The World Bank

EU10
Regular Economic Report

Main Report
Safeguarding Recovery

July 2010

Focus Notes:

Absorption of EU Funds

Invitation Paper **by Zsolt Darvas, *Research Fellow at Bruegel Institute***
Global Financial Crisis and Growth Prospects

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EU10 refers to Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic and Slovenia. EU10+1 includes Croatia.

EU10 July 2010

Summary of Main Report

The EU10 region has returned to growth in 2010 for the first time since the start of the global financial crisis in late 2008. But volatile financial markets, fiscal pressures, and high unemployment cast a shadow on future prospects. Bolstering financial sector stability, shoring up fiscal sustainability, and tackling structural unemployment are essential for safeguarding the recovery.

The EU10 region's growth in the first quarter of 2010 was helped by the upturn in global trade, a low interest rate environment, EU funds and restocking. Industrial production, retail sales and economic sentiment indicate a continued recovery in the second quarter of 2010. Low current account deficits and moderate inflation bolster economic stability. Nevertheless, the economic upturn is weak. It will take until the second half of next year before real output in the EU10 region regains its pre-crisis level. Private consumption and private investment are likely to add to growth only from 2011 onwards. And post-crisis growth is likely to stay below pre-crisis growth in view of reduced capital flows, restrained credit growth, and structural adjustments in the economy.

The pace of the recovery also differs widely across the region. Growth in the Slovak Republic and the Czech Republic is supported by the strong rebound in global trade. The robust expansion in Poland remains on track due to stable domestic demand, a competitive exchange rate and EU funds. After seeing the largest contraction of a country of the euro area in 2009, Slovenia is set for moderate rebound due to the rise in external demand, restocking, and continued policy support. Economic activity in Bulgaria, Estonia, Hungary, Lithuania and Romania is set to stagnate, as the unwinding of imbalances continues. The contraction is likely to remain sizable in Latvia in spite of a sharp improvement in growth performance compared to last year.

Financial markets have become more volatile in recent months due to concerns about the sovereign debt in parts of the euro area. This has triggered a slowdown in capital inflows, a decline in stock prices, a rise in sovereign spreads, and an increase in credit default swaps spreads for European banking groups. To date, the spillover to the EU10 region has been limited due to lower public debt levels, solid growth prospects, competitive exchange rates, and appropriate police stances. However, contagion to the EU10 region could be triggered through financial, trade and investment linkages or concerns about debt dynamics. This would weaken the recovery by making banks less willing to lend to each other, raising borrowing costs, and slowing credit growth.

The recent volatility in financial markets has put the spotlight on the issue of fiscal sustainability. EU10 countries intend to reduce fiscal deficit moderately in 2010, while EU15 countries still project widening fiscal deficits. In the first four months, expenditures were broadly in line with state budget plans in a number of EU10 countries, while revenues underperformed due to weak tax collection.

Unemployment increased further and employment contracted in EU10 countries. The adverse labor market affects especially the young and low-skilled. The changes in unemployment vary widely across the region, reflecting the depth of the recession, downsizing of sectors like construction, prospects for a fast recovery, and scope for government programs to stabilize employment. Unemployment is expected to decline only from 2011 onwards, as private demand remains weak and public employment is set to decline in view of fiscal pressures.

National and EU level policy measures to bolster confidence and stability in European financial markets remain critical to safeguard the recovery. Core priorities include ensuring a smooth operation of the recently established European stabilization mechanism, tackling impaired bank assets and restructuring in home countries of parent banks. In addition, a steadfast implementation of fiscal consolidation strategies will further bolster financial market confidence. Finally, boosting growth is important for overcoming the financial, fiscal and job challenges arising from the crisis. The reform agenda is vast, ranging from improving physical infrastructure, increasing the employment rate, strengthening skills, improving technology, and preparing for euro adoption. In this context, the large volumes of EU funds could have significant growth dividends provided their utilization is accelerated. While a number of countries have advanced well in contracting EU funds, many have fared poorly in terms of disbursement.

Recent Developments and Future Prospects

Output

The recovery from the global financial crisis continued in 2010, but the rebound is feeble and fragile. In the emerging economies of Asia and Latin America, global activity is picking up solidly supported by strong domestic demand and a resumption of trade flows. In advanced economies, the United States and Japan are leading the recovery as confidence has picked up among consumers, businesses and in financial markets. In Europe, which was more severely affected by the crisis than other regions, the economies have stabilized and, for the first time since the start of the global financial crisis, have returned to growth in 2010 (Table 1.). Year-on-year growth in the EU10 region improved from -2.1 percent in the fourth quarter of 2009 to 0.8 percent in the first quarter of 2010, in line with the improvement from -1.9 percent to 0.6 percent over the same period in the EU15 region (Figure 1). However, the return to growth is relative to a very low base due to last year's recession. Quarter-on-quarter growth in the EU10 region declined from 0.5 percent in the fourth quarter of 2009 to 0.2 percent in the first quarter of 2010 (Figure 2). Aided by the rebound in global activity and trade, growth in 2010 is expected to improve to 1.7 percent in the EU10 region, compared to 0.7 percent in the euro area.

Table 1. Global growth prospects, percent

	2009	2010f	2011f	2012f
World	-2.1	3.3	3.3	3.5
EU10	-3.6	1.7	3.3	3.7
High income	-3.3	2.3	2.4	2.7
Euro Area	-4.1	0.7	1.3	1.8
Japan	-5.2	2.5	2.1	2.2
United States	-2.4	3.3	2.9	3.0
Developing countries	1.7	6.2	6.0	6.0
Brazil	-0.2	6.4	4.5	4.1
China	8.7	9.5	8.5	8.2
India	7.7	8.2	8.7	8.2
Mexico	-6.5	4.3	4.0	4.2
Russia	-7.9	4.5	4.8	4.7

Source: World Bank, Global Economic Prospects June 2010, World Bank staff calculations.

The changes in economic activity in the EU10 region are uneven, reflecting varying degrees of reliance on external demand, initial imbalances, and country-specific factors. In the first quarter of 2010, the year-on-year rebound was largest in the Slovak Republic, helped by the recovery in the automobile sector, and in Poland, the only EU country with positive growth in 2009. Economic activity in Hungary and the Czech Republic returned to growth, while it continued to decline in Latvia, Bulgaria, Lithuania, Romania, Estonia and Slovenia. They had seen rapid expansions of credit to the private sector and large current account imbalances in the run-up to the crisis. But even for these countries, the year-on-year output reductions in the first quarter of 2010 were the lowest for at least four quarters.

Figure 1. EU10 countries GDP growth, percent, year-on-year, nsa

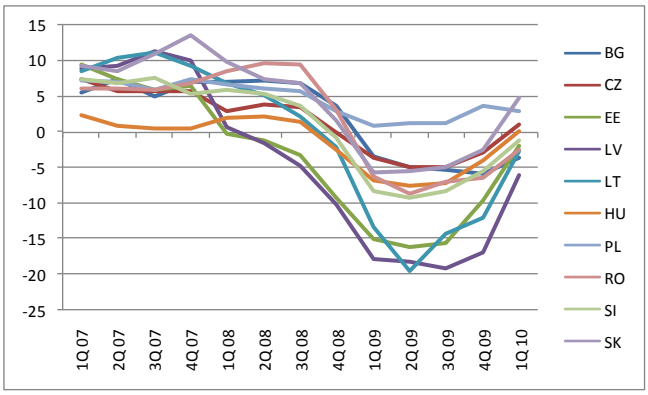
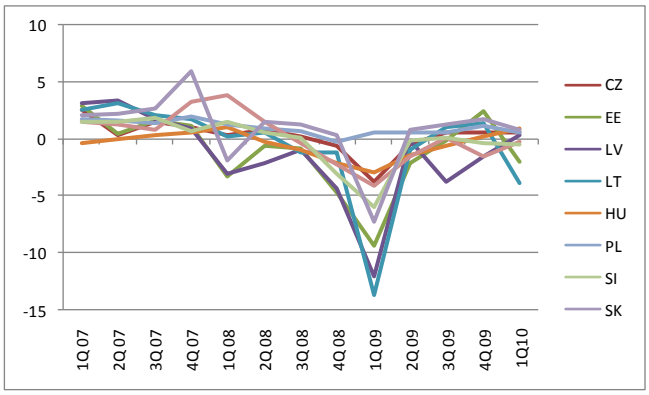


