



# BANK OF FINLAND BULLETIN

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## 4. 2013

### Monetary policy and the global economy



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The cover picture depicts the national motif on the Italian 50 cent coin: A statue of Emperor Marcus Aurelius on horseback.

# Monetary policy and the global economy

6 September 2013

## Executive summary

In recent months the advanced economic regions have produced some encouraging signs: the worst may now be over. The continuous contraction in euro area GDP since autumn 2011 came to a halt in spring/summer 2013, and confidence indicators anticipated continued cautious growth over the past few months. The overall situation in the euro area is, however, still marked by uncertainty.

Since the turn of the millennium, a characteristic feature of the global economy has been strong growth in the importance of the emerging economies. During the past year, there have been signs this trend is beginning to recede. The growth forecasts for China have been generally adjusted downwards, and confidence in those emerging economies with fragile economic fundamentals has in recent months broadly weakened. Differences in growth rates are no longer limited to those between the advanced and emerging economies; the differences within country groups have also grown.

According to the Bank of Finland's September 2013 forecast for the global economy, world growth will gradually pick up from the present levels. Recovery from the crisis will, however, continue to be marked by divergent speeds of recovery, and the pace of growth globally will, as a whole, be slower than in the years immediately preceding the crisis. In countries with solid fundamentals, like Germany and, increasingly, the United States, growth will accelerate over the forecast horizon to approach potential growth. In the crisis countries of the euro area, the growth outlook remains very sluggish, as correcting the causes and consequences of the crisis is a slow process. Growth for the EU20 as a whole is forecast to be muted: in 2013, GDP will continue to contract, and the growth forecasts for 2014 and 2015 are 1.2% and 1.6%, respectively. In China, the pace of growth will be slower than we are accustomed to seeing, at around 7%. The slower growth in China reflects a shift in the country's growth model to one more driven by consumption.

According to the Bank of Finland forecast, the outlook for inflation will remain muted in the immediate years ahead. In the area of the EU20, inflation will slow at the end of 2013 to around 1.3%. Looking ahead, the area's

inflation will be kept muted by large amounts of spare capacity and the fading of the inflation effects of tax increases implemented to consolidate the public finances. According to the forecast, EU20 inflation in 2015 will still be just slightly over 1½%.

The subdued inflation outlook has made it possible for the major central banks to maintain a strongly accommodative monetary policy. Many of the major central banks have reinforced their monetary policy by including forward guidance in their public communications. The Governing Council of the ECB announced in July 2013 that the key ECB interest rates will remain at present or lower levels for an extended period of time. With this forward guidance, the Governing Council sought to clarify its procedures and thereby reduce uncertainty surrounding the evolution of the key Eurosystem interest rates. The estimate of future policy rates is conditional on the outlook for inflation: the development of policy rates will be dependent on the expected medium-term trend of inflation.

Although many risk measures indicate an easing of financial market tensions in the euro area, transmission of the Eurosystem's accommodative monetary policy to businesses and households in different countries remains uneven. Measures to improve the situation through general government consolidation and structural reforms to bolster growth in Member States are of fundamental importance.

The restoration of health to the banking sector and the progress of banking union are reinforcing the operating capacity of euro area banks. However, the measures taken so far to clarify and correct problems with the quality of items on banks' balance sheets have not succeeded in dispersing the uncertainty surrounding them. To restore confidence, a number of assessments are to be performed of the quality of European banks' balance sheet items. In addition to the need for transparency in the balance sheets, it is important that any recapitalisation or winding-up of banks be carried through without problems. For monetary policy transmission, too, it is important that the euro area banking sector can be restored to health in a way that can preserve market confidence in governments' management of the public finances.

## I Cyclical conditions and outlook for the global economy

Global growth continued to be modest in the first half of 2013. General government consolidation, the winding down of private sector debt, high unemployment and sluggish wage development hampered economic

growth across a broad front. Although an improvement in financing conditions was reflected in, among other things, rising share prices, the financial crisis still casts a long shadow: in the economic areas worst hit by the crisis, the level of output remains lacklustre (Chart 1).

Chart 1.

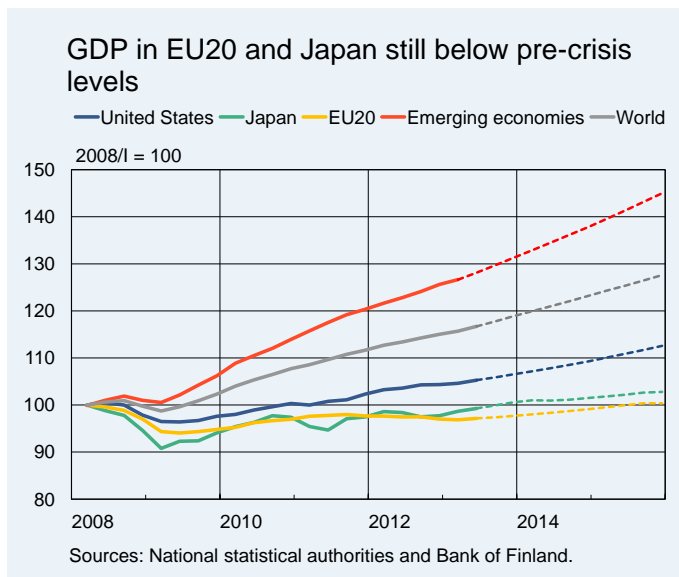


Chart 2.



The global economy is still marked by the uncertainty surrounding recovery from the crisis. In particular, the various reform measures in the euro area, Japan's expansionary policies, the line taken by China's new leadership and unrest in many emerging economies all give rise to uncertainty over the future trend of the economy. Investment is the worst affected, with its level relative to GDP still marginal in many countries. Although part of the reason for the weakness of investment is the over-investment that occurred in the years before the crisis, for instance in housing construction, investment in machinery and equipment, too has been recovering only slowly since the crisis. This, in turn, has been partly reflected in world trade, which has been developing very sluggishly in the current year (Chart 2).

Since the crisis, economic growth has been sustained by developments in the emerging economies. However, the current year has seen a slower pace of growth in the emerging economies, one of the main causes being the current weakness of world trade (Chart 3). Slow growth, eg in the euro area and the United States, has reduced demand for the products produced by the emerging economies. At the same time, economic policies in the emerging economies, too, have been less expansionary than in the

bleakest years of the crisis. Moreover, slower growth, particularly in China, depressed raw material prices, especially in the early months of the year, which has subdued the performance of many commodities producers.

Over the summer, growth in a number of emerging economies has also been slowed by movements on the financial markets. Expectations of accelerating economic growth and a less accommodating monetary policy stance in the United States pushed up interest rates across a broad front in other economic regions as well.

Combined with the deteriorating growth outlook in emerging economies, this has diverted capital flows away from these economies and caused depreciation of their currencies (Chart 4). Thus, at the same time as weak external demand has swollen the current account deficits of some emerging economies, funding the deficits has become more difficult and costly. The level of indebtedness in general has risen rapidly in recent years in emerging economies, too, and borrowing can no longer serve to the same extent as before to fuel growth.

In the advanced economies, in contrast, financing conditions have improved since last winter. In the United States, in particular, banks have reported both increased demand for credit and the easing of credit criteria. With the exception of the euro area, bank credit has, in fact, been on the increase (see part 2 of this article). The recent rise in interest rates has, however, slowed both the rise in share prices and the issuing of corporate bonds (Chart 5).

Chart 3.

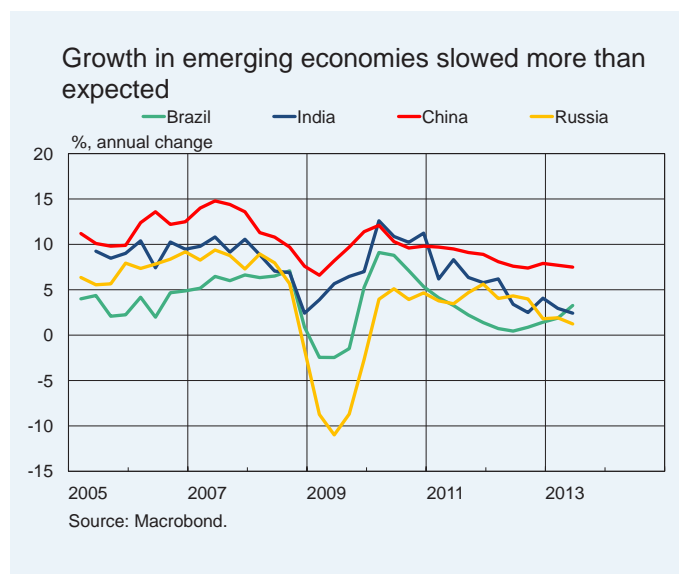
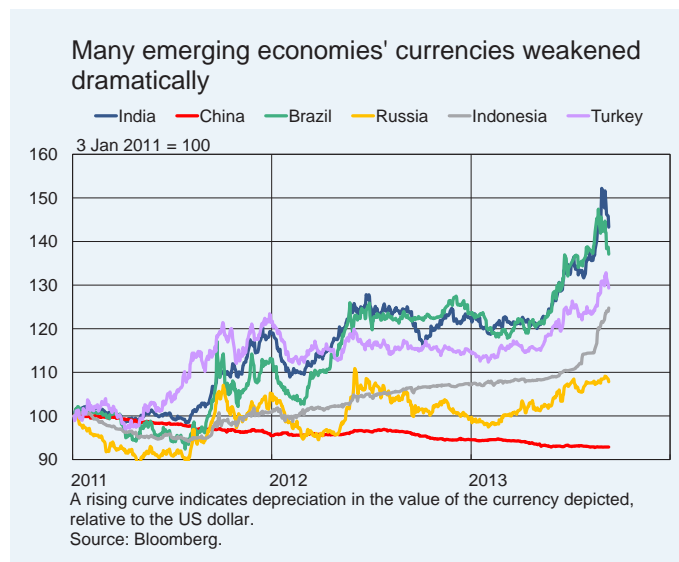


Chart 4.



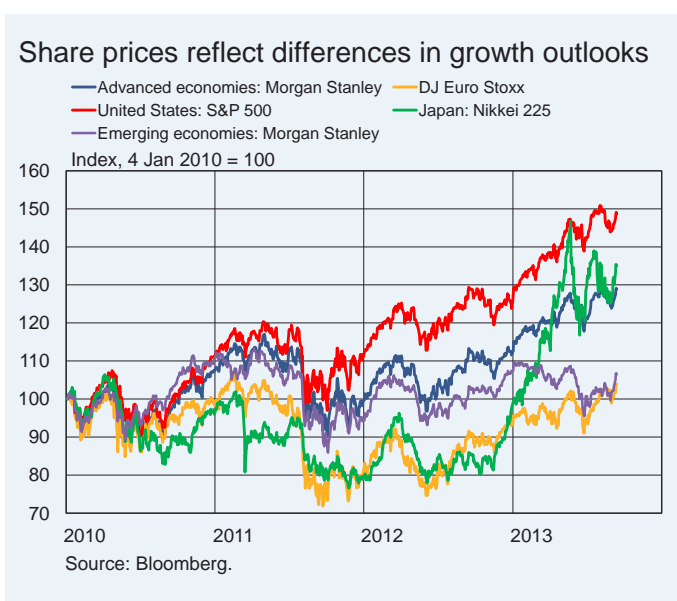
### Growth to accelerate by degrees

The broad outline of the Bank of Finland's September 2013 forecast for the global economy remains the same as the March forecast: world growth is expected to be much slower in the immediate years ahead than in the years

before the crisis. However, the most recent data on economic trends suggest the slowest phase of growth could be over and economic growth will gradually gather pace from the present figures. For example, over the summer,

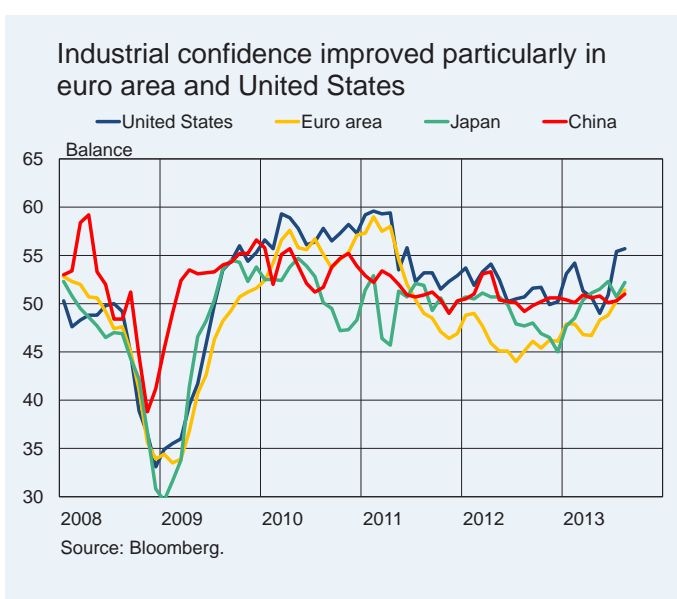
household and corporate confidence in the economy has improved, particularly in the euro area and the United States (Chart 6). Moreover, China's economic growth would appear to have stabilised at around 7.5%, turning commodity prices onto an upwards trajectory.

Chart 5.



Expectations of faster growth are also supported by the fact that measures to consolidate the public finances are in many countries nearing completion. Reductions to the general government deficit are expected to constrict economic growth less than at present in the coming years. In addition, the cyclical situation will moderate inflation and facilitate continuation of a relaxed monetary policy. The end of the upward trend in unemployment coupled with rising asset prices are expected to restore confidence to the economy, thereby fuelling household consumption demand and finally being reflected in investment activity. For example, in the United States, the foundations of growth are now stronger, with an apparent end to the running down of household debt and a turn for the better on the housing and labour markets.

Chart 6.



The economic regions will, however, continue to recover from the crisis at very different paces, and, in particular, developments in the EU20 countries are still shrouded in great uncertainty. In many countries of the region, post-crisis restructuring will be substantial, which, besides slowing short-term economic growth, will also slow the reduction in unemployment (Chart 7). Indeed, a return to pre-crisis levels of construction should not

actually occur in those countries where the sector was badly overheated before the crisis. The financial sector, too, will face many reforms (see part 2, below). Postponement of reforms or possible problems with funding could slow the emergence of new companies or even entire new sectors, thereby serving to slow essential restructuring and causing growth to be even slower than forecast during the forecast period.

Japan's expansionary economic policy will be subject to re-evaluation in the months ahead. Economic stimulus alone cannot restore the country's economy to a stable growth curve: structural reforms are essential. The slower phase in the emerging economies is expected to come to an end, provided there is a widespread acceleration in growth in the advanced economies. The expected slow rise in food and commodity prices will provide scope for the central banks in emerging economies to stimulate economic recovery.

*High general government debt ratio is a restraint on growth*

In many countries, the public sector is still substantially in deficit; together with the weak cyclical situation, this will inflate these countries' debt ratios (Chart 8). Viewed in historical comparison, exceptionally large public debt ratios increase uncertainty, thereby inhibiting economic growth. Therefore, it remains essential to continue public sector consolidation in order to ensure long-term growth, even if the short-term impact of consolidation is often negative.

Chart 7.

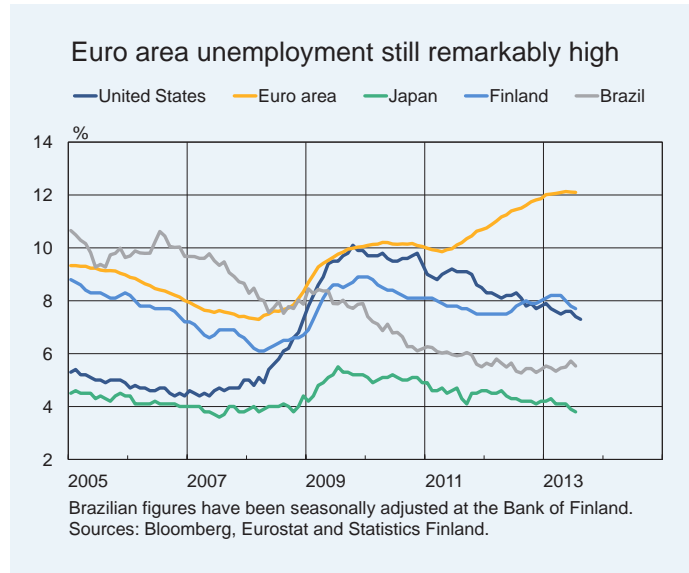
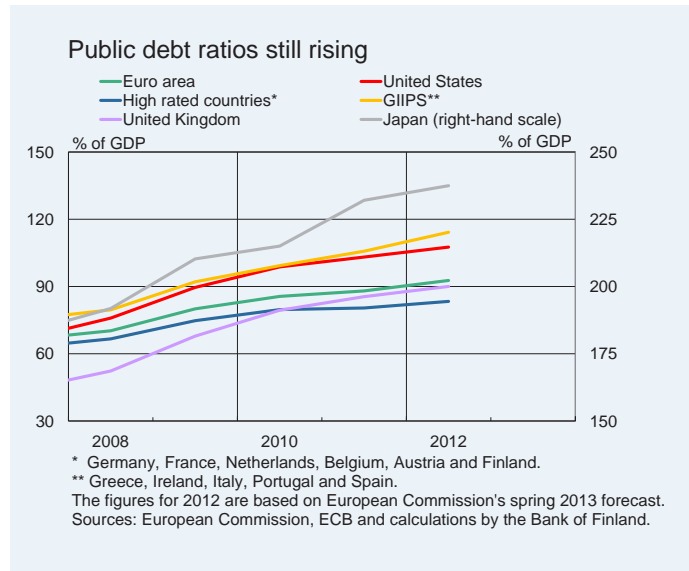


Chart 8.



In recent years, consolidation measures have been very extensively implemented in the advanced economies. Their growth-inhibiting effects are, nevertheless, estimated to fade gradually during the forecast

period. In the United States, the largest adjustment, and hence the largest negative impact on short-term growth, is planned for the current year, but the intention is for consolidation to be continued thereafter as well, as the deficit is still large. The US public sector debt ratio has been eased by the quickening of economic activity. The situation is very different in the United Kingdom, where the weak cyclical picture has contributed to continued large public sector deficits. The country is, in fact, still facing the need for considerable further consolidation. In Japan, meanwhile, general government consolidation has not even begun due to the concentration on reflationary economic policy. During the forecast period, it is assumed Japan will reduce the deficit by eg increasing taxation on consumption, which will serve to slow the pace of growth in GDP.

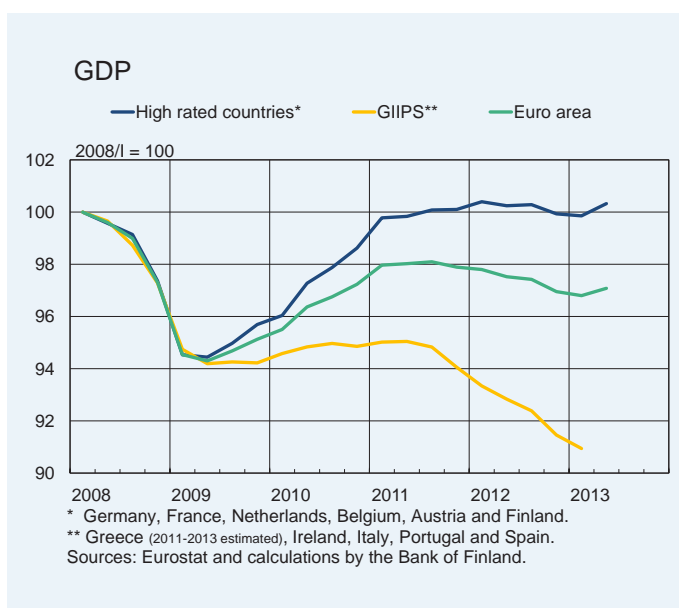
The average total deficit in the euro area has contracted rapidly, and is already at a reasonable level, but the figures are influenced substantially by Germany, where the public sector is in balance. In the crisis countries, in particular, the poor cyclical position has undermined the deficit figures, which remain large despite substantial consolidation measures. Thus, according to the forecast, many euro area countries will continue consolidation, if more slowly than in previous years.

#### *Slow growth to continue in EU countries*

The economic contraction in the EU20 came to an end in the second quarter of the current year. As in the March forecast, growth is forecast to continue to be slow through the second half of the year. The forecast for 2013 as a whole has been adjusted slightly upwards, above all because performance in the first half of the year was slightly better than forecast in the spring. GDP is expected to grow 1.2% in 2014 and 1.6% in 2015. According to the forecast, GDP will return to its pre-crisis level only in 2015. The cross-country differences within the EU are substantial. For instance, GDP is now 1.5 % larger in Germany, but in Spain and Greece, respectively, around 7% and 20 % smaller than at the beginning of 2008 (Chart 9).

Although confidence in the EU20 has been improving for almost a year, the moderate growth forecast is supported by the fact that confidence in general remains weak and the differences between countries are

Chart 9.



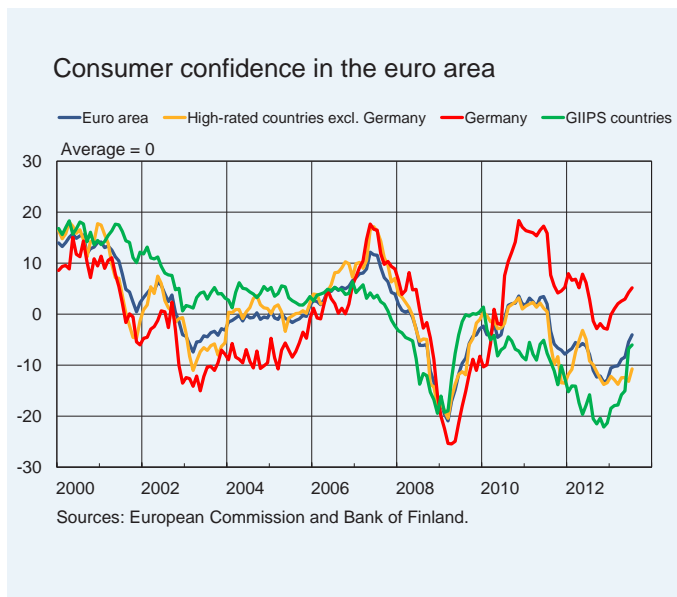


substantial. Confidence is highest in Germany, while the improvement in confidence has been strongest in the GIIPS countries, where consumer confidence, in particular, has grown (Chart 10).

All in all, the factors of growth still display considerable weaknesses in the EU20 countries. During the forecast period, growth will continue to be hampered by weak earnings development, high unemployment and sluggish export performance and investment activity. The accommodative monetary policy will feed through to the economies of the region asymmetrically and, in general, economic activity, particularly in the crisis countries, will be subdued by the winding down of both corporate and household debt. Moreover, general government consolidation will in the immediate years ahead lead in many countries to an emphasis on tax increases and expenditure cuts. Coupled with the uncertainty surrounding structural reforms, this will weaken economic growth in the forecast period.

From the perspective of the direction of the economy, the increased confidence in the fiscal policy being pursued in the euro area is important. As a consequence, the interest rates charged on GIIPS countries' government debt have come down and their interest differentials relative to Germany have contracted. This trend has been particularly influenced by the programme of Outright Monetary Transactions (OMT) announced by the ECB, but the favourable trend also reflects the results achieved by general

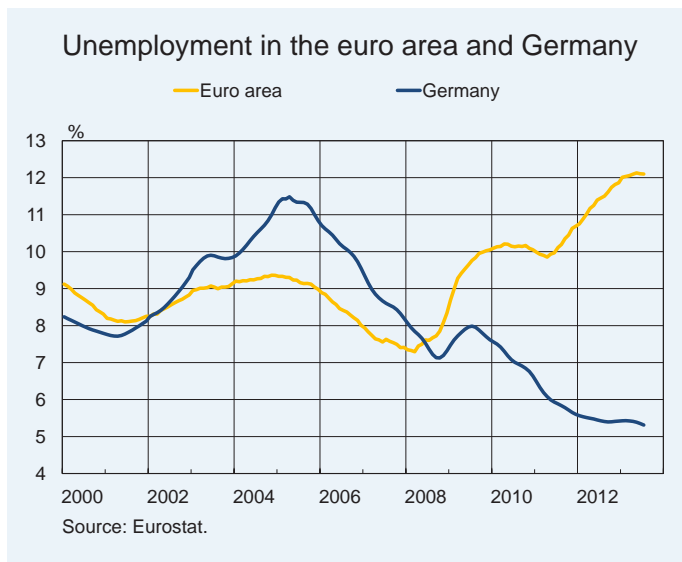
Chart 10.



government consolidation and the relaxation of market pressures. The pressures on interest rates have also been eased by the reduction in current account deficits. Lower yields on government debt will boost economic growth to the extent they feed through into banks' loan interest and credit terms.

