



QUARTERLY REPORT ON THE EURO AREA

Volume 8 N° 2 (2009)

Highlights in this issue:

- Recent economic developments and short-term prospects
- Assessing the effectiveness of banking support measures
- A mid-year review of budgetary policy in the euro area
- Focus: The impact of the economic and financial crisis on potential growth
- Focus: Dealing with the economic and budgetary challenges posed by population ageing in times of crisis

**EUROPEAN
COMMISSION**

**DIRECTORATE-GENERAL FOR
ECONOMIC AND FINANCIAL AFFAIRS**



Table of contents

EDITORIAL.....	3
I. ECONOMIC AND FINANCIAL SITUATION IN THE EURO AREA	5
RECENT ECONOMIC AND FINANCIAL DEVELOPMENTS AND SHORT-TERM PROSPECTS	5
ASSESSING THE EFFECTIVENESS OF BANKING SUPPORT MEASURES	14
A MID-YEAR REVIEW OF BUDGETARY POLICY IN THE EURO AREA	21
II. FOCUS – THE IMPACT OF THE ECONOMIC AND FINANCIAL CRISIS ON POTENTIAL GROWTH.....	27
TRACING THE TRANSMISSION CHANNELS OF THE CRISIS ON POTENTIAL OUTPUT	27
LESSONS FROM PAST EPISODES OF FINANCIAL AND ECONOMIC CRISIS	29
ASSESSING THE IMPACT OF THE CRISIS ON EURO-AREA POTENTIAL OUTPUT	33
ADEQUATE POLICY RESPONSES ARE NEEDED.....	37
III. FOCUS – DEALING WITH THE ECONOMIC AND BUDGETARY CHALLENGES POSED BY POPULATION AGEING IN TIMES OF CRISIS.....	39
LONG-TERM DEMOGRAPHIC TRENDS	39
LABOUR FORCE PROJECTIONS.....	41
LABOUR PRODUCTIVITY AND POTENTIAL GROWTH	43
BUDGETARY PROJECTIONS.....	44
THE POTENTIAL IMPACT OF THE ECONOMIC CRISIS ON LONG-TERM BUDGETARY PROJECTIONS.....	46
POLICY IMPLICATIONS	48
IV. RECENT DG ECFIN PUBLICATIONS.....	50
 <i>BOXES:</i>	
1. BUDGETARY IMPLEMENTATION IN 2008	23
2. ASSESSMENT OF THE IMPACT OF THE FINANCIAL CRISIS IN THE 1990S IN JAPAN AND FINLAND: AN INDUSTRY-PERSPECTIVE.....	31
3. THE IMPACT OF THE FINANCIAL CRISIS ON GROWTH – SOME MODEL SIMULATIONS	35



Editorial

Like other advanced economies, the euro area is in the midst of its most severe economic crisis in the post-war era. Some very early signs of improvement have been visible in the past few weeks. Stock prices have been rising, and lower money and bond market spreads, along with reduced exchange rate volatility, signal some measure of stabilisation. In addition, business and consumer confidence has improved over the past two months in the euro area while some 'green shoots' have also been springing up in the global economy since the beginning of the year, particularly in a number of emerging markets. Thus, the worst seems to be behind us in terms of GDP contraction and our spring forecast predicts a subdued recovery for 2010.

However, we should not be premature and think that the crisis is over. Economic activity remains depressed, with GDP in the first quarter showing the fastest rate of contraction in decades. The current level of confidence indicators is still consistent with a contraction in activity. Negative growth surprises could result from substantial inventory corrections. Rising unemployment could further shatter confidence and weigh heavily on recovery. In addition, while the financial system seems to have stabilised, banks' balance sheets remain fragile. Moreover, short-term volatility in financial markets remains elevated compared to pre-crisis levels.

On a more positive note, the EU is delivering. The EU's strong and coordinated policy response has provided considerable support to the economy, as evidenced by various indicators. Our assessment of the progress made with the European Economic Recovery Plan (EERP) – which was endorsed by the December 2008 European Council – is encouraging. While the assessment can only be preliminary at this stage, the measures undertaken by Member States are broadly in line with the principles laid down in the EERP. They are for the most part timely, targeted, temporary, coordinated and consistent with the euro-area's long-term structural reform agenda. One of the main messages to be drawn from our analysis is that the action taken so far amounts to a strong and focused response to the crisis. Gross errors made in past crises have so far been avoided.

However, there are some indications that, in their recovery efforts, Member States' policy reforms may accentuate some of the pre-crisis drivers of competitiveness divergence. Future recovery steps should aim more to reduce harmful competitiveness divergence, for example, by boosting productivity in countries with weak competitiveness.

Euro-area policy-makers have implemented sizeable financial rescue packages. In this issue of our Quarterly Report on the Euro Area we present an assessment of the effectiveness of the banking support measures taken by Member States since autumn 2008. The measures have provided financial institutions with substantial public resources, mainly in the form of recapitalisation, debt guarantees, asset swaps and, to a lesser extent, asset reliefs. Capital injections by government have allowed banks' capital to stabilise despite large asset write-downs. State guarantees on securities issues have been a significant bank support measure in all Member States. State-guaranteed issues have increased considerably without signs of crowding out of non-guaranteed issuance. Net issuance of debt securities by banks has returned to pre-crisis levels. Moreover, the functioning of interbank markets has improved significantly although the return to conditions considered to be normal before the financial crisis has been only partial.

Beyond the immediate response to the crisis, we need a consistent and coordinated strategy to ensure that the euro-area economy does not get trapped in a sluggish and disappointing recovery.

On the financial side, bank balance sheets are still fragile and there is considerable uncertainty about the capacity of many banks to absorb losses linked to assets that may become impaired as the effects of the economic down-cycle feed through. A consistent and coordinated strategy is needed to fully restore investor confidence and pave the way for the restructuring the banking system needs. Such a strategy should focus on removing investors' uncertainty of the quality of banks' balance sheets.

More generally, in addition to restoring the health of the banking sector, the faults of the financial system that have been so painfully exposed in the current turmoil must be fixed. We need to put in place a new and more effective supervisory framework. The European Commission therefore presented a Communication on 27 May 2009 – broadly endorsed by the European Council of 18/19 June – setting out the way forward to establish a new framework for macro- and micro-prudential supervision. Following on from the report of the de Larosière group, it proposes a European Systemic Risk Board, which will monitor and assess potential threats to financial stability and, where necessary, issue recommendations for action. It also recommends that a European System of Financial Supervisors be established, aimed at safeguarding financial soundness in individual financial firms and protecting consumers of financial services. Moreover, it appears equally important to make rapid progress on work to build a comprehensive European framework for the management of financial crises. The European Union continues to take the lead on supervisory and regulatory reform and is promoting these reforms in international fora.

The key challenge regarding macroeconomic and structural policies is to continue to provide support to the economy as long as necessary without compromising the stability-oriented objectives in the medium to long term. Policy-makers should prepare a credible strategy for fiscal policy so as to be able gradually to withdraw the stimulus once the recovery takes hold. Eventually, budgetary developments will need to be put back on a sustainable path. A broad reflection is also needed on the role and function of automatic stabilisers, the aim being to strengthen their anti-cyclical properties without hampering efficient allocation of resources and triggering perverse incentives. Monetary policy will have to continue to ensure that inflation expectations remain anchored in the medium run. Moreover, reflection is needed on the role of asset prices for the conduct of macroeconomic policy. Short-term structural measures that slow adjustment should be avoided and withdrawn as soon as the recovery is well established.

Finally, we need to address the medium- to long-term consequences of financial crises on potential growth. As discussed in the first focus section of the report, historical evidence shows that severe financial crises tend to have a permanent negative effect on the level of output. Available evidence also points to a substantial risk of a lasting drop in productivity growth after recessions. To contain permanent losses in the level of potential output and reduce the risks of a lasting deceleration of potential growth, timely and appropriate policy responses are crucial. In addition to addressing disruptions in financial markets, policy-makers need to limit the adverse impact of the crisis on R&D and physical investment by stepping up investment support. Similarly, the necessary restructuring of sectors and businesses – although politically challenging – should not be hampered so as to avoid any permanent efficiency losses. Moreover, policies should enhance adjustment capacities in the labour market, e.g. with targeted action to improve employability and training. Protectionist policies undermining the Single Market and measures reducing labour supply need to be avoided at all costs.

Crisis-related risk to productivity and growth trends are all the more worrying as ageing will soon start to affect our economies. Our long-term projections indicate that the budgetary consequence of ageing can be substantial. Moreover, GDP growth potential is projected to decline already in the next decade on account of demographic trends. We therefore need to concentrate all our efforts on implementing policies that are intertemporally consistent and designed to resolve this crisis quickly and increase our growth potential.

MARCO BUTI

DIRECTOR GENERAL



I. Economic and financial situation in the euro area

Sizeable policy interventions and early signs of 'green shoots' in real activity seem to have succeeded in bringing some degree of stabilisation to the financial system. This has been reflected in rising stock prices, lower money and bond market spreads. However, short-term volatility remains high and financial uncertainty elevated compared to pre-crisis levels. Regarding the real side of the economy, the first quarter of 2009 witnessed the worst rate of GDP contraction since at least the 1970s. The contraction was mostly driven by an inventory adjustment and another sharp fall in investment. Thanks to the deceleration of consumer price inflation and some support from nominal disposable income, the slump in private consumption has so far remained comparatively contained. Nevertheless, dismal labour market prospects may have a dampening effect on consumer spending in the quarters to come. While world trade remains depressed, its previous free fall seems to have come to a halt. Moreover, improved global prospects, mostly in some emerging markets, have spilled over into a modest pick-up of confidence in the euro area. This suggests that the worst is behind us in terms of GDP contraction, although indicators of the real economy remain very weak and prospects of a return to growth are still very distant.

The substantial banking support measures implemented by the Member States since autumn 2008 have helped to avert financial meltdown. Though a final assessment of their effectiveness would be premature, the measures have had a positive impact on banks' capital and access to wholesale funding, but the situation remains fragile. The aggregate level of bank capital in the euro area has stabilised under the opposing influences of further asset write-downs and capital injections by government. In the absence of these capital injections, there would have been a sharp fall in bank capital, with obvious implications for solvency. Developments in price indicators of financial distress suggest that the functioning of interbank markets has improved significantly. However, the convergence process towards conditions considered to be normal before the financial crisis has been partial and unsteady. The deceleration in bank lending has continued in recent months, reflecting predominantly demand weakness but also supply factors in the banking sector. Overall, the situation in the sector remains fragile and further bank balance sheet adjustment will be needed. In particular, recent ECB estimates suggest that further significant asset write-downs are still to be expected.

While the euro-area economy is in the midst of its deepest and most widespread recession in the post-war era, budgetary policy provides substantial support to economic activity. The flipside of the coin is a sharp increase in budget deficits and debts. From its low in 2007, the euro-area debt to GDP ratio is projected to increase by 18 pp to reach 84% of GDP in 2010, with the deficit climbing to 6.5% of GDP. The high deficit levels suggest further rises in the debt ratio in the years beyond 2010. Coupled with the expected increases in age-related expenditure, a slowdown in potential growth and possible calls on government guarantees extended in the context of financial rescue packages, this might put significant pressure on government finances for the years to come.

1. Recent economic and financial developments and short-term prospects*

Most financial markets are showing encouraging signs of stabilization although conditions in the global financial system remain fragile. The improvement in financial markets began in early March and was reflected in both increasing stock prices and narrowing credit market spreads. At the same time, rising loan defaults continue to weigh on banks' balance sheets. All in all, while it is too early to gauge whether the recent improvement in financial markets can be sustained, 'green shoots' in sentiment indicators

and renewed confidence on financial markets are adding to increasing evidence that the economy might have the worst behind it.

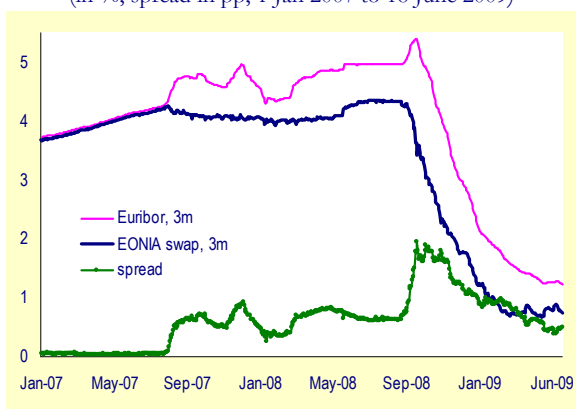
Money and bond markets point to further drops in spreads

The ECB has provided further monetary policy stimulus to the euro-area economy over the last three months. It lowered its rate on the main refinancing operations of the Eurosystem in two steps, from 1.5% in March to 1.0% in May, thus bringing the total reduction in its key interest rate to 325 bps since the start of the present easing cycle last October. In addition, the ECB also implemented a number of 'non-standard' measures. First, in addition to the existing

* Section prepared by Aurora Mordonu and Martin Hradisky.

liquidity-providing operations, it introduced longer-term repos with a maturity of 12 months. Second, it decided to purchase around EUR 60 billion of euro-denominated covered bonds issued in the euro area over the next 12 months. Third, in order to support its financing initiatives, including lending programmes to SME, the EIB became an eligible counterparty in the Eurosystem's monetary policy operations. Fourth, the ECB announced the extension of the current (wider) collateral standards through to the end of 2010.

Graph 1: Euro-area money market
(in %, spread in pp, 1 Jan 2007 to 18 June 2009)



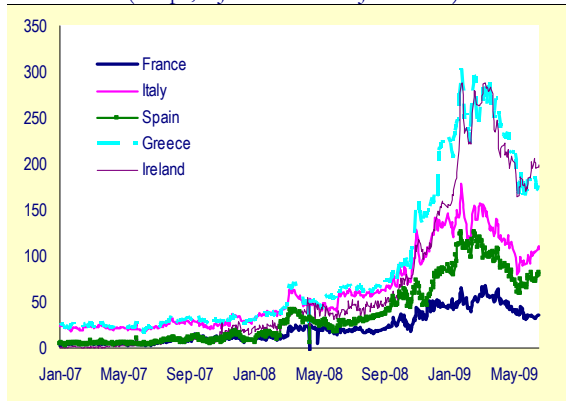
Source: EcoWin.

Euro-area interbank rates have reacted positively to this supplementary monetary policy easing and to the comprehensive rescue packages put in place by governments to support the banking system (see also Section 2 'Assessing the effectiveness of banking support measures'). The 3-month Euribor declined from slightly above 1.5% at the end of March 2009 to around 1.25% by mid-June 2009 (Graph 1). The decline reflects a downward movement in risk premiums, which more than compensated for the slight increase in risk-free rates in recent months, amid some short-term volatility. Indeed, risk premiums, measured by 3-month interbank spreads (the difference between unsecured money market rates and risk-free interest rates with similar maturity) declined to around 50 bps on 18 June, down from 80 bps at the end of March 2009 and a peak of 200 bps in October 2008. While the latest ECB Bank Lending Survey from April 2009 is consistent with an improvement in banks' access to funds, the interbank spreads still remain significantly above the levels observed during the

pre-crisis period and financial institutions continue to hoard cash.

In the bond markets, first rate sovereign bond yields have increased in recent months as growing confidence in the global economy's recovery prospects has lowered demand for fixed-income assets. However, the higher financing needs of public authorities also put upward pressure on government bond yields. In particular, the yield on the 10-year Bund rose from 3% at the end of March 2009 to slightly more than 3.55% by mid-June 2009. At the same time, yield spreads on euro-denominated government bonds relative to the German Bund have narrowed since March 2009, albeit from historically high levels, reflecting declines in sovereign credit risk amid improvement in economic sentiment and lower risk aversion in general. On 18 June, the sovereign spreads over the German Bund were at their highest in Greece and Ireland, at 199 bps and 177 bps respectively. They had declined by, respectively, 95 and 49 bps since March 2009.

Graph 2: 10-year government bond spreads to Germany
(in bps, 1 Jan 2007 to 18 June 2009)



Source: EcoWin.

But money and credit growth is still decelerating

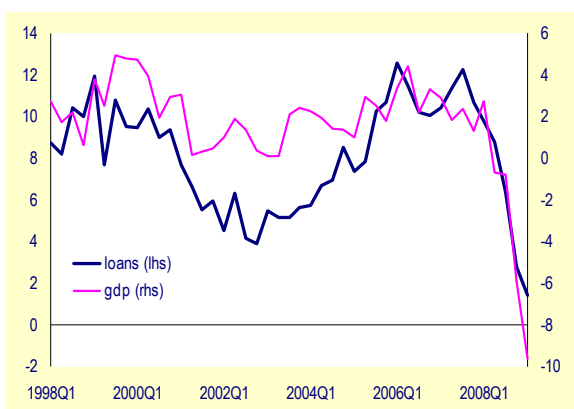
In recent months, money and credit growth has been affected by the financial market turmoil, weak economic activity as well as portfolio shifts due to a sharply steepening yield curve (following the rapid reduction in the ECB's key rate). Although there are some signs that the pace of deceleration of M3 growth has eased recently, the strong expansion of base money at the end of



2008 is so far not reflected in broader monetary aggregates. Among the main M3 counterparts, loans granted to the euro-area private sector confirm an ongoing process of deleveraging in the private sector. The annual growth rate of loans to the private sector decreased to 2.4% in April, down from 5.0% in January. The deceleration of credit to the private sector was partly offset by a significant increase in credit extended to the general government.

The ongoing slowdown in credit growth mainly reflects demand factors such as the moderation of economic activity and the contracting housing market. Looking at euro-area GDP growth and loan growth to the private sector (Graph 3), the co-movement over the last ten years is striking.

Graph 3: Private sector loans and real GDP, euro area
(annualised q-o-q growth in %, 1998Q1-2009Q1)



Source: EcoWin.

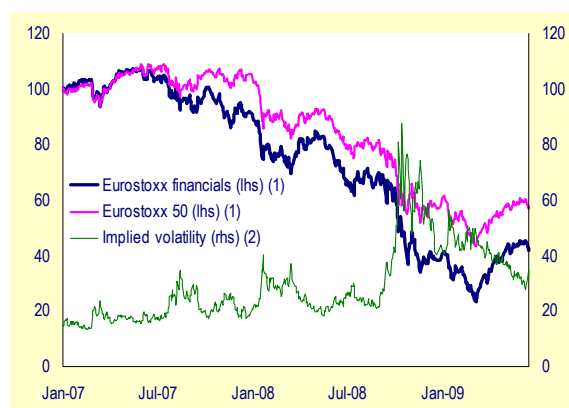
However, supply-side factors as measured by banks' credit conditions also seem to have played a role. In this respect, the ECB's April 2009 bank lending survey for the euro area reported a further tightening of credit standards amid a weak macroeconomic and/or industry/firm-specific outlook, although the pace of tightening eased compared to the last quarter of 2008. The net percentage of banks reporting a tightening of credit standards applied on loans and credit lines to enterprises was 43% in 2009Q1 (compared to 64% in 2008Q4). The respective figures for loans to households for house purchases and for consumer credit were somewhat lower, at 28% (down from 41% a quarter before) and 26% (down from 42%). At the same time, banks struggled to reduce their leverage and tried to return to profitability.

Financing conditions are easing further

Financing conditions in the euro area have improved in recent months, primarily reflecting the recent relief in financial markets.

Euro-area equity prices have increased during the period under review amid fairly strong evidence of an inflexion point in the business cycle, which also contributed to a decline in stock market volatility (Graph 4). However, stock prices broadly stabilised in the first half of June 2009 as investors took profits and uncertainty over the sustainability of the latest stock market rally intensified. As of 18 June 2009, the Eurostoxx50 had regained 33% from its low on 9 March 2009, returning roughly to its end of 2008 levels. Over the same period, the Eurostoxx sub-index for financial institutions outperformed the overall index, posting a 84% increase.

Graph 4: Stock prices and implied volatility of stock prices, euro area (2 Jan 2007 to 18 June 2009)



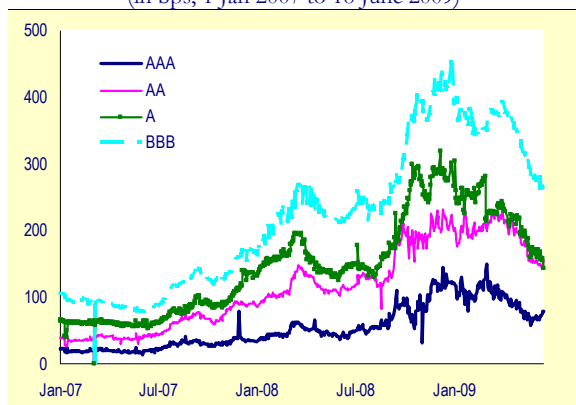
(1) Index Jan 2007 = 100.

(2) In percentage points.

Source: EcoWin.

The general reduction in risk premiums observed during the period under review put downward pressure on corporate bond spreads over the German Bund. However, corporate bond markets still remain tight from a historical perspective (Graph 5). In particular, AAA spreads have declined by 22 bps since the end of March 2009 to roughly 78 bps on 18 June 2009, while BBB spreads have come down by 121 bps to 263 bps.

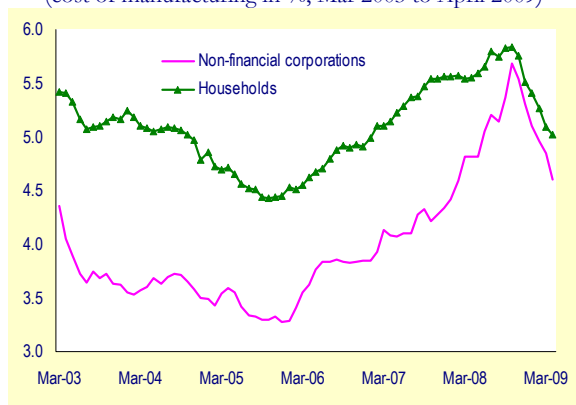
Graph 5: Corporate bond spreads, euro area
(in bps, 1 Jan 2007 to 18 June 2009)



Source: EcoWin.

