significantly (Chart 19).

Chart 19.



Zero lower bound hampers efforts to keep real interest rates low

Euro area interest rates have been lowered because, in the prevailing situation, an accommodative monetary policy maintains price stability. In a protracted economic downturn, excessive risk aversion easily takes hold, which leads to banks' reduced willingness to provide credit and dampens non-financial corporations' readiness to invest, thus causing the negative feedback loop in the economy to strengthen further still. Low interest rates are expected to encourage new investment, which would increase the economy's potential output and create jobs.

In Japan, the interest rate level has already remained exceptionally low since the mid-1990s (see Chart 17). One can ask why the prolonged period of low interest rates in Japan has not sufficed to fuel economic growth and inflation. A lot of research into the subject has been conducted, and one key outcome is that an accommodative monetary policy also needs support from other economic policy actions. For this reason, the euro area is, in fact, conducting a comprehensive assessment of bank balance sheets and implementing structural reforms, both of which are key to creating the conditions for growth over the medium term.

The possibility of a permanent weakening in advanced economies' long-term growth outlook has also been discussed recently.⁷ Underlying this

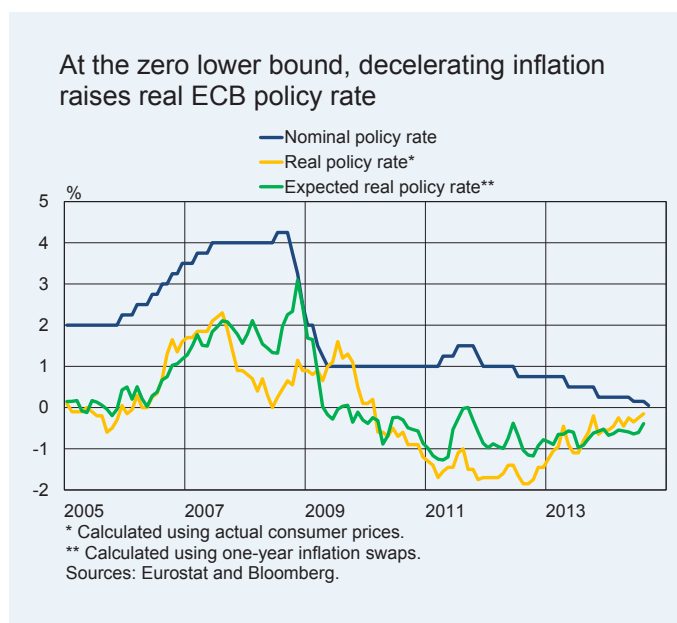
⁷ Larry Summers (2013) 'IMF Fourteenth Annual Research Conference in Honor of Stanley Fisher' and VoxEU eBook 'Secular Stagnation: Facts, Causes and Cures', see <http://www.voxeu.org/content/secular-stagnation-facts-causes-and-cures>.

'secular stagnation' of the economy would be several factors, such as a falling trend in the size of the working-age population, potential decline in productivity growth, weakness in investment, increased economic inequality, debt problems etc. The observed gradual decline in the level of real interest rates is in line with the protracted deceleration in growth. It is therefore possible that the 'equilibrium real interest rate', which balances investment and savings, has decreased over the years, perhaps even becoming negative. If this is the case, the situation will pose new challenges for monetary policy. As policy rates are currently at the zero lower bound in many countries, real interest rates can be kept low only by boosting inflation (Chart 20).

In an environment of protracted economic slowdown, monetary policy

As policy rates are currently at the zero lower bound in many countries, real interest rates can be kept low only by boosting inflation.

Chart 20.



can only have a limited effect and the implementation of economic policy measures aimed at increasing potential growth, and the extent to which they are successful, would determine the direction of the economy. If estimates of permanently lower growth hold true, the priorities of economic policy need to undergo a thorough reconsideration.⁸

Euro area banking sector still split in two

The gradual improvement in the real economy, together with higher risk-taking by investors, has supported the restoration of health to the euro area banking sector. The high level of risk appetite on the markets has facilitated banks' access to funding by increasing the availability, and reducing the cost, of finance. In addition, banks have been successful in reducing their

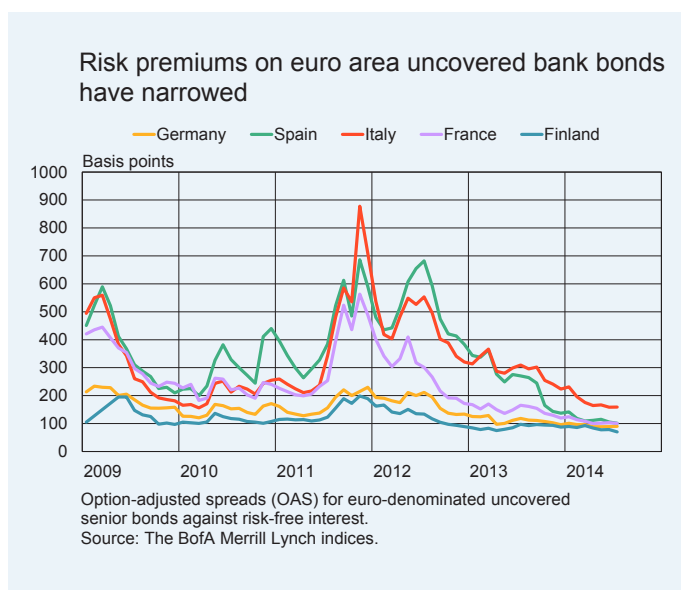
⁸ See Jimenon – Smets – Yiangou (2014) Secular stagnation: a view from the Eurozone.

dependence above all on short-term market funding and raising the share of retail deposits as a source of funding. The stabilisation of financial markets is also reflected in the relatively moderate response to recent geopolitical uncertainty and the problems of the Portuguese bank Banco Espirito Santo, which came to a head in July–August 2014 (Chart 21).

Despite these positive developments, the condition of the banking sector in the euro area remains divergent. The low level of interest rates and divergent developments in the real economy have sustained banks' weak profitability, which has been reflected for instance in low net interest incomes and return on equity (ROE) ratios. Non-performing assets remain at a very high level, notably in the banks in the stressed countries, and there is no indication of a swift unwinding of the situation, given the mass unemployment and high degrees of private sector indebtedness prevailing in these countries. Moreover, banks' profitability has been eroded by the surging legal and penalty fees imposed on an increasing number of large euro area banks in response to various suspicions of market manipulation and abuse.

The condition of euro area banks is also vulnerable to fluctuations in market sentiment in relation to risk. The balance sheets of banks in the stressed countries, in particular, contain considerable amounts of the respective country's own government bonds, and the banks may suffer huge valuation losses if the yields on government bonds begin to rise. Furthermore, many

Chart 21.



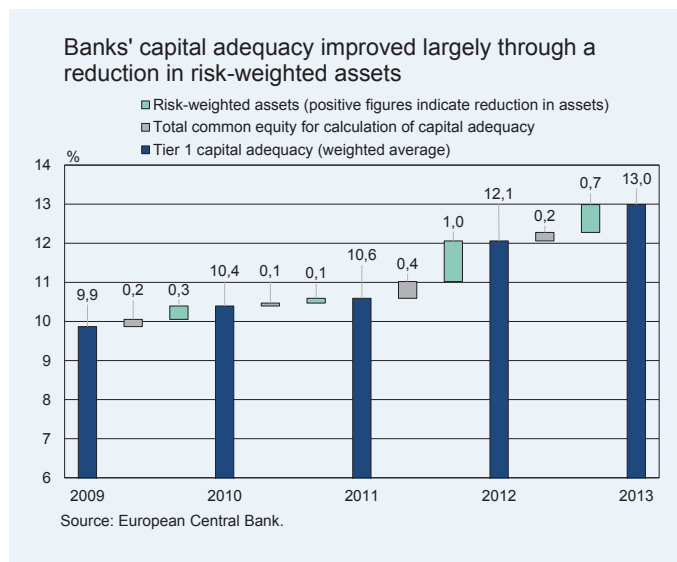
euro area banks have significant operations in a number of Eastern European countries, which makes them increasingly vulnerable to heightened geopolitical uncertainty and the related consequences for the real economy both in Russia and elsewhere in Europe.

Asset quality review will strengthen banks' operational capacity

The capital adequacy of euro area banks has improved in recent years. The ratio of common equity to total risk-weighted assets (Tier 1 capital) for euro area banks stood at around 13.0% in 2013, against 12.1% a year earlier. Aggregate figures for early 2014 are not yet available, but quarterly accounts based on a smaller sample of banks indicate that the capital adequacy ratios of banks have not changed much in the first half of 2014.

The improvement in banks' capital adequacy is primarily attributable to a reduction in risk-weighted assets and, to a lesser extent, to the raising of new capital. These developments are also clearly mirrored in a contraction in banks' balance sheets. In the course of 2013, the aggregate balance sheet of the euro area banking sector decreased by as much as EUR 2,500 billion (-7.6%), while risk-weighted assets declined by around EUR 530 billion (-5.5%). In early 2014, the balance sheet adjustment process came to a halt, and the aggregated balance sheet for the euro area has even begun to expand somewhat. This may suggest that banks had already undertaken major adjustment of balance sheets in 2013, as the asset quality review (AQR) process

Chart 22.



of the ECB is based on balance sheet values at the end of 2013. Hence, part of the objectives of the AQR had already been achieved through the banks' own proactive measures (Chart 22).

In 2013, euro area banks issued new share capital in the value of around EUR 30 billion. Although the share issues of some individual banks have been significant, the total issuance volume is relatively modest considering the high risk sentiment among investors and the contraction in balance sheets. The cautious growth in share capital may at least in part be explained by the low profitability of banks and the continued uncertainty surrounding the quality of balance sheets. The banking sector may still not be perceived as an attractive investment object, which is also reflected in the modest performance of banking shares in relation to the total index. In addition, issuance of new share capital would weaken the position of existing shareholders, which the banks

In the ongoing comprehensive assessment, the ECB is reviewing the balance sheets of major banks before taking up its supervisory duties in November 2014.

are not necessarily ready to accept in times of low profitability. Banks may also refrain from share issues for fear of being tarred with the label of a troubled or failing bank. However, a revival of share issues appears to be taking place in 2014, which may signal an improvement in banking sector profitability.

The ECB's measures will intensify financial intermediation by banks in the euro area. In the ongoing comprehensive assessment, the ECB is reviewing the balance sheets of major banks before taking up its supervisory duties in November 2014. The comprehensive assessment comprises a risk assessment, an asset quality review and stress tests measuring banks' resilience to disruptions. The results will be published in the second half of October. Banks' are required to cover any capital shortfalls identified in the AQR or the stress test baseline scenario within 6 months, whereas any shortfalls identified in the stress scenario must be covered within 9 months from disclosure of the results of the assessment.

The comprehensive assessment, together with the increasingly strong role of capital markets, will support financial intermediation in the euro area both in the short and the longer term. One of the most significant teachings of economic crises is that recovery from crisis is necessarily conditional on a solid banking system that is appropriately capitalised. One reason for the long period of slow growth in Japan was the country's dawdling response to the banking crisis in the 1990s. Another structural change resulting from the Eurosystem's policy

measures is the stronger role for capital markets foreseen in the long term, not least in response to the purchase programmes of asset-backed securities and covered bonds. The diversification of financial markets will intensify financial intermediation, as banks will be able to lighten their balance sheets through securitisation of good quality loans. This will enable more effective intermediation of loans to small and medium-sized enterprises (SMEs) and households and contribute to a further deepening of the single market.

Eurosystem measures improve non-financial corporations' access to credit and support investment

Despite the low key policy rate, the interest rates faced by non-financial corporations on their bank loans have remained high, notably in the stressed countries, the corporate loan stock has continued to shrink and investment growth has been highly subdued. In the stressed countries, in particular, low inflation rates, the lowering of inflationary expectations and tight financial conditions may lead to a vicious circle entailing a mounting risk of deflation. As of September, the series of ECB refinancing operations will offer banks an opportunity to raise long-term financing on favourable terms, allowing them to increase their provision of credit to non-financial corporations at a lower interest rate. These developments will be furthered by the purchase programmes for asset-backed securities and covered bonds. The measures are designed to enable more effective transmission of the accommodative

monetary policy stance to non-financial corporations in the stressed countries, in particular, thus reducing the risk of an extended period of low inflation.

In recent months, developments in the corporate loan stock have shown some signs of stabilisation, and this is corroborated by the latest findings of the bank lending survey (BLS). Although lending criteria remain historically tight, the first steps towards their relaxation mark a positive sign. Another positive sign is the slight pick-up in demand for corporate loans (Chart 23).

Still high indebtedness in the private sector will exacerbate and prolong euro area problems

Household indebtedness has a key impact on the severity and duration of economic crises.⁹ The position of euro area households remains difficult. In many euro area countries, the ratio of household debt to GDP has increased compared with the situation at the end of 2008. One key factor behind the growth of the debt ratio has been the reduction in nominal GDP, i.e. the denominator. With the decline in the level of income in the economy amidst subdued inflation and prospects for growth, the process of debt ratio reduction is advancing slowly. Especially in the stressed countries, sluggish growth in nominal GDP, a sharp decline in housing prices from their peak levels and widespread unemployment further increase the housing loan burden. In the case of debt ratios,

⁹ See e.g. Mian A. – Sufi A. (2014) House of debt.

Chart 23.

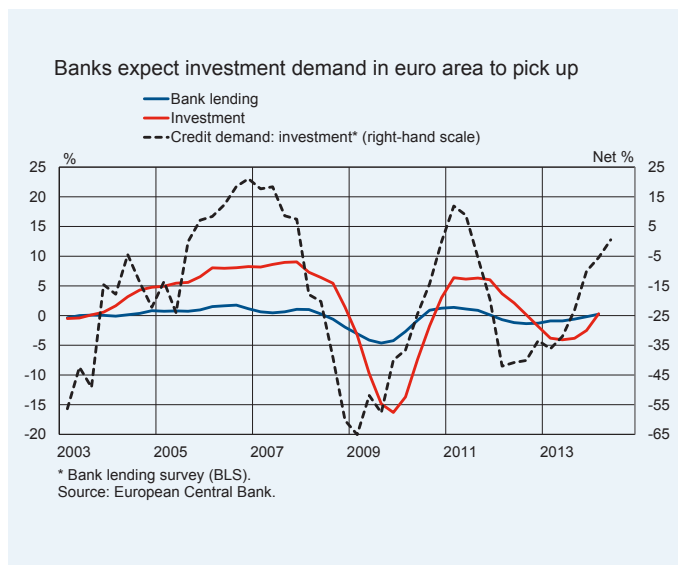
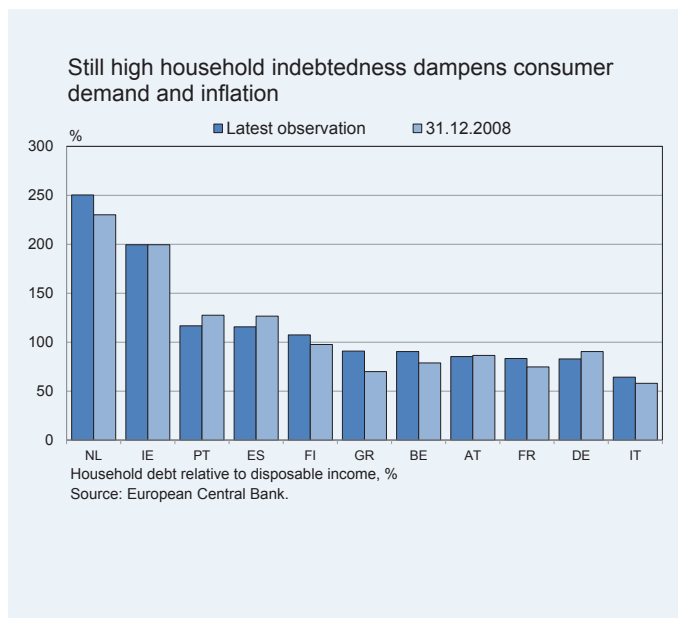


Chart 24.



no quick turnaround of the situation is in sight. Thus, consumer demand will remain subdued and price pressures accordingly muted (Chart 24).

Indebtedness and deleveraging in the private sector impairs the effectiveness of monetary policy

The consolidation of banks' balance sheets in connection with the comprehensive assessment is a prerequisite for the resolution of the debt problems facing the private sector. Banks need a sufficient amount of capital to be able to write off losses on non-performing assets and, where necessary, agree with the distressed non-financial corporations or households on repayment schemes that help them manage their debts. This will boost economic activity in the long term.