In **Germany**, economic growth accelerated in the second quarter of the year, with GDP 0.7% up on the previous quarter. According to the forecast, German growth will continue to be relatively strong, as the economic fundamentals are sound: the current account is in surplus (reflecting good competitiveness), household indebtedness has come down and the unemployment rate (5.4% in June) is among the lowest in the euro area (Chart 11). Overall economic confidence is better than the average for the rest of the euro area. The reduction in unemployment is

Chart 11.



partly the result of the reforms carried out a decade ago.<sup>1</sup>

In **France**, growth gathered pace in the second quarter of 2013, above all due to domestic demand, but also on account of exports. As a result, French growth for 2013 as a whole will exceed the previous forecast. High unemployment and general government consolidation measures will, however, slow growth in domestic demand over the forecast horizon. On the other hand, the impact of structural reforms to boost competitiveness and improve the functioning of the labour markets could begin to be seen in the growth figures over the same period.

In **Italy**, the economy has continued to contract through the first half of 2013, and at the level of the year as a whole, too, GDP is estimated to contract in the current year. Growth is, however, expected to recover gradually

<sup>1</sup> For a closer look at these, see Box 1, below.

from the present level. Internal pressures within the new government have already caused postponement of agreed fiscal policy consolidation measures. Postponement, and the possible scrapping, of these measures poses a risk that the public debt ratio will not be stabilised as expected during the forecast period.

In **Spain**, the situation regarding economic fundamentals remains difficult, although the declining trend in GDP is forecast to end this year. Despite substantial growth in exports, domestic demand will continue to be sluggish. Indebtedness in both the private and public sectors is considerable, financing conditions tight and the strong decline in housing prices still continued into the first quarter of 2013. The housing price cycle could, however, be gradually turning, while the strong growth in unemployment to a record high would now appear to be over. The past year's consolidation measures in the banking sector and the reforms already carried out in restructuring the economy will, for their part, help to stimulate economic growth.

In the **United Kingdom**, growth in the first half of 2013 was a positive surprise, and the direction of confidence indicators during the summer suggests growth will continue. The shoots of optimism in the household sector are due in part to a rise in housing prices. Overall, however, the signs of recovery are very tentative, and, despite a very relaxed monetary policy, both household and corporate loan stocks are still contracting. The employment figures are good, but productivity development has

been exceptionally poor in recent years, and a fairly large slice of the employment growth has come from an increase in part-time work.

In Sweden, the relatively good pace of growth is expected to continue through the next few years. The position of households looks fairly positive, whereas the corporate outlook is weaker, partly on account of the weak development of foreign trade. Confidence is rising among consumers and retailers, which suggests there will be a consumption-driven acceleration in the pace of economic growth. The reverse side of Swedish growth is the high and still growing level of household debt. Combined with high housing prices and supply problems on the housing market, this has become a potential weakness in the Swedish economy.

*US growth expected to accelerate, Chinese growth to continue at a slower pace*

Developments in the United States early in the year have been slower than forecast. The weak performance in the first quarter is explained by uncertainty over general government consolidation measures early in the year, which impacted negatively on corporate investment. In contrast, households came through the tax increases at the beginning of the year surprisingly well.

Looking forward, the US growth outlook is stable, and growth is forecast to accelerate slowly towards 3% per annum. With clarification of the direction of fiscal policy, the greatest factors of uncertainty in the US economy

Table 1.

**GDP and world trade growth**

GDP	2012	2013 <sup>f</sup>	2014 <sup>f</sup>	2015 <sup>f</sup>
United States	2.8	1.6 (1.8)	2.5 (2.4)	2.9 (2.8)
EU20	-0.4	-0.1 (-0.4)	1.2 (1.1)	1.6 (1.5)
Japan	2.0	1.6 (1.1)	1.5 (1.7)	1.2 (1.0)
China	7.8	7.5 (8.0)	7.0 (7.0)	7.0 (7.0)
Russia	3.7	1.8 (3.4)	3.3 (3.4)	3.2 (3.0)
World	3.4	3.0 (3.2)	3.7 (3.6)	3.8 (3.8)
World trade	3.0	2.7 (4.0)	5.2 (5.7)	5.9 (6.3)

<sup>f</sup> = forecast

EU20 = euro area, Sweden, Denmark and United Kingdom

% change on previous year (previous forecast in parentheses)

Source: Bank of Finland.

have been dispelled. Households' asset position has improved as a consequence of the more positive picture on the labour market and recovery in the housing market. Moreover, the reduction of household debt would appear to be coming to an end. This is also suggested by the return of the savings ratio to the level prevailing at the turn of the millennium. Although general government consolidation measures will continue throughout the forecast period, their greatest negative contribution to economic growth will be passed in the current year.

In Japan, the Abe government is attempting to accelerate economic growth and defeat the country's intractable deflation through extensive reflationary measures, in which the Bank of Japan is also participating with its monetary policy programme for the purchase of government bonds. The

*In the long run, domestic consumer demand will be an important motor of growth in the Chinese economy.*

stimulus and consequent depreciation of the yen raised expectations of faster growth early in the year, but since then optimism has faded in tandem with economic growth. This has been partly due to a delay in the stimulus package's third and most important pillar – restructuring. Due to the early part of the year, however, GDP growth for the year as a whole will be higher than forecast in March, at 1.6%. Looking forward, growth is forecast to continue at a moderate pace, slightly above the growth rate of potential output.

Japan's situation is made more awkward and its room for manoeuvre in economic policy is restricted by the country's enormous public debt (230% of GDP), which in practice dictates a policy of tax increases. The aim of the Abe government – to halve the entire general government deficit from the level of 2010 by 2015 – is very challenging. As a contribution to public sector consolidation, the previous government decided to increase tax on consumption by stages in the years ahead, from the present 5% to 10%. The current forecast contains the assumption that the increases will be implemented, but in fact the tax increases could be postponed in fear that they could endanger economic recovery. In order to achieve a sustainable debt path, Japan should undoubtedly implement structural reforms that would raise the country's potential pace of growth from the present level of less than 1%.

The pace of growth in **emerging economies** is expected to pick up gradually from the present levels,

provided the global economy as a whole recovers and demand for emerging economies' exports improves. In **Latin America**, the outlook is bolstered by the strong growth outlook for the United States, an important trading partner for the region, although on the other hand subdued commodity prices will serve to slow growth.

In **China**, the economy grew more weakly than expected early in the year, and the growth forecast for 2013 as a whole has been reduced by ½ a percentage point to 7.5%. The overall picture of the deceleration in growth does, however, match well with the Bank of Finland's earlier view of China's long-term economic trends, and economic growth is therefore expected to continue at around 7% per annum in 2014–2015. China's decision-makers do not appear at present to have any need to launch an ambitious risk-increasing stimulus package; a small-scale fiscal stimulus will be enough to support growth. On the other hand, the scope for a stimulus is limited by the rapid growth of debt problems at local government level, increasing the risks simmering on the financial markets.

Behind the slowdown in China's long-term economic growth lies the ongoing structural change in the economy, in which the role of investment as the engine of growth is gradually giving way to domestic demand. Political support for this sort of change appears to have strengthened, as, under the country's new leadership, there is greater emphasis in economic policy on liberalisation and structural reforms. In the current year, this has been visible in the

deregulation of the financial markets, while allowing the appreciation of the yuan and supporting its internationalisation. The reform policy will help in reducing longer-term problems, although the reforms are hard to control and could therefore also cause unwelcome surprises.

In **Russia**, economic growth slowed much more than forecast in the first half of the current year. This was due particularly to a decline in investment. Growth is, however, expected to revive as the global economy recovers, albeit this year's GDP growth will not reach 2%. Despite the forecast assumption of a gentle decline in the price of oil, GDP growth in 2014–2015 will be over 3% per annum, as global recovery will stimulate a slow growth in Russian exports. Investment is also expected to begin to grow, partly due to capacity restrictions and as a result of major government investments in traffic infrastructure. Looking ahead, Russia's economic growth will sink down towards a trend of around 2%, unless the price of oil rises or the measures to improve the business environment progress faster than at present.

**World trade** growth is expected to follow the general trend in the global economy, hence accelerating moderately towards the end of 2013 and in the years ahead. In particular, quickening demand for capital goods and consumer durables is expected to feed trade growth. Trade imbalances narrowed immediately with the onset of the crisis. Since then, the Chinese trade surplus and the US trade deficit have remained almost unchanged,

whereas Japan's dependence on imported energy has pushed its trade balance into deficit. Major changes in these factors are not expected during the forecast period. The euro area trade surplus is expected to grow slightly, with some euro area countries still adjusting their domestic demand.

#### *European inflation to remain low*

During the spring and summer, price movements in the major economic regions have been slower than envisaged in the previous Bank of Finland forecast. In the United States and the EU20, inflation has been in the region of 1.5%, while Japan has been experiencing deflation. The slower-than-forecast inflation is explained primarily by slow economic growth and the fall in the price of oil in the spring. In the BRIC countries, the pace of inflation has remained stable throughout the early part of the year. In July, inflation was 6.3% in Brazil, 5.6% in Russia, 9.6% in India and 2.7% in China.

The political tensions of recent weeks have already pushed the price of oil above the trajectory forecast back in March. However, looking ahead, the markets expect the price to decline slowly (Chart 12). Price developments with other industrial raw materials are also forecast to remain moderate.

Long-term inflation expectations for the euro area and the United States derived from market data are close to the average levels of recent years. The stability of long-term expectations indicates that monetary policy has remained credible. In contrast, the lacklustre short-term growth outlook for

*The slower pace of inflation in the major economic regions can be attributed to faltering economic growth and the fall in the price of oil.*

Chart 12.

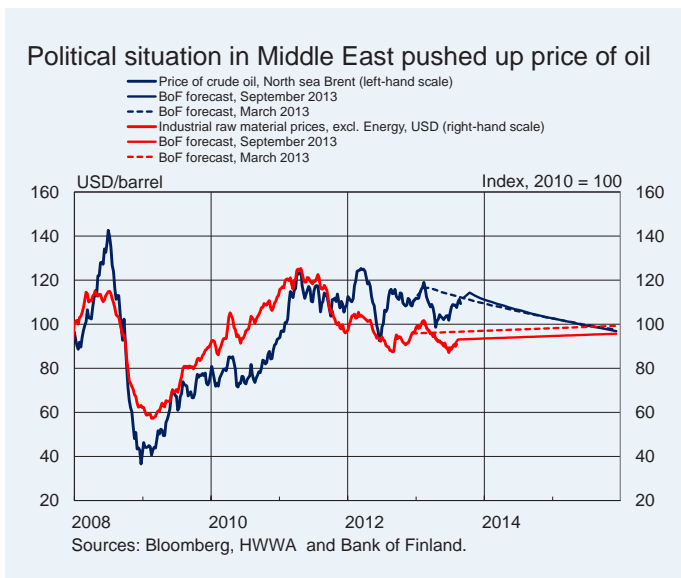
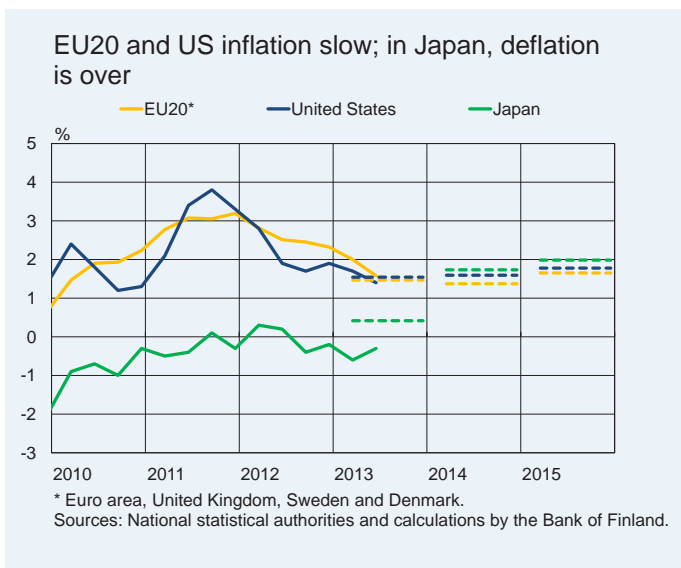


Chart 13.



the euro area and expectations over a gradual tightening of US monetary policy have caused a lowering of short-term inflation expectations. In the United States, in particular, more precise information than previously available on the exit from the programme of quanti-

tative easing has lowered inflation expectations, which are nevertheless still close to the 2% inflation target. Inflation expectations have changed most in Japan, where the expansionary monetary policy has bolstered expectations and the markets already expect an end to the cycle of deflation.

According to the Bank of Finland forecast, inflation in the EU20 will slow at the end of the current year to around 1.3% (Chart 13). Thereafter, inflation is forecast to accelerate somewhat to end the forecast period at a good 1.5%. Inflation will be moderated by falling import prices and sluggish economic growth. The stable growth outlook in the United States means US inflation should remain on the underside of 2% throughout the forecast period. The expectations of tighter monetary policy have, however, moved the forecast slightly to the downside in respect of inflation.

Japanese inflation is forecast to accelerate towards the end of the year and remain positive throughout the forecast period. In particular, depreciation of the yen has pushed up import and producer prices during the spring and summer. In recent months, this has been reflected in a rise in consumer prices. As the actual level of inflation to date has been due in large measure to rising prices for energy and other commodities, a price index calculated without these items indicates continuing deflation. The price rises have not yet been reflected in wage development. Looking forward, inflation is expected to accelerate as the rise in producer prices and the effects of the increases in

consumption taxes planned for next year feed through into consumer prices. If inflation is to remain close to the Bank of Japan's target beyond the forecast horizon, this will, however, require the success of the programme's structural reforms and the restoration of economic growth.

#### *Forecast risks*

The forecast sets out from the assumption that world growth will recover towards the end of 2013 and continue to grow in strength in the immediate years ahead. There are both upside and downside risks to the growth forecast, but the downside risks predominate. For example, a deterioration in the euro area debt crisis could have a very substantial negative impact on the entire global economy, whereas the positive impacts of the upside risks – such as better-than-expected performance in the US economy – would, even if realised, be marginal in their effects.

In the euro area, the programme of Outright Monetary Transactions (OMT) announced by the ECB has calmed government bond markets in the crisis countries. There have been no significant new negative surprises, and therefore faith in the dispersion of crisis countries' government debt accumulation and their problems with competitiveness has strengthened further. According to market indicators, the risk of the euro area crisis reigniting has in fact receded significantly since March.

On the other hand, the launch of structural reforms in many countries of the euro area has been very slow.

According to an OECD analysis, for example, all countries in the euro area have aspects of their labour and product markets in need of structural reform.<sup>2</sup> Euro area financial markets are also in need of structural reform. If the necessary reforms cannot be carried out, it is possible that productivity development in the euro area will be more sluggish than forecast. Poor productivity development, in turn, will cause slower economic growth and thereby generate new pressures for eg additional general government consolidation.

The postponement of structural reforms is evaluated in the present forecast with the help of a risk assessment. This has been conducted by drawing on a new model of the international monetary and financial economy.<sup>3</sup> The model presents a simplified macroeconomic assessment that does not incorporate all those elements that a restructuring package could possibly contain. Therefore, the impacts of postponing the reforms are assessed by slowing productivity development in the model. The presented shock is asymmetrical, meaning only part of the euro area (the GIIPS countries) postpones the reforms, while the other countries in the area implement the reforms as expected.

The OECD has estimated that labour and product market reforms – such as cuts to unemployment compensation and easing market entry for new

*In the euro area, the programme of Outright Monetary Transactions (OMT) announced by the ECB has calmed government bond markets in the crisis countries.*

<sup>2</sup> OECD (2012) Economic Policy Reforms: Going for Growth 2012.

<sup>3</sup> Kortelainen, Mika (2013) 'Global integrated monetary and fiscal model'. Bank of Finland Bulletin 1/2013, Monetary policy and the global economy, p. 49–55.

companies – could considerably boost output, by up to 10% in the long term.<sup>4</sup>

In the Bank of Finland’s risk assessment, productivity development is believed to differ from the baseline somewhat more moderately, partly because the reforms are assumed to be delayed, not scrapped. In practice, it is assumed that productivity development in the production of intermediate goods in the GIIPS countries will slow ¼ of a percentage point annually for the next ten years. This will depress the GIIPS countries’ real GDP by 2% relative to the baseline in ten years. It is additionally assumed that the United States, the euro area and Japan will hold their central bank policy rates close to zero for the next two years, after which the rates will respond to economic develop-

<sup>4</sup> Cacciatore, Matteo – Duval, Romain – Fiori, Giuseppe (2012) Short-Term Gain or Pain? A DSGE Model-Based Analysis of the Short-Term Effects of Structural Reforms in Labour and Product Markets. OECD Economics Department Working Papers No. 948.

ments in accordance with the Taylor rule.

The slowing pace of productivity growth in the GIIPS countries will reduce demand for capital and labour. This weakening of demand for the factors of production will lead to a drop in real wages and the real user costs of capital, which in turn will lower disposable household income. Overall, domestic demand will decline, resulting in lower production costs and lower inflation. Weakening domestic demand will also reduce imports and bolster these countries’ current accounts. The real effective exchange rate of the GIIPS countries declines somewhat in the risk assessment, due to the slower pace of inflation. Moreover, nominal interest rates in the euro area will remain static due to the zero lower bound, meaning real interest rates will initially rise. Nominal interest rates will stay unchanged and will be lowered only when the zero lower bound no longer applies.

The GIIPS countries’ weak productivity development will also cause slower growth in the rest of the euro area due to the effect on trade flows. This will lead to lower inflation combined with a rise in real interest rates in those other countries, too, causing a decline in domestic demand.

Fading economic activity in the euro area will lead to a contraction in other countries’ exports to the area. This will further reduce demand in the rest of the global economy. In countries where the zero lower bound is not binding, central banks will slightly lower their policy rates. In the United

Table 2.

**Risk assessment: scenario of declining productivity in GIIPS countries**

	2013	2014	2015
<i>GIIPS countries</i>			
GDP, %	-0.7	-0.8	-0.7
Inflation, % points	-0.1	-0.1	-0.1
Nominal interest, % points	0	0	-0.2
Real effective exchange rate, % (+ = depreciation)	0.0	0.1	0.2
Current account/GDP, % points	0.2	0.3	0.3
<i>Euro area</i>			
GDP, %	-0.3	-0.4	-0.3
Inflation, % points	0.0	-0.1	-0.1
Nominal interest, % points	0	0	-0.2
Real effective exchange rate, % (+ = depreciation)	0.0	0.0	0.1
Current account/GDP, % points	0.1	0.1	0.1

Source: Calculations by the Bank of Finland.

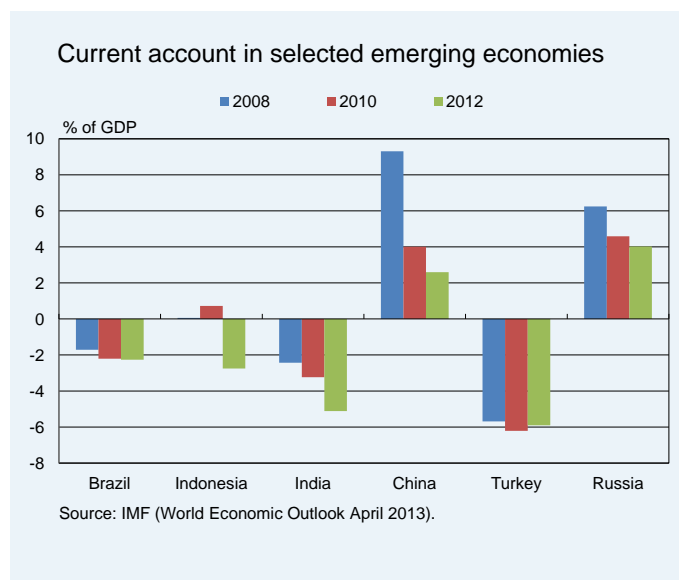


States and Japan, however, the zero bound is binding over the short term, so there too lower inflation will mean an increase in real interest rates, further reducing economic activity. However, taken overall, the decelerating productivity development in the GIIPS countries will reduce global GDP only very slightly.

The most significant upside risk to the forecast relates to the United States. There are many signs that suggest the possibility of a faster-than-forecast recovery in the US economy. The housing and labour markets, in particular, give off a positive feel. In addition, fiscal policy tightening has significantly reduced the federal budget deficits. In response to the improved economic situation, the Federal Reserve has announced it is considering the gradual winding down of its programme of quantitative easing. Although the Fed has stressed in its forward guidance that its relaxed monetary policy stance will continue, the prospect of some changes has already caused significant reactions on the financial markets. These initial reactions have included a rise in the level of interest rates, which has in turn served to divert capital flows away from the emerging economies. If this trend continues, it could lead to a tightening of financing conditions outside the United States, too, and a sudden slowdown in credit growth, particularly in emerging economies.

One of the risks in the current forecast period relates to how central banks that have relied strongly on non-

Chart 14.



standard measures in recent years exit from these measures as the economic situation improves. Above all, central bank communications relating to this issue will be monitored carefully. If the communication is unsuccessful, the market responses could be unexpected and have a widespread impact, via the international financial markets, on the growth outlook for the global economy as a whole.

The external balance of some emerging economies has deteriorated in recent times, with sluggish external demand slowing exports while imports continue to grow (Chart 14). These economies are vulnerable to shocks of both domestic and external origin. In particular, slower euro area growth or stronger-than-expected market reactions to the tightening of US monetary policy could cause additional problems for these countries.

Box 1.

## Germany's labour market reform

A decade ago, Germany faced persistently high unemployment and its labour market institutions were regarded as a byword for inflexibility. Today, the unemployment rate in Germany is remarkably low and not even the vast GDP drop in the recent 'Great Recession' has hampered this exceptional labour market performance.<sup>1</sup>

In order to fight the high and persistent unemployment in Germany, a profound reform and modernization of the labour market was implemented from 2003 to 2005. The commission on 'Modern services on the

labour market' gave recommendations for the steps to be taken in the reform under the guidance of Peter Hartz – a former member of the board of directors of Volkswagen.<sup>2</sup> The reform's overall goal was a significant reduction in unemployment by affecting the flow variables.<sup>3</sup>

The reform can be summarized in three main pillars: 1) Reform of the employment services, 2) Activation of the unemployed and 3) Labour market deregulation.<sup>4</sup> The

<sup>2</sup> Jacobi, L. and J. Kluve (2010): 'Before and After the Hartz Reforms: The Performance of Active Labour Market Policy in Germany', *Zeitschrift für Arbeitsmarkt Forschung*, 1/2007.

<sup>3</sup> Klinger, S. and T. Rothe (2010): 'The impact of labour market reforms and economic performance on the matching of short-term and long-term unemployed', IAB Discussion Paper, 13/2010.

<sup>4</sup> Jacobi, L. and J. Kluve (2010).

timeline of the reforms is presented in Table 1.

The most relevant characteristics of the post-reform labour market in Germany are reduced overall and long-term unemployment and increased matching efficiency. Closely linked to this was a reform-induced decrease in the reservation wage, reflected in a prolonged period of wage restraint and moderate developments in unit labour costs.

Part of the favourable condition of the German labour market nowadays is its resilience in the Great Recession. Labour adjustment to the vast GDP shock was achieved via a decrease in both average working hours and hourly productivity. Moreover,

<sup>1</sup> This box is a summary of the BoF Online (7/2013) article by Michaela Schmöller: 'A perspective on the German 'Job Miracle': labour market outcomes and welfare after the labour market transformation.'

Table.

### Timetable of reforms

Hartz I (January 2003)	Hartz III (January 2004)
Enlarged definition of 'suitable' work	Reformation of the employment agencies
Personal integration agreement	Introduction of job centres
Sanctions	Individual case manager for the unemployed
Education and placement vouchers	Integration subsidies
Deregulation of temporary agency work	
Deregulation of fixed-term contracts and dismissals	
Personal service agency	
Hartz II (January 2003)	Hartz IV (January 2005)
Atypical employment: mini-jobs and midi-jobs	Reformation of the benefit scheme
Start-up subsidies ('Icb-AG')	One-euro jobs
Wage protection	

(Based on Klinger et al., 2013; Brussig et al., 2006; Klinger and Rothe, 2010)

five key factors accounting for the exceptional performance of the German labour market in the crisis can be identified: 1) the strong presence of measures of internal flexibility within firms, 2) strong cooperation between the social partners, 3) firms' willingness to keep their workforce stable, 4) the favourable structure of the economic shock and 5) the sound condition of the overall economy before the crisis.

Despite the favourable overall condition of the German labour market, there have, however, also been adverse developments. The major adverse developments in Germany since the labour market reforms are the pronounced presence of non-regular employment, employment limitations for women in mini-jobs, as well as

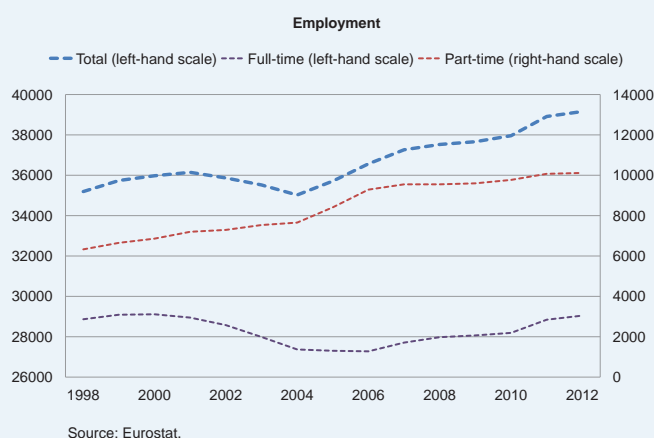
increased inequality and risk of poverty in the country overall. However, the most problematic aspect can be identified in the presence of the working poor, persons who are living close to or at poverty level despite being employed.

