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EUROSYSTEMET

1 • 2012

Monetary policy and the global economy



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The cover picture depicts the national motif on the Italy's 20 cent coin: A sculpture by Umberto Boccini.

Monetary policy and the global economy

9 March 2012

Executive summary

The growth outlook for the global economy deteriorated during the second half of 2011. The deepening debt crisis in the euro area increased uncertainty and hampered the functioning of the financial markets. The deteriorating financial conditions and uncertainty eroded household and business confidence, and indicators of economic agents' expectations weakened all over the world. In 2012, however, the markets have become calmer and economic indicators have shown the situation to be stabilising.

The spiral of declining confidence has been cut partly by the vigorous economic policy measures taken in early December 2011. Future developments will depend just as much on political decisions as on economic determinants. Although the European System of Central Banks can take steps to calm the financial markets, a permanent solution to this crisis that has weighed most strongly on the government bond markets cannot be based on temporary measures by the Eurosystem. Final success in managing the crisis will in the end require both successful action in areas of activity that cannot be reached by central bank measures and a controlled and timely exit from the recently implemented central bank measures.

This March 2012 Bank of Finland forecast for the international economy is based on the assumption that it will be possible to implement political measures sufficient to bringing the crisis under control and permanently resolving the debt crisis. In practice, the forecast for the years 2012–2014 assumes euro area countries will implement the measures they have promised to adjust their public finances and introduce structural policy measures to bolster growth. The reduction in interest rates will facilitate a gradual improvement in the position of the private sector. The substantial government debt and lack of budget policy credibility in crisis countries can, however, be remedied only gradually.

According to the Bank of Finland forecast, the global economy will grow only very slowly in 2012, on the upper edge of 3%. In the second half of the forecast period, the global economy and world trade will, according to the new forecast, achieve approximately the average pace of growth over the years 2003–2010. Global imbalances will be somewhat redressed, as the balance of payments surpluses in both China and Japan are expected to contract by more than previously forecast.

Inflation in the advanced economies is forecast to slow during 2012 and remain for the most part steady in 2013 and 2014 in the range of 1½–2%. Price trends in the euro area are being pulled simultaneously in different directions. Inflation has been driven in recent months by the price of oil – due to uncertainties on the supply side – and the increases in value-added tax that have been widely deployed in pursuit of healthier public finances. Over the monetary-policy-relevant horizon, however, inflationary pressures from domestic demand are estimated to remain minor during the forecast period.

Due to the forecast assumptions, the risks to forecast growth are predominantly on the downside. Economic history has shown that recovery from a financial crisis is a slow and uneven process. The positive spiral of interest rate cuts and growing confidence could be cut very abruptly if, for example, there were to emerge gaps between the aims and concrete achievements of stabilisation policies. The inflation risks to the forecast are at the global level currently moderate and relate primarily to fluctuations in world market prices for energy products. The most significant positive risk relates to the forecast trend in the US economy. Better-than-expected growth in US demand would bolster the entire global economy both directly and indirectly.

Cyclical conditions and economic outlook for the global economy

The growth outlook for the global economy deteriorated in the second half of 2011. The deepening of the debt crisis in the euro area increased uncertainty and hampered the functioning of the financial markets. On the interbank market, the interest

difference between secured and unsecured loans grew and the price of hedging against credit risk rose. Key share indices declined strongly and stock market volatility increased. The prices of investments seen as low risk – German and US government bonds, and gold – all rose. The weaker financial conditions and uncertainty eroded household and business confidence and indicators of economic agents' expectations declined worldwide.

The steepest decline in indicators occurred in the euro area. The purchasing managers' indices for manufacturing and services suggested that the euro area had drifted into recession at the end of the year, a picture later confirmed by the GDP figures. Euro area GDP declined by 0.3% in the last quarter of 2011. The Italian and Spanish economies, which are in the heart of the debt crisis, contracted, but the crisis also brought about a weakening trend in the Dutch and German economies. In accordance with the euro area focus of the crisis, the external value of the euro weakened relative to the other major currencies.

Outside Europe, the direct impact of the debt crisis was relatively minor. In the United States, economic indicators in the second half of the year were actually slightly better than expected. Growth picked up on the back of higher private consumption, in response to the improving employment situation. In emerging economies the pace of growth slowed, but this was largely in line with expectations and was due to policy measures taken to

Chart 1.

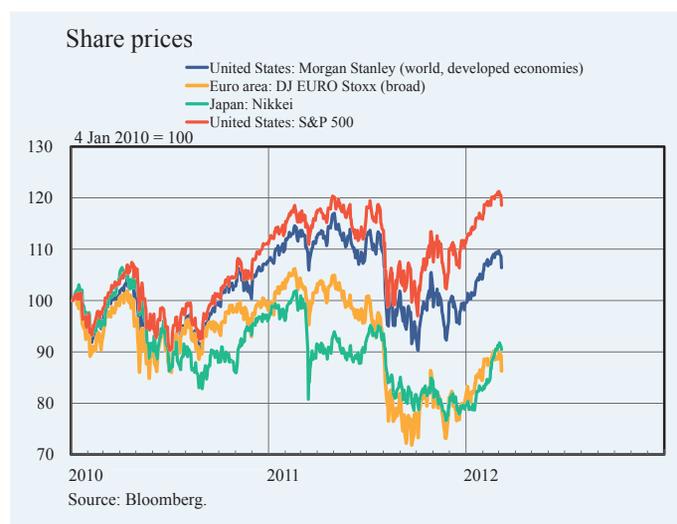
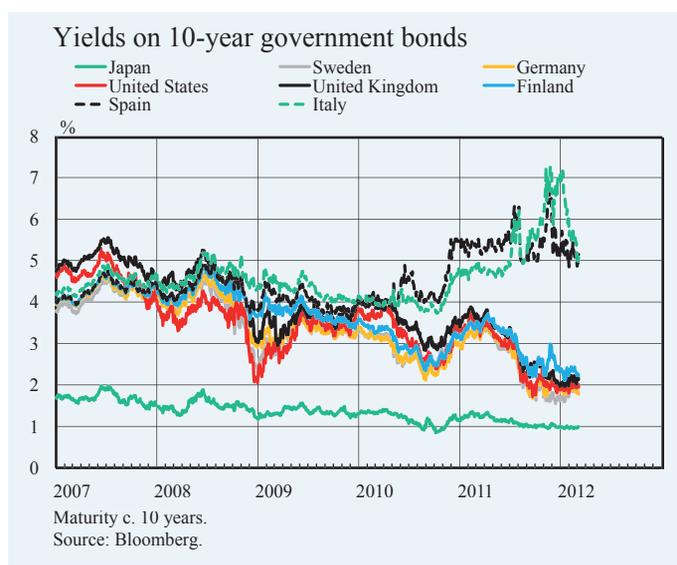


Chart 2.



prevent overheating. In Japan, the economy was sluggish, primarily as a consequence of weak export performance.

The trend in world trade at the end of 2011 was also weaker than expected in the autumn. The value of exports and imports in both advanced and emerging economies remained almost unchanged during the final months of the year. Widespread uncertainty among economic agents postponed both household and corporate purchasing decisions on consumer durables and capital goods. As these are for the most part traded internationally, the bleak confidence climate is reflected in a pronounced downward trend in world trade. In line with this, indicator data on export orders weakened at the end of 2011 in key countries.

Despite the debt crisis, inflation was continuing at a brisk pace worldwide at the end of 2011. The most rapid phase in the annual pace of growth in consumer prices was October–November. In the advanced economies, this trend was broken by the fall in commodity prices, particularly for oil. In contrast, the deceleration in underlying inflation (inflation minus energy and food prices) was less marked. The slowdown in inflation was particularly rapid in the second half of the year in China, where economic policy was vigorously tightened during the course of 2011. The deceleration in inflation has, however, allowed many advanced economies to continue and even extend their relaxed stance on monetary policy.

Since the beginning of 2012, however, the market trend has eased

and economic indicators have indicated the contraction in the European economy is slowing down. The risk premia on sovereign debt have come down for most countries in Europe, and share prices have risen. The external value of the euro has also shown signs of stabilising.

The strong economic policy measures introduced at the beginning of

Chart 3.

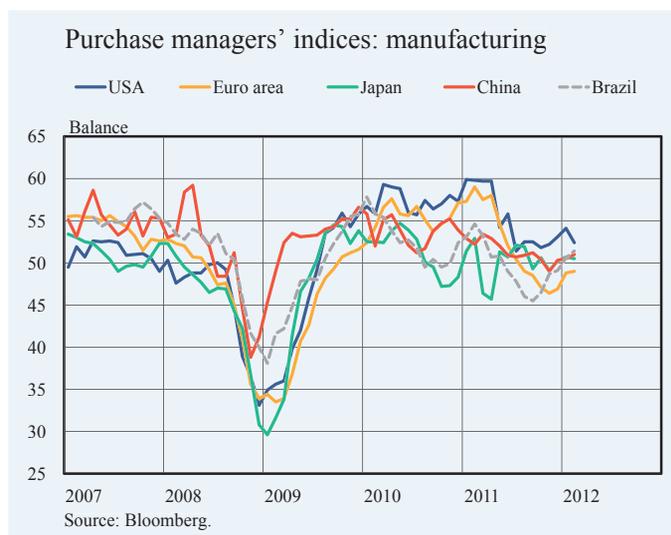


Chart 4.

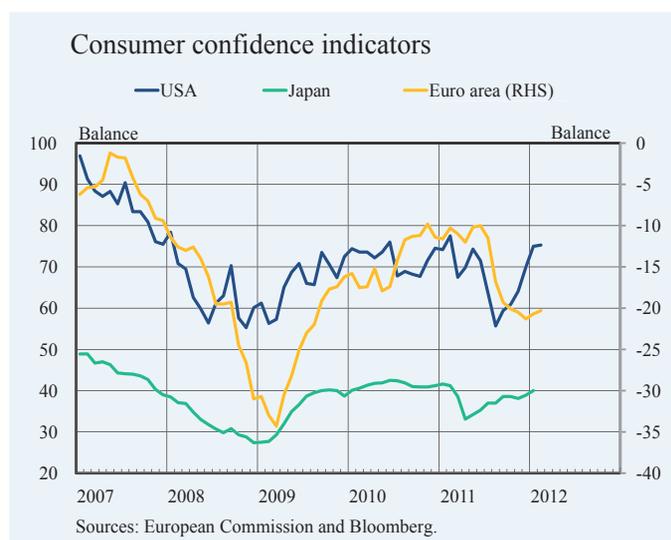


Chart 5.

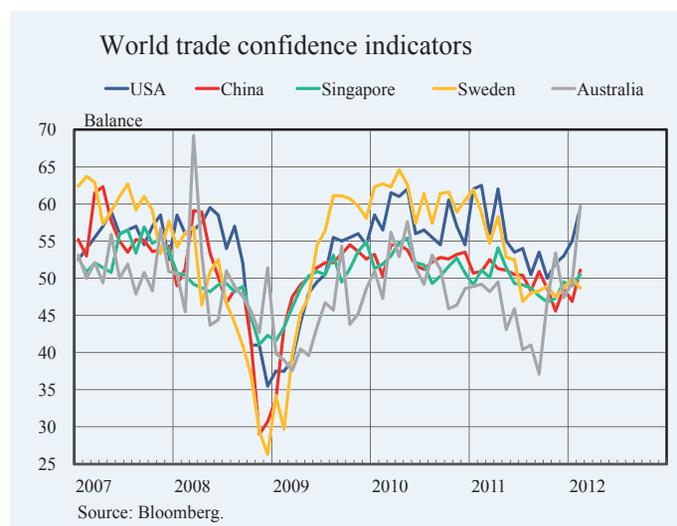


Chart 6.



December 2011 have helped halt the decline in confidence. The measures introduced in the euro area and in the European Union as a whole have enhanced the credibility of the decisions taken by individual countries to stabilise their public finances. On 8 December, the Governing Council of the ECB took steps to relax monetary policy in the euro area through both

standard interest-rate measures and non-standard measures (for more detail, see the section of this article headed 'Monetary and fiscal policy'). One day later, through the intergovernmental fiscal compact presented at the European Council on 9 December, almost all Member States committed themselves to strive more determinedly to achieve balance in their general government fiscal positions, for instance by agreeing to legislate on a new fiscal policy rule to foster such balance. The compact also covered steps to reinforce implementation of the Excessive Deficit Procedure in the Stability and Growth Pact.¹

Important decisions to stabilise the situation have also been taken at national level. New governments in both Italy and Spain have announced economic policy programmes that include both general government financial adjustment measures and structural policy reforms. In the case of Italy, the total value of these measures for the years 2011–2014 amounts to approximately EUR 90 billion (around 5½% of Italy's annual GDP). Spain has also announced substantial adjustments to its general government finances. The new government that took office in December decided at the end of the year on a good EUR 15 billion package of concrete measures to adjust the balance of revenue and expenditure. However, the Spanish measures are still somewhat uncertain, as the Budget for 2012 will not be published until sometime in March.

¹ See Samu Kurri's article 'Economic policy coordination in the euro area: what has been done, and why?', p. 39 below.

At the end of February, agreement was also reached in principle on a second adjustment package for Greece. This includes a haircut on the Greek debt amounting to a 53.5% write-down on the nominal value of the debt owed to private-sector creditors. At the same time, the interest due on the outstanding debt will be reduced and maturities extended. Taken as a whole, the changes will mean that the present value of the assets held by private-sector creditors will decline on average to around a quarter of their original nominal value. The debt rescheduling, adjustment of expenditure and measures to strengthen the growth base of the Greek economy are designed to help reduce the GDP ratio of Greek sovereign debt to around 120% by 2020.

Bank of Finland's forecast assumptions for the international economy

Forecasting during a financial crisis is always a challenge, and this is especially so in the case of the euro area. European Economic and Monetary Union is a unique phenomenon in the present era in the history of capital markets, and hence there is no readily available point of comparison in economic history. When the crisis broke, the euro area had few tools available to manage it, and these have been developed and elaborated as the crisis has progressed. How events develop in the future will depend just as much on political decisions as on economic determinants. The Bank of Finland forecast is built on the assumption that the political steps needed to bring the crisis under control

Chart 7.

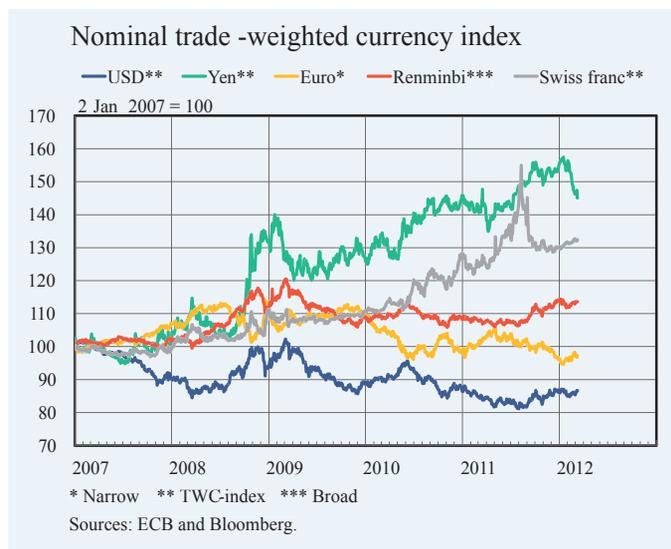


Chart 8.



can be successfully implemented and the financial crisis definitively resolved. As a consequence, the general weakening trend in economic confidence can be sustainably halted, and it will be possible to ensure continuity for the shoots of recovery.

In practical terms, the forecast for 2012–2014 assumes that euro area

governments will carry through their promised measures to adjust their general government finances and structural reforms to boost growth. As a result, in regard to Italy and Spain in

Chart 9.

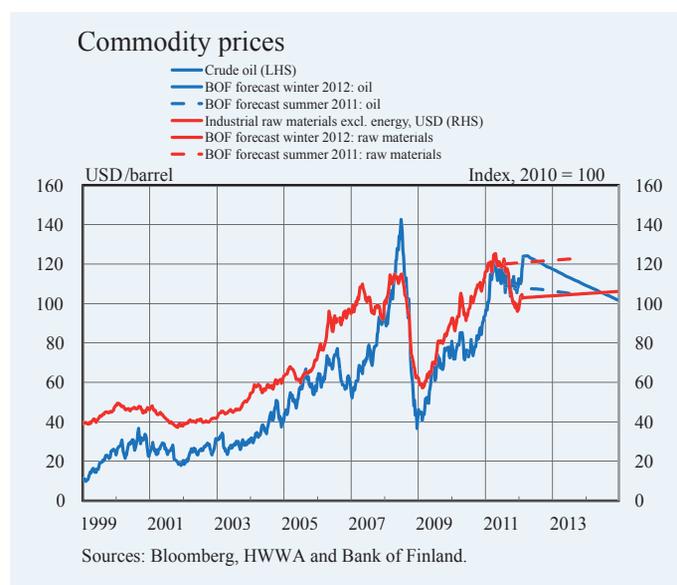


Table 1.

Bank of Finland forecast for world economy

GDP	2010	2011 ^f	2012 ^f	2013 ^f	2014 ^f
United States	3.0	1.7 (1.5)	2.3 (1.9)	2.6 (2.6)	2.5
EU (20)	1.9	1.5 (1.6)	-0.2 (0.9)	1.0 (1.6)	1.6
Japan	4.5	-0.9 (-0.6)	1.4 (2.4)	1.5 (1.3)	1.7
China	10.4	9.2 (9.0)	8.0 (8.0)	8.0 (8.0)	7.0
Russia	4.3	4.3 (4.4)	3.7 (4.4)	3.7 (3.6)	3.4
World	5.3	3.8 (3.9)	3.2 (3.6)	3.9 (4.0)	3.9
World trade	13.7	6.0 (6.2)	3.5 (6.1)	5.8 (7.1)	6.3

^f = forecast
% change on previous year (previous forecast in brackets)
Source: Bank of Finland.

particular, the general level of interest rates is assumed to return towards the situation that prevailed in the first half of 2011. The declining interest rate will then facilitate a gradual improvement in the position of the private sector.

The substantial sovereign debt in the crisis countries, and the lack of credibility in their budget policies, may, however, be corrected only slowly and gradually. Therefore, the baseline forecast does not envisage any rapid, substantial and permanent improvement in risk assessments during the course of 2012.

In regard to monetary policy, the Bank of Finland forecast is based on market expectations in respect of short-term interest rates derived from interest rate futures on 5 March. These were also used, together with uncovered interest rate parity, to derive the exchange rate expectations in the forecast. Market expectations regarding interest rates, particularly in respect of the euro area, have come down substantially relative to the expectations current at the time of the autumn forecast. In the United States, too, the expected rise in short-term rates has receded further into the future. In the euro area, the markets expect short-term rates to rise slightly at the end of 2013 and during 2014. The Bank of Finland forecast regarding crude oil and other commodity prices is based on futures prices current on 5 March.

The fiscal policy adjustment currently underway is assumed to weaken the short-term outlook for growth. Securing the medium-term

stability of debt is, however, essential in order to bring interest rates permanently back to a level conducive to a positive performance by the private sector. The forecast assumes that fiscal policy tightening will cause a slowdown in growth in the manner observed on average in economic research. It is, however, possible that these estimates based on historical statistical data are not applicable to the unusual economic and institutional situation of the sovereign debt crisis in the euro area. Fiscal policy and the related uncertainty are discussed in more detail later in this article (see ‘Monetary and fiscal policy’).

Euro area in recession, but US situation gives hope

According to the Bank of Finland’s latest forecast, global economic growth in 2012 will be very slow, on the upper edge of 3%, or almost ½ a percentage point slower than envisaged in the September forecast. This change is due to the slide into recession in the advanced economies of Europe and an easing in the pace of growth in emerging economies, particularly China and India.

The downward adjustment in the forecast is greatest in respect of the euro area, where the economy began to contract in the final quarter of 2011. The contraction is expected to continue through the first half of the current year. The previous Bank of Finland forecast on the international economy (published last September) envisaged the euro area coming through the present crisis without a recession in the real economy. However, the likelihood

Chart 10.