According to the European Commission's Composite Nominal Financing Cost Indicator (CFCI), euro-area financing costs for non-financial corporations and households have both declined by around 110 bps and 80 bps since their respective peaks in October 2008 (Graph 6).

Graph 6: Composite financial indicator, euro area
(cost of manufacturing in %, Mar 2003 to April 2009)



Source: EcoWin.

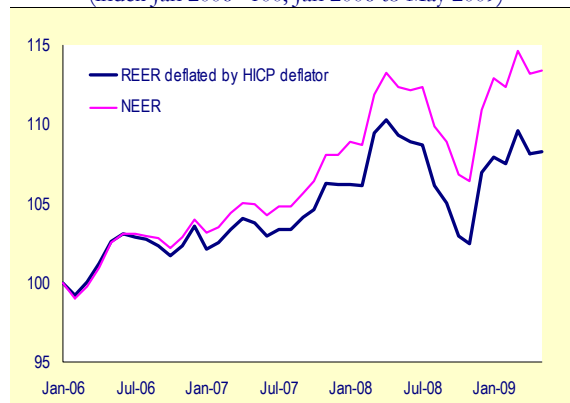
For non-financial corporations, the cost of bank loans, equity capital and market debt all declined, due to lower interest rates, rising stock prices and narrowing corporate bond spreads, respectively. For households, the cost of all types of loans continued to decline as both retail and market interest rates fell further. As a result, the April CFCI for households stood at its lowest level since July 2007.

Exchange rates

Exchange rate developments over the last few months have been largely driven by portfolio shifts as a result of changes in risk aversion and further unconventional measures taken by leading central banks. At the same time, volatility in foreign exchange rate markets has continued to recede, although it still remains significantly above the levels recorded before the onset of the present financial crisis in the summer of 2007.

Following its peak in March 2009, the nominal effective exchange rate of the euro declined somewhat before stabilising in May 2009, albeit at high levels from a historical perspective. In real effective terms, i.e. taking into account inflation differentials between the euro area and its trading partners, the effective exchange rate of the euro closely mirrored developments in its nominal value and stood some 8% above historical averages in May 2009. The euro is thus looking on the strong side.

Graph 7: Nominal (NEER) and real (REER) effective exchange rate of the euro
(index Jan 2006=100, Jan 2006 to May 2009)



Source: EcoWin.

These developments in the external value of the euro mask significant changes in its bilateral exchange rates against the world's major currencies. Indeed, the exchange rate of the euro against the US dollar fluctuated strongly in recent months as expectations of further monetary policy easing by the ECB gave way to increasing confidence that the world might be past the worst of the crisis, which in turn reduced risk aversion in international financial markets and curbed safe-haven flows to the US.

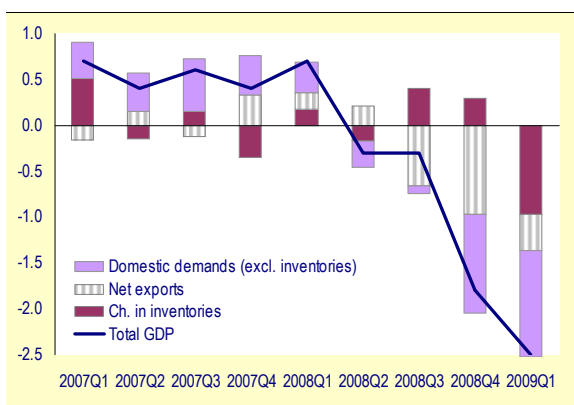


Consequently, after depreciating by 5% against the dollar between 26 March and 21 April, the euro rebounded by 7% by mid-June. On the other hand, the euro fluctuated within a relatively narrow range against the Japanese yen (between 125 and 135 yen per euro) and remained broadly stable against the Swiss franc and Central European currencies. Finally, the single currency depreciated by 8% against the pound sterling as markets came to believe that the past falls in the pound were not fully justified by fundamentals.

The worst rate of GDP contraction in the euro area since at least the 1970s

Turning to the real side of the economy, activity in the euro area took another dip in the first quarter of 2009. With GDP dropping by 2.5% compared to the previous quarter, the euro-area economy suffered its worst rate of GDP contraction since at least the 1970s. This followed a downwardly revised 1.8% contraction in the last quarter of 2008 and marked the fourth consecutive quarterly decline in GDP. The contraction was broad-based across euro-area countries, except for Cyprus where activity remained flat. Of the Member States with data available so far, the fall in GDP was particularly sharp in Slovakia (-11.4%), Slovenia (-6.4%) and Germany (-3.8%). Conversely, Portugal and France held up better than expected, with milder than forecast contractions in output.

Graph 8: Contribution to real GDP growth, euro area (q-o-q contributions in pp, 2007Q1 to 2009Q1)

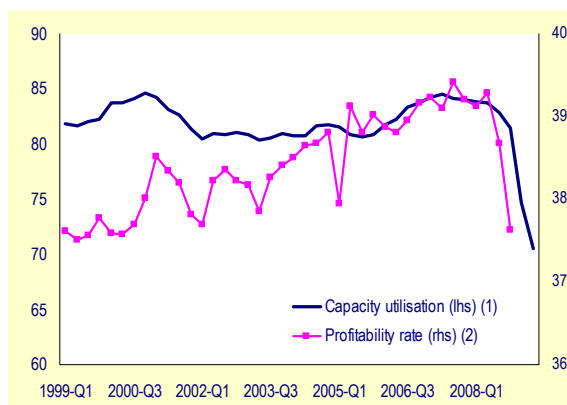


Source: Commission services.

Investment was again one of the main sources of weakness in activity. Gross fixed capital

formation contracted by 4.2% (q-o-q), thereby subtracting as much as 0.9 pp from GDP growth. The breakdown of investment spending by sector shows that the contraction was mostly due to non-construction investment (essentially machinery and transport equipment), indicating that business investment is now driving the investment cycle. In contrast, the construction sector registered its smallest quarterly drop since the second quarter of 2008, with housing investment even posting a marginal increase. Faint signs of stabilisation have been also recently visible in Eurostat's monthly indicator of construction output (available to April). This may be an indication that the easing of financing conditions together with fiscal support measures have recently begun to help contain the sector's contraction. Nevertheless, confidence indicators in the construction sector have deteriorated further in recent months, suggesting that the sector's dynamics remains negative.

Graph 9: Capacity utilisation and corporate profitability rates, euro area (in %, 1999Q1 to 2009Q1)



(1) In % of total capacity in manufacturing.

(2) Ratio of gross operating surplus and mixed income to gross value added in the non-financial corporate sector.

Source: Commission services.

The extreme weakness of business investment is visible across a broad range of data. The April 2009 reading of the quarterly manufacturing survey indicates a further fall in capacity utilisation, which now stands at 70.5 % in the euro area – the lowest since 1990. According to the biannual industrial investment survey carried out in March and April this year, 2009 real industrial investment is expected to drop by 20% in the euro area in 2009, which is a sharp downward revision from the 5% fall registered in

Table 1: Euro-area growth components

	2008 Q1	2008 Q2	2008 Q3	2008 Q4	2009 Q1	Carryover to 2009	Spring 2009 forecast	
							2009	2010
							change on prev. year	
Percentage change on previous period, volumes								
GDP	0.7	-0.3	-0.3	-1.8	-2.5	-4.0	-4.0	-0.1
Private consumption	0.1	-0.3	0.1	-0.4	-0.5	-0.8	-0.9	-0.3
Government consumption	0.4	0.8	0.5	0.4	0.0	0.8	2.0	1.7
Gross fixed capital formation	1.1	-1.3	-1.0	-4.3	-4.2	-8.1	-10.4	-2.7
Exports of goods and services	1.6	-0.3	-0.6	-7.2	-8.1	-13.5	-13.2	-0.3
Imports of goods and services	1.2	-0.8	1.1	-5.1	-7.2	-10.5	-10.5	-0.8
Percentage point contribution to change in GDP								
Private consumption	0.0	-0.2	0.0	-0.2	-0.3	-0.5	-0.5	-0.2
Government consumption	0.1	0.2	0.1	0.1	0.0	0.1	0.4	0.4
Gross fixed capital formation	0.2	-0.3	-0.2	-1.0	-0.9	-1.8	-2.3	-0.6
Changes in inventories	0.1	-0.2	0.4	0.3	-1.0	-0.3	-0.3	0.0
Net exports	0.2	0.2	-0.7	-1.0	-0.4	-1.7	-1.3	0.2

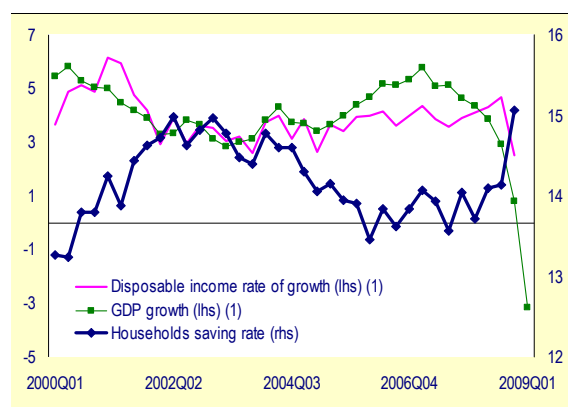
Source: Commission services.

the previous survey in autumn 2008. The latest ECB Bank Lending Survey reported that the continued sharp decline in financing needs for fixed investment was the main cause of the negative net demand for loans by enterprises in Q1-2009. Finally, the profitability of non-financial corporations has been severely hit by the recession. It deteriorated further in Q4-2008, with the gross profit share approaching its lowest level since 1999 (Graph 9).

Household consumption contracted by 0.5% in the first quarter of 2009, still holding up relatively well compared to the other GDP components. The annual rate of contraction of household consumption stood at 1.1% y-o-y in the first quarter, while GDP contracted by a much sharper 4.8% over the same period. The comparative resilience of consumption at a time when the saving rate is on the rise (to 15.1% in Q4-2008, its highest level since the beginning of the decade) is explained by two factors: the ongoing strong disinflation process and some support from nominal disposable income. In the first quarter of 2009, inflation measured by the consumption deflator remained on the downward path it had been on since the second half of 2008, with y-o-y growth in prices down to 0.5%. This downward path is explained by a combination of weak activity, falling commodity prices and strong base effects from past commodity price hikes.

At the end of last year (last available data), growth in disposable income was holding up relatively well compared with GDP, with y-o-y nominal growth at 2.5% against 0.6% for GDP (Graph 10). This comparative strength can partly be explained by wage stickiness and lags in the response of employment to the slump in activity, which have so far dampened the impact of the recession on compensation. Automatic stabilisers have also played a role through a sharp deceleration in tax growth.

Graph 10: Disposable income and GDP growth, euro area (in %, 1999 Q1 to 2009Q1)



(1) y-o-y changes.

Source: Commission services.

The effects of the two factors currently supporting household consumption are expected to evolve differently during 2009. The



Table 2: Selected euro-area and national leading indicators, 2008-2009

	SENT. IND ¹⁾	BCI ²⁾	OECD ³⁾	PMI Man. ⁴⁾	PMI Ser ⁵⁾	IFO ⁶⁾	NBB ⁷⁾	ZEW ⁸⁾
Long-term average	101	-	85.4	-	-	96.8	-9.5	26.5
May 2008	98.5	0.64	104.9	50.6	50.6	96.8	96.8	-41.4
June 2008	95.9	0.27	104.1	49.2	49.1	94.3	94.3	-52.4
July 2008	90.9	-0.02	103.2	47.4	48.3	89.6	89.6	-63.9
August 2008	89.9	-0.07	102.2	47.6	48.5	86.8	86.8	-55.5
September 2008	88.9	-0.55	101.0	45.0	48.4	86.3	86.3	-41.1
October 2008	81.6	-1.04	99.8	41.1	45.8	81.4	81.4	-63.0
November 2008	76.8	-1.75	98.8	35.6	42.5	77.8	77.8	-53.5
December 2008	68.9	-2.68	98.0	33.9	42.1	77.0	77.0	-45.2
January 2009	67.2	-2.77	97.6	34.4	42.2	79.5	79.5	-31.0
February 2009	65.3	-3.25	97.4	33.5	39.2	81.0	81.0	-5.8
March 2009	64.7	-3.42	97.7	33.9	40.9	81.6	81.6	-3.5
April 2009	67.2	-3.26	-	36.8	43.8	83.9	83.9	13.0
May 2009	69.3	-3.17	-	40.7	44.8	85.9	85.9	31.1

Sources: 1) Economic sentiment indicator, DG ECFIN. 2) Business climate indicator, DG ECFIN. 3) Composite leading indicator. 4) Bloomberg Purchasing Managers Index, manufacturing. 5) Bloomberg Purchasing Manager Index, services. 6) Business expectations, West Germany. 7) National Bank of Belgium indicator for manufacturing. 8) ZEW Indicator of Economic Sentiment, Germany

disinflation process has clearly not reached its end, as shown by recent developments in HICP inflation, which stood at 0% (y-o-y) in May, down from 0.6% (y-o-y) in April. Inflation is forecast to remain low during the remainder of the year on account of the weak growth outlook and further base effects, although the risk of persistent and broad-based decreases in consumer prices remains low in the euro area. Low inflation will maintain a stimulating effect on consumption. In contrast, the relative resilience of disposable income should diminish as wage compensation is dampened by the ongoing progressive deterioration in the labour market. The pace of contraction of employment has increased steadily in the past three quarters to reach 0.8% q-o-q in Q1 while the unemployment rate has gained 2 pp since the beginning of 2008 and is now back at a level last seen in the late 1990s.

Turning to what is currently one of the biggest sources of weakness in demand, changes in inventories subtracted as much as 1.0 pp from GDP growth in the first quarter. The rapid inventory build-up registered in the last quarter of last year, despite the sharp GDP contraction, was thus reversed. This confirms the hypothesis that producers underestimated the scale of the recession at the end of last year, thereby accumulating excess inventories. While the

cyclical inventory adjustment clearly began at the start of the year, it is difficult to say how far it still has to go. Manufacturing surveys showed a significant decline in inventories in April and May but they remain well above their historical average, suggesting further cuts in stocks in the months to come.

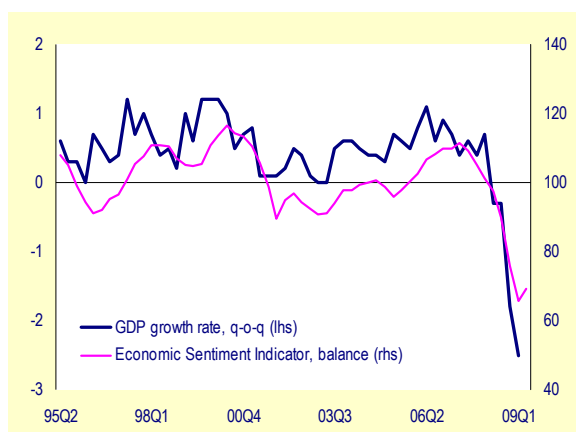
Green shoots stemming from soft data

As opposed to hard data, soft data have seen green shoots springing up throughout most euro-area countries. Most of the latest survey indicators point to more encouraging short-term economic prospects. The Economic Sentiment Indicator (ESI) for the euro area picked up in April (for the first time since May 2007) and remained on an upward trend in May. While in April the rebound occurred on account of improved sentiment from industry and consumers, the increase in May stemmed mainly from a significant improvement in the retail trade confidence indicator. The improvement in the ESI was broad-based across euro-area countries, with the trough being reached by most countries in March or a month earlier.

Similar improvements have been visible in other sentiment indicators. The IFO and NBB indexes continued to pick up in May, after the trough reached in December 2008. At the same time, the

euro-area PMI manufacturing recorded its sharpest increase in May since the launch of the series in 1997. The rise was broad-based across countries, with France, Italy and Spain showing PMI readings above pre-Lehman levels. The May reading of the PMI also improved for services, though more moderately. However, these are only 'green shoots' and the PMI manufacturing and services readings remain well below the 50 mark which indicates continued contraction in activity.

Graph 11: GDP growth and the Economic Sentiment Indicator (in %, 1996Q2 – 2009Q1)



Source: Commission services.

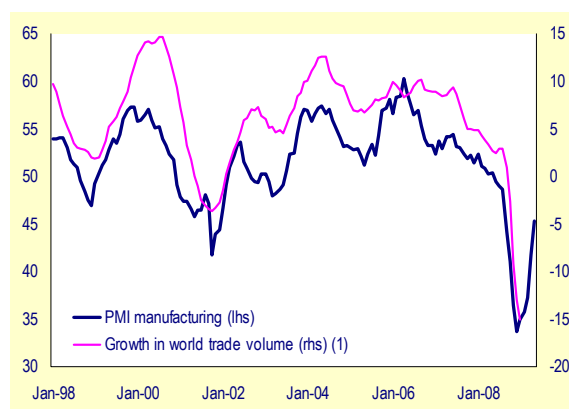
The pick-up in confidence in the euro area seems to have been driven mostly by signs of an inflection in the global environment (see below) and, possibly, an improvement in the inventory situation. However, it is so far mostly confined to the expectation parts of the surveys (i.e. companies have so far not reported an increase of their production) and the magnitude of the rebound remains relatively small. The few hard data so far available for the beginning of the second quarter are, at best, mixed. Both retail trade and construction output were somewhat up in April, but the series are volatile and remain in clear contraction mode on a year-on-year basis. More importantly, industrial production dropped further in April compared with March and the series' year-on-year rate of contraction now exceeds 20%. While the recent improvement in sentiment in the euro area is encouraging, there is still a long way to go from these green shoots to a solid recovery.

Early signs of improvements in the global economy

World trade deteriorated severely in the first quarter of 2009, but some signs of stabilisation have become noticeable more recently.

According to estimates by the Netherlands Bureau of Economic Analysis, world trade saw a sharp decline in the first quarter of this year (11.3% q-o-q and 15.1% y-o-y), the largest in the history of this series. Among the main industrialised economies, Japan suffered a dramatic fall in imports, i.e. 16.6% (q-o-q), and the US declined by 13.3% (q-o-q). Eurostat figures from national accounts also show that euro-area trade was not spared and declined further, with exports and imports -8.1% and -7.2% down q-o-q, respectively, resulting in a negative contribution to GDP growth of -0.3 pp. No Member State has escaped this contraction in trade.²

Graph 12: World trade and PMI (January 1998 to May 2009)



(1) y-o-y growth in 3-mma. Data cover the period January 1998 to March 2009.

Source: CPB Netherlands Bureau of Economic Policy Analysis, EcoWin and Bloomberg.

However, world trade has recently started to show some signs of stabilisation. After three consecutive months of sharp month-on-month contraction, world trade remained broadly flat in February and March, thus suggesting that the worst might be over. There have also been signs of a decrease in the pace of contraction of world

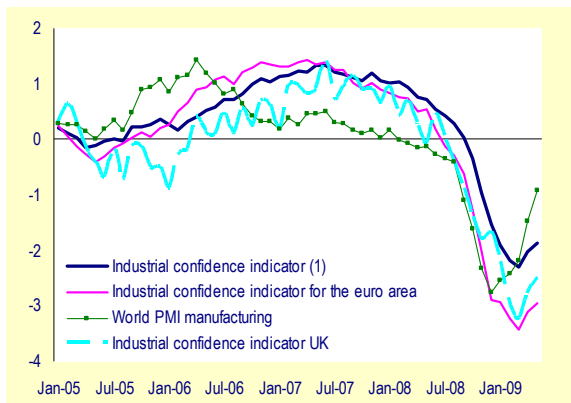
² The causes of the collapse in world trade and its implications for the euro area will be analysed in the next issue of the Quarterly Report on the Euro Area.



trade prices in recent months. Probably more significantly, the global PMI manufacturing index, which reached its inflection point in December 2008, picked up at an unprecedented rate in April and May, mostly due to a recovery in emerging markets, particularly in Asia and the BRICs. The index is now above the level it was at last September.

To what extent the euro area can take full advantage of the nascent rebound in world activity remains to be seen. So far, the main drivers of the rebound appear to be Asian emerging markets, which are not the most important outlet for euro-area exporters. In contrast, the rise in industry confidence has so far remained comparatively subdued in many of the euro-area's main trading partners. As shown in Graph 13, sentiment has not improved any more markedly in key trading partners such as new EU Member States or the UK than in the euro area itself.

Graph 13: **Industrial confidence indicators in euro area and its main trading partners**
(in points of standard deviation, Jan. 2005 to May 2009)



(1) Composite index for new EU Member States outside the euro area with 2000 GDP weights.

Source: Commission services.

affect all Member States to varying degrees, depending on the degree of trade openness, their exposure to the financial crisis and housing-market developments. It will also have an adverse impact on nearly all demand components, with the exception of government consumption and public investment. The latter will contribute positively to growth in 2009-2010, reflecting in part the budgetary stimuli taken within the framework of the European Economic Recovery Plan.

The growth outlook for the euro-area economy is marked by exceptional uncertainty, however. While the ambitious policy initiatives taken by governments and central banks since last autumn have prevented a systemic financial meltdown, financial markets and institutions remain under stress. The world economic situation continues to be exceptionally uncertain. Risks to the forecasts are sizeable and remain somewhat skewed to the downside. Of particular concern is the possibility that the negative feedback loop, from the deteriorating real economy to the still fragile financial sector, will intensify (e.g. via rising bad loans or cross-border contagion effects). This would reinforce the necessary deleveraging process, pushing the projected recovery in the real economy even further into the future. On the positive side, policy measures may be more effective than anticipated in restoring stability and confidence in financial markets, thereby supporting economic activity.