It is thus apparent that Germany's transition came at a certain cost. Not only did Schröder lose his chancellorship; the party's former main supporters, the working class, have considered the reforms a 'betrayal', contributing to record-low votes for the Social Democrats and a change in the political map of Germany. It appears that the success of the many – the labour market in its entirety – came to an extent at the cost of the few, those at the lower-end of the income scale who had to take on a disproportional

burden in Germany's transition to new-found competitiveness. The reforms seem to have contributed to the enlargement of the social divide and reshaped the general significance of work in the country.

Drawing the conclusion that the labour market reforms were a mistake is nevertheless wrong. The reforms in Germany were clearly an overall success. Given their immense magnitude – representing a substantial change in the German economy and its institutions – it is not surprising that some of the implemented measures exerted unexpected and distortive effects. It could be argued that a mistake in Germany was to refrain from a profound continuous optimization of the labour market reforms. Some changes, not necessarily vast, could e.g. move the German labour market away from the excessive use of temporary agency work. Also, a re-design of the tax system in a more egalitarian direction would be helpful in furthering more independent employment paths for women. Germany's example gives a clear indication that it is possible to solve the problem of unemployment and restore competitiveness via structural reforms.

Chart.



## II Monetary policy and its transmission

*Forward guidance provides clarity to the Eurosystem's accommodative monetary policy*

The stance of the main central banks' monetary policy continues to be exceptionally accommodative, as recovery from the financial crisis maintains an environment of weak economic activity and a subdued outlook for inflation. In the past six months, the Eurosystem has been the only one of the major central banks to lower its policy rates. The key policy rates of the other main central banks were already very close to zero (Chart 15).

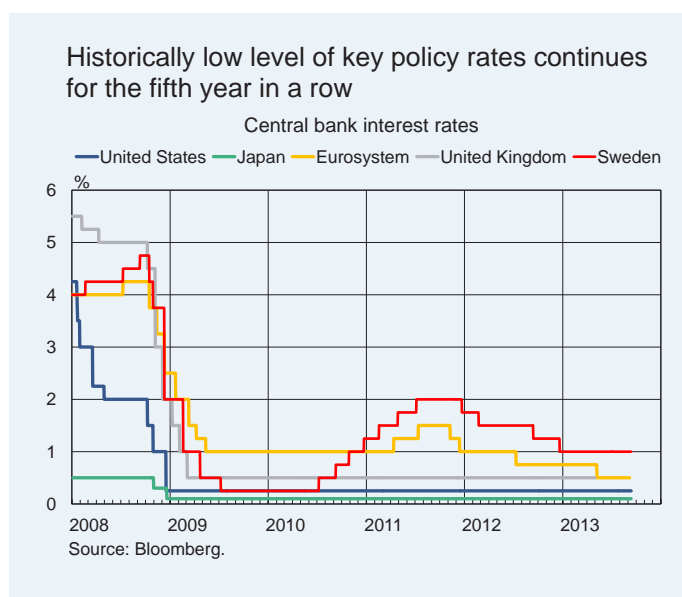
In May, the Governing Council of the ECB lowered the key ECB interest rate to 0.5% and decided to continue conducting the main refinancing operations of the Eurosystem as fixed rate tender procedures with full

allotment for at least a period of one year, ie until July 2014. These measures support bank funding and lending. Since April, the Governing Council has emphasised that the monetary policy stance of the ECB will remain accommodative for as long as necessary. The monetary policy stance is geared towards maintaining the degree of monetary accommodation warranted by the outlook for price stability and promoting stable money market conditions. It thereby provides support to a recovery in economic activity later in the year and in 2014.

Within the past twelve months, several major central banks, including the Eurosystem, have intensified their monetary policies via a new approach, known as forward guidance. There is no single precise definition for forward guidance. The content and objectives of forward guidance provided by central banks differ. In providing forward guidance, central banks make their procedures more transparent, thus seeking to manage expectations regarding the path of central bank interest rates. Forward guidance has also been used by central banks to clarify their procedures related to securities purchases or other actions impacting the stance of monetary policy.

In July, the Governing Council of the ECB modified its communication regarding the key ECB interest rates by introducing forward guidance. The Governing Council announced that it expects the key Eurosystem interest rates to remain at present or lower levels 'for an extended period of time'. This message was also repeated in

Chart 15.

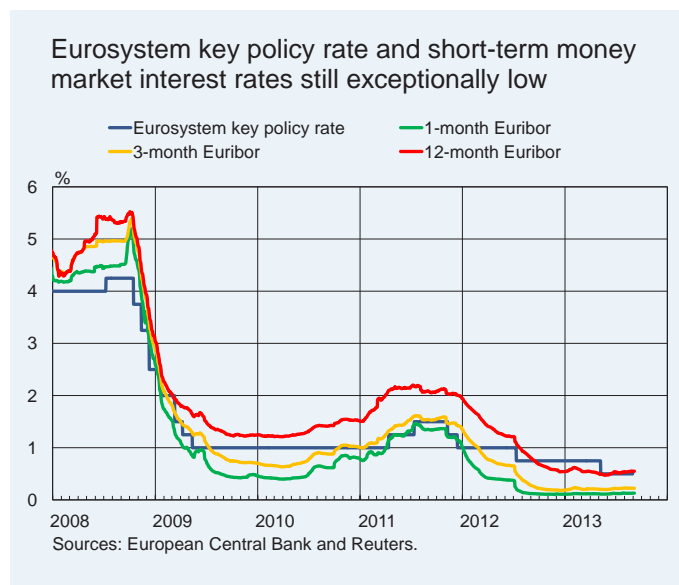


August and September. In providing forward guidance, the Governing Council aims to clarify its procedures and thereby reduce uncertainty surrounding the evolution of the key Eurosystem interest rates. This ensures a more robust transmission to the economy of the accommodative monetary policy stance. The Governing Council's forward guidance includes the possibility of further reductions in the key policy rates.

The Governing Council's assessment of the future path of the key policy rates is conditional on the outlook for inflation: the setting of the key rates will depend on expected medium-term inflationary developments. In July–September, the outlook for inflation over the short and medium term was seen to be still moderate, given the broad-based weakness in the real economy and subdued monetary dynamics (money and credit developments, among other factors). In its decision-making, the Governing Council monitors all incoming information on both the real economy, money aggregates and credit developments and assesses any impact on the outlook for inflation.

One reason for the Governing Council's decision to introduce forward guidance was volatility in euro area money market interest rates in the first half of the year, due to various factors beyond the euro area. Market expectations regarding money market interest rates strengthened in May–June, although the key policy rate had just been lowered by 0.25 of a percentage point in early May. The Governing Council assessed that this type of

Chart 16.



tightening in financial conditions caused by higher money market interest rates was not consistent with the ECB's monetary policy stance, based on the outlook for inflation over the medium term.<sup>1</sup> The introduction of forward guidance immediately lowered market expectations of the path of the key policy rate. In August–September, interest rate expectations have slightly strengthened, as the latest economic data releases appear to anticipate an end to economic contraction in the euro area (Chart 16).

*Realistic expectations of central bank actions an important element of the economy's balanced recovery from the financial crisis*

In the United States, forward guidance has already been a key monetary policy

<sup>1</sup> According to the projection published by the ECB in September, euro area inflation in 2013–2014 will be approximately 1.3–1.5% and GDP growth –0.4% in 2013 and 1.0% in 2014.

*In December 2012, the US Federal Reserve adopted forward guidance based on the conditions prevailing in the economy.*

tool of the Federal Reserve for some time. From the end of 2008 until the end of 2012, forward guidance provided by the Fed was time-bound. This meant that the central bank announced it would keep its key policy rate low for a certain period of time, initially ‘for an extended period of time’ and subsequently in more specific terms, eg ‘until the end of 2014’. This time-bound communication was, however, conditional: the key policy rate would remain low provided that price stability were not jeopardised and economic developments remained weak as expected.

Even so, time-bound forward guidance may easily be interpreted as a promise to keep interest rates low until a certain point in time. Consequently, in December 2012, the Fed changed over to forward guidance conditional on the state of the national economy. This change did not imply that the Fed’s view of the future path of the key policy rate had changed; rather, there was a change in the manner of providing forward guidance. The Fed’s forward guidance conditional on the state of the national economy is expressed so that the central bank expects to be able to keep its key policy rates exceptionally low until the unemployment rate falls below 6.5%. This action by the Fed is conditional on inflation not being forecast to accelerate to more than 2.5% over the following two years and on inflation expectations remaining firmly anchored.

The Fed has assigned a threshold to the unemployment rate in its forward guidance, as under its dual mandate it not only targets price stability but also

maximum employment. Thus, the Fed will consider raising the key policy rate if the unemployment rate falls below the threshold value set by the central bank itself; however, attaining the threshold will not automatically lead to an increase in the policy rate. The Eurosystem’s mandate is more strictly limited to the objective of price stability than the Fed’s. Although the Eurosystem’s forward guidance assigns no threshold to the unemployment rate, monetary policy may support general economic policy goals, provided that price stability is not jeopardised.

The Fed continues to proceed with its open-ended securities purchase programme. Since January 2013, it has purchased Treasury securities at a pace of USD 45 billion per month, in addition to purchases of mortgage-backed securities at a pace of USD 40 billion per month commenced in September 2012. As regards securities purchases, the Fed has announced its reliance on a qualitative assessment of the state of the labour market rather than a precise threshold value: it will continue securities purchases until the outlook for the labour market has improved substantially. Via its purchase programme, the Fed aims to achieve easier financial conditions in support of the economy, whereas its forward guidance provides information on the circumstances under which it will consider raising the key policy rate.

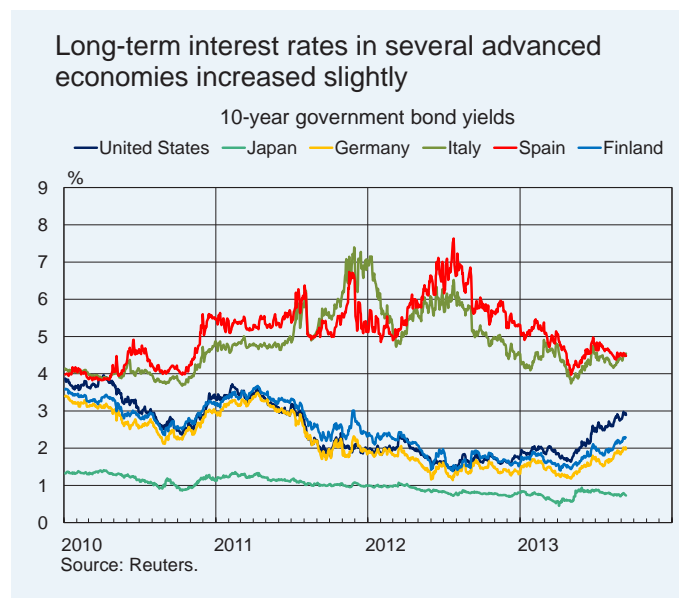
In May, Fed Chairman Ben Bernanke stated in his speech that the Fed would consider tapering its bond-buying programme if the labour market continued to improve as expected. In

particular, yields on US government debt have risen markedly, as expectations of the narrowing of securities purchases have strengthened during the autumn. These expectations and the fading economic outlook for several emerging economies have reinforced capital outflows and caused the currencies of some of these economies to depreciate. Although the euro area's recovery from the financial crisis has been prolonged and the phase of its business cycle differs appreciably from that in the United States, expectations of an end to additional quantitative monetary policy easing in the United States also increased euro area government bond yields during the summer.

In April, the Japanese central bank embarked on a new asset buying programme mainly focused on government bonds, in an effort to achieve 2% inflation. The central bank's determined action has weakened the yen's exchange rate. The financial markets have been assessing the central bank's chances of achieving its goals, a process reflected in volatility on eg the sovereign debt and stock markets.

It is clear that the resumption of economic growth in advanced economies will also lead to long-term interest rates rising from their current particularly low levels. Recent movements in government bond yields are another sign of an improvement in economic prospects and stronger confidence. At the same time, however, higher long-term interest rates mean lower valuations for government bonds, thus eroding bank balance sheets, among other things. In addition, rising interest

Chart 17.



rates are subduing share price developments, which are, on the other hand, bolstered by the improved economic outlook. But the gradual normalisation of interest rates is causing concern and would appear to be increasing financial market volatility, although this should not come as a surprise. Central banks are seeking to respond to this concern by means of precise communication. Management of market expectations related to central bank interest rates will be an important near-term task for the Fed and the other major central banks, too, if monetary policy is to be able to support the economy's recovery from the financial crisis.

*Sustained period of low policy rates causing concerns over risks to financial market stability*

The Bank of England is also concerned about the possibility of unnecessary tightening in financial conditions as

economic activity gradually gains momentum. For this reason, the Bank of England, under the leadership of its new governor, Mark Carney, also introduced forward guidance in August. The Bank of England's Monetary Policy Committee (MPC) intends to keep the bank's key policy rate at its current level of 0.5% at least until the unemployment rate has fallen below the 7% threshold set by the central bank. As regards the unemployment threshold, the Bank of England's new forward guidance conditional on the state of the national economy is similar to that of the Fed. Unlike the Fed, the Bank of England has also linked its asset purchase programme to the 7% unemployment threshold so that the purchase programme will not be lowered from its current level (GBP 375 billion) before the unemployment rate has fallen below 7%. As in the case of the Fed, a lower unemployment rate than the threshold will not automatically mean an increase in the key policy rate or a decrease in asset purchases.

*A key element in the forward guidance provided by the Eurosystem, the Fed and the Bank of England is that the objective of price stability will not be compromised.*

A key element in the forward guidance provided by the three central banks – the Eurosystem, the Fed and the Bank of England – is that the objective of price stability will not be compromised. The Bank of England and the Fed will keep their respective key policy rates low only if inflation about 2 years ahead is projected to be below 2.5% and medium-term inflation expectations remain well anchored.

On top of the conditions attached to the inflation projection and medium-term inflation expectations, the Bank of England adopted financial

stability as a third condition for keeping its key policy rate low at least until the unemployment rate falls below 7%. The financial stability condition will be met and interest rates may be kept low if the Bank of England's Financial Policy Committee (FPC) judges that low interest rates pose no threat to financial stability that cannot be contained through the considerable supervisory and regulatory policy tools available to the various authorities. The financial stability condition takes advantage of the Bank of England's new role as a guardian of financial stability. In March 2013, the FPC was assigned powers related to macroprudential tools. The financial stability condition in forward guidance ensures that the Bank of England will coordinate its monetary and macroprudential policies in order to support the economy's recovery from the financial crisis.

Central banks' expectations and forward guidance regarding key policy rates that will remain low for an extended period of time are based on a view of protracted slow economic growth and a subdued medium-term inflation outlook. In an economic downturn, risk aversion may assume an unreasonably prominent role. This reduces banks' willingness to provide credit and weighs on non-financial corporations' readiness to invest, causing the negative feedback loop in the economy to strengthen further still. Low interest rates are expected to encourage new investment that would increase the economy's output potential and create jobs. The low level of interest rates boosts the economy by



reducing loan-servicing costs for households and non-financial corporations. Heavily indebted households and non-financial corporations should seize the opportunity for repaying their loans. Low interest rates underpin an orderly reduction of indebtedness.

However, there is a danger that the low level of interest rates gives incentives to excessive additional borrowing relative to the subdued economic prospects. Currently, growth in money aggregates in the euro area is moderate and the stock of private-sector credit is contracting (Chart 18). Risks to financial stability will emerge if the pace of credit growth remains strong for a long time and asset prices, such as housing prices, rise vigorously. Although there are presently no signs of a build-up of bubbles in the euro area, the threat will be there if the interest rate level remains low for a prolonged period. The lessons from the financial crisis must not be forgotten, and we should look sufficiently far into the future. In the environment of the single monetary policy, it is desirable that euro area countries prepare for risks by introducing macroprudential tools that are available for use whenever needed and capable of mitigating the financial cycle in a targeted manner.

#### *Contraction in the Eurosystem balance sheet reflects stronger confidence*

The Eurosystem's balance sheet relative to GDP has contracted markedly in the course of 2013, as banks have made early repayments of originally three-year central bank liquidity obtained at the end of 2011 and

Chart 18.

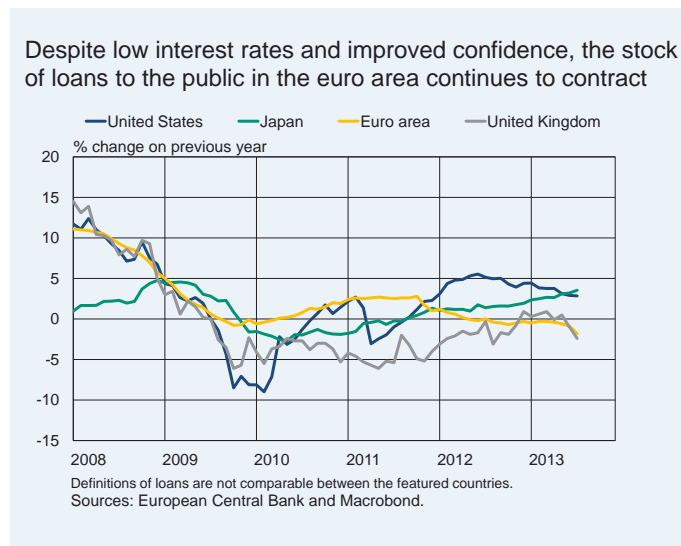
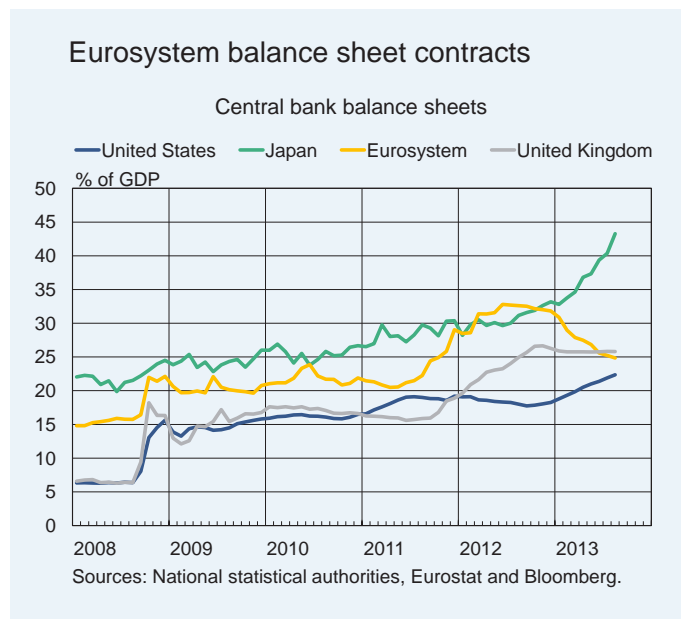


Chart 19.



beginning of 2012 (Chart 19). This may be seen as signalling the restoration of confidence in the euro area. In contrast to the Eurosystem, the continuation of central bank securities purchase programmes in the United States and Japan has increased the size of central bank balance sheets relative to GDP.

The low level of the Eurosystem's key policy rate lends support to those banks that obtain liquidity in the central bank's credit operations. In addition, the Eurosystem provides backing to banks' liquidity management in that banks receive desired amounts of liquidity from the central bank at the key policy rate against eligible collateral. Owing to the abundance of central bank liquidity, short-term money market interest rates are at a lower level than the key policy rate. Banks with good credit ratings will thus be able to fund their operations by borrowing from the money markets at even lower rates than the key policy rate.

Another indication of stabilisation in the euro area is that intra-Eurosystem claims and liabilities ('TARGET balances') have decreased during 2013. However, many banks operating in countries with TARGET deficits, such as Spain and Italy, continue to rely in their funding on credit from the central bank rather than market-based funding,

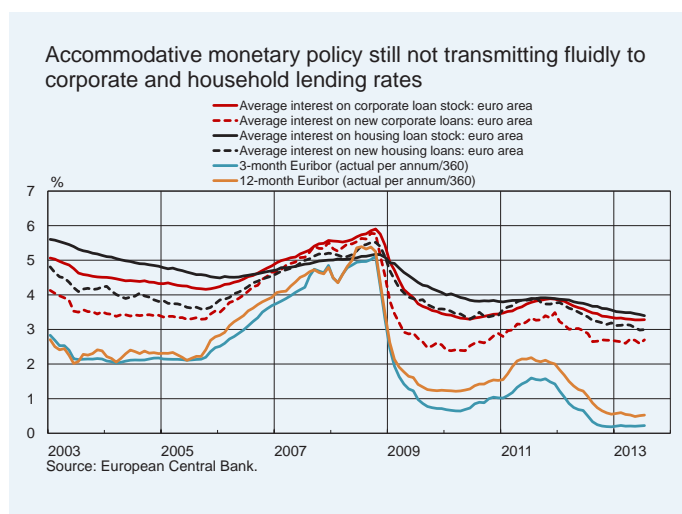
whereas banks operating in the Germany, which has a surplus, are net depositors of assets with the central bank.

#### *Fragmentation of financial markets a barrier to smooth transmission of monetary policy*

Although several risk indicators point to a clear reduction of financial market tensions in the euro area within the past twelve months, financial conditions in a number of countries continue to be rather tight. Average interest rates on both new corporate loans and new housing loans continue to be high compared with market interest rates (Chart 20). Thus, reductions in the key policy rate and the Eurosystem's other measures have not led to decreases of similar size in average interest rates on new corporate and housing loans in the euro area.

A high degree of debt in the private sector and an already long-sustained period of subdued economic performance in many countries continue to hamper the loan-servicing capacity of non-financial corporations and households as well as the state of the banking sector and banks' ability to lend. This is reflected in tight financial conditions, which in turn maintain economic weakness in the countries under stress, eroding potential output. Despite the low level of policy rates and an improvement in confidence, the stock of loans to the public in the euro area continues to contract. In many countries, there are signs of a balance sheet recession in the private sector, meaning that low interest rates do support deleveraging but balance sheet constraints prevent further borrowing.

Chart 20.



There are still major differences in financial conditions between the euro area countries, and the area's financial markets are fragmented. An example of such fragmentation is that small and medium-sized enterprises (SMEs) in Italy need to pay about 2 percentage points higher interest rates on their bank loans than similar enterprises across the border in Austria. The accommodative monetary policy continues to be unevenly transmitted to non-financial corporations and households in the euro area.

There are a number of factors underlying the fragmentation of euro area financial markets, and an improvement in the situation will require action by several parties in order to break the spiral of weak economic performance and tight financial conditions. The announcement by the Governing Council of the ECB in September 2012 of a programme of Outright Monetary Transactions (OMTs) has helped support stabilisation in euro area financial conditions and allowed time to implement reforms.

Structural measures by governments to boost economic growth and their actions aimed at fiscal consolidation are of great significance for reducing country-specific differences in financial conditions. These measures need to be pursued. In addition, restructuring of the banking sector and progress in building banking union (see Box 2) will strengthen the operating capacity of the euro area financial sector and reduce the dependence of country-specific financial conditions on how Member States manage their public

finances. The Eurosystem's actions promote stable euro area financial conditions, but a significant share of the factors tightening countries' financial conditions do not fall within the central bank's mandate. A favourable transmission of monetary policy needs backing from strong economic policy at both country and euro area level.

*Divergence in the banking sector maintains differences in financial conditions across countries*

Banks' average funding costs have declined in the course of 2013 with improved funding access. Even so, the price of market funding for many euro area banks has remained high, and it is mainly large banks in a better shape that have been able to access market funding. Differences in funding costs between euro area banks are due, in particular, to protracted weakness in economic growth in the financially stressed countries and the resultant uncertainty regarding balance sheets (Chart 21). Such differences in banks'

*The tightening of capital adequacy rules and increased loan losses have forced banks to strengthen their capital positions.*

Chart 21.

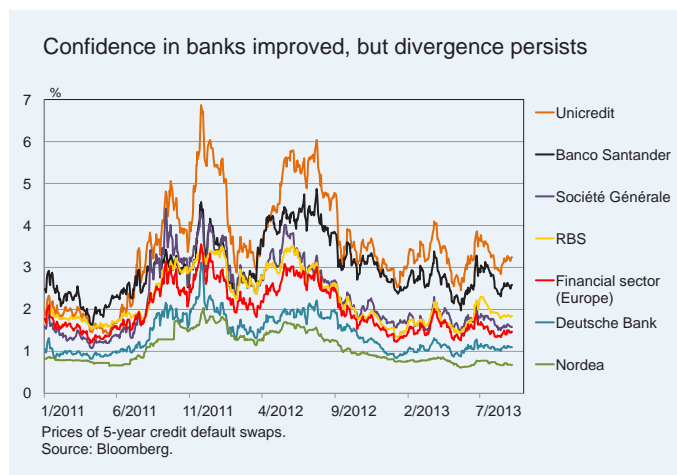
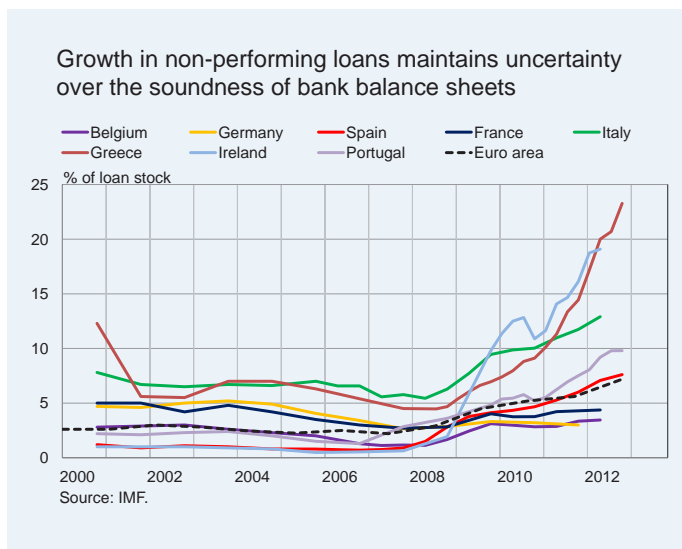


Chart 22.