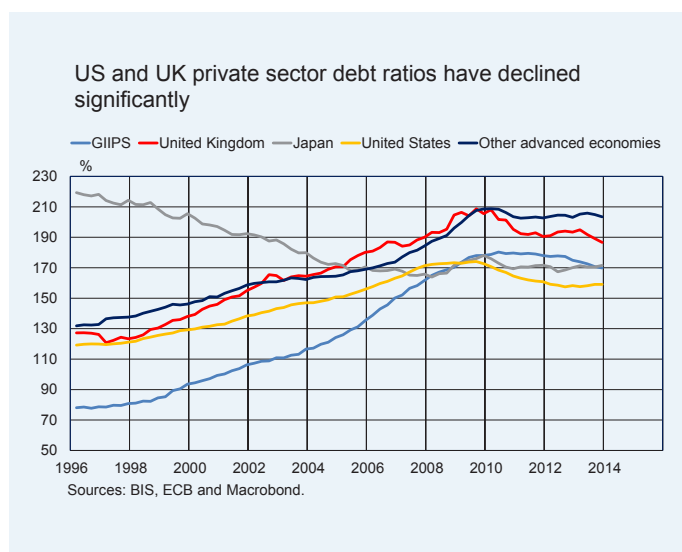
It is important to intensify the measures to resolve the debt problems of the euro area in order to avoid the euro area drifting into a long-term balance sheet depression. A balance sheet depression refers to a situation where not even an extremely low level of interest rates helps spur economic activity, as the highly indebted

households or non-financial corporations choose to pay down their debt burden instead of engaging in consumption and investment. The pass-through of monetary policy and low interest rates is less effective in an environment of significant and widespread overindebtedness.

However, private sector debt in the euro area is not evenly distributed across countries, or even across sectors. The ECB Governing Council decisions in June were, in fact, taken under the premises that there are countries and sectors within the euro area – and individual actors within highly indebted sectors – that have the capacity to take on more debt and invest it rationally, thus fuelling economic activity. This being said, there are also countries in the euro area with highly indebted household, non-financial and public sectors, such as Spain, Portugal and Ireland. For example, in the United States, the relatively swift and significant process of deleveraging in the household sector is seen as a key driving force behind the current positive growth expectations for the US economy (Chart 25).

In a balance sheet depression, highly indebted households or non-financial corporations choose to pay down their debt burden instead of engaging in consumption and investment.

Chart 25.



Government bond yields in euro area countries exceptionally low

Euro area government bond yields came down significantly in the early part of the year, and so far the geopolitical tension has not been reflected in an increase in bond yields.¹⁰ Government bond yields have declined in the GIIPS

¹⁰ The countries fulfilling an EU/IMF financial assistance programme were in June 2014 down to Greece and Cyprus, after Portugal's exit from its programme in May.

countries and Germany alike. In August, the German ten-year government bond yield fell back to an exceptional low of below 1% (Chart 26). Government bond yield differentials among euro area countries have remained more or less unchanged.

Government bond yields have declined substantially across the entire euro area. In August, nominal yields on, for example, Italian and Spanish government bonds were lower than ever before since the introduction of the euro. Yields on Italian and Spanish government bonds have come down significantly, even though the rating agencies have not yet issued any major credit rating upgrades.

The factors underlying nominal yields on government bonds may be broken down into the following categories: risk-free real interest rate, risk premium and rate of inflation. Although having been reduced in response to the process of fiscal consolidation in the euro area, the new fiscal policy rules and the ECB's Outright Monetary Transactions (OMT) programme, risk premia remain elevated in some countries. Lately, stronger emphasis has been placed on longer-term factors that have a downward effect on real interest rates, such as population ageing.¹¹ Viewed from this perspective, the low real interest rates in euro area countries may point to a limited growth potential. At the same time, inflationary prospects are subdued, which also contributes to lower nominal interest rates.

¹¹ See 'Zero lower bound hampers keeping real interest rates low', above.

Chart 26.

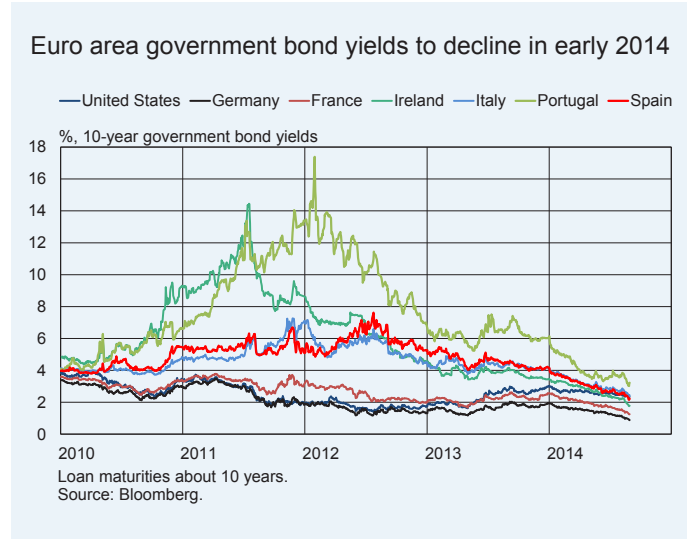
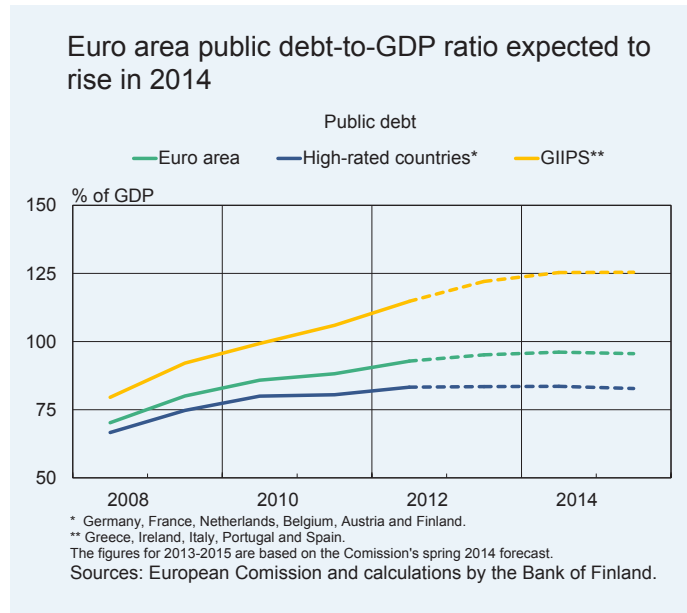


Chart 27.



In the early part of the year, government bond yields in the euro area were still reduced by external capital inflows. The government bonds of some GIIPS countries, in particular, have offered a very attractive rate of return compared with the yields on the government bonds of many other

advanced economies. So far, yields have decreased rather than increased in the wake of geopolitical tension. Lower long-term interest rates in Germany than in the United States point to the two countries being in different phases of the economic and monetary policy cycles. The forward guidance of the ECB Governing Council that ECB interest rates will remain at current levels for an extended period of time serves to reduce government bond yields, as may expectations of new monetary policy measures.

Slight deterioration in the euro area economy amplifies fiscal policy challenges

The government debt-to-GDP ratio for the euro area is projected to peak this year (Chart 27). The debt ratio is expected to begin to decline in 2015 in the high-rated countries, while general government debt is forecast to stabilise at the level of the current year in the GIIPS countries.¹² The assessment of the European Commission that general government debt in the euro area will peak in 2014 has stood unchallenged for roughly a year now. In other words, total debt would climb to around 96% of GDP in 2014 and then start to decline slowly.

The deceleration in euro area GDP growth in early 2014, together with heightened uncertainty related to e.g. the Russian crisis, may, however, lead to a revisitation of this assessment. The situation is further exacerbated by

¹² Of the GIIPS countries, the general government debt ratio of Spain will rise further over the years ahead, as indicated in the spring 2014 forecast of the European Commission.

exceptionally sluggish growth in nominal GDP in an environment of extremely low inflation, which is holding back a reduction in debt levels. Some euro area countries are required to implement further fiscal consolidation measures in 2014–2015. In its assessment of national stability programmes published in the early summer, the European Commission urged e.g. France and Italy to adopt additional measures. At the current juncture, the adoption of such additional measures appears increasingly crucial for keeping the government debt ratio of the euro area from rising again.

However, the simultaneous decline in interest expenditure on government bonds paves the way for achievement of the forecast. Low government bond yields have, nevertheless, also raised some concerns as to whether the relaxation of market discipline is going too far and whether the new fiscal policy rules are sufficient to ensure responsible management of public finances in the euro area. Any slippage from the new fiscal policy rules or hesitation in the implementation of structural reforms could shake confidence in the general government finances of euro area countries and push government bond yields up again. The monetary policy measures decided by the ECB Governing Council must continue to be supported by further implementation of structural reforms that enhance the growth potential of the economy, and by responsible management of public finances despite the adverse phase of the economic cycle.

III Risks related to the monetary policy operating environment

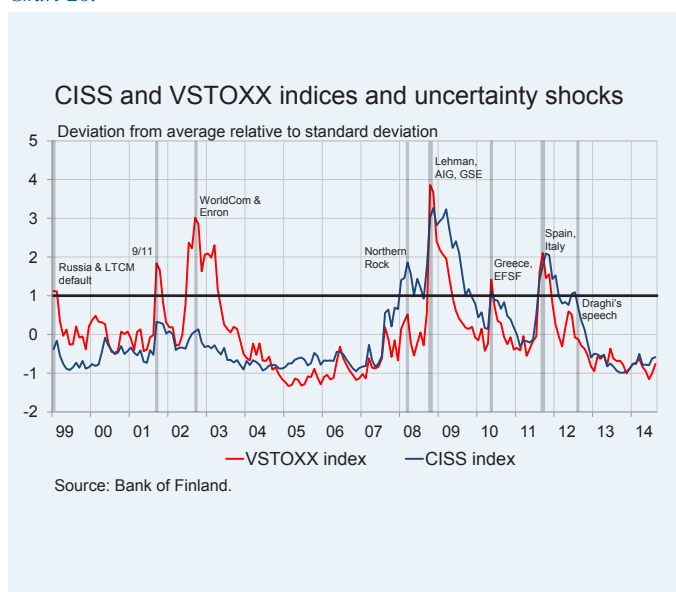
The most significant short-term risks to the global economy relate to the geopolitical situation. The escalation of the crises in Ukraine, North Africa or the Middle East may lead to significantly weaker economic developments than forecast. However, constructing a scenario associated with geopolitical risks is not a straightforward task, since it is almost impossible to predict the escalation, magnitude and transmission channels of crises.

This risk assessment is based on the assumption that the effects of a crisis deteriorating feed through to the economy via increasing uncertainty. Increased uncertainty may have adverse effects on the economy in at least three different ways: 1) Postponement of investment decisions: if changing the size of an investment involves adjustment costs, a rational strategy under high uncertainty may be to delay the investment decision and wait for the uncertainty to wane ('wait-and-see' strategy). 2) Precautionary saving: uncertainty increases saving by households via the precautionary motive, i.e. households 'save for a rainy day'. Higher savings reduce consumption, and therefore total output will contract in the short term. 3) Higher risk premia: heightened uncertainty increases the riskiness of investments, so that investors require higher returns as a compensation for higher risks. Higher return requirements – or increased capital costs – will in turn reduce investments.

In this assessment, risk is described by using two known indicators of uncertainty: the VSTOXX index and the CISS (Composite Indicator of Systemic Stress) index. The former measures the volatility of the euro STOXX index and the latter depicts a more wide-spread instability, or state of stress in the euro area financial markets. The peak of a period of exceptionally high uncertainty associated with crises is referred to as an uncertainty shock (Chart 28). The use of a shock variable in the analysis contributes to ensuring that a decline in economic activity results specifically from an increase in uncertainty.

The impact of uncertainty on the real economy in the euro area is first estimated with a time series model (VAR model) that includes an uncertainty variable and a logarithm of

Chart 28.



industrial production at fixed prices.¹³ Aggravation of the geopolitical situation is assumed to lead to a typical uncertainty shock. The size of the shock is about a third of the greatest shocks during the financial and debt crisis.

The various uncertainty indicators give very similar results that can be summarised in three observations (Chart 29): 1) An uncertainty shock will cut the level of industrial output (GDP) by 0.7–1% (averaging at 0.8). 2) The peak impact of the shock will be felt with a significant time lag, i.e. about a year after the manifestation of the shock. 3) The shock has a protracted impact (lasting about 3 years).

The time series analysis presented above is based on the assumption that monetary and fiscal policy will operate, on average, as in 1999–2014. At present,

¹³ GDP data is not available on a monthly basis; industrial output is therefore used as a substitute.

monetary policy is constrained by the zero interest rate floor and there is only limited room for manoeuvre in fiscal policy. The effects of the monetary and fiscal policy constraints can be analysed by using the GIMF (Global Integrated Monetary and Fiscal) model developed at the IMF, which is a DSGE¹⁴ model of five economic regions.¹⁵

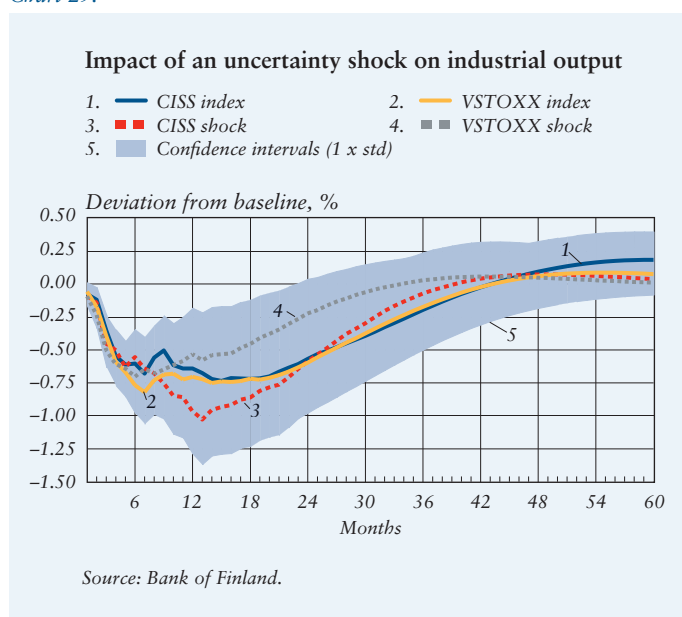
An increase in uncertainty is carried to the GIMF model by changing enterprises' and households' time preferences and by increasing risk premia on corporate and sovereign bonds. This enables the simulation of the above-mentioned wait-and-see situation, precautionary saving and the requirement of higher return on the financial markets to compensate for higher risks. In the first GIMF simulation, monetary and fiscal policy is allowed to operate freely, without constraints, and the effects of the shock on the euro area real economy are adjusted to equal the effects in the time series model.

Provided that monetary and fiscal policy would operate as on average in 1999–2014, an uncertainty shock of a size of about one third of the greatest shocks during the financial and debt crisis would lower euro area GDP by about ¾% during the next year, and the impact of the shock would dissipate in about 3 years. Inflation would be about one-tenth of a percentage point lower than in the baseline (Charts 30 and 31).

¹⁴ For use of the GIMF model in economic policy assessments, see 'Economic policy options in conditions of weak growth and low inflation', Bank of Finland Bulletin 1/2014.

¹⁵ United States, euro area, Japan, Asia and the rest of the world.

Chart 29.



When monetary policy is tied to the zero interest rate floor in the simulations, the impact of the shock is considerably more pronounced (Charts 30 and 31). GDP growth dips in 2015 about 1.4 percentage points below baseline growth and the level of GDP remains on average about 1 percentage point lower than the baseline for several years. Inflation falls by at most almost 0.4 of a percentage point relative to the baseline in about 3 years.

According to the calculations presented here, an uncertainty shock would significantly weaken economic developments. However, the calculations are only indicative at best, and the economic effects of actual previous shocks have varied considerably. In the model used in the calculation, inflation expectations will remain firmly anchored, so that inflation will only moderate slightly. Even though the economy will not drift into deflation according to the calculations, lower inflation will – under the zero interest rate policy – lead to an increase in real interest rates, which will markedly restrain future growth. Furthermore, the model does not enable a full inclusion of all the factors reducing price pressures which are currently pushing down euro area inflation. Therefore, at the current juncture, it is possible that an uncertainty shock would ease price pressures more than in the calculation presented here.

Keywords: inflation, monetary policy, economic situation

Chart 30.