The pace of GDP contraction has begun to ease but output will not level off before the end of the year

The European Commission's spring 2009 economic forecast projects euro-area GDP to contract by 4% in 2009 as a whole. The quarterly pace of contraction will ease significantly as from the second quarter but output will not level off before the end of the year. The recession will

2. Assessing the effectiveness of banking support measures*

In October last year, EU Member States announced a coordinated effort to design rescue packages for their banking systems. As reported in past issues of this publication, these packages were implemented over the ensuing weeks and have provided financial institutions with substantial public support, mainly in the form of recapitalisation, debt guarantees, asset swaps and asset reliefs. While the ECB and other central banks implemented measures that foster banks' liquidity positions, the government schemes target banks' long-term financing needs. Recapitalisation measures are meant to boost financial institutions' capital base, which has been eroded by large write-downs on asset positions. State guarantees for bank liabilities in principle eliminate counter-party risks and thereby support banks' financing on debt markets. Asset relief measures target the root of the financial crisis, namely to remove uncertainty on the exposure to toxic or impaired assets on banks' books. Further measures include changes in accounting rules and deposit guarantees. The objective of this section is to make a first appraisal of the effectiveness of these measures.

While the banking support schemes were designed and implemented by individual Member States, they were established within a coordinated framework at EU level. This was set up through (i) agreement on common principles, most prominently with the Paris declaration of Heads of State or Government of the euro-area countries, (ii) guidance by the European Commission and the ECB on the design and pricing of the schemes and (iii) the European Commission's approval of the schemes and individual rescue operations under State aid rules. The objectives of these schemes are threefold:

- to avert the immediate threat to banking-sector stability that had emerged in particular after the bankruptcy of the US investment bank Lehman Brothers in mid-September;
- to promote a return to normal functioning in the interbank and other wholesale credit markets; and

- to underpin lending to the private non-financial sectors of the economy and thus mitigate the effects of any credit supply constraints.

Financial market developments that indicate whether or not these objectives are being achieved are discussed below. It should be borne in mind that these developments are likely also to reflect other factors – notably changes in the procedures for monetary policy operations, cuts in central banks' interest rates and the slump in real activity – as well as any effects of the rescue packages.

In this section, policy measures are considered effective if conditions on financial markets move towards those levels that were considered to be normal prior to the financial crisis, which, for the purpose at hand, amounts to comparing developments in key financial statistics before, during and after the financial crisis. However, it is important to note that a full return to pre-crisis levels is unlikely for at least two reasons. First, pre-crisis conditions were extraordinary in terms of prevailing perceptions of risks. But risk attitudes have considerably changed amid the financial crisis and are unlikely to revert to pre-crisis levels. Second, the economic outlook has deteriorated considerably in the meantime. While a large share of the deterioration may be attributed to the financial crisis, real economic activity is certain to have feedback effects on financial activity.

Stabilisation of banks' capital positions and their funding via debt markets

The form of public support, the amounts committed and the amounts effectively used differ notably across euro-area Member States (Table 3). Government-designed support measures reflect national differences in (i) the relative size of the banking sector, (ii) the relative reliance of banks on wholesale funding, (iii) their exposure to impaired assets, and (iv) the budgetary margins available. Most euro-area Member States provided both capital injections and state guarantees on bank debt. Spain, Slovenia and Finland introduced state guarantees, but have not envisaged capital injections, and only Cyprus, Malta and Slovakia have not

* Section prepared by Michael Thiel and Staffan Linden.



Table 3: Euro-area public interventions in the banking sector
(in % of GDP, Jun 2008 to Apr 2009) (1)

	Capital injections		Guarantees on bank liabilities		Relief of impaired asset		Liquidity and bank funding support		Total	
	approved	effective	approved	effective	approved	effective	approved	effective	approved	effective
Austria	5.0	1.7	25.7	5.1	0.4	0.4	1.6	1.5	32.8	8.7
Belgium	4.2	5.7	70.8	16.3	4.2	4.2	NA	NR	79.2	26.2
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Germany	4.2	1.6	18.6	7.1	0.4	0.4	0.0	0.0	23.2	9.1
Greece	2.0	1.5	6.1	1.2	0.0	0.0	3.3	1.8	11.4	4.6
Spain	0.0	0.0	9.3	3.2	0.0	0.0	2.8	1.8	12.1	5.0
Finland	0.0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	27.7	0.0
France	1.2	0.8	16.6	4.5	0.2	0.2	0.0	0.0	18.1	5.6
Ireland	5.1	4.2	225.2	225.2	0.0	0.0	0.0	0.0	230.3	229.4
Italy	1.3	0.0	NA	0.0	0.0	0.0	0.0	0.0	1.3	0.0
Luxemburg	6.9	7.9	12.4	NR	0.0	0.0	0.0	0.0	19.3	7.9
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Netherlands	13.9	13.9	34.3	7.7	3.9	3.9	0.0	7.5	52.2	33.1
Portugal	2.4	0.0	10.0	3.3	0.0	0.0	0.0	0.0	12.5	3.3
Slovenia	0.0	0.4	32.8	0.0	0.0	0.0	0.0	0.0	32.8	0.4
Slovakia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Euro area	3.0	1.9	20.5	8.7	0.6	0.6	0.5	0.8	24.6	12.0
Memo EU-27	2.9	1.8	24.6	8.1	0.4	0.4	2.5	2.6	30.5	13.0

(1) NA - Not available indicates that the amount is not available in the State aid decision. NR - Not reported indicates that the amount was not reported by the Member State in its reply to the EFC questionnaire.

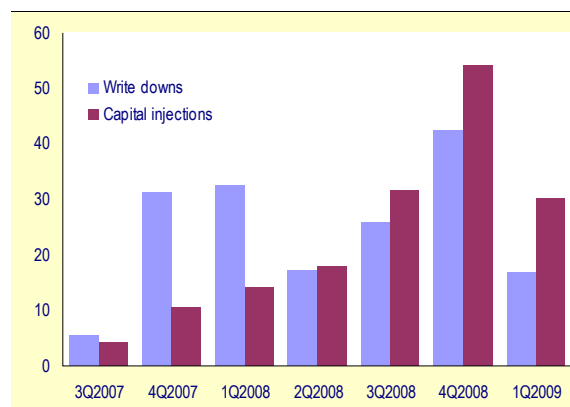
Source: Commission services.

implemented any kind of scheme yet.⁴

Changes to banks' capital have become a central gauge of financial soundness because banks' capital and reserves determine their capability to withstand losses. Two main factors are impacting on banks' desired capital ratios. First, asset write-downs are depleting capital. Second, market participants have become more risk-averse and expect banks to hold more and higher quality capital than required by internationally agreed standards. Under the influence of these two factors, public capital injections have been instrumental in stabilising banks' capital positions. Since the third quarter of 2008,⁵ capital injections have been considerably higher than write-downs (Graph 14). The outstanding amount of capital and reserves of euro-area

banks, as recorded in the ECB's aggregate balance sheet, increased by €74 billion or 4.4% in the period from July 2008 to March 2009. Euro-area Member States raised €128 billion of capital from external sources over that period.⁶

Graph 14: Bank write-downs and capital raised, main euro-area banks (billion EUR, 2007Q3 to 2009Q1)



Source: Bloomberg.

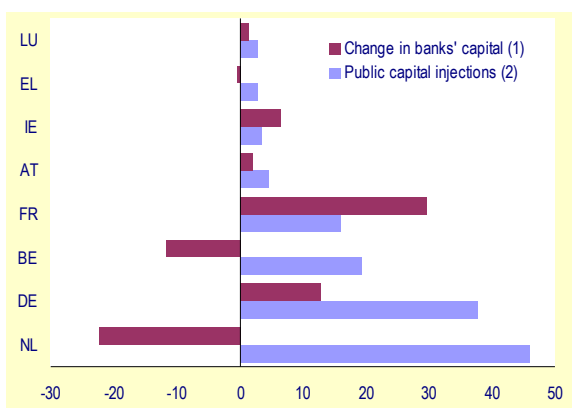
⁴ Some individual operations were carried out outside the general schemes. As a result, effective amounts are sometimes higher than approved amounts in the table. This is, in particular, the case for rescue operations put in place before the general scheme was implemented (e.g. in the Netherlands and Belgium) or for a specific bank (e.g. Landesbanken in Germany).

⁵ A comparison is made with the third quarter because some large-scale public intervention occurred in September before the general schemes were adopted.

⁶ There are a number of statistical problems with the 'capital and reserves' position in the aggregated balance sheets as published by the ECB, namely, that (i) the data are non-consolidated, (ii) the population of reporting banks has changed, and (iii) accounting practices still seem to differ across Member States.

While public capital injections broadly offset capital losses for the euro area as a whole, differences across Member States are quite marked. Although fully comparable data are not available on changes to bank capital and public capital injections, a comparison of the bars in Graph 15 suggests that Member States that are heavily engaged in public capital injections are the ones where banks were over-proportionally affected by the financial crisis. Bank capital deteriorated significantly in Belgium and the Netherlands, countries where governments have also intervened actively with capital injections. Germany and Austria provided capital to selected banks, which seems to have prevented capital erosion in both countries. Conversely, bank capital positions improved in a number of Member States that did not inject public capital, e.g. in Spain where bank capital was 13% higher in March than six months earlier and in Slovakia where the corresponding figure was 9%.

Graph 15: Capital increases and public capital injections in selected Member States (2008Q3 to 2009Q1, billion EUR)



(1) Changes in capital and reserves on the liability side of balance sheets (unconsolidated aggregate balance sheets of monetary financial institutions in the euro area).

(2) Information on public capital injections is from Member States.

Sources: ECB, Commission services based on information from Member States.

As the crisis has progressed, bank funding has become increasingly difficult, especially as regards interbank lending and the issuance of debt securities.⁷ Although the issuance of debt is

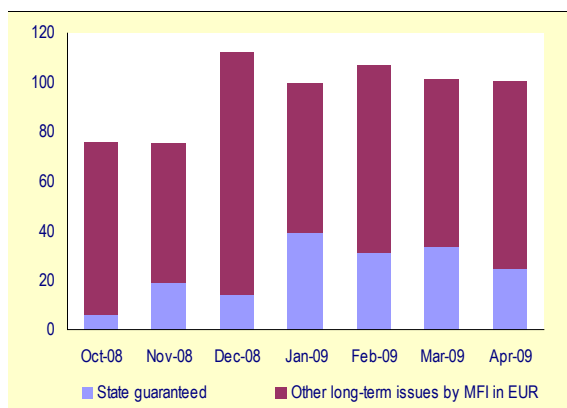
⁷ The quantitatively most important item on banks' liability side are deposits, including deposits from non-banks. Deposits from non-banks increased throughout the crisis period in the euro-area and all its Member States bar Ireland, Luxembourg and the Netherlands.

no substitute for bank capital, it can play an important role in securing banks' funding. Net issuance of euro-area banks' debt securities turned drastically negative in the run-up to the peak of the financial crisis, being minus €29 billion in September and minus €23 billion in October 2008 in seasonally-adjusted terms. This compares to a monthly average of plus €24 billion since the start of the euro and €36 billion between January 2006 and July 2008.

State guarantees on securities issuance by banks have accordingly been a significant bank support measure in all Member States that implemented banking support schemes. It can be seen from Table 3 that take-up rates for state guarantees, defined as amounts effectively used relative to total amounts committed, are lower than for recapitalisation. In early May, they varied between 30% or more in Germany, Spain and France and zero in Italy and Finland.

Graph 16: Issuance of state-guaranteed debt securities by euro-area banks

(securities in euro with maturity above 1 year, billion EUR, Oct. 2008 to Mar 2009)



Sources: Bloomberg, ECB.

Actual banks' issuance of state-guaranteed bonds gained pace in early January 2009, after traditionally low issuance activity in December. In the ECFIN database, which collects euro issuances of maturities above 1 year, the share of state-guaranteed bonds in all issuances of debt bonds by EU banks has steadily increased (see Graph 16). However, issuance of covered and unsecured bonds followed the same time profile. This suggests that state-guaranteed debt did not necessarily crowd out other forms of debt securities. Issuance of different forms of banks'



debt might actually be determined by common factors.

Since debt securities are often issued to roll over existing debt, gross issuance has to be considered in relation to redemptions. The difference between the two, net issuance, turned from minus €26 billion on average in September/October 2008 to an average of around €28 billion per month from November to April, i.e. broadly back to the pre-crisis averages of €36 billion. In the ECB's latest Bank Lending Survey, banks indicated that their access to wholesale funding had eased in response to governments' announcements of recapitalisations and guarantees. However, access to wholesale funding was still perceived to be persistently hampered, except for the case of very short-term funding.

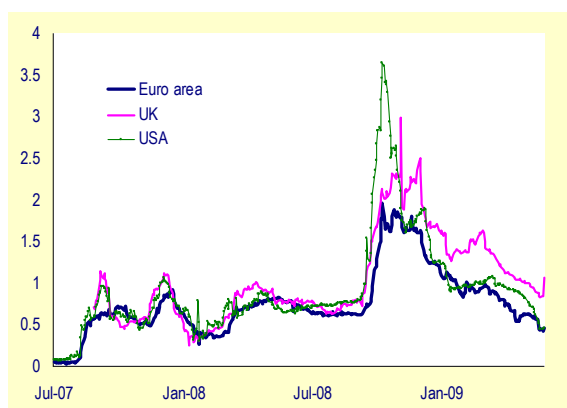
Money market prices signal a gradual return to more normal market functioning...

The most immediate and visible effect of the financial crisis has been on the functioning of wholesale credit markets and, in particular, the interbank market. As the crisis progressed, liquidity in the interbank markets dried up and interest rates rose sharply compared with the corresponding rates for secured lending. A regime shift has taken place, marked by significant market intervention by central banks. Central banks have assumed the role of intermediaries in the market, providing banks with liquidity as needed and absorbing excess liquidity via their deposit facilities. This arrangement has ensured liquidity in the banking system and facilitated the distribution of credit to the real economy, but the market is far from functioning normally.

Graph 17 shows the spreads between unsecured short-term interbank lending and swap transactions, which have become widely used indicators of money market distress. These spreads peaked in October 2008 and have fallen since, with only a brief interruption in February. Although current spreads are still far from their pre-crisis levels, the normalisation process is continuing. Currently, spreads have returned to levels comparable to those observed during the initial stages of the crisis, i.e. before the

bankruptcy of Lehman Brothers, implying a reduction of about 70% from their peak.

Graph 17: **Interest rate spreads,**
(Euribor/Libor over swap rates in percentage points, Jul 2007 to Apr 2009)



Sources: Bloomberg, ECB.

The lower interbank interest spreads reflect a decline in counterparty risk, which was the initial cause of the increasing spreads. There is, however, very little information on turnover on the money market, and it is therefore difficult to assess to what extent the improved spreads actually imply a normalisation of markets. Albeit much less than at the beginning of the year, the ECB deposit facility and liquidity provision are still used intensively, suggesting some remaining reluctance of banks to fully interact with each other.

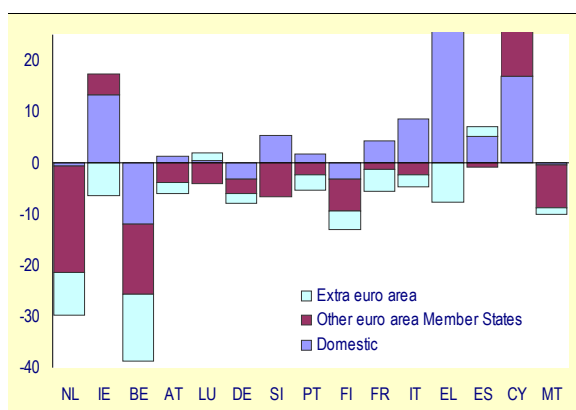
Banks' aggregated balance sheet data indicate a sharp deterioration in intra-area cross-border interbank activity since autumn 2008.⁸ Interbank deposits between domestic banks increased in most Member States, while the flow of cross-border interbank deposits slowed appreciably (Graph 18). Furthermore, cross-border deposits from other euro-area Member States have slowed more markedly than cross-border deposits from other countries.

There are some signs of a systematic link between a decline in interbank deposit and loans and the availability of bank support measures. In

⁸ For euro-area Member States and some items, a breakdown is available for domestic, other euro-area Member States, EU Member States outside the euro area and extra-EU.

Graph 18, Member States are presented from left to right in descending order in terms of the size of their support measures. Member States that have implemented the most generous measures (in terms of GDP) were also the ones that saw the biggest deterioration in their banks' interbank deposits during the final quarter of 2008, suggesting that the measures were tailored to meeting the scale of the problems in market functioning.

Graph 18: **Interbank deposits in euro-area Member States** (contributions to quarterly growth rate in %, 2008Q3 to 2009Q1)



Source: ECB.

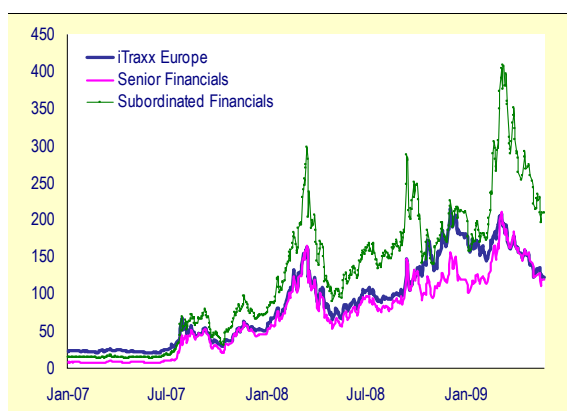
... as do spreads and prices on other financial markets

Other financial market prices have broadly shadowed the time profile of interbank interest rate spreads, signalling a gradual decline in risk aversion and in counterparty risk, plus a tentative recovery in expectations as regards banks' profitability. Thus, the trend towards more normal functioning has not been limited to money markets; it also stretches to the financial sector in general.

Indicators of default risk have improved substantially since October 2008, especially for subordinated debt. Default risks remain, however, at elevated levels compared to pre-crisis levels (see Graph 19). The striking hike in early March can be attributed to the announcement by the US government of stress tests for 19 of the major US banks. Following the announcement, CDS spreads shot up as uncertainty increased, both regarding the state of the banking system and the way in which results would be used and

published. The increase was stronger in the USA, but also CDS spreads for euro-area banks were affected. As the stress test procedures became clearer, the market situation slowly improved, most notably in the euro area. When the results of the US stress tests were published at the beginning of May, CDS spreads fell immediately and seem to be on a firm downward trend. Lower CDS spreads indicate an easing of investor concerns about possible default and poor earning prospects.

Graph 19: **CDS spreads of different financial instruments, euro area** (bp, Jan 2007 to Apr 2009)



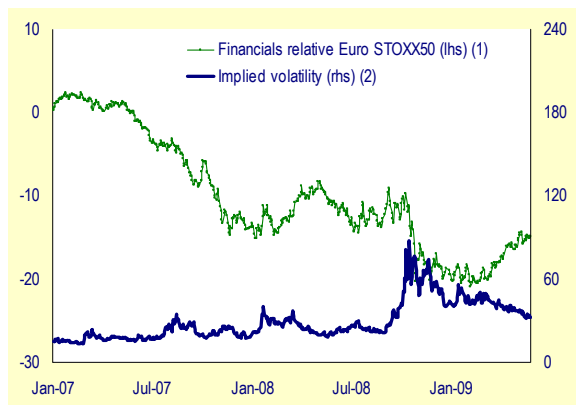
Source: EcoWin.

The price of bank equity has seen a strong rebound since mid-March, with higher valuations on the back of unexpectedly good earning reports. Despite the strong recovery, bank stocks still have more ground to make up before catching up with the general Eurostoxx stock index. In little more than two years, bank stocks lost 20% of their value relative to other shares. The recent hike in banks' share prices signals market expectations of improving profitability and higher earnings.

Share prices have also been helped by reduced market risk, which has given investors more confidence and increased their appetite for risk. Implied volatility of the Eurostoxx index, which had increased substantially in the period around mid-October 2008, has declined since then. Convergence towards the pre-crisis level continues, and currently volatility is approximately 40% above normal market conditions. At its peak, implied volatility was almost 250% above its long-term average.



Graph 20: **Relative share prices of financials, euro area**
(Jan 2007 to Apr 2009)



(1) Index Jan 2007 = 0.
(2) Derived from option prices.
Source: EcoWin.

Lending decelerated amid weaker demand and higher financing costs

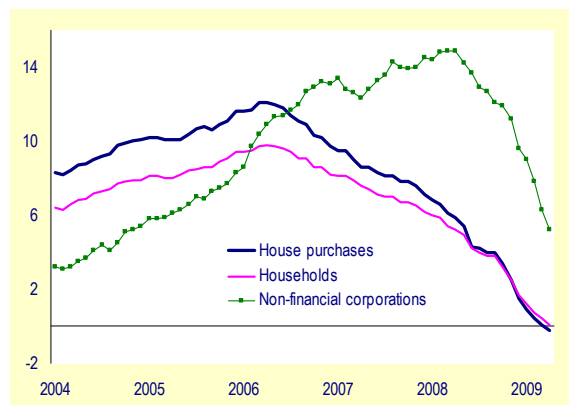
Ultimately, the bank support schemes aim to cushion the impact of the financial crisis on the real economy. Bank lending is an important transmission variable through which instability in financial markets affects economic activity. This is particularly true in the euro area where bank credit is the most important source of external financing for households and non-financial corporations alike.⁹ Gauging the impact of bank support measures on bank lending is not straightforward, however, because lending is also affected by other factors. The most important one is the deteriorating economic outlook, which can be expected to (i) boost demand for loans in the short term as firms experience shortfalls in revenues, which need to be offset by using agreed credit lines, and (ii) reduce demand for loans in the medium term because firms scale down investment.