*There is uncertainty in the euro area banking sector, as poor-quality balance sheet items are unevenly distributed among the area's countries and banks.*

funding costs continue to maintain divergence in the sector, which is passed on to the pricing of new loans and deposits for the private sector. Higher margins may be explained by the fact that, as the low level of interest rates has brought the average interest rate on the loan stock to a record low, thus weakening net interest income, banks have sought to raise margins on new loans. On the other hand, higher margins are also related to subdued economic prospects, causing risk premia required by the banks to rise.

The tightening of capital adequacy rules and increased loan losses have forced banks to strengthen their capital positions<sup>2</sup> and reduce their risk-weighted assets. Growing unemployment and a higher number of bankruptcies have significantly increased non-performing loans and loan losses in the crisis

<sup>2</sup> Large European banking groups' Tier 1 capital relative to risk-weighted assets was 11.1% in the first quarter of 2013, compared with 9.6% in 2011.

countries, in particular. So far, banks in the GIIPS countries have recorded loan losses mainly in respect of non-financial corporations in the real estate sector.

The current challenge faced by the euro area banking sector is uncertainty, as poor-quality balance sheet items are unevenly distributed among the area's countries and banks (Chart 22). There is little information available on, for example, how banks apply forbearance. Forbearance helps debtors to cope with temporary payment difficulties, but a significant increase in the use of forbearance may delay banks' balance sheet restructuring and impair banks' ability to grant new credit to profitable non-financial corporations and credit-worthy clients. Measures taken until now to analyse and remedy the quality of banks' balance sheet items have not fully succeeded in dispelling uncertainty about the quality of bank balance sheets. For the transmission of monetary policy, it is important that the uncertainty concerning the resilience of bank balance sheets be removed. Growing confidence would help reduce fragmentation in the euro area financial markets and contribute to a smoother transmission of the accommodative monetary policy.

*Sound bank balance sheets a precondition for commencing single banking supervision in euro area*

To restore confidence, assessments are to be performed of the quality of European banks' balance sheet items, resulting in recapitalisation of the banks, where necessary. A Balance Sheet Assessment (BSA) undertaken within the framework

Box 2.

## Banking union

*The preparations for banking union have progressed rapidly and the key elements are beginning to take shape. There will be a Single Supervisory Mechanism (SSM) and a Single Resolution Mechanism (SRM). At the same time, the system of deposit guarantees is being further developed by updating the Deposit Guarantee Schemes Directive. Also closely associated with the functioning of banking union are moves to augment the support instruments open to the European Stability Mechanism (ESM) by including the possibility of direct recapitalisation of crisis banks in Member States.*

The Single Supervisory Mechanism will be established in connection with the European Central Bank. Although responsibility for supervision will be transferred to the ECB, much of the actual work of supervision will continue to be carried out in conjunction with national supervisors. The practical launch of the SSM still requires final approval of the Council Regulation, after which the Supervisory Board composed of representatives from Member States will be able to begin its work. Prior to the full operational launching of the SSM, a commensurable assessment of the balance sheet items of all significant European banks will be conducted alongside a stress test coordinated by the European Banking

Authority. The SSM is intended to commence the full scope of its work in October 2014.

In July 2013, the European Commission made a proposal for the Single Resolution Mechanism. According to the proposal, the Commission would take key crisis resolution decisions (such as launching processes and the scope of deployment of tools/the Single Bank Resolution Fund) on the basis of a proposal by the Single Resolution Board (SRB). The Single Resolution Board would draw up a resolution plan as indicated by the Commission, containing detailed steps for the resolution of the crisis bank. The resolution plan would be carried out by the relevant national authorities, but the SRB would monitor implementation and could, where necessary, take direct decisions binding on individual banks. The SRB would comprise representatives from the Commission, the ECB and Member States.

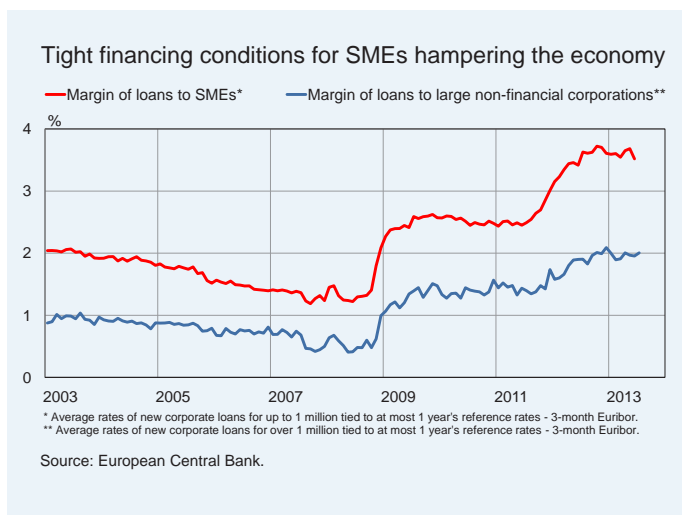
The SRM would also be equipped with a Single Bank Resolution Fund (SBRF). Over the next 10 years this would gather in funds equal to 1% of all bank deposits covered by the deposit guarantee (based on 2011 figures, the amount to be collected would be around EUR 55 billion). The purpose of the Fund will be to ensure the stability of the financial system, not to bolster the operations of unviable banks. The

SBRF would replace national bank resolution funds.

The Commission and Member States, and at a later stage also the European Parliament, are negotiating the terms of a Regulation on the SRM, with the aim of having it adopted before the spring 2014 European Parliament elections. The SRM could commence operations at the beginning of 2015, but the key new creditor responsibility (bail-in) legislation would not come fully into effect until the beginning of 2018. Creditor responsibility will be realised firstly by creditors using their own equity (and subordinated liabilities) to cover a bank's losses and secondly by converting a sufficient amount of the creditors' claims into (new) equity until the bank once again has an adequate level of capital.

The SSM will be able in future to directly recapitalise banks on certain conditions. The establishment of the new support facility will be decided unanimously in the SSM General Council once the SSM itself is operational. Decisions on recapitalisation will also require unanimity. The details of the new facility will be finalised when the necessary decisions have been taken on the SRM. In the initial phase, investor responsibility (bail-ins) will be realised by applying the EU's rules on state support and the requirements of the SRM.

Chart 23.



of the Single Supervisory Mechanism (SSM) led by the ECB will be of particular importance. The Regulation concerning the SSM requires that the ECB carry out a comprehensive assessment of at least the banks coming under its direct supervision and of their balance sheets. Such assessments need to be ready prior to the commencement of supervisory functions under the SSM in autumn 2014.

Moreover, the European Banking Authority (EBA) issued a recommendation in May to the effect that supervisors in each country should conduct an independent Asset Quality Review (AQR) on banks' assets. The EBA recommendation applies to the entire EU banking sector. The recommendation is a follow-up to an EBA recapitalisation exercise<sup>3</sup> that led to a significant strengthening of banks' capital positions. The EBA recommends

<sup>3</sup> The EBA's recapitalisation exercise increased banks' capital levels by more than EUR 200 billion from December 2011 to June 2012. Going forward, banks' Core Tier 1 capital is required to account for about 9% of risk-weighted assets.

that the asset quality reviews be conducted as soon as possible, and some national supervisors have already started undertaking reviews of bank assets. In addition, following the asset quality reviews, the EBA intends to conduct EU-wide stress tests. These will be implemented as a cooperative effort between the SSM and the EBA. To build confidence in the euro area banking sector, it is important that any recapitalisation or winding-up of banks be carried through without problems.

*Corporate sector faces a particular challenge of high loan margins and impaired credit access for SMEs*

In the first half of 2013, the average loan margin on new loans to small and medium-sized enterprises (SMEs) was still around 3.5 percentage points, whereas for large non-financial corporations margins were around 2 percentage points (Chart 23). The widening of loan margins for SMEs in 2012 was markedly stronger than for larger non-financial corporations. Particularly high loan margins are paid by SMEs in Greece, Portugal, Cyprus, Slovenia, Spain and Malta. Bank financing for SMEs is cheapest in France and Austria, and slightly more expensive in Germany (Chart 24).

Banks demand higher loan margins from SMEs than from large non-financial corporations owing to the risks related to business activity, and with a worsening business cycle this difference typically tends to widen. The problem for euro area monetary policy is, however, that the loan margin of an SME strongly depends on the country

where the SME is located. On the basis of surveys on bank lending to non-financial corporations, SMEs in the GIIPS countries continuously face challenges with regard to credit access and tight lending criteria. A significant share of jobs in the euro area are in SMEs.

*Corporate loan stock contracts, but market funding has replaced bank funding for large non-financial corporations*

There was a pronounced decline in the corporate loan stock in the first half of 2013. This reduction has continued at a brisk pace in the GIIPS countries, whereas growth in the corporate loan stock in countries with high credit ratings has decelerated (Chart 25). Large non-financial corporations, in particular, relied on market funding in the first half of the year, as the challenges faced by the euro area banking sector still constrain banks' provision of credit to some extent.

Risk premia on corporate loans have been declining since the middle of 2012 following the ECB's announcement of Outright Monetary Transactions (OMTs). In the first half of 2013, yields on bonds issued by euro area non-financial corporations were at historically low levels. In the financially stressed countries, however, risk premia have remained significantly higher than elsewhere.

*Higher house prices and easier financial conditions for households would support recovery in crisis countries*

Average interest rates on new housing loans have declined slightly in many

Chart 24.

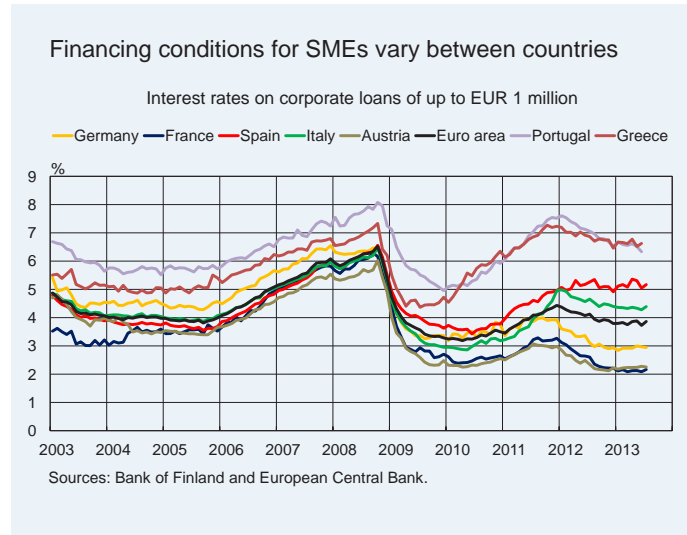
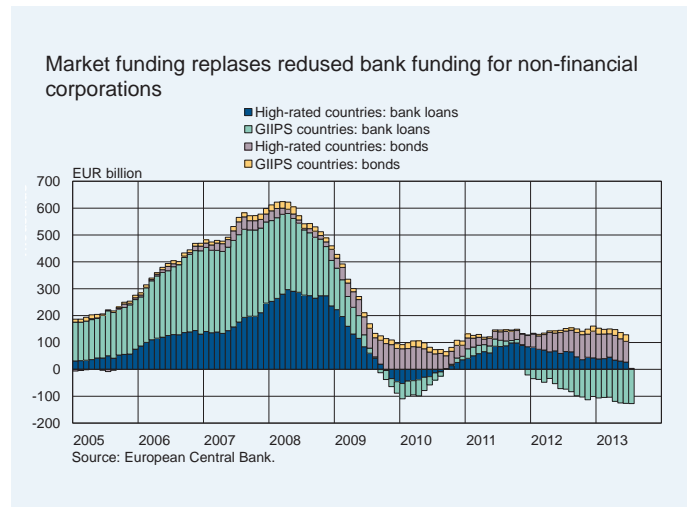


Chart 25.



euro area countries within the past twelve months (Chart 26).<sup>4</sup>

Although interest rates on housing loans have declined recently, this fall is dampened by higher risk premia. In other words, widening risk premia curb

<sup>4</sup> The average interest rate on new housing loans is typically higher in those countries where initial interest rate fixation periods are longer (eg France and Germany).

Chart 26.

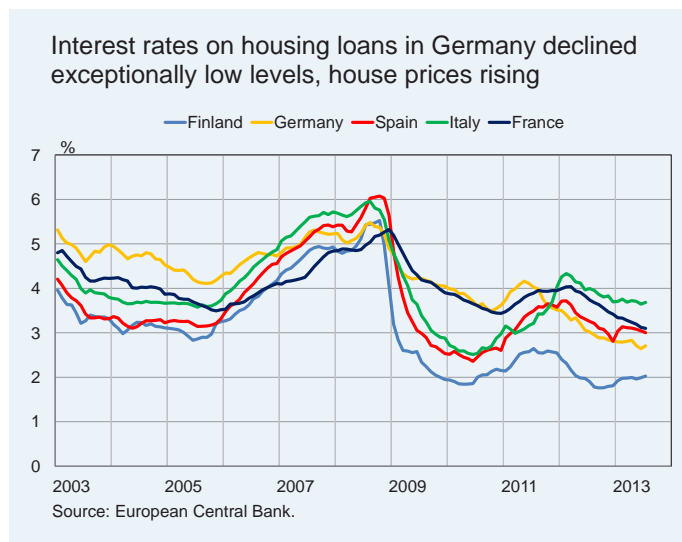
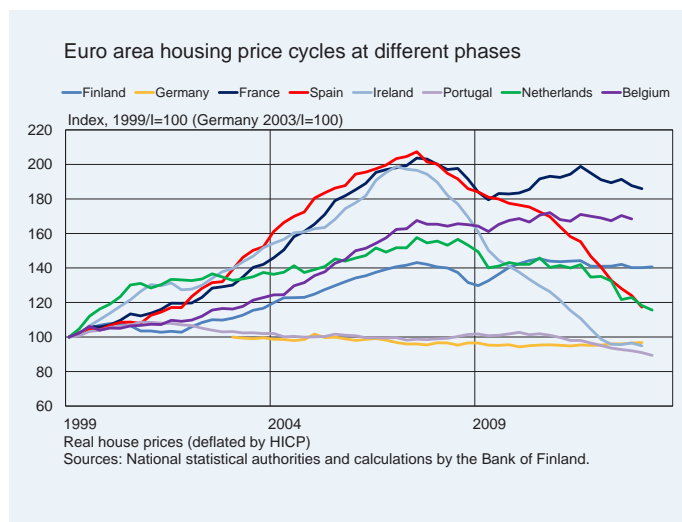


Chart 27.



the transmission of the low level of the key policy rate to the housing market. For example, in 2012, margins calculated for new loan agreements rose substantially in Spain and Italy, and in Finland, too, with as yet no signs of a narrowing in margins.

Housing price developments play a crucial role for a potential turnaround

in the outlook for households. A halt or possibly a reversal in the protracted fall in the housing prices of many euro area countries would boost household balance sheets and ease their financial positions, thereby improving household confidence.

Euro area housing markets have evolved very differently across countries in the past twelve months. In the Netherlands, the downward trend in house prices that began in 2008 is still continuing. In France, real house prices have started to fall slightly, albeit the price level continues to be very high. Belgium and Finland have witnessed no actual declines. In Spain, there are signs of no further acceleration in price decreases, whereas Ireland sees more definite indications of no additional falls in house prices (Chart 27).

#### *Persistently high household debt burden relative to GDP*

The annual rate of growth in the euro area household loan stock remained just in positive territory during spring and summer 2013. The loan stock is growing moderately in France and Germany, but continues to contract in the GIIPS countries.

The household sector in many euro area countries incurred excessively high levels of debt in the run-up to the crisis as a consequence of overly optimistic income expectations. Many of these countries are now experiencing a painful, but necessary process of restructuring household balance sheets. This means a slow phase of deleveraging to put debt levels on a more sustainable footing. The short-term

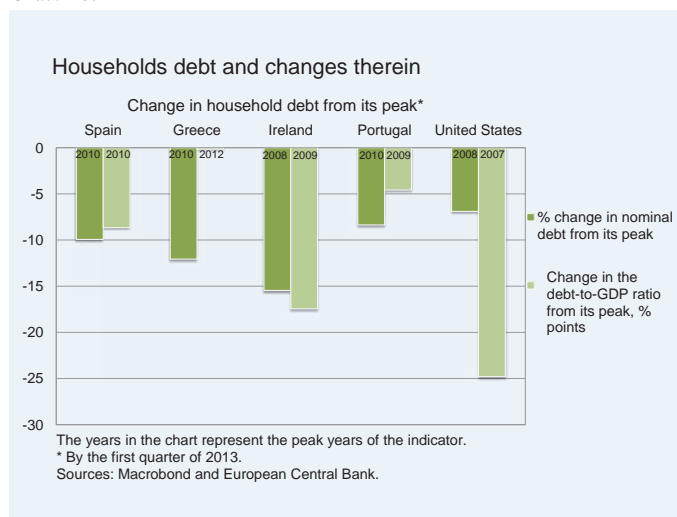


implications of household debt reduction for the economy will be negative, especially when deleveraging is occurring simultaneously in many sectors and in the most important trading partners.

The low level of interest rates eases debt reduction, as a smaller share of household incomes is needed for interest payments. At the same time, low interest rates enable the provision of new credit on favourable terms and conditions, which sustains activity on the housing market. In some countries, however, there is a risk that banks avail themselves of this opportunity to roll over old non-performing loans due to not wanting to record them as losses. On the other hand, while household debt is being reduced in the euro area crisis countries in particular, ongoing further household debt accumulation is of concern in certain other euro area countries. Growing indebtedness, in combination with no observed correction in the housing market, is a source of concern in some other euro area countries (Finland, France and Belgium). Here, interest rates that remain low for a very long time may provide incentives for excessive borrowing.

Deleveraging in the household sectors of the euro area crisis countries began relatively late compared with the United States. Ireland was the first to take action, with the other crisis countries only coming on board a couple of years later. The process of deleveraging will take time, due to ongoing high debt levels relative to GDP and household over-indebtedness

Chart 28.



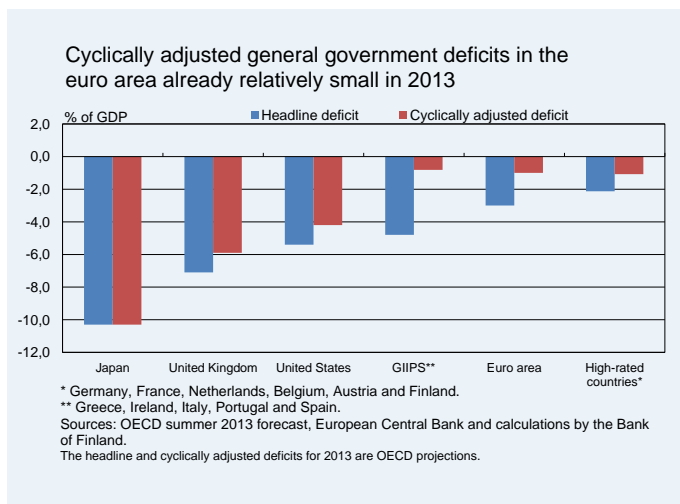
that poses a particular problem in Ireland, Portugal and Spain.

However, nominal household debt has declined by several per cent from its peak: about 15% in Ireland and approximately 10% in Spain (Chart 28). In Greece, household debt is down about 12%, but, relative to GDP, no reduction is yet discernible because of the contraction in GDP. By contrast, the United States has witnessed a pronounced reduction in the household debt burden relative to GDP on the back of slow but positive economic growth. If we look at percentage changes in nominal debt without considering it relative to GDP, the US household sector has not repaid debt by as much as households in the euro area crisis countries.

*Good progress in general government consolidation supports monetary policy transmission in the euro area*

Many euro area countries have already implemented a large part of the

Chart 29.



adjustment required for fiscal consolidation. The OECD has conducted assessments for 2013 of headline general government deficits and cyclically adjusted deficits that includes an estimate of potential output (Chart 29). The euro area cyclically adjusted deficit-to-GDP ratio is already reasonably low in both the GIIPS countries and high-rated countries. Even so, in the euro area, headline deficits relative to GDP are even higher than the cyclically adjusted deficits. According to the OECD, the euro area countries' substantial headline deficits currently reflect mainly the weak cyclical situation, whereas in many countries outside the euro area the significance of the cyclical situation is less.

The confidence effects of fiscal consolidation are important in the euro area for the transmission of monetary policy. Stronger confidence in the public finances has lowered government bond yields in the GIIPS countries in particular. Another key factor in

reducing government bond yields is the decision in September 2012 of the Governing Council of the ECB to launch a programme of Outright Monetary Transactions (OMTs). As a significant share of a government's debt securities are typically held by the respective country's banks, falling government bond yields in the GIIPS countries from their crisis-time highs have meant rising valuations for government debt securities held by the banks. This, in turn, has improved the banks' balance sheets and lending capacity. Consequently, this is one key channel through which credible fiscal consolidation lowers bank lending rates for non-financial corporations and households and improves the availability of credit.

A headline central government deficit, however, means that a country's public debt relative to GDP continues to expand. Continuously increasing levels of public debt in many euro area countries also pose a challenge to the restructuring of the euro area banking sector. As envisaged, the commencement of the Single Supervisory Mechanism requires sound bank balance sheets. It is also important for the transmission of monetary policy that the euro area banking sector can be restructured in such a manner that market confidence in government finances remains in place, thus preventing any increases in government bond yields.

*Key words: inflation, monetary policy, economic situation*

# Financial cycles, monetary policy and macroprudential policy in the euro area

10 September 2013

**Countercyclical macroprudential policy is to be strengthened in the euro area. The European Central Bank will be assuming new macroprudential powers, as single banking supervision commences in autumn 2014 and the countercyclical buffer requirement is due to be introduced in all euro area countries no later than the beginning of 2016. Even so, a significant part of euro area macroprudential policy will continue in the future to be the responsibility of national authorities. In the operating environment of the single monetary policy, euro area Member States will be able to support their own and the area's economic stability and to improve the financial system's resilience to crises through pursuing robust national macroprudential policies.**

## **Monetary policy geared towards price stability, macroprudential policy towards financial stability**

One important lesson from the global financial crisis is that price stability (which is the objective of monetary policy) and prudential supervision focused on individual financial institutions do not suffice to guarantee financial stability. The crisis also triggered measures in the euro area that seek to strengthen macroprudential policy aimed at preventing risks to the financial system as a whole. This article deals, in particular, with countercyclical (dynamic) macroprudential policy targeted at curbing excessive credit and leverage growth in a cyclical upswing and thus dampening the

procyclicality of the financial system, ie tendencies that amplify business cycles.<sup>1</sup>

In the period preceding the global financial crisis, the ratio of credit to GDP in the euro area grew at a brisk pace in, for example, Spain, Ireland, Greece and Portugal, which have subsequently suffered badly from the crisis. It is widely assessed that a stronger tightening of monetary policy than actually implemented by raising the key Eurosystem policy rate would hardly have constrained credit growth to any significant extent in these countries and that more targeted measures than the single monetary policy would have been needed to rein in credit growth. Moreover, we should remember that the primary objective of euro area monetary policy is to maintain price stability. Monetary policy decisions are based on assessments of risks to euro area price stability, and the Governing Council of the ECB decides independently on the key ECB interest rates on the basis of average euro area developments.<sup>2</sup>

Macroprudential tools are aimed at regulating banks' capital adequacy and liquidity, among other factors. These, in turn, have an impact on banks' ability to grant credit and expand their balance sheets, on lending criteria and on banks' crisis resilience and loss absorbency. The capital



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<sup>1</sup> Another way of strengthening macroprudential policy in the euro area is to introduce macroprudential tools not primarily intended for countercyclical use. See the following section, below.

<sup>2</sup> The broadly based assessment of the outlook for inflation draws on an analysis of both the real economy and the monetary economy (including the rate of credit growth).

*The Single Supervisory Mechanism (SSM) within European banking union will become operational in autumn 2014.*

adequacy requirements and certain liquidity requirements for banks in the EU are set out in the Capital Requirements Directive and Regulation (CRD IV/CRR).<sup>3</sup>

Prior to the onset of the global financial crisis, euro area countries barely had access to effective macroprudential tools to rein in credit growth, and risks relating to credit growth were not fully understood. The situation is now changing, as a new policy tool defined in a uniform manner in the Capital Requirements Directive – a time-varying additional capital requirement that may be imposed on banks if necessary (ie a countercyclical capital buffer requirement)<sup>4</sup> – is due to come into use in all EU countries from 2016 onwards and as Member States are also introducing other macroprudential tools, depending on their own national needs.