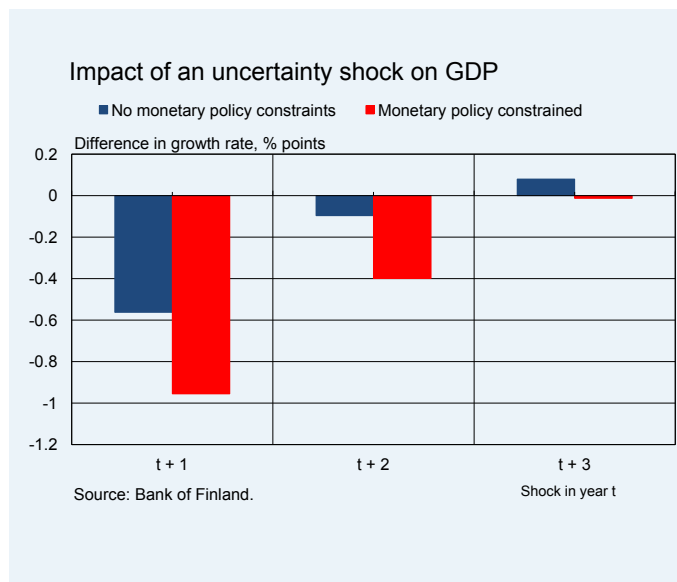
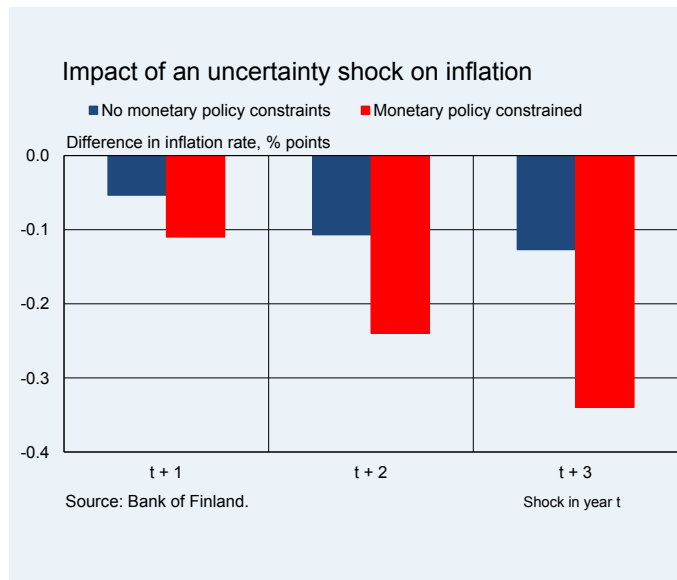


Chart 31.



Box 2.

Impact on Finnish economy of an increase in uncertainty

The risk assessment in this article concerns estimation of the transmission of geopolitical risks to global economic developments. The transmission channel is an increase in general uncertainty. Increased uncertainty is assessed to reduce investment demand both directly and via the higher risk premia required by investors. Higher uncertainty is also assessed to boost precautionary saving by consumers. This box complements the risk assessment by estimating how a corresponding increase in uncertainty would affect economic developments in Finland.

An increase in uncertainty feeds through to the Finnish economy via the European financial markets and a contraction in Finland's export markets. This analysis is based on an estimation of a structural vector autoregressive (SVAR) model of a small open economy.¹ The eight variables of the model can be divided into three main groups. The foreign bloc consists of two variables: a measure of global financial stress and external demand for Finnish exports. The second bloc consists of standard macro variables: real output, inflation and interest rate spread.

¹ The model has been discussed in Adam Gulan – Markus Haavio – Juha Kilponen: 'From Finnish Great Depression to Great Recession', Bank of Finland Bulletin 3/2014.

The third bloc includes three financial variables: asset prices, new bank loans to the private sector and bank loan losses.

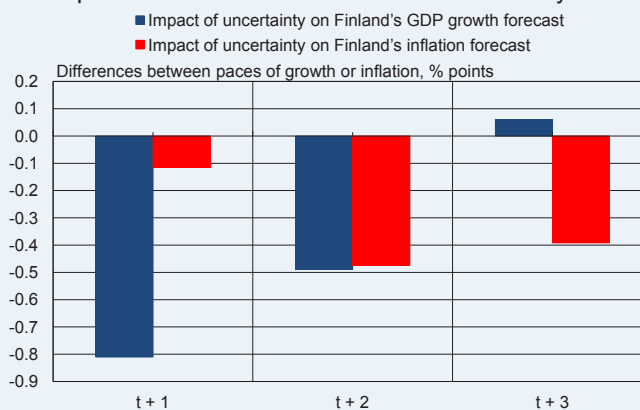
The external variables in the model are fully independent of the domestic variables. An increase in uncertainty is measured in the SVAR model by using a variable that depicts general financial market stability. An increase in uncertainty corresponds to a shock in the CISS (Composite Indicator of Systemic Stress) used in the risk assessment. The CISS index measures widespread stress on the European financial markets, and the size of a CISS shock is assumed at about one-third of the greatest shocks during the most severe periods of the financial

and debt crisis. A fall in export demand corresponds to an estimation of the impact of heightened uncertainty on euro area GDP growth starting from the third quarter of 2014. This estimation is made by using the GIMF (Global Integrated Monetary and Fiscal) model developed at the IMF.

In the baseline scenario calculated for the model's variables, uncertainty does not increase. In the alternative scenario, financial market stability is affected by a shock that lasts for 2½ years. Export demand also contracts temporarily. Economic shocks of domestic origin are assumed to equal in size the shocks in the baseline scenario.

Chart.

Impact in Finland of an increase in uncertainty



Source: Bank of Finland calculations.

An increase in uncertainty would weaken economic growth in Finland slightly more than GDP growth in the euro area based on a time series analysis. The effects would also be more protracted. By 2016, Finland's GDP would contract by about 1.4% relative to the baseline (Chart). Thereafter, the effects of the shock would dissipate gradually so that the baseline path of GDP would be reached again by the end of the decade. Increased uncertainty would also lower inflation in Finland. The cumulative impact on the price level (i.e. GDP deflator) would amount to over 1% in 2017.

In the euro area, GDP would contract on the basis of the time series analysis by just

over 1% at most, depending on the uncertainty indicator used in the calculations. In terms of duration, the effects of the shock would last a good 3 years, after which GDP would have returned close to the baseline. The fact that GDP would react more strongly in Finland than in the euro area as a whole is partly explained by the small open economy character of the Finnish economy: a contraction in export markets would weigh more in Finland than in the relatively closed euro area economy.

The SVAR model for Finland also takes into account the indirect effects on domestic financial markets, in which case the channels for uncertainty e.g. via interest rate spreads, loan

supply and asset prices become more pronounced. At the same time, monetary policy reactions to heightening uncertainty are assumed in the analysis of Finland as given.

In the time series analysis of the euro area, monetary and fiscal policy are assumed to operate as in 1999–2014. In the GIMF model simulations, however, euro area monetary policy is tied to the zero interest rate floor, and therefore the impact of uncertainty on GDP in the euro area is even greater than the impact on Finland's GDP estimated here.

The need for and impacts of structural policy in the euro area

26 August 2014

Structural reforms will boost long-term economic prosperity in the euro area. In the short term, reforms could weaken economic performance. Nevertheless, on the whole, both an empirical and a theoretical examination of structural policy in the euro area strongly suggest there is an urgent need for structural reforms. These provide the only way to boost the potential output of the economy in a situation in which the long-term prospects for many euro area economies and the outlook for general government sustainability look bleak.

What are structural policy measures?

An examination of structural policy measures and their impacts is particularly important and topical during a prolonged economic crisis like the one we are currently experiencing, which has had very different impacts in the different countries of the euro area. Global discourse on economic policy has recently been focused largely on the dimensioning of countercyclical policy – i.e. monetary and fiscal policy – and the means by which the economy can be stimulated to produce a cyclical upswing. In this discourse, the significance of structural policy measures in stimulating the long-term growth potential of economies is often overlooked. This article seeks to address some key questions relating to the range of structural policy measures available in the euro area and their potential macroeconomic impacts.

There is no simple, straightforward definition of structural policy. However, in modern macroeconomic models structural policy is typically defined as including all policy measures in respect of

labour and product markets that can further competition and thereby reduce wage and price margins deriving from companies' price-setting powers that stem from imperfect competition.¹ This article sets out from a similar theoretical frame of reference.

In practice, a very broad spectrum of different government measures can be classed as structural policy measures. The concept of structural policy measures applied in this article adapts the definitions of the OECD and the World Economic Forum.² Structural policy measures can be divided roughly into measures that affect product, labour and other markets (Table). In particular, there is an extensive group of structural measures relating to labour and product markets that are applied with the aim of improving the functionality of price mechanisms, reducing obstacles to competition and increasing incentives to additional economic activity. The objective is to improve the long-term potential growth prospects of the economy. Calculating the economic impacts of these measures is not, however, a straightforward issue, and there are numerous uncertainties, particularly when it comes to measuring short-term values.

Impacts of structural policy on the euro area economy – theoretical perspectives

The impacts of structural policy reforms on the euro area economy have received relatively little treatment in



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¹ See e.g. Eggertsson – Ferrero – Raffo (2014).

² See more closely in OECD (2014) and World Economic Forum (2013).

Table.

Structural policy measures	
<i>Area</i>	<i>Example measures</i>
Labour market	<ul style="list-style-type: none"> <i>activating measures (e.g. support for job-seekers)</i> <i>improved social protection for those in irregular work</i> <i>increased employment incentives for ageing people and raising retirement age</i> <i>increasing participation rate among women (e.g. by expanding public child-care services)</i> <i>increasing flexibility in remuneration systems</i> <i>reform of employment protection legislation to prevent dual labour markets</i> <i>reducing indirect labour costs</i> <i>clarification of legislation relating to payment and dismissal of employees</i> <i>increasing incentives for work by tightening the conditions for receipt of incapacity benefits</i> <i>increasing incentives for work by tightening the conditions for receipt of unemployment benefits</i> <i>shifting the focus of taxation from taxes on work to indirect taxation</i>
Product markets	<ul style="list-style-type: none"> <i>reducing competition-distorting tax relief and subsidies</i> <i>ending favouring of domestic market actors</i> <i>increasing the credibility of legislation</i> <i>removing statutory-based obstacles to market entry</i> <i>removing obstacles to direct investment</i> <i>removing customs restrictions</i> <i>reducing state ownership of non-financial corporations</i> <i>reducing government regulation of prices</i> <i>reducing obstacles to competition in the network sectors (energy, telecommunications)</i> <i>making it easier to get permits for business start-ups</i> <i>reducing regulation of business activities</i> <i>simplification of permits and administrative requirements relating to business activities</i>
Financial markets	<ul style="list-style-type: none"> <i>making legislation clearer</i> <i>increasing operational efficiency and transparency</i>
Infrastructure	<ul style="list-style-type: none"> <i>increasing public investment</i> <i>increasing incentives for private sector investment</i>
Education system	<ul style="list-style-type: none"> <i>enhancing efficiency and scope of primary education</i> <i>enhancing efficiency and quality of post-graduate and further education</i>
Innovation	<ul style="list-style-type: none"> <i>providing support for joint public/private sector projects</i> <i>increasing the effectiveness of the legislation on patents</i> <i>providing support for efficiency and quality</i>
<i>Sources: OECD and World Economic Forum.</i>	

theoretical macroeconomic models in recent years. Some studies have, however, been published. For example, Gomes et al.³ have analysed the impacts of structural policy measures with the help of a broad, modern macro model⁴ in which structural policy reforms are introduced gradually over a period of 5 years and the policymaker implements them by influencing profit margins and competition on the labour and product markets. The study gives separate attention to situations in which the reforms are carried out in different country groups within the euro area (i.e. in practice in stressed and non-stressed countries) and different markets (i.e. labour and product markets). According to the results of this study, structural reforms are positive with regard to economic growth over the long term, as the increased market competition leads to growth in employment and overall output, i.e. GDP. According to the model, even more beneficial would be structural reforms coordinated between the different country groups, as the negative impact on exports caused by reforms in a single country would in such a case be less marked. Moreover, economic developments in the two groups would be closer in the case of coordinated reforms. Another finding

³ Gomes – Jacquinot – Mohr – Pisani (2011).

⁴ This is a reference to new-Keynesian dynamic stochastic general equilibrium (DSGE) models, in which the rational, profit-maximising behaviour of businesses, households and economic policy actors takes into account macroeconomic balance on labour and product markets under conditions of specific price rigidities. The models typically simulate a variety of macroeconomic shocks and investigate how they impact on the dynamics of the economy as the variables adjust towards a new balance.

was that it would be useful to carry out reforms to product markets before embarking on similar reforms to labour markets, as in the short term the positive impacts of the former on real wages would compensate for the negative impacts of the latter. The negative short-term impacts of structural reforms would thus be eased, which is a fundamental issue in the sort of situation seen in the euro area's stressed economies in recent years.

Meanwhile, the impacts of structural policy in the euro area at the aggregate level have been studied by Eggertsson et al. using a modern macro model in which the policymaker can influence profit margins and competition on the labour and product markets by varying the tax ratio.⁵ According to this study, too, structural policy measures will always have positive long-term impacts on economic growth in the euro area, as the lower tax ratio in the model boosts competition and GDP. The short-term impacts are, however, less clear when monetary policy is at the zero bound – as at present in the euro area. This is because structural reforms slow the pace of inflation in the short term, as the reforms boost productivity and hence reduce unit prices for end products. In the model, the central bank would normally respond to this by lowering its key policy rate, preventing a rise in real interest rates (and hence the impulse for economic agents to postpone consumption and investment). At the zero bound, however, the central bank is unable to cut the policy rate, which according to the study

⁵ Eggertsson – Ferrero – Raffo (2014).

leads to a temporary rise in real interest rates and contraction in aggregate demand. The negative impact on aggregate demand is greater still if there is no confidence that the structural policy reforms will be permanent. In such a case, economic agents do not believe their income will grow even over the longer term, and this further undermines the stimulus from the reforms to aggregate demand and economic growth. The results of Eggertsson et al. have, however, been shown to become more positive regarding short-term economic developments if the structural reforms (and hence productivity growth) are implemented gradually.⁶

As an example of a different way to approach structural policy in the euro area we may take the recent study by Paul De Grauwe.⁷ This stresses the importance to the success of structural policy of the type of shock involved. According to De Grauwe's analysis, a purely short-term demand shock should elicit just a cyclical policy response (i.e. monetary and fiscal policy), whereas a long-term supply shock that would erode potential output should be addressed with structural policy. According to De Grauwe's view, the recent crisis in the euro area is a case of a demand shock in which structural policy measures would tend to depress wages and weaken employment and aggregate demand, thereby deepening the recession. Thus De Grauwe's view is not – in contrast to the studies referenced above – congruent with

modern macro models. In the latter, the response of the economy to structural policy measures can, even in the case of demand shocks, be positive even in the short term.

All told, the recent theoretical literature suggests that structural reforms will impact positively on economic growth in the euro area. These positive impacts could be realised relatively rapidly, insofar as economic agents consider the reforms to be credible, and insofar as they are implemented gradually. There are also hints that coordinated implementation of reforms in different countries would be beneficial to economic growth.

In contrast, there is more disagreement in the literature and in more general discourse on economic policy over the precise nature of the short-term impacts of structural policy and what links structural policy should have with cyclical policy in the type of economic crisis experienced in recent years. On one hand we can see that structural policy measures in a country undergoing economic crisis can decisively weaken the prevailing economic situation and hence deepen recession. On the other hand, it is possible to argue that sustainable structural policy reforms are an essential prerequisite if a country's economy is to find its feet, and economic agents will understand and take this into account when making decisions. Hence economic theory cannot provide a straightforward answer to the question of the short-term impacts of structural reforms.

⁶ Fernandez-Villaverde (2014).

⁷ De Grauwe (2014).

Impacts of structural policy on the euro area economy – empirical perspectives

Several empirical studies focused on different countries have demonstrated the positive long-term impacts of structural policy measures on economic growth, employment and productivity.⁸ Thus the empirical literature supports the message of the theoretical literature regarding the beneficial effects of structural reforms. Below, we review the impacts of euro area structural policy on the basis of selected empirical indicators and the experiences gained in the German labour market reform.