Bank lending to non-financial corporations decelerated considerably in the course of the financial crisis. Even by the end of 2008, credit growth had reached very high double-digit rates. Since then, annual growth rates had decelerated to 5.2% in April 2009. Bank lending to households, most of which is for house

⁹ For the weights of different financial instruments in the euro area, see Box 4 in QREA IV/2008.

purchases, has been decelerating for more than two years. The pace of deceleration picked up significantly during the final months of 2008.

Graph 21: **Bank lending to the private economy, euro area**
(y-o-y growth in %, Jan 2004 to Apr 2009)



Source: ECB.

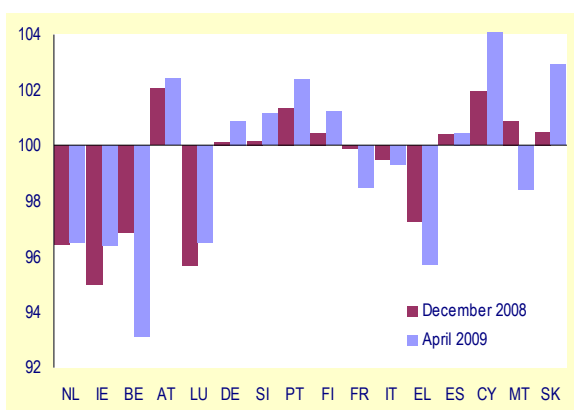
The ECB's bank lending survey gives some indication of the factors underlying the tightening in credit standards. Banks' replies to the questionnaire reveal the following:

- The tightening of credit conditions has primarily taken the form of an increase of margins on risky loans and average loans. Only a minority of banks have reduced the size of their loans or credit lines or increased their collateral requirements. Thus, credit has primarily become more expensive rather than being rationed.
- The macroeconomic outlook and industry or firm-specific considerations have led to the tightening of conditions. A smaller but increasing number of banks report that their costs and their ability to access market financing (in other words supply factors) have been factors affecting the tightening (double quoting was possible). That is, demand factors have clearly prevailed over supply side factors, although the latter have mattered more than in the past.

A notable observation is that most of the Member States that have experienced sharp declines in bank lending have also implemented bank support measures. This is particularly apparent in Belgium, Ireland, Luxembourg and

the Netherlands, where lending to the private economy contracted considerably. In Germany, Spain, France, Italy, Austria and Finland, on the other hand, lending has held up relatively well since October 2008. Over the period from October 2008 to April 2009, Greece recorded a notable decline in lending, while lending continued to grow in the three countries that abstained from public support measures (Cyprus, Malta, Slovakia) and in Portugal and Slovenia.

Graph 22: Bank lending to the private economy, euro-area Member States (SA, October 2008 = 100)



Source: ECB.

Further balance sheet adjustment will be needed

The sizeable financial rescue packages put in place by euro-area Member States have provided financial institutions with substantial public resources and contributed to prevent a financial meltdown. However, bank balance sheets are still fragile and the process of balance sheet adjustment in the euro-area banking sector is not over yet for two reasons.

- First, substantial bank losses are still likely to come as the negative feedback loop from the real economy continue to weigh on banks' loans and other assets. According to recent ECB calculations, euro-area banks may face cumulative total losses of €214 billion by 2010.¹⁰
- Second, the financial crisis entails substantial pressure on banks to deleverage, i.e. to reduce the ratio of bank assets to capital.

¹⁰ ECB (2009), 'Financial Stability Review', June.

There are signs that some adjustment already occurred through the reduction of foreign assets but more is still to come. Capital-asset ratios, which are key indicators of banks' leverage, fell in about half of the euro-area Member States since June 2008. In most of the Member States with large-scale public intervention in the banking sector, total capital asset ratios are still below the euro-area average,¹¹ suggesting that the expected continuation of the deleveraging process might be more pronounced in these Member States.

Conclusions

Governments throughout the world have taken measures on an unprecedented scale and continue to support the banking system to ensure that there is no return to the meltdown scenario faced in October 2008. There are some tentatively encouraging signs of improvement in various financial market indicators, although the high level of risk premiums in many financial markets cautions against excessive complacency.

Overall, the most acute phase of the crisis in the banking sector has now receded, but the situation remains fragile. Euro-area banks are still highly leveraged and persistent concerns about the quality of their assets have fuelled fears about the overall health of their balance sheets. Additional problems for banks have emerged as the financial crisis has extended to the real economy. The operating environment for banks is likely to remain challenging, in particular in respect of credit losses linked to their loan portfolios.

¹¹ This concerns the outstanding amounts of total assets to total capital as recorded in the aggregated balance sheet (these data are subject to similar statistical problems as those mentioned in footnote 3). Regulators focus on different aggregates, for example risk-adjusted assets.



3. A mid-year review of budgetary policy in the euro area*

This section reviews recent developments in budgetary policy in euro-area Member States and assesses the prospects for 2009-10. It also discusses the challenges ahead, particularly in terms of debt sustainability.

A sudden and sharp turnaround in budgetary developments in 2008

Reversing the decline under way since 2004, the euro-area general government deficit increased by 1.3 pp of GDP in 2008, to 1.9% of GDP. With output gaps overall decreasing, although estimated to have remained still largely in positive territory, the average structural deficit rose in 2008 by around 1 pp of GDP in the euro area, thus returning to the 2005 level of 2¾% of GDP.

The worsening of nominal balances in 2008 was noticeable across a vast majority of Member States (see Table 4). Comparing the 2008 outcomes with the plans for 2008 in the 2007 updates of the Member States' Stability Programmes shows that lower-than-projected nominal GDP growth plays a substantial role in explaining the overall worse-than-planned budgetary outcomes in 2008 (see Box 1).

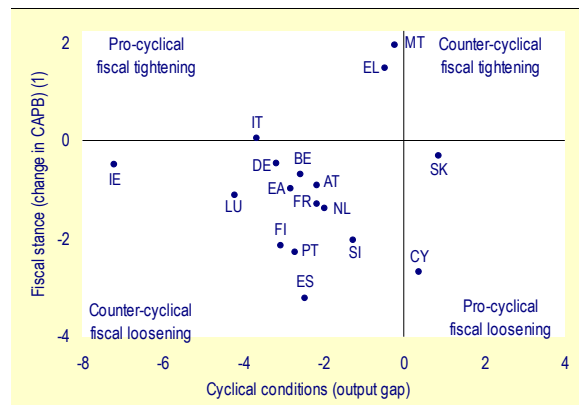
Fiscal policy steps in to support the economy in 2009 and 2010

With the output gap estimated to fall by almost 5 pp of potential GDP – a one-year decrease higher than the one recorded in 1975 in the aftermath of the first oil shock – the aggregate government deficit in the euro area is projected to rise by 3.4 pp in 2009, to 5.3% of GDP. According to the Commission's spring 2009 forecast, in 2009 the government deficits would exceed the 3% of GDP threshold in the Treaty in nearly all Member States.

The change in the nominal balances in 2009 in the Commission's spring 2009 forecast, i.e. the estimated fiscal support provided to the

economy in 2009 with respect to the 2008 baseline, can account on average for about two thirds for the automatic reaction of the budgets to economic growth via the tax system and the structure of expenditure (automatic stabilisers) and one third for the fiscal stimulus measures adopted by Member States, in line with the European Economic Recovery Plan (EERP) endorsed by the European Council in December 2008. The EERP calls for discretionary fiscal support equivalent to 1.5% of GDP, of which 1.2% of GDP at Member States level. Overall, Member States have adopted or announced fiscal stimulus measures totalling 1.8% of GDP over 2009-2010, of which 1.1% in 2009. Of the total, 1% of GDP is on the revenue and 0.8% of GDP on the expenditure side. The fiscal support packages adopted under the EERP have broadly followed the "three T principles" for effective fiscal stimulus (timely, temporary and targeted), in addition to the need for a coordinated approach taking into account country differences in fiscal room for manoeuvre. The stimulus measures are forecast to improve real GDP growth in 2009 by about ¾% relative to the baseline.

Graph 23: Fiscal stance in euro-area Member States in 2009 (% of GDP)



(1) Change in the cyclically adjusted primary balance.

Source: Commission services.

Turning to the fiscal policy stance in individual Member States, nearly all euro-area countries have responded to falling aggregate demand by counter-cyclical loosening in 2009 (Graph 23). However, some significant exceptions exist which appear, at least in part, to be linked to the countries' external and internal imbalances and

* Section prepared by Lucia Piana.

Table 4: Recent and projected economic and budgetary developments in the euro area (y-o-y % change and % of GDP) (1)

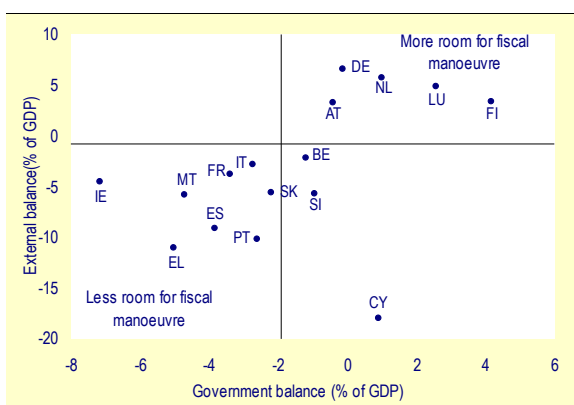
	Real GDP % Growth				Government balance % GDP			
	2007	2008	2009	2010	2007	2008	2009	2010
BE	2.8	1.1	-3.5	-0.2	-0.2	-1.2	-4.5	-6.1
DE	2.5	1.3	-5.4	0.3	-0.2	-0.1	-3.9	-5.9
IE	6.0	-2.3	-9.0	-2.6	0.2	-7.1	-12.0	-15.6
EL	4.0	2.9	-0.9	0.1	-3.6	-5.0	-5.1	-5.7
ES	3.7	1.2	-3.2	-1.0	2.2	-3.8	-8.6	-9.8
FR	2.3	0.4	-3.0	-0.2	-2.7	-3.4	-6.6	-7.0
IT	1.6	-1.0	-4.4	0.1	-1.5	-2.7	-4.5	-4.8
CY	4.4	3.7	0.3	0.7	3.4	0.9	-1.9	-2.6
LU	5.2	-0.9	-3.0	0.1	3.6	2.6	-1.5	-2.8
MT	3.9	2.7	-0.9	0.2	-2.2	-4.7	-3.6	-3.2
NL	3.5	2.1	-3.5	-0.4	0.3	1.0	-3.4	-6.1
AT	3.1	1.8	-4.0	-0.1	-0.5	-0.4	-4.2	-5.3
PT	1.9	0.0	-3.7	-0.8	-2.6	-2.6	-6.5	-6.7
SI	6.8	3.5	-3.4	0.7	0.5	-0.9	-5.5	-6.5
SK	10.4	6.4	-2.6	0.7	-1.9	-2.2	-4.7	-5.4
FI	4.2	0.9	-4.7	0.2	5.2	4.2	-0.8	-2.9
EA	2.7	0.7	-4.0	-0.1	-0.6	-1.9	-5.3	-6.5

(1) Projections for 2010 are based on a no policy change assumption.

Source: Commission services.

the related ability to expand without facing adverse market reactions (Graph 24).

Graph 24: Government and external balances in 2008, euro-area Member States (% of GDP)



Source: Commission services.

According to the Commission’s Spring 2009 Forecast, on the basis of an unchanged policy scenario government balances in the euro area would deteriorate by a further 1.2% of GDP in 2010, to 6.5% of GDP (Table 4). While the output gap will widen by a further ¾ pp to an unprecedented 3½% of potential GDP, the primary balance will continue to worsen in 2010, including in cyclically-adjusted terms, by ½ pp of GDP on average in the euro area (see Graph 25).

A further increase in 2010 in the fiscal support provided by stimulus measures is envisaged in some countries with more room for fiscal manoeuvre. However, the level of support provided by fiscal stimulus measures is expected to decline overall by 0.3% of GDP in the euro area in 2010 with respect to 2009.¹³ Withdrawal would concern, on average, measures on the expenditure side, while the stimulus measures on the revenue side would remain broadly constant at the 2009 level.

These budgetary projections are subject to the risks attached to the central macroeconomic scenario in the Commission’s Spring 2009 Forecast. In an environment marked by

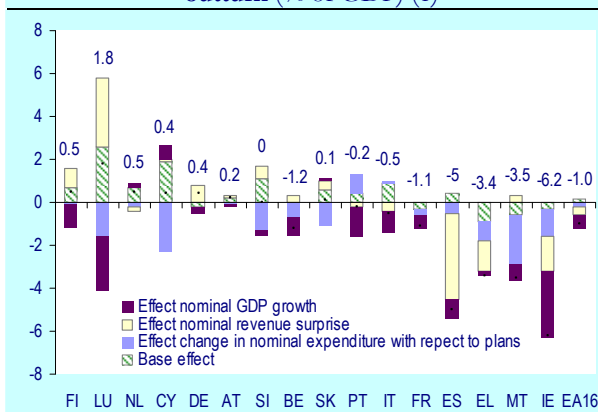
¹³ Besides possible expansionary measures adopted before the stimulus packages, the discrepancy between the partial withdrawal of support and the further deterioration of the average cyclically-adjusted primary balance reflects features specifically pertaining to the calculation of the cyclically-adjusted balance. Taking sharply declining potential output growth as the benchmark for cyclically-neutral developments in revenues and expenditures implies that an increase in (non-cyclical) expenditure in line with pre-slowdown estimates of growth will result in a deterioration of the cyclically-adjusted balance, even in the absence of specific expenditure-raising measures. Furthermore, the methodology uses standard constant (long-run) tax elasticities for calculating the reaction of tax revenues to changes in the output gap, while, as shown in Box 1, elasticities have been dropping sharply.



Box 1: Budgetary implementation in 2008

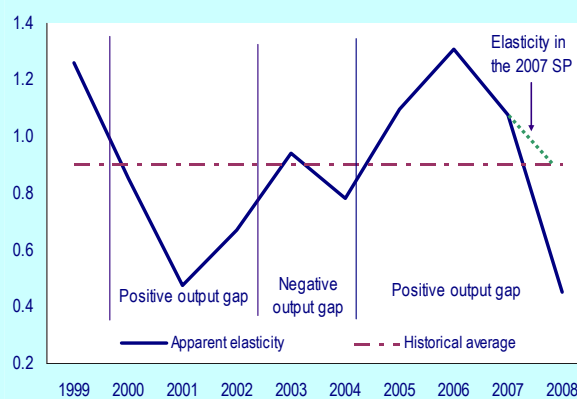
The graph below provides an illustration of the reasons for the discrepancy between the government balance planned for 2008 in the 2007 Stability Programme updates and the actual government balance observed. It decomposes the difference between the 2008 outcome for the general government deficit (as a percentage of GDP) in Eurostat news release No 56/2009 of 22 April 2009 and the figure targeted in the 2007 updates of the Stability Programmes into a base effect, a nominal GDP growth effect and revenue/expenditure growth effects. The base effect reflects the part of the difference that is due to the actual outcome for 2007 as a percentage of GDP being different from what was estimated in the 2007 updates of the programmes. The nominal GDP growth effect is the part of the difference that relates to the current GDP growth estimates for 2008 turning out to be higher or lower than anticipated in the 2007 updates of the programmes and therefore reducing/increasing the denominator of the expenditure ratio. The effect of the change in the nominal expenditure with respect to plans captures the part of the difference related to the annual growth rate of expenditure in 2008 turning out to be higher or lower than targeted in the 2007 updates of the programmes over and above the difference explained by the difference in planned versus actual GDP growth. Finally, revenue surprises reflect revenue-to-GDP ratio turning out different from planned in the 2007 updates.

Sources of differences in 2008 government balances between the 2007 updates of the SP and the actual outcome (% of GDP) (1)



(1) Countries are ranked from left to right on the basis of the 2008 budget balance outcome; the figure in the square brackets gives the difference between the outcome of the budget balance in 2008 and the planned budget balance in the 2007 programme update.
Source: Commission services.

Apparent tax elasticity, euro area (1)



(1) Ratio of percentage change of tax revenues to percentage change in GDP.

Source: Commission services.

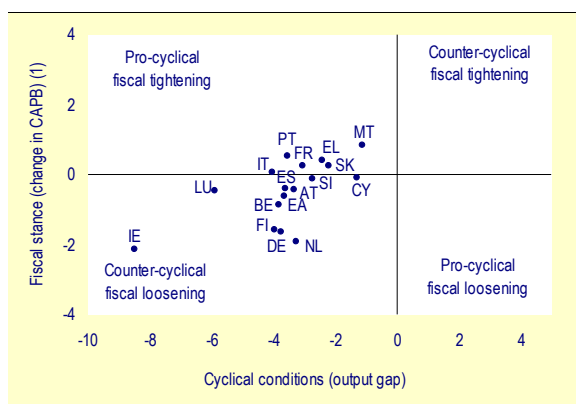
For the euro area as a whole, the 1% of GDP higher deficit than planned in the 2007/2008 updates of the Stability Programmes reflects (see left panel of graph): (i) the negative impact of 0.6% of GDP due to the lower-than-expected nominal GDP growth; (ii) a 0.4% of GDP negative surprise from revenue (which comes on top of the decrease in revenue estimated from the lower economic growth); and (iii) 0.2% of GDP higher-than-expected expenditure; only slightly offset by (iv) a positive 0.2% of GDP base effect from outturns of the budget balances better-than-estimated in the 2007 updates.

The negative surprise from revenue occurred as the decline in tax elasticities from the highs recorded in the previous three years turned out to be even more pronounced than the one already factored into the 2007 updates of the Stability Programmes (see right panel of graph). Tax revenues and tax elasticities can experience substantial variations during turning points of the business cycle, as some items, such as corporate and property taxes, are particularly volatile. Events such as systemic financial crisis can exacerbate these trends.

exceptional uncertainty, risks to the growth outlook are sizeable and remain somewhat tilted to the downside for 2009, but look more balanced for 2010. Of particular concern is the possibility that the feedback loop from the

deteriorating real economy to the still fragile financial sector may intensify. However, developments in financial markets and economic indicators up to the beginning of June 2009 seem to suggest that this threat is receding.

Graph 25: Fiscal stance in euro-area Member States in 2010 (% of GDP)



(1) Change in the cyclically adjusted primary balance.
Source: Commission services. Change in the cyclically-adjusted primary balance (CAPB) from 2010 to 2009.

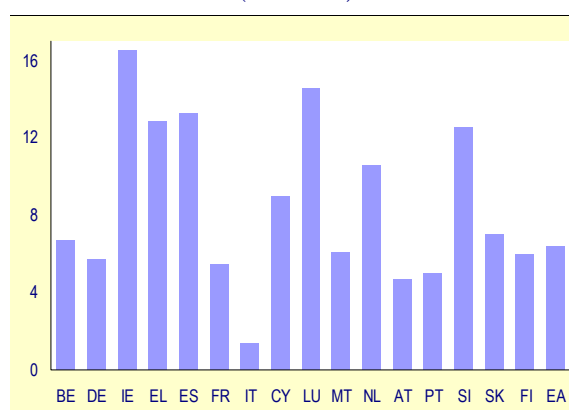
Debt developments and sustainability gaps

The government debt-to-GDP ratio, which is a fundamental determinant of the ability to conduct countercyclical policy, already started to worsen in the vast majority of Member States in 2008 and is projected to continue worsening in 2009 and 2010 in all euro-area Member States (Table 5), due to expected deterioration in primary balances and low nominal GDP growth (negative in 2009). Debt increases are also driven by sizeable stock-flow adjustments, which capture debt increases unrelated to fiscal deficit, including accumulation of financial assets, valuation effects, differences in cash and accrual accounting and other residual effects. More specifically, stock-flow adjustments in 2008 amount to 3.5% of GDP and an additional 1.2% of GDP is included in the projection for the average 2009 debt ratio of the euro area. Only parts of the stock-flow adjustment relate to capital injections into banks. At this stage, only an average 0.5% of GDP stock-flow adjustment is included in the debt projections for 2010. Additional operations to support financial market functioning with positive stock-flow adjustment would further raise debt projections.

Further rising debt ratios in the years beyond 2010 can be expected. The current high deficit levels can indeed be partly seen as structural in the sense that the economy is likely to face a deceleration in its medium- to long-term growth prospects. In fact, the crisis is the equivalent of

capital destruction, reducing - at least for a time - the productive potential of the economy. Labour market frictions imply an accompanying rise in the equilibrium rate of unemployment. Current market disruption in financial markets and the more heavily regulated environment that is likely to follow can also be expected to have a permanent negative effect on potential growth, e.g. through reduced availability of capital for R&D and innovation activities.¹⁴

Graph 26: Sustainability gaps – 2010 scenario (% of GDP)



Source: Commission services.

These developments have implications for the long-term sustainability of public finances. The sustainability gap (S2 indicator) presented in Graph 26 shows the size of the permanent budgetary adjustment required to meet the intertemporal budget constraint, assuming that the budgetary position stays at the 2010 levels projected in the Commission’s spring 2009 forecast.¹⁵

¹⁴ See Focus Section on 'The impact of the economic and financial crisis on potential growth' in this report.

¹⁵ There is no agreed definition of what constitutes a sustainable position for public finances. A possible definition is based on the idea that the debt-to-GDP ratio remains bounded at any time in the future and does not follow an explosive path. In that case, the discounted value of future structural primary balances should cover the current level of debt. This condition is referred to as the intertemporal budget constraint. The S2 indicator is thus the change in the structural primary balance for every future year that ensures that the intertemporal budget constraint is met. The formal derivation of S2 is presented in European Commission (2006), 'The long term sustainability of public finances in the European Union', European Economy No 4/2006 (Brussels: European Commission).