The euro area macroprudential policy will also strengthen on account of the ECB assuming new powers, as the Single Supervisory Mechanism (SSM) within the European banking union becomes operational in autumn 2014.<sup>5</sup> In addition to its tasks related to banking supervision, the ECB will then be mandated to tighten country-specific countercyclical capital buffer require-

<sup>3</sup> The Directive will be implemented via national legislation. The relevant laws are expected to come into force in Finland at the latest in summer 2014. The Regulation is legislation directly binding on Member States, and it will mainly be applied already earlier, ie from 1 January 2014.

<sup>4</sup> Common regulation concerning macroprudential policy in the Capital Requirements Directive applies to all EU countries. Monetary policy is common only to the euro area countries.

<sup>5</sup> The macroprudential powers conferred on the ECB and the Single Supervisory Mechanism will apply to all countries participating in banking union. It is not yet known which EU countries outside the euro area will join in.

ments and other macroprudential tools laid down in the Capital Requirements Directive beyond the level set by national authorities. Even so, a significant part of macroprudential policy will remain the responsibility of national authorities.

### **Countercyclical capital requirement to be introduced in all euro area countries**

The Capital Requirements Directive specifies the key macroprudential tools available to national authorities and how their use may be coordinated at euro area level. The Directive introduces a countercyclical capital buffer requirement to the macroprudential toolkit of all euro area countries.<sup>6</sup> According to the transitional provisions of the Directive, in 2016, Member States must be able to impose on banks a countercyclical capital buffer requirement no larger than 0.625% relative to the bank's risk-weighted exposures, if necessary. The level will be raised annually by 0.625 of a percentage point so that by 2019 Member States must be able to raise the buffer requirement to 2.5%, if necessary.<sup>7</sup> Banks will be required to meet the additional capital requirement by using core Tier 1 capital.

National macroprudential authorities will be free to decide at their discretion on the size of the required countercyclical capital buffer at any given time, with the option to set the

<sup>6</sup> For the definition and use of the countercyclical capital buffer, see eg Kauko (2012).

<sup>7</sup> Euro area countries appear to mainly be following the timetable set out in the Capital Requirements Directive, although earlier introduction is also permitted.

buffer at zero. As a rule, the capital buffer requirement will be tightened when lending to a country's private sector grows at an exceptionally strong pace. Correspondingly, the buffer requirement may be removed if the rate of credit growth levels off or the country enters a situation where banks' lending capacity needs to be strengthened.

A countercyclical capital buffer requirement set in a particular country will apply to all domestic and foreign banks that grant credit to the country in question. For banks with credit exposures in several countries, the capital buffer requirement will be determined by the weighted average of national requirements. This principle of reciprocity between Member States restricts the possibility of circumventing the countercyclical capital buffer requirement.<sup>8</sup>

The Capital Requirements Directive also includes other macroprudential tools designed for preventing and mitigating systemic risks. For example, an additional capital requirement of no more than 2% may be imposed on credit institutions designated as systemically important at national level (O-SII requirement, Other Systemically Important Institutions (O-SII)). In addition, or alternatively, a systemic risk buffer requirement of no more than 5% may in principle be imposed on all a country's credit insti-

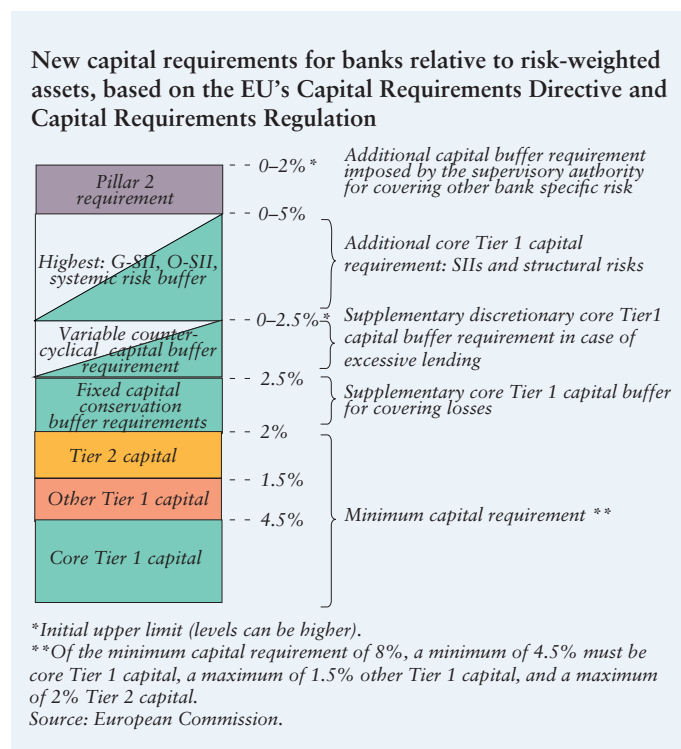
<sup>8</sup> The Directive allows Member States to set a higher countercyclical capital buffer requirement than 2.5%, but other Member States will not be expected to comply with the principle of reciprocity up to a higher level than 2.5%. Finland is planning to set the maximum countercyclical capital buffer requirement at 2.5%, but also intends to comply with reciprocity in respect of capital buffers higher than 2.5%.

tutions or on some of them. The systemic risk buffer requirement may be set for structural or macroprudential reasons, such as the banking sector's large size relative to the country's economy. In general, these requirements are likely to be established as permanent or infrequently set requirements.

The additional capital buffer requirements discussed above are complementary to the Basel III minimum capital requirements imposed on all banks, with a minimum capital ratio of 8% to the bank's risk-weighted assets (Chart 1).<sup>9</sup>

<sup>9</sup> For more information on capital adequacy requirements for banks, see eg Vauhkonen and Westman (2013).

Chart 1.



By contrast, as distinct from the principles concerning countercyclical capital buffer requirements, the Directive will not oblige Member States to include the systemic risk buffer requirement in the toolkit of macroprudential authorities. However, the Nordic countries (with the exception of Finland) have announced that they will set additional capital requirements permitted in the Directive on their countries' systemically important financial institutions.

The new EU capital requirements regulatory framework only incorporates a limited range of potential macroprudential tools. Among other factors, it does not cover regulatory instruments impacting on lending criteria, such as loan-to-value regulation (loan caps) for housing loans or borrowers' leverage ratio. The use of these instruments will be at national discretion in the future, too. Moreover, it is ambiguous to what extent the new regulatory regime will permit the use of new liquidity requirements for banks as discretionary macroprudential tools.

### **ECB mandated to exercise macroprudential powers, as single banking supervision commences**

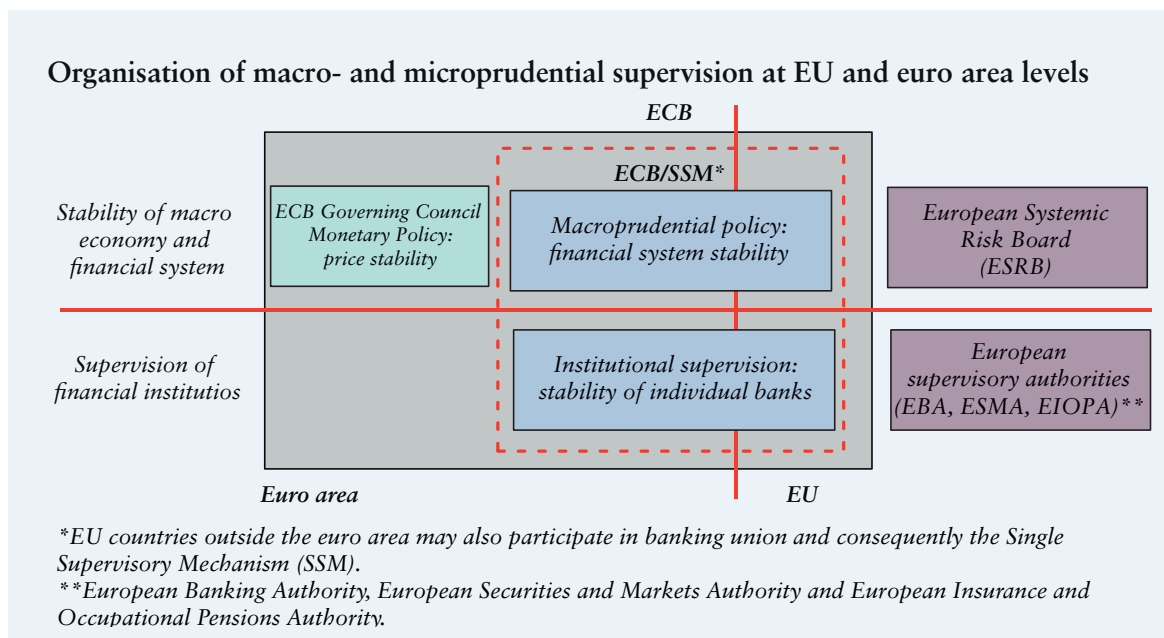
Within the EU, the authority responsible for macroprudential oversight of the financial system is the European Systemic Risk Board (ESRB), which commenced operations at the beginning of 2011. Its key functions are to identify regional or global systemic risks and to issue recommendations and warnings to national authorities for the prevention of such and other systemic risks.

By issuing recommendations and warnings and generating peer pressure, the ESRB is able to indirectly coordinate and guide Member States' national macroprudential policies, while not having access to direct macroprudential tools. Neither can the European Commission guide or coordinate Member States' national macroprudential policies, although a number of permission and notification obligations with regard to the Commission are attached to the use of national macroprudential tools included in the Capital Requirements Directive.

By contrast, as the Single Supervisory Mechanism begins to operate in connection with the ECB in autumn 2014, new macroprudential powers will be conferred on the ECB (Chart 2). In Europe, the Swiss National Bank and the Bank of England, for example, have already assumed significant macroprudential powers in 2012–2013.

There are plans to give the ECB a mandate to tighten country-specific capital buffer requirements beyond the level set by national authorities. This will reduce the risk of an overly passive macroprudential policy and enable a coordinated tightening of macroprudential policy in the euro area in, for example, a situation where lending to the private sector grows at a perilously rapid pace in several countries at the same time. However, the ECB cannot expect countries participating in banking union to deploy such macroprudential tools whose introduction is not an obligation under the Capital Requirements Directive. Neither will

Chart 2.



the ECB be able to influence national use of instruments, such as the loan cap, not falling within the sphere of the Directive. Consequently, a significant part of macroprudential policy in the euro area will remain the responsibility of national authorities.

### Only little experience on the use of countercyclical macroprudential tools

In the euro area, the bulk of macroprudential tools have been introduced only after the onset of the global financial crisis. Currently, countercyclical macroprudential tools are not particularly widely used in euro area countries.

The most commonly applied macroprudential tools in use in the euro area focus on lending for house

purchase.<sup>10</sup> Admittedly, the use of these regulatory instruments also has objectives other than macroprudential ones, such as strengthening consumer protection. Comparison of regulatory instruments related to lending for house purchase between countries is also hampered by countries using the same instrument differently. Among other things, there are major country-specific differences in the manner of calculating the loan cap and how legally binding it is.<sup>11</sup>

For the time being, euro area countries have very little experience of

<sup>10</sup> The loan cap is definitely the most frequently applied tool, but the leverage ratio, sector-specific capital requirements and restrictions on the risk weights of housing loans or on loan maturities are also in use. Of the euro area countries, at least the Netherlands, Belgium, Spain, Italy, Portugal and France apply or are allowed to apply the loan cap in some form.

<sup>11</sup> For more information on experiences gained from the loan cap, see eg Vauhkonen and Putkuri (2013).

active, countercyclical regulation using macroprudential tools. For example, at least to date, many countries have set the loan cap as an overall fixed measure, with its use not aimed at actively smoothing volatility in lending for house purchase.

Of euro area countries, only Spain has experience over a longer period of time of a genuinely countercyclical macroprudential policy. Since the turn of the millennium, Spain has been requiring banks to prepare for expected loan losses by a front-loaded recognition of these losses in their financial statements via dynamic provisioning. This strengthened banks' loss absorbency, but did not prevent Spain from heading towards the housing market and banking crisis. The effectiveness of the dynamic provisioning was in part eroded by Spain's need to amend its regulation on loan loss provisions in the middle of the first post-millennium decade in order to bring its regulatory framework in line with international accounting standards.

On the basis of experiences gained by Asian countries, dynamic macroprudential tools impacting lending for house purchase have been able to reduce imbalances in housing credit and markets. The setting and adjusting of the loan cap for housing loans, among other factors, have made it possible to slow the pace of growth and volatility in housing credit, contain the rise in housing prices and related expectations, rein in speculative housing transactions, reduce loan losses related to bank lending for house purchase, curb

household leverage and improve banks' lending practices.<sup>12</sup>

### How will countercyclical macroprudential policy change the operating environment of monetary policy?

Given that, via lending and asset prices, the use of countercyclical macroprudential tools also has an impact on cyclical fluctuations in the real economy and hence on inflation, the operating environment of monetary policy in the euro area will change in a manner not yet fully known. The interaction between countercyclical macroprudential tools and monetary policy can be assessed using macroeconomic models. These models allow for an examination in what could be called laboratory conditions of a situation where, for example in an economic upswing, authorities have the possibility of simultaneously both increasing the key policy rate and tightening macroprudential policy.

The outcome that such models typically yield of the tightening of macroprudential policy is that interest rate margins paid by non-financial corporations and households on their loans widen, which reduces borrowing and investment and slows economic growth, thereby also dampening inflation.<sup>13</sup> The modelling laboratory, in fact, seeks answers to questions

<sup>12</sup> Eg Lim et al. (2011).

<sup>13</sup> Paul Tucker (2013) has argued that the models over-simplify in assuming that a tightening of macroprudential policy always leads to an increase in loan margins. If, for example, the markets widely perceive the banks' capital positions as being too small, the authorities' requirement to increase them may lower the banks' funding costs and thus ease financing conditions.



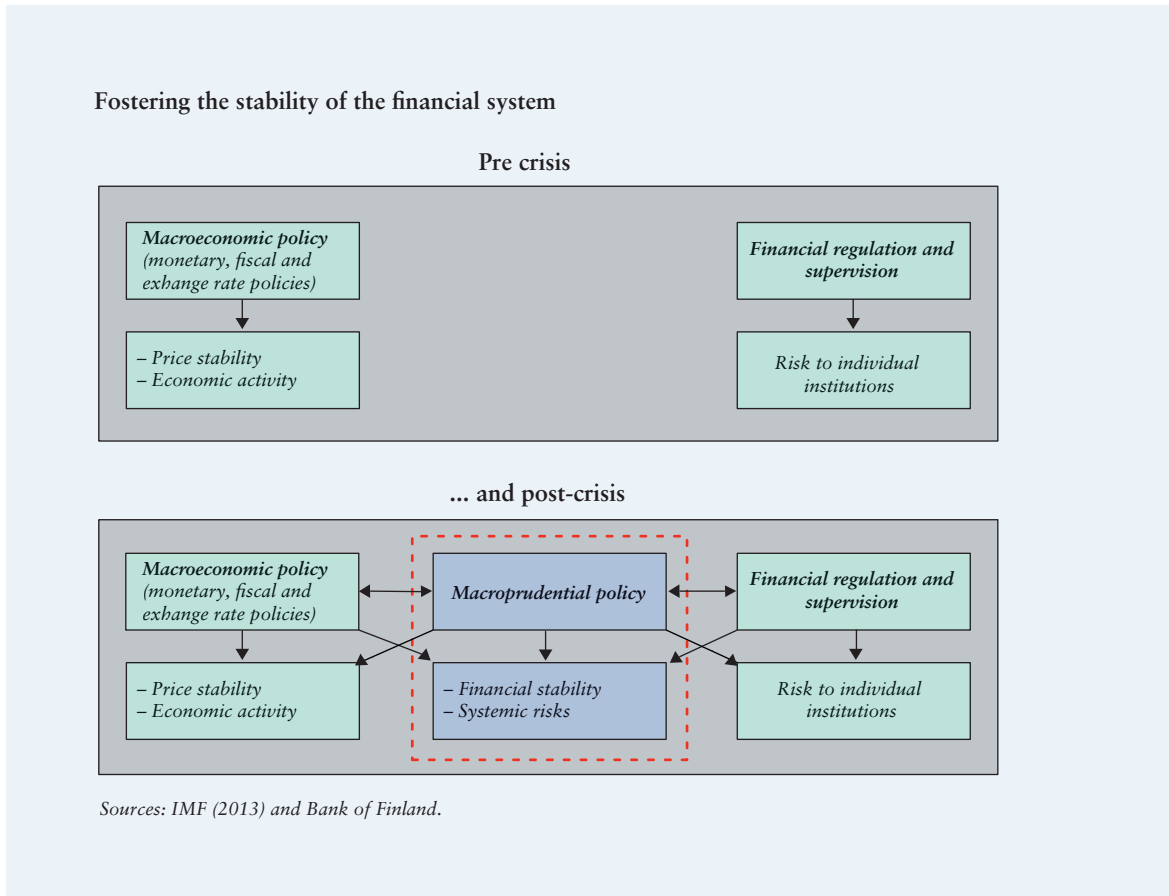
regarding the interaction between monetary and macroprudential policies: What would the best combination of monetary policy and macroprudential policy be in an economic upswing? Are both always needed? In assessing the outcomes of the model simulations, it is advisable to keep in mind that the existing research into the subject is currently fairly limited. In addition, the assumptions of the simulations regarding the role of macroprudential policy may differ from what forms this policy may take in different economic regions.

### Monetary policy and countercyclical macroprudential policy support each other...

According to the latest academic studies, monetary policy and macroprudential policy are complementary.<sup>14</sup> Monetary policy alone cannot achieve financial stability in addition to price stability. However, monetary policy can support the attainment of macroprudential policy objectives, and macroprudential policy the attainment of monetary policy objectives (Chart 3).

<sup>14</sup> IMF (2013).

Chart 3.



The model calculations suggest that, in certain situations, it would be more effective to rely primarily on macroprudential policy rather than monetary policy. An illustration of this type of situation is accelerating credit growth and a resultant boom in the housing market, while the outlook for inflation remains moderate.<sup>15</sup>

Macroprudential policy and monetary policy can support each other if, for example, a negative shock impairs the banking sector's capital adequacy. In such a situation, lowering the countercyclical capital buffer requirement will release capital for use by the banks, reducing the adverse effects of the shock on the economy: bank lending will contract more mildly, causing investment and output to fade more moderately, and inflation will also slow less. The central bank's key policy rate will decline, but the change in the policy rate required to safeguard price stability will be less pronounced than in the case of a fixed capital requirement. In this model calculation, the use of the two tools together allows the financial market shock to result in a considerably more subdued and shorter downturn. And this outcome can be reversed, with a positive shock to the banks' capital positions leading to a more subdued economic upswing, as the tightening of the countercyclical capital buffer requirement in an upswing contributes to holding credit and output growth in check. As a

<sup>15</sup> Eg Darracq, P. M., Sorensen, C. K. and Rodriguez-Palenzuela, D. (2011).

consequence, inflation accelerates less, and a smaller increase in the key policy rate is required.<sup>16</sup>

### **... but sometimes it may be hard to conduct a sufficiently robust countercyclical macroprudential policy**

In the model simulations, countercyclical macroprudential policy may stabilise the economy better than the use of monetary policy alone, but the variation in capital buffers required of banks may then be amplified many-fold. Very pronounced and rapid changes in the capital levels that banks are required to hold are impossible in practice. If the changes in countercyclical capital buffer requirements for banks are kept within reasonable limits, the model simulations, from the monetary policy point of view, come back very close to a scenario with no volatility in the capital requirements at all. In such a case, from the perspective of stabilising the economy, monetary policy should respond to credit developments and asset price fluctuations, given that dynamic macroprudential policy is unlikely to always be able to operate with sufficient vigour – nor is it appropriate for it to do so.<sup>17</sup>

The Norwegian central bank, for example, takes risks to financial stability into account in its monetary policy.<sup>18</sup> Norges Bank is unlikely to markedly lower its key policy rate in the near term despite subdued inflation

<sup>16</sup> Christensen, I., Meh, C. and Moran, K. (2011).

<sup>17</sup> Darracq, P. M., Sorensen, C. K. and Rodriguez-Palenzuela, D. (2011). See also Angeloni, I. and Faia, E. (2013).

<sup>18</sup> Norges Bank (2013).

in order that monetary policy does not reinforce rises in the alarmingly elevated housing prices and growth in leverage. Norway, too, will introduce new macroprudential tools in 2014–2016. Similarly, in its forward guidance, the Bank of England exploits its new role as guardian of financial stability. The financial stability-related condition in its forward guidance will be met and interest rates may be kept low if the Financial Policy Committee (FPC) judges that low interest rates pose no threat to financial stability that cannot be contained through the numerous supervisory and regulatory policy tools available to the various authorities.

### **...and sometimes conflicts may arise between monetary and macroprudential policies**

Conflicts may also occasionally arise between monetary policy and countercyclical macroprudential policy if inflation decelerates at the same time as credit growth accelerates, or vice versa. This type of situation is possible if output growth slows on account of a technology shock but the loan stock relative to output expands. If monetary policy responds to slowing output growth by lowering interest rates but simultaneously macroprudential policy independently responds to the credit growth, the consequence may be pronounced changes in the key policy rate and capital requirements, without any chance of stabilising output and the credit-to-output ratio. If, by contrast, macroprudential and monetary policies are coordinated in this situation, it will

be possible to stabilise the economy by implementing only minor changes to capital requirements and the key policy rate.<sup>19</sup>

### **... and countercyclical macroprudential policy is not always needed at all**

For example, in the case of a technology shock, the use of monetary policy alone may sufficiently subdue macroeconomic fluctuations, as suggested by the model simulations. Hence, there is no need for countercyclical macroprudential policy to manage ordinary business cycle fluctuations, nor is it designed for this purpose, as ordinary cyclical variation involves no risks to financial stability. The use of a countercyclical macroprudential tool in ordinary business cycle fluctuations may even be harmful, especially in the absence of coordination with monetary policy. On the basis of the model simulations, macroprudential policy and tools are of the highest relevance at a time when a financial market shock hits the economy or a shock hits an individual sector. In such a case, macroprudential policy has a supportive impact on monetary policy in stabilising macroeconomic variables.<sup>20</sup>

### **Successful macroprudential policy in the euro area depends on a number of factors**

The euro area economy and financial markets display some specific features that need to be taken into account in macroprudential policy. The area's

<sup>19</sup> Beau, D., Clerc, L. and Mojon, B. (2011).

<sup>20</sup> Angelini, P., Neri, S. and Panetta, F. (2012).

*The primary objective of countercyclical capital buffers is to strengthen banks' loss absorbency.*

economies and financial markets are largely integrated, albeit the financial crisis has reversed the trend to some extent. The cross-border spillovers – both positive and negative – of macroprudential policy may, therefore, be particularly large in the euro area. These spillovers are among the reasons why the European Systemic Risk Board has been conferred a range of macroprudential coordination powers and why the use of national macroprudential tools included in the Capital Requirements Directive involves a number of permission and notification obligations. Some macroprudential tools may operate more effectively if they are deployed by many countries at the same time.

In the euro area, the same systemic risks may hit several countries at once. In such an operating environment, an individual country may be tempted to avoid unpopular macroprudential policy measures and wait for other countries to act first. The tightening of macroprudential policy in an individual country may impair, at least to some extent, the competitive position of the country's financial institutions relative to those of other countries. In the euro area, owing to its largely integrated financial markets, this may pose a bigger problem than elsewhere and contribute to slowing the conduct of macroprudential policy, making it overly passive.<sup>21</sup> The ECB's forthcoming right to increase the countercyclical capital requirement above the level set by national authorities is designed to reduce this type of passivity in macroprudential policy.

<sup>21</sup> Saarenheimo, T. (2010).

Against a backdrop of free capital movements and the absence of exchange rate risk, cross-border capital flows within the euro area can be large. For example, in Spain, pre-crisis external demand raised the values of housing units, including those owned by Spanish residents and often purchased with borrowed funds, thereby overheating the country's housing market. It can be difficult to rein in capital flows to an individual euro area country's housing market by means of loan-to-value regulation, which mainly restricts borrowing by domestic residents for house purchase.

Another challenge typical to the euro area is the fragmented regulatory environment. One of the objectives of EU financial market legislation has been to build a Single Rule Book for the countries' financial institutions and thereby promote competition and financial market integration. A further aim has been to prevent preferential treatment of domestic financial institutions via more relaxed regulation, which earlier led to detrimental regulatory arbitrage between countries. In the process of drafting EU capital requirements legislation, the common rules of the game were observed so literally that national tightening of EU legislative provisions is for the most part prohibited. This principle of maximum harmonisation constrains the use of many potential macroprudential tools in EU countries.