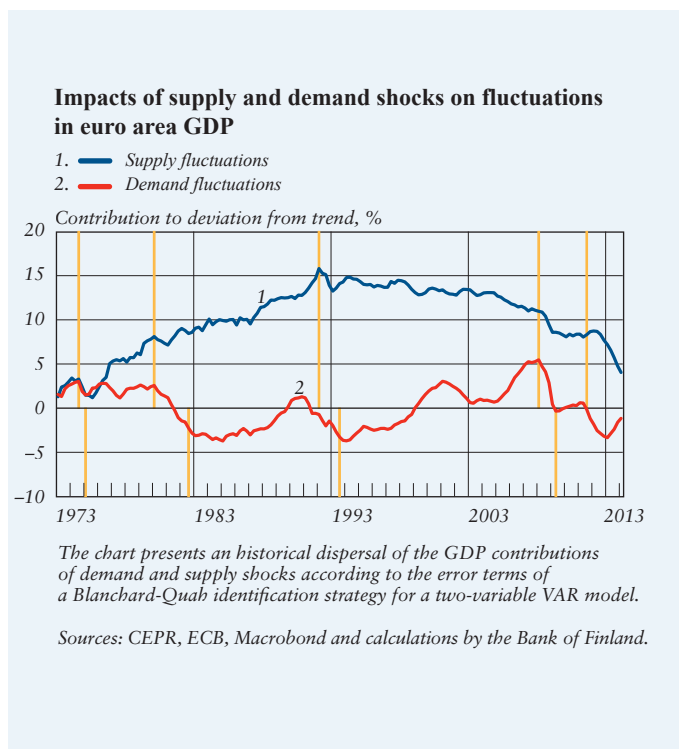
Euro area structural policy indicators

Based on the theoretical discourse, one of the key questions regarding the need for structural policy reforms in the euro area is the extent to which the recession of recent years has been demand-based (due to fluctuations in the economic cycle) and to what extent supply-based (due to fluctuations due to changes in the structures of the economy). One simple way to investigate this is to use a structural vector autoregressive (VAR) model. We can use the results of such a VAR model to examine the extent to which fluctuations in real GDP in the euro area have been due to supply factors or demand factors (Chart 1).⁹ It is clear that although the recent euro

⁸ See e.g. Bouis and Duval (2011).

⁹ At issue is a two-variable (unemployment rate and GDP) VAR model, estimated for the period 1970/I–2014/I. Structural demand and supply shocks are identified in the model using Blanchard-Quah methodology by limiting demand shocks to those that have only a short-term impact on GDP, while supply shocks can have both a short-term and a long-term impact on GDP.

Chart 1.



area recession was initially – i.e. in 2008 – a matter of a demand shock, the significance of a supply shock as an explanatory variable has since then clearly grown. It is also worth noting that supply shocks have been exerting a negative influence from as far back as the early 1990s. These factors suggest that the supply-side problems in the economy have been chronic and have recently got worse. In that case – contrary to what e.g. De Grauwe (2014) proposes – the need for structural policy measures in the euro area is great, and they could significantly improve the long-term growth potential of the economy.

The current status and progress of structural policy measures in different countries can also be examined with the

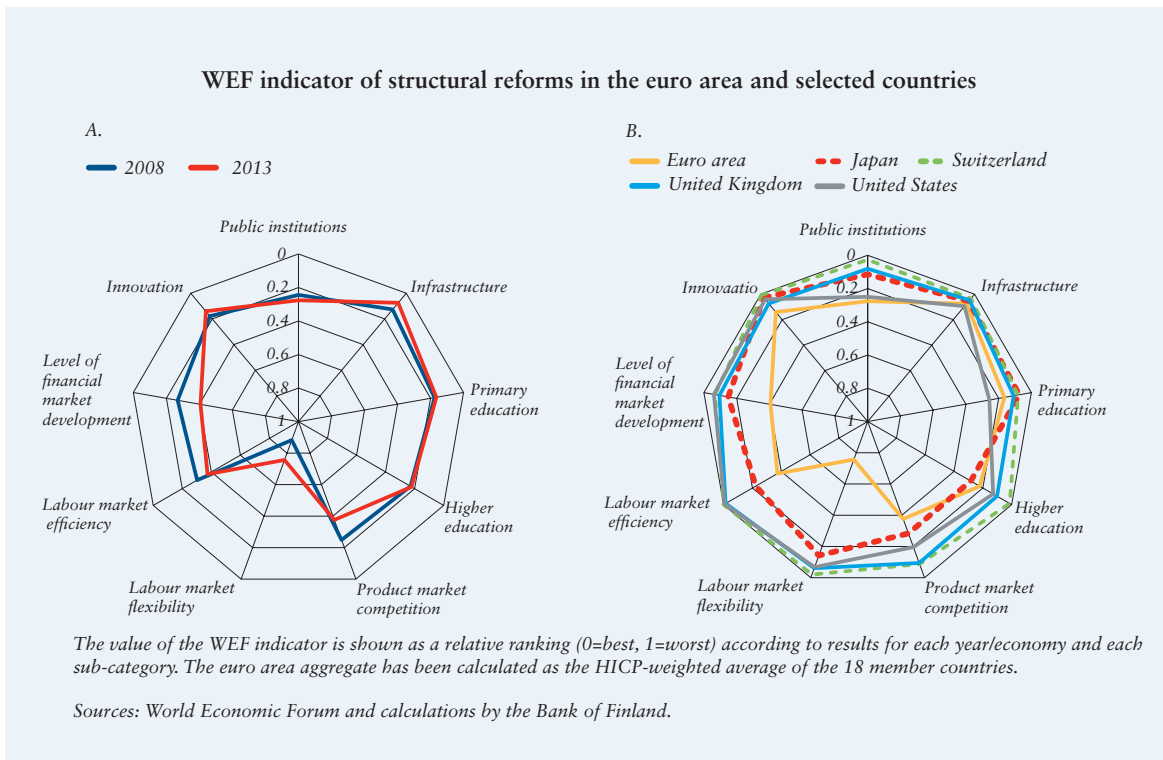
help of a variety of structural indicators. On account of their comparability and topicality, the most suited for our present purposes are the sub-categories included in the competitiveness indicator published by the World Economic Forum (WEF) in 2013.¹⁰ If the relative positions of the euro area and other major economies are examined using these sub-categories

¹⁰ World Economic Forum (2013). The World Economic Forum calculates various indicators of national competitiveness for a large number of countries, the results being published annually. For our purposes we have selected the most significant indicators in reference to structural policy (cf. the classification presented in the table). According to its relative position in the category being examined (or in the aggregate figures), the first-ranked country is given the value 0, while the last-placed is accorded the value 1. Our points of comparison were the situation before the economic crisis (2008) and the latest situation statistically available (2013). The 2008 study covered 134 countries, and the 2013 study, 148 countries.

(Chart 2), we could assume the euro area, as an advanced economy, would be found close to the peak measured against the WEF criteria, as most of the countries reviewed are emerging economies. For the most part this is indeed the case, but in respect of labour market flexibility,¹¹ in particular, the euro area is in a rather weak position. Similarly, according to the WEF indicator, structural reforms have made little progress during the crisis, albeit the indicator does not cover the reforms implemented particularly in the stressed economies during 2014. In inter-

¹¹ Labour market flexibility as a concept embraces flexibility of wages, flexibility in wage and severance practices, cooperation between the social partners and the impact of taxation on incentives to work. Labour efficiency is defined as including sub-items that relate to e.g. productivity, a country's ability to attract skilled labour and the female participation rate.

Chart 2.



national comparison, too, the euro area does not show up to advantage. In respect of labour and product markets, level of financial market development, innovation and institutions, the euro area has definite room for improvement, whereas euro area infrastructure and education are internationally competitive.

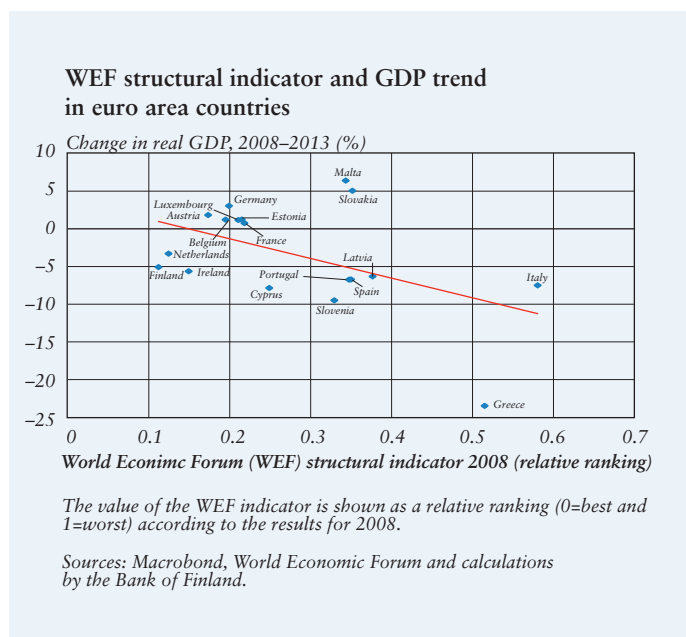
The euro area's need for structural reforms is also clear from e.g. a recent analysis by the European Commission.¹² This assessment of structural imbalances, published in June 2014, states that a large number of structural reforms have been carried out in the euro area, for instance in the area of economic institutions and more effective supervision of the financial markets. Nevertheless, there is still a significant need for further reforms. The Commission's view is that across the whole euro area there is a need to improve the functioning of the labour and product markets and more effective research and development in order to boost the potential for growth. Increasing labour market incentives by shifting the focus of taxation away from the labour market and towards consumption, energy and housing assets along with measures to extend working careers are seen as the key areas for reform. Progress with product market reform has been sluggish, and there still remains a need to cut out significant obstacles to competition in services, in particular.

There is also clear empirical evidence of the growth benefits of

structural reforms in the euro area. Developments in individual countries during the economic crisis of recent years underline the importance of structural policy in respect of how well different countries have come through the crisis (Chart 3). There is a clear correlation between location on the 2008 WEF graph and economic growth in the years 2008–2013.¹³ On average, the better-placed a country is according to the WEF indicator, the better its economic performance has been. We can therefore with some justification claim that structural reforms can help an economy cope with shocks. This is also the case even if Greece's exceptional position in Chart 3 is omitted from the picture. Worthy of note is also the relative

¹³ This correlation is statistically significant within a confidence interval of 95%.

Chart 3.



¹² The Commission produces an analysis of progress with structural economic reforms in EU countries for the annual European Semester process. This assesses work to e.g. correct structural imbalances and implement national policy programmes. See e.g. European Commission (2014).

weakness of Finland's economic growth in view of the country's favourable position in the structural indicator.

Lessons from Germany's post-2000 labour market reforms

Perhaps the most significant of the structural reforms carried out in the euro area over the past decade were the labour market reforms of the mid-2000s in Germany (the Hartz reforms).¹⁴ Based on the effects of these reforms, we can perhaps draw conclusions on the potential future effects of the reforms carried out elsewhere in the euro area in recent years. The most important of the Hartz reforms was 'Hartz IV', implemented in January 2005, in which Germany's social security system was changed significantly by cutting the duration and scope of unemployment benefits in order to increase the incentives to work. Research indicates the reforms had positive long-term effects in the shape of a drop in unemployment and stronger economic growth, albeit assessments of the scale of the effects differ. For example, Krebs and Scheffel have proposed that the increased labour supply prompted by the Hartz reforms brought about a 1.5 percentage point decrease in structural unemployment, while according to Krause and Uhlig the actual rate of unemployment fell by almost 3 percentage points.¹⁵ In contrast, a study by Launov and Wälde suggests the impact on unemployment

was only 0.1 of a percentage point.¹⁶ According to the first two of these studies, the change in the unemployment rate was relatively fast. The reforms exerted a downwards influence on the unemployment rate almost immediately, and on structural unemployment after around one year from implementation (January 2005), while the unemployment rate fell across almost all categories within just a few years. The reforms have also significantly reduced the impact on the German economy of the global economic crisis of recent years.

On the other hand, the studies also report that the impacts of the German reforms would be much weaker in euro area countries with less significant labour market incentive problems than in pre-reform Germany. Such a situation pertains in the other large euro area countries, where labour market problems are typically more to do with the segmentation of labour demand than with incentives for labour supply. Moreover, we must bear in mind the fact that the reforms have also had negative effects. It would appear that, as a result of the reforms, the proportion of low-paid part-time employment has grown at the same time as poverty and economic inequality have spread.¹⁷ All in all, the German labour market reforms would not seem to offer any very clear pointers for an analysis of the potential impacts of the currently ongoing structural reforms in the euro area.

¹⁴ For more detail on the German labour market reforms, see e.g. Schmöller (2013).

¹⁵ Krebs and Scheffel (2013); Krause and Uhlig (2012).

¹⁶ Launov and Wälde (2013).

¹⁷ Schmöller (2013).

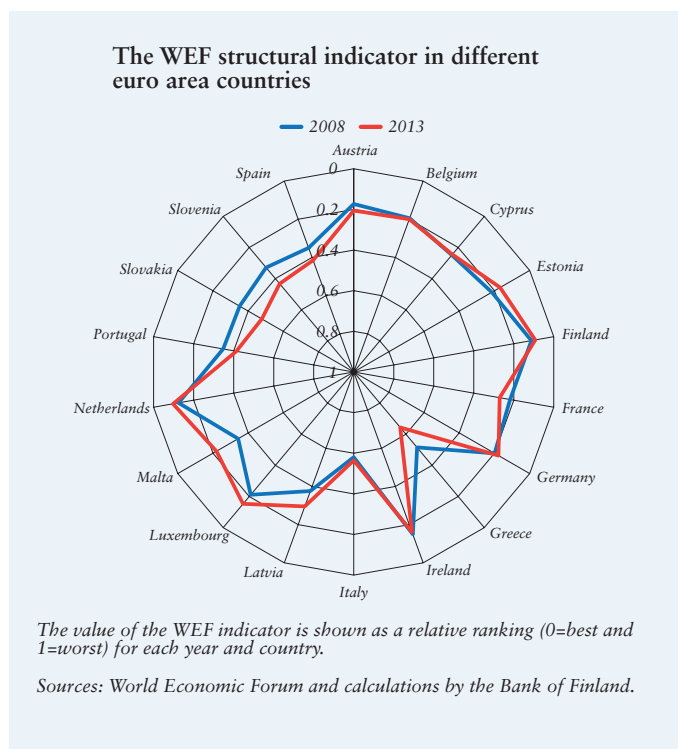
Structural policy measures in selected euro area countries

As structural policy measures and the condition of structural policy (Chart 4) have in recent years been very different in different countries within the euro area, it is worth reviewing developments in individual euro area countries. We concentrate particularly on structural policy in the euro area's four largest countries (Germany, France, Italy and Spain) and the one to have suffered most in the crisis (Greece). Finland's structural policy measures are also given a brief treatment. Our examination of structural policy challenges and measures is based primarily on the regular structural reports published by the European Commission and the OECD.¹⁸

German economic developments in recent years have been relatively favourable compared with most other euro area countries. Germany has benefited from e.g. the above-mentioned labour market reforms of the 2000s, which have helped ensure a competitive labour force and successful export sector. Improving the longer-term growth potential of the economy does, however, remain a challenge, particularly as the age dynamics of the labour force is particularly unfavourable from the viewpoint of economic growth. According to the WEF structural indicator, Germany's greatest problems lie in the area of labour market flexibility, but the index depicting competition on product

¹⁸ European Commission (2014); OECD structural reports (2013) and (2014).

Chart 4.



markets is also weak relative to other countries of similar income levels. This index particularly depicts obstacles to competition in the services sector, where productivity has lagged behind that of the export-driven industrial sector. Meanwhile, the labour market suffers from the relatively large tax wedge, particularly in respect of those on low incomes. According to the recommendations in the OECD's structural report, Germany should e.g. shift the focus of taxation more onto indirect taxation (environmental and housing market taxes) than labour taxes, improve the quality of tertiary education, reduce obstacles to competition in services and improve incentives for an increased

labour input from women. The European Commission highlights the same issues, while also calling for public investment in infrastructure and innovation to improve Germany's growth potential.

In **France**, the economy has weathered the consequences of the global recession without drifting into an acute crisis. The country's longer-term growth potential does, however, look weak. The main problems with the French economy are the relatively large unemployment and the inflexibility of the labour market. The tax wedge on the labour market is substantial, and the French Government has proposed tax relief for companies to increase the incentives to boost employment. There is also a need to increase employment incentives for the ageing sector of the population. Although some steps have been taken to reduce the segmentation of the labour market, it remains hard for workers to move from temporary to permanent employment. France also needs to improve the quality, effectiveness and balance of its education and training, which would help reduce the substantial youth unemployment. Moreover, there is a need to increase corporate sector incentives for innovation and reduce obstacles to competition in service sectors.