Table 5: Debt developments, euro area
(% of GDP)

	Gross debt ratio (1)				Change in the ratio 2007–10	Contributions to change in the ratio between 2007 - 2010 (2)					
	2007	2008	2009	2010		Primary balance	Snowball effect			Stock-flow adjustment	
							Total	Interest exp.	Nominal growth effect	Total	Cap. injections
BE	84.0	89.6	95.7	100.9	17.0	0.1	9.5	11.7	-2.2	7.3	5.7
DE	65.1	65.9	73.4	78.7	13.6	1.3	9.1	8.7	0.4	3.2	1.6
IE	25.0	43.2	61.2	79.7	54.7	28.3	13.9	6.5	7.4	12.5	2.1
EL	94.8	97.6	103.4	108.0	13.2	2.1	4.3	13.8	-9.5	6.9	1.2
ES	36.2	39.5	50.8	62.3	26.1	17.0	4.0	5.1	-1.1	5.0	0.0
FR	63.8	68.0	79.7	86.0	22.2	8.3	7.1	8.7	-1.6	6.7	0.8
IT	103.5	105.8	113.0	116.1	12.6	-2.7	13.6	14.6	-1.0	1.6	0.0
CY	59.4	49.1	47.5	47.9	-11.5	-3.8	-1.3	7.4	-8.7	-6.3	0.0
LU	6.9	14.7	16.0	16.4	9.5	0.3	1.3	1.5	-0.2	7.9	7.9
MT	62.1	64.1	67.0	68.9	6.8	1.2	5.7	10.3	-4.6	-0.1	0.0
NL	45.6	58.2	57.0	63.1	17.4	1.0	6.2	7.5	-1.4	10.2	7.9
AT	59.4	62.5	70.4	75.2	15.7	1.1	7.4	8.8	-1.3	7.1	1.7
PT	63.5	66.4	75.4	81.5	17.9	6.6	8.3	9.1	-0.8	2.9	0.0
SI	23.4	22.8	29.3	34.9	11.5	8.4	2.4	4.5	-2.1	0.7	0.0
SK	29.4	27.6	32.2	36.3	7.0	8.3	-0.2	3.9	-4.1	-1.1	0.0
FI	35.1	33.4	39.7	45.7	10.6	-4.7	3.2	4.1	-0.9	12.0	0.0
EA	66.0	69.3	77.7	83.8	17.8	4.5	8.2	9.2	-1.0	5.1	1.4

(1) End of period. (2) The change in the gross debt ratio can be decomposed as follows:

$$\frac{D_t}{Y_t} - \frac{D_{t-1}}{Y_{t-1}} = \frac{PD_t}{Y_t} + \left(\frac{D_{t-1}}{Y_{t-1}} * \frac{i_t - y_t}{1 + y_t} \right) + \frac{SF_t}{Y_t}$$

where t is a time subscript; D, PD, Y and SF are the stock of government debt, the primary deficit, nominal GDP and the stock-flow adjustment respectively, and i and y represent the average cost of debt and nominal GDP growth. The term in parentheses represents the “snow-ball” effect. The stock-flow adjustment includes differences in cash and accrual accounting, accumulation of financial assets and valuation and other residual effects.

Source: Commission services.

In the euro area as a whole, the sustainability gap based on the '2010 scenario' would reach 6.4% of GDP. The deterioration vis-à-vis the sustainability gap estimated on the basis of the 2007 scenario in the 2007 updates of the Stability Programme, i.e. before the intensification of the crisis, amounts to about 4 pp of GDP. The deterioration has to be ascribed to the substantial worsening of the starting budgetary positions.

Fiscal policy challenges ahead

Looking ahead, budgetary policies need to balance stabilisation and sustainability considerations. On the one hand, fiscal policy should help to stabilise output and avoid risking self-reinforcing adverse growth dynamics. On the other hand, unsustainable debt and deficit developments could become a drag on growth, both in the short and in the long run. While in

2009, the balance tilts towards strongly expansionary fiscal policy, it changes in 2010 and beyond, gradually calling for increasing budgetary caution while avoiding excessively tight budgetary policies choking the nascent recovery.

The pace of consolidation would probably have to be differentiated across countries, based on considerations of fiscal room for manoeuvre, including both narrow (debt, deficit) and broad (external position, banking sector) indicators of the need for adjustment. Consolidation efforts should also reflect the structural nature of the economic and financial shock, which implies that budgetary developments are also of a structural nature. Accordingly, budgetary policy needs to adjust to lower growth rates.



Focus

II. The impact of the economic and financial crisis on potential growth*

This focus section analyses the consequences of the ongoing economic and financial crisis on potential output and growth and assesses the policy implications. Financial crises can impact potential output via their effect on labour input and productivity. Looking back, available historical evidence shows that financial crises are deeper and last longer than other recessions. They also tend to have a permanent negative effect on the level of output, shifting the economy down to a lower expansion path. Available evidence on the impact of financial crises on long-term growth is mixed but a closer look at a broader sample of crises, including non-financial recessions, points to a substantial risk of a TFP-driven drop in potential growth after recessions. Projections of the Output Gap Working Group up to 2010 and medium-term Quest simulations suggest that the most likely scenario is that the current crisis will lead to a sharp drop in euro-area potential growth in the short term, followed by a slow return to pre-crisis potential growth. However, risks of a more permanent downshift in potential growth should not be ruled out. To contain the permanent losses in the level of potential output traditionally associated with financial crises and to reduce the risks of a lasting deceleration of TFP growth, timely and appropriate policy responses – encompassing a wide range of measures and covering several reform areas – need to be put in place. Moreover, policy mistakes, albeit politically tempting, must be avoided at all costs (i.e. protectionist policies undermining the Single Market, measures reducing labour supply, and unsustainable public finances).

This first Focus Section assesses the possible consequences of the ongoing economic and financial crisis on potential output in the euro area. Section 1 discusses the main channels through which financial crises tend to affect potential output. Section 2 reviews the available empirical evidence on the effect of past crises. Based on this evidence, Section 3 discusses the likely impact of the current turmoil on short to long-term prospects for potential output in the euro area. Section 4 outlines a number of policy implications.

1. Tracing the transmission channels of the crisis on potential output

A thorough understanding of the impact of the crisis on potential output and its growth requires an analysis of its individual components, productivity and labour.

Financial crises are likely to affect productivity growth in the short to medium run, but also in the long run ...

The two components of productivity, namely capital accumulation and Total Factor Productivity (TFP), might be affected by the

crisis. A crisis can reduce potential output growth in the *short and medium term* through its adverse impact on investment. The negative effect of the ensuing slower capital accumulation can be combined with the impact of accelerating obsolescence of some capital vintages due to economic restructuring.

A slow process of industrial restructuring, caused either by credit constraints – due to delayed adjustments in the banking sector – or by entrenched structural rigidities, can also hurt the level and growth rate of TFP in the *medium to long term* by locking resources in (relatively) unproductive activities.

TFP growth in the *medium and long run* could also be curtailed by depressed investments in private R&D, which are markedly pro-cyclical. TFP drivers, such as physical investment, R&D and innovation, may suffer further from a prolonged recession and the changes in attitudes towards risk leading to the tightening of credit conditions and the rise in capital cost.

...while labour input growth would also be hit but in the short to medium run only

A short recession should not affect the pace of growth of the labour force, leaving potential growth unharmed in the longer run. However, a long and deep recession may cut the level of the

* Section prepared by Laura González Cabanillas, Kieran McMorrow and Gilles Mourre.

labour force by discouraging some workers from seeking jobs and by reducing migration flows. Moreover, pressures to implement policies that curtail labour market participation (e.g. early retirement, curbs on migration flows) may increase.

Structural unemployment (i.e. the non-accelerating inflation unemployment rate or NAIRU) will increase in the short to medium run as a result of a financial crisis. Given the frictions in the labour market and long adjustment lags, the rise in actual unemployment brought about by the sharp contraction of activity in some sectors will lead to a temporary rise in the NAIRU. Other things remaining equal, the NAIRU should return to its original level when the sectoral reallocation of labour is completed, which is likely to take some time.

Some factors could lead to a more lasting increase in the NAIRU. This would be the case, for example, if short-term policy measures taken to limit the welfare damages of the crisis – e.g. temporary increase in unemployment benefits – are not reversed in time. Equally, a durable increase in capital costs, arising from the changes in attitudes towards risk brought about by the financial turmoil, could raise the NAIRU permanently as firms would increase their mark-up to recoup the higher cost of capital.

Finally, in the case of a prolonged recession, long unemployment spells may cause a permanent destruction in human capital, leading to an irreversible rise in the NAIRU (the so-called 'hysteresis effect') and further losses in potential output level. Although the rise in NAIRU reduces the potential output level (via lower potential output growth in the short to medium run), it is not likely to affect the long-term path of potential growth, since this would mean, implausibly, that it will rise for ever.

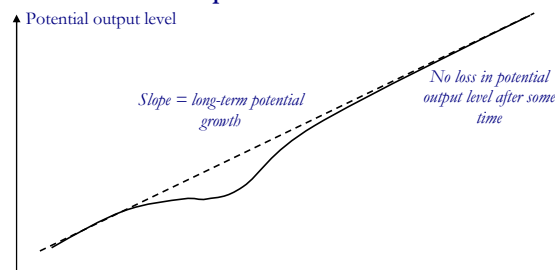
Distinguishing between level and growth effects

A useful conceptual distinction can be made between the effects of financial crises on the level and the growth of potential output. Deep financial crises tend to have a negative short-term effect on potential output due to their cyclical effect on capital accumulation and the NAIRU.

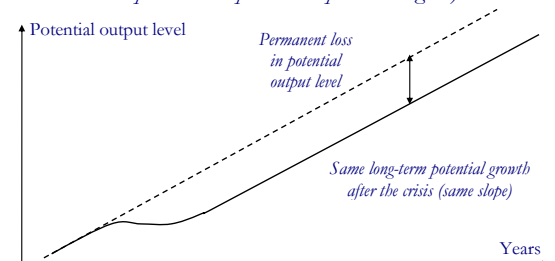
Three medium to long-term scenarios are then possible.

Graph 27. Three possible theoretical cases

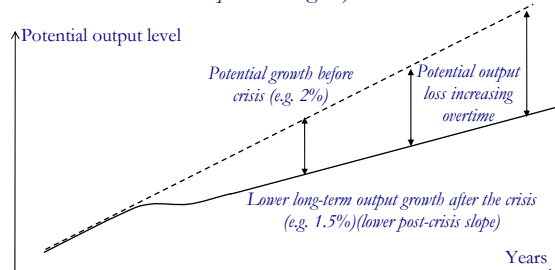
Case No 1: Loss in potential output level entirely recouped after some time



Case No 2: No change in long-run potential growth but permanent shift in potential output level (permanent loss in output level compared with pre-crisis regime)



Case No 3: Downward shift in potential growth in the long run (output loss in level rises steadily over time compared with pre-crisis regime)



Source: Commission services.

As depicted in the upper panel of Graph 27, the temporary negative effects of the crisis can be progressively reversed as the economy recovers and potential output returns eventually to its pre-crisis expansion path. This scenario requires the initial deceleration of potential growth during the early stages of the crisis to be followed by several years of rapid (i.e. above trend) potential growth to compensate for the initial shortfall.

The middle panel of Graph 27 illustrates a second possible scenario where the temporary negative effects are progressively reversed but only partially. Long-term growth returns to its



pre-crisis level but the initial losses in output are not entirely recouped and the economy moves along a lower expansion path. A key issue in this scenario is the time needed by the economy to return to its pre-crisis trend growth. The slower the adjustment of medium-term growth rates to long-term trends, the greater the final loss in the potential output level compared with the pre-crisis expansion path.

Finally, the lowest panel depicts a scenario where long-term growth does not return to its pre-crisis level but declines to a permanently lower level. In that case, the pre- and post-crisis expansion paths diverge continuously in the long run.

A key objective of the analysis presented in this focus section is to assess which scenario is the most likely to prevail in the current context.

2. Lessons from past episodes of financial and economic crises

The analysis of past episodes of economic and financial crises offer interesting insight into the possible effects of the current turmoil on potential output growth. The past two years have seen the emergence of substantial empirical literature on the impact of severe financial and banking crises on growth and other macroeconomic variables. This section reviews the main findings of this research. Recessions driven by financial and banking crises remain rare events in advanced economies in general and in the euro area in particular. In an effort to broaden the sample of crisis episodes considered, the section also analyses the impact of past severe recessions – whether triggered by banking crises or not – on potential.

Financial crises are deeper and last longer than other recessions...

In a seminal paper, Reinhart and Rogoff (2009) review recent episodes of severe financial crises in a broad sample of advanced and emerging economies and examine the macroeconomic performance in the aftermath of these crises.¹⁷

¹⁷ Reinhart, C. M. and K. S. Rogoff (2009) 'This Time is Different: A Panoramic View of Eight Centuries of Financial Crises', *NBER Working Paper Series*, No. 13882.

They find that financial crises lead to larger losses in output and employment than other recessions. On average, output falls by over 9% and the duration of the recession averages around two years, which is about one year more than usual recessions. This sharp drop in output is typically followed by a significant deterioration of the labour market. Similar analyses are carried out by Haugh et al. (2009) and by Claessens et al. (2008) for OECD countries.¹⁸ They confirm that recessions associated with financial distress last longer than other recessions and that the output losses are two to three times larger.

... and they tend to have a permanent negative effect on the level of output

Cerra and Saxena (2008) analyse the behaviour of output following banking crises using a simple autoregressive model.¹⁹ They find that the impact of banking crises on the level of output is negative, large and highly persistent. Their result applies both to emerging and to industrialised countries. This persistent impact on the level of output is also documented by Pisani-Ferry and van Pottelsberghe (2009), who analyse four countries (Finland, Japan, South Korea and Sweden) that were severely hit by financial crises in the 1990s.²⁰ Another recent study based on 30 OECD countries, by Furceri and Mourougane (2009), goes one step further and assesses the impact of financial crises on GDP potential. It reports a significant and persistent effect with a permanent reduction in the level of potential output of 1.5% to 2.4%.²¹ When restricting the

¹⁸ Haugh D., P. Ollivaud and D. Turner (2009), 'The macroeconomic consequences of banking crises in OECD countries', *OECD Economic Department Working Paper*, No 683, OECD.

Claessens, S., M; Ayhan Kose and E Terrones (2008), 'What happens during recessions, crunches and busts?', *IMF Working Paper*, WP/8/274, IMF.

¹⁹ Cerra, V. and S. Saxena (2008) 'Growth dynamics: the myth of economic recovery', *American Economic Review*, No. 98(1), 439-457.

²⁰ Pisani-Ferry J. and B. van Pottelsberghe (2009) 'Handle with care! Post-crisis growth in the EU', *Bruegel Policy Brief*, 2009/02.

²¹ Furceri D and A. Mourougane (2009), 'The effect of financial crises on potential output: new empirical evidence from OECD countries', *OECD Economic Department Working Paper*, No 699, OECD.

sample to major financial crises, the estimated effect is even bigger, at 4%.

But evidence on their impact on long-term growth is more mixed

In contrast, there is only limited evidence of a lasting negative impact of financial/banking crises on potential growth. Haugh et al. (2009) analyse the impact of banking crises on potential growth in Finland, Norway, Sweden, the US and Japan by comparing potential growth estimates before and after the crises. While potential growth decreased markedly in Japan, it increased moderately in Sweden and Norway and remained broadly stable in the US and Finland. In the case of Japan, lower potential was the result of a fall in TFP growth and lower capital deepening. The increase in potential growth in the other countries was driven by higher TFP growth.

In line with the conclusions of Haugh et al. (2009), a recent study from the CPB finds mixed results on the effect of financial crises on long-term growth.²² Major financial crises are analysed in 14 emerging and advanced countries by comparing changes in GDP/capita growth before and after the crises. In half of the sample, the growth rate prevailing ten years after the trough of the crisis appears lower than before the financial crisis. The sample is, however, dominated by emerging countries and conclusions should therefore be interpreted with caution.

The two studies reviewed here do not offer any analysis on the possible causes of country differences in developments in potential growth following recessions. Box 2 provides some insight on the issue by analysing the impact of past financial crises in Japan and Finland using data by industrial sectors. The differences in the impact on potential growth can be explained by the fact that Finland used the crisis as an opportunity to engineer a fundamental restructuring of its manufacturing sector, with a sharp reallocation of resources to 'ICT producing' industries (with positive spillover effects on related service sector industries). In contrast, in Japan, the 1990s were marked by

significant and sustained shrinkage in the economic importance of the manufacturing sector.

Higher output growth volatility tends to be associated with lower GDP growth

Another strand of literature also appears to have some relevance in the current context. A large number of studies have looked into the impact of macroeconomic volatility on output growth. Although this literature does not specifically cover financial crises, it is of particular interest now since the current turmoil marks a clear inflection in the so-called Great Moderation²³ (i.e. the trend of declining output volatility observed during the past three decades). Studies based on both cross-sectional regressions and panel regressions have generally found a negative correlation between medium-term GDP growth and the volatility of GDP in OECD countries (Ramey and Ramey 1995, Kneller and Young 2001, Hnatkovska and Loayza 2005).²⁴ ²⁵ The negative correlation is probably due to large recessions rather than small fluctuations around trend growth. This argument is supported by the findings of Hnatkovska and Loayza (2005), who test the impact of measures of normal and crisis volatility. Only cyclical volatility due to economic crises is found to have a significant impact on growth.²⁶ Therefore, the negative impact of output volatility on long-term growth identified

²³ European Commission (2007), 'Quarterly report on the euro area', Vol. 6, No 1, pp. 37-46.

²⁴ The negative correlation between GDP growth and the volatility of GDP growth can be explained by the same factors that have a negative impact on growth during recession, as discussed in the previous section, such as the hysteresis effect, sharp drops in investment, etc.

²⁵ Ramey, G., and V. A. Ramey (1995), 'Cross-country evidence on the link between volatility and growth', *American Economic Review*, Vol. 85, No 5, pp. 1138-51.

Kneller, R. and G. Young (2001), 'Business cycle volatility, uncertainty, and long-run growth', *The Manchester School* 69, 2001 (5), pp. 534-552.

Hnatkovska, V. and N. Loayza (2003), 'Volatility and Growth'. Working Paper WPS3184, World Bank.

²⁶ A given level of volatility (as measured, for example, by the standard deviation of output growth) can reflect frequent small cyclical fluctuations or less frequent but sharper cyclical swings. According to Hnatkovska and Loayza (2005), only the latter affects growth negatively.

²² M. Roscam Abbing (2009), 'The credit crisis and the Dutch economy 2009-2010', CPB Memorandum, CPB.



Box 2: Assessment of the impact of the financial crisis in the 1990s in Japan and Finland: an industry perspective

This box uses the EU KLEMS industry level database to explore the impact of the financial crises that Japan and Finland experienced in the late 1980s / early 1990s.

The specific situations and different starting positions partially explain the differences between the two countries. The cases of Finland and Japan are very different, with the scale and nature of the domestically generated financial/housing bubbles having specific country features and Finland having experienced the collapse in its trade with the former USSR. Furthermore, any potential policy recommendations must take account of the very different starting positions of both economies. For example, it is clear that since Japan already had exceptionally high capital-output ratios and had relentlessly pursued a technology-driven development strategy over many decades that it was a lot easier for Finland, which was a heavily resource-based economy in the early 1990s, to move up the value added chain by pursuing an innovation-driven policy path.

Significantly different policy strategies to address essentially similar policy challenges resulted in a fundamentally different degree of restructuring of the economy. Despite the country differences, both Japan and Finland were faced with the same fundamental policy challenge, namely how to react to the immediate contraction in output and how to restructure their economies in a way which would re-utilise the resources released from the inevitable shrinkage of specific industries (finance, construction, traditional manufacturing industries, etc.) in an efficient manner. Finland used the crisis as an opportunity for a fundamental restructuring of its manufacturing sector (with spillover effects on related service sector industries) – in stark contrast to Japan where the 1990s saw a significant and sustained reduction in the economic importance of its manufacturing sector. There were large differences in the extent of restructuring in the Japanese and Finnish economies, the overall rate of change being significantly higher in Finland, and a sharp increase in its share of "ICT producing" industries being a feature not only of its manufacturing sector but also of related areas in its private services sector.

Finland's experience shows that any recovery strategy must focus on ensuring the health of the tradeables sector. An interesting observation from the analysis is the contrasting fortunes experienced by the Finnish and Japanese authorities with respect to their "tradeable" goods and services industries. The extent to which Finland successfully achieved a radical restructuring of its manufacturing sector away from resource-based materials and products to high technology, ICT-driven, product ranges is quite striking. These new product ranges were also linked, in a complementary manner, with the expansion of ICT-related tradeable services. In the case of Japan, it is equally extraordinary to witness the ongoing deterioration in the relative share of manufacturing in its overall value added. This deterioration is pervasive across almost all of the manufacturing industries and is surprising given that Japan's economic success over the previous decades had been based essentially on shifting resources into capital-intensive, export-oriented, manufacturing industries.

Japan made significant structural policy mistakes. Whilst an industry-level analysis cannot assess the merits of the conventional view that most of Japan's problems reflect fundamental monetary and fiscal policy errors in its reaction to its 1990s crisis, what it can do, however, is gauge the extent of the structural policy mistakes that were made. The Japanese authorities appeared to be in collective denial about the scale of the downturn, with the desire for fundamental structural change held back by having a track record of enormous success up until the late 1980s with its previous policy approach and by having large stocks of accumulated financial assets with which to cushion the income losses for its rapidly ageing citizens. This absence of a desire to change was reflected in the slowness of the Japanese response in reducing employment levels in the affected industries; by its slowness in shrinking its bloated industries and releasing the labour and capital resources needed for the new industries of the future (e.g. the construction/real estate; wholesale and retail trade; and financial services industries either maintained or increased their shares of total value added in the period up to 2000); and an economy-wide slowness to restructure as reflected in an overall industrial structure which in 1999 / 2000 looked remarkably similar to the one that existed in 1989 / 1990.