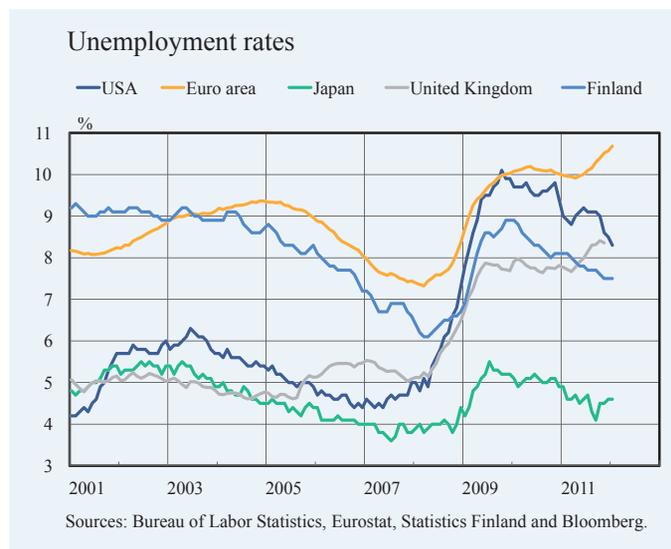
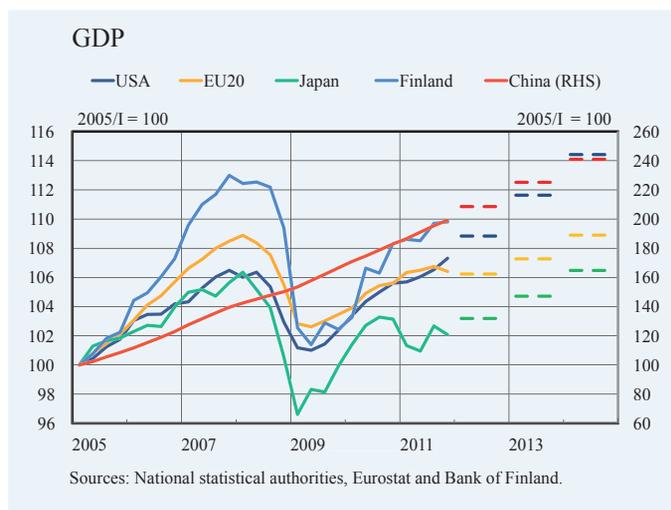


Chart 11.



of recession was even then viewed as substantial. The actual onset of recession became apparent with the steep decline in market confidence in late October and early November.

Over the next couple of quarters, euro area trends in private consumption and investment will both be very weak. The slower pace of world trade growth, deteriorating price-competitiveness and

weak export order books mean only slow growth in exports over this period. Fiscal policy tightening and measures to improve the sustainability of sovereign debt will also place a brake on growth. Growth is expected to return to positive territory in the second half of 2012, slowly strengthening thereafter. All in all, the experienced recession and slower growth in 2013 than previously forecast, will worsen the already weak employment situation in many euro area countries.

Growth expectations in the other old EU countries have also deteriorated on account of the financial crisis. In addition to weak exports, domestic demand in the United Kingdom, Sweden and Denmark has also been reduced by the winding down of private sector debt. Moreover, in the UK in particular, public sector adjustment programmes are further subduing domestic demand. The growth outlook for the new EU countries in Central and Eastern Europe has also deteriorated in view of the situation in the euro area economy. These countries are highly dependent on developments in the euro area, both in respect of the impact on exports and from the angle of the availability of finance. A special case in this group of countries is Hungary, which has once again joined the list of crisis countries.

US growth in the second half of 2011 was slightly quicker than previously forecast, with the euro area debt crisis having less of an effect than expected on private consumption and investment. The positive news of recent months on market confidence and the labour market give grounds to assume

that the pace of growth will pick up somewhat in 2012. Substantial unemployment will, however, remain a problem throughout the forecast period.

For Japan, 2011 was in many ways an extraordinary year. On top of the earthquake, tsunami and nuclear disaster in March, the country's economy was also hit by the problems in the global economy and the impact of Thailand's floods on Japanese exporters. GDP was down in 2011, and low figures for net exports will mean that in 2012, too, growth will not be as rapid as the brisk pace of reconstruction would give cause to expect. Even were the global economy to recover during the second half of the forecast period, Japan's growth prospects will be subdued by the growing pressure to balance the public finances through spending cuts and tax increases.

The changing structure of Chinese growth will gradually stabilise the global economy

Emerging economies, particularly China, are forecast to continue growing at a fairly rapid pace, albeit the overall pace will slow somewhat. The economic model applied in China for the past 30 years, based on exports and investment, is approaching its useful limits. At the end of the past decade, the GDP share of investment grew strongly and now stands at over 45%. At the same time, households' share of consumption has contracted to 35%. Such a high investment ratio and low consumption level are utterly exceptional, both in terms of China's own history and relative to other countries.

The positive news of recent months on market confidence and the labour market give grounds to assume that the pace of growth will pick up somewhat in 2012.

Going forward, the enormous scale of and structural factors in the Chinese economy will slow the pace at which it grows: there is a limited supply of raw materials, China's working-age population will begin to decline and growth in consumer demand cannot entirely compensate for a slowdown in the pace of investment. These factors suggest the pace of growth will be slower than that experienced so far, even in the event of a mild recovery in the global economy. An easing in the pace of growth in China will be welcome both for China itself and from the perspective of global imbalances.

The Indian economy is also expected to grow more slowly than previously thought, due to the condition of the global economy and internal problems within the country itself – eg inflation of 7–8% and a budget deficit that has risen to around 9%.

The Russian economy grew in 2011 almost as envisaged in the Bank of Finland's autumn forecast. Current year growth is estimated to slow to below 4%, due to the uncertainties both in the global economy and in Russia itself. In 2013, the pace of growth will pick up slightly, only to slow again fairly soon thereafter.

World trade will grow very slowly in the immediate quarters ahead. Although the early months of this year have seen an upward trend in export order data, particularly in the United States and to a lesser extent in China, the uncertainty caused by the events of last autumn can still be seen in household and business decisions on the purchase of consumer durables and capital

goods. The Bank of Finland forecast envisages world trade growth of around 3½% in the current year, or approximately 2½ percentage points less than expected in early autumn.

At the end of the forecast period, the global economy and world trade will, according to the latest forecast, reach almost the average pace of growth witnessed over the years 2003–2010. Growth in the United States and the euro area, in particular, will in 2014 reach its potential rate. There will be a moderate reduction in global imbalances, with both Chinese and Japanese net exports expected to be slightly weaker than before.

Lower inflation

According to the Bank of Finland forecast, the pace of inflation in the advanced economies will ease during 2012 and will in 2013 and 2014 remain mostly in the range of 1½–2%. The trend in prices in Europe has factors pulling in different directions. As a consequence of the recession and higher unemployment the amount of unutilised capacity will increase, as a result of which inflationary pressures from domestic demand are estimated to remain weak throughout the forecast period. Moreover, the period of high oil prices dropping out of the figures for the reference period will mean lower figures for inflation. In contrast, the factors driving inflation are the recent rise in oil prices and the extensive adoption of value-added tax increases as a part of measures to repair general government finances.

The factors affecting inflation can be broken down into three main

Chart 12.



components: inflation expectations, domestic price pressures and import prices. The last of these can be further broken down into those that, like oil prices, have an immediate impact on domestic prices, and other import prices, whose impact depends partly on general domestic price pressures.

The stabilisation of inflation expectations is fundamentally related to the change that took place in the 1980s and 1990s in the objectives set for monetary policy. The central banks of most advanced economies now have the objective of price stability, for which they have set an official target or definition. For example, price stability in the euro area is when inflation according to the harmonised index of consumer prices (HICP inflation) is under but close to 2% over the medium term. The estimate of medium-term inflation by the members of the US Federal Reserve's Federal Open Market Committee (FOMC) resulting from an appropriately

Although actual inflation was well above the target on both sides of the Atlantic in 2011, inflation expectations have remained anchored close to the target.

conducted monetary policy is exactly 2%. The credibility of euro area and US central banks' ability to deliver on this commitment to price stability is reflected in inflation expectations derived from market data or questionnaires. Although actual inflation was well above the target on both sides of the Atlantic in 2011, inflation expectations have remained anchored close to the target.

During the first decade of the new millennium there was a general decline in the relative contribution to inflation by the component relating to domestic demand. This flattening of the Phillips curve, or weakening of the relationship between inflation and domestic demand, has, in advanced economies, been influenced by the stiffer international competition brought by globalisation. This has moderated the rise in domestic prices, both directly via lower (or more slowly rising) import prices, and indirectly by boosting domestic competition, making it harder for companies to raise their prices.

The price of oil at the end of 2011 and in the early months of 2012 has been affected by the uncertainty over supplies due to the geopolitical situation surrounding Iran. Other commodity prices have been depressed both by slower growth in demand and by improved supply, due eg to good harvests for agricultural products. In respect of crude oil and other commodities, the forecast is based on the futures prices current at the beginning of March. The price for a barrel of crude oil is currently around USD 15 higher than assumed in the Bank of Finland's autumn forecast. Even if the difference

were to narrow in the immediate years ahead, future prices indicate the price of oil will remain higher than assumed in the autumn throughout the forecast horizon.

The most rapid phase of consumer price inflation globally was towards in October–November 2011. Inflation in the euro area stood at 2.7% in February. In January, US inflation stood at 2.9%, with 4.5% in China. In addition to the decline in commodity prices, the slowing pace of inflation has also been influenced, particularly in the advanced economies, by substantial underutilisation of production resources and only moderate growth in consumption. Other factors include the aforementioned decline in commodity prices and their high phase dropping out of the reference period. In Japan, the trend in consumer prices has continued to be very slow. The annual change in January was just 0.1%.

In Europe, inflation will be sustained in 2012 by the recent rise in the world market price of crude oil. The pace of inflation in Europe will probably continue for several months at above 2%, before slowing to below this figure. This forecast is based on the price of crude oil and on the assumption that, in a situation of slow growth in Europe, domestic price pressures will continue to be minor. In the United States, inflation is expected to slow in the immediate quarters ahead and to remain moderate at below 2% in the forecast period. In China, inflation is expected to be slightly higher than in other major economic regions, at around 3–4%. However, the unpredictability of food prices is excep-

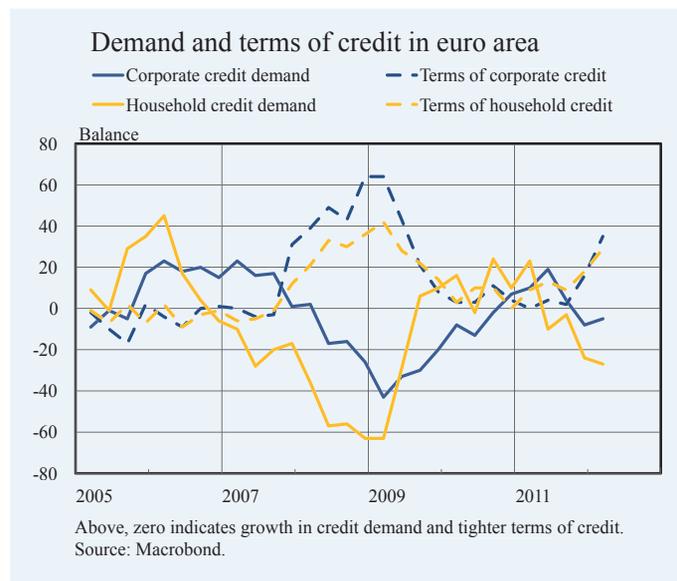
tionally important in relation to Chinese inflation. In Japan, the Bank of Japan announced in February an interim inflation target of approximately 1%, and a medium-term price stability objective of at most 2% inflation. The Bank of Finland forecast does, nevertheless, expect Japanese inflation to remain more or less unchanged throughout the forecast period.

Inflation forecasts are currently subject to slight upside risks. The world market price for crude oil has risen fairly strongly in February and March, primarily due to the uncertainties surrounding supply. In the immediate months ahead this will push up import price inflation. Inflation will also be driven by increases in indirect taxation planned by many countries in the euro area in order to correct their general government deficits. All in all, the inflationary pressures caused by the rise in the price of crude oil and the planned increases in indirect taxation will be only partly dampened by the recession in the real economy in the euro area and the weakness of domestic demand.

Euro area debt crisis remains most serious risk to global economy

The growth risks to the forecast are, due to the nature of the forecast assumptions, primarily on the downside. Although the market situation and economic indicators have since the end of December developed in a promising direction, the situation in the euro area remains fragile. Economic history has shown that the process of recovery from a financial crisis is slow and uneven. The positive cycle of falling

Chart 13.



interest rates and growing confidence could be cut very suddenly, if, for instance, gaps were to appear between the goals of stabilisation policies and their implementation.

The ECB's two large 3-year refinancing operations have made a substantial contribution to supporting banks' financing position and reduced the short-term risks to the euro area banking sector. Even so, the banking system remains fragile, and banks' ability to support economic developments is in many countries uncertain. In particular, in the banking systems of countries suffering the consequences of excessive debt, loan losses and the need for readjustment of balance sheets will continue. In countries where the fundamentals for growth are robust, banks will need to acquire financing to fund their operations on reasonable terms in order to be able to meet the growing demand for credit as a result of the recovery in demand. Moreover, the structural changes needed

to produce a banking system capable of meeting the long-term demand are still in their infancy in the euro area.

To recap, the underlying assumption of the baseline forecast is that the euro area debt crisis can be brought under control in a sustainable manner and the crisis will not come to a head again. There is, however, a clear risk that this will not be so; rather, the normalisation of the economy will grind to a halt and the situation will once again deteriorate. Such a scenario could be triggered by, for instance, a failure of the adjustment programmes or a panicky reaction on the markets to poorer-than-expected economic data.

A particularly problematical development trend would be if confidence were to be shaken in the ability and will of the major euro area economies to implement budgetary and structural reforms to improve their long-term capacity to adjust. This would mean that adjustment in the external balances of the crisis countries would not be achieved through the structural correction of general government deficits and productivity growth, but through a contraction in domestic demand. This would not simply cause a momentary weakening in investor sentiment; it would fundamentally call into question the credibility of the entire euro area. The markets would react strongly, and the entire basis of the strategy to manage the debt crisis would be undermined.

The loss of credibility in such an event would be extensive. The economic impacts in the crisis countries would be dramatic, but willingness to consume

The ECB's two large 3-year refinancing operations have made a substantial contribution to supporting banks' financing position and reduced the short-term risks to the euro area banking sector.

and invest would also be weakened across the euro area as a whole. The recession in domestic demand in the euro area would then not be only a short-term and relatively light adjustment; instead, achieving a new balance would require a deeper and more sustained economic slump.

The fragility of the euro area banking sector would reinforce the sort of negative trend outlined above. A weakening trend in the economy would make it harder for banks to procure funding and would reinforce their need for balance sheet adjustment. Although a reduction in the stock of loans in some problem countries is essential, a broader credit slump would unavoidably deepen the short-term cyclical recession and, via a decline in investment, would also further weaken the medium-term growth potential of the countries concerned. In such an event, postponement of fiscal policy adjustment and structural reforms would not in any way help these countries to independently solve their debt problems.

A renewed deterioration in the euro area debt crisis via the interdependencies in the financial sector would have extensive negative effects on developments in other economic regions and hence on the prospects for world trade. This could result in a full-blown global recession.

The realisation of this sort of crisis scenario would reduce inflationary pressures in the euro area. On one hand, weakening domestic demand would reduce internal price pressures within the area. On the other hand, the

slowdown in the global economy would depress commodity prices. The overall picture of price trends would depend on how the weakening credibility of the euro area would be reflected on exchange rates for the euro. If there was a substantial depreciation in the value of the currency, this would result in higher import prices.

The most significant positive growth risk relates to the forecast trend in the US economy. According to the forecast, the need to unravel the overindebtedness built up before the crisis will keep growth in US credit demand moderate throughout the forecast period, while the savings ratio will decline slowly as the debt burden is reduced.

It is, however, unclear how far the debt will need to come down before it triggers a reduction in the pressure on households to save and increases readiness to consume and invest. It is possible that the improvement in US household balance sheets will come to an end sooner than assumed in the baseline scenario, leading to a greater-than-forecast reduction in savings and increase in consumption. In that case, the labour market situation would also improve more quickly than expected. Growth in demand in the USA would boost world trade and bolster readiness to invest. Euro area exports would also grow, increasing investor confidence that European economies would recover from the debt crisis. Increased confidence would reduce risk premia on the crisis countries, whereby the trough in domestic demand in the euro area could be shallower than forecast.

An essential requirement for the baseline forecast is continued market confidence in the debt sustainability of economies – including the USA and Japan – that are carrying a large burden of public debt. Confidence in the USA's ability to put together a long-term debt adjustment programme has meant the country has continued to benefit from low funding costs. However, the political problems of summer 2011 over raising the debt ceiling and the simultaneous temporary weakening in market sentiment provided a reminder that if the US Government's budget strategy were to lose credibility, this could rapidly alter the growth outlook in the USA as well.

Monetary and fiscal policy

Monetary policy more relaxed than ever

A substantial deterioration in the economic outlook in the second half of 2011 eased inflationary pressures and created space for interest rate cuts both in the euro area and in many emerging economies. The deepening and spread of the euro area debt crisis towards the end of 2011 caused a tightening of financial conditions for the private sector and weakened corporate and household confidence in many countries outside the euro area as well as within the euro area itself. Tight financial conditions and general government savings measures in many euro area countries will continue in the future to subdue economic activity in the euro area. Towards the end of 2011, the Governing Council of the ECB lowered its key policy rates twice, by 0.25 percentage points each time, first in

November and again in December. In December, the interest on the ECB's main refinancing operations returned to 1%, the lowest level ever in the history of the ECB.

The price stability objective is currently subject to risks of higher-than-estimated inflation; at global level the risks are moderate and relate mainly to fluctuations in world market prices for energy products. Decelerating inflation and moderate inflation expectations are likely to sustain the relaxed stance of monetary policy in the advanced economies throughout the forecast period (2012–2014), supporting economic growth and job creation. The US Federal Reserve anticipates holding its policy rates unchanged (in practice, at zero) until the end of 2014, assuming the recovery is as slow as expected. In Japan, too, there is no expectation of any change either in the already long-sustained sluggish trend in prices, or in the Bank of Japan's very low policy rates.

In most advanced economies, central bank policy rates are currently close to zero, leaving interest rate policy no room to respond to the economic downturn. Indeed, many central banks found themselves compelled in the second half of 2011 and early 2012 to seek refuge once more in non-standard measures designed to relax financial conditions or improve the functioning of the financial sector.

The problems in monetary policy transmission caused by the sovereign debt crisis featured prominently in ECB General Council decisions in the second half of 2011. A flight of private capital from the crisis countries threatened a

dramatic tightening of monetary conditions in these countries. Therefore, the Governing Council decided in December on a range of measures to improve the liquidity and operating potential of the banking sector. The most important of these measures were two major refinancing operations in December and February, in which banks received credit against collateral with an exceptionally long maturity of 3 years. These operations attracted participation by a large group of banks in the euro area. They have considerably reduced the risks to banking liquidity, thereby providing a more solid foundation for improving monetary conditions in the euro area. Even so, the euro area banking sector continues to operate in a challenging environment, and the risks of poorer-than-forecast development have not been entirely removed.

Non-standard measures have also been expanded in the United Kingdom, Japan and the United States.² Non-standard measures to support the operational capacity of the financial sector have enlarged central bank balance sheets relative to GDP in the euro area, the United Kingdom and Japan. In the United States, the Federal Reserve's balance sheet has remained more or less unchanged in size since the end of June 2011.

The monetary policy situation in emerging economies is different from that in many advanced economies. The impact of the global financial crisis on the emerging economies was relatively

² See Lauri Vilmi's article 'Quantitative easing of monetary policy' on p. 53 below.

Chart 14.