Economic growth in **Italy** in recent years has been very weak, and the structural problems in the economy predate the financial crisis. This is reflected in the weak results in respect of the WEF structural indicator (Chart 4). There is substantial structural

unemployment, particularly among the young, and the female employment rate is low. There is a need for particular efforts to activate unemployed young people and female job-seekers. There is also a need to improve the quality of education and training. There are significant obstacles to competition in services, despite recent attempts to clear them away. In regard to central government efficiency, corruption and the grey economy, Italy is weakly placed relative to the euro area's other large economies, which serves to weaken the country's potential for growth. All in all, Italy faces major challenges in combating poverty and raising the economy's growth potential and competitiveness.

During the financial crisis, the **Spanish** economy sank into a deep recession, from which it is now gradually recovering. The country's growth outlook nevertheless remains fragile, and sustained structural measures are needed to boost the potential for growth. The Spanish labour market remains very weak. Prior to the economic crisis, Spain's labour market was strongly divided in a way that favoured those in regular, long-term employment. During the crisis, there has been progress in reducing this segmentation and boosting labour market flexibility at the level of individual companies, which has also boosted the overall competitiveness of the country's foreign trade. However, the crisis has brought a substantial increase in long-term unemployment and social exclusion, and correcting the situation will require

active employment measures, improvements to the coverage of the education system and reforms to the labour market institutions. Meanwhile, with regard to the product markets, there are in Spain obstacles to competition, particularly in the trade sector and the infrastructure markets (such as energy distribution and transport), that have gradually begun to be tackled in recent years.

Of the stressed countries in the euro area, the deepest recession in recent years has been in Greece, which in 2010 was forced to rely on support from the EU and the IMF to balance its public finances and halt the downward spiral in its economy. Substantial structural reforms are a key component of the conditions of the EU and IMF programme and the most important prerequisite if the Greek economy is to be capable of sustainable growth going forward. The structural reforms required by the programme are comprehensive and wide-ranging, relating to e.g. increasing the efficiency of tax collection, legislation and public administration, reforming the system of VAT, reducing corruption, modernising health care, a pension reform and improvements to both the education system and energy management. Greece has already carried through substantial labour market reforms, e.g. by increasing flexibility in working hours and pay and reducing rigidity in employment contracts, but there still remain serious challenges in regard to increasing incentives and combating the massive youth unemployment. Progress in reforming product markets has been

slower, and in particular the number of sheltered service sector professions has remained internationally very high in Greece, undermining productivity and competitiveness.

Finland's economy has in recent years drifted into an intractable recession, and the growth outlook is weak.¹⁹ Our country has suffered particularly from the economic restructuring still ongoing and the weak competitiveness of exports. From the angle of Finland's long-term growth potential, a key challenge is to increase labour supply by extending people's working life and increasing incentives for employment. In addition, long-term unemployment should be combated with targeted measures to activate the long-term unemployed. In the retail trade, meanwhile, there is a need for measures to free up competition, as the Finnish retail sector is one of the most regulated in the EU. Finally, one of the challenges for structural reform is to restore the competitiveness of exports by supporting innovation.

There is a substantial need for structural reforms

As is often the case when assessing the macroeconomic effects of economic policy solutions, in the case of structural policy we can also present different viewpoints as to the relative benefits and sense of the various solutions.²⁰ Both empirical and theoretical studies suggest that the

¹⁹ For the Finnish economy and its prospects, see Bank of Finland Bulletin 3/2014: Economic outlook.

²⁰ As an example of this debate and the benefits of structural reforms, see BIS (2014).

long-term impact of the structural policy reforms will be to increase economic wellbeing. Over the short term, however, the effects are more questionable. Labour market reforms, in particular, could have negative effects in the form of weaker employment and lower pay that would serve to deepen the recession currently being experienced by many economies in the euro area. Structural reforms are currently being pursued in an exceptionally uncertain economic situation in which decision-makers are forced to weigh up on a case-by-case basis a range of value choices and economic consequences.

Taken as a whole, an examination of structural policy in the euro area strongly indicates that there is an urgent need for structural reforms. Over the longer term, this is the only way to increase the output potential of the economy in a situation where the future long-term trend of many euro area economies and the sustainability of their general government finances look decidedly gloomy. Some countries require a broad range of different structural reforms. One common denominator for the largest euro area countries is the rigidity of their labour markets. The implementation of structural reforms of the labour market at a time of weak economic performance is exceptionally challenging. It is therefore no surprise that labour market reforms, particularly in the stressed countries of the euro area, have been surrounded by significant political and social tensions and problems.

In order to lessen the short-term risks attendant on structural reforms, it is important for cyclical policy to be as flexible as possible in order to cushion the shocks to the economy. In the prevailing conditions of low inflation, euro area monetary policy has operated in such a way and has long been accommodative. Traditional monetary policy's room for manoeuvre has dwindled as the European Central Bank's key interest rate has approached zero, whereupon non-standard monetary policy measures have come to the fore.²¹ However, monetary policy cannot influence the long-term growth potential of the euro area economy; it can only provide a short window of opportunity for carrying out the necessary structural reforms.

Keywords: euro area, structural reforms, economic policy, economic crisis

²¹ The European Central Bank presented new non-standard monetary policy measures on 5 June 2014. See http://www.suomenpankki.fi/en/suomen_pankki/ajankohtaista/muut_uutiset/Pages/uutinen2_140605.aspx.

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Why are euro area banks' credit standards still tight?

1 September 2014

Lending to households and non-financial corporations has been sluggish and credit standards have continued to be tight in many euro area countries. In June 2014, the Governing Council of the ECB decided to support bank lending to the corporate sector by pledging to commence a series of targeted longer-term refinancing operations. Although the significance of the banking sector in the transmission of monetary policy to the real economy is considerable, the factors behind changes in banks' credit standards in the euro area have not been empirically analysed. With the help of the ECB's Bank Lending Survey, a survey of bank lending and credit demand in the euro area, this article examines to what extent the changes in the terms of credit for corporate loans are due to supply and demand factors, how the size of a company applying for credit affects the terms applied and how the situation in stressed countries differs from that in other euro area countries.

In the euro area, the banking sector has a major role in the transmission of monetary policy to the real economy. Around 80% of funding for non-financial corporations comes through bank loans. However, studies have shown the correlation between the volume of the loan stock and real economic growth is statistically weak.¹ If, instead of the loan stock, estimations employ changes in banks' terms of credit, the correlation with economic growth is much greater.²

¹ See e.g. Driscoll (2004), Ashcraft (2006), Lown and Morgan (2006).

² See Adrian et al. (2010), De Bondt et al. (2010), Bassett et al. (2014), Lown and Morgan (2006), Asea and Blomberg (1998).

An easing of the terms of corporate credit in the euro area anticipated both growth in the volume of corporate credit itself and in GDP after three to four quarters.³ Despite this, the euro area has not seen more empirically oriented research into the factors underlying the terms of credit. Below, we review developments in the terms of corporate credit in euro area countries' banking sectors and examine possible background factors causing these changes post-2008. Based on the responses to the ECB's Bank Lending Survey (BLS), we examine changes in 1) overall credit standards in respect of corporate loans, 2) collateral requirements for corporate loans, 3) credit standards of loans granted to the SME sector and 4) credit standards of loans granted to large corporations.

By 'credit standards' we mean all the background factors that impinge on new loan agreements. These can be, for example, pledges, collateral assets and credit limits, but also a bank's general lending practices, the experience and years of service of loan officers or the degree of hierarchy in the decision-making process for the granting of credit.

The terms of credit differ from merely the cost of credit because the loan market contains a lot of asymmetric information: a bank generally knows less about its loan applicants than they do themselves. By changing their credit standards, banks increase the external funding costs of their customers, particularly those that



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³ In respect of the euro area, e.g. De Bondt et al. (2010) and Capiello et al. (2010). Similar results have also been reported for the United States by e.g. Bassett et al. (2014).

depend on bank loans to meet their credit needs. Even if this would not immediately affect the total loan stock, tightening of the general terms of credit has a direct connection with non-financial corporations' aggregate credit demand and readiness to invest, and through this on the overall level of activity in the real economy.

Survey data collected since the beginning of 2003

The ECB has been conducting the Bank Lending Survey since the beginning of 2003.⁴ The survey is aimed at a sample of banks in each euro area country that best represents the special features of the country's banking sector. In total, respondent banks nowadays number around 130, and the stock of loans granted by these banks covers approximately 50% of the loan stock of the entire euro area.

As an example, the BLS presents banks with the following type of question: 'Has your bank tightened or relaxed its overall credit standards during the past three months?' The banks respond on a five-step scale (1 = tightened considerably, 2 = tightened somewhat, 3 = remained basically unchanged, 4 = relaxed somewhat, 5 = relaxed considerably). The data on or responses of individual banks are not made public; the results are simply

⁴ A comprehensive treatment of the Bank Lending Survey is contained in the ECB working paper Berg et al. (2005). Elsewhere, too, central banks have been carrying out similar surveys of credit terms. Cf. the Senior Loan Officer Opinion Survey (SLOOS) in the United States since 1967, the Senior Loan Officer Opinion Survey on Bank Lending Practices on Large Japanese Banks in Japan since 2000 and the Bank of England Credit Conditions Survey in the United Kingdom since 2007.

being used every quarter to produce two aggregate indices for each country that indicate the change in the relevant item.

The two aggregate indices are net percentage and a diffusion index. Net percentage is the difference between the banks that have tightened their credit standards (responses 1 and 2) and those that have relaxed them (responses 4 and 5). A positive difference means the credit standards have been tightened in net terms. In contrast to net percentage, the diffusion index takes account of the strength of tightening or relaxation of credit standards by giving a double weighting to answers 1 and 5 relative to answers 2 and 4. In this article, the changes in credit standards are depicted using the diffusion index.

The crisis wiped out banking liquidity

The collapse of Lehman Brothers investment bank in September 2008 paralysed the financial markets, as financial institutions could no longer be sure of how large the liabilities were that various participants were carrying and how large the losses would eventually prove to be. This uncertainty paralysed the interbank loan market and wiped out the liquidity in the financial system. As the crisis deepened, bank deposits and banks' bond emissions also contracted (Chart 1), which further eroded banks' balance sheets. In addition, the relatively rapid growth in capital and assets came to a sudden halt in 2008.

As liabilities contracted, banks' lending ground to a halt. By summer

The survey is aimed at a sample of banks in each euro area country that together account for around half of the loan stock of the entire euro area.

2014, the aggregated loan stock of euro area financial institutions had contracted by approximately 11% from what it had been at its height, and relative to the area's GDP the contraction has been around 40 percentage points (Chart 2). The contraction in the aggregated loan stock is due to the strong decline in the loan stock in the GIIPS countries (Greece, Ireland, Italy, Portugal and Spain). In other euro area countries, the loan stock has been relatively stable since the second half of 2008.

Just before the crisis broke, the private sector was rapidly accumulating debt, particularly in the GIIPS countries. Although the cutting of the rapid pace of debt accumulation has been to some extent desirable and a controlled reduction in the debt ratio has been part of the process of restoring the financial health of the euro area, bank lending to even creditworthy corporate clients has been seriously hampered by the crisis.

The uncertainty surrounding banks' access to liquidity has been reduced by a range of different measures. The Eurosystem has approved banks' requests for credit against collateral without quantitative limits since October 2008. Moreover, in monetary policy operations the range of assets eligible as collateral has been broadened. The maturities on funding offered to the banking sector have also been extended on a number of occasions during the crisis.

At the end of 2011, the euro area financial markets were faced with a new type of crisis. The peaking of the

Chart 1.

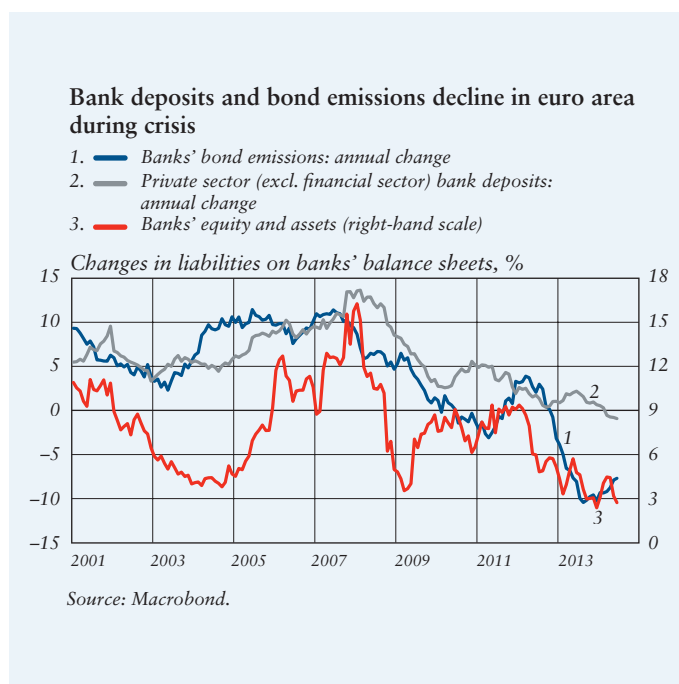


Chart 2.

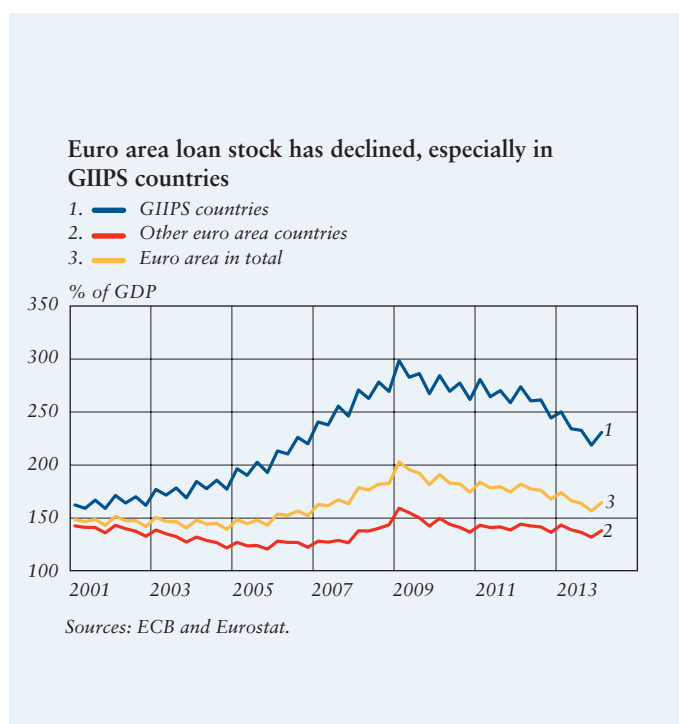


Chart 3.

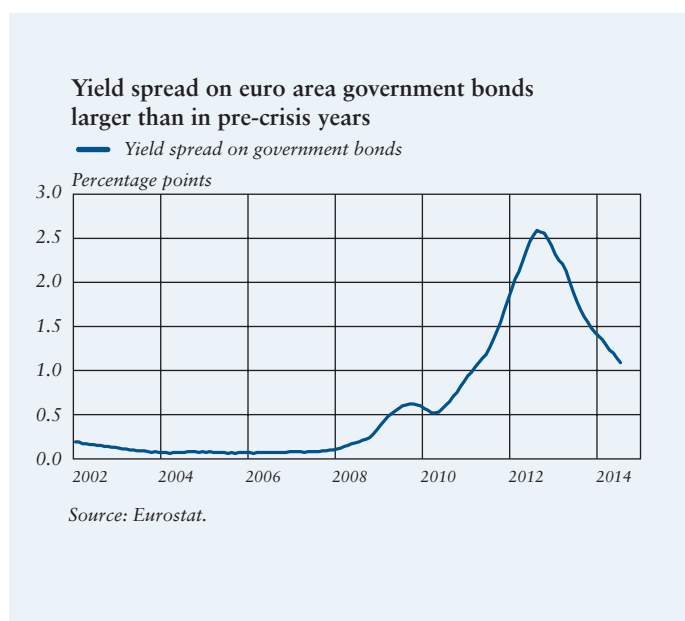
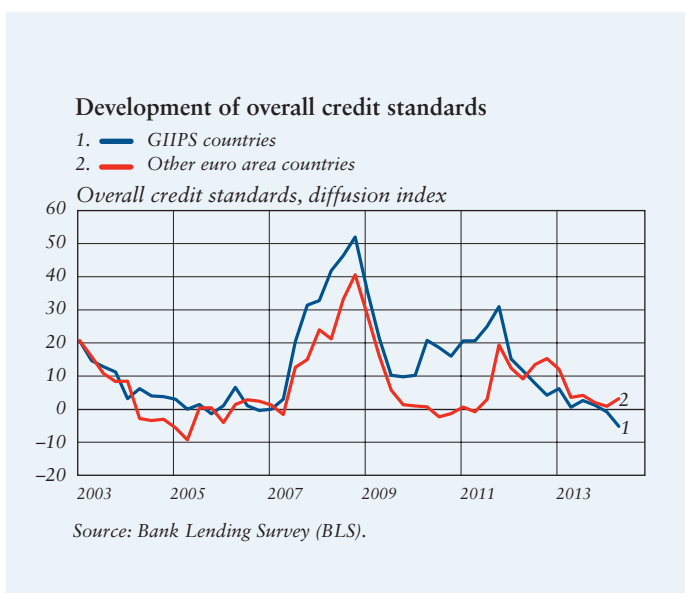


Chart 4.



sovereign debt crisis made it harder for banks to find funding. The decline in the market value of banks and the crumbling of confidence further undermined their profitability. As their balance sheets contracted, banks further limited their lending in the stressed countries.