The analysis supports the view that all "economic decisions are at the margin" – consequently, without detailed assessment at industry/firm levels, the potential for serious policy errors in the present crisis is significant. The EU KLEMS analysis shows clearly that a lot of the changes in macro level trends in GDP, investment and TFP are being driven not only by a small group of industries but also by a very small proportion of the total capital stock. In the case of Finland, for example, its mid-1990s turnaround was driven by just one pivotal industry, communications equipment, and by technology / investment decisions that affected less than 2% of the overall Finnish capital stock. It was undoubtedly the efficiency and industry focus of specific investments, rather than the overall macroeconomic quantity of investment, which dictated the evolution and intensity of the Finnish recovery process.

in the literature appears to be particularly relevant in the current situation.

A closer look at a broader sample of banking and non-banking recessions

Because financial crises are relatively rare events in advanced economies, the samples of historical episodes analysed in the above-mentioned studies are either small or extended with emerging markets. Whether conclusions based on such samples can be extrapolated to the current situation in the euro area is therefore difficult to say. Finland in the early 1990s is the only example of a serious banking crisis in the euro area since World War II.

In an attempt to circumvent this size limitation while making the sample more euro-area relevant, the remainder of this section presents an analysis based on all major recessions (whether associated with a banking crisis or not) in the EU-15 and the US since the 1990s. Beyond statistical considerations, the extension to non-banking recessions is also justified by the fact that banking crises and other major recessions share a number of similarities. Although recessions tend to be somewhat less deep when they are not triggered by a banking crisis, they are still characterised by important disruptions in activity, sectoral reallocations and sharp drops in investment, with possible implications for potential growth.

Table 6: Major recessions in the 1990s

Recessions	
<i>Major banking crises (1)</i>	
FI	1990-1993
SE	1991-1993
US	1991
<i>Other major recessions</i>	
BE	1993
DE	1993
EL	1992-1993
ES	1993
FR	1993
IT	1993
PT	1993
UK	1991-1992

(1) The major banking crises are Finland (1991) and Sweden (1991) and the US Savings and Loan crisis (early 1990s).

Source: Commission services.

To shed some light on the impact of major recessions on long-term growth, potential growth

and its components are compared in the ten-year period before and after a major recession in each country (see Table 6).²⁷ This is similar to the approach used in Haugh et al. (2009).²⁸ DG ECFIN's production function estimates are used to assess potential growth and the contributions of TFP, capital and labour.

History points to high risks of a TFP-driven fall in potential growth following recessions

Potential growth increased following the major banking crises in Finland, Sweden and the US (Tables 7). When expanding the sample to all severe recessions during the 1990s, the picture appears considerably more mixed. Potential growth increased in broadly half of the episodes considered (EL, ES, FI, SE, UK and US) and decreased in the other half (BE, DE, FR, IT and PT).

The analysis does not point to a significant effect of recessions on the contribution of capital to potential growth in the long run. A persistent post-recession deceleration in capital intensity can only be seen in FI, SE and EL. Changes in capital accumulation in these countries seem to reflect structural factors and a shift to a less capital-intensive growth model.

There is some evidence of an increase in the contribution of labour to potential growth after a severe recession in some countries. Seven out of the eleven recession episodes considered exhibit an increase in this contribution. This increase is explained by the rise in the participation rate resulting from the structural reforms carried out in euro-area countries since mid 1990s. In Germany, Italy and Sweden, the contribution of labour to potential growth decreased persistently.

²⁷ The criteria chosen to identify major recessions are: (i) a minimum contraction of annual GDP per capita of 1%; or (ii) two or more consecutive years of GDP/capita contraction with one contraction of at least 0.5%

²⁸ It should however be noted that the 10-year periods do not cover exactly the same years. Haugh et al. (2009) take the 10-year period prior to the onset of the downturn and compare it with the 10 years immediately following it. Here the 10-year periods exclude the most severe part of the downturn, i.e. when GDP/capita is still contracting. This should allow to calculate 10-year averages that are not dominated by the economy's behaviour during the contraction phase.



Table 7. Changes in average potential growth and its determinants around major recessions
(ten-year averages in %) (1)

	Potential		TFP (2)		K accumulation (2)		Labour (Hours) (2)	
	Before	After	Before	After	Before	After	Before	After
<i>Major banking crises*</i>								
FI	2.8	3.1	1.9	2.4	1.0	0.3	-0.1	0.4
SE	1.9	2.5	0.7	1.8	0.8	0.5	0.4	0.2
US	3.1	3.3	1.1	1.2	0.9	1.0	1.1	1.0
<i>Other major recessions</i>								
BE	2.2	2.1	1.5	1.0	0.7	0.7	-0.1	0.4
DE	2.5	1.6	1.7	1.2	0.7	0.7	0.1	-0.2
EL	0.9	3.1	0.0	1.7	0.8	0.8	0.2	0.6
ES	2.7	3.1	1.4	0.3	1.1	1.3	0.1	1.5
FR	2.2	1.9	1.7	1.1	0.9	0.8	-0.4	0.0
IT	2.4	1.4	1.2	0.5	0.9	0.6	0.4	0.2
PT	3.2	2.5	2.1	1.0	1.3	1.3	-0.2	0.2
UK	2.4	2.8	1.6	1.8	0.6	0.7	0.2	0.3

(1) The averages exclude the years of the downturn, during which GDP/capita is still negative (see Table 6).

(2) Contributions to potential growth – Components do not always add up due to rounding.

Source: Commission services.

In Germany and Italy, the fall can be largely explained by a significant drop in the working age population; a development independent of the recession. In Sweden, the reason lies in the fall of the participation rate.

TFP growth emerges as the key factor explaining country differences in developments in potential growth around recessions. The group of countries which experienced an increase in TFP growth (EL, FI, SE, UK and US) coincides with the group that also benefited from an increase in potential growth, except for Spain.²⁹ In the other episodes, recessions were associated with a large decrease in TFP growth of 0.8% on average.

Overall, the analysis points to a substantial risk of a TFP-driven drop in potential growth after recessions. An in-depth study would be needed to analyse the causes of the drop but at least four factors seem to have been at play. First, TFP growth was already on a downward trajectory before the recessions in some of the countries, in which cases it is difficult to judge to what extent the post-crisis deceleration in TFP is attributable to the recession or merely a continuation of pre-crisis trend. Second, there seems to be some

relation between a country's success in increasing or at least preserving its level of R&D during and after the crisis and its TFP performance. Third, most of the countries which were able to lift or maintain TFP growth after the recession also posted a comparatively high degree of flexibility in resource reallocation, allowing the economy to absorb shocks better. Fourth, in some of these successful countries, trade seems to have played an important role in the recovery phase, with nominal exchange depreciations acting as a catalyst.

3. Assessing the impact of the crisis on euro-area potential output

A sharp drop in potential growth in the short term...

Estimates of the euro-area's potential output based on production functions point to a marked deceleration of potential growth over the short term. As shown in Table 8, the economic crisis has led to a sharp downward revision of the Commission's estimates of potential output growth rates in 2009-10. In the euro area, potential growth is projected to drop by half in 2009-2010 compared with 2008, i.e. from a growth rate of 1.3% to 0.7%. This fall is due to large increases in structural unemployment and

²⁹ In Spain, the increase in potential growth was mainly the result of a substantial increase in the contribution of labour input, which can be explained by the strong rise in the participation rate during those years.

Table 8: **Potential growth rate developments, euro area**
(in %, 2007-2010)

	Potential growth (annual changes)	Percentage points contribution to potential growth			NAIRU (% of labour force)	Investment ratio (% of potential output)
		Labour	Capital	TFP		
2000-2006	1.8	0.4	0.8	0.6	8.5	8.5
2007	1.6	0.3	0.9	0.4	8.7	8.7
2008	1.3	0.1	0.8	0.4	9.0	9.0
2009	0.7	-0.3	0.5	0.4	9.7	9.7
2010	0.7	-0.1	0.4	0.5	10.2	10.2

Source: Commission services.

to a substantially reduced contribution of capital. Trend TFP growth is projected to remain close to its pre-crisis level. These projections are subject to considerable uncertainty and should therefore be interpreted with caution.³⁰ They suggest, however, that the crisis will have a deep short-term impact on potential output via a rise in the NAIRU and a fall in the investment rate. Both channels should be roughly equivalent in size over the 2009-10 period, although the NAIRU effect may kick in somewhat more rapidly. The two effects reflect the exceptional strength of the ongoing crisis and should a-priori be gradually reversed once the economy recovers. The rise in the NAIRU is attributable to the temporary impact of nominal wage rigidities while the slowdown in capital accumulation reflects the strong cyclical nature of investment.

... followed by a slow return to pre-crisis potential growth

At this juncture, the most likely scenario is one of a medium-term return of potential growth to its pre-crisis long-term trend as the negative capital and labour effects identified above are gradually reversed. Empirical evidence of the effect of past crises shows, however, that the economy will not return to its pre-crisis expansion path but will shift to a lower one (as in the middle panel of Graph 27). In other words,

the crisis will entail a permanent loss in the level of potential output. One of the factors that will shape the size of this loss is the speed at which the economy reverts to long-term trends. The slower the adjustment to long-term trends, the greater the final loss in potential output level compared with a pre-crisis expansion path. The risks that the adjustment process will be protracted appear unfortunately to be high due to the specific characteristics of the current crisis, including its duration, its global nature and underlying changes in risk behaviour.

First, the latest forecasts suggest that the current crisis will be more protracted than its predecessors.³¹ This will lengthen the potential output adjustment phase as the capital and employment effects identified above are only reversed slowly. Moreover, the protracted rise in the NAIRU might lead to hysteresis effects as workers lose their skills, causing a larger loss in the potential output level. Many discouraged workers may also withdraw from the labour force, thereby cutting labour supply. Second, the global nature of the current crisis makes it harder to engineer a strong recovery via rechanneling resources from the non-tradable sector to the export sector, as world demand is sharply depressed. The Finnish and Swedish 'miracles' seen after the financial crisis in the early 1990s were partly due to sectoral re-allocation of labour and capital toward the IT export sector. Third, the changes in attitudes towards risk brought about by the turmoil may have a lasting impact

³⁰ The estimates of potential growth in 2009-10 are based on the Commission's spring forecast and are therefore subject to the usual uncertainty. In addition, estimates of trend TFP appear particularly uncertain at this juncture due to the unprecedented decline in capacity utilisation, the difficulty in estimating capital obsolescence rates and uncertainties regarding the impact of the financial crisis on R&D spending and the pace of innovation.

³¹ The Commission's spring forecasts project euro-area GDP to contract by 4% in 2009 and by 0.1% in 2010. Previous post-war recessions were clearly shorter with a single year of GDP contraction followed by a year of healthy growth.



Box 3: The impact of the financial crisis on growth – Some model simulations

This box presents a model-based analysis of the impact of the financial crisis on euro-area growth. The European Commission's QUEST III model is used to simulate the medium and long-term impact of the crisis on potential output. To illustrate the likely effects of the financial crisis, a recession scenario is constructed by simulating the effect of a 200 bp increase in risk premiums in the equations determining corporate and housing investment as well as house prices. The increase in risk premiums can be interpreted as a correction to over-optimistic expectations in financial markets. It is calibrated so as to generate a fall in euro-area GDP of about 4% in 2009.

Economic downturn generated by an adverse financial shock (increase in risk premiums of 200 bp for 3 years) (1)

	2009	2010	2011	2012	2013	2018	2028
GDP	-3.98	-4.24	-3.96	-3.77	-3.65	-3.26	-2.25
Capital T	-0.57	-1.71	-2.72	-3.56	-4.27	-6.50	-7.16
Capital NT	-0.28	-1.09	-2.06	-3.01	-3.89	-6.80	-7.86
Employment	-4.08	-4.64	-4.03	-3.50	-3.07	-1.64	-0.01
Employment smoothed	-0.44	-1.23	-1.79	-2.14	-2.34	-2.22	-0.67
Investment	-13.88	-21.24	-22.28	-21.54	-20.26	-13.86	-6.12
Real wages	0.31	0.13	-0.20	-0.50	-0.76	-1.75	-2.30
Nominal wages	-0.71	-1.94	-3.04	-4.01	-4.87	-7.93	-9.68
Price level GDP	-1.02	-2.06	-2.84	-3.53	-4.14	-6.29	-7.55
Potential output (2)	-0.37	-1.17	-1.91	-2.53	-3.04	-4.31	-3.98
Capital	-0.13	-0.49	-0.93	-1.37	-1.77	-3.12	-3.62
Labour	-0.24	-0.68	-0.99	-1.18	-1.30	-1.22	-0.37

(1) All variables reported in the table are in per cent deviations from baseline levels.

(2) Potential output is calculated by using a weighted average of capital and smoothed employment (in order to capture the low frequency components of employment).

Source: Commission services.

As shown in the table above, the rise in risk premiums affects potential via both employment and investment in the short run. However, whereas the effect of employment on potential growth becomes negligible after 5 years, it is far more persistent in the case of capital and still significant after ten years (as the simulations are presented in deviations from the baseline, effects on potential growth should be measured by comparing two successive years). Interestingly, the simulations also suggest that the shock on risk premiums will have a **permanent effect** on the level of potential output (i.e. they entail a downward shift in the expansion path of potential output) and a **lasting (but non-permanent) effect** on potential growth. The simulation does not point to any loss in potential growth after 10 years.

The negative contribution from capital to potential GDP results from increases in risk premiums on loans to firms and households (reflecting more cautious lending behaviour on the part of banks) and from a correction of overinvestment after a boom period (possibly generated by a bubble in financial and housing markets). The shock to risk premiums causes a lasting drop in the investment rate, which, given the direct relation between the investment rate and capital growth, explains the persistent effect on the contribution of capital.

As the NAIRU increases substantially in the short run, the negative effect of employment in the first two years is larger than the adverse contribution from capital, while in the medium term the negative contribution from capital is dominant. Downward nominal rigidity of wages appears to explain the rise of the NAIRU. Indeed, an increase in real wages for 2009 and 2010 can be seen. To test whether this conjecture is correct, the same simulation experiment was run, but this time with very low nominal wage stickiness. With this assumption on wage behaviour, wages respond strongly to adjust employment, however at the cost of a very sharp decline in real wages. This suggests that it is indeed very costly for workers to keep unchanged employment levels in an economic environment with falling capital stock. Additional QUEST simulations indicate that in the absence of frictions in both goods and labour market the economy adjusts much more smoothly to the shock in risk premiums, leading to less fluctuation in GDP.

on potential growth. Model simulations, described in more detail in Box 3, suggest that a permanent increase in risk premiums, reflecting investors' and corporations' more cautious approach to risks, could have a long-lasting impact on capital accumulation and therefore potential growth. According to the simulations, for example, a 200 bp increase in risk premiums still translates into a 0.2 pp reduction in potential growth – mostly due to the capital channel – after ten years.

An additional source of uncertainty regarding the phase of adjustment of potential growth to its long-term trend relates to TFP. There are indeed serious downside risks to medium-term prospects for TFP growth. These concern the ongoing process of industrial restructuring and innovation. Major recessions are generally associated with a process of industrial restructuring as some of the shocks causing the recession also force resources to be reallocated across sectors and from less productive to more productive enterprises. A slow process of industrial restructuring, caused either by credit constraints – due to delayed adjustments in the banking sector – or by entrenched structural rigidities, could have a lasting negative effect on the level and growth rate of TFP by locking resources in relatively unproductive activities or enterprises.³² In the case of Japan, Caballero et al. (2008) argue that the slow restructuring of the banking sector during the Lost Decade allowed credit to continue to flow to bankrupt firms (the so-called "zombies"), keeping them alive at the expense of the entry of more productive competitors.³³ This seems to have depressed overall productivity growth in Japan for several years. The effect of restructuring on TFP could also be magnified by the accelerated obsolescence of some capital vintages brought about by the restructuring process.

Finally, downside risks to medium-term TFP prospects also relate to depressed investments in

private R&D, which is known to be markedly pro-cyclical. TFP drivers, such as physical investment, R&D and innovation, may suffer further from a prolonged recession and the changes in attitudes towards risk. In particular, credit constraints and investors' more cautious attitudes towards risks could have a disproportionate effect on young and innovative firms, thereby reducing the pace of innovation. There is indeed evidence that R&D investment becomes even more pro-cyclical as firms face tighter credit constraints.³⁴ Finally, risks to R&D spending are not confined to the private sector. Strains in public finances could also constrain public investment in research as attention shifts to more short-term spending priorities.

Risks of a permanent downshift in potential growth should not be played down

We have argued that, although the adjustment phase could be protracted, the most likely scenario for the euro area is for a return of potential growth to its pre-crisis long-term trend. Nevertheless, risks of a moderate crisis-induced reduction in long-run potential growth cannot be ruled out in the absence of adequate policy responses.

Whereas economic theory suggests that the effect of the crisis on potential growth via the capital and labour channels should be largely temporary, the same does not apply to TFP. Basically, most of the sources of downside risks to TFP identified in the previous section could also turn into sources of permanent downshift in TFP growth. Changes in attitude towards risks and a rise in risk premiums could have a lasting effect on R&D spending and innovation activity, leading to a drop in long-term TFP growth prospects. There is also a risk that rigidities and bad policies might durably hinder the necessary industrial restructuring processes, thereby weighing lastingly on TFP growth. The existence of such risks is backed by the historical evidence presented in Section 2. In a number of euro-area Member States, the recession of the 1990s was

³² This argument obviously only applies to cases where the recession is associated with a shift from low to high productivity sectors. In the opposite situation, a slow restructuring process would delay the downshift to lower trend TFP.

³³ Caballero R.J., T. Hoshi and A. K. Kashyap (2008), 'Zombie lending and depressed restructuring in Japan', *American Economic Review*, 98:5, 1943-77.

³⁴ Aghion, P., P. Askenazy, N. Berman, G. Cette and L. Eymard (2008), 'Credit constraints and the cyclicality of R&D investment: Evidence from France', PSE Working Papers, 2008-26, PSE (Ecole normale supérieure).



followed by enduring deceleration in potential due to weaker TFP growth. The long-lasting deceleration of potential in conditions which were arguably less dramatic than those prevailing now suggests that the downside risks on long-term prospects for TFP growth are substantial. Such risks should not be played down and curtailing them appears to be an essential policy challenge at the current juncture.

4. Adequate policy responses are needed

To sum up, unless appropriate policies are implemented, the euro area is likely to experience a sharp drop in potential growth in the short term, followed by a very gradual return to pre-crisis trend growth. As a result, the economy will have to face permanent losses in the potential output level compared with a pre-crisis expansion path. This situation is reflected by the middle panel of Graph 27. The return to long-term trends is likely to be slower in the current crisis than in previous recessions due to the duration of the crisis, its global nature and the changes in attitudes towards risk. Moreover, there is a risk that part of the reduction in potential growth seen in the short term may become entrenched, especially if the new financial conditions are more restrictive in the long run and harm TFP growth through less dynamic innovation and depressed R&D investment. This is the situation shown in the bottom panel of Graph 27.

Nevertheless, the ultimate outcome of the crisis will depend to a very large extent on the policy reactions. To contain the permanent losses in the level of potential output traditionally associated with a financial crisis and to reduce the risks of a lasting deceleration of TFP growth, timely and appropriate policy responses – encompassing a wide range of measures and covering several reform areas – need to be put in place

Need for timely policy action

It will be crucial to start implementing adequate policy action promptly so as to raise the long-run potential output growth, while avoiding policies that may be appealing in the short run but could be potentially damaging for the potential output growth in the longer run. Growth- and

efficiency-orientated policies are necessary not only to help EU economies to return to the "pre-crisis" potential growth path but also, if possible, to recoup some of the cumulated loss in the GDP level suffered in the course of the crisis. Making up for this loss will require a steep increase in "potential growth", i.e. (at least) a temporary increase in potential growth above the rates experienced prior to the financial and economic crisis.

Since the crisis may already have exerted adverse effects on future potential growth (e.g. due to a drop in investment rates), long-term supply-side action should be undertaken now, in addition to demand-enhancing measures, and should, by no means, wait until the crisis is over before being implemented. Despite the difficulties involved in taking action and the possibly lesser appetite for reforms, there is a need for a comprehensive approach using a wide range of available instruments to tackle the multi-faceted factors impinging on potential growth. The need to continue and, indeed, deepen the structural reform processes in a number of European markets could be catered for by the Lisbon strategy, which is to be reviewed in 2010. In any case, the issue of adequate and timely policy responses will be a substantial part of the debate on "Lisbon post-2010". The timing of policies aiming to dismantle structural rigidities is a particularly important and sensitive issue, given that, in the short term, the latter may to some extent strengthen "automatic" stabilisers, on the one hand, while hampering recovery and medium-term potential growth, on the other.

Adequate policy responses should encompass a wide array of measures

Adequate policy responses should encompass a wide range of areas, including financial markets, business environment, labour markets, physical investments, R&D investments and innovation policies.

A sine qua non condition – albeit not necessarily sufficient – for solving the financial and economic crisis and limiting its adverse impact on innovation and R&D investment – and ultimately on long-term TFP growth and potential growth – is to effectively address the disruptions in financial markets.

Apart from difficult access to the requisite financing, the recovery prospects of European firms are also potentially threatened by a failure to restructure and adapt their business models to a new economic environment, including global competitive pressures. Rescue policies in favour of industries that have been particularly affected by the crisis need to support the euro-area's long-term goals and not freeze resources in unproductive activities, which would reduce potential output growth in the medium run through lower efficiency and lower adjustment capacity.