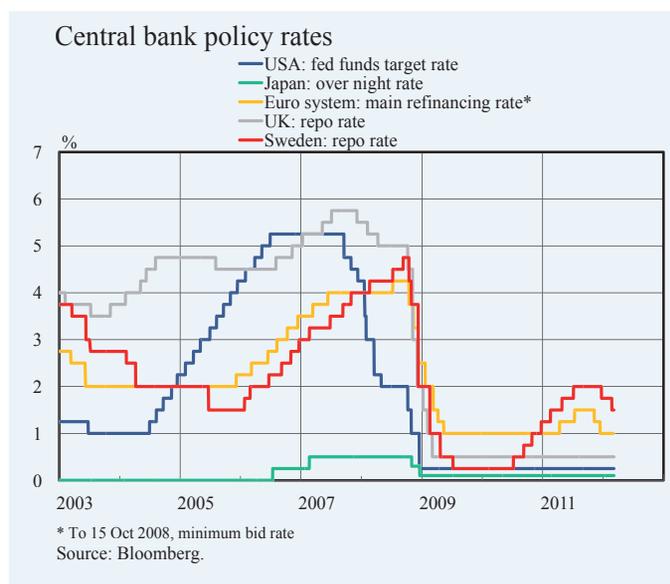
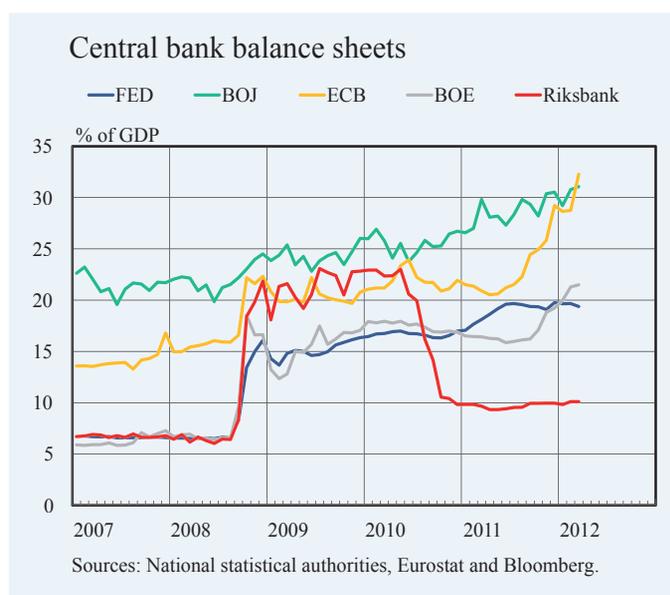


Chart 15.



minor, and rapid post-crisis growth had already precipitated a clear rise in policy rates. As a result, the renewed deterioration in economic conditions and slight easing of inflationary pressures in the second half of 2011 could be responded to by lowering policy rates and, in countries such as

Eurosystem introduces 3-year refinancing operations

The disruptions that had previously affected the financial markets of just three euro area countries gathered strength in the second half of 2011 and infected euro area government bond markets across a broad front. Once the financial market disruption had taken on the features of a systemic crisis, increasing numbers of market players began to view the European Central Bank (ECB) as the only possible guarantor of the euro area's credibility.

Expectations grew that the ECB would, like other major central banks, introduce large scale securities purchase programmes.

The response of the ECB's Governing Council in December was at once both traditional and non-standard. It decided to give banks two opportunities to

borrow as much central bank financing as they wished and could cover with collateral for as long as 3 years at a rate fixed to the main refinancing operations. The Governing Council also decided to halve banks' minimum reserve requirements as from January 2012 and relax the eligibility criteria applied to monetary policy credit operations.

3-year operations

The Eurosystem has lengthened the maturities on refinancing provided to banks on several occasions since the current stress situation on the financial markets began in August 2008. Until December 2011, however, credit had been provided for a maximum of one year at a time, ie only at money market

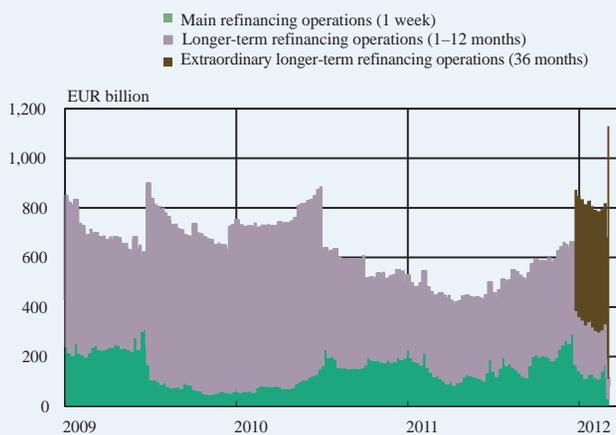
maturities, which are used to cover banks' liquidity needs. The introduction of 3-year operations meant that, in addition to traditional liquidity management, the Eurosystem began to facilitate banks' structural funding needs to support their lending.

Demand for funding through these two exceptionally long operations turned out to be substantial. In these refinancing operations, conducted in December and February, banks borrowed EUR 489 billion and EUR 530 billion respectively, a total of over EUR 1,000 billion. As the banks rolled over only a few of their short-term central bank loans, the net increase in euro liquidity was around half of the nominal amount, ie just over EUR 500 billion (Chart A).

From a central bank perspective, banks' extensive participation in the long refinancing operations diminishes their need to reduce their funding needs by cutting lending. This, in turn, reduces the likelihood of a credit slump, which would hurt the real economy badly. In addition, as part of the borrowed amount will be invested in the euro area financial markets, the long-term operations will also indirectly improve the functioning of market segments key to economic policy transmission, thereby reducing the need for central

Chart A.

ECB refinancing operations according to their maturities



Source: Bank of Finland.

bank interventions to repair the functioning of the markets.¹

Banks need central bank financing to meet a variety of liquidity needs, such as covering demand for cash, and to fulfil their minimum reserve requirements. After the 3-year operation conducted in February 2012, the stock of banks' borrowing from the central bank is around EUR 800 billion euro greater than the amount strictly needed to cover the reserve requirements. This surplus was further increased by the December decision of the Governing Council to halve the minimum reserve requirement to around EUR 100 billion. Euro area banks must deposit their surplus with the national central banks on a daily basis. At present, the Eurosystem pays interest of 0.25% on banks' overnight deposits, which is 0.75 percentage points less than the main refinancing rate.

Although the prevailing high level of demand for central bank money is expensive for the banking sector, banks have had at least two distinct justifications for the huge demand. Firstly, since late autumn 2011 some banks in the euro area have faced growing difficulties in acquiring market-based funding. The rest of the banks have also seen shortening maturities on their funding as well as growing risk

premia. Under these circumstances, the expected price of 3-year central bank credit was well below the cost of market-based funding. At the moment the operations were launched, the interest on main refinancing operations was 1%. The long central bank loans thus offered banks an economical alternative to acquiring funding through unsecured bonds, or even covered instruments. It has been estimated that over EUR 500 billion in long-term debt issued by euro area banks will reach maturity during the course of 2012.

Secondly, the yields on various types of securities that rose, in some cases considerably, during the course of autumn 2011 offered the banks attractive investment opportunities whose yields far exceeded the expected price of central bank money. For example, the malfunctioning of the government bond markets in some euro area countries has provided banks with these types of investment opportunities. The gross funding requirement to cover euro area government bonds has been estimated at EUR 700 billion in 2012.

The Governing Council of the ECB also decided in December 2011 to ease the eligibility criteria for some asset-backed securities by lowering the minimum credit rating for collateral at the moment of issue from AAA to A. At the same time, Eurosystem national central

banks were granted temporary authorisation to exercise, on their own responsibility, discretion in approving as monetary policy collateral bank loans that do not meet all the normal conditions of eligibility.

These collateral measures are designed to ensure access to funding for small and medium-sized entities even in a situation where the banks' normal collateral base has weakened. To date, extraordinary collateral has been approved via temporary relaxations of eligibility criteria in Ireland, Portugal, Italy, Spain, Cyprus, France and Austria.

Impact of the measures

The financial markets in the euro area have for the most part developed positively since implementation of the ECB's December decisions. For example, the yield on Italy's 10-year government bonds fell by more than 2 percentage points between implementation of the first 3-year operation and the days immediately following the second operation. Over the same period, the price of credit risk insurance for European banks fell by as much as a third. Moreover, the interest differences between unsecured and secured interbank rates, which are illustrative of financial market risk premia, narrowed by 0.3–0.5 percentage points between the first and second long-term operations (Chart B).

¹ Since May 2010, the Eurosystem has been implementing a securities markets programme aimed at ensuring the functioning of markets with a key role in the transmission of monetary policy.

Although central bank measures can be used to calm the financial markets, a permanent solution to the crisis that has had a strong impact on the government bond markets cannot be based on temporary measures by the Eurosystem. The pricing of government bonds reflects on one hand expectations over the level of risk-free (central bank) interest rates and, on the other hand, the development of the

various risk premia. In recent times, risk premia have dominated changes in bond yields.

A permanent narrowing of euro area countries' interest rate differences will require several different types of measures: the economic policies pursued by euro area countries will have to be sustainable, economic policy coordination in the euro area will have to be intensified and bank

capitalisation will have to be placed on a sustainable footing. The recent measures taken by the Eurosystem have for the time being secured banking liquidity. However, a permanent solution to the crisis will in the end require both successful fiscal and structural policies and a controlled and timely exit from the temporary central bank measures recently implemented.

Chart B.

Difference between 1, 3 and 12-month Euribor and repo rates



Source: Bloomberg.

China, by relaxing minimum reserve requirements. Inflation in the emerging economies, which has until recently continued at a fairly rapid pace, is now showing signs of easing, which will create room for interest rate cuts during the first half of the forecast period. Towards the end of the forecast period, reinvigorated economic growth is likely to cause a renewed tightening of monetary policy in many emerging economies.

Although monetary policy in the advanced economies will remain relaxed throughout the forecast period, the broader financial conditions in the economy will not be so relaxed. The banking sector's need to strengthen its capital base and reduce balance sheets coupled with low collateral values will reduce credit supply and increase funding costs for both businesses and households. As an additional factor, excessive corporate and household debt in many countries will still restrict access to credit for some time yet and also make it more expensive.³ Meanwhile, the continued relatively tight funding conditions will hamper developments in the real economy in the immediate years ahead.

Fiscal policy in the euro area will tighten more than previously forecast

Euro area fiscal policy will be tightened as the forecast period progresses more strongly than previously forecast. In the forecast, it is assumed that euro countries will for the most part meet

the objectives of the stability and convergence programmes. If so, fiscal policy in the euro area will tighten by around 1 percentage point relative to GDP in both 2012 and 2013. At the level of the euro area as a whole, the general government deficit will in that case contract to below 2% at the end of the forecast period.

Although the sovereign debt crisis is confined to the euro area, the general government balance in many other advanced economies is no better. General government deficit and debt ratios are also extremely large in the United States, the United Kingdom and Japan. Despite this, market confidence in their debt servicing ability has remained strong. In the United States, fiscal policy will tighten by around 1½ percentage points relative to GDP in both 2012 and 2013, and in the United Kingdom by around 1 percentage point in both years. In Japan, significant measures to tighten fiscal policy will not be commenced until 2013. At the end of the forecast horizon, the general government deficits in the United States and United Kingdom will still be around 6%, and in Japan around 8%.

Estimates would suggest that in 2011 in the euro area as a whole, and in its largest members with the exception of Spain, the objectives set were almost achieved (Table 2). Achievement of the objectives in 2012 and 2013 will require a significant tightening of fiscal policy in all the large euro area countries apart from Germany. If we consider a GDP-weighted country distribution of the contraction in euro area countries' budget deficits (Chart 16), we notice that in 2012

³ See Harri Hasko's article 'Monetary policy transmission and debt accumulation in the euro area', p. 39 below.

Table 2.

General government deficits and targets for 2011–2013 in the euro area and its largest members, and general government deficits in the United Kingdom and the United States 2011–2013

	Estimated / actual deficit	Stability and convergence programme's deficit target*		
		2011	2012	2013
<i>Euro area</i>	-4.3	-4.3	-3.1	-2.1
<i>Germany</i>	-1.1	-2.5	-1.5	-1.0
<i>France</i>	-5.7	-5.7	-4.6	-3.0
<i>Italy</i>	-3.9	-3.9	-1.6	0.0
<i>Spain</i>	-8.5	-6.0	-4.4	-3.0
<i>United Kingdom</i>	-8.6		-7.8	-6.5
<i>United States</i>	-9.5		-8.0	-6.4

* UK and US figures are IMF forecasts.

Sources: IMF, European Commission and declarations by the featured countries.

Italy and Spain are the key countries in the adjustment process. In 2013, the contribution of France also stands out.

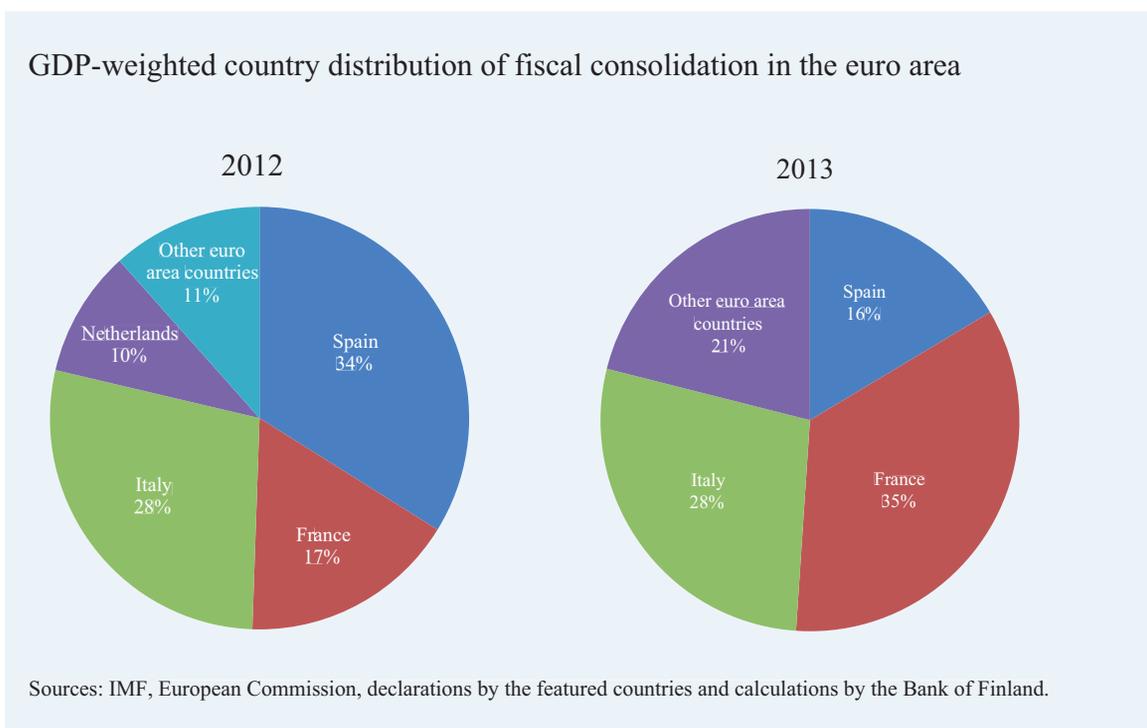
The fiscal policy adjustment is motivated by the need to bring the general government debt ratio onto a sustainable path. In practice, this means achieving a credible break in growth of the public debt-to-GDP ratio in the foreseeable future. Debt ratio growth is influenced by the general government primary balance (ie annual general government deficit/surplus less consolidated interest expenditure), the pace of economic growth, the interest payable on the debt and the existing debt ratio. The fundamental basis of sustainable general government finances is a positive primary balance that is large enough to cover the interest expenditure on the existing debt. The size of primary balance required is also affected by the difference between the growth rate of the economy and the interest rate on the debt. If the rate of

economic growth is greater than the rate of interest, the debt ratio can fall even if the budget is in deficit. If, on the other hand, the interest rate is higher than the pace of growth, the budget surplus required to stabilise it will grow.

Thus, adjustment of general government finances alone is not enough. A credible debt servicing ability also requires an adequate level of economic growth. The faster a country's GDP grows, the larger the absolute level of debt its general government finances can carry. The problem is that, in the short term, these objectives are in conflict: for the most part, steps to adjust general government finances tend to weaken short-term economic growth. In, for example, Italy and Spain, the adjustment measures required are on such a scale that these countries' GDP for 2012 will probably show a contraction.

Although market confidence in the debt servicing ability of most euro area countries has increased, the situation

Chart 16.



remains very fragile. Plans for general government adjustment have been drawn up and are considered to be to at least some extent credible, but practical implementation for the most part still lies ahead. In respect of structural measures to strengthen growth, in many countries even the plans have still to be drawn up.

The assumption that the objectives of the Stability and Growth Pact will be achieved contains obvious risks. In many countries, the difficult economic situation is undermining the political will for determined action to stabilise general government finances. On the other hand, in the current fragile market situation, the markets are likely to react strongly to any slippage from

the objectives, and this will serve to support government commitment. A similar influence is to be expected from the new, tighter Stability and Growth Pact that came into force in December.

What do we know of the impact of fiscal policy?

The estimates of the growth-slowing impact of measures to adjust general government finances that have been employed in the spring 2012 Bank of Finland forecast for the global economy are based on studies conducted by international organisations. Fiscal policy tightening equivalent to one unit of measurement is estimated to depress GDP by around 0.6 units over the space

of two years.⁴ Meanwhile, a GDP contraction of one unit is estimated to weaken the general government position by approximately 0.5 of a unit.⁵ On the basis of these coefficients, we can calculate that the short-term demand impact of balancing general government finances will weaken the overall impact of fiscal tightening by around 30%; hence a tightening equivalent to one unit will in the end improve the general government balance by only around 0.7 of a unit.

There is, however, no consensus among economic researchers in respect of the coefficients referred to above, with a great deal of variation in economists' ideas on how to quantify them. Assessments are generally based on historical data from several countries going back for as much as several decades. Therefore, under exceptional conditions like those currently prevailing, there is uncertainty over both methodology and time frame: the impact of fiscal policy is not uniform across time and place.⁶

The uncertainties over impact can be divided into several groups. In the first place, the results could differ due to the statistical methods employed. The results of studies using micro data (ie data on individual households) normally differ from those of traditional studies using macro data, while simulations based on macro-

economic models may differ from studies based on statistical methods.

Another uncertainty relates to the instruments employed. For example, the impact of cuts in income transfers is generally considered to be fairly substantial. It is certainly natural to assume that a reduction in income transfers could potentially cut consumption by those on the lowest incomes by the same amount. This also applies, at least to some extent, to direct expenditure cuts relating to public consumption or investment. In contrast, the GDP impact of tax cuts is most often estimated to weaken as they approach the highest income groups or if it is known the cuts will be only temporary. In both these cases it is probable that the larger share of the additional income will be saved rather than spent on consumption.

The third source of uncertainty relates to the period under examination. If the examination is extended from immediate impacts to also cover longer-term impacts, the labour supply incentive effect of tax cuts (ie the share of increased income from extra effort that will feed through into an increase in net income) needs to be taken into account. The relative shares of tax revenues provided by value-added tax and payroll taxes can also be shown to influence economic growth.⁷ Moreover, adjustment of public consumption creates space for private sector output that compensates for the GDP effects of public expenditure cuts.

⁴ Guajardo, Leigh & Pescatori (2011) Expansionary Austerity: New International Evidence. IMF Working Paper No. 11/158.

⁵ European Commission (2005) New and updated budgetary sensitivities for the EU budgetary surveillance.

⁶ Leeper (2010) Monetary Science, Fiscal Alchemy. Paper prepared for the Federal Reserve Bank of Kansas City's Jackson Hole Symposium 26–28 August 2010.

⁷ See Kilponen and Vilmunen (2007) Revenue neutral shifts in the tax structure: experiments with a dynamic general equilibrium model. Bank of Finland Bulletin, 1/2007, p. 81–89.

A source of uncertainty of a different type is the macroeconomic environment in which fiscal policy adjustment takes place; fiscal policy is not conducted in a vacuum. In modern macroeconomic models, the impacts of fiscal policy are generally fairly minor, as the monetary policy response largely cancels them out. Measures to balance general government finances lead to an easing of inflationary pressures, whereupon monetary policy can be relaxed, which stimulates the economy. The situation is different if monetary policy has already been relaxed as far as it can go. In such a situation, the contracting effect on the economy of fiscal tightening can be very large indeed.⁸

The measures taken to balance the public sector in the euro area have, indeed, been criticised precisely from this latter perspective. It has been said that, because the room for manoeuvre in the ECB's interest rate policy has been almost entirely used up, the costs of fiscal tightening could be very serious. This claim is, however, misleading. There is still space for the ECB to further lower its policy rates, and non-standard measures can, if necessary, be used to facilitate a further relaxation of monetary policy. Moreover, the balancing measures announced by Italy and Spain have contributed to the decline in long-term interest rates in these countries since mid-December. Stabilising general government finances will over time also bring down private sector interest rates, facilitating transmission of an accom-

⁸ Coenen, Kilponen and Trabandt (2010) When does fiscal stimulus work? ECB Research bulletin No 10, June.

modative monetary policy by the Eurosystem.