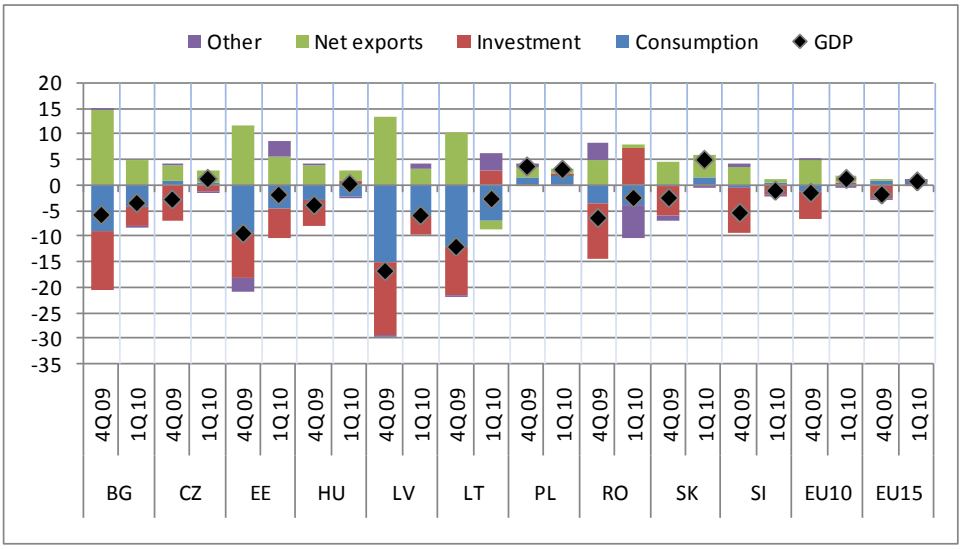
Figure 2. EU10 countries GDP growth, quarter-on-quarter, swda



Source: Eurostat, World Bank staff calculations

Net exports were the main driver of growth for most EU10 countries in the first quarter of 2010. The growth contribution of net exports remained positive across the region in the first quarter of 2010, although it declined from the last quarter of 2009. Net exports were supported by currency depreciation in some countries and, more recently, a recovery of EU10 export markets (Figure 3). Domestic demand fostered growth only in some countries. Investment rebounded noticeably in Romania and Lithuania, helped by restocking or reduced destocking. Consumption growth picked up in Poland, supported by stable labor markets and the economic recovery. The weakness in domestic demand in most countries reflect the still low level of capacity utilization, the correction in real estate and construction sectors, the continuing deleveraging process, and weak wage and employment growth.

Figure 3. EU10 countries and EU15 contribution to GDP growth, percent



Source: Eurostat, World Bank staff calculations

High-frequency indicators indicate that the recovery in economic activity continued in most countries of the EU10 region in the second quarter of 2010. Industrial production strengthened across the region with most countries experiencing double-digit growth rates. Industrial production improved for the 14th months in a row, reaching positive year-on-year growth since January 2010 (Figure 4). In April 2010, it expanded 20 percent in the Slovak Republic, and between 8 and 12 percent in Estonia, Poland, the Czech Republic, and Latvia. Gains in retail and wholesale trade were more modest, as the recovery in industrial production

was fuelled by the rebound in global trade and the change in inventory cycle. Retail sales expanded in Poland, Slovenia and Romania, but contracted around 10 percent in Latvia and Lithuania as households adjust to lower paychecks and social benefits (Figure 5). The economic sentiment indicator gained 25 points since March 2009 (Figure 6). It continued to improve for the EU10 region in May and June 2010, even though it dipped for the EU15 region in response to sovereign debt concerns in countries of the euro zone. The economic sentiment exceeded its long-term average of 100 in Estonia, bolstered by the prospect of euro adoption in 2011, and Hungary, supported by the economic upswing. It worsened in Romania and Bulgaria in view of concerns about the pace of the recovery.

Figure 4. Industrial production growth in EU10 countries, 3mma, data adjusted by working days, year-over-year

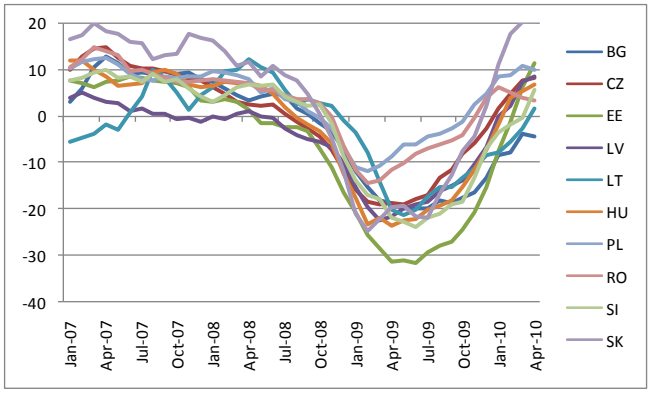
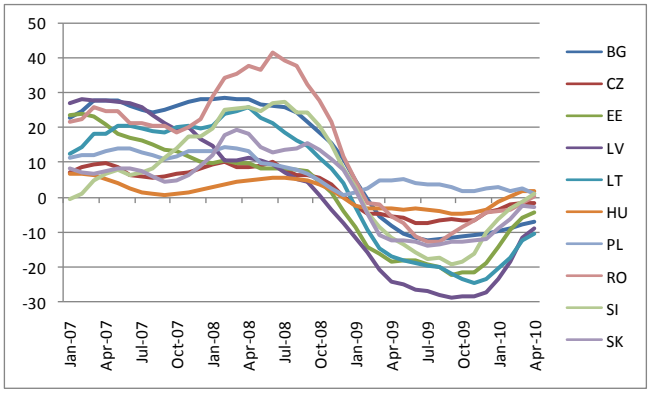
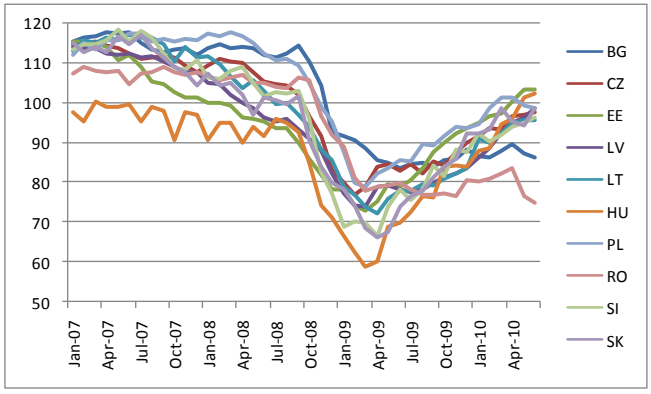


Figure 5. Retail sales growth in EU10 countries, 3mma, data adjusted by working days, year-over-year



Source: Eurostat, World Bank staff calculations

Figure 6. European Sentiment Indicator (ESI)



Source: Eurostat, World Bank staff calculations

Notes: Data points from May 2010 are according to new NACE rev. 2 methodology

Trade and External Developments

The upturn in global trade, supported by rising demand for durable goods and capital equipment, is boosting trade volumes in the EU10 region. Global trade in 2010 is set to grow more than twice as fast as projected last summer (Table 2), helped by rising demand for intermediary goods. EU10 export growth improved year-on-year from a contraction of 24 percent in May 2009 to an expansion of 20 percent in April 2010. Export growth across the EU10 region improved relative to the trough by 45 percentage points, but export levels in Euro terms remain some 15 percent below the pre-crisis peak in September 2008. Exports grew at double-digit rates in most of the EU10 countries ranging from close to 22 percent year-on-year growth in Romania to 10 percent in Poland. Over the same period, EU10 imports returned to growth, expanding by 19 percent year-on-year in April 2010 (Figure 7 and Figure 8). Export growth exceeded import growth across the EU10 region in the first quarter of 2010, leading to rising trade surpluses in the Czech Republic, Hungary, and the Slovak Republic, and shrinking trade deficits elsewhere.

Figure 7. Exports performance of EU10, 3mma, percent, year-on-year

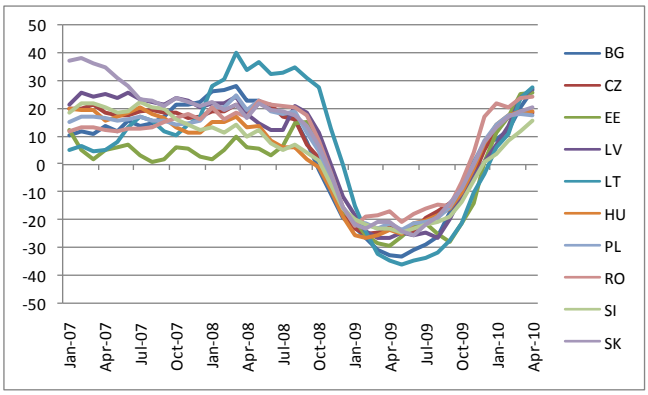
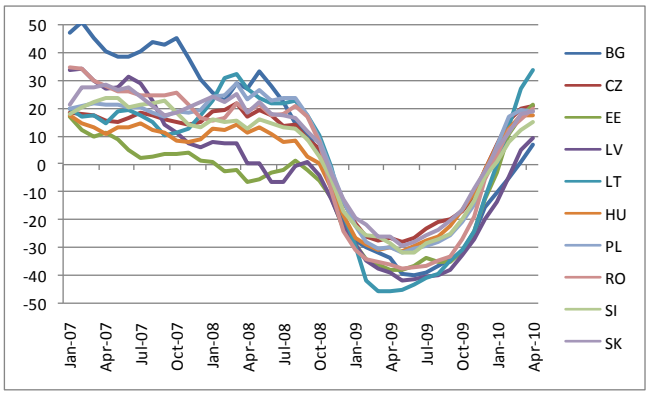