The role of policies aimed at enhancing labour supply, including financial incentives to work, is important, including from the perspective of protecting the most vulnerable groups threatened by long-term exclusion from the labour market. Policies that promote wage moderation, alleviate nominal rigidities of wages and cut labour taxes will reduce structural unemployment and boost competitiveness and adjustment capacity. Policies that facilitate labour market transitions (e.g. active labour market policies such as training and public placement) are needed to ease the short-run adjustment and to smooth the longer-run reallocation of resources.

It is crucial that policies should also be geared to sustaining investments in physical and intangible capital during the downturn. This will bring considerable medium-run and long-run gains in potential output growth. In order to sustain and,

where possible, increase the relatively low pre-crisis potential growth rates, policies also need to promote R&D and innovation efforts already in the time of crisis and to prevent their cyclical downturn, although some short-run costs associated with these policies have to be borne.

Avoiding tempting policy mistakes

The current circumstances may increase the temptation to have recourse to ill-designed policies, the cumulated effect of which could severely harm potential output both in the short term and also in the longer term.

First, there might be a tendency to yield to protectionist temptations or to try to promote national interests at the expense of the proper functioning of the Single Market. Such policies would lead to sizeable losses in output, have negative spillover effects across the world and put the long-term credibility of the Single Market at risk.

Second, measures reducing labour market participation, such as early retirement schemes, would significantly reduce potential output.

Third, a prolonged crisis may undermine the commitment to sustainable fiscal policies, which may ultimately lead to higher taxes and limit the budgetary scope for accommodating future reform efforts.



Focus

III. Dealing with the economic and budgetary challenges posed by population ageing in times of crisis*

Being active and healthy well into old age is now a realistic prospect for very large numbers of people for the first time in Europe's history. But an ageing population also raises challenges for our societies and economies, both cultural, organisational and from an economic point of view. Policy-makers worry about how living standards will be affected as each worker has to provide for the consumption needs of a growing number of elderly dependents. The seriousness of the challenge depends on how our economies and societies respond and adapt to these changing demographic conditions.

Looking ahead, policy-makers need to ensure long-term fiscal sustainability in the face of clearly anticipated risks over the long-term, as well as significant uncertainty. This is all the more true as Europe is in the midst of the deepest recession in decades, which is putting an unprecedented strain on workers and companies and is set to have a major impact on the sustainability of public finances. The euro-area's ability to get out of the slump fast and to restore high and stable growth and sound public finances will depend crucially on its ability to deploy targeted and well coordinated policy responses built on structural reforms, as stressed by the European Economic Recovery Plan. Once out of the crisis, the long-term prospects will depend on the degree of determination to achieve a swift return to sound public finances and increased focus on the structural reform agenda as a key part of a credible exit strategy.

This focus section draws on joint work by the European Commission (DG ECFIN) and the Economic Policy Committee's Ageing Working Group (AWG)³⁶ and presents a new assessment of the economic and budgetary challenges posed by ageing. The assessment builds on Eurostat's most recent long-term demographic projections (Section 1), which are used to construct long-term labour force and growth projections (Sections 2 and 3). These are then used to project the budgetary implications of ageing (Section 4). An analysis of the potential impact of the current crisis on long-term trends via several alternative scenarios is also presented (Section 5).

1. Long-term demographic trends

Demographic change is transforming Europe: longer lives, low fertility and inward migration are its key aspects. The extent and speed of population ageing depend on future trends in these three factors. According to Eurostat's EUROPOP2008 projection, future demographic developments differ significantly from country to country, but the overall population size in the

euro area³⁷ is projected to remain the same in 2060 as today, thanks to a slight rebound in the fertility rate in some Member States and more dynamic immigration flows in recent years.

Only a modest recovery in total fertility rates, which remain low...

Only a modest recovery in the total fertility rate, which is the average number of births per woman over her lifetime, is assumed for the euro area, from 1.53 births per woman in 2008 to 1.65 by 2060. In all euro-area countries, the fertility rate would remain below the natural replacement rate of 2.1 births per woman needed for each generation to replace itself. This will result in slow growth and in most cases actual declines in the population of working-age.

... while life expectancy continues to increase...

Mortality risks fell dramatically during the 20th century, bringing more years of active life for both men and women. Life expectancy has been rising steadily, with an increase of two and a half years per decade in the countries holding the record for the highest life expectancy. If the pace of future progress in the reduction of mortality

* Section prepared by Per Eckefeldt.

³⁶ See European Commission, '2009 Ageing Report: economic and budgetary projections for the EU 27 Member States (2008-2060)', European Economy No 2, 2009.

³⁷ Projections for the euro area assuming unchanged membership.

remains the same as it has been over past decades, most people in the euro area will live very long lives. For the euro area as a whole, life expectancy at birth for men would increase by 7.9 years over the projection period, from 76.6 years in 2008 to 84.5 in 2060. For women, life expectancy at birth would increase by 6.7 years, from 82.3 in 2008 to 89 in 2060, implying a narrowing gap in life expectancy between men and women.

Life expectancy at the age of 65 would increase by 5.3 years for men and by 5.1 years for women over the projection period. In 2060, life expectancy at age 65 would reach 21.8 years for men and 25.1 for women.

... and inward net migration to the euro area continues, but decelerates

Over the projection period, annual net migration inflows to the EU are assumed to total 59 million people, the bulk of them (46.2 million) in the euro area. The trend is assumed to decelerate over the projection period, falling from about 1 422 000 people in 2008 (equivalent to 0.4% of the euro-area population) to some 627 000 people by 2060 (0.2% of the euro-area population). Migration already plays a predominant role in population growth today: in many Member States, the size of net migration determines whether the population still grows or has entered a stage of decline.

Net migration flows are assumed to be concentrated in a few destination countries: Italy (12 million cumulated to 2060), Spain (11.6 million) and Germany (8.2 million). According to these assumptions, the change of Spain and Italy from origin to destination countries is confirmed in the coming decades.

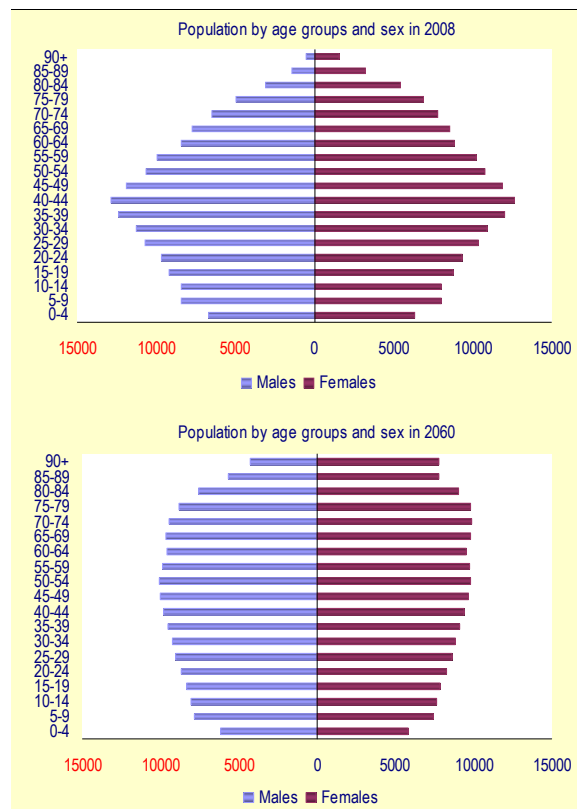
Population structures become increasingly dominated by old people rather than young

The population of the euro area as a whole would be slightly larger in 2060 than today, but much older. The population would increase (from 324.9 million in 2008) by about 6% by 2040, when it would peak (at 345.5 million). A steady decline would then take place, with the

population shrinking by nearly 3%, to 335.1 million, by 2060.

Almost half of the population today is 50 years old or more. In 2060, more than half of the population will be aged 55 or over. The number of elderly persons aged 65 or over was already higher than the number of children (below 15) in 2008, but their numbers are relatively close. In 2060, there would be nearly twice as many elderly people as children. In 2008, there were about three and two thirds as many children as very old people (above 80). In 2060, children would still outnumber very old persons, but by a small margin: the number of very old people would reach 80% of the number of children.

Graph 28: Population pyramid in 2008 and 2060, euro area (thousands)



Source: 2009 Ageing Report, Commission services.

Elderly people would account for an increasing share of the population due to sustained reductions in mortality in past and future decades. The ageing process can be described as ageing from the top, as it largely results from projected increases in longevity, moderated by



the impact of positive net migration flows and some recovery in fertility.

While the euro-area population is projected to remain the same in 2060 as it was in 2008, there are wide differences in population trends across Member States: a majority of them would gain in population numbers (Belgium, Ireland, Spain, France, Cyprus, Luxembourg, the Netherlands, Austria, Portugal and Finland,), while the population would fall in others (Germany, Greece, Italy, Malta, Slovenia and Slovakia).

The projections show a significant reduction in the population aged 15-64 ...

The working-age population, which is conventionally defined as aged between 15 and 64, would start to decline as of 2010 and, over the whole projection period, it would drop by 15% in the euro area. However, five Member States would see their working-age population expand: Belgium, Ireland, France, Cyprus and Luxembourg, mostly due to migration (except in the case of France and Ireland where fertility is relatively high). The number of children is projected to decline gradually from 2020 onwards.

... and an increase in the number of elderly persons aged 65 or more...

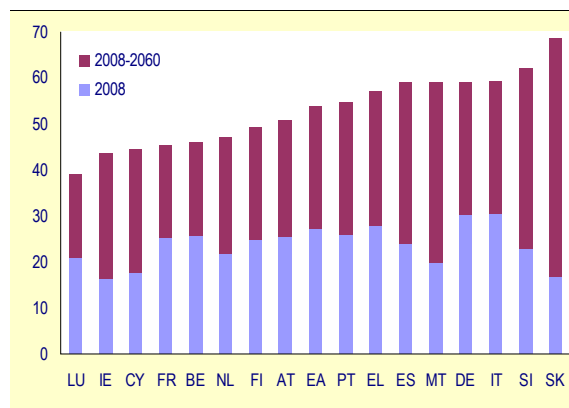
The number of elderly people will increase very markedly, according to the projection. It will almost double, rising from 58 million in 2008 to 101 million in 2060 in the euro area. The number of oldest-old (aged 80 years and above) is projected to increase even more rapidly, almost tripling from 15 million in 2008 to 43 million in 2060. The progressive ageing of the elderly population itself is a notable aspect of population ageing.

... leading to a doubling of the old-age dependency ratio in the euro area

As a result of these unprecedented demographic trends, the old-age dependency ratio, calculated as the ratio of people aged 65 or over relative to the working-age population aged 15-64, is projected to more than double in the euro area from 27% to 54% over the projection period.

The largest increase is expected to occur during the period 2015-40. This means that the euro area would move from having 4 persons of working-age for every person aged over 65 to a ratio of only 2 to 1. When adding the number of children to the calculation, the ratio of dependent to active is projected to rise by about 50%.

Graph 29: **Old-age dependency ratio, euro-area Member States**
(persons 65 and over/persons aged 15 to 64, in %)



Source: 2009 Ageing Report, Commission services.

2. Labour force projections

Labour participation rates to increase ...

For the euro area, the participation rate (of people aged 15 to 64) is projected to increase by 3½ pp, from 70.8% in 2007 to 74.4% in 2060. Almost all of the increase is projected to materialise before 2020. The biggest increase in participation is projected for older workers, aged between 55 and 64 (around 22.5 pp for women and 12.5 pp for men). The gap between male and female participation rates would gradually narrow, especially in countries where it is currently wide.

... but labour supply will decline because of the future population trends

The labour force (15-64) in the euro area would increase by almost 5% or about 7.4 million people by 2020. This is mainly due to the rise in the labour supply of women. However, the positive trend in female labour supply is projected to reverse after 2020 and, as the male labour supply drops too, the overall labour force

is expected to decrease by as much as 13% by 2060, which translates into 21 million people (14 million if compared with the number in 2007).

A majority of Member States would see their labour supply expand until 2020. However, a few countries (the Netherlands, Finland and Slovenia) will even record a reduction in labour supply over the next decade. After 2020, most countries are projected to see labour supply shrink over the period 2020 to 2060. The projected decrease in the labour force after 2020 will be due almost entirely to adverse demographic developments.

According to assumptions, the unemployment rate will drop slightly and the employment rate will increase...

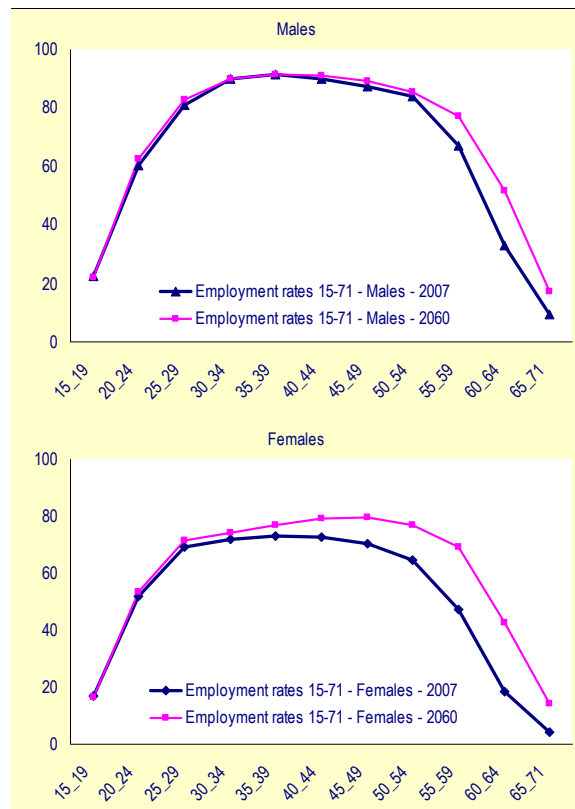
Overall, a reduction in the euro-area unemployment rate of around 1½ percentage points is assumed (from 7.6% in 2007 to 5.9% in 2020).

According to assumptions, the employment rate (of people aged 15 to 64) in the euro area will increase from 65.5% in 2007 to 70% by 2030. Reflecting recent positive trends, the employment rate of women is assumed to rise from 57.7% in 2007 to 63.4% in 2020 and to 64.9% in 2060. The increase in the employment rate will be even larger for older workers (55-64), from 42.4% in 2007 to 54.7% in 2020 and to 60.2% in 2060.

... but the number of workers will shrink

However, the number of people employed will grow by 6.7% up to 2020, before reversing and declining by 13% by 2060. Overall employment in the euro area is projected to shrink by about 10 million people over the entire projection period. Increasing labour force participation rates in most countries and rising net immigration levels in some can only moderate the fall in employment caused by the ageing of the population and the negative population growth in the period from 2020 to 2060.

Graph 30: **Employment rates in the euro area** (by gender and age group; 2007 and 2060, in %)



Source: 2009 Ageing Report, Commission services.

Hours of work (labour input) are projected to decline too

The total hours of work in the euro area will fall by 5.7% between 2007 and 2060 over the entire projection period. In annual average growth rates, hours of work are projected to fall by 0.1% in the euro area over this period. These figures reflect projected employment trends and a composition effect, due to the increasing share of employed persons working part-time (mainly due to the increase in women in employment, who are more likely to work part-time).

In line with different demographic trends, a reduction in labour input is projected in most countries over the period between 2007 and 2060, with drops of 20% and more in Germany, Slovenia and Slovakia. By contrast, a few will see an increase in hours worked (Belgium, Ireland, Spain, France and Luxemburg).



The ratio of elderly non-workers to workers will rise steeply

It is important to consider the ratio of elderly non-workers to workers, or the effective economic old-age dependency ratio, when assessing the impact of ageing on budgetary expenditure, above all for public pension schemes. For the euro area, the ratio is projected to rise sharply from 39% in 2007 to 73% in 2060. Hence, the euro area would move from having a ratio of 4 elderly non-workers to 10 workers in 2007 to a ratio of more than 7 to 10. Extremely high values are projected in some countries. In Slovakia and Malta, for example, the projections point to a situation where, by 2060, there will be almost as many inactive old persons as people working (the ratio will be more than 90%). By contrast, the ratio is projected to be under two thirds in Ireland, France, Cyprus, Luxembourg, the Netherlands, Austria, Portugal and Finland.

A retirement, not an ageing problem

Ageing is a dynamic process, and the policy challenge is to develop labour market and welfare-state policies that are adaptable and sustainable in the face of uncertain economic and demographic developments.

Table 9: Retirement problem or ageing problem in the euro area?

	Men		Woman	
	2008	2060	2008	2060
Average exit age	61.7	63.4	61.2	63.1
Life expectancy at the time of withdrawal	14.9	21.1	21.1	25.9
% of adult life spent in retirement	19%	25%	26%	29%
Exit postponement, in years		4.7		3.1

Source: 2009 Ageing Report, Commission services.

In the euro area, the average exit age from the labour market was 61.7 for males and 61.2 for females in 2008. By 2060, this is projected to have risen to 63.4 and 63.1 respectively, in part due to the reforms enacted (see Table 9). This implies an increase in the share of adult life spent

in retirement, from 19% to 25% for males, and from 26% to 29% for females. In order to keep the share of adult life spent in retirement constant at its 2008 level, the average retirement age would need to rise by an additional 3 to 5 years, i.e. a considerably larger increase than projected. A priori, there is no economic rationale for favouring a constant share of adult life spent in retirement, and indeed a preference for a longer period of leisure time in retirement could be justified on the basis of rising living standards. However, retirement decisions need be economically and financially viable.

3. Labour productivity and potential growth

Total factor productivity is assumed to converge to 1.1%

Total factor productivity (TFP) drives labour productivity growth in the long run. A cautious assumption was set of Member States' TFP growth rates converging to a long-term historical average in the EU of 1.1%, as was seen over the period from 1970 to 2004, which is close to productivity growth in the US over the same period. The speed of convergence is determined by the relative income position of the Member States. Specifically, the lower the current GDP per capita, the higher the real catching-up potential, which will materialise through a period of higher TFP growth.

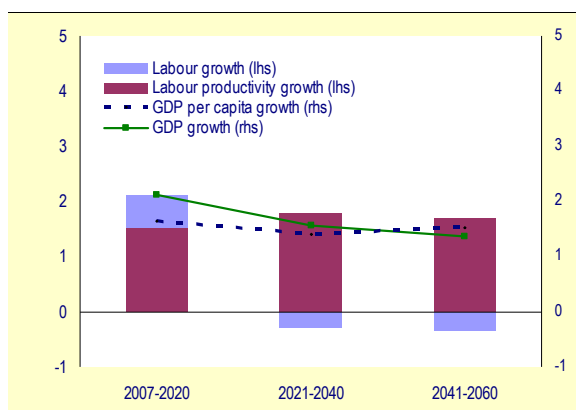
A decline in potential growth rate is projected...

Even without incorporating the potential negative impact of the current economic crisis, the annual average potential GDP growth rate in the euro area is projected to fall from 2.2% in the period 2007-2020, to 1.5% in the period 2021-2030 and to a meagre 1.3% in the period 2041-2060. While all euro-area Member States would experience a slowdown in their future potential growth rates, owing to the adverse impact of demographic trends, growth rates would differ substantially from country to country.

...and the sources of growth are also projected to change, with labour productivity becoming the key driver

For the euro area, labour productivity growth is projected to remain fairly stable at close to 1.7%. A small increase in the growth rate is expected up to the 2030s as a result of the higher productivity growth assumed in Member States that are catching up. Total hours of work –labour input – are projected to increase up to the 2020s. Thereafter, demographic ageing, with a reduction in the working-age population, is expected to act as a drag on growth. Over time, labour productivity will become the only driver of growth in the euro area.

Graph 31: **Components of potential GDP, euro area** (annual average growth rate in %)



Source: 2009 Ageing Report, Commission services.

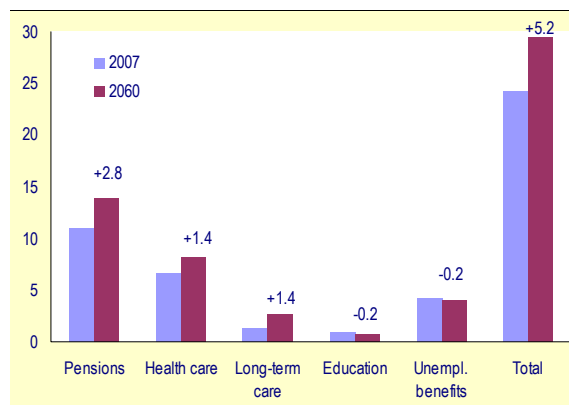
4. Budgetary projections

Results of long-term, age-related public expenditure projections

The budgetary projections point to sizeable fiscal challenges coming from the higher share of the total population in older age cohorts and a decline in the economically active share of the population. The fiscal impact of ageing is projected to be substantial in almost all euro-area countries, with effects already becoming apparent during the next decade. On the basis of current policies, age-related public expenditure is projected to increase on average by 5.2 pp of GDP by 2060 in the euro area. Most of the projected increase in public spending over the

period 2007-2060 will be on pensions (+2.8 pp of GDP), healthcare and long-term care (+1.4 pp of GDP each). Potential offsetting savings in public spending on education and unemployment benefits are likely to be very limited (-0.2 pp of GDP each).

Graph 32: **Age-related expenditure components, euro area** (% of GDP, 2007-2060)



Source: 2009 Ageing Report, Commission services.