The example of Italy and Spain illustrates that the demand effects of fiscal policy depend partly on the expected sustainability of general government debt. The weaker this is, the less scope there is to use fiscal policy to support demand. Efforts by an overindebted government to fund an economic recovery with debt will lead only to a loss of confidence and a rise in interest rates. Correspondingly, in the case of an indebted country, fiscal tightening could lead to improved confidence and lower interest rates, which would lessen the contractive economic impact of the tightening.

The impacts of different instruments of fiscal adjustment can also differ in this sort of situation. If, in a country close to its fiscal limit, the total tax ratio is also high, it is probable that measures focused on cutting expenditure will produce a more credible result than tax increases. An opposite example of a country at its fiscal limit is Japan, where the low level of the total tax ratio would enable the collection of additional revenue for the public sector, at least in theory.

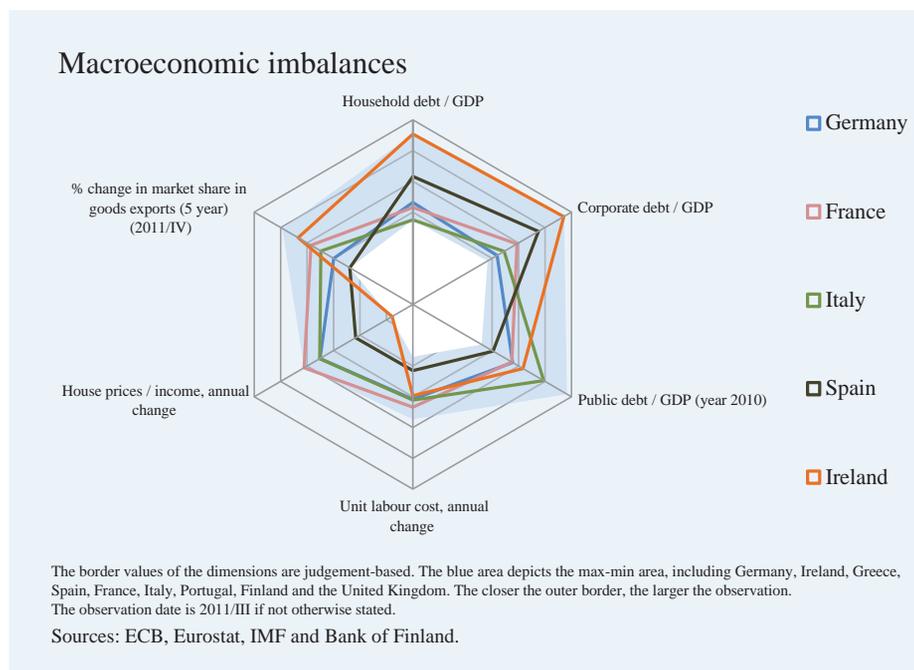
Macroeconomic imbalance factors and structural policy

Macroeconomic imbalance factors in the euro area are focused around both debt accumulation and export problems and loss of market share due to weakening competitiveness.

The escalation of the debt crisis in the euro area has accelerated household and corporate balance sheets adjustment. Private sector debt relative to GDP

Stabilising general government finances will over time also bring down private sector interest rates, facilitating transmission of an accommodative monetary policy by the Eurosystem.

Chart 17.



stopped growing or began to recede during the course of 2011 in the countries in the Bank of Finland's monitoring framework,⁹ with the exception of Italy, France and Greece. This has been due both to the ebbing of credit demand as the economic outlook deteriorated and to the tightening in the supply of bank credit due to the debt crisis. Household indebtedness is being wound down particularly strongly in those countries in which the housing market bubble in the past decade swelled the debt burden on households, ie the United Kingdom, Ireland and Spain.

Households' efforts to reduce their level of debt are subduing consumer demand and weakening the trajectory of GDP. Experiences from previous

⁹ Spain, Ireland, the United Kingdom, Italy, Greece, Portugal, France, Sweden, Germany, Finland and Estonia.

financial crises show that the erosion of excessive levels of debt is a slow process. It is to be expected that the sheet adjustment process will this time, too, take a prolonged period. Although reduction of the debt burden will slow growth in the short term, it is an essential process in high-debt countries from the perspective of the long-term stability of the economy.

Balance sheet adjustment also reflected in export figures

Differences in competitiveness trends between euro area countries led in the past decade to substantial balance of payments imbalances. Since 2008 these imbalances have narrowed. The German surplus has receded from the peak level of 2007. The debt crisis has also led to accelerating adjustment in

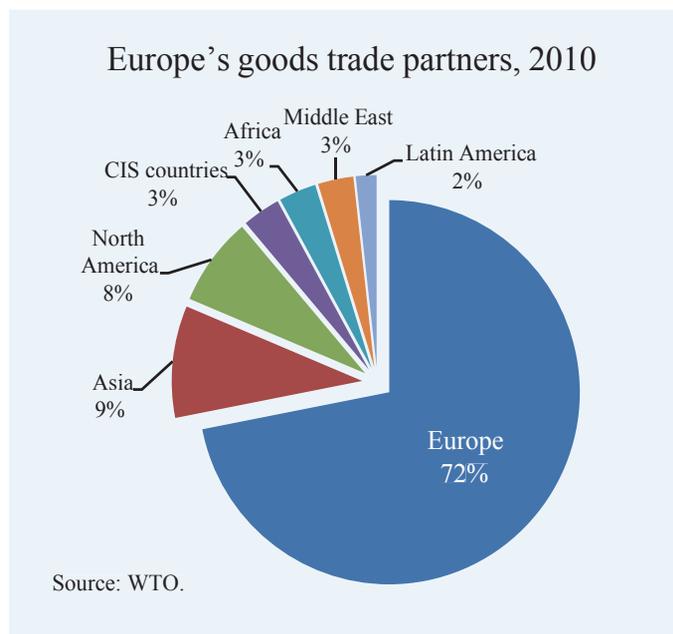
crisis countries' deficits. However, this relates mainly to the strong drop in domestic demand rather than corrections to competitiveness.

Europe has lost ground in export markets at an accelerating pace. With the exception of countries in East-Central Europe, exporters in all EU Member States have over the past 5 years lost substantial shares of the export market. The biggest losses have been experienced by the United Kingdom, France, Italy and Finland. To some extent the weak export performance is connected with the weak development of internal demand within Europe. Over 70% of exports from EU countries are to other countries in the EU. Thus subdued demand in the crisis economies also affects the stronger economies in the EU via the impact on their exports.

However, to a large degree the contraction in market share is explained by the strong trade performance of countries in Asia and weakening competitiveness in Europe. The share of world trade taken by the emerging economies has in recent years grown substantially relative to Europe and North America. Over the years 2005–2010, Europe's annual goods imports grew by an average 5%, while in Asia the figure was 11%, and in Latin America 14%.

In addition to price trends, competitiveness is also affected by structural factors such as the economy's capacity to exploit new export opportunities and factors relating to resource allocation. The contraction in European countries' export shares speaks of a comprehensive

Chart 18.



loss of competitiveness that is weakening economic growth and increasing the risks to macro stability, particularly in the heavily indebted countries.

Keywords: inflation, monetary policy and the economic situation

Dualism in labour markets piles employment adjustment pressures on the young

Adjustment of debt levels in the public and private sectors and deteriorating competitiveness have both left a clear mark on the economy. Domestic demand has faded and unemployment increased, particularly in the crisis countries. Sectoral shocks and structural changes in the labour market have particularly affected the young, and youth unemployment has risen to record levels. Young people are more vulnerable on the labour market than other age groups and are easily used as labour buffers when companies adjust their work force.

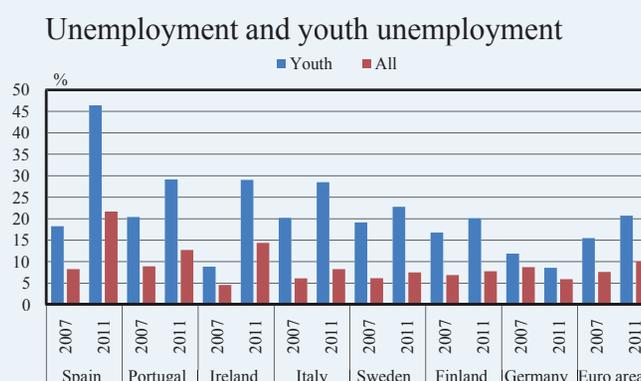
The increase in youth unemployment has been strongest in the countries caught up in the debt crisis, where unemployment growth in general has been greatest – for example, in Spain, Portugal and Ireland. In some countries, however, the increase in youth unemployment has been only moderate, and in Germany youth unemployment has actually fallen during the crisis. The weakening position of young people on the labour market is further reflected in a reduction in the share of young people among the total employed labour force. This has declined substantially in Ireland, Spain and Italy, where youth unemployment is highest.

Sectoral shocks from the crisis weigh predominantly on the young

Sectoral trends prior to the crisis and the nature of the shocks that occurred during the crisis have had a significant impact on the differences in employment trends in different countries. The

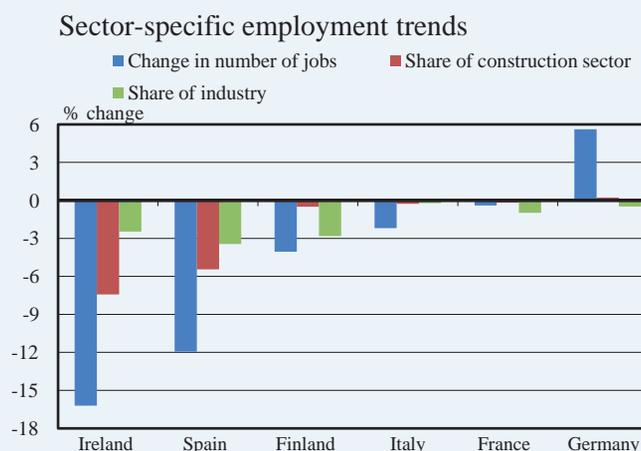
overheated construction sectors in both Spain and Ireland collapsed, leading to a massive loss of jobs. These focused particularly on young people, because in these countries the construction sector employed an especially large number of young people. In contrast, in Germany

Chart A.



Source: Eurostat.

Chart B.



Change calculated between the post-2005 employment peak and the employment situation in 2011/Q3.
Source: Eurostat.

and Finland the crisis made itself felt mainly through the export sector and had a relatively slight impact on employment. Unlike in the construction sector, the loss of jobs in the export sector was not particularly focused on the young, as the proportion of young people in the manufacturing work force is approximately the same as their share in the work force as a whole.

As a consequence of the crisis, the need for alternative sources of employment has grown, particularly in Spain and Ireland. Relative to the peak of the cycle, the Spanish construction sector has lost 1.1 million jobs, and the Irish equivalent 160,000 jobs, while the sectoral growth outlook remains poor. The relocation of this surplus labour to more resilient sectors with a better growth potential is a slow process. It is made more

difficult in Spain by the low educational level of young people, as during the upswing many abandoned their education to work on the building sites. In manufacturing, too, there is pressure for reallocation. On top of the effects of the crisis, the employment trend in Europe has already been downwards for an extended period. The EU27 area has lost 5.8 million manufacturing jobs since the year 2000.

This persistent weakness on the labour market and the slow relocation of labour into potential growth sectors is harmful to both labour productivity and labour supply. The loss of young people's labour input, in particular, will have long-lasting consequences. Over the long term these are factors that will affect the competitiveness of the countries and can be influenced by labour market institutions,

among other factors.

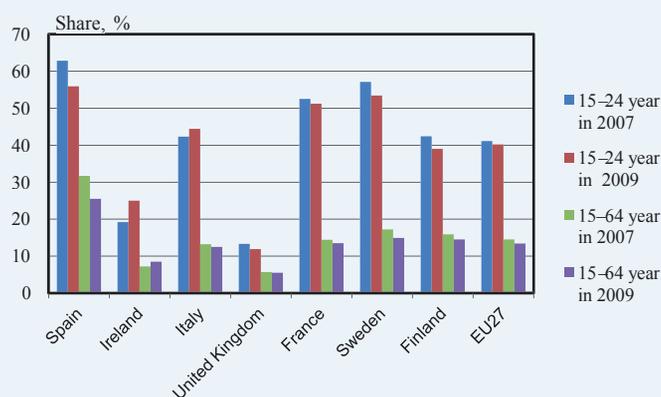
Dual labour markets place young people in a difficult position

In many countries, particularly in continental Europe, employment protection affects different employee groups in different ways. Efforts have been made to increase labour market flexibility, but reforms have focused primarily on more flexible use of fixed-term employment contracts. Carrying through these reforms has been easier politically than changing the conditions applied to permanent employment contracts (eg diluting employment protection). This has created a dual labour market.

As the labour market has split in two, the relative position of fixed-term employees has weakened. Differences in severance payments, particularly between fixed-term and permanent employment contracts, have grown. For example, to terminate the employment of someone in a permanent employment relationship, a Spanish employer has to pay the employee 45 days' pay for every year since the employment began, against 8 days' pay per year for someone in a fixed-term job. Admittedly, Spain has just announced a labour market reform aimed at

Chart C.

Age-group shares of fixed-term employment contracts



Source: Eurostat.

reducing slightly the employment protection afforded by a permanent employment contract.

Dual labour markets also have effects both on pay differentials between the different types of employment and on the probability of employees moving from fixed-term to permanent employment. As the difference between fixed-term and permanent employment contracts grows, the former become increasingly common, and the threshold for converting a fixed-term contract into a permanent one becomes higher. In addition to Spain, the labour markets in Italy, France and Sweden, in particular, have become dual in this way. In these countries there is also considerable youth unemployment.

Fixed-term employment increases uncertainty among the young and undermines productivity

The trend towards dual labour markets has particularly affected the position of young people, as fixed-term employment contracts are common among the young. In France, Sweden and Spain over 50% of employment contracts for young people are fixed-term. In the best case, a fixed-term contract can serve a young person as a bridge into permanent employment. The

dualism in labour markets has, however, increased the tendency of employment shocks to affect fixed-term employees and, by extension, young people. In almost all countries in continental Europe, the share of fixed-term employment contracts has declined since the crisis.

Growth in fixed-term contracts influences the potential output of an economy via the rate of growth in labour productivity. Weaker productivity development can be explained by weaker incentives for both employers and employees themselves to invest in the training of fixed-term employees. Moreover, fixed-term employees have a weaker motivation to work, while their poorer education lowers the quality of human capital and thereby weakens productivity in the economy.

In their present form, the labour market institutions in many countries in Europe are hindering the process of economic restructuring and hampering the pace of employee allocation between sectors, which has a significant impact on these countries' competitiveness. In southern Europe in particular, the dualism in labour markets channels the effects of shocks and economic restructuring disproportionately onto the young. Youth unemployment has

a substantial cost for both private individuals and society as a whole. When young people get caught in the trap of fixed-term employment, short-term jobs do not serve as a springboard into more permanent employment. If they end up unemployed for a prolonged period at the start of their working life, this could cast a long shadow over their working career in terms of employment and productivity, and also wage development. In the long term, the long-lasting employment and productivity effects of youth unemployment and exclusion will also be reflected in the level of potential output and welfare in an economy.

From the public finance perspective, the long-term costs of youth unemployment can be substantial, which could further hamper the stabilisation of general government finances. From the perspective of future competitiveness and growth, labour market structures should support, not weaken, young people's position in the labour market. Therefore, labour market reforms that increase flexibility without increasing the split into a dual system are critical in a Europe wrestling with the present crisis of the economy and debt.

Monetary policy transmission and debt accumulation in the euro area

9 March 2012

Prior to the escalation of the financial market crisis in 2008, nominal interest rates on household and corporate loans in the euro area were relatively uniform and closely followed the policy rates of the European Central Bank (ECB). In contrast, there have been major differences all along between euro area countries in respect of debt accumulation. The key explanatory factor for these differences was the faster rate of inflation in some peripheral countries. As a result, real interest rates in these countries were lower than elsewhere and debt accumulated more rapidly.

Businesses and households have accumulated debt in recent decades

Household and corporate indebtedness has been growing rapidly in OECD countries since the 1980s. Several reasons for this have been identified, such as financial market liberalisation, stable macroeconomic development, a decline in real interest rates and tax laws favourable to debt accumulation in many countries.¹ The relatively low level of central bank policy rates in the early years since 2000 has also been mentioned as a factor behind the increasing levels of debt.

Over the years 1999–2011, private sector debt in euro area countries grew by an average of around 70 percentage points relative to GDP. The public sector debt ratio contracted in the first half of the decade, but began to grow strongly once the economic crisis had come to a head towards the end of 2008. All in all, growth in corporate loans (excl. MFIs) explains on average

¹ For example, Cecchetti et al. (September 2010) The real effects of debt. BIS WP No 352.

just under a half, household loan growth a good third and growth in public debt a fifth of the increase in the euro area's total indebtedness in the years 1999–2011 (Table 1).²

Despite the common factors contributing to the growth in debt, there have been considerable differences in the pace of debt accumulation in different countries. In Ireland and Spain, the combined GDP share of household and corporate debt increased by approximately 130 percentage points, but in Germany by just 3 percentage points. The difference is huge, if we take into account the fact that the level of interest on retail loans has been relatively uniform across the euro area.

The rate of interest on bank loans is of key importance in the transmission of monetary policy. Interest rates on new housing and corporate loans influence investment decisions by households and businesses. This is particularly true in the euro area, where corporate funding and household asset management are still relatively bank-centred compared with eg the United States and United Kingdom. We turn next to a closer examination of the transmission of the ECB's monetary policy into the interest rates on new household and corporate loans issued by euro area banks and endeavour to clarify the correlation between loan interest rates and country differences in accumulation of debt. Our focus is on the period immediately preceding the financial market crisis, when the lion's share of the growth in private sector debt in the euro area occurred.

² Unweighted average of the 11 countries in the euro area.



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Table 1.

Changes in euro area countries' loan stocks from 1999 until the third quarter of 2011 and the total loan stock in 2010

	<i>Private and public dept/GDP A+B+C</i>	<i>Private dept/GDP A+B</i>	<i>Household loans/GDP A</i>	<i>Corporate loans/GDP B</i>	<i>Public dept/GDP* C</i>	<i>Private and public dept, % of GDP 2010</i>
	<i>Change (% points)</i>	<i>Change (% points)</i>	<i>Change (% points)</i>	<i>Change (% points)</i>	<i>Change (% points)</i>	
<i>Ireland**</i>	193	130	68	63	63	381
<i>Spain</i>	132	134	44	90	-1	280
<i>Portugal</i>	125	81	46	36	44	316
<i>Greece**</i>	105	64	44	20	42	269
<i>France</i>	73	50	21	28	23	222
<i>Belgium</i>	66	84	11	72	-18	322
<i>Finland</i>	65	63	32	31	3	206
<i>Italy</i>	59	54	26	29	5	240
<i>Netherlands</i>	47	45	48	-3	2	273
<i>Austria</i>	42	37	10	27	5	215
<i>Germany</i>	25	3	-10	13	22	205
<i>av.***</i>	85	68	31	37	17	266

* *Public dept/GDP 1999–2010*** *Greece and Ireland 2002/I–2011/III**** *Unweighted average*Source: *Financial accounts*.
Loan interest rates relatively uniform before financial crisis

Housing loans in the euro area can be divided into variable and fixed-interest loans. The reference interest rates for the former are reviewed at least once a year, the most typical example being the 12-month Euribor. The reference rates for fixed-interest housing loans are of longer duration, staying unchanged most often for at least 5 years at a time. Variable interest rates predominate in Portugal, Spain, Finland, Greece, Ireland, Austria and Italy. Fixed-interest housing loans are most common in Germany, France and Belgium, and to some extent also in the Netherlands.

Within monetary union, the interest rates on new variable-rate housing loans have closely followed the 12-month Euribor rate (Chart 1). Euribor rates, in turn, reflect primarily the level of the ECB policy rate and market expectations of changes thereto. There is thus a close correlation between trends in the policy rate and household loan interest rates. Meanwhile, interest rates on fixed-rate housing loans follow trends in long, mainly 5–10-year government bond yields. The correlation between long government bond yields and the ECB's policy rate is not as close as in the case of short-term rates (Chart 2). The trend in long-term rates is also influenced by expectations over the longer-term

growth outlook for the economy and inflation. Long-term rates have been more stable and on average higher than short-term rates.

The majority of new corporate loans issued by euro area banks are for over EUR 1 million with a maturity of at most 1 year. Their reference rates can in principle range from the overnight rate to 12-month market rates. In practice, new corporate loans follow the 12-month Euribor in the same manner as new variable-rate housing loans.