The Governing Council of the ECB decided in September 2012 on a programme of Outright Monetary Transactions (OMTs), under which the Eurosystem may for monetary policy reasons purchase the shortest-duration government bonds on secondary markets. A necessary condition is that the issuing country must have committed itself to an EFSF/ESM programme. The unwinding of both private and public sector debt and an accommodative monetary policy have, in fact, helped to allay the worst uncertainties in the affected countries. The development of the yield spread on euro area government bonds (the difference between the average yield on euro area government bonds and the yield on German government bonds) shows that although spreads have contracted substantially from the heights of 2012, they have not returned to the pre-crisis level, standing now at around 1 percentage point (Chart 3).

Despite the measures taken, the terms of credit remain tight

Despite the considerable measures taken, the credit terms applied by euro area banks have tightened since the beginning of the crisis, particularly in the GIIPS countries. General credit standards (Chart 4) and collateral requirements

(Chart 5) have tightened considerably since the end of 2007. A second general net tightening (i.e. a growth in the share of banks that had tightened their credit standards to exceed the share of those banks that had relaxed theirs) began with the onset of the debt crisis in 2011. Since then, too, a larger proportion of banks participating in the BLS have tightened their credit standards and collateral requirements than have relaxed them, albeit the relative share of banks that have tightened their terms has gradually declined. Since the end of 2007, the GIIPS countries had seen a general tightening of credit standards greater than in the other euro area countries, but after early 2013 the trend was reversed.

Since the crisis broke, collateral requirements have been tightened considerably more in the GIIPS countries than in other euro area countries, and net relaxation (the relative number of banks to have relaxed their credit standards is greater than the number that has tightened them) can be seen in both country groups for the first time only in the second quarter of 2014.

The terms of credit granted by banks to non-financial corporations can depend partly on the size of the customer. Large corporations are in general less risky, and they have a longer documentable history as borrowers. In the case of smaller companies, a contraction in operating profits reduces the scope for internal financing. SMEs are therefore considerably more dependent on bank funding, particularly when the economy is weak.

Chart 5.

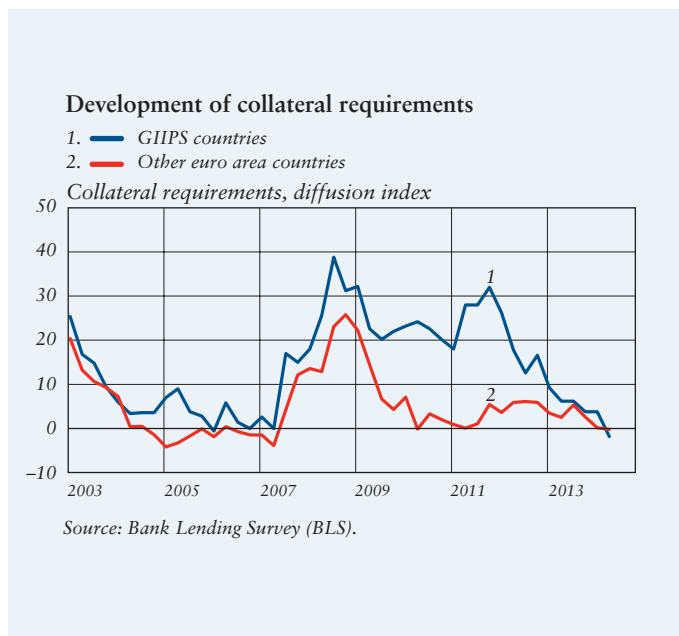
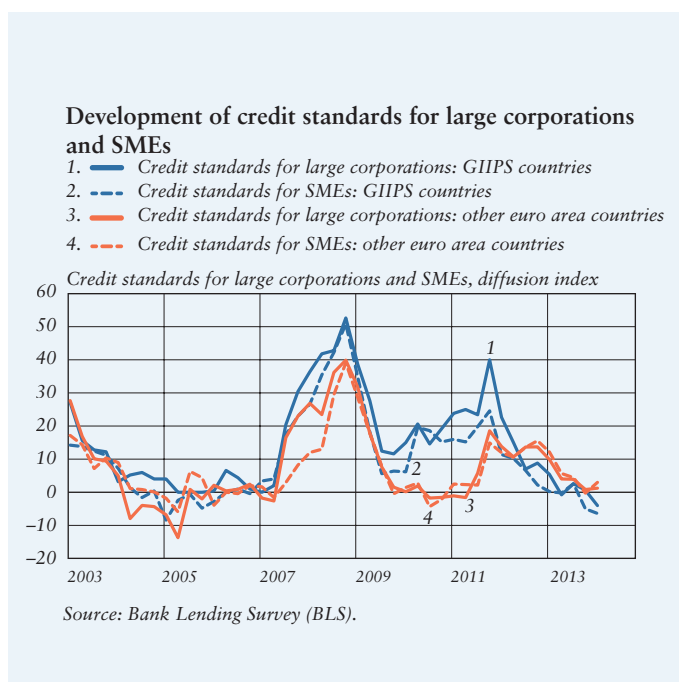


Chart 6.



If we examine the development of the credit standards for large corporations and SMEs separately for the GIIPS countries and other euro area countries, we notice that before 2007 the trends were very similar in the two country groups (Chart 6). In both country groups there were periods when the banks did not appear to distinguish between large corporations and SMEs when changing their terms of credit. After the tightening of the credit standards at the end of 2007 the differences between the country groups grew and were at their largest in 2010 and 2011.

In the GIIPS countries, the terms of credit applied to large corporations, in particular, tightened more than in the rest of the euro area until the second quarter of 2012. Since then, there has been a discernible relaxation in the GIIPS countries in the credit standards for both groups of companies. In other euro area countries, credit standards for large corporations were tightened considerably more severely than those for SMEs all the way through to early 2009, since when the difference in changes between the two groups has declined.⁵ At the turn of the year 2010–2011, it was possible to discern a slight relaxation in the terms of credit, but immediately thereafter the terms were tightened again as the debt crisis deepened.

⁵ Even if the terms of credit for large corporations are tightened more during a crisis than those for other companies, this tells us nothing of the absolute level of tightness in the terms of credit. Large corporations generally enjoy more relaxed terms of credit than SMEs, and during a crisis there is therefore room for them to be tightened further.

While credit standards remain tight, particularly in the GIIPS countries, we should turn attention to examining what factors underlie changes therein. In addition to monetary policy and country-specific factors, there are differences between banking sectors within the euro area. The latter could endogenously influence bank lending.

What factors explain the tightness of the terms of credit?

Based on the Bank Lending Survey, it is possible to study the changes in banks' terms of credit. The reasons behind said changes can be roughly divided into three categories: the first relate to banks' viability and profitability; the second, to the viability and profitability of the borrowing companies; and the third relate to the value of the borrowers' assets. Therefore, in this article we focus on those answers to the BLS that relate to changes in credit standards for corporate loans (signals the first two reasons) and to collateral requirements for corporate loans (signals the third reason). In addition to this, we take a separate look at changes in overall credit standards separately for the SME sector and for large corporations.

In the estimations carried out for this article, the changes in credit standards and collateral requirements in the years 2008–2013 are explained by monetary policy measures and by both country-specific and banking sector-specific factors. The method of estimation employed is the fixed effects model, which eliminates any bias

caused by potentially absent time-invariant bank-specific variables.⁶

The monetary policy measures covered are the change in the ECB's key policy rate and changes in the share of the ECB's longer-term refinancing operations (LTROs) on the balance sheets of national central banks. In terms of country-specific factors, we look at the yield spread of government bonds (relative to Germany), changes in credit demand, changes in the consumer confidence indicator and the economic sentiment indicator, changes in aggregate investment in the economy relative to GDP and the market value of publically listed companies relative to GDP.

Turning to bank-specific factors, we look at changes in the degree of banking sector concentration,⁷ changes in banks' liquidity (liquid assets / balance sheet bottom line), changes in banks' loan loss provisions relative to the stock of loans, the size of banks, change in the leverage ratio and the relative shares of capital and loans on banks' balance sheets.

Monetary policy has worked to relax banks' terms of credit

Based on the results of the study described in this article, the lowering of

the key policy rate and growth in the volume of longer-term refinancing operations since 2008 have caused banks to relax their credit standards and collateral requirements in the euro area. In addition, the changes in the terms of credit have also been influenced by country-specific factors, especially changes in the general condition of the economy: growth in investments at the level of the macro economy and an improvement in confidence indicators encourage banks to relax their credit standards and collateral requirements.

Growth in the yield spread for government bonds has a general relaxing effect on credit standards and a tightening effect on collateral requirements. This strange outcome expresses the exceptional nature of the current crisis.⁸ The outcome can be explained if we view growth in the yield spread as indicating a general deterioration in the economic situation in the country concerned but at the same time a concrete drop in the value of the government bonds and growth in the liquidity risk.⁹ In seeking to reduce the riskiness of their balance sheet items, banks often tighten the collateral requirements on their new loans. As the value of government bonds falls, the other securities generally used as loan collateral also lose value, and this is reflected in a weakening in overall credit standards.

⁶ All the estimations include annual time dummies. Average errors are robust for heteroskedasticity and autocorrelation.

⁷ The degree of concentration is measured with the Herfindahl index. This is formed by adding together the squares of the market shares of banks operating in the sector, with the market shares expressed in fractions. Thus an index can receive a value of 0–1. A value close to zero indicates the market is highly competitive. The higher the value of an index, the more concentrated the market is.

⁸ The results estimated for the entire period of the Bank Lending Survey (2003–2013) indicate that growth in the government bond yield spread leads to a tightening of both overall credit standards and collateral requirements.

⁹ As their value falls, securities become less liquid; i.e. they are harder to sell on.

As it becomes harder to access funding, the only way banks can increase the share of equity on their balance sheets is to pay off their external debt.

Large size of banks and banking sector concentration tighten terms of credit

The terms of credit do not, however, change only because of demand factors. Bank-specific factors are highly significant. The more concentrated a banking sector is, the more credit standards and collateral requirements have tightened. The same outcome is also manifest in respect of the impact of bank size. The larger the banks in a banking sector are, the more credit standards and collateral requirements have been tightened. Our results indicate that the strengthening of equity capital in the banking sector during the crisis has also contributed to banks' tightening their terms of credit. This counter-intuitive outcome can be explained if we consider that, as it becomes harder to access funding, the only way banks can increase the share of equity on their balance sheets is to pay off their external debt. This they did by reducing the assets side of their balance sheets: by selling investments and restricting lending.

Country-specific factors have partly different impacts on credit standards in GIIPS countries...

Although monetary policy measures affect overall credit standards in the GIIPS countries in the same way as in other euro area countries, this is not the case with regard to collateral requirements. In the GIIPS countries, banks have tightened their collateral requirements in response to a lowering of the policy rate or an increase in the volume of LTRO funding. The extremely difficult economic situation

in these countries and the large proportion of nonperforming loans have presumably forced banks to tighten their collateral requirements during the crisis despite the accommodative monetary policy. This is also reflected in the outcome whereby the credit terms of banks that concentrate their activities on the provision of credit have tightened more in the GIIPS countries, while at the same time the effect of the more traditional business model in other euro area countries has been the opposite.

The impact of the market capitalisation of stock exchanges in the GIIPS countries has also been the opposite to the rest of the euro area. A rise in market capitalisation relative to GDP causes banks in the GIIPS countries to tighten their terms of credit, while in other euro area countries banks relax their terms. This outcome is presumably explained by the fact that in the GIIPS countries a rise in market capitalisation relative to GDP will be due more to a decline in GDP than a rise in the market value of listed companies.

...and changes in credit standards in GIIPS countries are more sensitive to banking sector-specific factors

A decline in competition within a banking sector causes banks in the GIIPS countries to tighten their credit standards and collateral requirements considerably more than in other euro area countries. The impact is almost tenfold in respect of credit standards. Size of bank gives a similar outcome: the larger banks a banking sector has, the more credit standards and collateral

requirements have tightened in the GIIPS countries.

The consolidation of balance sheets has had a relaxing influence on credit terms in the GIIPS countries. The more a bank has managed to enter loan loss provisions or reduce the share of external debt on its balance sheet, the less it has tightened its terms of credit.

Demand factors more significant in changes in credit standards for large corporate customers

Country-specific aggregate demand factors have a large effect on changes in the terms of credit for large corporations. Growth in total investment, a rise in corporate market values and improvements in indicators of business confidence all serve to relax the terms of credit for large corporations. For SMEs, the effect is much smaller.

A decline in competition in the banking sector causes banks to tighten the terms of credit they offer to large corporations, but in the case of SMEs the effect is the opposite.¹⁰ Moreover, while the size of bank affects both corporate groups in a similar way – i.e. larger banks tighten their terms more than smaller ones – the effect is larger in the case of larger corporations. Banks pursuing traditional banking activities in general tighten the terms of credit granted to SMEs less. The business

¹⁰ Initially, Broecker (1990) modelled theoretically, and later Shaffer (1998) tested empirically that there is a positive correlation between number of banks and credit risk. The more banks there are in a banking sector, the greater the probability a high-risk company will be granted a loan. The correlation is more relevant in the case of SMEs, as these are generally the focus of greater uncertainty.

model of banks has no effect on the terms of credit for large corporations.

Recent monetary policy decisions as a stimulus for relaxing the terms of credit

In June 2014, the Governing Council of the ECB decided on new monetary policy measures. In addition to lowering interest rates and preparations for the purchase programme for asset-backed securities, the new measures include a new series of fixed-rate targeted longer-term refinancing operations (TLTROs) with a maturity of four years. The aim of the TLTROs is to encourage banks to increase their lending in the euro area, specifically to the private non-financial sector (excluding housing loans).¹¹ Based on the study conducted for this article, we can say that the previous longer-term refinancing operations have during the crisis performed as hoped for and reduced the tightening of terms of corporate credit, even though they were not specifically targeted at the provision of credit for the corporate sector. The improvements in banking liquidity are reducing the tightening of corporate credit standards and collateral requirements particularly in non-GIIPS euro area countries.

The situation is nevertheless difficult. In the GIIPS countries, the accommodative monetary policy is, based on our results, insufficient to bring about a relaxation in collateral requirements, nor did the longer-term refinancing operations have a statisti-

¹¹ The private non-financial sector embraces euro area households and non-financial corporations.

The improvements in banking liquidity are reducing the tightening of corporate credit standards and collateral requirements particularly in non-GIIPS euro area countries.

cally significant impact on the changes in credit standards for SMEs in these countries. It is clear that monetary policy operations need support from measures to ensure the sustainability of banks' balance sheets.

The simultaneously ongoing comprehensive assessment of euro area banks' balance sheets – including an asset quality review (AQR) – has caused banks to consolidate their balance sheets to such an extent that the consolidation process came to an end in early 2014 and the aggregate balance sheet total for the euro area presumably began to grow. Based on our results, particularly in the GIIPS countries, banks' increasing potential to enter loan loss provisions on their balance sheets and the declining share of debt funding fosters relaxation of the terms of credit, whether lending to large corporations or SMEs. At the same time, it is important to take care that the balance sheet consolidation does not lead to overly large banking conglomerates. In particular, bank mergers that lead to a highly concentrated market are almost always irreversible.¹² Based on our results, the resulting decline in competition would lead to tighter general terms of credit and collateral requirements, particularly in the GIIPS countries, and especially in regard to large corporate customers.