Figure 8. Imports performance of EU10, 3mma, percent, year-on-year



Source: Eurostat, World Bank staff calculations

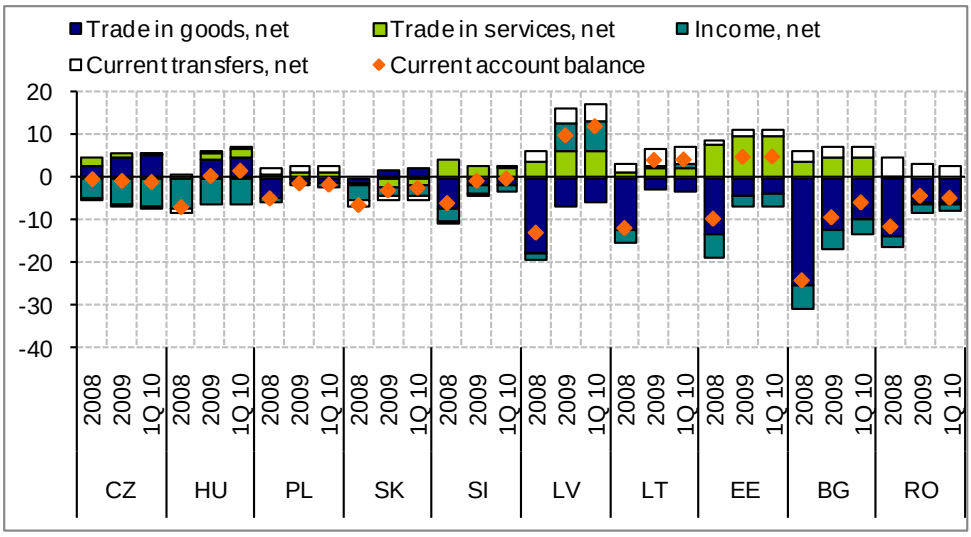
Table 2. World trade volume

	2008	2009	2010	2011	2012
GEP June 2010	3.2	-11.6	11.2	6.8	7.2
GEP January 2010	3.0	-14.4	4.3	6.2	--

Source: Global Economic Prospects, January 2010 and June 2010

The improvement in trade and services balances supported further adjustments in current account balances. Current account balances improved sharply during 2009 in view of the reduction in capital flows triggered by the global financial crisis. This trend continued in the first quarter of 2010 for most EU10 countries (Figure 9). On four-quarter rolling basis, current account balances improved by more than one percentage point of GDP in Bulgaria, Latvia, and the Slovak Republic. They worsened in Romania due to deterioration on the transfers and income balance and Poland on the income balance.

Figure 9. Current account developments in EU10 countries (% of GDP)

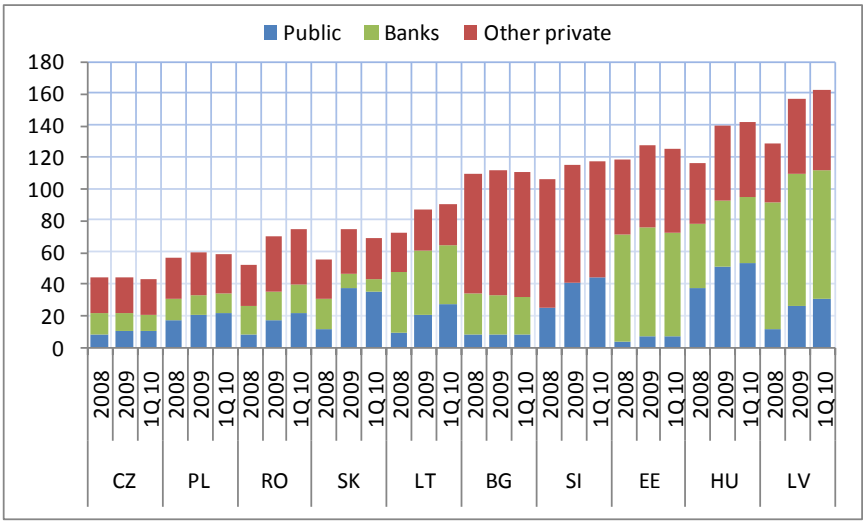


Source: Eurostat, Central Banks, World Bank staff calculations

Note: 1Q 10 refers to the period of 2nd quarter 2009 to 1st quarter 2010.

The sizable downward adjustment in current account deficits as percent of GDP during the global financial crisis helped to stabilize gross external debt as percent of GDP. In the first quarter of 2010, FDI inflows moderated relative to the last quarter in 2009 in the EU10 countries, with the exception of the Czech Republic, Estonia, Poland and the Slovak Republic. By contrast, portfolio investments increased or remained unchanged over the same period in all EU10 countries. Other investment liabilities, to a large extent in the form of short-term deposits, were significant in Czech Republic, Slovenia and Lithuania. In the first quarter of 2010, gross external debt-to-GDP ratios ranged from 42.5 percent in Czech Republic, to 92.2 percent in Lithuania, to over 100 percent in Slovenia, Estonia, Latvia, Bulgaria and Hungary (Figure 10). For Latvia, Hungary and Romania, this represents an increase of over 20 percent of GDP since 2008.

Figure 10. Gross external debt in EU10 countries (% of GDP)



Source: Eurostat, Central Banks, World Bank staff calculations

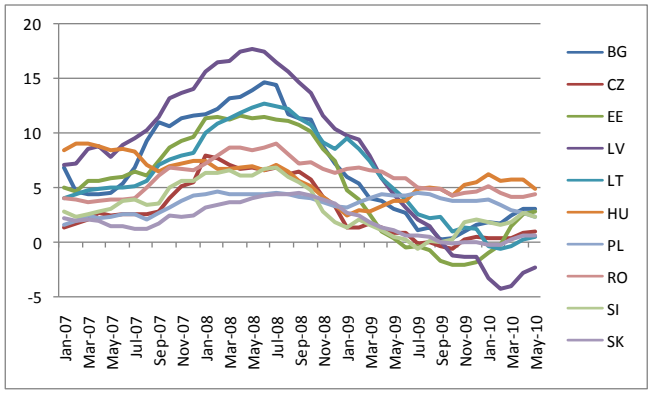
Note: For Hungary, excluding financial transactions of special purpose vehicles, the ratio of external debt to GDP was 111 percent in 2009.

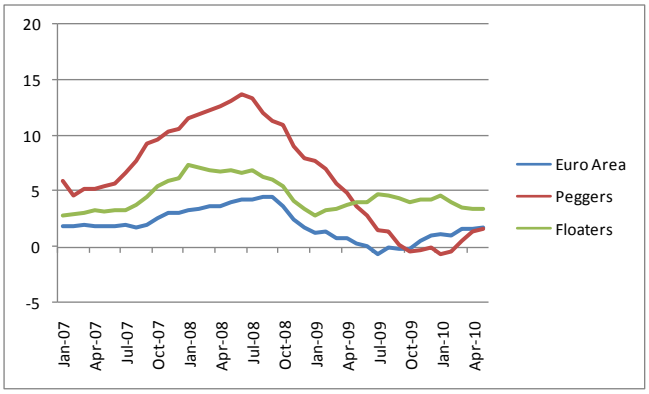
Inflation and Exchange Rates

Inflation continues to be moderate in view of the sizeable slack in the economy, tight credit markets and well-anchored inflation expectations. Across the EU10 region, the picture is varied because of the differences in exchange rate regimes and policy responses during the crisis as well as country specific factors, such as the nature of growth prior to the crisis and conditions of the financial sector (Figure 11). Inflation in the Slovak Republic and Slovenia, both members of the European Monetary Union, increased from low levels early in the year, which mainly reflected rising energy prices and the recent depreciation in the euro. In the Slovak Republic, the annual overall HICP was 0.7 percent in May, which is among the three lowest levels in the euro area. Bulgaria, Estonia, Latvia and Lithuania, countries with a fixed peg to the euro, also saw moderate increases in inflation due to higher energy prices. Latvia continues to experience declines in core HICP of around 4 percent, mirroring the downward adjustments in domestic wages and prices to restore competitiveness. Trends in countries with floating exchange rates are diverse, in part reflecting the lagged effect of currency movements over the last year. Inflation is rising from low levels in the Czech Republic, whose exchange rate remained stable, and falling in Poland, whose exchange rate appreciated noticeably from March 2009 to April 2010.

The sovereign debt tensions in parts of the euro area and concerns over impacts on global demand caused commodity prices and currencies to decline. Prices for oil and base metals fell by between 10 to 15 percent since April 2010 in USD terms. The market jitters also led to a fall in the euro. Despite a modest recovery since late June, the euro is down nearly 10 percent against the U.S. dollar, and 16 percent against the Japanese yen in mid July compared to the start of the year. The Polish zloty and Hungarian forint depreciated by about 7 to 9 percent to the euro since mid April (Figure 12). This reversed some of the appreciation of these currencies since March 2009, and increased the differences in real effective exchange rates across the region. The depreciation of the forint was triggered by concerns of financial markets about the incoming government's ability to adhere to fiscal deficit targets. The Czech koruna remains close to its pre-crisis level.