Country-specific differences in interest rates on new housing loans in the euro area narrowed in Autumn 2008 just before the escalation of the financial market crisis; at their narrowest they were around ½ a percentage point, with corporate loans showing a difference of just over 1 percentage point.

Major differences between euro area countries in the pace of debt accumulation

Harmonised interest rate statistics for household and corporate loans in euro area countries began to be produced only in 2003 (Table 2). For this reason, our examination of the correlation between loan interest and the stock of loans covers a period extending from 2003 to the third quarter of 2008, after which the financial market crisis escalated rapidly. The comparison is confined to the old members of the euro area, as the time series of new member countries are too short for useful comparisons.³

³ Luxembourg has also been omitted from the comparison, as its time series are in some respects inadequate.

Chart 1.

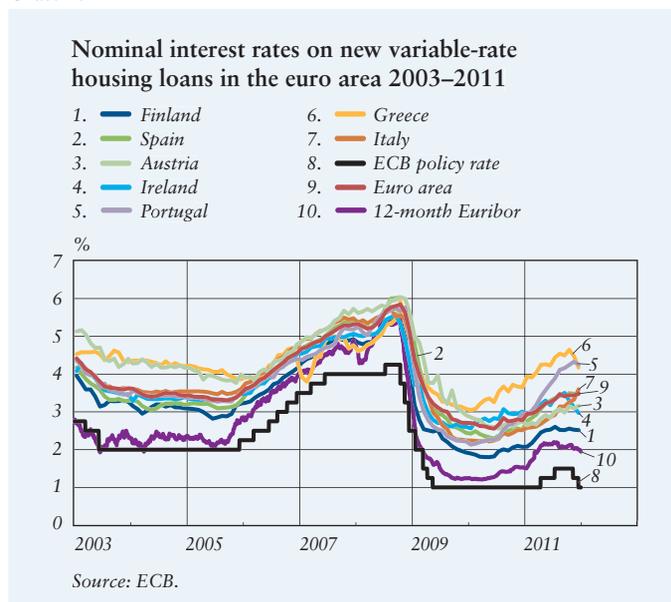
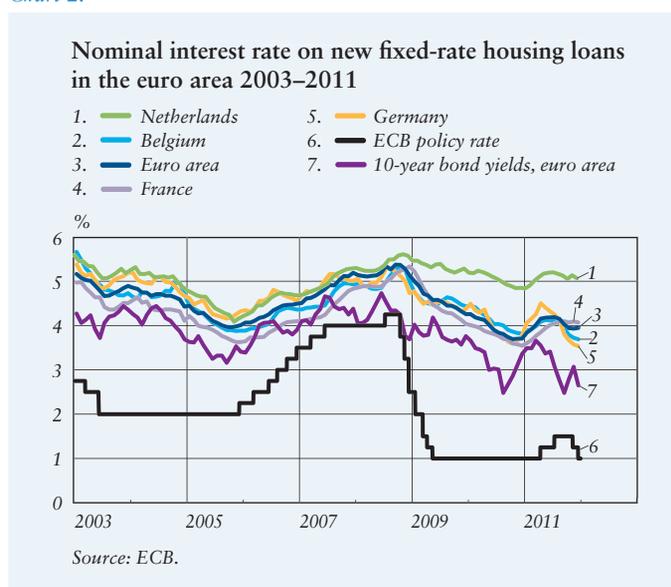


Chart 2.



Household loans have grown most in the GIPS countries, ie Greece, Ireland, Portugal and Spain, where the use of variable interest rates for housing loans is typical. The GDP shares of the household loan stock in these countries grew by an average 35 percentage points between

Table 2.

Change in GDP share of household loan stocks, interest on housing loans, consumer price inflation and economic growth in euro area from 2003 until third quarter of 2008

	Stock/GDP change, % points	Average nominal interest, %	Average HICP**, %	Average real interest, %	Average GDP growth, %
<i>Ireland</i>	56	4.0	2.9	1.1	5.1
<i>Spain</i>	31	4.0	3.3	0.7	3.5
<i>Greece</i>	29	4.4	3.4	1.0	4.4
<i>Portugal</i>	23	4.1	2.7	1.4	0.9
<i>Netherlands</i>	21	4.6	1.7	2.9	2.0
<i>Finland</i>	17	3.8	1.4	2.4	3.5
<i>Italy</i>	14	4.2	2.5	1.8	1.0
<i>France</i>	13	4.3	2.2	2.1	1.8
<i>Euro area</i>	11	4.2	2.3	1.8	1.9
<i>Belgium</i>	10	4.6	2.4	2.2	2.3
<i>Austria</i>	5	4.6	2.1	2.6	2.4
<i>Germany</i>	-10	4.8	2.0	2.9	1.4
<i>GIPS countries, variable rates*</i>	35	4.1	3.1	1.0	3.5
<i>Other countries, variable rates*</i>	12	4.2	2.0	2.2	2.3
<i>Other countries, fixed rates*</i>	9	4.6	2.1	2.5	1.9

* Figures unweighted averages for featured period

** HICP = Harmonised index of consumer prices for euro area

Sources: Financial accounting, ECB, Eurostat and calculations by the author.

2003 and the third quarter of 2008, against an equivalent change of just 9 percentage points in euro area countries that favour fixed-rate housing loans (Germany, France, Belgium and the Netherlands). In peripheral countries the rate of inflation was faster than in other euro area countries, and therefore actual real interest rates on new housing loans in these countries (ie nominal rates minus the prevailing level of inflation) were on average almost 1.5 percentage points lower than in other euro area countries. Growth in the household loan stock was generally faster the lower the rate of real interest on a country's new housing

loans.⁴ In contrast, the nominal level of interest on a country's housing loans does not appear to have such a direct correlation with the pace of growth in the country's household loan stock. The loan stock did, however, grow most slowly in countries that favoured fixed-interest rates on their housing loans, where the nominal rates on housing loans were around ½ a percentage point higher than in those countries that favoured variable-interest loans.

⁴ As, on average, around 70% of household loans in the euro area are housing loans, in what follows we assume that housing loan interest rates are sufficiently representative to illustrate the level of interest on the entire household loan stock, and changes therein.

The correlation between real interest rates on new housing loans and the household loan stock is such that, as the real interest on new housing loans declines, household borrowing grows, and vice versa (Chart 3). The level of correlation is approximately 0.52. If Finland and the Netherlands, which differ from the general picture, are left out of the analysis, the correlation rises to 0.70, which is relatively high. It is fair to say that differences in real interest rates between euro area countries have a clear correlation with changes in the countries' household loan stocks.

A similar correlation also applies in the case of corporate loans. The correlation between the real interest rates on new variable-rate corporate loans in euro area countries and changes in their corporate loan stocks is over 0.5.⁵ The volume of corporate loans has risen most in Ireland, Spain and Belgium. Next in line come Portugal and Greece. In Germany and the Netherlands, the stock of corporate loans actually declined.

Real interest rates a key factor in explaining differences in debt accumulation

Our examination shows that the differences in inflation that explain country differences in real interest rates have played a key role in the accumulation of both household and corporate debt in the euro area. As national

⁵ In examining corporate loans, it is worth bearing in mind that, in financial accounting, the concept of a loan includes corporate loans issued by lenders other than banks. In Finland, banks' share has been in the region of 70–80%.

Chart 3.

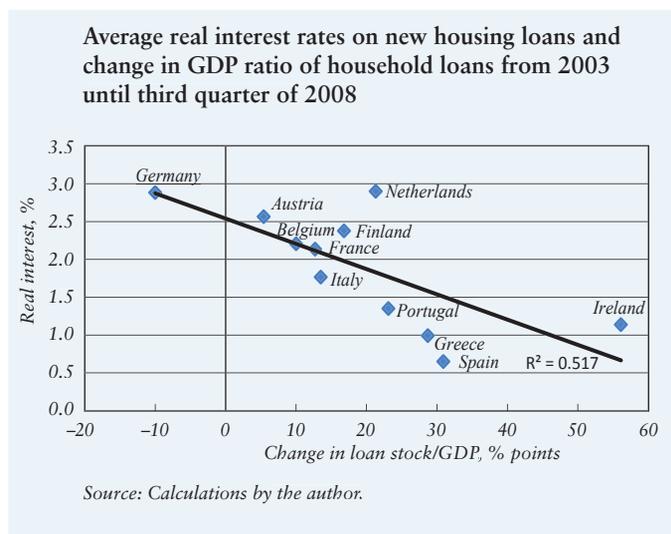
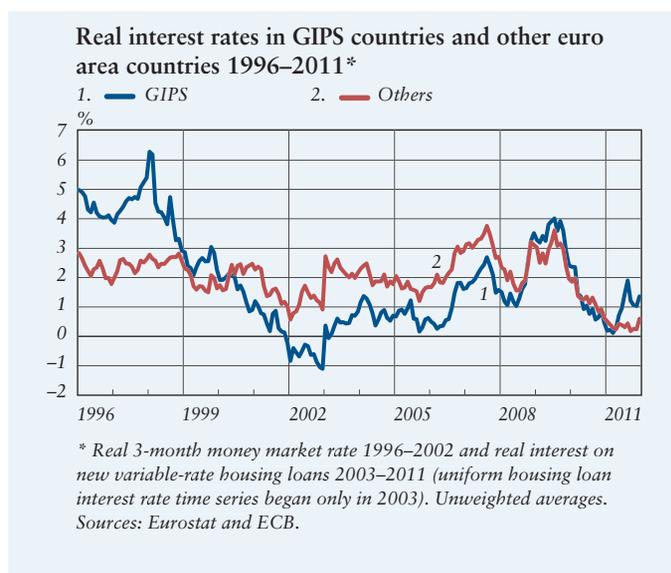


Chart 4.



inflation rates converged in the context of monetary union more slowly than nominal interest rates, real interest rates in the high-inflation GIPS countries became too low relative to the performance of their economies. As late as the threshold of monetary union, 3-month real money market rates in the

GIPS countries were on average around 2 percentage points higher than in the other countries that joined monetary union (Chart 4). Just a few years later they were already around 2 percentage points lower than in other euro area countries. Similarly, at the beginning of 2003, real interest rates on new housing loans in the GIPS countries were on average around 2.5 percentage points below those of other euro area countries.

The real interest rate gap between the peripheral countries and the rest of the euro area was not bridged until the financial market crisis. Since spring 2011, real interest rates on new housing loans in the peripheral countries have been on average higher than in other euro area countries. Real interest rates have risen particularly in Greece and Ireland.

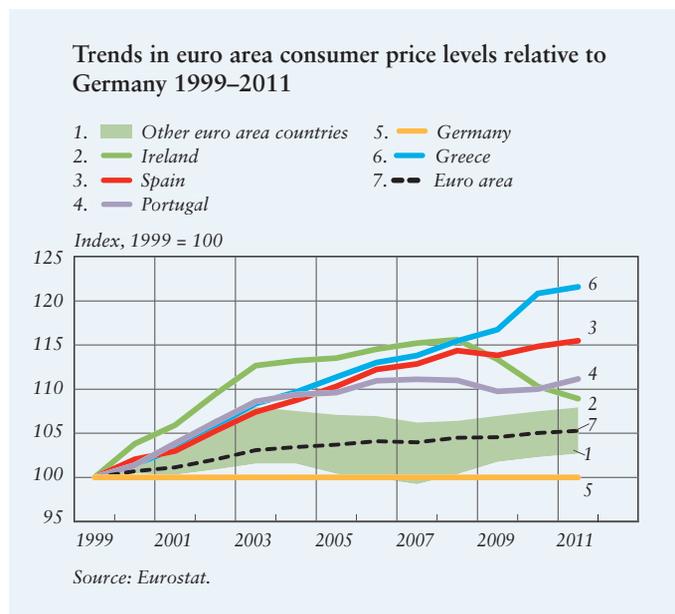
Although the GIPS countries' approximately 1–2 percentage point inflation difference with the rest of the euro area may seem a small figure,

sustained over a prolonged period its impact on price levels and competitiveness in the GIPS countries has been considerable. If we compare the level of prices in euro area countries in general against that of the country with the lowest inflation in the monetary union, ie Germany (Chart 5), we can see that the order of countries in the graph illustrating the rise in prices was in 2008 very similar to the pace at which households were accumulating debt (Table 2).⁶ By 2008, prices in Ireland, Spain and Greece had risen around 15% against the German price level since 1999. Of these countries, only Ireland has managed to achieve a clear dent in the pace of rising costs and prices relative to the rest of the euro area.

Managing economic overheating is a challenging task

One key factor that could explain the faster rate of inflation in eg Mediterranean countries relative to the rest of the euro area is a narrowing of differences in the standard of living. In order for poorer countries to achieve the living standards of the wealthier, their productivity needs to grow more quickly than in the wealthier countries. Faster productivity growth generally leads to higher inflation.⁷ This is not a problem if wage development in the export sector remains in step with productivity

Chart 5.



⁶ The order of other euro area countries was Italy, the Netherlands, Belgium, France, Austria, Finland and Germany. Only Finland's position in the price level comparison differs notably from the order in Table 2, on account of the very low level of inflation (and therefore relatively high real interest rates).

⁷ This is known as the Balassa–Samuelson effect. The more rapid rise in prices is based on wages in the closed sector of the economy rising in pace with those in the open sector, while productivity in the closed sector does not rise as fast as in the open sector.

growth. However, in the Mediterranean countries productivity growth has been slower and the rise in payroll costs faster than in the rest of the euro area.⁸ This has led to a substantial weakening of these countries' price competitiveness and a loss of market share.

Managing rapid economic growth without the excesses that mark an overheating economy has proven to be a challenging task. The same sorts of problems as those faced now by the peripheral countries have been experienced in recent years by eg Iceland and the Baltic States and, in the 1980s and 1990s, in connection more generally with the process of financial market liberalisation, also here in Finland. The financial accelerator theory developed by Bernanke, Gertler and Gilchrist is one of the best-known attempts to understand why, in efforts to manage economic growth, the grip so often slips, resulting in a deep recession.⁹

Expressed at its simplest, the financial accelerator theory states that changes in loan collateral values affect economic growth.¹⁰ During an economic

upswing, the value of assets such as houses, other real estate and shares rises (ie their collateral value goes up). This makes it easier to borrow and swells the size of loans. In addition, earnings expectations are optimistic, making households and businesses ready to take on more debt and increase their consumption and investment. This creates a circle in which corporate and household investment boosts output, employment and incomes. Among other results, strong income formation stimulates the housing market and share trading and pushes up the prices of these assets. If the upswing is prolonged, there will be labour shortages in key sectors, the pace of pay increases accelerates, and at some stage the country's competitiveness normally begins to decline.

Bernanke et al. believe that, when overheating has gone on for long enough, even a small negative economic shock can turn a positive cycle into a destructive negative one. In the global financial crisis, the collapse of the investment bank Lehman Brothers proved to be just such a watershed. Lehman's bankruptcy created panic on the financial markets and plunged the advanced economies into a deep vicious cycle of banking crises and economic recession, from which they've found it hard to escape. When collateral values fell, banks restricted their lending. This particularly weakened access to funding for small and medium-sized enterprises, but also made it harder for households to borrow. Consumption and investment both contracted, unemployment rose and housing and share prices declined. The fall in asset values

The financial accelerator theory states that changes in loan collateral values affect economic growth.

⁸ According to a recent report by the World Bank, average productivity growth in 2002–2008 was –0.5% in Spain, –0.6% in Italy and –0.1% in Portugal, while the figure for Greece in 2003–2007 was –2.0%. Productivity growth in other euro area countries in 2002–2008 was around 1% (during a recession productivity generally weakens). See Indermit, G and Reiser, M (2012) GOLDEN GROWTH: Restoring the lustre of the European economic model. World Bank Report.

⁹ Bernanke, B, Gertler, M and Gilchrist, S (1996) The Financial Accelerator and the Flight to Quality. *Review of Economics and Statistics*, Vol. 78, No. 1. (February), p. 1–15.

¹⁰ Collateral plays an important role, as the lender (eg a bank) cannot have the same knowledge of a household's debt-servicing capacity or the potential profitability of a company's investment projects as the borrowers themselves have. As such knowledge is difficult or expensive to acquire, lenders need the guarantee of collateral to protect them in the event of possible default by the borrower.

weakened the capital adequacy of the banks, and growing loan losses have eroded their equity capital. A lack of confidence in the banks has increased the cost of funding their own operations, which has further tightened the restrictions on lending etc.

According to the financial accelerator theory, loan interest rates become more uniform during an economic upswing, as rising asset values reduce lending risk and banks can be more relaxed about their margins. During a downswing, in contrast, interest rate differentials grow again, as during a recession risks relating to borrowers' solvency vary and insurance against them is harder to get. This is precisely what has happened in the euro area in recent years (Chart 1). The country differences in interest rates on new housing loans have grown from around 0.5 percentage points in summer 2008 to around 2.0 percentage points at their height, and the corresponding difference relative to the ECB's policy rate from just under 1 percentage point to a height of over 3 percentage points (Portugal and Greece). Interest rates differences between countries in respect of new corporate loans have grown from upwards of 1 percentage point in summer 2008 to 4.5 percentage points at the end of 2011, and the corresponding difference relative to the ECB's policy rate from 1–2 percentage points at most to a high of around 5.5 percentage points (Greece). At the same time, monetary policy transmission has weakened, with loan interest in the weakest-placed countries rising most, with businesses and households in the

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countries in best shape being able to borrow on more reasonable terms.

Within monetary union, each country must still ensure balance in its own economy

As Europe has become progressively more unified, capital and investment have been channelled more into those countries seeking to catch up with the wealthier Member States. In many countries, an abundance of capital and accumulation of debt led to overheating in the economy, which, once the international financial market crisis had come to a head, resulted in a deep recession. The financial accelerator theory of Bernanke et al. helps us to understand why, in this sort of situation, the economy often goes into crisis.

In the euro area this maelstrom sucked in the so-called peripheral countries, where the plentiful availability of capital was met by strong credit demand fuelled by exceptionally low real interest rates. The tragedy for the peripheral countries was that, despite their weak productivity, their inflation rates remained faster than the rest of the euro area for almost a decade, right through to the escalation of the financial crisis. Reining in the rapid pace of economic growth in Spain and Ireland would, according to calculations under the Taylor rule, have required monetary policy interest rates several percentage points higher than those actually implemented.¹¹ This should have been taken

¹¹ Seyfried, W (2010) Monetary policy and housing bubbles: a multinational perspective. *Research in Business and Economics Journal*, vol. 2, p. 1–21. On the basis of Seyfried's calculations based on the Taylor rule, Spain and Ireland would have needed monetary policy rates as much as 4–8 percentage points higher.

into account in those segments of economic policy that fall within the purview of national decision-making. According to Seyfried, euro area monetary policy has, in contrast, been appropriate for eg France and Germany.

Why did it prove so difficult to intervene in time in the economic imbalances in the peripheral countries? Unfortunately, the early phase of monetary union was marked by a reluctance to monitor and intervene in economic developments in individual members. There was a wish to emphasise that monetary union embraced a common economic area whose development is to be assessed by measurements applied to the entire area. The exception to this was the public finance requirements placed on each country by the Stability and Growth Pact. It is clear now that the fiscal policies of many countries should have been much tighter than they have been.

We may well ask whether the convergence criteria should, in addition to the focus on long-term interest rates and inflation, have also drawn attention to the convergence of short-term money market rates. If the reduction of inflation to the level required by the convergence criteria necessitated exceptionally tight monetary policy, it was perhaps to be expected that as interest rates became integrated, so inflationary pressures would rebound. In the peripheral countries, short-term interest rates did not settle at the same level as the rest of the euro area until the closing months of 1998, while in the rest of the countries that had joined monetary union money market rates had merged as early as

1996. Inflation figures in the peripheral countries did not fall to the same level as the other countries, except in 1997. This was the year in which fulfilment of the convergence criteria was assessed on the basis of economic statistics. An assessment of the criteria on the basis of figures from a single year gave too much room for the use of temporary measures to meet the targets. Thus, the achievement of ‘sustainable convergence’ as referred to in the Treaty on European Union was left unassessed.

In Europe, as elsewhere, recent years have seen the development of advance warning indicators to make it possible to respond to imbalances at an early stage. These relate to eg balance of payments, external debt, export market share, unit labour costs, private lending and debt ratios, housing price trends and unemployment rates.