According to the Basel Committee on Banking Supervision, the primary objective of countercyclical capital buffers is to strengthen banks' loss

absorbency, while the moderating effect on the credit cycle may be a positive side effect. However, in the operating environment of a single monetary policy, a situation may emerge where the stance of monetary policy does not support the macroprudential policy aims of an individual country. In fact, in the euro area context, the question arises whether Member States in the area should define the moderation of excessive credit growth more clearly as a macroprudential policy objective. There is another danger that the countries could be divided between active or passive makers of macroprudential policy, with national policies failing to take adequate account of potential adverse externalities and problems from the viewpoint of monetary policy transmission, among other factors.

### **Will the new policy tools be able to help avoid financial crises?**

Experiences with the latest financial crisis suggest that the most serious adverse cross-border implications relating to macroprudential policy may be caused by an overly passive macroprudential policy. However, it will still take several years before the new macroprudential tools are effectively applied in all countries and sufficient revisions to the single euro area macroprudential policy and individual euro area countries' macroprudential policies have been implemented.

We will see only later how big a role the ECB will play in tightening macroprudential tools above the levels set by national authorities. The counter-

cyclical capital buffer requirement is the only uniform dynamic macroprudential tool defined in the Directive and binding on all Member States. Consequently, going forward, a significant part of macroprudential policy in the euro area will remain the responsibility of national authorities. Most euro area countries are only just beginning to introduce macroprudential tools. This is the case in Finland.

The long-sustained low level of key policy rates may accelerate the accumulation of leverage and increase other risks to financial stability in some euro area countries or sectors. This sort of development should be addressed in good time by macroprudential tools rather than the single monetary policy. In a best-case scenario, both common and country-specific macroprudential policies will smooth out financial cycles and stabilise the operating environment of the single monetary policy.

It will not always be possible to conduct a sufficiently effective macroprudential policy using only the one macroprudential tool available for use in all countries, namely the countercyclical capital buffer. It would therefore be desirable for countries to also have access to other, national macroprudential tools in order to target the measures in the best possible way.

At least in the immediate years ahead, the primary objective of deploying macroprudential tools in many countries is likely to be to strengthen financial institutions' capital buffers in the event of future crisis situations. This type of policy may appear very passive. If the countercycli-

*In the Finnish financial system there are two serious structural vulnerabilities: the vulnerability to housing market shocks of both households and the national economy, and a concentrated banking system.*

cal capital buffer were applied mechanically in accordance with the calculation method defined by the Basel Committee, an individual country would need to reactivate the buffer at intervals of 10–20 years, on average.<sup>22</sup>

### **Macroprudential policy to stabilise the Finnish economy**

In addition to the countercyclical capital buffer defined on a uniform basis in all euro area countries, it would be highly desirable if euro area countries were also to introduce other dynamic macroprudential tools. Macroprudential policy in all euro area countries, including Finland, needs to bear a particularly high degree of responsibility for the prevention of systemic risks threatening financial stability and causing financial crises, as financial cycles may differ between countries while monetary policy remains shared. Recommendations and moral suasion are not enough, as these have been proven ineffective. The deployment of fiscal policy instruments, such as taxes related to housing, in turn, also has goals other than macroprudential objectives.

In the Finnish financial system there are at least two serious structural vulnerabilities, for the prevention of which Finland will need more robust macroprudential tools than those currently available. Firstly, the Finnish economy and Finnish households are vulnerable to serious housing market shocks. Secondly, the Finnish banking system is large, highly concentrated and

strongly interconnected domestically and on a cross-border basis. Moreover, serious problems encountered by some individual large banks could damage the entire economy and financial system.

As an export-driven small open economy, Finland may also suffer more than less open economies from regional or global financial crises. Accordingly, it is in Finland's interests to promote the strengthening of financial regulation, including macroprudential regulation, both in the EU and globally.

*Keywords: monetary policy, macroprudential policy, financial cycles, euro area, SSM*

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<sup>22</sup> Basel Committee on Banking Supervision (2010).

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# Liquidity regulation makes a comeback

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**The Basel III regulatory framework involves the introduction of the first internationally harmonised regulations on banking liquidity. The new regulations are largely a consequence of the storms experienced on the financial markets in recent years. In autumn 2008, a lot of banks found themselves in liquidity difficulties, when the markets for many securities and financial contracts previously considered liquid ground to a halt. The point of the new regulations is to force banks to protect themselves from these types of problems. This article presents the background to the liquidity reform and assesses liquidity regulation with the aid of theoretical economic models.**

Banking liquidity has long been subject to regulatory controls. For example, the National Banking Act of 1863 in the United States required each bank to maintain reserves equal to at least 25% of its deposits and banknotes issued by the bank itself. In some cities, the required reserves were as high as 60%. Approved reserves could include coins. This minimum reserve requirement would only later develop into a tool of monetary policy.<sup>1</sup> In Finland, a minimum reserve requirement was used in March 1989 to subdue growth in lending.<sup>2</sup>

The first banking laws in Finland were passed in the 19th century. These placed no requirements on banks in respect of liquidity or capital adequacy, but regulation of banks was increased in the legislation on commercial banking that came into force in 1933.

<sup>1</sup> Feinman (1993).

<sup>2</sup> Korhonen (2011, p. 187–191).

Among other things, a 20% cash reserve requirement was imposed. Later, under the banking acts of 1969, commercial banks had to have cash reserves equal to at least 20% of their liabilities repayable on demand, and 5% of other liabilities.<sup>3</sup>

According to a study<sup>4</sup> carried out at the European Central Bank, in the early years post-2000, eight of the fifteen euro area countries imposed compulsory quantitative liquidity requirements. And Finland still had such regulations in force. Section 67 of the Act on Credit Institutions included a requirement for a cash reserve that included the bank's cash in hand, receivables from the Bank of Finland and other comparable central banks due within the next month, receivables from credit institutions due within the next month and easily marketed debt securities, in accordance with Financial Supervision Authority regulations. The cash reserve had to be equal to at least 10% of the bank's liabilities, admittedly minus liabilities to the Bank of Finland. A Government bill in 2004 proposed abolition of this requirement, and this was accepted. Many expected the repealed section would be replaced by more up-to-date regulations at EU level, but these did not appear for several years.

Already in the early stages of international banking regulation, the aim was to strengthen both banks' capital adequacy and their liquidity.<sup>5</sup> However, the minimum international requirements produced by the Basel Committee in the

<sup>3</sup> Halme (1996).

<sup>4</sup> ECB (2002).

<sup>5</sup> Goodhart (2011, p. 317).



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1970s dealt only with capital adequacy. According to Goodhart this was because in the crises of the time the main problem was with capital adequacy. The financial crisis that began in 2007 is the first widespread liquidity crisis to hit the advanced economies. Goodhart also focuses (p. 581) on the fact that, in addition to the lack of liquidity regulations, the original Basel regulations concentrated too much on individual actors instead of the financial system as a whole. Moreover, the economic theory the regulations were rooted in was weak.

### **Basel III and the EU's new liquidity regulations**

Following the outbreak of the financial crisis, it became apparent that the internationally harmonised Basel II capital adequacy requirements were not sufficiently strict and there was also a need for liquidity regulations. In 2010, the Basel Committee put forward a new recommendation for capital adequacy and liquidity requirements to be applied to banks.<sup>6</sup> The European Parliament and the Council of the European Union have adopted a new Directive (2013/36/EU) and related Regulation on the right to pursue the activities of a credit institution and the prudential supervision of credit institutions and investment firms. The Regulation will apply in all EU Member States from January 2014. In contrast, the requirements in the Directive will be separately incorporated in Finland's national legislation. Both these statutes are based

<sup>6</sup> Basel Committee (December 2010).

largely on the recommendations of the Basel Committee. They include new regulations on liquidity: the liquidity coverage ratio and the net stable funding ratio.

According to the liquidity coverage ratio, banks should be able to cope with a month-long liquidity crisis. They should have at least sufficient liquid assets and available funding to enable them to service their debts in an imagined stress situation in which it is not possible to roll over funding, but all debts, including potential ones, must be serviced.

Liquid assets are understood to include central bank money, debt instruments of governments and certain international bodies, and certain other items. Covered bonds are included under liquid assets, if not at their full value. In contrast, banks' uncovered bonds are not included. Debt instruments issued by non-financial corporations can be entered under liquid assets to a limited degree only if they are the subject of active trading.

For example, unsecured credit granted by other banks does not qualify as available funding under this definition if it matures within one month, as a rollover of the loan is assumed to be impossible. Moreover, some retail deposits are assumed to be lost. In addition, counterparties and customers are assumed to utilise some portion of the credit facilities offered to them by the bank.

On the other hand, even in a crisis situation, a bank could manage to recover a significant proportion of its maturing claims, and therefore the bank

*Following the outbreak of the financial crisis, it became apparent that there was a need for regulations on banking liquidity.*

may, with certain restrictions, take them into account. These maturing claims can cover a maximum 75% of the bank's payment liabilities. For example, for loans maturing within one month, it is assumed that half of the debtors will in fact meet their payment liabilities on time.

A significant part of the regulation is the possibility to deviate from imposed requirements. Due to the liquidity requirement, a bank may in some situations be forced to cease granting credit to other banks, which would weaken the liquidity of the financial markets. During periods of stress, institutions may use their liquid assets to cover their net payment liabilities. The role of the European Banking Authority (EBA) is to define the type of situations in which banks can be permitted to use their liquid assets despite this meaning they will no longer meet the liquidity requirement.<sup>7</sup> As yet, it is not entirely clear what instance will have the powers to decide on a temporary suspension of the requirement. The liquidity requirement will come into force in stages over the years 2015–2018.

In contrast to the above, the net stable funding ratio is still partly not precisely defined, but the EBA is to report by the end of 2015 to the European Commission on the type of statutory provisions needed in this area. In 2010, the Basel Committee published a memo according to which a specific minimum proportion of long-term investments should be funded with

<sup>7</sup> Regulation article 481 h.

long-term or stable sources of funding. Under the Committee's proposal, 'stable funding' would include such sources of funding as a bank's own equity, liabilities maturing more than one year ahead, 90% of deposits covered in their entirety by a deposit guarantee scheme and half of any short-term funding acquired on the wholesale markets.

The above provisions focus on the individual bank. They do not, for example, include prohibitions on banks taking care of their own liquidity in ways that could serve to create liquidity problems for others. An individual bank can ensure its own liquidity and bolster its financial position by ceasing to extend credit to other banks and shedding securities with questionable liquidity immediately there is a downturn in the economy. Hard-to-sell bonds from less well known issuers always end up with some counterparty or other, either another bank or a bank's debtor that is drifting into payment difficulties. Moreover, large-scale sales can trigger a collapse in the price of a security in illiquid markets.

### **Central banks and the liquidity of commercial banks**

Central banks play a key role in respect of banking liquidity. Nowadays the narrowest possible conception of money is central bank money, in which, in practice, all interbank payments are conducted. On every business day, a normal commercial bank has to pay debts with central bank money that it cannot itself create. If its central bank money runs out, which can happen, a credit institution is rendered insolvent.

Only banknotes and deposits with the central bank are central bank money. Both are debts owed by the central bank. As money issued by the central bank is the only legal means of payment, the central bank is protected from its own currency's quantitative liquidity problems. In this respect, the central bank differs from all other economic actors, which can at least in principle experience difficulties in getting sufficient central bank money. Problems of capital adequacy and profitability are certainly possible for central banks, too, but even the worst possible capital adequacy crisis cannot cause central banks quantitative liquidity problems in their own currency.

The special position of central banks has long been considered to carry with it responsibilities, and they have often been turned to as a source of emergency funding. The British economist and banker Henry Thornton in the early 19th century posited the idea that a monopoly on the issuing of banknotes also brings responsibilities, for which reason the central bank must act in a completely different manner from what people were accustomed to consider normal. In times of difficulty, the central bank should increase its lending, not reduce it like other banks, although the risks of lending certainly do not get any less as the economic cycle weakens. Many questioned what they considered a strange idea, but that was nevertheless what was done during times of economic crisis in the 1800s, often out of sheer necessity.

Later, Walter Bagehot underlined the central bank's responsibility to act as lender of last resort, or source of emergency funding, which guarantees banks with strong capital adequacy the possibility to always receive funding against collateral, if not necessarily on advantageous terms.<sup>8</sup>

Ensuring the liquidity of commercial banks through a variety of emergency funding arrangements tailored to the needs of individual banks is normal only in crisis situations, and even then the credit is generally extended against collateral. This can be justified by pointing out that the purpose of central bank actions in the provision of emergency funding is to prevent the liquidity problems of an individual actor escalating into a systemic crisis without itself taking on the prudential risk.

Some preliminary assessments have been made of the impacts of the new liquidity regulations.<sup>9</sup> According to Bindseil and Lamoot, the monetary policy system, and particularly central bank collateral policy, will fundamentally influence how the banks and markets respond to the new provisions introduced by Basel III and how easy it will be to meet the requirements. Central bank money is counted as liquid assets, and the banking system can get it only from the central bank. The terms, and particularly the collateral requirements, of this funding are not the same across all currency areas. Central bank funding and liquidity regulation form a complex whole.

<sup>8</sup> See Humphrey and Keleher (1984).

<sup>9</sup> Bindseil and Lamoot (2011).

## Liquidity in economic theory

The classical way to consider banks in the role of provider of liquidity services is the Diamond-Dybvig model.<sup>10</sup> This describes the role of banks as institutions that can be used for the funding of long-term investments in such a way that savers do not need to surrender the possibility of using their assets as a means of payment (even in unexpected situations) well before the investments have begun to produce a yield.

In the Diamond-Dybvig model, the bank first gathers in deposits from the public in order to invest the largest part of them in long-term investments, comprising, for the sake of argument, lending. In the next phase, some of the depositors experience an unexpected liquidity shock and are forced to make unexpected payments. It is known in advance that some depositors will face this situation, but nobody can say precisely which ones.

The customers with the sudden need for cash receive their assets back from the bank with interest. At the end of the investment period, the bank distributes its assets to those customers that have not already withdrawn their deposits. As some of the yield on the investment has already been paid to the customers who experienced the liquidity shock, the depositors who waited the full term receive a lower yield than if they had invested directly rather than via the bank.

Viewed thus, the bank is a kind of insurance company that offers insurance against a sudden need for cash. With the help of a bank, even savers hit by a

sudden, unexpected need for expenditure can get a yield from their short-term deposits, even when the investment objects offered are long-term. Unfortunately, there is period in which the bank is vulnerable to the risk of a run on deposits. If the depositors become suspicious during the investment period, they will all attempt to withdraw their deposits before any yield has been generated. The bank already has responsibility for paying interest, but does not yet have any yield on the investment, and is therefore unable to meet its commitments. The bank will be secure only if it has the trust of the depositors, but any expectation there could be a run will be self-fulfilling.

Against the background of this theoretical framework, there is a definite need for the new liquidity regulations. Banks are required to prepare themselves for a small bank run, and in particular in case of panic among those providers of short-term funding that are not covered by a deposit guarantee scheme. In light of the Diamond-Dybvig model, the fundamental requirement is to nip a run in the bud in order to prevent the onset of panic. Retail customers covered by a deposit guarantee have no reason to withdraw their funds until they need them. Hence, attracting funding from these customers is a sensible approach and can even reduce the risk of investor flight on the wholesale markets by making the bank appear more stable even in the eyes of those financiers not covered by a deposit guarantee.

There are also established theories that can be applied directly to the

<sup>10</sup>Diamond and Dybvig (1983).

*Securities markets cannot function properly unless both the seller and the buyer have a similar conception of the quality of the instruments being traded.*

question of market liquidity. In these theories, asymmetric information is a key element. Asymmetric information theories have been referenced rather rarely in the development of liquidity regulation, but some of the forthcoming requirements can be soundly justified with the help of these models. A bank with an acceptable level of capital adequacy is almost safe from liquidity problems if it can prove its capital is adequate, but this is often impossible.

It has been suggested that asymmetric information tends to lead to a situation in which the adjustment of prices according to supply and demand does not produce a balanced market.<sup>11</sup> If both parties know that only the seller is aware of the true quality of a product, there will be no market for high-quality products. The buyer will suspect he is receiving poor-quality goods and is only willing to pay the price for poor quality. It is not worth the seller's while to sell quality goods at such a price. If the parties both knew they were equally aware of the quality of the goods, there would be no obstacles to the deal, as neither party would have cause to doubt the other's offers. The relevant issue is thus the difference in knowledge between the two sides, not a lack of knowledge per se. Nobody is able to produce reliable forecasts of the trends in share prices or the price of commodities, but the derivatives markets based on these have taken on vast proportions, as everybody is more or less equally in the dark over future prices.

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<sup>11</sup> Akerlof (1970).

When defining the set of investment objects assumed to be liquid for the purposes of Basel III, only securities that in past experience have retained their liquidity even in difficult circumstances have been included. These are generally instruments the value of which both the purchaser and the seller can be assumed to have an equally good grasp of. With changes in the cyclical state of the economy the prices of such securities can change, but there will still be a market for them.

Akerlof's theory can perhaps not be applied directly to lending, but asymmetric information does also offer a good point of departure for the analysis of illiquidity on the credit markets. According to a theory based on this analysis, excess demand for credit is a normal balanced situation on markets where banks have inadequate information on credit applicants but the applicants themselves know their own situation and plans.<sup>12</sup>

According to the theory of Stiglitz and Weiss, credit applicants cannot transform themselves into attractive contracting partners by offering to pay higher interest. Some credit applicants are looking to launch low-risk, but also low-earning businesses, while others may be planning the sort of potentially very high-earning gamble that only rarely succeeds.

Expensive finance causes entrepreneurs seeking to invest in relatively safe but low-earning investments to withdraw from their projects, the yield on which would under no circumstances cover the

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<sup>12</sup> Stiglitz – Weiss (1981).

costs of the finance. It is thus not in the interest of lenders to exploit potential excess demand by raising interest rates, as this would cause adverse selection and cause low-risk credit applicants to withdraw from the market. By accepting a high rate of interest, a credit applicant would appear suspicious. By raising its lending rate, a bank would thus weaken its loan portfolio.

The Stiglitz-Weiss model can also be easily applied to the interbank markets. If a bank intends to purchase government bonds with a good credit rating, for example at a yield of 2%, it will not take out a loan at 3% interest in order to fund the purchase. In contrast, a bank making high-risk, but potentially lucrative investments may well take out even very expensive wholesale funding; this makes a bank offering high interest rates suspicious in the eyes of potential counterparties.

For example, in autumn 2008, a bank looking for funding could not get credit from other banks by offering to pay a high rate of interest. And if a bank is already drifting into crisis, it may attempt to acquire even unfavourably priced funding in any way possible, even if just to buy time, which makes the offering of high interest a bad signal. Thus, the market mechanism cannot find a rate of interest that would balance the money markets in order to produce a match between supply and demand for interbank credit, meaning borrowing from other banks is not a workable source of funding as distrust spreads. Thus, from a theoretical perspective, it is justified not to classify as a stable source of funding unsecured

wholesale market debt not covered by a deposit guarantee scheme.

Recent studies have presented theoretical arguments in favour of regulations to require the use of stable sources of funding instead of short-term market funding.<sup>13</sup> In their decision-making, banks do not take account of their own risks' affect on other actors, and they therefore have a tendency to accept larger risks than is good for the economy as a whole. A dangerously rapid growth in lending is difficult to achieve if it has to be funded with equity capital or long-term loans rather than 'hot' market funding. In theory, it may actually be justifiable to tax the use of short-term market funding. If banks have little to lose and very strong incentives to take risks, a stable funding requirement is a more effective approach, as a tax on market funding would not directly reduce opportunities to take risks. On the other hand, according to Perotti and Suarez, a requirement to hold liquid assets as a liquidity buffer would perhaps not influence banks' activities: in an extreme case scenario, a bank can simply borrow more on the money markets and invest it in an object that meets the definition of liquid assets.

### **There is a need for harmonised liquidity regulations**

Taking deliberate, limited risks is a fundamental part of the banking business. Maturity transformation (the funding of long-term loans with short-term deposits) is one of the most important functions of a bank. The

<sup>13</sup>Perotti and Suarez (2011).

*As banks with licences from different parts of the European Union are permitted to offer services throughout the entire EU area, it is also justified to harmonise liquidity regulations.*

risks must, however, be kept at a reasonable level. The experiences of recent years, and particularly autumn 2008, have shown that, despite all the recent financial innovations, liquidity risks still exist, and liquidity remains an issue of primary importance to banks. Allowing liquidity to depend on a single source of funding is often shown to be a mistake when times get hard.

It will perhaps not be possible to reliably evaluate all the impacts of the forthcoming broad regulatory reform even in retrospect, but the inclusion of liquidity regulation as a part of banking regulation is clearly justified. As banks with licences from different parts of the European Union are permitted to offer services throughout the entire EU area, it is also justified to harmonise liquidity regulations. Without such cross-border harmonisation, abiding by the rules would, in practice, be voluntary. Operations could always be located in the Member State whose legislation imposes the least restraints. The choice of location does not even affect what Member States services can be marketed in. Therefore, purely nationally implemented regulation would not be an appropriate solution from the point of view of an EU Member State.

*Keywords: liquidity, banking regulation*



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# Fiscal multipliers revisited

5 September 2013

During the past year, there has been intense debate over the correlation between fiscal consolidation and economic growth. This article argues that the observed growth forecast errors for euro area countries in 2010–2011 were not caused by underestimated fiscal multipliers. Instead, the errors were due to a general reassessment of euro area sovereign risk, which disproportionately impacted the more vulnerable euro area countries. These countries experienced a sharp increase in their sovereign borrowing costs, a tightening of credit conditions and ultimately a sharper-than-expected contraction of domestic demand.

The IMF's World Economic Outlook of October 2012 contained a box written by Olivier Blanchard and Daniel Leigh entitled 'Are we underestimating short-term fiscal multipliers?'.<sup>1</sup> The authors argue that, for a group of 28 economies, the growth shortfall-versus-forecast was highly correlated with the planned fiscal consolidation effort. The authors interpreted this as evidence that the effect of fiscal policy – the 'fiscal multiplier' – was underestimated.

For a simple regression buried in a sizable report, the results attracted remarkable attention. While the IMF was careful in drawing conclusions, many observers treated the results as proof that fiscal policies were too tight and that austerity was destroying growth in the advanced economies.

In its November 2012 forecast, the European Commission responded with

its own analysis, showing that growth forecast errors in the euro area were primarily linked to the marked increase in sovereign interest rates during the debt crisis.<sup>2</sup> Controlling for that, the explanatory power of fiscal policy was almost completely lost.

However, the Commission's analysis fell short of a convincing rebuttal of the IMF's results. Expressed in economics terms, the change in sovereign rates during the crisis years is endogenous to output growth and hence not an admissible control variable. In other words, rather than an independent cause of the growth slowdown, the increase in sovereign rates may actually have been a consequence of the growth disappointment, caused by an excessively tight fiscal policy. Instead of suggesting an alternative explanation, the Commission's results could merely be picking up another channel through which the contractionary effects of fiscal policy were being amplified.

Despite its analytical fragility, the Commission's finding is relevant. The eruption of the euro area debt crisis, in fact, resulted in higher sovereign and bank funding rates and tighter credit conditions in many euro area countries. It seems obvious that this must have had an impact on the growth performance of the currency area. Looking at the fiscal multiplier debate, the relevant question is whether or not the widening of sovereign spreads was caused by (excessive) austerity measures from 2010 onwards.



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<sup>1</sup> IMF (2012) WEO.

<sup>2</sup> European Commission (2012).

*The financial crisis stimulated a growing awareness on the markets that euro area sovereign debt was less than fully sovereign.*

### Interpretation of euro area growth slowdown

Economic developments in the euro area can be interpreted as follows: in 2010–2011 there was a fundamental shift in the way euro area sovereign debt was viewed by the markets. Prior to the crisis, euro-denominated debt issued by euro area sovereigns was perceived and priced as any domestic currency sovereign debt. During the debt crisis, the perception changed, as there was growing awareness that euro area sovereign debt was, in certain respects, less than fully sovereign. As well as not having access to the exchange rate as an adjustment tool, euro area countries also lacked the unlimited access to central bank liquidity that ultimately guarantees the creditworthiness of countries with national currencies.<sup>3</sup> With this insight, euro area government debt started to look less like truly sovereign debt and more like something akin to debt issued by US states. This resulted in a dramatic repricing of euro area sovereign debt during 2010–2011.

The hypothesis of the present article – which is consistent with the interpretation of the Commission – is that it was the eruption of the sovereign debt crisis and the associated tightening of credit conditions that depressed domestic demand and ultimately caused the observed growth shortfall in several euro area countries.

This hypothesis also offers a natural explanation for the correlation between planned fiscal consolidation in

<sup>3</sup> De Grauwe (2011).

2010 and the ensuing growth shortfall observed by Blanchard and Leigh. This correlation arises from the relation of both variables to underlying initial fiscal vulnerabilities. In 2010, the most ambitious fiscal consolidation plans had been prepared by the countries where public finances were the most precarious. As we have come to learn, these are the countries that were hardest hit by the debt crisis.

Hence, presented here are two competing hypotheses of the reasons behind the observed growth forecast errors in euro area countries. One story builds on the effects of fiscal austerity and high fiscal multipliers, the other on initial fiscal vulnerabilities leading to asymmetric effects of the sovereign debt crisis.