Figure 11. HICP overall index for EU10, peggers, floaters and Euro area, annual rate of change, percent

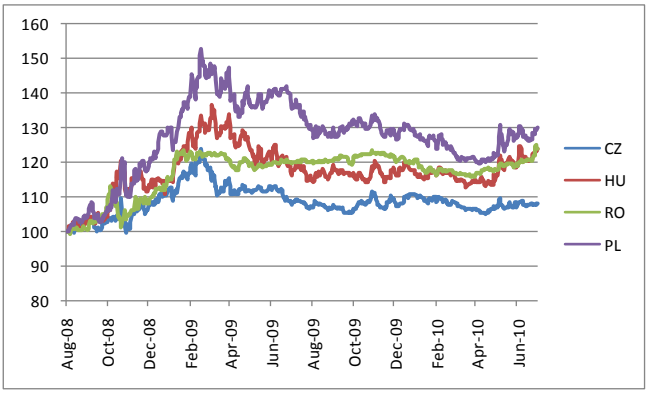


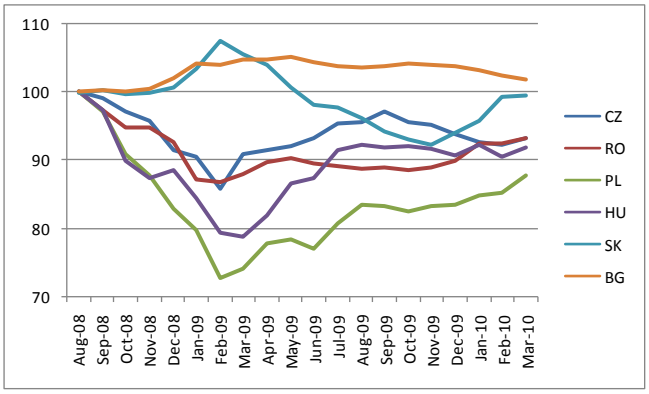


Source: Eurostat, World Bank staff calculations

Note: HICP is a harmonized index of consumer prices.

Figure 12. Nominal exchange rates to EUR and real effective exchange rates, August 2008=100



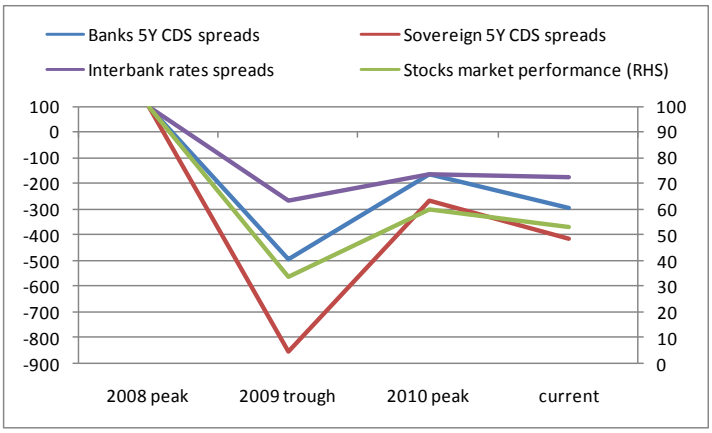


Source: Eurostat, World Bank staff calculations

Finance

Financial markets have become more volatile in recent months due to concerns about the sovereign debt in parts of the euro area. Helped by expansionary fiscal and monetary policy, and unconventional liquidity provision, the recovery in the real economy eased systemic risks in global financial markets until early 2010. Since then, concerns about sovereign debt in selected countries in the euro area, along with fears of contagion to other EU countries, have lowered risk appetite in European financial markets. This has triggered a slowdown in capital inflows, a decline in stock prices, a rise in sovereign spreads, an increase in credit default swaps spreads for European banking groups, and a depreciation of the euro relative to the US dollar and other major currencies (Figure 13). The spillover to the EU10 region reflects in part global investors' concerns about the region's dependence on the financial health of parent European banking groups. Lingering concerns regarding the debt crisis in parts of the euro area could continue to affect EU10 regions' asset performance in the months to come.

Figure 13. Asset class performance in the EU10 region, percent change

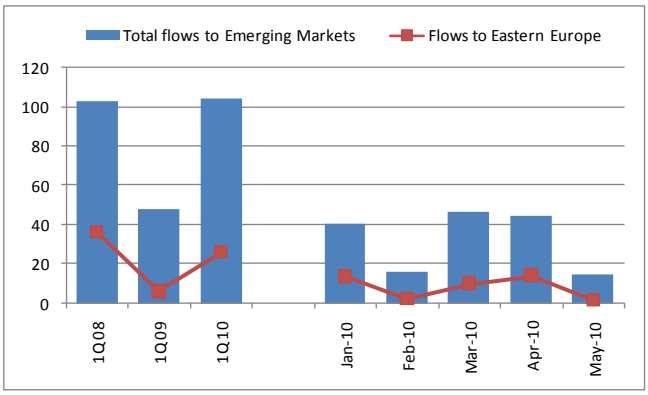


Source: Reuters, Bloomberg, World Bank staff calculations

Notes: Decline indicates deterioration.

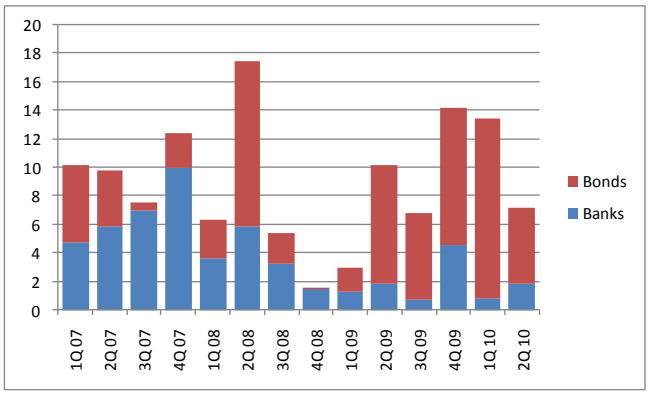
The resurgence of cross border financial flows to emerging economies early this year moderated sharply in the last couple of months. Better growth prospects and large yield differential triggered a welcome surge in capital flow early in the year. From January to March 2010, global emerging market capital flows totaled over US$100 billion, more than double the amount of the same period last year. They continued to perform strongly in April 2010, but then fell sharply in May to a new low for the year due to falling bond issuance and equity placement (Figure 14). With the European debt crisis raising uncertainty, several major borrowers have temporarily shelved issuance. International bond issuance by developing country sovereigns fell from US$26 billion in April to only US$3 billion in May. Similarly, IPO equity-placements fell to the lowest monthly level since August 2009. Syndicated bank lending remained well below pre-crisis levels, as commercial banks redressed balance sheets. The developments in the EU10 region matched the trends in global emerging markets. After increasing sharply in the last quarter of 2009 and first quarter of 2010, capital inflows slowed down noticeably in the second quarter of 2010 (Figure 15). Bond flows dropped, and syndicated loan issuance remained subdued.

Figure 14. Capital inflows to global emerging markets, USD billions



Source: DECPG, World Bank staff calculations

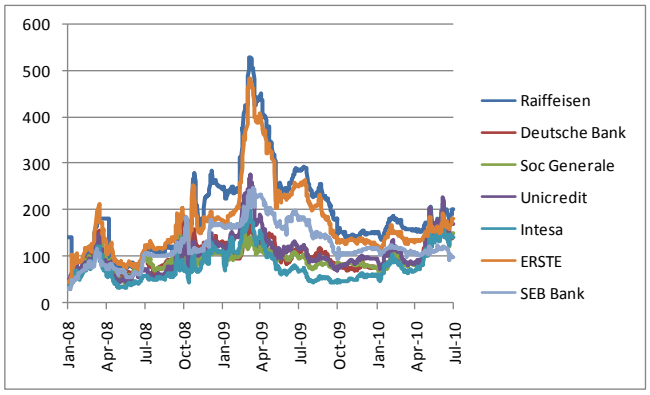
Figure 15.Bonds and bank-related capital inflows to EU10, USD billions



Source: DECPG, World Bank staff calculations

Credit default swaps spreads have softened for major European banking groups in recent months in view of their exposure to economies affected by recent market volatility. With about three-quarters of the EU10 banking assets in foreign ownership, the market's risk perceptions of the main European banking groups remains central to the stability of the financial system and credit provision in the EU10 region. CDS spreads increased for most of the parent banks active in the EU10 region, with spreads increasing on average by about 50 basis points since mid April 2010, reaching levels last seen in July 2009 (Figure 16). According to the Bank for International Settlement (BIS), euro area banks held US$1.6 trillion of loan exposure to Spain, Portugal, Ireland, and Greece at the end of 2009, equal to over three-fifths of internationally active banks' exposure to these four countries. However, direct exposure to sovereign debt represents only 16 percent of tier one capital of these banks.