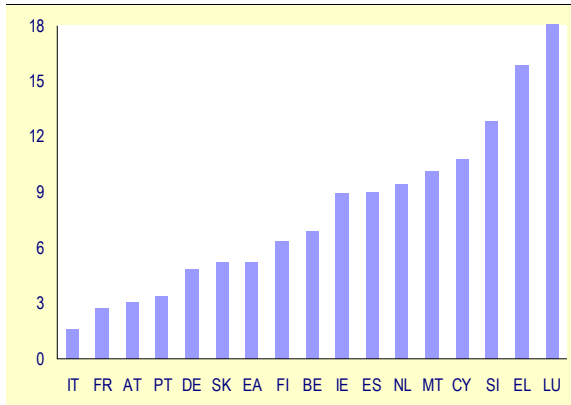
In terms of country-specific situations, the following points can be made:

- The age-related increase in public spending will be very significant in eight countries (Luxembourg, Greece, Slovenia, Cyprus, Malta, the Netherlands, Spain and Ireland), with a projected increase of 7 pp of GDP or more, although for some countries the large increase will be from a fairly low level. These countries have so far made only limited progress in reforming their pension systems or have maturing pension systems.
- For a second group of countries – Belgium, Finland, Slovakia and Germany – the age-related increase in public spending is more limited, ranging from 4 pp to 7 pp of GDP. Several of these countries have taken significant steps to reform their public expenditure systems that contribute to limit the increase in future expenditure.
- Finally, the increase is more moderate, 4 pp of GDP or less, in Portugal, Austria, France and Italy; this is also thanks to the implementation of substantial pension reforms. For many of them, the projected increase in expenditure on healthcare and



generally on long-term care is higher than the increases in pensions.

Graph 33: Age-related expenditure in the euro area
(projected change in pp of GDP, 2007-2060)



Source: 2009 Ageing Report, Commission services.

The highest increase is projected for public pension expenditure...

The demographic transition to an older population is the main driver behind the projected increase in public pension expenditure. This effect alone would push up expenditures very significantly in all countries. However, a number of factors, also related to past reforms of pension systems, are expected to mitigate the increase:

(a) tightening eligibility for public pensions (through higher retirement ages and/or reduced access to early retirement and better control of alternatives to early retirement like disability pensions) would constrain public pension expenditure in nearly every country. In the large majority of countries, this reflects implemented pension reforms, often phased in over a long period, which lead to higher participation rates of older workers during the projection period. For example, pension reforms that have strengthened the link between pension benefits and pension contributions (or raised the threshold for qualifying for a 'full' pension), can also contribute to raising the retirement age. Trend increases in female labour force participation also lead to an increase in the effective retirement age in a large majority of countries;

(b) higher employment rates are projected as reforms that provide stronger work incentives reduce structural unemployment rates in a number of countries;

(c) the generosity of pensions relative to wages is projected to decrease. It is captured at an aggregate level by the pension benefit ratio, i.e. the average pension as a share of the average wage. This effect shows very considerable differences across Member States. In some (Ireland, Greece and Cyprus) average public pensions relative to wages remain unchanged or even increase over the projection period, while in most others, and especially in France, Italy, Austria, Portugal and Slovakia, they are projected to have fallen significantly by 2060. While resulting in budgetary savings, the adequacy of pensions should be kept under review. Inadequate pension levels may lead to future demands for ad hoc government intervention to address declines in public pensions relative to wage developments and the risk of poverty of pensioners.

Generally, several related issues merit attention:

- (i) removing supply-side barriers to allow people to continue to work as they grow older;
- (ii) putting in place flexible mechanisms that allow older people to choose to retire even beyond the statutory retirement age and affect the size of their eventual pension benefit;
- (iii) introducing incentives for employees/employers to prolong their working lives/retain older workers in the workforce;
- (iv) allowing part-time old-age retirement, as a way of combining adequate incomes for older persons with improving the labour supply in the economy, as well as making the continued contribution of older workers more attractive;
- (v) providing relevant and accessible information on the need for people to rely on a range of different income sources once retired. Incentives for private savings can take many different forms, ranging from making contributions to private pensions schemes compulsory to providing tax breaks for regular private pension savings.

...but healthcare costs rise too...

Healthcare systems in the euro area are expected to face substantial challenges in the future. The baseline projection includes an increase in healthcare expenditure of 1½ percentage points of GDP by 2060. Healthcare spending is also strongly related to income growth and technological progress. Newly developed methods for early diagnosis and treatment contribute significantly to growth in spending. An analysis of past trends in healthcare expenditure suggests that technological developments – new and better treatment – are responsible for a significant part of overall costs growth, which may result in a sizeable increase in spending that is not captured in the projection. Healthcare spending as a share of GDP could be three and even four times higher than in the AWG baseline projection by 2060 if technological progress is assumed to continue as in the past and these costs are not contained. However, technological advancement may also have positive effects on reducing the costs of medical treatment through efficiency gains (faster and better treatment). Investment in prevention and health technologies offers instruments for the population to stay healthy and productive for longer. The effective management of technology is therefore a major determinant of future spending.

...as does long-term care spending...

An ageing population will also require increased public spending on **long-term care**. Based on current policies, public spending on long-term care is projected to increase by 1½ pp of GDP by 2060 due to the fact that the very old (aged 80+) will be the fastest growing age class in the population. Again, demographic factors will not be the only drivers. Currently, care for the frail elderly is provided to a very large extent on an informal basis by relatives. Changes in family structures, higher labour force participation of women and increased geographical mobility could reduce the availability of informal care. For countries whose formal care systems are less developed, the projected increase in public spending on long-term care could underestimate future pressure on public finances, due to the likely need for increased formal care provision.

...with limited, if any, offsetting effect from education spending

In terms of public **education** spending, despite the decreasing number of children over the coming decades, the current objectives and targets of education policy in the euro area, and a substantial improvement in the quality of education, may well require higher educational expenditure in the future. Investing in the human capital of young people and the adult workforce will be crucial to future productivity growth. Hence, the small decrease in the public education expenditure ratio over the projection period, which results solely from changes in the demographic composition (fewer children in the future), may not materialise.

5. The potential impact of the economic crisis on long-term budgetary projections

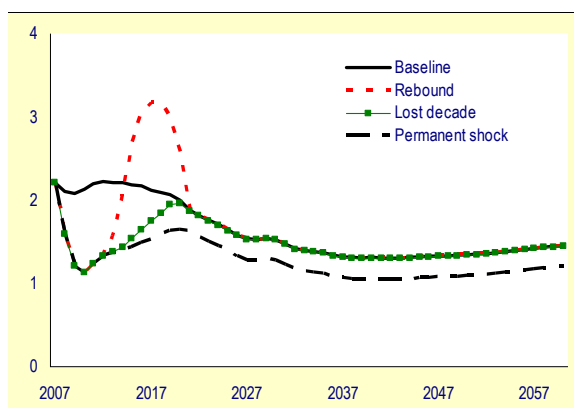
Drastically worse macro-economic developments – and prospects – than expected last year add to the uncertainty as regards the buoyancy of economic growth in the medium to long term. The economic crisis that took hold in 2008 has led to an unusually sharp and rapid deterioration in economic activity. The current slowdown has gradually transformed into a world recession. This has prompted the question of the extent to which the worsened short-term outlook also has implications for the medium and longer term.

Alternative scenarios for GDP growth potential in the aftermath of the crisis...

The AWG/EPC baseline long-term macro-economic projections for potential growth are based on the Commission's forecast made in Spring 2008. Since then, the economic outlook has deteriorated sharply, with potential adverse consequences on potential growth. In an effort to simulate the order of magnitude of the long-term risks connected with the ongoing economic crisis, alternative scenarios have been run. In view of the considerable uncertainty regarding the length of the slump in economic activity, three scenarios may be contemplated: (i) a pessimistic scenario: "permanent shock"; (ii) a less pessimistic scenario: "lost decade", and; (iii) an optimistic scenario: "rebound".



Graph 34: Alternative crisis scenarios for potential GDP (annual % change)



Source: 2009 Ageing Report, Commission services.

More specifically, the three scenarios are based on the following assumptions:

- In the 'rebound' scenario, *labour productivity* is assumed to reach the AWG baseline level in 2020. *Labour input* (total hours worked) is also assumed to reach the baseline level in 2020.
- In the 'lost decade' scenario, *labour productivity* is assumed to reach the AWG baseline growth rate in 2020. *Labour input* (total hours worked) is assumed to reach the baseline growth rate in 2020.
- In the 'permanent shock' scenario, labour input growth (total hours worked) and labour productivity growth will reach: (i) the *labour input* growth rate assuming that the unemployment rate is permanently 1 pp higher than in the AWG baseline from 2020 onwards; and (ii) the *labour productivity* growth rate assuming that it is 0.25 pp lower than in the AWG baseline from 2020 onwards.

The impact of the crisis on wealth creation depends on its duration and on the extent to which policies are put in place that successfully enhance the growth potential once out of the crisis. The impact of the crisis is at its strongest in the 'permanent shock' scenario, but also the 'lost decade' scenario has an adverse impact on the long-term growth potential. In the 'rebound' and the 'lost decade' scenarios, potential GDP growth for the euro area coincides with the

AWG baseline from 2020 on. Up to 2020, the downward revision of potential GDP growth is noticeable in the euro area, 0.6 pp lower on average in the 'lost decade' scenario, and 0.7 pp in the 'permanent shock' scenario. Over the entire projection period 2007-2060, the average revision of potential GDP growth in the 'lost decade' scenario is 0.2 pp per year for the euro area. In the worst case 'permanent shock' scenario, a larger downward revision of the average annual GDP growth of 0.4 pp over the whole projection period would materialise.

All scenarios show a reduction in GDP per capita over the medium term, of between 5 and 7% by 2015 already. In the 'rebound' scenario, this would be recuperated by 2020, as the slump would be fully reversed. The 'lost decade scenario' implies a reduction in the per-capita GDP level in 2060 compared with the baseline, which mirrors the lower expected potential growth in the decade up to 2020. This period is 'lost' in terms of accumulated wealth creation.

Table 10: GDP per capita, euro area (difference from baseline, in %)

	2010	2015	2020	2040	2060
Rebound	-3	-5	0	0	0
Lost decade	-3	-7	-8	-8	-8
Permanent shock	-3	-7	-10	-14	-18

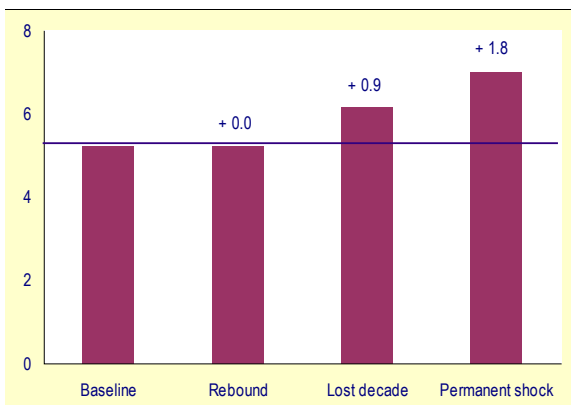
Source: 2009 Ageing Report, Commission services.

The loss in GDP per capita in the euro area is around 8% in 2020 in the 'lost decade' scenario, and this loss is carried over the rest of the projection period, since the growth projection remains broadly unchanged between 2020 and 2060. In the 'rebound' scenario, the GDP per capita by 2060 is the same as in the AWG baseline (the deterioration relative to the baseline up to 2014 is offset by the improvement between 2015 and 2020). Finally, a more marked reduction in the GDP per capita level is observed in the 'permanent shock' scenario, where GDP per capita is 10% lower than in the AWG baseline in 2020, 14% lower in 2040 and 18% lower in 2060, reflecting lower growth throughout the projection period up to 2060.

The crisis may have a considerable adverse budgetary impact if its effects on medium-term growth are not reversed

In terms of budgetary impact, the question of whether the shock is temporary or permanent determines its potential magnitude. An assessment of the public budget impact of these alternative scenarios has been carried out on the basis of the elasticities calculated for the sensitivity analysis. This provides only a preliminary indication of the impact of the alternative crisis scenarios.

Graph 35: **Potential budgetary impact of the crisis, euro area** (projected change in the total cost of ageing, pp of GDP, 2007-60)



Source: 2009 Ageing Report, Commission services.

The 'lost decade' scenario reveals that the age-related government expenditure increases faster over the first decade of the projection period, and then stabilises relative to the AWG baseline. Between 2007 and 2020, the total increase in age-related expenditure would be 0.9 pp of GDP higher than the AWG baseline and would then remain stable through to 2060. The 'permanent shock' scenario shows a constant widening of the expenditure-to-GDP ratio compared with the baseline. Between 2007 and 2020, age-related public expenditure would increase by 1.2 pp of GDP more than the AWG baseline. Over the entire projection period, however, the public age-related spending-to-GDP ratio would be 1.8 pp of GDP higher than the AWG baseline.

6. Policy implications

The slowdown in the GDP growth potential is already projected to happen in the next decade in the euro area on account of demographic trends, and the economic crisis aggravates the slowdown in a no-policy change scenario. The euro-area working-age population is assumed to start to decline early next decade, and employment growth is projected to turn negative as from the 2020s. In the medium term, the potential persistence of the economic crisis may lead to subdued potential growth due to sluggish job and productivity growth already, implying a risk of a lost decade in terms of wealth creation in the euro area.

These long-term simulations illustrate that at this juncture, marked by very subdued economic activity and exceptional uncertainty in terms of prospects, there is a very real need to put policies in place that prevent the current financial crisis from turning into a permanent shock to the key determinants of potential growth (employment and labour productivity), as this would have a serious negative impact on future GDP, per capita income levels and budgetary conditions. The euro-area's ability to emerge from the slump fast and restore high and stable growth and sound public finances will depend essentially on its ability to deploy targeted and well coordinated policy responses built on structural reforms, as stressed by the European Economic Recovery Plan³⁸ and illustrated by the 'rebound' scenario.

Once out of the crisis, the long-term prospects will also depend on the degree of determination for a swift return to sound public finances, as recommended in the EERP, and the pursuit of structural reforms required by demographic change, which will now be all the more important to build confidence as part of the exit strategy from the crisis. Equally importantly, the structural reform agenda designed to tackle the demographic challenge needs to be strengthened. This means raising employment rates substantially and, in particular, helping and encouraging the ageing baby-boomers to stay in the labour market rather than retire early, as previous generations have tended to do. The euro-area's best chance of ensuring that ageing

³⁸ COM (2008) 800 final, 26 November 2008.



will not be perceived as a threat, but as a historic achievement, lies in not wasting the potential of these baby-boom generations.

These points of reference confirm the validity of the three-pronged strategy to cope with the economic and budgetary challenges posed by ageing populations, as adopted by the Stockholm European Council in 2001, namely, (i) reducing debt at a fast pace; (ii) raising employment rates and productivity; and (iii) reforming pension, healthcare and long-term care systems.

The Commission stressed in its Communication on population ageing of 29 April³⁹ the need for resolute and determined efforts from the Member States to put in place all the policies needed to ensure that the euro area emerges from the financial and economic crisis with solid growth potential and the ability to make full use of its human resources. Expanding the degree to which existing factors of production have been

used so far is the key to getting the euro-area economies back on a path of solid long-term growth. For this to happen, a comprehensive exit strategy built on structural reforms will be essential. In particular, this will involve prolonging working life and increasing the participation of youth, women and older workers, reforming tax and benefit systems to make work pay along the flexicurity principle, reforming pension systems and making health and long-term care systems more efficient, alongside the necessary investment in education and research. Putting the emphasis on these policies at the present juncture will help the euro area both to emerge more resiliently from the current recession and to address the challenges of an ageing society. By vigorously pursuing the reform agenda, by investing massively in the quality of human resources and by removing barriers to the full use of its labour force, the euro area can emerge stronger from the current economic crisis.

³⁹ COM (2009) 180, 29 April 2009.

IV. Recent DG ECFIN publications

1. Policy documents

EUROPEAN ECONOMY. 1. January 2009.

Five years of an enlarged EU. Economic achievements and challenges

http://ec.europa.eu/economy_finance/publications/publication_summary14081_en.htm

EUROPEAN ECONOMY. 2. April 2009.

The 2009 Ageing Report: Economic and budgetary projections for the EU-27 Member States (2008-2060)

http://ec.europa.eu/economy_finance/publications/publication_summary14911_en.htm

EUROPEAN ECONOMY. 3. May 2009.

Economic Forecast Spring 2009

http://ec.europa.eu/economy_finance/publications/publication_summary15046_en.htm

EUROPEAN ECONOMY. 4. April 2009.

Monitoring revenue trends and tax reforms in Member States Joint EC-EPC 2008 Report

http://ec.europa.eu/economy_finance/publications/publication_summary14864_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No. 43. March 2009.

Recent reforms of the tax and benefit systems in the framework of flexicurity

http://ec.europa.eu/economy_finance/publications/publication_summary14274_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No. 44. March 2009.

Progress towards meeting the economic criteria for accession : the assessments of the 2008 Progress Reports

http://ec.europa.eu/economy_finance/publications/publication_summary14270_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No. 45. March 2009.

The quality of public finances and economic growth. Proceedings to the annual Workshop on public finances (28 November 2008)

http://ec.europa.eu/economy_finance/publications/publication_summary14276_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. 46. May 2009.

The Western Balkans in Transition

http://ec.europa.eu/economy_finance/publications/publication_summary15159_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. 47. May 2009.

The functioning of the food supply chain and its effect on food prices in the European Union

http://ec.europa.eu/economy_finance/publications/publication_summary15232_en.htm

2. Analytical documents

EUROPEAN ECONOMY. ECONOMIC PAPERS. 374. March 2009.

Martin Larch and Alessandro Turrini (European Commission)

The cyclically-adjusted budget balance in EU fiscal policy making: A love at first sight turned into a mature relationship

http://ec.europa.eu/economy_finance/publications/publication_summary14642_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 375. March 2009.

Eric Ruscher and Guntram B. Wolff (European Commission)

External rebalancing is not just an exporters' story: real exchange rates, the non-tradable sector and the euro

http://ec.europa.eu/economy_finance/publications/publication_summary14652_en.htm



EUROPEAN ECONOMY. ECONOMIC PAPERS. 376. April 2009.

Michele Cincera (ULB, CEPR and JRC-IPTS), Dirk Czarnitzki (KUL & ZEW) and Susanne Thorwarth (KUL & ZEW)

Efficiency of public spending in support of R&D activities

http://ec.europa.eu/economy_finance/publications/publication_summary14767_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 377. April 2009.

Martin Larch (European Commission)

Achieving and safeguarding sound fiscal positions - Proceedings of the Workshop organised by the Directorate-General for Economic and Financial Affairs in Brussels on 17 January 2008

http://ec.europa.eu/economy_finance/publications/publication_summary14923_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 378. April 2009.

Simone Mezzacapo (University of Perugia)

The so-called "Sovereign Wealth Funds": regulatory issues, financial stability and prudential supervision

http://ec.europa.eu/economy_finance/publications/publication_summary15062_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 379. May 2009.

Alfonso Arpaia, Esther Pérez and Karl Pichelmann (European Commission)

Understanding labour income share dynamics in Europe

http://ec.europa.eu/economy_finance/publications/publication_summary15151_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 380. May 2009.

Emmanuel Dhyne (National Bank of Belgium and Université de Mons-Hainaut), Jerzy Konieczny (Wilfried Laurier University and Rimini Centre for Economic Analysis), Fabio Rumler (National Bank of Austria) and Patrick Sevestre (National Bank of France and Paris School of Economics, Université Paris 1 – Panthéon Sorbonne)

Price rigidity in the euro area — An assessment

http://ec.europa.eu/economy_finance/publications/publication_summary15198_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. 381. June 2009.

Jan-Egbert Sturm, Ulrich Fritsche, Michael Graff, Michael Lamla, Sarah Lein, Volker Nitsch, David Liechti and Daniel Triet (KOF Swiss Economic Institute, ETH Zurich)

The euro and prices: changeover-related inflation and price convergence in the euro area

http://ec.europa.eu/economy_finance/publications/publication_summary15285_en.htm

3. Regular publications

Business and Consumer Surveys (harmonised surveys for different sectors of the economies in the European Union (EU) and the applicant countries)

http://ec.europa.eu/economy_finance/db_indicators/db_indicators8650_en.htm

Business Climate Indicator for the euro area (monthly indicator designed to deliver a clear and early assessment of the cyclical situation)

http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/2009/bci_2009_05_en.pdf

Key indicators for the euro area (presents the most relevant economic statistics concerning the euro area)

http://ec.europa.eu/economy_finance/publications/publication12486_en.pdf

Monthly and quarterly notes on the euro-denominated bond markets (looks at the volumes of debt issued, the maturity structures, and the conditions in the market)

http://ec.europa.eu/economy_finance/publications/publ_list2609.htm

Price and Cost Competitiveness

http://ec.europa.eu/economy_finance/db_indicators/db_indicators8642_en.htm

Contributors to this issue are:

Economic and financial situation	<i>A. Mordonu, and M. Hradisky</i>
Assessing the effectiveness of banking support measures	<i>M. Thiel and S. Linden</i>
A mid-year review of budgetary policy in the euro area	<i>L. Piana</i>
Focus: The impact of the economic and financial crisis on potential growth	<i>L. González Cabanillas, K McMorrow and G. Mourre</i>
Focus: Dealing with the economic and budgetary challenges posed by population ageing in times of crisis	<i>P. Eckefeldt</i>
Data assistance	<i>G.M. Isbasoiu</i>
Overall co-ordination and editing	<i>R. Felke and E. Ruscher</i>

Comments on the report would be gratefully received and should be sent to the Editor-in-Chief:

Servaas Deroose
Director – Macroeconomy of the euro area and the EU
Economic and Financial Affairs Directorate-General
European Commission
BU1 0/209
B-1049 Brussels

or by e-mail to servaas.deroose@ec.europa.eu, eric.ruscher@ec.europa.eu, reinhard.felke@ec.europa.eu