Management of the economic and debt crisis in Europe has shown that, despite advance warning systems, each country joining monetary union has in the final analysis to take care that its own price stability, competitiveness and external balance are sustained at such levels that the country can cope with monetary union and international competition. Imbalances are very hard, perhaps actually impossible, to correct from outside. The economic crisis has shown that neglect of these commitments can have far-reaching ramifications on other euro area countries, which has made the need for closer economic policy coordination even clearer than before.

Keywords: monetary policy, loan interest, debt accumulation, indebtedness

Euro area economic policy coordination: what has been done, and why?

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During the past year, the leaders of EU Member States and the European Parliament have reached agreement on a number of important reforms to enhance economic policy coordination. There have been numerous decisions following each other at rapid speed. This article examines the renewed framework for economic policy cooperation in the euro area and shows how the different agreements fit together.

The euro area is currently in the biggest crisis of its 13-year history. In 2010 and 2011, three euro area countries – Greece, Ireland and Portugal – were forced to turn to the joint EU/IMF adjustment and financial assistance programme following a rise in the price of market-based funding that eventually rendered this source of funding impossible. In the second half of 2011, market confidence also faltered in respect of several other euro area countries, particularly Italy and Spain. In the depths of the crisis during the second half of November, the markets appeared to be questioning the very survival of Monetary Union. However, the markets have since been reassured by the decisions taken at the December summit, the stabilisation measures undertaken by the Italian and Spanish governments and the refinancing operations by the Eurosystem to secure the long-term liquidity of euro area banks.

The highest-profile recent economic policy decisions in the euro area have been related to acute crisis management: the need to find a sustainable solution to the Greek crisis,

the need to prevent it from spreading to new countries and their banking systems and the need to bring the crisis countries' public debt back onto a sustainable path.

At the same time, important decisions have been taken at the level of the EU as a whole to reinforce economic policy coordination. There have been numerous decisions, and they have followed each other so rapidly that it has become difficult to get a clear picture of the situation as a whole. This article examines the renewed framework for economic policy cooperation in the euro area and shows how the different agreements fit together.

Treaty of Lisbon lays the basis for cooperation

The latest version of the Treaty on European Union, also known as the Treaty of Lisbon, lays a foundation for economic policy cooperation between Member States of the European Union and of the euro area. The main parties to cooperation are the Ecofin Council of Member States' ministers of finance and the economy (in respect of euro area countries, the Eurogroup; hereinafter 'the Council') and the European Commission (hereinafter 'the Commission'). Other participants are the European Council, which consists of EU heads of state and government, and the European Parliament.

Under the Lisbon Treaty, power of decision in questions relating to economic policy coordination lies with the Council, which takes decisions on Commission proposals by qualified



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Article 121 of the Lisbon Treaty sets out the general principles of economic policy cooperation between Member States.

majority (without a representative from the country being assessed). A qualified majority means at least 55% of Council members present at the meeting and representing Member States with a combined population of at least 65% of the population represented at the meeting.

The most important rules governing the general principles of economic policy cooperation between euro area countries can be found in articles 121, 126 and 136 of the Lisbon Treaty (Chart 1).

Article 121 sets out the general principles of economic policy cooperation between Member States. This defines economic policy as a matter of common concern that requires coordination. Coordination of the economic policies of the Member States and of the Union is to be conducted through what the article terms ‘broad guidelines’. In practice, this means that, on the basis of reports submitted by the Commission, the Council will monitor economic policy in each Member State and its consistency with agreed objectives and principles. If the Council notes that the economic policies of a Member State are not consistent with the broad guidelines or risk jeopardising the proper functioning of Economic and Monetary Union, the Commission may address a warning to the Member State concerned.

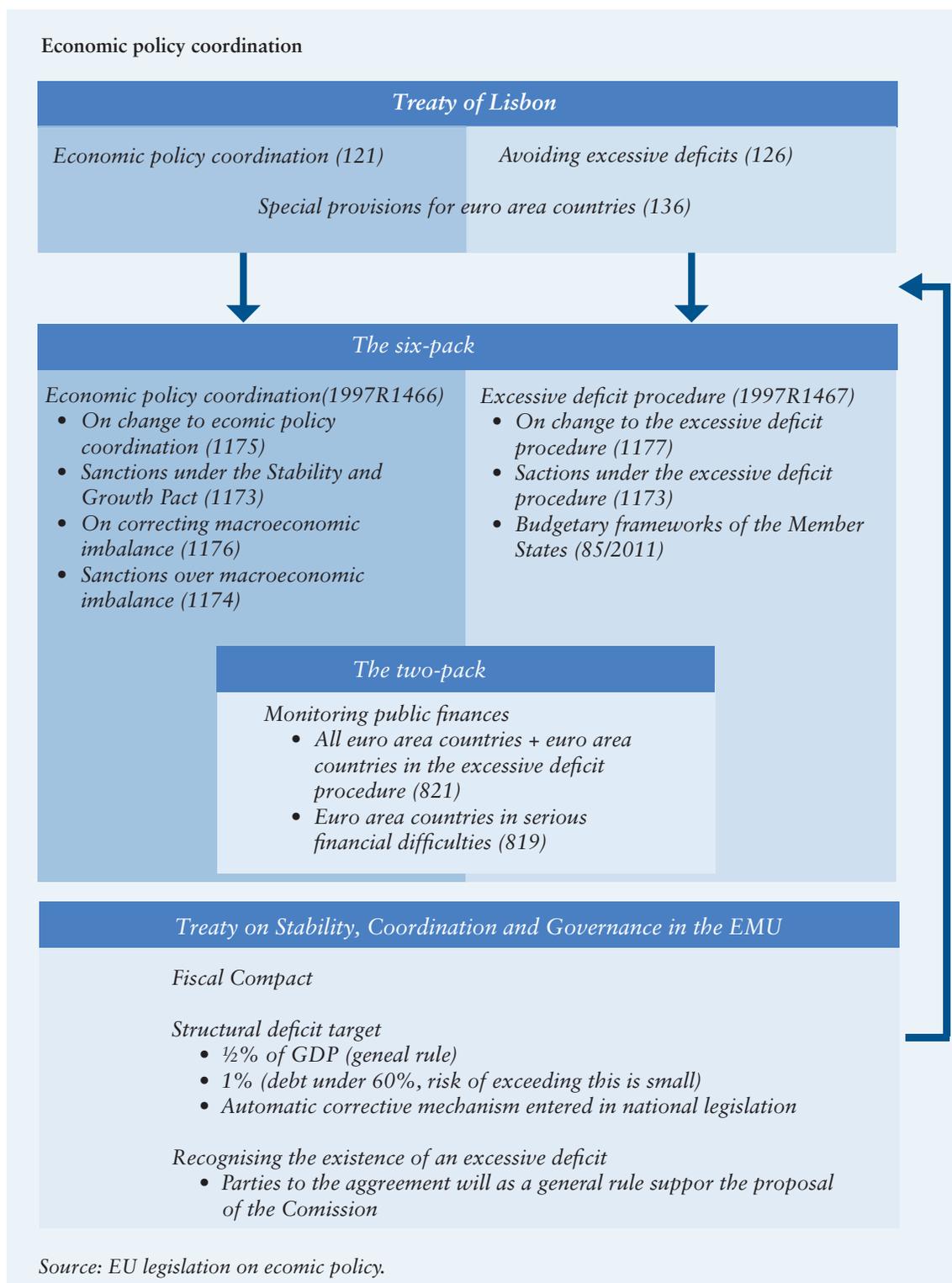
Article 126 urges Member States to avoid excessive government deficits. Compliance with budgetary discipline is to be assessed according to two criteria: government deficit and government

debt. If a Member State does not meet the requirements under one or both of these criteria or is in danger of posting an excessive deficit, the Commission prepares a report on the matter. The decision to launch an excessive deficit procedure will be taken by the Council on the basis of a proposal by the Commission. If the Council decides there is an excessive deficit to be addressed, it will make recommendations to the Member State concerned with a view to bringing that situation to an end within a given period. If the Member State fails to comply with the recommendations, compliance can be reinforced through a selection of gradually intensifying sanctions. Under this article, the most stringent of these sanctions are the requirement to make a non-interest-bearing deposit and the imposition of a fine.

Article 136 is new. It was not included in the versions of the Treaty that preceded the Treaty of Lisbon. It affords those countries that have adopted the euro as their currency the opportunity to agree on a stricter application of articles 121 and 126 than that applied to other EU Member States.

The Lisbon Treaty is worded in rather general terms – it is after all an agreement on general principles that can be compared to the constitution of a nation state. More detailed instructions are provided in the form of Directives (legislative instructions) and Regulations. For example, reference values for general government deficits are defined in a separate protocol on the excessive deficit procedure in the

Chart 1.



founding treaties. The founding treaties do, in fact, give the European Parliament and the Council the right to issue more detailed rules for the application of articles 121 and 126. In respect of article 121, the procedure is based on the normal legislative procedure of the Council and the European Parliament, but changes to article 126 require unanimity.

Legislative six-pack more closely defines Lisbon Treaty

A package of secondary economic governance legislation introduced by the EU (known as the 'six-pack') came into force on 13 December 2011. These measures assist in interpreting articles 121 and 126 of the Lisbon Treaty (Chart 1). The package of five Regulations and one Directive clarifies interpretation of the Stability and Growth Pact, enables it to be implemented more quickly, makes it easier to decide sanctions for breaches of its rules and creates a new framework for preventing macroeconomic imbalances, supporting balanced development across the economy as a whole.

Reinforcing the Stability and Growth Pact

The part of the six-pack that has perhaps attracted the most attention relates to the updated version of the Stability and Growth Pact. The first version of the Pact, aimed at supporting fiscal responsibility, came into force in 1997. It defined the excessive government deficit referred in article 126 of the founding treaties as a deficit of 3% and set the debt criterion at 60% of GDP. It also fleshed out the sanctions

to be applied in the event of failure to comply with the terms of the Pact.

From the outset, the Stability and Growth Pact has comprised two distinct components. The preventive component seeks to ensure that each country's fiscal objectives are consistent with sustainable management of government finances. In practice, this means that the country adopts as its medium-term objective (MTO) for its public finances a fiscal position close to balance. The legal basis for this component of the Pact is article 121 of the founding treaties. The corrective component of the Pact is designed to help in recognising excessive deficits and directing Member States to take the necessary corrective measures. Its legal basis is article 126 of the founding treaties.

Already at the beginning of the last decade it became clear that Member States lacked sufficient political will to implement the Stability and Growth Pact. Germany and France's deficits in excess of the 3% criterion did not lead to a decision that the deficits were excessive. In the cases of Greece and Portugal, excessive deficit procedures were successfully commenced, but they did not lead to any sanctions. The then President of the Commission, Romano Prodi announced in October 2002 that inflexible and narrow-minded implementation of the Stability and Growth Pact was 'stupid'. In March 2005, the Pact was in fact changed by decision of the European Council to allow greater discretion in its application. At that point, the European Central Bank expressed concern over the change.

In the third version of the Stability and Growth Pact that came into force in December 2011, the Pact has once again been made more binding. Although there remains discretion in respect of breaking the 3% excessive deficit limit to take account of exceptional circumstances, the 60% limit on the public debt ratio has been taken as a concrete criterion in assessing the deficit. If a country's public debt exceeds this criterion, the deficit criterion is also tightened by 1/20 of the amount by which the debt ratio limit has been exceeded. If, for example, a country's public debt ratio is 80%, or 20 percentage points above the permitted level, the largest allowable

deficit ratio would not be 3%, but 2%.

The time taken to complete the excessive deficit procedure has also been tightened with concrete time limits, while voting procedures, too, have been tightened, particularly in regard to the application of sanctions. The system of reverse qualified majority voting (RQMV), which has attracted a lot of attention, is in practice primarily intended for use only in deciding on sanctions. Under this system, the Commission's proposal is enforced unless a qualified majority in the Council votes against it. In accordance with the terms of the Lisbon Treaty, in decision-making relating to recognising that a problem exists, the main rule will be the normal

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Table 1.

Euro area countries' medium-term objectives and European Commission's autumn 2011 forecast

	Objective	Structural deficit Forecast				Deficit Forecast			
		2010	2011	2012	2013	2010	2011	2012	2013
Belgium	0.5	-3.3	-3.0	-4.0	-4.0	-4.1	-3.6	-4.6	-4.5
German	-0.5	-2.4	-1.3	-0.7	-0.4	-4.3	-1.3	-1.0	-0.7
Estonia	> 0.0	-0.1	-0.2	-0.5	-0.9	0.2	0.8	-1.8	-0.8
Ireland	[-0.5, 0.0]	-9.7	-9.1	-8.3	-8.1	-31.3	-10.3	-8.6	-7.8
Greece	0.0	-9.0	-5.0	-2.9	-3.4	-10.6	-8.9	-7.0	-6.8
Spain	> 0.0	-7.0	-4.9	-4.2	-4.3	-9.3	-6.6	-5.9	-5.3
France	0.0	-5.7	-4.7	-4.0	-3.9	-7.1	-5.8	-5.3	-5.1
Italy	0.0	-3.5	-3.1	-1.3	-0.5	-4.6	-4.0	-2.3	-1.2
Cyprus	0.0	-5.7	-5.9	-4.2	-4.2	-5.3	-6.7	-4.9	-4.7
Luxembourg	0.5	0.3	0.5	0.0	-0.2	-1.1	-0.6	-1.1	-0.9
Malta	0.0	-4.3	-3.1	-3.5	-3.8	-3.6	-3.0	-3.5	-3.6
Netherlands	> -0.5	-3.5	-3.2	-1.8	-1.4	-5.1	-4.3	-3.1	-2.7
Austria	0.0	-3.2	-3.1	-2.7	-2.8	-4.4	-3.4	-3.1	-2.9
Portugal	-0.5	-9.6	-6.9	-2.5	-1.8	-9.8	-5.8	-4.5	-3.2
Slovenia	0.0	-3.9	-3.0	-3.8	-4.7	-5.8	-5.7	-5.3	-5.7
Slovakia	0.0	-7.5	-4.9	-4.5	-4.6	-7.7	-5.8	-4.9	-5.0
Finland	0.5	-0.5	0.1	0.3	0.1	-2.5	-1.0	-0.7	-0.7

Source: Featured countries' stability programmes and European Commission's autumn forecast.

qualified majority procedure. In such a case, for the Commission's proposal to be enforced, it will require the support of a qualified majority in the Council.

Economic policy coordination

Each Member State indicates the medium-term objective (MTO) for its general government financing position as structural, ie adjusted to exclude the impact of cyclical and temporary factors (Table 1). The aim of the MTO is to ensure that the country's general government finances are on a stable trajectory and the country has a sufficiently large margin to permit it in a normal cyclical downturn to pursue expansionary policies without breaking the 3% deficit target. In setting the MTO, account is taken of eg the sensitivity of the country's public finances to disturbances in the economy, pressures on general government sustainability from the demographic structure of the country and the existing general government debt ratio.

In its own stability programme, each euro area country presents its MTO and the adjustment path necessary for its achievement. The appropriateness of the adjustment path is assessed against the objective of an annual improvement in the country's structural deficit ratio of half a percentage point. In addition to this, general government expenditure can as a rule not grow faster than the potential pace of growth in GDP; in other words, the GDP ratio of public expenditure must not grow.

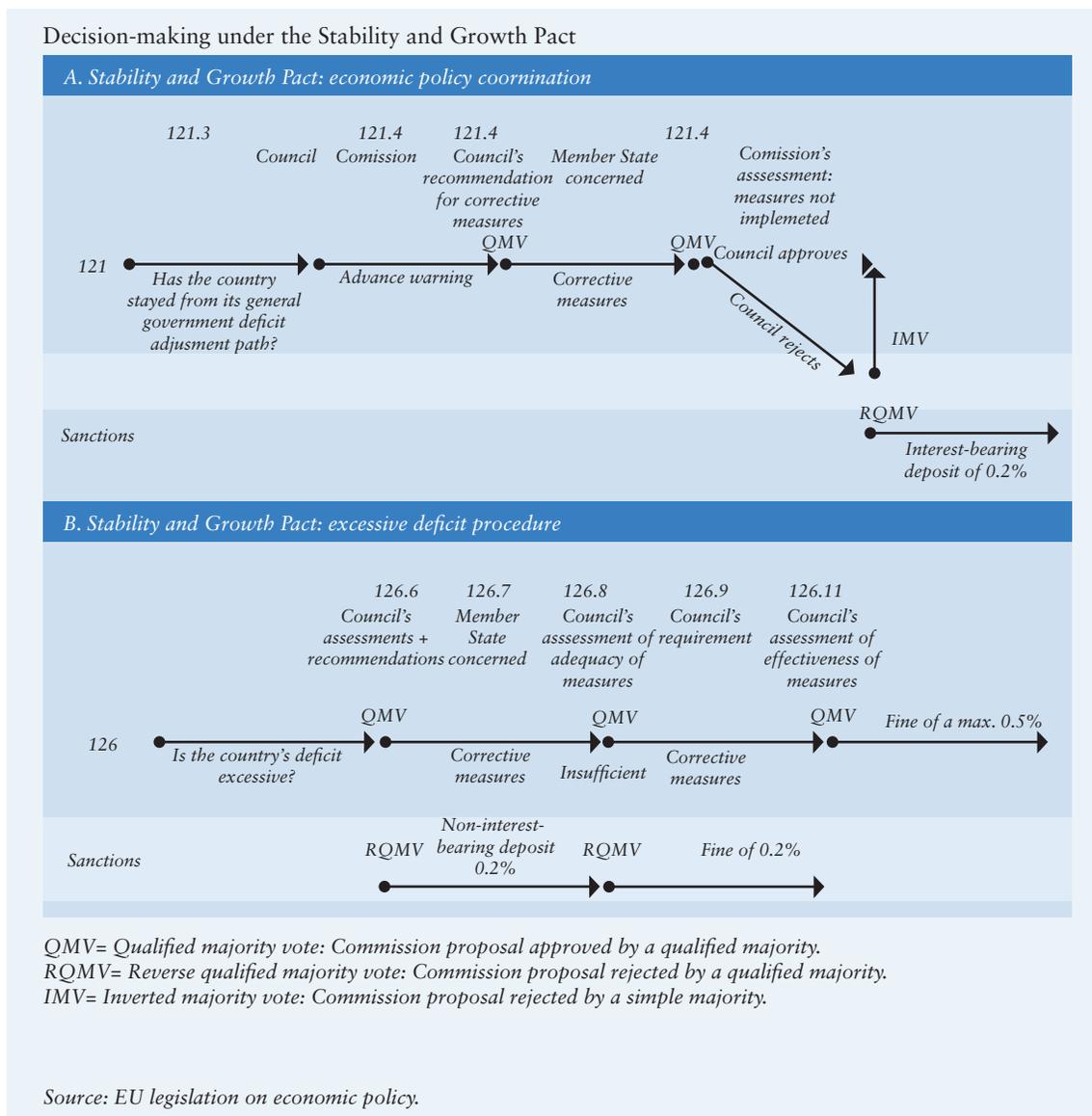
If a Member State is observed to have deviated significantly from its adjustment path, the Commission will

issue it with an early warning (Chart 2A, first review point). The Council will review the situation within a month from the issuing of the early warning and decide, on the basis of a proposal from the Commission, on the remedial action to be recommended (Chart 2A, second review point). If the Member State does not implement the recommendations within the set deadline, the Commission will recommend to the Council that it decide by a qualified majority that effective corrective action has not been taken (Chart 2A, third review point). If the Council rejects this proposal, the Commission may after one month has passed place the proposal before the Council again for decision. The proposal will then come into effect if the Council does not reject it by a simple majority. Once the Council has decided that a Member State has not taken sufficient action, the latter may be obliged, as a sanction, to make an interest-bearing deposit with the Commission amounting to 0.2% of the country's GDP. The sanction will come into force if the Council does reject the proposal by a qualified majority (Chart 2A, sanctions).

Excessive deficit procedure

If, on the basis of a proposal by the Commission, the Council decides that a Member State is running an excessive deficit (ie its public sector deficit exceeds 3% of GDP and/or its public sector debt 60% of GDP), it must take effective corrective action within the deadline set by the Council (Chart 2B, first review point). If a Member State has been obliged to make an interest-

Chart 2.



bearing deposit already at the preventive stage, or if there exists ‘particularly serious non-compliance with the budgetary policy obligations’, it may be required to make a non-interest-bearing deposit amounting to 0.2% of its GDP (or an existing interest-bearing deposit may be converted into a non-interest-bearing deposit). The

decision on the deposit is taken, in response to a proposal by the Commission, by reverse qualified majority voting (Chart 2B, sanctions, first review point).