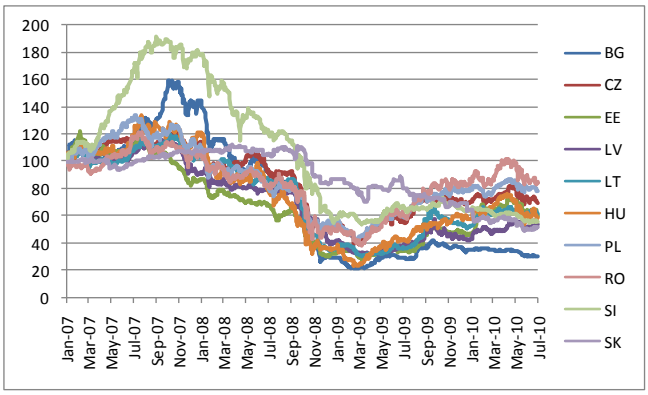
Figure 16. 5Y CDS spreads for major European banking groups (basis points)

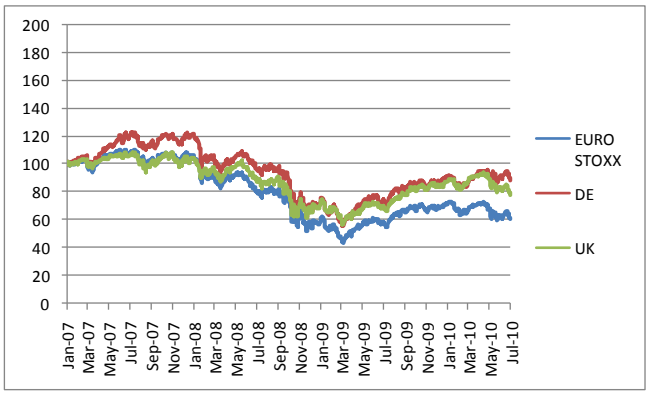


Source: Bloomberg, World Bank staff calculations

The sovereign debt crisis in some countries of the euro area has yielded sizeable declines in equities, wiping out gains from early in the year. High levels of market uncertainty led to large market volatility in May and June. From mid April to early July, losses run over 10 percent in major stock market indices in EU15 and EU10 countries (Figure 17). More recently, both equities and volatility appear to be stabilizing. Overall, stock indices in EU10 countries remain above the levels from early January 2010, with the exception of Slovenia and Bulgaria.

Figure 17. Stock exchange indices in EU10 countries and selected countries from the EU5, January 2007=100

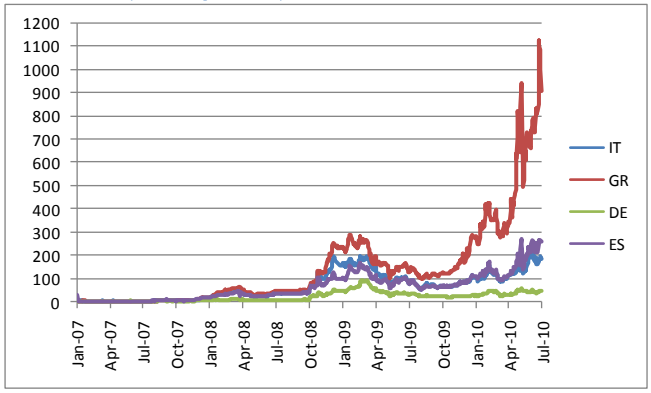




Source: Reuters, World Bank staff calculations

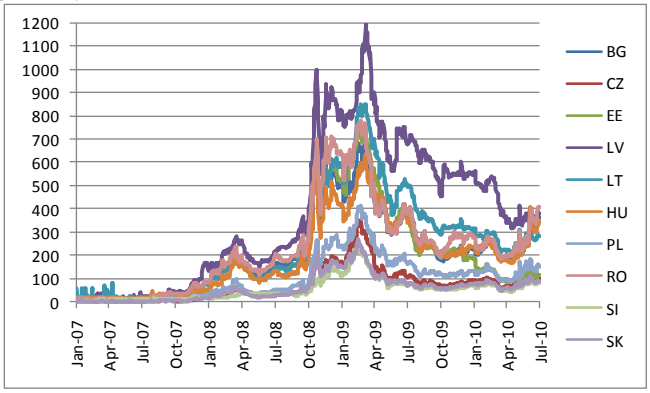
Credit default swap spreads increased recently, as market uncertainty persists over fiscal imbalances and consolidation plans. Spreads in several high income EU countries widened since April 2010 and peaked sharply in May. The joint EU/IMF financial package and government pledges for fiscal consolidation measures initially calmed markets, but spreads remain above levels early in the year. Spreads also increased in EU10 countries, especially in Hungary, Romania and Bulgaria. Nevertheless, they remain far below the peaks at the height of the global financial crisis, and the recent uptick has not fundamentally changed the picture of a strong reduction in CDS spreads for countries like Latvia and Estonia.

Figure 18. 5Y CDS spreads for selected EU15 countries (basis points)



Source: Bloomberg, World Bank staff calculations

Figure 19. 5Y CDS spreads for EU10 countries (basis points)

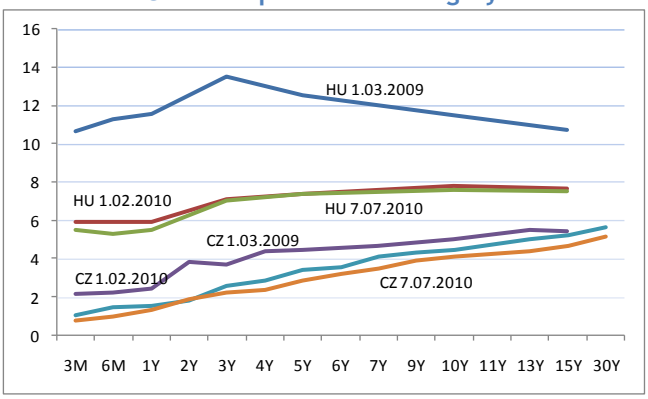


Source: Bloomberg, World Bank staff calculations

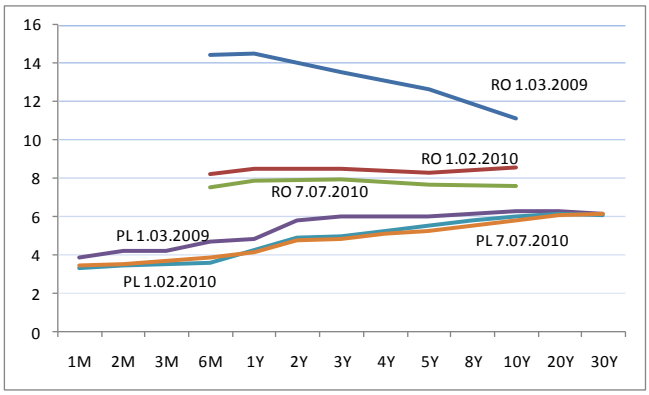
In spite of the volatility in European debt markets, yield curves for key EU10 economies have held up well, aided by stronger fiscal fundamentals than some countries in the euro area. Yield curves in the Czech Republic, Poland, Romania and Hungary are unchanged or lower from early February 2010 to early July 2010 (Figure 20), and remain far below levels in March 2009.

Figure 20. Yield curves in the Czech Republic, Hungary, Poland and Romania, percent

Czech Republic and Hungary



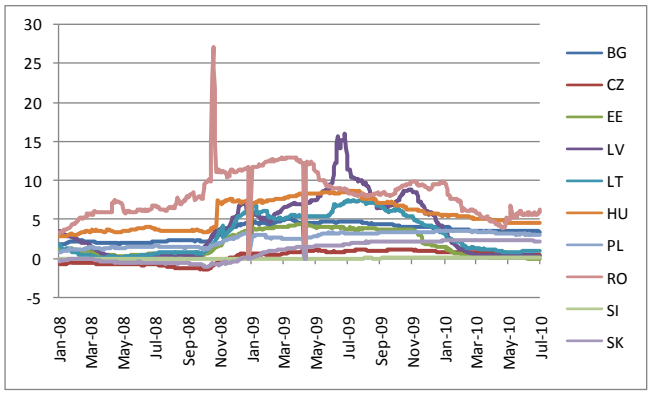
Poland and Romania



Source: Bloomberg, World Bank staff calculations

Recent concerns about sovereign debt increased bank borrowing costs in the euro area, although from very low levels, but they remained broadly unchanged in most EU10 countries. The dollar Libor-OIS spread, an indicator for banks' willingness to lend to one another, widened in mid July 2010 to over 30 basis points, suggesting increasing concerns about the exposure of counter-part banks to the debt of highly indebted countries. The 3-month interbank rate EURIBOR increased to 0.8 percent at early July 2010 from 0.64 percent in April 2010, as European banks repaid a record EUR442 billion ECB loan and the level of mutual confidence among banks remains strained. Money markets in EU10 countries have shown remarkable resilience in the face of the increased global market volatility. Interbank interest rates and interest rates spreads have remained stable in recent months, with the exception of Romania (Figure 21).