Keywords: lending, credit standards, banking sector, Bank Lending Survey

¹² OECD (2009).

Table 1.

Overall credit standards and collateral requirements						
	Overall credit standards			Collateral requirements		
	All euro area countries (I)	GIIPS countries (II)	Other euro area countries (III)	All euro area countries (IV)	GIIPS countries (V)	Other euro area countries (VI)
Monetary policy instruments						
Change in the policy rate	8.8037***	10.7830***	11.6070***	2.8932***	-7.2487***	13.1335***
Change in ECB's LTROs	-0.1760***	-0.1798***	-0.2677***	-0.0353***	0.3505***	-0.0236***
Country-specific variables						
Change in government bond yield spreads	-1.3028***	-0.4818***	-7.8173***	2.5634***	2.2752***	-2.9933***
Change in consumer confidence index	-0.5678***	-0.7684***	-0.7556***	-0.0895***	-0.3319***	-0.8606***
Change in business confidence indicator	-0.7039***	-0.9886***	-0.5817***	-0.6798***	-0.6293***	-1.3933***
Change in investments	-2.2068***	-5.0633***	-2.5624***	-2.0416***	4.2532***	-3.6846***
Change in market valuation of stock exchange	-0.0334***	0.1680***	-0.0452***	-0.0584***	-0.4533***	-0.0314***
Change in Herfindahl index	91.0110***	826.3223***	89.7794***	209.0434***	926.4767***	-13.1975
Bank-specific variables						
Change in loan loss provisions	0.0001	-0.0099***	0.0000	0.0001	-0.0019	0.0002
Change in liquidity	-0.0029	0.0153	-0.0212***	0.0054	-0.0016	-0.0173***
Size of bank	1.2090***	2.3849***	-0.0799	0.7624**	2.5320***	-0.6929**
Change in leverage	0.0005***	0.0003***	0.0009	0.0003***	0.0001	-0.0016
Capital position	0.1238***	0.0514	0.0337	0.002	-0.0212	0.0209
Relative share of loans	0.0149	0.0608**	-0.0299***	0.0392***	0.0385***	-0.0663***
Number of observations	14,970	3,846	11,124	14,970	3,846	11,124
Explanatory value of model (r ²)	0.804	0.8975	0.8076	0.6414	0.9258	0.798

The table presents the coefficients received by the various different factors and their statistical significance from regressions estimated with a fixed effects estimator. Levels of significance *** 1 %, ** 5 %. The regressions include time dummies, a delayed explanatory variable and change in credit demand.

Table 2.

Credit standards on loans granted to SMEs and large corporations						
	Credit standards for SMEs			Credit standards for large corporations		
	All euro area countries (VII)	GIIPS countries (VIII)	Other euro area countries (IX)	All euro area countries (X)	GIIPS countries (XI)	Other euro area countries (XII)
Monetary policy instruments						
Change in the policy rate	4.5769***	6.1107***	8.8737***	9.5793***	5.3516***	13.2920***
Change in ECB's LTROs	-0.1041***	-0.0123	-0.1639***	-0.1486***	-0.1293***	-0.2355***
Country-specific variables						
Change in government bond yield spreads	-2.1825***	-0.2533	-9.4207***	1.1544***	2.7897***	0.6218
Change in consumer confidence index	-0.3532***	-0.4944***	-0.6231***	-0.5231***	-0.3672***	-0.6275***
Change in business confidence indicator	-0.4803***	-0.2427***	-0.2541***	-0.5654***	-1.0649***	-0.8925***
Change in investments	-0.6216***	-0.9500***	-1.8949***	-2.1578***	-7.9175***	-2.3046***
Change in market valuation of stock exchange	-0.0014	0.0553***	-0.0079***	-0.0218***	-0.0166	-0.0312***
Change in Herfindahl index	-19.5969**	565.9809***	-42.4914***	96.7845***	678.3987***	115.0495***
Bank-specific variables						
Change in loan loss provisions	0.0001	-0.0058***	0.0000	0.0003	-0.0092***	0.0000
Change in liquidity	-0.0093	0.0128	-0.0222***	-0.0085	0.0063	-0.0146***
Size of bank	0.8386***	1.6660**	-0.3744	1.8295***	3.4159***	0.2133
Change in leverage	0.0004***	0.0002**	0.0011	0.0005***	0.0003***	0.002
Capital position	0.1522***	0.0531	0.0251	0.1263***	0.0574	0.0143
Relative share of loans	-0.0180**	0.0343**	-0.0388***	0.0113	0.0516***	-0.0011
Number of observations	14,970	3,846	11,124	14,970	3,846	11,124
Explanatory value of model (r^2)	0.7554	0.8787	0.8195	0.8557	0.9321	0.8803
The table presents the coefficients received by the various different factors and their statistical significance from regressions estimated with a fixed effects estimator. Levels of significance *** 1 %, ** 5 %. The regressions include time dummies, a delayed explanatory variable and change in credit demand.						

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Implementation of monetary policy at the zero lower bound – and below

3 September 2014

The Eurosystem currently implements monetary policy in circumstances that are very different from those of the early years of the financial and debt crisis. The Governing Council of the ECB has pursued an accommodative monetary policy and lowered the central bank's policy rates close to zero, meaning that the scope for lowering the expected real interest rate by deployment of traditional monetary policy instruments is now limited. Inflation expectations that are lower than the Eurosystem's objective of price stability raise the real interest rate. This article looks at the non-standard monetary policy instruments with which, despite the zero lower bound, the Eurosystem has been able to steer market interest rates and strengthen expectations of a continuation of the accommodative monetary policy stance.

Euro area financial markets have stabilised in recent years. Spain and Italy, for example, are able to borrow on the markets at reasonable interest rates. Ireland and Portugal have exited their respective international rescue programmes, and Greece has also made a partial return to international credit markets.

Despite the stabilisation of the financial markets, the operating environment of monetary policy continues to be difficult. Although euro area monetary policy has already delivered a high degree of accommodation for a prolonged period, the area's GDP remains lower than before the crisis and inflation has continued to decelerate. In addition, the monetary policy transmission mechanism still operates unevenly across the euro area.

Using a simple interest rate hypothesis, this article examines monetary policy options at the zero lower bound. The central bank can steer real interest rates by guiding expectations of future interest rates, even if the capacity of interest rate policy has been exhausted. The Governing Council of the ECB provided forward guidance for the first time in 2013 to steer market expectations on interest rates, and announced significant monetary policy measures in June 2014 to enhance the transmission of monetary policy. The article concludes with an analysis of why the Eurosystem has not so far introduced all the options available in the range of non-standard monetary policy instruments, despite the fact the central banks of the other main economic regions have experience of their use.

Financial crisis transformed implementation of Eurosystem monetary policy

Before the financial crisis, the implementation of Eurosystem monetary policy was based on an interest rate policy and a separate liquidity management policy.¹ The interest rate policy was guided by the price stability objective: via its interest rate decisions, the Governing Council of the ECB

¹ Alanen, Tom and Välimäki, Tuomas (2008) Keskuspankkien toiminta euroalueen, Yhdysvaltojen ja Ison-Britannian rahamarkkinoilla. ['Central bank operations in the euro area, US and UK money markets', in Finnish only.] Euro & talous, 1/2008. The article illustrates monetary policy implementation and interest rate steering by the ECB and other major central banks and reviews the first non-standard monetary policy measures introduced during the financial crisis.



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The financial crisis that began in autumn 2008 forced the Eurosystem to adjust its principles for monetary policy implementation.

responded to changes in the inflation outlook in the first place, rather than e.g. to fluctuations in interbank market interest rates. Using its liquidity management policy, i.e. by regulating the amount of central bank money in the banking system, the Eurosystem in turn steered short-term money market interest rates close to the policy rate.²

Prior to the financial crisis, the Eurosystem provided banks with an approximate amount of liquidity that enabled the banking system to just fulfil, on an aggregate basis, the imposed minimum reserve requirements during each reserve maintenance period. Banks benefiting from a liquidity surplus could lend to banks facing a liquidity shortage, whenever required. The central bank's deposit and marginal lending facilities operate in such a way that, if there is a liquidity shortfall in the banking system on the last day of the reserve maintenance period, the banks can apply for marginal lending from the central bank. Similarly, in the case of a liquidity surplus, the banks can make overnight deposits with the central bank. Before the onset of the crisis, the overnight rate on the deposit facility and the rate on the marginal lending facility were equally far from the ECB's policy rate, i.e. the interest rate at which banks could borrow from the central bank at one week maturities against submission of eligible collateral. Consequently, the central bank's overnight deposit rate

and marginal lending rate formed an interest rate corridor, with the policy rate staying in the middle. As the ECB steered liquidity towards an amount with which the banking system could just fulfil its reserve requirements on average, it was equally likely on the last day of the maintenance period that banks would use either the overnight deposit facility or apply for marginal lending. Thus, market interest rates aligned themselves close to the ECB's policy rate, except for the last day of the maintenance period.

As the financial market disruption escalated into a full-blown crisis in autumn 2008, the Eurosystem needed to adjust its principles for monetary policy implementation. It abandoned quantitative limits in its credit operations in autumn 2008, after which banks have been able to obtain unlimited amounts of central bank refinancing at a fixed interest rate against presentation of sufficient collateral (known as the full allotment policy of liquidity provision).³ In addition, the Eurosystem extended the maturity of its credit operations up to three years during the crisis. The full allotment liquidity policy, in combination with three-year longer-term refinancing operations conducted in December 2011 and March 2012, brought the volume of credit obtained from the central bank to a peak of more than EUR 1,000 billion. In a similar way, excess liquidity, i.e. the

² Bordes, Christian and Clerc, Laurent (2012) 'The ECB's separation principle: does it 'rule OK'? From policy rule to stop and go'. Oxford Economic Papers (65), i66–i91.

³ Välimäki, Tuomas (2014) 'Two targets, one instrument: steering interest rates and preserving financial stability with Eurosystem credit operations'. Bank of Finland Bulletin, 1/2014. The article describes the implications of the full allotment liquidity policy for the money markets and examines the central bank's challenges in the steering of interest rates in an environment of a sizeable liquidity surplus.

volume of liquidity in excess of banks' reserve requirements in the banking system, rose at its height to more than EUR 800 billion.

In July 2012, the Governing Council of the ECB lowered the interest rate on the main refinancing operations to below 1%, and the overnight rate on the deposit facility to zero, which further reduced the leeway for interest rate policy and, for the first time, triggered public discussion on the zero lower bound in euro area interest rate policy. On the other hand, the conduct of non-standard monetary policy was already necessary before the zero lower bound, as the effectiveness of conventional monetary policy diminished in the euro area amid the weakening of the monetary policy transmission mechanism. By conducting non-standard monetary policy, the Eurosystem has repaired the functioning of the most important transmission channel for monetary policy, the credit channel. Non-standard monetary policy instruments typically include quantitative easing (QE), supporting the credit market either by outright purchases or through the banking system in the form of the central bank's refinancing operations with particularly long maturities. In the ECB's toolkit, refinancing operations play a more important role than in the United States or the United Kingdom, as the euro area financial system is more bank-centred than in these two countries.

Steering real market interest rates at the zero lower bound

The policy rate is the most straightforward tool for a central bank to steer market interest rates. But it is not the

only determinant of real market interest rates that the central bank can influence. A simple interest rate hypothesis model shows that the central bank could steer real market interest rates via several channels, even if the leeway for the nominal policy rate has been exhausted. However, the central bank's policy rate has no direct impact on household consumption decisions or corporate investment decisions; rather, these are guided by various real market interest rates, economic agents' expectations of real market interest rates and the standard deviation or volatility of real market interest rates.⁴

The simplest definition of the real interest rate r is that it is the difference between the central bank's policy rate I and inflation expectations π^e :

$$r = I - \pi^e \quad (1).$$

Household consumption decisions and corporate investment decisions are based on real interest rates on the financial markets, such as interest rates on housing loans and corporate loans. A static real market interest rate can be presented as follows:

$$R = (I - \pi^e) + \delta \quad (2).$$

The parameter δ illustrates the risk and liquidity premia that determine the difference between the real policy rate (1) and the market interest rate (2).

⁴ The model presented here is a simplified version of the dynamic interest rate hypothesis model, published in Walsh, Carl (2003) *Monetary Theory and Policy*, Chapter 10. The MIT Press, Cambridge, United States.

The maturity spectrum of market interest rates is broad, as consumption and investments are financed at interest rates with differing maturities. The real market interest rate over a period T is

$$R_t^T = \sum_{j=0}^{T-1} R_{t+j}^e + \tau \quad (3).$$

Here R_t^T is the real market interest rate over a period T at a point in time t , R_{t+j}^e is the expected one-period real interest rate at a point in time $t+j$ and τ is the term premium. By changing the values for the maturity, i.e. T , the equation definition of the term premium τ .

According to equation (3), long-term real interest rates thus reflect expectations related to the path of short-term interest rates. For this reason, short-term money market interest rates, such as interbank overnight deposit rates, are of key importance for monetary policy transmission: their level and fluctuations are directly reflected in interest rates with longer maturities, such as Euribor rates, which are generally used as benchmark rates for housing and corporate loans.

During a cyclical downturn, the outlook for the economy can be so weak that a reduction in the real interest rate (2) to negative territory would be an appropriate means of boosting economic activity. Where, despite a cyclical downswing, inflation expectations are anchored to e.g. 2%, the real policy rate will be negative if the central bank lowers the policy rate to below 2%. During the financial crisis, the ECB was in fact quick to reduce its policy rate. However, at the same time, inflation expectations π^e in the euro area weakened, which further

impaired the effectiveness of the ECB's interest rate policy. Similarly, the financial crisis added to uncertainty, causing the risk premia depicted by the parameter δ to widen strongly.

When the policy rate I is at the zero lower bound, equations (2) and (3) point to four ways in which the central bank can lower the real market interest rate: 1) by boosting inflation expectations, 2) by dampening expectations of future interest rates R^e , 3) by reducing the risk premium δ and 4) by cutting the term premium τ . In addition to lowering real interest rates, the central bank also wants to reduce their standard deviation, as interest rate volatility has an impact on monetary policy transmission. According to the interest rate hypothesis (3), long-term interest rates mirror expectations of future short-term interest rates, but expectations of the level of short-term interest rates are, in turn, affected by uncertainty related to the interest rate level. Fluctuations in short-term interest rates R_{t+j}^e increase uncertainty about the future level of interest rates, which again raises long-term interest rates. Thus, for example, volatility in the interbank overnight interest rate, the Eonia, may lead to an increase in Euribor rates, which is unwelcome from the perspective of the central bank's conduct of monetary policy.

Of the four options of the interest rate hypothesis model that bring down real market interest rates at the zero lower bound, the Eurosystem has so far introduced mainly the second and the third: in providing forward guidance it has sought to steer interest rate expectations R_{t+j}^e and to reduce financial market risk premia δ by constraining

volatility in short-term interest rates. Moreover, the Eurosystem's non-standard liquidity measures have brought down liquidity and credit risk spreads on the financial markets.

Forward guidance helped dampen interest rate volatility

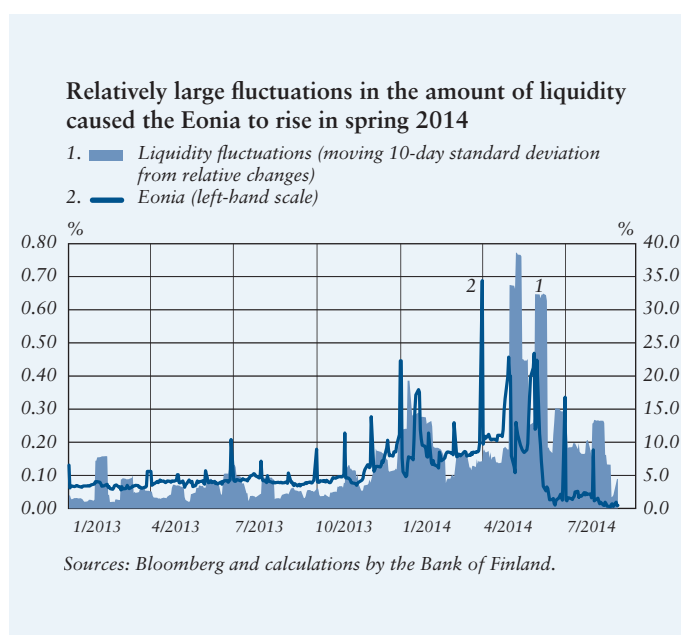
As, during the crisis, the Governing Council of the ECB abandoned the control of liquidity volumes and banks obtained abundant amounts of central bank refinancing, a considerable liquidity surplus formed in the banking system. This explains why the shortest-term market rates fell from the level of the policy rate close to the level of the ECB's overnight deposit rate. Even if banks traded with each other or lent money to their customers, the money thus exchanged would always end up on a bank's account and, at the close of the business day, it would have no alternative other than to deposit the funds with the central bank at the overnight rate on the deposit facility. Accordingly, considerable growth in central bank refinancing is considered an indication of the malfunctioning of the interbank market: surplus banks do not lend to deficit banks, which therefore need to resort to central bank refinancing.⁵ During the crisis, in fact, the central bank has in part replaced the money market: it lends money to deficit banks and accepts deposits from surplus banks. Therefore, during the crisis, the abundant liquidity surplus led not only

⁵ Paul Mercier (2014) deals with 'mistaken views' often related to the concept of excess liquidity in the banking system in his article 'The Eurosystem, the banking sector and the money market'. Cahier d'Études Working Paper No 2., Banque Centrale du Luxembourg.

to declining interest rates but also to smaller trading volumes on the markets.