The Council will assess the effectiveness of corrective action taken at the end of the deadline period, based on a report by the Member State. The

minimum required achievement is ½ a percentage point improvement per annum in the structural deficit ratio. If the Council considers that the action taken by the Member State has not been sufficiently effective, it will require it to implement the Council's proposed measures to reduce the deficit (Chart 2B, second review point). The requirement may be reinforced with a fine amounting to 0.2% of the country's GDP (Chart 2B, sanctions, second review point). The issuing of a fine is decided by reverse qualified majority vote and is payable to the European Financial Stability Facility (EFSF), or at a later date to the European Financial Stabilisation Mechanism (EFSM).

If, upon expiry of the new deadline, the Council considers that the required action has not been taken, it may impose an additional sanction on the Member State (Chart 2B, third review point). The primary sanction available is a fine composed of a fixed portion of 0.2% of GDP and an additional variable portion to be calculated separately. The combined amount of individual fines may be at most 0.5% of the country's GDP. An additional fine in line with the aforementioned variable portion can be imposed annually until the decision on the existence of an excessive deficit has been rescinded.

Prevention and correction of macroeconomic imbalances

Although article 121 of the founding Treaty allows for extensive monitoring of developments in a Member State's

national economy, very little attention was devoted to application of the article prior to the financial and economic crisis. One of the most important lessons of the crisis has been that a country's public finances are at best only as strong as its economy as a whole. If the public finances are funded on the basis of a real estate bubble or unsustainable growth in domestic demand, there will be serious problems when the bubble bursts. Examples of this kind of development can be found in Ireland and Spain.

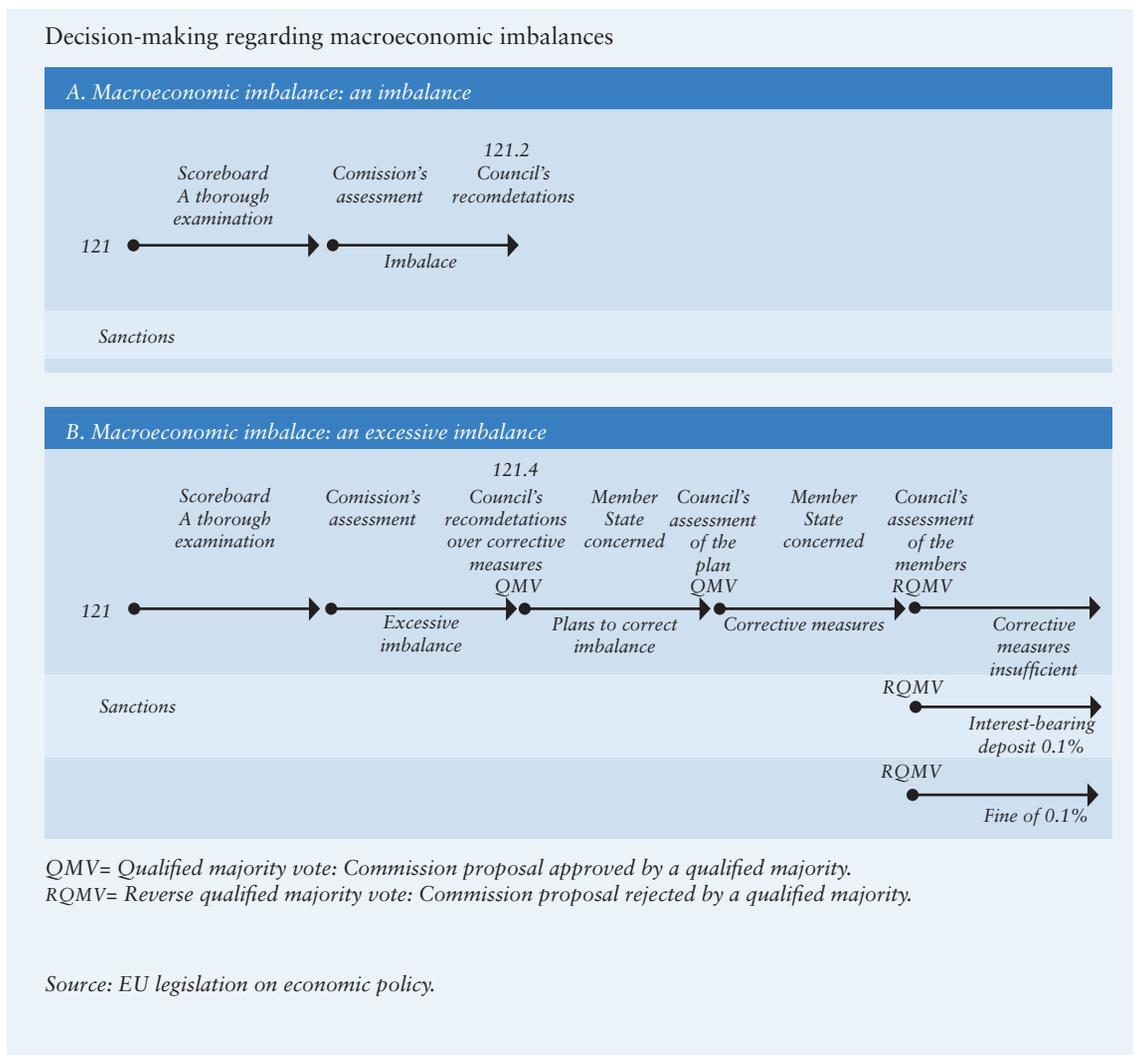
In accordance with the lessons from the crisis, two Regulations in the legislative six-pack direct attention to macroeconomic imbalances. Imbalance is defined as meaning 'any trend whatsoever that could lead to macroeconomic development that has or could have a negative impact on the flawless functioning of the economy of a Member State, of Economic and Monetary Union or of the European Union as a whole'. In terms of content, this concept corresponds to the preventive component of the excessive deficit procedure.

A degree more serious is the concept of excessive imbalance, which means 'a serious imbalance [...] that endangers or threatens to endanger the flawless functioning of Economic and Monetary Union'. In terms of content, this can be compared to the concept of excessive deficit.

Determination of the existence of imbalance is based on defined threshold values for macroeconomic indicators in the Commission's scoreboard for the surveillance of macroeconomic

The perception of imbalance in the economy is based on threshold values for macroeconomic indicators.

Chart 3.



imbalances; crossing the threshold gives rise to more in-depth analysis. Based on a proposal from the Commission, the Council then decides whether a problem exists, how serious it is and what need there is for corrective measures. At present, the scoreboard contains 10 internal and external indicators of imbalance (Table 2).

If the Commission decides that there is an imbalance within a Member State, the Council may, in response to a

proposal by the Commission, urge said Member State to correct the situation. Recommendations are reviewed annually in connection with the ‘European semester’ (Chart 3A).

If, on the other hand, the Commission decides that the Member State has an excessive imbalance, the Council may, in response to a Commission proposal, issue said Member State with a recommendation on corrective measures (Chart 3A,

Table 2.

Scoreboard					
External imbalance and competitiveness					
Indicator	Current account, 3-year average, % of GDP	Net international investment position, % of GDP	Real effective exchange rate, % change over 3-year period, HICP deflators relative to 35 industrial economies (a)	Export market share, % change over 5-year period	Nominal unit labour costs, % change over 3-year period (b)
Limits of threshold values	+6/-4%	+35 %, lower quartile	Euro area +/-5%, euro area lower and upper quartiles -/+ euro area average dispersal	-6%, lower quartile	Euroalue +9%, upper quartile euro area 3 basis points
Calculation periods for threshold values	1970-2007	Firs year with available data (mid- 1990s) -2007	1995-2007	1995-2007	1995-2007
Other indicators affecting economic policy conclusions	Net external lending/ borrowing (capital account + current account, % of GDP)	Net external debt, % of GDP	Real effective exchange rate relative to rest of euro area	Export market share based on volume of goods exports; labour productivity; trend growth in total factor productivity	Nominal unit labour costs (change over 1, 5 and 10-year periods); effective unit labour costs relative to rest of euro area, other productivity indicators
Internal imbalance					
Indicator	Real house prices, % change on previous year (c)	Growth in private sector credit, % of GDP (d), (e)	Private sector debt, % of GDP (d), (e)	General government debt, % of GDP (f)	Unemployment rate, 3-year average
Limits of threshold values	+6%, upper quartile	+15%, upper quartile	+15%, upper quartile	+ 60%	+10%
Calculation periods for threshold values		1995-2007	1994-2007		1994-2007
Other indicators affecting economic policy conclusions	Real house prices (change over a 3-year period); nominal house prices (change over 1 and 3-year periods), housing construction	Indicator of changes in unconsolidated financial sector financial liabilities, ratio of debt financing to equity financing / debt ratio	Private sector debt based on consolidated data		
NB (a) With regard to EU trading partners, HCIP; for trading partners outside the EU, a CPI using the methodology of the HICP. (b) Nominal costs per employee relative to GDP per employee. (c) The change in house prices relative to a Eurostat consumption deflator. (d) The private sector comprises businesses, households and non-profit institutions serving households. (e) The sum of loans and securities other than shares; debts, unconsolidated. (f) General government sustainability is not assessed in the macroeconomic imbalance procedure, as it comes under the Stability and Growth Pact. The indicator is nevertheless included in the scoreboard, because public sector debt affects the overall indebtedness of a country and hence its level of vulnerability.					

second review point). This defines the policy measures to be taken plus the deadline within which the Member State has to deliver its plan to correct the situation. The Council will then assess the plan on the recommendation of the Commission within a fixed time following its presentation. If the plan is assessed as sufficient, the measures and timetables are confirmed. If, on the other hand, it is assessed as insufficient, the Member State must present a new plan within, as a general rule, two months (Chart 3B, third review point).

The Council will assess on the basis of the Commission's report whether the Member State has implemented the recommended measures. If, on the recommendation of the Commission, the Council decides that the corrective measures have not been carried out, it will issue a new recommendation with its own deadline (Chart 3B, fourth review point). The decision will come into force if the Council does not reject the Commission's proposal by a qualified majority. In addition, the Member State may be sanctioned by having to make an interest-bearing deposit amounting to 0.1% of its GDP or, if the process is prolonged, by a fine of the same size (Chart 3B, sanctions).

Six-pack reinforced by two-pack; Stability and Growth Pact as a whole reinforced by intergovernmental agreement

To further reinforce the monitoring of public finances in line with the legislative six-pack, the Commission presented proposals on 23 November

2011 for two new Regulations (the two-pack) to complete the package. Their content relates primarily to anticipating and monitoring the state of the public finances in euro area countries. The proposals can be broken down into 1) those applying to all euro area countries, 2) those applying to those euro area countries that have come under or face the threat of coming under the excessive deficit procedure, and 3) those euro area countries that are either in serious financial difficulties or are facing the threat of such. The Regulations' obligations/requirements become more stringent as a country's (potential) problems deepen. At the moment of writing, the Regulations are subject to negotiation and could therefore still change to some degree.

The parts of the two-pack that apply to all euro area countries relate primarily to timetables and required contents of medium-term fiscal policy plans and budgetary strategies for the coming year. If, for example, the Commission is not content with corrections to the deficit targets in a Member State's budgetary strategy, it may require the Member State to revise it. For countries within the excessive deficit procedure, the amount of information they are required to provide and the frequency at which it must be provided are both increased. Their finances may even be audited and the accuracy of their statistical data assessed by the Commission's statistical authority, Eurostat. If a Member State has got into serious financial difficulties, or is facing the threat of serious

difficulties, its obligations increase even more. If it has to resort to external financial assistance (EFSE, EFSM, IMF), it must have drawn up for it an adjustment programme to ensure its ability to repay the financial assistance it receives.

Even after all this new legislation, the reinforcement of prevention and correction processes regarding the negative external effects of Member States' economies still has one striking flaw: the process of deciding there is actually a problem in the first place. In this regard the voting procedures are laid down in the founding treaties. According to article 126, an excessive deficit exists if the Council, in response to a proposal by the Commission, so decides by a qualified majority. Under article 121, the decision-making procedure relating to the arm of the Pact geared to preventing a fiscal deficit or to the existence of an excessive imbalance is the same.

As secondary legislation to supplement the founding treaties cannot be in conflict with the Treaty itself, the problem cannot be corrected without changing the Treaty. For this reason, the issue is being addressed through an intergovernmental Fiscal Compact. According to this 'international agreement on a reinforced economic union' (Treaty on Stability, Coordination and Governance in the Economic and Monetary Union), parties to the agreement that use the euro as their currency will undertake in votes on the excessive deficit procedure to support the proposal of the Commission, unless this is opposed by a qualified majority.

Under this agreement, a reverse qualified majority would in reality become the way of voting in the entire excessive deficit procedure. The agreement was signed at the European Council meeting in early March.

The part of the agreement that has attracted a lot of attention is the parties' commitment for the most part to a structural deficit target¹ of ½% and to augment their national legislation with rules to facilitate achievement of this target. The appropriateness of the legislation passed will be assessed by the Court of Justice of the European Union if one of the parties to the agreement raises an action with the Court. It is worth noting that the ½% structural deficit target as such does not represent a tightening for any country relative to the present targets (Table 1). It is also not obvious that the legislation to ensure achievement of the target represents a tightening of the status quo, as the preventive arm of the Stability and Growth Pact already includes such principles.

Regulation of EU-level objectives through an agreement external to Union legislation is in many ways an imperfect solution. In particular, how binding an agreement that relies on Union structures can be in the case of possible disputes is uncertain. The parties to the agreement have, indeed, set as their objective to incorporate the agreement into EU legislation with the next five years.

¹ For countries with a public debt ratio of substantially less than 60% and whose risk of breaking this limit is small, the structural deficit target can be as much as 1%.

Rules tightening

A great deal of work has been done at EU level to enhance coordination of economic policy. Based on decisions taken so far, Member States are still for the most part independently responsible for their own economic policy (with the exception of monetary policy). However, new and updated regulations are being used in creating much tighter common rules of conduct according to which individual Member States are to conduct their economic policy. The crisis has shown that, within Monetary Union, the poor economic policies of one Member State will have negative externalities for the others as well.

The tighter rules of conduct and the easier process for imposing sanctions do not absolutely guarantee that the present sort of crisis cannot be repeated again in the future. They are, nevertheless, a step in the right direction: if Monetary Union is to work, Member States must respect the common rules. However, externally imposed rules will not in the final analysis achieve anything, if there is no commitment at national level to the objectives and the rules established to support them.

At the turn of the year, the effectiveness of the new economic policy rules was assessed for the first time. In early January, the Commission published a bulletin concerning application of the updated excessive deficit procedure. Under consideration was observation of the deficit criteria by Belgium, Cyprus, Malta, Poland and Hungary. According to the Commission's assessment, the euro area

countries and Poland had introduced adequate measures and the Commission could therefore content itself with monitoring the effectiveness of the measures. In contrast, in the case of Hungary, the Commission will be proposing recognition of an excessive deficit. In addition, in line with the new framework for preventing macro-economic imbalances, the Commission has launched a more in-depth analysis of 12 EU countries (including Finland) in order to identify possible problems. These ongoing cases will provide the first real evidence of the usefulness of the new framework.

Keywords: economic policy coordination, Lisbon Treaty, legislative six-pack, Fiscal Compact

The tighter rules of conduct and the easier process for imposing sanctions do not absolutely guarantee that the present sort of crisis cannot be repeated again in the future.

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Quantitative easing of monetary policy

21 February 2012

In 2007–2009, many central banks cut their policy rates sharply in an attempt to stave off deflation, ie a broadly based fall in prices, and to support developments in the real economy. With interest rates falling close to zero, central banks resorted to non-standard policy measures. These included a long-term commitment to maintaining a low level of interest rates, the expansion of central bank balance sheets by increased provision of central bank money to the economy (quantitative easing) and changes to the structure of the central bank balance sheet, for example by purchasing long-term debt securities and selling short-term ones. This article focuses on exploring the conduct of a policy of quantitative easing and the experiences gained.

Central banks implement monetary policy and steer interest rates mainly by means of repurchase, or repo, operations. In these operations, they acquire (purchase and agree to sell back) securities such as government bonds from commercial banks for a predetermined period. The difference between the amount borrowed by commercial banks and the repaid amount corresponds to the central bank's policy rate, and the underlying bond acts as collateral in the operation. In addition to repo operations, monetary policy can also be implemented by permanently selling or buying bonds (or other securities). The US Federal Reserve (Fed), for example, operates in this manner in order to achieve its target for the federal funds rate. When the amount purchased is increased beyond the level required by conventional interest rate steering, we

speaking about a policy of quantitative easing (QE).

Quantitative easing impacts on the economy mainly via long-term interest rates and is based on three key channels of influence. The first and perhaps most studied channel of influence in the literature is the upward impact on long-term debt securities prices that comes through the 'portfolio effect'.¹ This reduces the risk premium between short and long-term interest rates. Secondly, the mere announcement of quantitative easing increases demand for debt securities and improves their liquidity in a crisis situation where return requirements are boosted by impaired market liquidity. Through this channel, yields decline particularly on the least liquid debt securities. Thirdly, an announcement of quantitative easing indicates the central bank's commitment to an expansionary monetary policy, thereby lowering expectations of the future trend of the policy rate. This, in turn, reduces long-term interest rates (if inflation is not expected to accelerate).

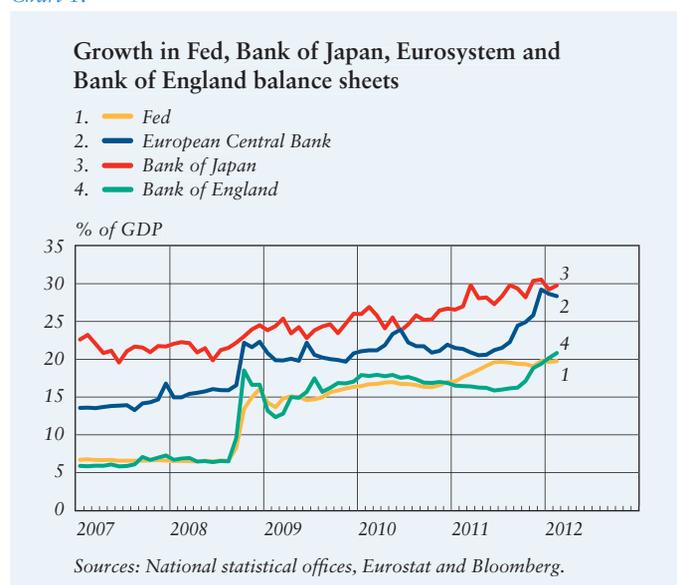
Both the US Federal Reserve and the Bank of England launched quantitative easing policies during the financial crisis. The Bank of Japan also reactivated its programme discontinued in



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¹ The portfolio effect means that different debt securities are not perfect substitutes for one another; rather, investors have particular reasons for holding specific debt securities in their portfolios. The differences can be, for example, different maturities, inflation risk and credit risk. If the conduct of a QE policy consists of purchasing debt securities with long maturities, their yields fall (as their prices rise) and the risk premium between long and short-term debt securities declines. This may calm the markets and further spur demand for higher-risk debt securities.

Chart 1.



2006.² Securities purchases have led to a marked increase in central bank balance sheets (Chart 1). In addition, the volume of liquidity freely available to commercial banks has grown correspondingly, as under a policy of quantitative easing no effort is made to

² Contrary to the other major central banks, the Eurosystem (the ECB and the national central banks of countries that have adopted the euro) has not resorted to quantitative easing via purchases of government securities. Purchases carried out under the Securities Markets Programme (SMP) are sterilised, ie their upward impact on the quantity of money is reversed by collecting an equivalent amount of deposits from commercial banks. The size of the Eurosystem balance sheet as well as the euro-denominated amount of central bank money have increased significantly, but mainly through repo or credit operations directed at commercial banks.

Table 1.