Figure 21. EU10 3M interbank rates spreads to 3M LIBOR EUR, percent



Source: Bloomberg, World Bank staff calculations

While the contraction in credit provision has bottomed out, sluggish credit growth to the private sector poses a threat to the recovery. Year-on-year credit growth to the private sector in the EU10 region stabilized early in the year (Figure 22) although the performance varied across countries. In April 2010, it remained negative in Lithuania, Latvia, Estonia and Hungary. Furthermore, credit amounts in Euro terms remained still below the pre-crisis peak of October 2008 for the region. Credit amounts were above pre-crisis levels only in Slovenia, Poland, the Slovak Republic, and Bulgaria (Figure 23). Credits to households expanded faster than to enterprises in most countries. Tight credit markets reflect the need to rebuild capital, concerns about future write-downs in view of rising non-performing loans (Figure 24), uncertainty about the future regulatory framework and weak credit demand. Fortunately,

capital adequacy ratio in the EU10 region remained at relatively high levels, above the minimum regulatory 8 percent threshold, despite rising non-performing loans, particularly in Latvia, Lithuania and Romania (Figure 25). The rise in NPLs reflects price and wage deflation, and, in the case of Romania, weak growth prospects and exchange rate depreciation, which impairs the ability of households and businesses to service their debts, especially their foreign currency debt.

Figure 22. Credit to private sector growth in EU10 countries, year-over-year

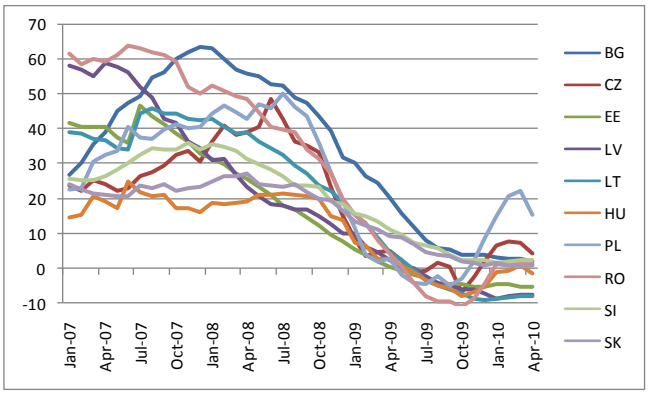
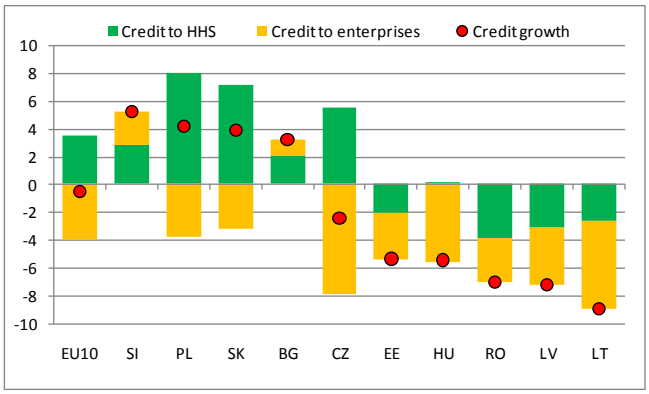


Figure 23. Contribution to credit growth from Oct 2008 to Apr 2010



Source: European Central Bank, World Bank staff calculations

Figure 24. Non-performing loans of banks in EU10 countries (% of loans)

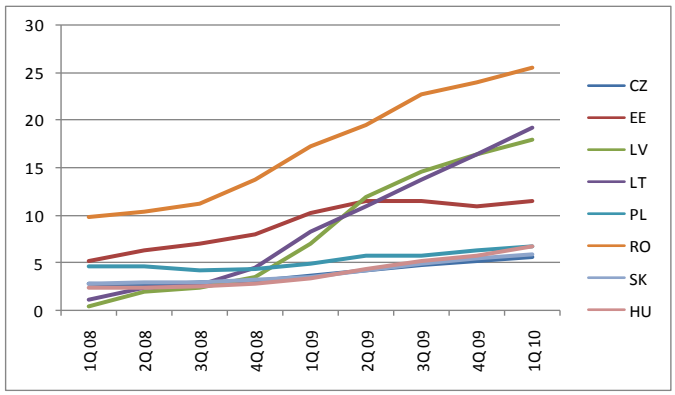
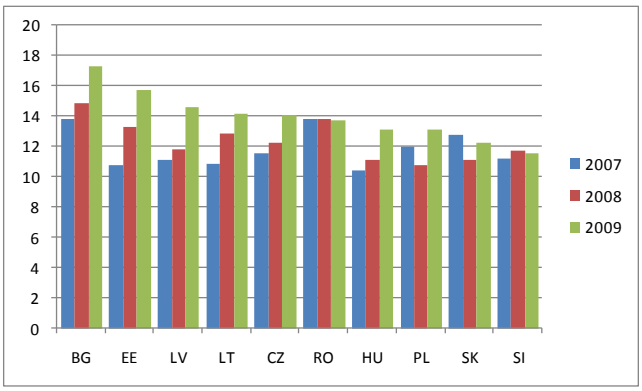


Figure 25. Bank regulatory capital to risk-weighted assets (%)



Source: Central Banks, Financial Supervisory Committees, Global Financial Stability Report, World Bank staff calculations

Employment

The labor market has still to benefit from the recovery. In the first quarter of 2010, employment growth was negative across all EU10 countries, both year-on-year and quarter-on-quarter. Employment in the EU10 region contracted year-on-year for the fifth quarter in a row. Since the first quarter of 2008, employment in the EU10 region dropped by 1.5 million workers, or 3.4 percent. In Bulgaria and especially the Slovak Republic, the employment loss exceeded the output loss. In Poland, employment contracted mildly in spite of an expansion in output (Figure 26). This reflects that companies are still cautious in increasing the work force, including in the automobile sector, in spite of the improving economic environment, along with reductions in public employment in view of fiscal pressures. Employment in EU 15 shrank less than output during the same period, as job destruction was limited by labor hoarding and the support measures pursued by governments. The tightening of the labor market conditions has led to modest reductions in the number of hours worked per employee and increases in part time and temporary employment (Figure 27).

Figure 26. Output vs. employment decline, percent

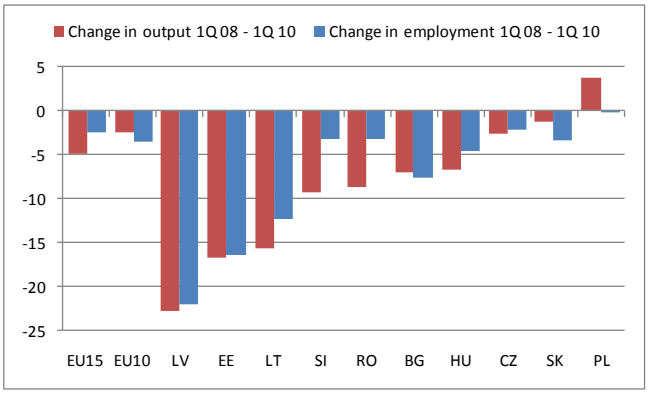
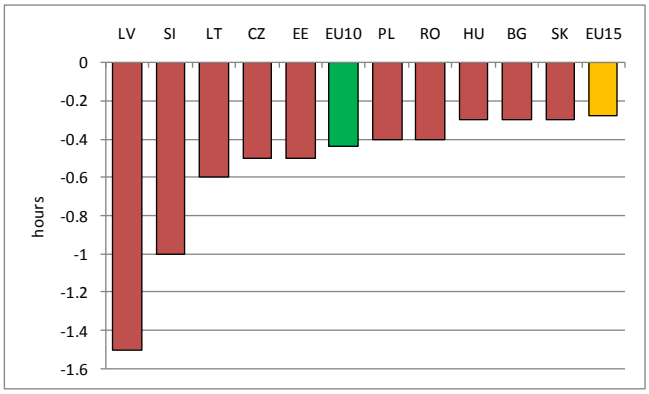


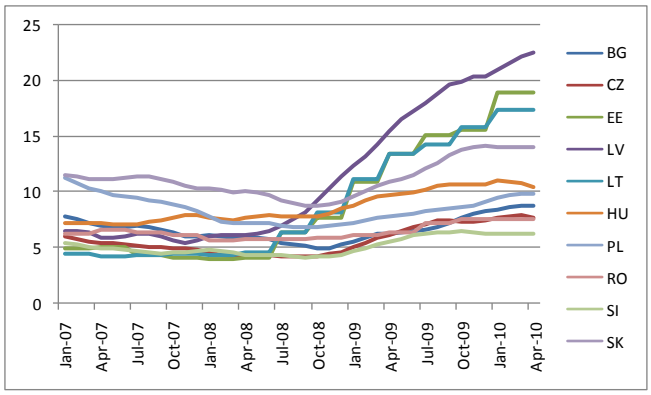
Figure 27. Change in average weekly hours worked per employee from 1Q 2008 to 1Q 2010



Source: Eurostat, World Bank staff calculations

The number of unemployed increased further. Unemployment rates in the EU10 rose from 6.5 percent in June 2008 to around 10 percent from February to April 2010, from 3 million to 4.7 million persons (Figure 28). Latest available figures suggest that seasonally adjusted unemployment rates have stabilized or modestly increased throughout the region. Since June 2008, unemployment rates increased between 13 and 16 percentage points in Latvia, Estonia and Lithuania; and less than 5 percentage points in the other EU10 countries. A number of factors account for this variation, including the depth of the recession, its impact on sectors like construction and finance, government programs to stabilize employment, and prospects for a fast recovery. The young and low-skilled continue to disproportionately be affected by the adverse labor market, with percentage point increases in the unemployment rate about twice as high as for the overall labor force.