During the course of 2012, cuts in the policy rates and the abundant amount of surplus funds in the banking system lowered short-term money market interest rates in the euro area and steadied their fluctuations temporarily. However, the shortest-term market interest rates began to rise moderately, and their volatility regained amplitude in 2013 (Chart 1), as euro area banks could embark on making early repayments on their borrowings from the central bank via its three-year refinancing operations. As banks' demand for liquidity buffers continued to be stronger than before the crisis, the volume of liquidity subject to trading was considerably lower than the notional liquidity surplus. For this reason, the likelihood increased that a

Chart 1.



bank facing a liquidity deficit would be forced to resort to the central bank's marginal lending facility well before the liquidity surplus in the entire banking system approached zero.

In connection with its July 2013 interest rate meeting, the Governing Council of the ECB provided forward guidance for the first time in an effort to steer market expectations of the future interest rate level. The Governing Council underlined it expected interest rates to remain at the then prevailing or lower levels for an extended period of time. According to the interest rate hypothesis, real market interest rates fall if interest rate expectations decline. Thus, in providing forward guidance, the central bank can add to the effectiveness of its monetary policy decisions and seek to anchor market expectations of the path of the policy rate in line with the objective of maintaining price stability over the medium term. In providing forward guidance, the Eurosystem did manage to temporarily subdue the first upward pressures on money market interest rates, which, in spring and summer 2013, were due, in particular, to expectations of a gradual tightening of monetary policy by the Fed.

However, in spring 2014, the reduction of excess liquidity to about EUR 100 billion and notably large daily fluctuations in the volume of liquidity led to a rise and renewed volatility in short-term market interest rates. Simultaneously, trading volumes on the interbank market grew: the trading volume of the market for overnight unsecured funds in the euro area has expanded from about EUR 20 billion in

early 2014 to about EUR 30 billion. The recovery of trading activity in spring 2014 was regarded as a sign of partial normalisation of the money market and of the fact that the higher interest rate level encouraged some of the surplus banks to lend to other banks instead of depositing their excess reserves with the central banks. Even so, the pressures on the money market, emanating from the tightening of liquidity, raised the Eonia at times to almost as high as the interest rate on the marginal lending facility (Chart 2). Longer-term interest rates, such as the Euribor rates, also rose.

June package of monetary policy measures calms money market

In June 2014, expectations of further monetary accommodation on the part of the ECB were realised, as the Governing Council announced a combination of sizeable monetary policy measures: 1) the lowering of the policy rates, whereby the overnight rate on the deposit facility was brought down to negative territory, 2) new targeted longer-term refinancing operations, 3) continued conduct of the full allotment policy of liquidity provision until December 2016, 4) suspension of the weekly fine-tuning operations sterilising the liquidity injected, i.e. banks' fixed-term deposits with the Eurosystem, 5) intensified preparatory work related to outright purchases of asset-backed securities, and 6) changes in the collateral framework.

The ECB cut the policy rate at which banks can obtain weekly

refinancing to 0.15% and the rate on the marginal lending facility to 0.40%. The overnight rate on the deposit facility was 0% prior to the interest rate decision, and in order to prevent an overly narrow interest rate corridor from causing dysfunctions on the interbank money market that had just picked up, the Governing Council brought the overnight rate on the deposit facility down into negative territory, to -0.10%.

This sizeable package adopted by the Governing Council of the ECB had immediate effects on the markets. The exchange rate of the euro depreciated, and the Eonia fell quickly to close to zero, i.e. to a distance of well over 0.10 of a percentage point from the new negative overnight rate on the deposit facility. Interest rates are also expected to remain at low levels for an extended period of time (Chart 3). The 3-month and 12-month Euribor rates declined close to their historical troughs. As retail loans are tied to Euribor rates, the interest rate cut directly benefited non-financial corporations and households with debts. The ECB also narrowed the interest rate corridor from 0.75 of a percentage point to 0.50 of a percentage point, meaning that the potential fluctuation band for short-term market interest rates was now narrower than previously. The ECB's decision to suspend fine-tuning operations sterilising the liquidity injected, whereby banks had made fixed-term deposits with the central bank, and the continued conduct of the full allotment policy in regular refinancing operations until the end of

Chart 2.

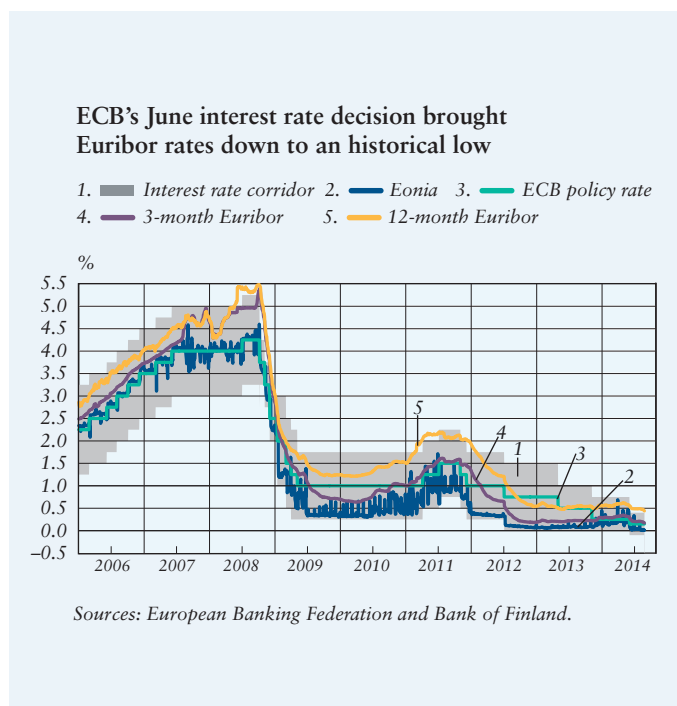
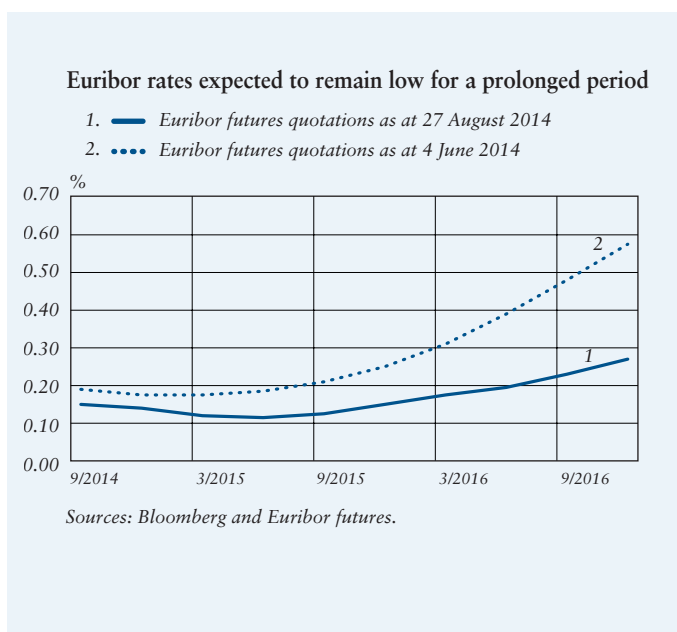


Chart 3.



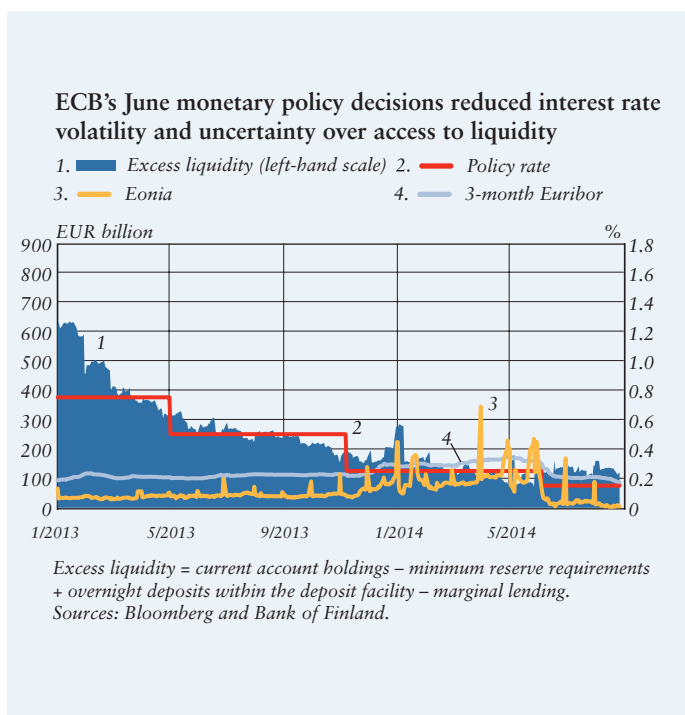
2016 reduced uncertainty in the banking system regarding access to liquidity and alleviated money market tensions caused by liquidity fluctuations. Interest rate volatility has, in fact, stabilised considerably following the ECB's policy decisions at the same time as interest rates themselves have declined (Chart 4).

As a consequence of the negative overnight rate on the deposit facility, all those Eurosystem counterparties that have deposits with the central bank in excess of their minimum reserve requirements must pay the Eurosystem for holding these deposits. Although there is still more than EUR 100 billion worth of excess central bank money in the banking system, it is unevenly distributed among banks. Hence, financially strong banks, in particular,

hold deposits in excess of minimum reserve requirements. Banks' post-crisis loss of confidence towards each other still creates friction on the interbank market, thus preventing surplus banks from lending to deficit banks on the interbank market. Deficit banks – often located in Southern Europe – are dependent on central bank refinancing, as they have been able to borrow at lower interest rates from the Eurosystem than from other banks and the range of collateral accepted by the central bank has also been broader. Financially sound banks with no collateral shortage, in turn, can access finance from the market on more favourable terms and conditions than from the Eurosystem. The negative overnight rate on the deposit facility raises the opportunity cost of holding central bank deposits relative to bank deposits, i.e. the cost incurred by surplus banks for holding central bank deposits, and increases the attraction of holding bank deposits with deficit banks.

Targeted longer-term refinancing operation (TLTROs) include elements that affect the real interest rate through a number of channels. As targeted longer-term refinancing operations have a maturity of four years, i.e. they are longer than other longer-term refinancing operations, the Eurosystem is committed to allotting liquidity to banks at a very low interest rate (the rate on the main refinancing operations prevailing at the time of take-up, plus a fixed spread of 0.10 of a percentage point) until June 2016. The long maturity and the low interest rate reduce the uncertainty and costs of central bank credit, which lowers

Chart 4.



the real interest rate. As the amount of TLTRO refinancing is tied to banks' lending to the private sector, the banks have an incentive to supply credit to the private sector.

In the first two operations to be conducted in September and December 2014, banks will be entitled to borrow from the Eurosystem an amount equal to 7% of their outstanding lending to the private sector. The combined borrowing entitlement of Eurosystem counterparties amounts to nearly EUR 398 billion. German banks cover about a quarter of the entitlement, with French and Italian banks accounting for about a fifth. Given that GIIPS countries account for just under 40% of the borrowing entitlement, the TLTROs also support lending in these countries.⁶

As regards the targeted longer-term refinancing operations to be conducted in March 2015 and beyond, the TLTRO borrowing limits will be measured in terms of the evolution of the counterparty's net lending (excl. financial institutions and lending for house purchase). The more eligible loans a counterparty grants between May 2014 and April 2016, the higher the amount of the counterparty's borrowing entitlement in the six subsequent operations. A bank that has reduced its net lending prior to May 2014 may be entitled to more refinancing from the operation than a bank that has increased its net lending. If banks step up their net lending during the operation at an equally rapid pace, the borrowing limit will be higher for a bank whose net lending was negative in

the period between May 2013 and April 2014 than for a bank whose net lending was 0 or positive in the same period. Targeted longer-term refinancing operations harmonise funding conditions across the euro area, as many of the banks that have reduced their net lending are located in the GIIPS countries. The method of calculating the maximum borrowing limit in TLTROs improves funding access for banks in the GIIPS countries, and the targeted nature of the operation encourages them to intermediate finance.

Eurosystem monetary policy remains accommodative

During the course of 2014, the Eurosystem has been open-minded in introducing new non-standard measures with which it has sought to harmonise funding conditions in the euro area. The central bank's capacity to steer real market interest rates has not disappeared even though its policy rates have come down close to the zero lower bound or below. In the final analysis, the most positive effect of the ECB's June package of measures on the real economy may be that, in launching targeted longer-term refinancing operations (TLTROs), the ECB is committed to accommodative monetary policy for many years ahead. These operations, if successful, will trigger a positive feedback loop: banks' low funding costs will reduce interest rates on household and corporate loans, which in turn will spur demand for credit. Consumption and investment will rebound, activity in the rest of the economy will pick up and loan demand will continue to grow. The long maturity

⁶ ECB and calculations by the Bank of Finland.

of the operations offers an opportunity for this type of virtuous circle to take place.

Even after June, the Governing Council of the ECB has emphasised that the Eurosystem has not exhausted its arsenal. According to the interest rate hypothesis presented in this article, the central bank could lower real interest rates by reducing the term premium of interest rates, e.g. by purchasing abundant amounts of securities with different maturities for its balance sheet.⁷ Quantitative easing would lower yields on securities, increase the amount of currency in circulation and stimulate economic activity. However, as noted above, the impact of outright purchases in the euro area would be likely to remain more modest than in the United States or the United Kingdom. Neither euro area households nor non-financial corporations hold sufficiently large amounts of securities that the wealth effect caused by a rise in their prices would be of major significance for consumption or investment.

According to the interest rate hypothesis, higher inflation expectations would also bring down real market interest rates. The central bank can steer economic agents' inflation expectations very effectively indeed, if its policy is sufficiently credible. Credibility, again, is based on reputation, and to build a reputation is a prolonged process. It might also be hard to implement a change in the central bank's inflation

targeting at a cyclical turning point. However, in an environment of low inflation, the central bank could signal it would temporarily tolerate higher inflation than warranted by its price stability objective without immediately tightening the stance of monetary policy. The central bank would advocate its signalling by the argument that, as a counterbalance to current subdued inflation, high future inflation would bring average inflation rates, over a specified period of time, in line with the objective of maintaining price stability.⁸

Non-standard monetary policy is associated with risks that have caused justified concern and debate. Interest rates that remain low for a prolonged period and abundant liquidity may distort market equilibrium. Accommodative monetary policy can also reduce motivation for banks and governments to implement unpleasant but necessary reforms. It is also possible that the adverse effects of non-standard monetary policy cannot be seen until the central bank wishes to return to a standard monetary policy. The Eurosystem's transparent and careful communication and thorough analysis play a key role in minimising uncertainty during the transitional phase, at the end of which the Eurosystem will no longer implement monetary policy at the zero lower bound – but above it.

Keywords: non-standard monetary policy, interest rate hypothesis, liquidity, policy rates

The central bank can steer economic agents' inflation expectations very effectively indeed, if its policy is sufficiently credible.

⁷ In September, the Governing Council of the ECB announced new monetary policy measures, including outright purchases of asset-backed securities (ABSs) and covered bonds (CBs).

⁸ The Eurosystem's aim is to maintain inflation rates below, but close to, 2% over the medium term.

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