Quantitative easing programmes in the United States and the United Kingdom

United States	
25 Nov 2008	The central bank announces purchases of USD 600 billion in direct obligations of government-sponsored enterprises (GSEs) and mortgage-backed securities (MBSs).
1 Dec 2008	Ben Bernanke, Chairman of the Federal Reserve Board, notes in his speech that a programme for the purchase of longer-term Treasury securities is possible.
16 Dec 2008	The central bank hints at the possibility of purchasing longer-term Treasury securities.
28 Jan 2009	The central bank announces that it stands ready to expand the quantity of its purchases of agency debt and mortgage-backed securities.
18 Mar 2009	The central bank announces purchases up to USD 850 billion of agency debt and mortgage-backed securities and up to USD 300 billion of longer-term Treasury securities.
10 Aug 2010	The central bank announces that it will reinvest principal payments from agency debt and agency mortgage-backed securities in longer-term Treasury securities.
27 Aug 2010	Bernanke notes that additional purchases of Treasury securities would be effective and possible.
21 Sep 2010	There is an announcement that the central bank's programme announced on 10 August is to be continued.
15 Oct 2010	In a speech, Bernanke indicates that the Fed is prepared to provide additional accommodation if needed.
3 Nov 2010	The Fed announces a purchase programme of USD 600 billion of longer-term Treasury securities.
United Kingdom	
11 Feb 2009	The Bank of England announces the likelihood of a quantitative easing programme.
5 Mar 2009	The Bank of England announces its purchase programme of GBP 75 billion in Treasury securities (gilts).
7 May 2009	The purchase programme is increased to GBP 125 billion.
6 Aug 2009	The purchase programme is increased to GBP 175 billion.
5 Nov 2009	The purchase programme is increased to GBP 200 billion.
6 Oct 2011	The purchase programme is increased to GBP 275 billion.
9 Feb 2012	The purchase programme is increased to GBP 325 billion.

sterilise the increase in central bank money as a consequence of securities purchases.

The QE programmes of the US Federal Reserve and the Bank of England have been large in size. The purchase programmes in the United States and the United Kingdom account for approximately 20% and as much as 29%, respectively, of the entire market for purchased securities. The programmes have represented nearly 20% of the countries' GDP. The size of Japan's earlier programme relative to GDP was only 7%. The Japanese programme lasted more than five years, ie the amount of money used annually was considerably smaller than elsewhere.

Quantitative easing programmes commenced at the Fed towards the end of 2008 and at the Bank of England in early 2009 (Table 1). The Fed's programme is usually divided into two parts, QE1 and QE2 programmes. Of these, the first was launched in November 2008 in the form of a USD 600 billion purchase programme for direct obligations of housing-related government-sponsored enterprises (GSEs) and mortgage-backed securities (MBSs) backed by GSEs. The second phase of quantitative easing, the QE2 programme, began in August 2010 with the Fed's announcement that it would reinvest principal payments from securities purchased under the previous programme in Treasury securities.

The Bank of Japan had resorted to quantitative easing in 2001–2006. At that time, JPY 35 trillion worth of long-term government securities accumulated on the central bank's balance sheet.

In addition to size, the main difference between the quantitative easing policies of the Japanese and other central banks was the manner of announcement of the programmes. The Bank of Japan did not announce the size and time frame of its programme in advance, but was committed to continuing the programme until the return of underlying inflation, measured in terms of the consumer price index, to a level comfortably above zero. Against the backdrop of the financial crisis in 2010 and 2011, the Bank of Japan announced a new quantitative easing programme with the primary aim of curbing the appreciation of the yen.

How effective have quantitative easing policies been?

As there is little guidance from previous experience of the methods of non-standard monetary policy, central banks had to resort to this policy without knowing its effects as well as the effects of conventional monetary policy. Finding reliable and universally acceptable evidence for the implications of quantitative easing remains challenging. The existing scientific literature is largely focused on examining these effects by means of case studies, where market reactions to policy announcements are analysed. Moreover, methods based on statistical and economic analysis have been applied, which first estimate a model (VAR or DSGE) using historical data and then simulate the impact of different policy changes using the model.

Studies of immediate reactions (that appear within a day or two) may be motivated by the efficient market

hypothesis, according to which markets respond to the release of new information instantly and correctly. Under this hypothesis, markets should fully and immediately reflect interest rate changes. However, an examination of instant market reactions may lead to an over-

estimation of the achievements of the programmes if, in reality, market participants fail to immediately fully understand a non-standard policy measure. On the other hand, if markets have anticipated the policy measure prior to the central bank's announcement, it is already factored into interest rates, in which case a statistical analysis will underestimate the implications of the measure.

The weakness of methods based on statistical analysis is that cause and effect relationships are estimated using data from normal times. These interdependencies observed during normal times do not necessarily hold in the context of a financial crisis. During the crisis period, market risk premia (especially between short and long-term interest rates) became exceptionally large, and the policy of quantitative easing could thus have had stronger implications than suggested by model results, via declining risk premia and the calming of the markets.

Chart 2.

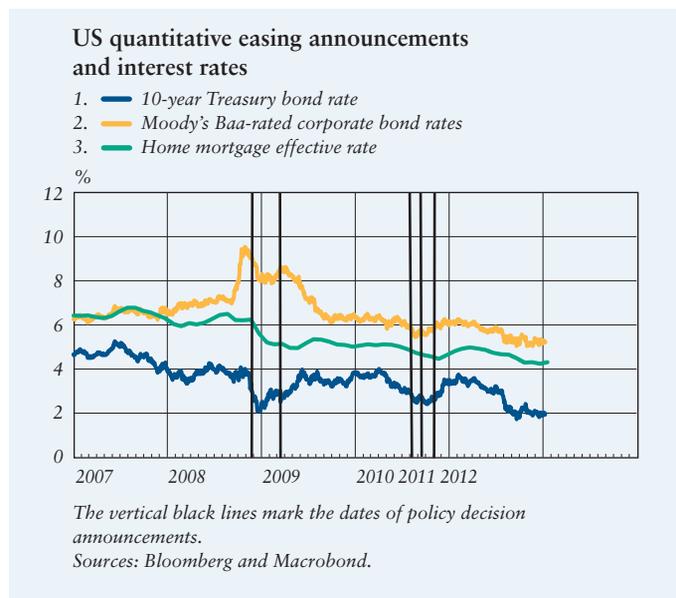
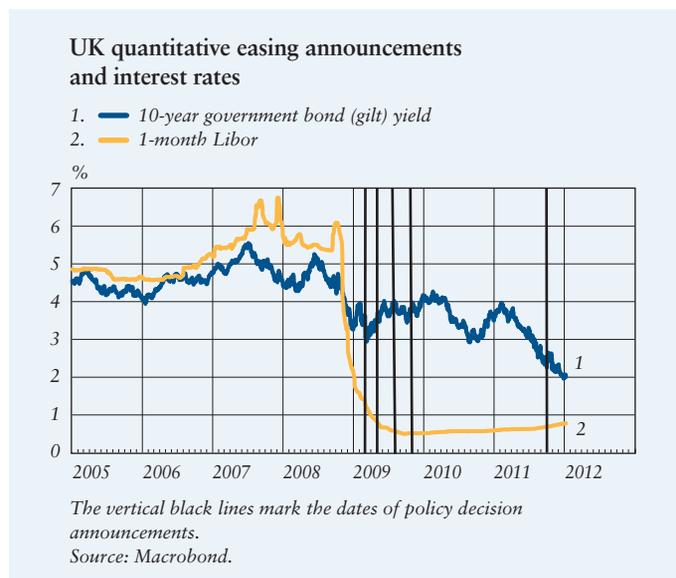


Chart 3.



Interest rate effects of quantitative easing

A review of interest rate changes in connection with policy announcements in the United States and the United Kingdom indicates that corporate bond yields in particular rose to a high level in the United States ahead of the first policy announcement in autumn 2008 (Chart 2). The chart shows that, following the QE1 announcement, corporate bond yields fell markedly, as did mortgage lending rates. In this respect, quantitative easing appears to have calmed the markets and cut interest rates more perma-

nently. As regards government bond yields, the permanence of the effects of policy announcements does not appear equally clear at a rough estimate, but the immediate market reaction also seems to have been a downward impact on yields.

Case studies suggest that the securities purchases of a total of USD 1,750 billion implemented in the first phase of quantitative easing drove down interest rates significantly and particularly narrowed spreads between long and short-term interest rates. On the basis of several case studies, QE1 announcements appear to have pushed down 10-year government bond yields by about 1 percentage point in all. According to estimates by Gagnon et al. (2011a and b), the central bank measures reduced this 'time premium' by approximately 0.35–0.60 of a percentage point, ie slightly less than observed in case studies.

D'Amico et al. explored the effects on interest rates of the sole announcement by the Fed's Federal Open Market Committee (FOMC) on 18 March 2009 to purchase up to USD 300 billion of Treasury securities. According to D'Amico et al., the yield curve flattened following the announcement by an average of 0.30 of a percentage point, in which case interest rates would have fallen by 0.01 of a percentage point for every USD 10 billion used.

Furthermore, it seems that the securities purchase programmes most reduced the yields on those securities that were purchased under the programmes. For example, Krishnamurthy et al. found that the announcements by the Fed's FOMC of the first phase of quantitative easing cut the yields on

10-year government bonds most and the interest rates on GSE debt and mortgage-backed securities by about 1 percentage point. However, such interest rate effects were not limited only to purchased securities; they also spread to other debt securities, such as corporate bonds. According to Neely (2011), the 30-year fixed mortgage rate declined during the first phase, albeit less, ie only about 0.30 of a percentage point.

Most studies suggest that the second phase of US quantitative easing has had considerably smaller effects on interest rates than the first round. Krishnamurthy et al. find that the announcements of the second phase lowered, for example, the 10-year government bond yield by a mere 0.30 of a percentage point. Consequently, the effects of the second-phase announcements appear to have been markedly smaller than those of the first-phase announcements for all security classes. One potential reason for this is that the implementation of the first phase took place in the depths of the recession, when risk premia were exceptionally large, while at the time of the second phase in 2010 the economy had already embarked on the path to recovery. Another possible explanation is that at the later phase the markets expected an expansionary policy and the effects of the programme had therefore already been anticipated. Glick et al. (2011) actually show that, if the surprise component of monetary policy is taken into account, the programmes have broadly been equally effective.

The implications of the Bank of England's programme, identified by

Quantitative easing of monetary policy is most effective during a crisis.

Chart 4.

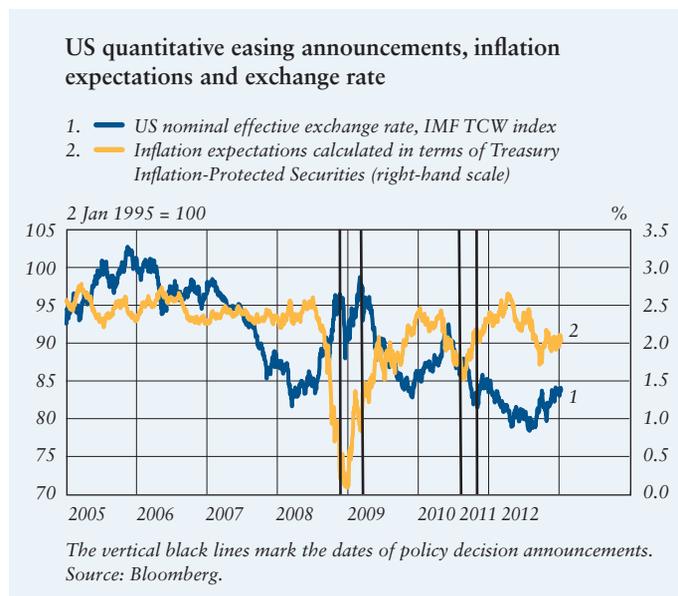
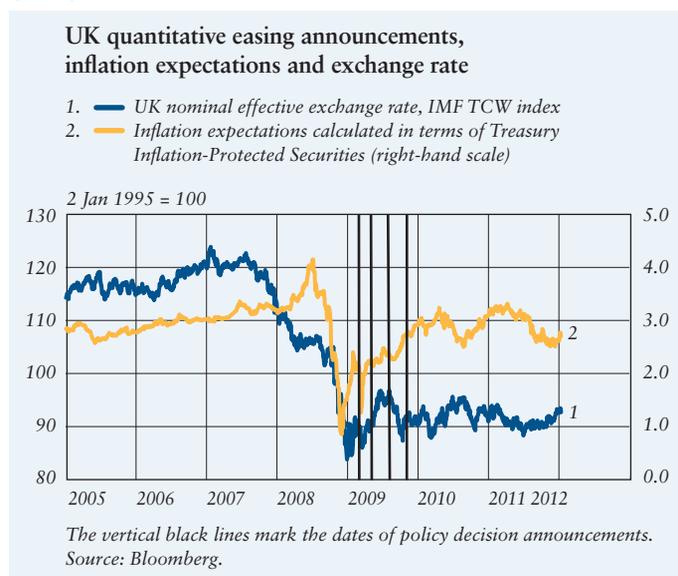


Chart 5.



Joyce et al. (2010), are very similar to those in the United States. Government bond yields appear to have declined by about 0.50–1.00 of a percentage point, depending on the time span chosen for the study. Investment-grade corporate bond yields fell slightly less, approxi-

mately 0.70 of a percentage point. According to Joyce et al., this effect mostly comes through the portfolio effect. In the United Kingdom, too, the markets had anticipated the subsequently announced purchase programmes so that their effects were already factored into interest rates. Overall, interest rate reactions in these two countries are very similar.

In Japan, the central bank's policy of quantitative easing has been found to have had only small and statistically insignificant direct effects on government bond yields. Even so, it did have a small downward impact on highly-rated corporate bond yields. By contrast, the policy effects that were due to the signalling of a future path of low interest rates were more substantial, as three and five-year government bond yields declined by approximately 0.15–0.20 of a percentage point for every JPY 10 trillion used. No reactions from the exchange rate, share prices and lower-rated corporate bond yields to the programmes were identified in Japan. Thus, the greatest benefits in Japan appear to have stemmed from the commitment to an extended period of low interest rates.

The effects of quantitative easing on inflation, exchange rates and output

The effects of quantitative easing on interest rates are only an intermediate target; the main objective relates to inflation (prevention of deflation) and output (softening the depth of recession).

Looking at the reactions of inflation expectations and the exchange rate

during periods of quantitative easing announcements (Charts 4 and 5), we find that the policy measures have increased inflation expectations in both the United States and the United Kingdom. The exchange rate, in turn, shows mild depreciation at the time of policy announcements.

Despite a slight variation in the estimates, the quantitative easing programme appears to date to have had only a limited upward impact on inflation in the United States. Neely (2011) calculates that, measured in terms of Treasury Inflation-Protected Securities (TIPS), the first phase of the US programme boosted inflation expectations by 0.80 of a percentage point. This, however, reflects the markets' immediate reaction to the policy announcement and does not indicate the long-term inflation implications of the programme. According to model-based estimates, the securities purchase programmes increased underlying inflation by 0.5–1 percentage point in the United States and by as much as 2 percentage points in the United Kingdom. However, despite being significant, this impact is not permanent and, as soon as the effects of the programmes disappear, the impact on inflation also vanishes. By contrast, the impact on inflation from the second phase of the programme is estimated to have remained very small, at only about 0.05 of a percentage point.

According to Neely, Meaning et al. and Glick et al., the programmes seem to have had a dampening impact on the exchange rate in both the United States and the United Kingdom. The US dollar

appears to have weakened by 3–10% as a consequence of the policy announcements, whereas the pound sterling depreciated by 2–4% in response to the Bank of England's announcements.

It is difficult to make reliable estimates of the effects of quantitative easing on GDP. Research findings on the implications of the quantitative easing programmes for US output vary widely depending on the research methods employed. Estimates of the positive effects of the programmes on real US GDP growth range between 0 and 4 percentage points.

Adverse effects and exit strategy

The potential disadvantage of quantitative easing programmes is, above all, the danger that the central bank may lose some of its independence and credibility. A specific threat arises if the interpretation is that the purpose of central bank actions is to finance government budget deficits. Large-scale asset purchase programmes may also cause disruptions on the financial markets and change the behaviour of other market participants. Low interest rates may lead to unsound risk-taking, encourage excessive use of leverage and distort the yield curve by reducing the supply of liquid sovereign debt.

In devising a purchase programme, the selection of the debt securities to be purchased is important, as a failure here may lead to unequal treatment of the parties involved and competitive distortions. Low interest rates may also delay the implementation of necessary restructuring, for example by slowing the unravelling of the private sector's

The danger of quantitative easing is that the central bank may lose some of its independence and credibility.

over-indebtedness or by enabling ineffective corporate borrowing over a longer period of time, as may have happened in Japan.

Exit from quantitative easing measures usually requires an active decision. Removal of long-term securities from the central bank's balance sheets upon maturity would leave the balance sheets oversized for a prolonged period. The problem is not as complex in respect of central banks' credit facilities with shorter maturities, because the use of the programmes diminishes automatically as soon as, with market normalisation, market participants no longer need to use them. As regards the exit strategy, it is essential to emphasise price stability as the policy objective and clearly communicate the objective and the plans as envisaged (Blinder 2010 and Kozicki 2011).

It is likely that central bank balance sheets will largely normalise by means of open market operations. This requires active decision-making from the central bank on the timing and speed of implementation of the exit strategy. Perfect timing of cyclical monetary policy tightening is always a demanding task, but the challenges related to the post-QE exit strategy are for many reasons much greater than normal. Firstly, quantitative easing is in practice always related to an exceptionally difficult economic situation, after which recovery is typically a fragile and uneven process. Secondly, as experiences of the use of quantitative easing are scarce, the macroeconomic effects of reducing the central bank's balance sheet are also not known well. Thirdly, associations of 'printing banknotes to cover government expenditure'

that do not belong to normal interest rate policy are readily attached to quantitative easing. This gives rise to specific risks to central bank credibility, which poses major challenges for the timing and communication of central bank actions.

The biggest risks to the policy of quantitative easing are in fact related to the failure of the exit strategy in a manner that jeopardises central bank credibility and leads to higher inflation expectations. It is therefore important to formulate the exit strategy in good time and communicate it in advance. In the United States, for example, (Bernanke, 25 March 2010) the Fed is not committed to a specific timetable, but notes that the phasing-out of non-standard policy measures will begin as soon as financial conditions are deemed strong enough in order to achieve price stability and a good employment situation.

The most important aspect for price stability in the Fed's exit strategy is the possibility of adjusting the rate of interest paid on reserve assets deposited with the central bank, which would raise short-term market interest rates. The Fed has also developed other tools that enable reductions in the banking system's large reserves. These measures improve the effectiveness of the above rate of interest paid on reserve balances in steering short-term market interest rates. To this end, the Fed has increased the number of potential counterparties to reverse repo operations and set up arrangements that allow the collateral use of mortgage-backed securities (MBSs) in operations of this type. The Fed also intends to offer term deposits to banks with a view to absorbing

The central bank must carefully plan the exit from quantitative easing and communicate policy changes in advance to market participants.

liquidity. All these measures enable a quick absorption of liquidity held by the banking system without affecting the size of the central bank's balance sheet. The central bank can reduce the size of its balance sheet by selling in open market operations the securities it has purchased.

In Japan, the central bank reduced its balance sheet rapidly within just a few months in 2006, which Blinder (2010) ascribed to its increased fears of inflation. The rapid adjustment had no significant negative impact on economic growth. Nevertheless, adjustment of the central bank balance sheet in the United States is likely to take longer, and during that time policy rates will rise from their zero levels and again become key policy instruments.

Conclusions

Quantitative easing appears to have been particularly effective in bringing down long-term interest rates in the United States and the United Kingdom. Another observation is that the effectiveness of securities purchase programmes peaks when there is an acute crisis on the markets. Accordingly, the timing of the programme and the decision on the debt securities to be purchased are of key importance. The lower level of interest rates brought about by quantitative easing is perceived as having a small upward impact on GDP, even if estimation of its magnitude is very uncertain. The programmes may also have accelerated inflation over the short term, but long-term effects on inflation are currently deemed slight. However, a failure in exiting from quantitative easing could at its

worst lead to a loss of central bank credibility and an acceleration in inflation over the longer term.

Studies suggest that, besides the portfolio effect, the effectiveness of quantitative easing is also largely based on the central bank's ability to demonstrate, through this policy, its commitment to maintaining low interest rates over the long term. This impact was particularly significant in Japan. Hence, a question naturally arises whether this commitment could also be achieved in a credible fashion by other means, such as monetary policy signalling.

The relevant literature has also evaluated the effects of a potential European quantitative easing policy. Research findings point to the possibility of the effects of a quantitative easing programme in the euro area being very similar to those in the United States and the United Kingdom.

In assessing the effectiveness of a possible European quantitative easing policy, account must be taken of the fact that the weakness of the European economy is largely due to the sovereign debt crisis. Consequently, the European Central Bank should be more careful in communicating the programme than the US Federal Reserve and the Bank of England in order to avoid interpretations that it is financing government debt at the expense of credibility.

Key words: non-standard policy measures, quantitative easing

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