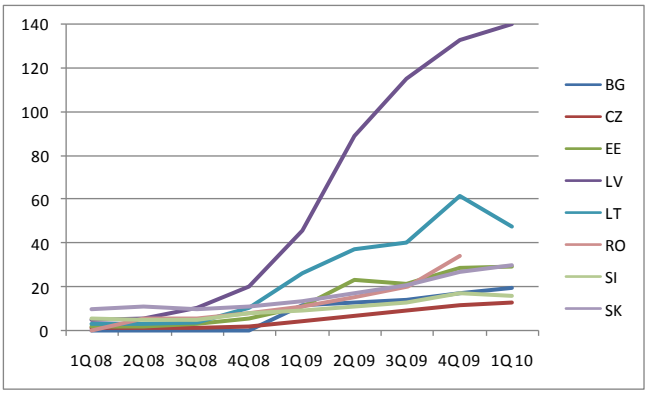
Figure 28. Harmonized unemployment rates, percent



Source: Eurostat, World Bank staff calculations

The number of long-term unemployed is rising. The rise in overall unemployment until early this year increased the share of those without a job for less than one year. At the same time, the crisis made it much harder for workers who lost their job to return to employment. The share of the labor force unemployed for 12 months or more increased from 2.6 percent in the fourth quarter of 2008 to 3.0 percent in the fourth quarter of 2009 in the EU10 region, similar to the trends in the EU15 countries. With the number of unemployed rising and the number of job vacancies falling, the competition for jobs has increased across the EU10 region. The increase in the number of unemployed per vacancy from the first quarter of 2009 to the first quarter of 2010 ranged from 65 percent to over 200 percent. In the first quarter of 2010, there were some 140 unemployed per vacancy in Latvia, and 12 unemployed per vacancy in the Czech Republic (Figure 29).

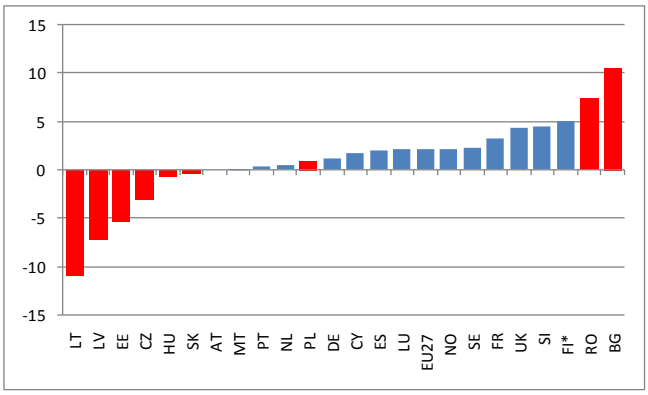
Figure 29. Number of unemployed per vacancy



Source: Eurostat, World Bank staff calculations

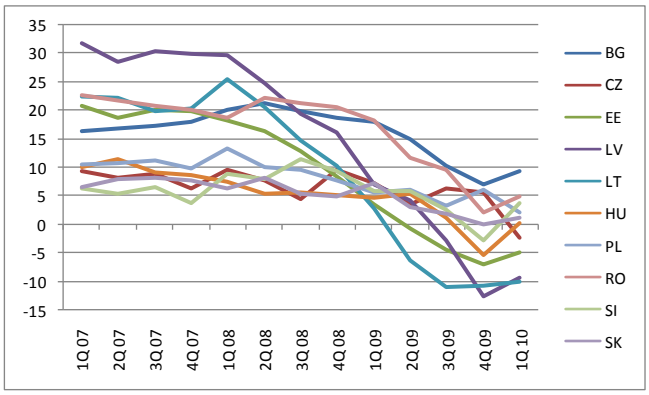
Economic recessions and poor job prospects weakened wage pressures around the region. In the first quarter of 2010, hourly labor costs decreased more than 5 percent annually in Lithuania, Latvia and Estonia, where falling wages are crucial for restoring competitiveness in view of the exchange rate pegs (Figure 30). By contrast, they increased in excess of 5 percent in Romania and Bulgaria, reflecting in part greater job losses among the low wage-low skills employment categories. Quarter-on quarter, labor costs decelerated in the first quarter of 2010 in the Czech Republic and Poland (Figure 31).

Figure 30. Total nominal hourly labor costs, % change, yoy, working day adjusted, Q1 2010



Source: Eurostat, World Bank staff calculations

Figure 31. Labor cost index , % change



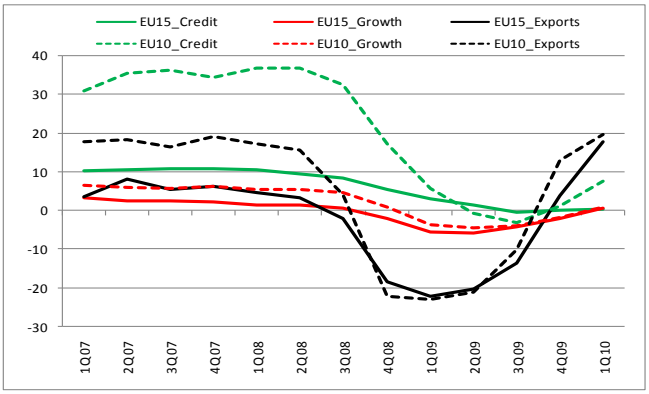
Source: Eurostat, World Bank staff calculations

Note: The labor cost index shows the short-term evolution of the total cost of labor, on an hourly basis for employers, including gross wages and salaries, employers' social contributions and taxes net of subsidies connected to employment.

Outlook

While the recovery in the EU10 region continued in 2010, the sovereign debt concerns in parts of the euro area have cast a shadow over future prospects. The rapid expansion of global trade and manufacturing, fuelled by solid growth in emerging Asia and Latin America, is supporting the upturn in Europe. Global exports rose in value terms year-on-year by 28 percent in April 2010, and global industrial production by 11 percent, supporting a solid expansion in global GDP. The weakness in the euro, which dropped about 12 percent against the dollar and 16 percent against the Japanese yen since the start of the year, is making European manufacturing exports more competitive. This has supported the rebound also in the EU10 region, along with the low interest rate environment, increased EU funds and restocking.

Figure 32. EU10 and EU15 GDP growth, exports growth, credit growth, percent



Source: Eurostat, World Bank staff calculations

However, the recent volatility in sovereign debt markets and the reduced risk appetite of financial markets in Europe could weaken the recovery in the EU10 region. First, the recovery is overshadowed by the lingering danger that the concerns over the high debt levels of several smaller European economies will erode confidence in the soundness of some European banks, causing financial strains as banks became less willing to lend to each other. Second, deteriorating credit quality, continued deleveraging of banks, the weakness in house prices in some countries, and tight limits on borrowing for consumers and small and medium-size enterprises undermine private sector credit growth. The large forthcoming public debt issuance in advanced economies is escalating competition for funds, raising borrowing costs for emerging markets, and potentially crowding out private sector credit growth. In addition, economic activity in the EU15 region could soften due to an accelerated fiscal retrenchment in the coming quarters amid strong headwinds from high unemployment, low capacity utilization, and tight financial conditions. This in turn would slow down the recovery in the EU10 region, as the deep integration of the European economies has led to a synchronized co-movement in key economic indicators of the EU15 and EU10 regions (Figure 32).

With the growth impact from the upturn in global trade and the reduced risk appetite in financial markets roughly balanced, the EU10 region is on road to a gradual recovery during 2010 and 2011. Assuming appropriate policy responses will safeguard financial market stability, the EU10 countries are projected to expand by 1.5 to 1.7 percent in 2010, and 3.1 to 3.6 percent in 2011. The growth advantage of the EU10 region over the EU15 region could increase from around 0.5 percent in 2010 to 1.5 percent in 2011. Nevertheless, the recovery is weak. It will take until next year before real output in the EU10 region will regain its pre-crisis level, and post-crisis growth is likely to stay below pre-crisis growth in future in view of reduced capital flows, restrained credit growth, and downsizing of sectors like construction and finance. Inflation is likely to remain subdued in view of large output gaps, large unemployment, wage increases below inflation targets or nominal wage cuts in some countries,

and the declines in commodity prices in recent months. Current account deficits are set to remain modest in view of weak import demand and shallow capital flows (Table 3.).