Below, we employ statistical methods to test the verity of these two hypotheses. The exercise is based on the analysis of the European Commission, extended to capture the endogeneity of the interest rate changes.

$$\text{Growth forecast error} = \alpha + \beta \text{ forecast of fiscal stance} + \gamma \text{ fitted value of change in sovereign bond yields} + \varepsilon$$

The dependent variable in the equation is the error in the Commission's spring 2010 forecast for GDP growth in 16 euro area countries for 2010–2011. The explanatory variables are the planned fiscal stance and the change in sovereign 10-year bond rates during 2010–2011. To control for

endogeneity, the sovereign rate variable is instrumented by using three strictly exogenous variables that capture the initial vulnerability of a country's public finances: the actual government deficit as a percentage of GDP in 2009, the average price of sovereign credit default swaps (CDS) at the end of 2009, and the sovereign rating at the end of 2009. These three variables, which are designed to capture the initial fiscal vulnerability of each euro area country, explain nearly 80% of the cross-country variation in the changes in sovereign bond yields during the crisis. All the results were robust to the precise choice of instruments.

If the growth slowdown was caused by fiscal austerity, the coefficient on the planned fiscal stance should have a negative value. If, however, the recession was caused by the interplay of the debt crisis with fiscal vulnerabilities,

the coefficient on the instrumented sovereign rate variable should come out negative.

The instrumented change in sovereign bond rates is statistically highly significant in explaining the growth shortfall (Table), while the coefficient for planned fiscal policy is only slightly negative and is statistically not different from zero. There is a strong univariate correlation between planned fiscal policy and the ensuing growth shortfall (Chart 1a). This correlation is lost once the effect of (instrumented) change in sovereign interest rates is accounted for (Chart 1b).

Thus, the results lend strong support to the hypothesis that growth forecast errors in euro area countries were caused by the sovereign debt crisis, which disproportionately impacted the fiscally most vulnerable

Table.

#### GDP growth forecast errors and forecast of fiscal stance revisited

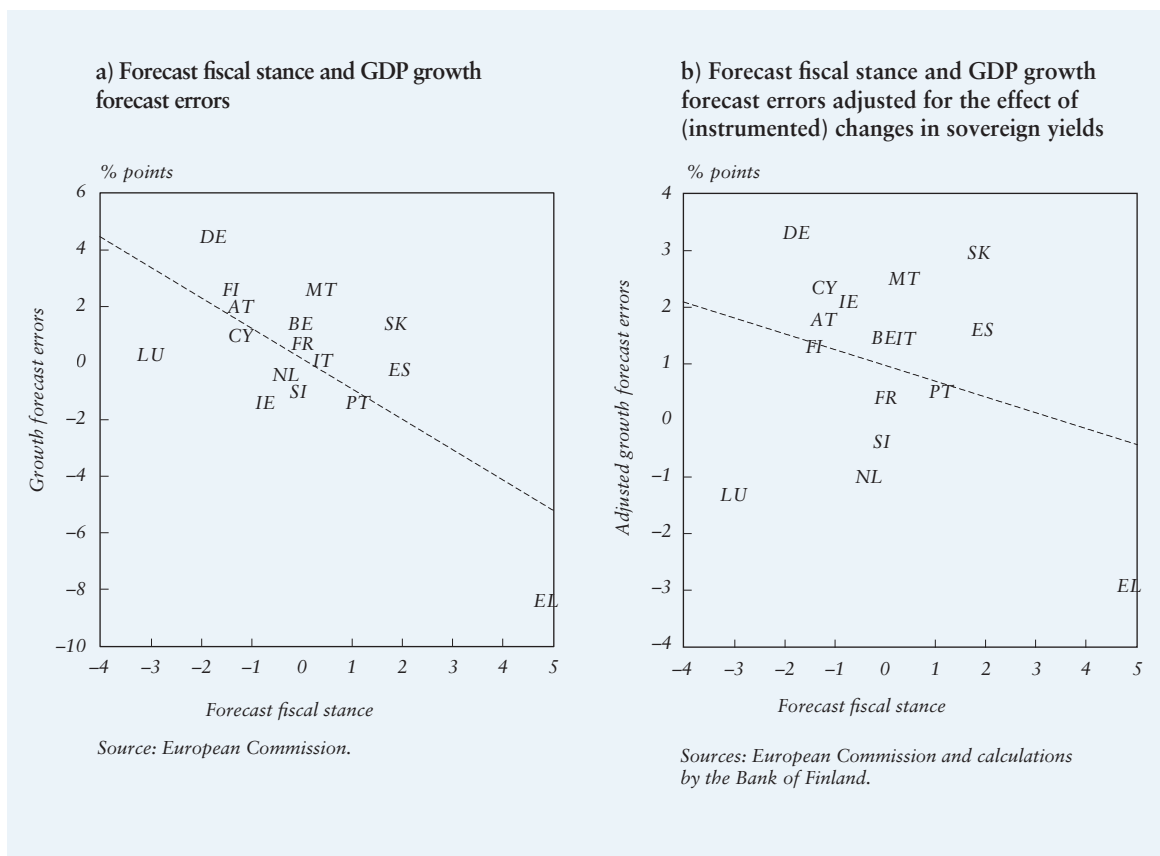
Constant	0.97*	(0.54)
Forecast of fiscal stance	-0.28	(0.39)
Fitted value of change in sovereign bond yields	-0.56**	(0.21)
R <sup>2</sup>	0.67	

$Growth\ forecast\ error = \alpha + \beta\ forecast\ of\ fiscal\ stance + \gamma\ fitted\ value\ of\ change\ in\ sov.\ yields + \varepsilon$

$Change\ in\ sov.\ bond\ yields = \gamma_0 + \gamma_1\ sov.\ rating + \gamma_2\ sov.\ CDS\ spread + \gamma_3\ headline\ fiscal\ deficit + \eta$

Note. Figures in parentheses are standard errors. \* and \*\* denote significance of 10% and 5% levels, respectively. Real GDP growth forecast errors are cumulative for 2010–2011 (European Commission spring 2010 forecast). Forecast of fiscal stance is the change in structural balance (% of potential GDP) for 2010–2011 (European Commission spring 2010 forecast). Change in 10-year sovereign bond yields refers to the period between end-2009 and end-2011 (source: European Commission). The European Commission is the source of the 2009 headline fiscal deficits (% of GDP), and Bloomberg the source of the end-2009 S&P sovereign long-term debt ratings. Sovereign CDS spreads are calculated as 2009 Q4 averages (source: Blanchard – Leigh (2013), with the German figure used for Luxembourg). Sample: 16 euro area countries (excl. Estonia).

Chart 1.



euro area countries. Once this mechanism is accounted for, there is little evidence of higher-than-expected fiscal multipliers.

The results also shed light on the question raised by De Grauwe and Li in 2013 as to whether the changes in euro area sovereign spreads during the debt crisis have been due to fundamentals or market psychology. Their interpretation was that ‘... fear and panic ... pushed the spreads to artificially high levels.’<sup>4</sup> The present article suggests that, although fear and panic played a crucial role during the various phases of

<sup>4</sup> De Grauwe – Li (2013).

the crisis, the resulting changes in sovereign spreads were strongly rooted in fundamentals.

### Reassessment of sovereign risk the source of forecast errors in the euro area

Between 2007 and 2011, market sentiment towards euro area sovereigns made a full swing from one extreme to the other. Prior to the crisis, the euro area sovereign bond market seemed to be enjoying a ‘goldilocks’ equilibrium. Euro area sovereign debt was perceived as essentially riskless and spreads were virtually zero. Starting in late 2009, a gradual reassessment of euro area

sovereign risk pushed the markets into a much less benign equilibrium, and sovereign spreads expanded. As De Grauwe and Li have noted, this reassessment was driven largely by self-fulfilling dynamics, rather than weakening economic fundamentals.

At the same time, the results put forward in this article indicate that the manner in which the change in market sentiment was reflected in sovereign yields for individual euro area countries was very much determined by fundamentals: the greater a country's fiscal vulnerability prior to the crisis, the larger the increase in sovereign yields. There is no evidence to support the

view that markets specifically punished those countries with exceptionally ambitious fiscal consolidation plans.

According to the results, the reassessment of sovereign risk, and its interaction with fiscal vulnerabilities, explains the growth forecast errors observed by the IMF<sup>5</sup> – at least for euro area countries. Once this mechanism is accounted for, there is no evidence of a higher-than-expected growth impact from fiscal policy.

*Keywords: fiscal policy, growth forecast errors, fiscal multiplier*

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<sup>5</sup> IMF (2012).

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IMF (2012) World Economic Outlook. Are we underestimating short-term fiscal multipliers? (Box 1.1.) October. See <http://www.imf.org/external/pubs/ft/weo/2012/02/pdf/text.pdf>.



# Foreign trade statistics based on value added challenge the traditional picture of international trade

30 August 2013

Foreign trade statistics based on value added follow the value added by each country and sector through the different phases of the production process. A new database maintained by the OECD and WTO provides a different picture of the imbalances in trade flows between the major economic regions and the interdependency of imports and exports than that provided by traditional customs statistics. This article also examines imbalances in euro area trade on a value-added basis. Statistics based on value added do not displace the traditional gross foreign trade statistics, but offer an alternative way to examine the importance of foreign trade, particularly for those countries that are integrated into global value chains.

International trade has grown faster than the value of global output, particularly over the past two decades. The removal of trade obstacles, lower transport costs and advances in technology are all key factors that have speeded up this trend. International trade in intermediate goods and services has particularly increased, which in turn is a consequence of the geographical dispersal of companies' production processes. In these value chains, the production process for goods is split between different countries that each specialise in accordance with company-specific competitive advantages and country-specific relative advantages.<sup>1</sup> International trade in intermediate goods has,

<sup>1</sup> Ali-Yrkkö, Jyrki (2013) *Mysteeri avautuu. Suomi globaaleissa arvoverkostoissa* [A mystery solved. Finland in global value chains]. Taloustieto Oy (ETLA B257).

in fact, been growing faster than trade in final goods. According to an OECD estimate, 56% of world goods trade and 72% of services trade in 2009 comprised intermediate inputs.

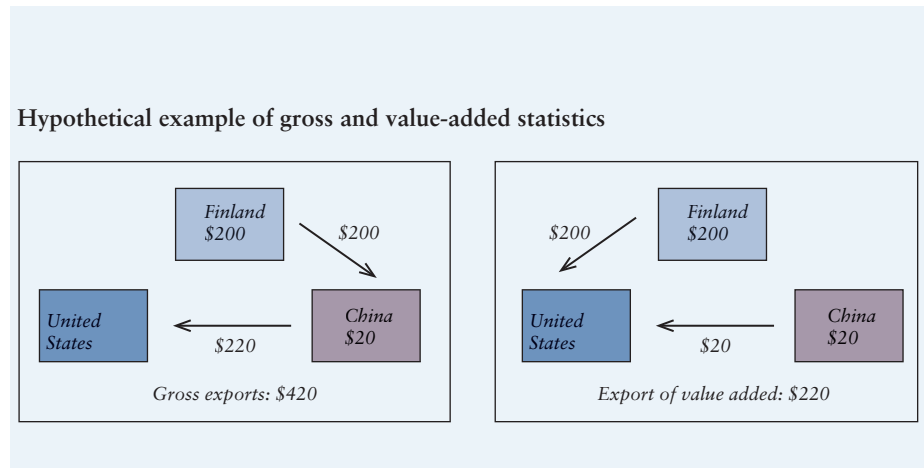
The multifaceted nature of world trade and production chains is not revealed by traditional foreign trade customs statistics, in which the value of goods is always entered when it crosses the border from one country to another. If intermediate goods cross international borders many times at the different stages of production, their value is multiplied in the gross foreign trade statistics. At the same time, the gross export statistics of a country that is specialised in the assembling of final goods can exaggerate the significance of the goods to the country's economy, as the value added in assembly typically does not constitute a significant proportion of a product's value.

The distortion hidden within the gross statistics can be illustrated by an example (Chart 1). Let us assume that an engineering company in Finland exports components to China at a value of USD 200. The product assembled from the components in China is then sold to the United States for USD 220. According to the gross statistics, the value of machinery exported from Finland to China is USD 200, and the value of the subsequent export from China to the United States is USD 220. The value of the machinery exported from China to the United States does not in any way reflect the value of engineering to the Chinese economy, as the value added by assembly is only USD 20. If the trade is examined on a



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Chart 1.



value-added basis, the statistics would show exports from Finland to the United States to the value of USD 200, and from China to the United States to the value of USD 20. Thus, the value-added foreign trade statistics reveal the importance of trade to a country's economy better than the gross statistics.

The analysis below draws on material from Trade in Value Added (TiVA), the new foreign trade value-added database developed by the OECD and the WTO. The database contains statistics from 40 countries and 18 sectors on foreign trade in goods and services calculated on a value-added basis. The material covers 95% of global output and 90% of international trade in 1995, 2000, 2005, 2008 and 2009. Value added is calculated according to the difference between the export price of goods or services and the purchase price of both domestic and foreign intermediate goods and raw materials used in their manufacture. The value-added statistics are estimated from countries' official statistics by combining national

input-output tables with the help of bilateral trade statistics to produce global input-output tables.<sup>2</sup> The database provides highly detailed country-specific and sector-specific data, for example on the share the value added in a specific sector in a given country takes of the gross value of exports by the sector in another country.

According to an OECD estimate, around two thirds of world trade is internal trade within multinational corporations. These sell final and intermediate goods and services to their own subsidiaries or to other companies in the same group. The transfer prices used in intra-group trading determine which country the corporation's profits are repatriated to. This has a direct relation to which country is accorded the value added in respect of, in particular, intangible capital (such as brands and patents).<sup>3</sup>

<sup>2</sup> For a description of the database and methodology see <http://www.oecd.org/industry/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm>. The database was published for the first time in January 2013 and was enlarged in May 2013.

<sup>3</sup> Ali-Yrkkö, Jyrki (2013).

*The OECD and WTO maintain a database of value added in international trade.*

### The domestic value added in exports depends on a country's size and production structure

The GDP ratio of the value of goods and services exports calculated on a gross basis is greater than the GDP ratio of the value added (Chart 2). The difference is due to the multiple counting of intermediate goods in foreign trade statistics.

The difference between the value of gross exports and value-added exports for a commodity-exporting country such as Russia is small. In contrast, for a country at the end of the value chain, like the Netherlands, or that concentrates on the assembly of final goods, like China, the difference between the gross and value-added figures is considerable, as the value added in other countries is channelled through these countries when they import raw materials and intermediate goods and services and sell the final products. The more specialised a country's output is, the larger the difference is between gross and value-added export statistics.

The degree of integration within global value chains and the importance of trade in value added can be gauged by three measures. The first of these is the ratio of exported domestic value added to the value of the country's GDP (Chart 3). This figure includes the value-added share of both direct exports and indirect exports via a third country.

The counterpart of domestic value added in exports is foreign value added in imports (Chart 4). The GDP share of foreign value added in domestic

Chart 2.

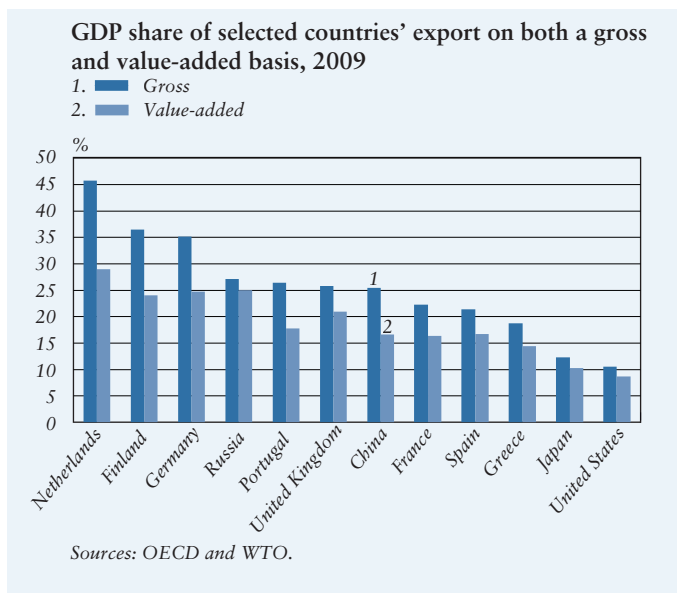


Chart 3.

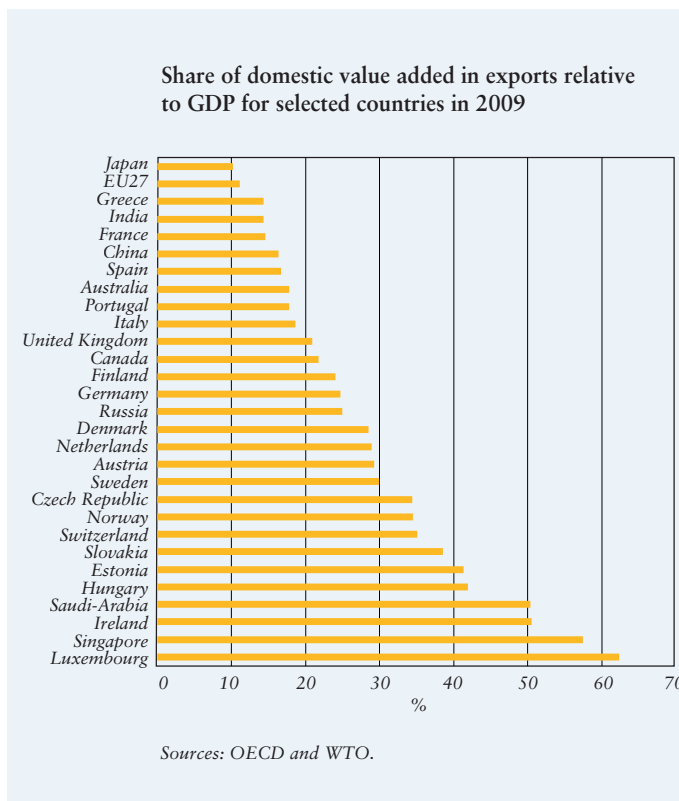
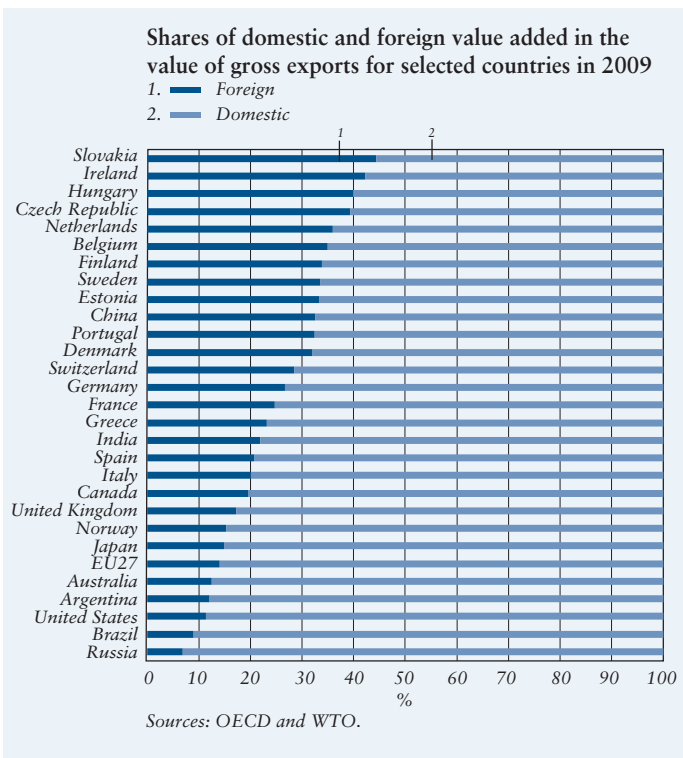


Chart 4.



Chart 5.



demand determines the size of the foreign value-added component in domestic demand (private and public consumption plus investment). The larger the ratio, the more growth in domestic demand will increase imports of foreign value added.

The third measure is the ratio between the share of domestic and foreign value added as a proportion of a country's gross exports (Chart 5). This ratio depicts the country's ability to incorporate domestic value added in its exports. The smaller the ratio, the more foreign value added there is in the country's exports, and the more the country's export output utilises foreign raw materials or intermediate goods.

The differences between countries can be explained primarily via the size of each country's domestic market and its production structure. The production structure in large, economically advanced and highly populated countries is often diversified, and these countries have functional and competitive domestic markets; accordingly, they produce their own intermediate goods. As domestic demand in these countries can for the most part be satisfied with products of domestic origin, the foreign value-added share of domestic demand is marginal. Production for export in small, open economies is typically more specialised than in large countries; small countries therefore import a larger degree of production inputs from abroad and are accordingly dependent on international value chains.

A country's production structure influences the value-added share of exports and imports, as there are large

sectoral differences in the use of intermediate goods and the dispersal of production processes. Production inputs from agriculture and mining are typically of domestic origin, and the share of domestic value added in gross exports is therefore considerable in these sectors. In the production of services, too, domestic value added is considerable, as the most important production input is often human capital.

The foreign value added in industrial output is considerably larger than in the primary production of services. The share of foreign value added is, in fact, typically substantial in the value of gross exports of countries whose primary industries use imported raw materials or intermediate goods.

The foreign value added in production that is easily broken down into value chains is often substantial, and the value added in the production of such goods is divided between several countries. For example, mobile phone components or motor vehicle parts are manufactured in different countries from where the final product is assembled or the product designed, and the export value of mobile phones or motor vehicles does not, therefore, arise simply in the country that exports the final product. For the world's largest producers of motor vehicles, approximately 30–50% of the value of their exports is of foreign origin. The German and French automobile industries, in particular, use a lot of foreign-produced intermediate goods, primarily from Central European countries. Although Germany is the

Chart 6.

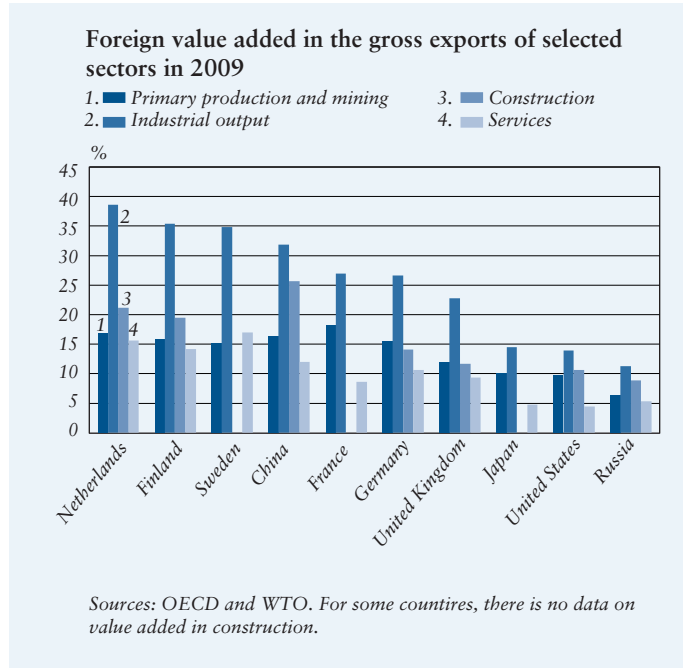


Chart 7A.

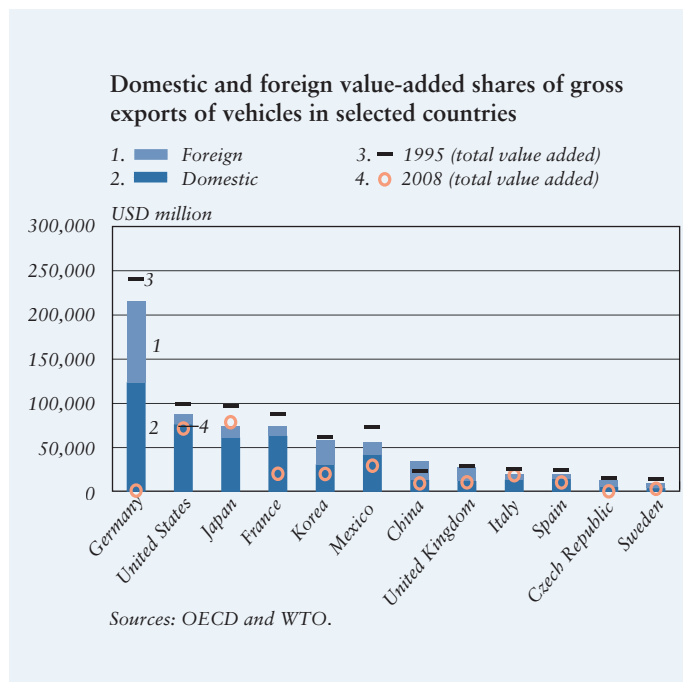
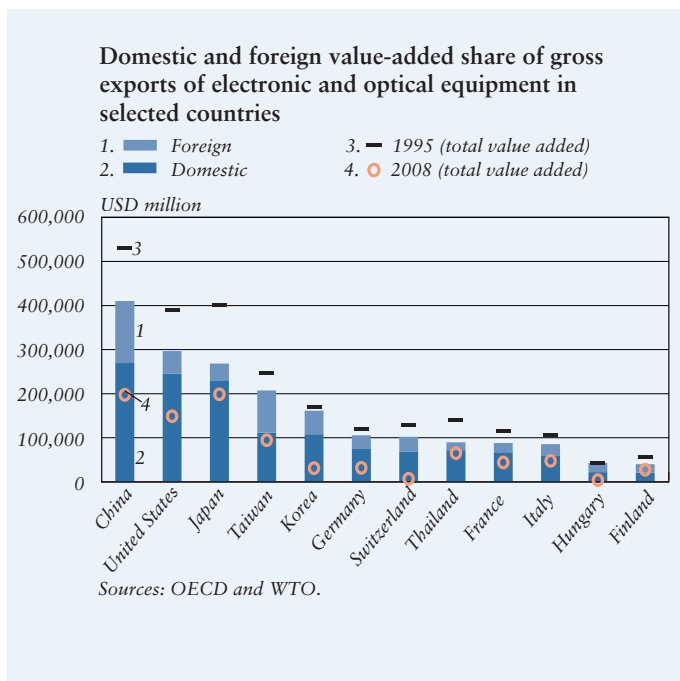


Chart 7B.



world's largest exporter of motor vehicles, measured by value added its income from these exports is at the same level as that of the United States (Chart 7A). In electronics industry exports, too, the share of foreign value added is considerable, particularly in China and Korea (Chart 7B).

### Domestic value added is larger in services exports than in industrial exports

Calculated on a gross basis, services comprise on average a quarter of the value of exports by OECD countries, whereas calculated with the value-added method, services account for over 50% of the value of gross exports in many advanced economies (Chart 8). The share of the value of gross services exports accounted for by domestic value added is greater than for industry, as services output does not use as much as industry in the way of foreign intermediate goods or raw materials. In the production of services, the most important production input is human capital (ie labour), and the value added is often intangible, comprising such things as brands, patents or software.<sup>4</sup>

Services output in its various forms is also an integral component of industrial output and a significant source of value added in industrial exports. For example, in Germany over a third of the value of gross primary production and industrial exports comprises services (Chart 9). In the manufacture of electronics equipment, 37% of value added in exports comes

<sup>4</sup> Ali-Yrkkö, Jyrki (2013).

Chart 8.

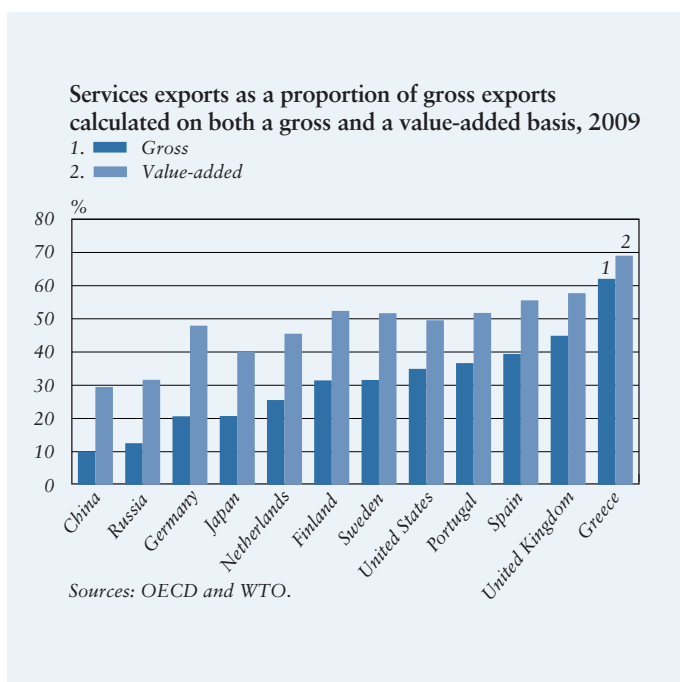
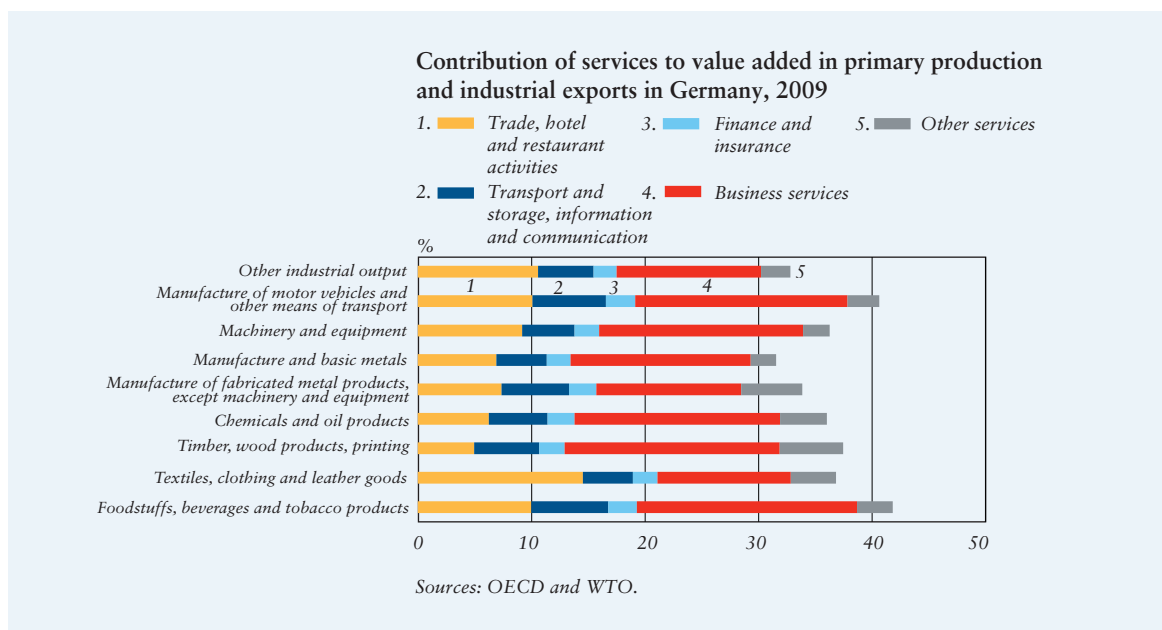


Chart 9.



from services, the equivalent figure for vehicle manufacture being 41%, and for industrial output overall, 33%.

### Of the major economic regions, the share of foreign value added is greatest in exports from China

Value added in foreign trade relative to GDP declines as the size of an economy grows. Of the major economic regions – the United States, EU, China and Japan – the least domestic value added relative to GDP is in exports from the United States, Japan and the EU (Chart 3). But then, the gross value of exports relative to GDP in the United States and Japan is itself small (Chart 2). In contrast, the actual domestic value added in gross exports from the United States, Japan and the EU is in fact considerable, due to the size and diversity of the domestic markets (Chart 5). The foreign value added in

the electronics industry, the manufacture of machinery and equipment and the automobile industry is generally substantial, but Japan is in this respect an exception. There, the share of gross exports in these sectors accounted for by foreign value added is only around 15%, against an average of 36% in other countries. Aggregate foreign value added in the value of gross exports from the EU, below 15%, appears surprisingly small, despite the fact EU countries are small, open economies. However, the figure includes only foreign trade with countries outside the EU, meaning, for example, the integrated motor vehicle trading among countries in Central Europe is not included.

EU Member States are a heterogeneous group, measured on the basis of the domestic value added in exports. For example, in exports from the

United Kingdom, the share of foreign value added is small, as most UK exports comprise business services, which have a considerable amount of domestic value added. Despite their production of services, Ireland and Luxembourg are closely integrated in international value chains, as foreign corporations use these countries as a bridgehead into the European market and repatriate the profits on their services exports.

Approximately a quarter of the value of Russian GDP is composed of domestic value added in exports (Chart 3). The intermediate goods needed in Russia's oil and mining industries are produced domestically and the share of domestic value added in exports is over 90% (Chart 5). In Chinese exports, the share of domestic value added is equal to 17% of GDP (Chart 3). The share of gross exports contributed by foreign value added grew strongly in the first post-millennium decade as China became integrated into global value chains. Despite its great size, China, on account of its assembly industries, is more closely integrated into international value chains than the United States, Japan or Russia, and, for example, over 40% of the value of Chinese exports of electronic equipment is foreign value added.

The OECD and WTO database also makes it easier to examine the mutual interdependencies between major economic regions and other countries. The United States is an important source of foreign value added in the gross exports of both its neighbours – Canada and Mexico – and

the countries of Europe and South America. Almost 50% of the foreign value added in gross exports from Canada and Mexico comes from the United States. Also, around a fifth of the foreign value added in the EU's gross exports is of US origin. China, for its part, is integrated into Asian production chains, and large amounts of value added in China is included the gross exports of its immediate neighbours and Japan.

Foreign trade statistics (including trade in both goods and services) calculated by the value-added method redivides the surpluses and deficits in countries' bilateral trade balances. In the example given at the beginning of this article, the US balance of trade in exporting the machinery to China would, calculated on a gross basis, be USD 220 in deficit to China. In contrast, calculated using the value-added method, it would be USD 20 in deficit to China and USD 200 in deficit to Finland, despite the fact there is no bilateral trade in machinery between the United States and Finland in the example. However, the overall deficit on the trade remains USD 220 irrespective of the method of calculation employed.

China's trade surplus with the United States is over 30% smaller when viewed on a value-added basis than on a gross basis, as the foreign value-added in Chinese exports is substantial (Chart 10). Similarly, China's trade surplus with the EU is also smaller when calculated on a value-added basis. In contrast, the US trade deficit with the EU deepens when examined by the value-added method, as

*The OECD and WTO database makes it easier to examine the mutual interdependencies between major economic regions and other countries.*



US exports to the EU contain foreign, particularly Chinese, value added. For its part, when viewed on a value-added basis, Germany's trade surplus with the United States grows, as much of the value added in exports to the United States from third countries is of German origin.

### Share of foreign value added in domestic demand is considerable in the countries of southern Europe

The surplus on the goods and services account in the euro area has averaged 2% of GDP since the turn of the millennium. There are, however, considerable differences between Member States (Chart 11). In Germany and the Netherlands, there has been a surplus averaging 4–7%, whereas in Spain there has been a deficit of an average 3%, in Portugal 8% and in Greece 11%. We now turn to a value-added analysis of those aforementioned euro area countries with an exceptionally large trade surplus (Germany and the Netherlands) or deep deficits (Spain, Greece, Portugal). Other current account items lie outside our analysis.

Examined on a gross basis, developments in the value of gross exports from Germany and the Netherlands as well as from Spain, Greece and Portugal were, before the financial crisis, surprisingly similar: the value of German exports grew by an average 8% per annum, while the value of Dutch as well as Spanish, Greek and Portuguese exports an average 6% per annum over the period 2001–2007. In contrast, these countries differed from each other in regard to the development of

Chart 10.

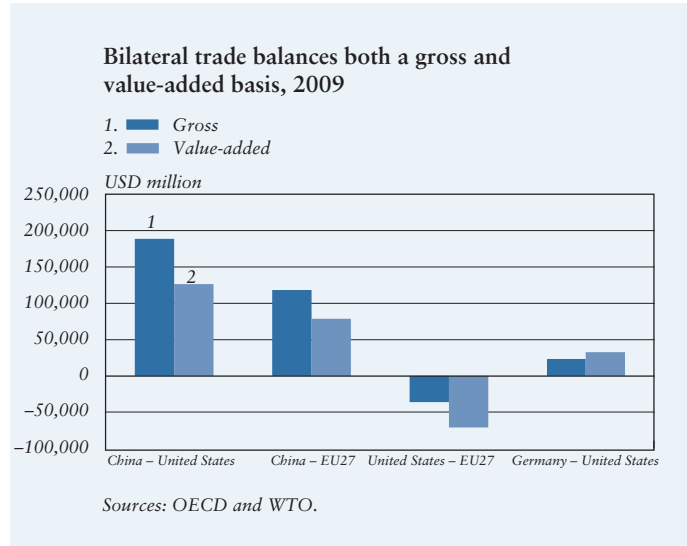
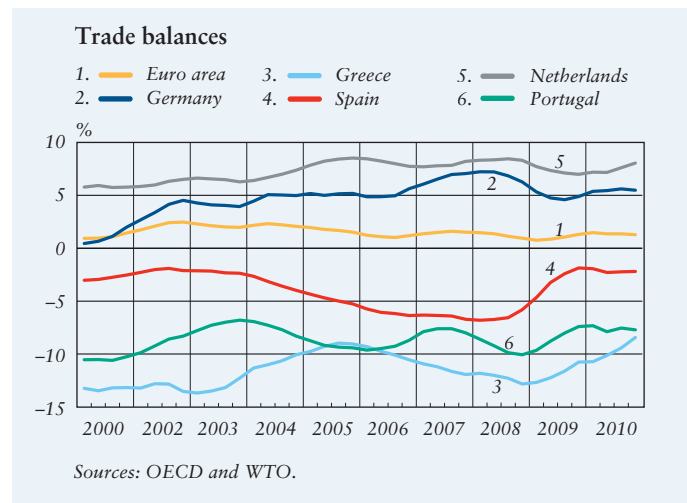


Chart 11.



domestic value added in their exports relative to GDP and gross exports both before and during the financial crisis. Of German and Dutch GDP in 2009, approximately a quarter was domestic value added in exports, while the corresponding figure in Spain, Portugal and Greece was just a sixth (Chart 12).

Meanwhile, in Spain, the share of domestic value added in gross exports is 15 percentage points higher than in the Netherlands (Chart 13).

In Spanish and Portuguese exports, the share of domestic value added relative to GDP and to gross exports has barely grown at all since 1995 (Charts

12 and 13). Measured by value added, the greatest change in Spain's production structure has been the growth in value added relative to GDP in agricultural and construction industry exports. As the degree of domestic origin in both these industries is over 80%, the share of domestic value added in Spain's gross exports is the largest of the countries in our comparison (Chart 13). In the 1990s, Portugal was still dependent on its textile and leather industry, but the subsequent diversification in the country's economy reduced the value added relative to GDP of the industry's exports to a third of its previous level by 2009.

In Greece, the share of domestic value added in the country's gross exports grew by around a third between 1995 and 2008 due to developments in the country's production structure (Chart 12). While in 1995 almost 40% of the value added in Greece's exports relative to GDP came from the tourist industry, by 2005 the share had declined to around 20%. At the same time, the export share of domestic value added in transport and storage services grew to almost 40% relative to GDP. As the domestic value added relative to gross exports in Greece is around 90% in tourism and below 75% in transport services, this meant a decline in the share of domestic value added in the country's gross exports (Chart 12). In contrast, the contribution of agricultural products and foodstuffs to the domestic value added in exports relative to both GDP and gross exports remained unchanged over the years 1995–2009.

Chart 12.

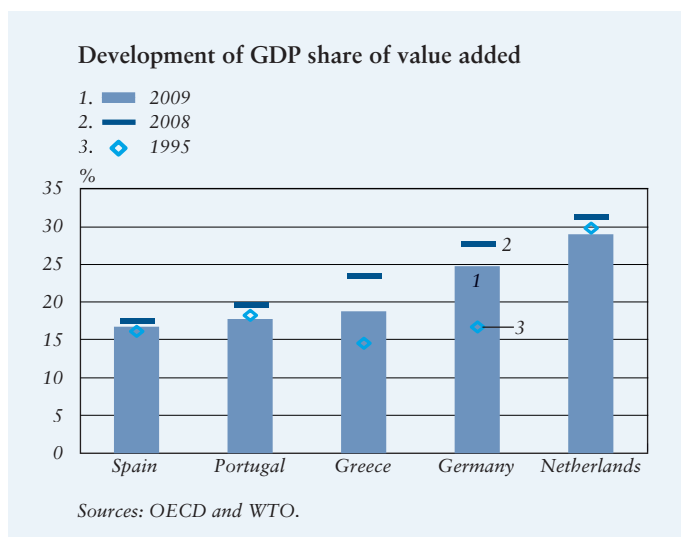
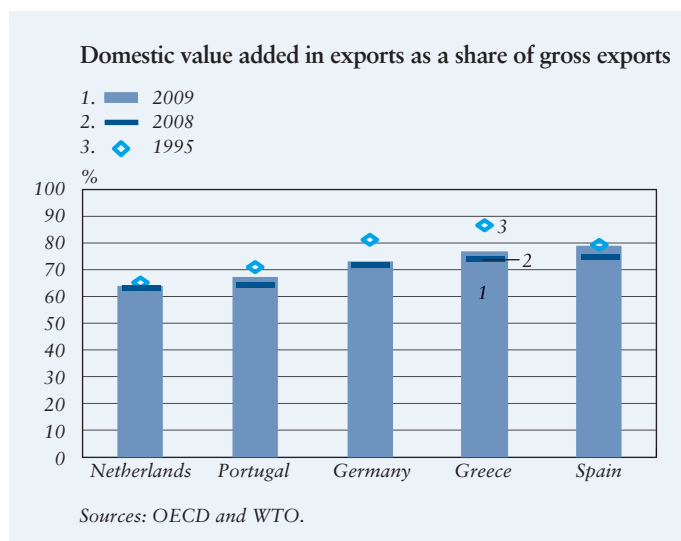


Chart 13.

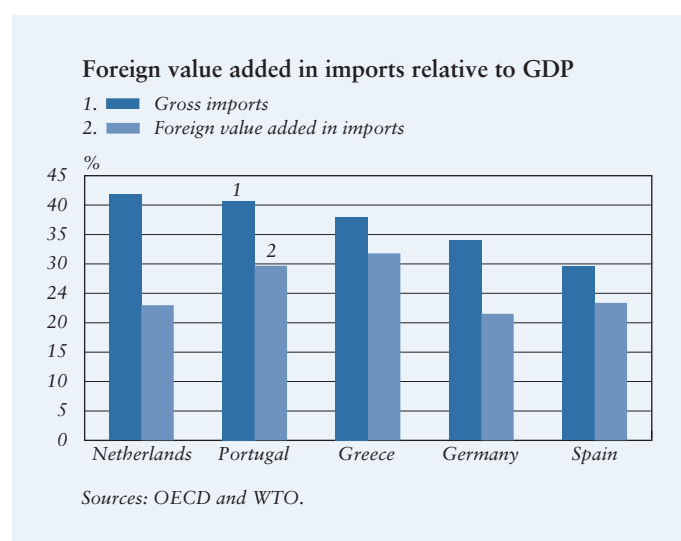


The share of domestic value added in exports relative to GDP has grown in Germany, as over recent decades the country has specialised in the production and export of high-value-added goods. Of the industrial sectors, the domestic value added in exports of machinery and equipment is particularly notable. At the same time, the share of domestic value added in gross exports has declined (Chart 13), as the foreign value added in exports of motor vehicles grew between 1995 and 2009. The Netherlands has specialised particularly in the production and export of high-value-added services. Although the domestic value added in the Netherlands' gross exports is only around 60% (Chart 13), the value added in exports accounts for almost a third of the country's GDP (Chart 12).

The different trade balances of different euro area countries does not derive from the domestic value added in exports, but from the foreign value added in imports. The value of gross imports relative to GDP grew an average 5% per annum in Portugal, Germany and the Netherlands over the years 2001–2007, but over 6% in Greece and Spain. The difference between gross imports and the foreign value added in imports relative to GDP is, however, considerably greater in Germany and the Netherlands than in Greece, Spain or Portugal (Chart 14). The difference tells us that German and Dutch imports are weighted towards low-value-added items like raw materials, which the countries process and then re-export. On the other hand, many of the goods imported into

Germany or the Netherlands contain German or Dutch value added that is not visible in the gross statistics. The production structures of Greece and Portugal, in particular, are nondiversified, and these countries' industrial output is therefore dependent on the import of intermediate goods, while consumer demand is focused on final goods produced abroad. Greek and Portuguese domestic demand and investment contain more foreign value added than in Germany or the Netherlands, and therefore growth in domestic demand in Greece and Portugal boosts imports more strongly than in Germany and the Netherlands. Moreover, Greece and Portugal import goods with a higher share of foreign value added than Germany and the Netherlands. As Spain's business structure is more diversified than those of Portugal or Greece, the GDP share of foreign value added in imports is smaller.

Chart 14.



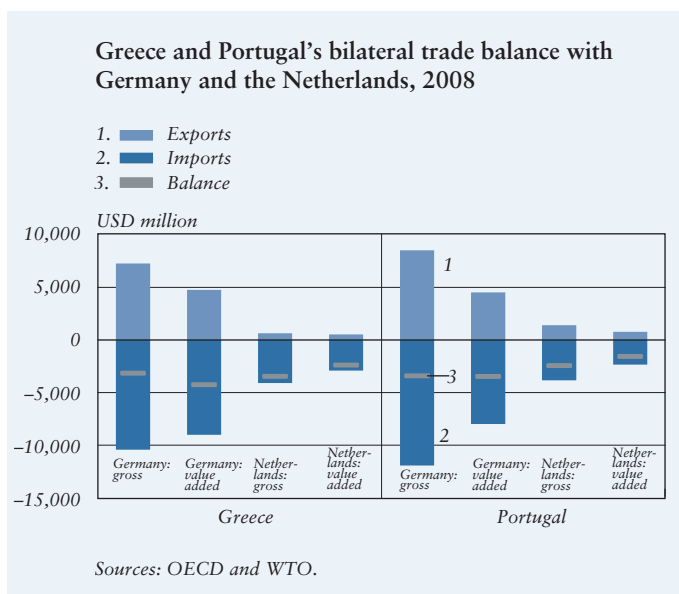
*A value-added examination of foreign trade provides a more precise picture of imbalances in world trade than is revealed by a gross-based examination.*

If we take together the domestic value added in exports and the foreign value added in imports relative to a trading partner, it is possible to calculate countries' bilateral value-added-based trade balance (Chart 15). Greece's deficit with Germany in 2008 was approximately 10% deeper on a value-added basis than when calculated on a gross basis. The difference was due primarily to Greece's shipping companies, where the share of domestic value added in exports is considerably smaller than the value of gross exports. On the other hand, in imports from Germany the share of value added was also less than the value of gross imports. On a gross basis, over 30% of Greek imports from Germany comprised motor vehicles and oil, but on a value-added basis, less than 20%. In relation to the Netherlands, the Greek deficit is smaller, as for the largest

groups of goods imported from the Netherlands – foodstuffs, fuels and electronic and optical equipment – the Dutch value added is 35% smaller than the gross figures.

Portugal's trade deficit with Germany was in 2008 equally as deep on a value-added basis as on a gross basis. The domestic value added in Portuguese exports to Germany is reduced by the marginal level of value added in textiles and chemicals relative to gross exports, while, for its part, the German value added in imports from Germany is reduced by the smaller German exports of value added relative to gross exports of electronic and optical equipment. From the Netherlands, Portugal imports foodstuffs and electronic equipment, which reduces the value added in imports relative to gross exports. Spain's trade deficit with Germany and the Netherlands was almost equally deep on both a value-added basis and a gross basis, even if the value-added figures for both imports and exports and were around 35% smaller than the gross figures.

Chart 15.



### Statistics reveal the complexity of world trade

The database of foreign trade statistics calculated on a value-added basis compiled in cooperation between the OECD and WTO facilitates a country-by-country and industry-by-industry examination of the value-added shares of imports and exports. The value-added-based statistics reveal how the emergence of global value chains has reduced the importance of national

markets at the same time as production has been broken down into ever smaller parts. In the statistics, this splitting of production is reflected in, for example, the position of Germany as simultaneously both an important importer and an important exporter of motor vehicles, and the fact that its neighbours have become closely integrated into the value chain of automobile manufacture. The value-added-based statistics also emphasise the significance of services as a source of added value, whether in the case of direct exports of services or indirect export of services as part of an industrial production process.

A value-added examination of foreign trade provides a more precise picture of imbalances in world trade than is revealed by a gross-based examination, as the value of intermediate goods and services is entered in the value-added statistics just once. For example, the US trade deficit with China, which has attracted a great deal of attention in discussions of trade policy, is around 40% smaller on a value-added calculation than on a gross basis, because imports from China contain value added in other countries. For its part, the Greek trade deficit with Germany is deeper in the value-added statistics than on a gross basis, as Greek imports from Germany contain products whose average German value added is greater than the Greek value added in goods exported from Greece to Germany. In the trade deficits of Greece and Portugal, in particular, imports of goods and services with a high level of

value added is a more significant factor than exports.

The larger the foreign value added in exports is in the light of the value-added-based statistics, the more important imports are to exports and the more integrated countries are in global value chains. The removal of obstacles to trade enhances a country's competitive position and the competitiveness of companies operating in the country. If a country imports intermediate goods as production inputs for its export industries, import controls and tariffs in practice constitute a tax on the country's own output and exports. Moreover, the costs of customs duties are cumulative throughout the production process if a product crosses national borders several times during the production process. Even when the purpose of import duties is to protect a country's own industries, they reduce the willingness of international corporations to invest in a country that imposes them.

The examination of international trade on a value-added basis does not dramatically alter our picture of trade flows or turn large trade deficits into surpluses. The statistics nevertheless reveal the complexity of foreign trade, which presents a challenge for trade and business policies and efforts to foster national competitiveness.

*Keywords: foreign trade, value added, balance of trade, globalisation*



# Organisation of the Bank of Finland

1 September 2013

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