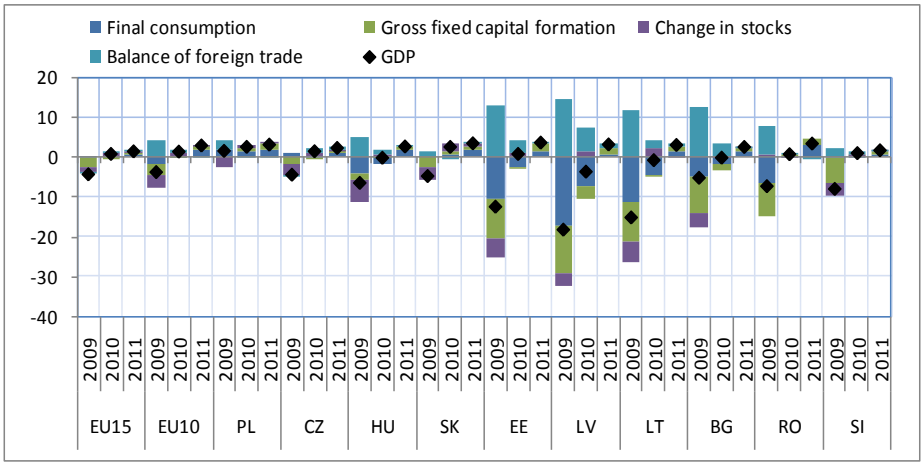
Table 3. Macroeconomic Forecasts for EU10 and EU15 regions

		Real GDP growth (annual percent change)			Harmonized inflation index (annual percent change)			Current account balance (percent of GDP)		
		2009	2010	2011	2009	2010	2011	2009	2010	2011
EU10	CP	-3.7	1.6	3.6	3.0	2.0	2.4	-1.7	-1.7	-2.0
	IMF	-3.6	1.5	3.3	2.9	1.6	2.2	-1.4	-2.1	--
	EC	-3.6	1.5	3.1	2.9	1.6	2.3	-1.5	-1.9	-2.5
	WB	-3.6	1.7	3.3	--	--	--	-1.8	-1.3	-2.1
EU15	CP	-3.9	1.2	2.3	--	--	--	--	--	--
	IMF	-4.2	1.0	1.7	0.8	1.2	1.4	-0.2	0.0	--
	EC	-4.2	0.9	1.6	0.4	1.6	1.6	-0.3	-0.3	-0.2

Source: Convergence Program Updates 2010, IMF WEO 2010, EC Spring Forecasts 201, World Bank staff calculations.

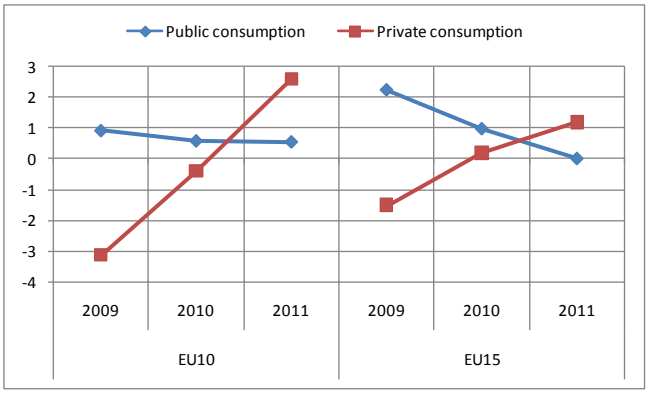
The recovery in 2010 in the EU10 region is projected to rely mainly on foreign demand and restocking (Figure 33)**.** Private consumption remains subdued due to wage cuts and wage moderation in private and public sectors, high unemployment, cautious borrowing and with fiscal retrenchment. Public consumption is likely to be muted in the face of weakening government revenues and increased fiscal sustainability concerns (Figure 34). According to EC forecasts, only Poland and the Slovak Republic will see a positive growth contribution from consumption in 2010, with much of the rise driven by public consumption. While the contribution from investment is projected to be positive in the Slovak Republic, Poland, Romania, Slovenia and Hungary, the bulk of the growth is also forecasted to come from public investment, supported through EU funds (Figure 35). However, while a number of countries have advanced well in contracting EU funds, many have fared poorly in terms of disbursement (see focus note on Absorption of EU Funds). In 2011, both private consumption and private investment are projected to make a positive contribution to growth for all EU10 countries. This will require a rise in confidence among private investors and consumers, as growth becomes more reliant on domestic spending.

Figure 33. Forecasted contribution to GDP growth (% of GDP)



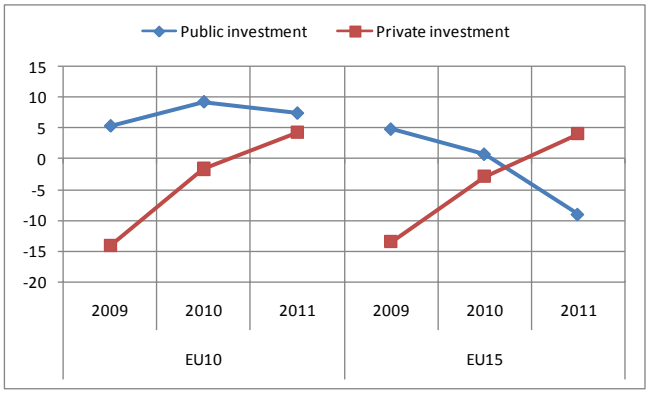
Source: AMECO database, European Commission, World Bank staff calculations

Figure 34. Forecasted growth of consumption in EU10 and EU15 countries, percent



Source: EC Ameco, World Bank staff calculations

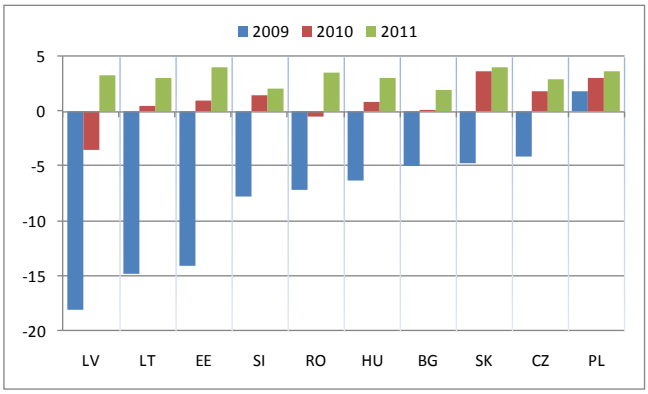
Figure 35. Forecasted growth of investment in EU10 and EU15 countries, percent



Source: EC Ameco, World Bank staff calculation

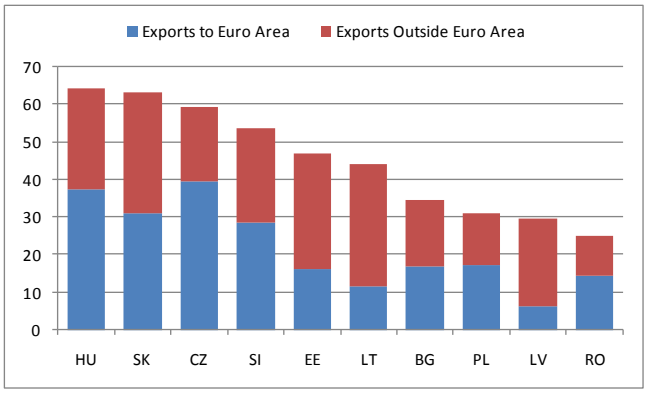
The pace of the recovery differs widely across the region, reflecting, among others, the depth of the recession and trade openness. Stabilizations in 2009 tend to be followed by large turnarounds in 2010 (Figure 36). In particular, Latvia, Lithuania and Estonia are expected to record the largest percentage point improvements in growth. In addition, countries with traditionally strong export performances are well poised for the recovery. For example, growth in the Czech Republic and especially the Slovak Republic, which sells more than half of its export goods to countries outside the euro area, is supported by the strong rebound in global trade (Figure 37). The expansion in Poland remains on track due to stable domestic demand and stepped-up utilization of EU funds. Slovenia, which in 2009 saw the largest contraction in the euro area, is likely to rebound to expand moderately due to continued policy support, the rise in external demand, and restocking. Economic activity in Bulgaria, Estonia, Hungary, Lithuania, and Romania is set to stagnate, as countries continue to unwind external or internal imbalances. Latvia is the only country likely to further contract noticeably this year, and its GDP is expected to recover to its pre-crisis levels only in 2014/15.

Figure 36. Forecasted GDP growth rates for EU10 countries, percent



Source: World Bank staff calculations

Figure 37. Share of EU10 exports as percent of GDP, 2009



Source: Eurostat, World Bank staff calculation

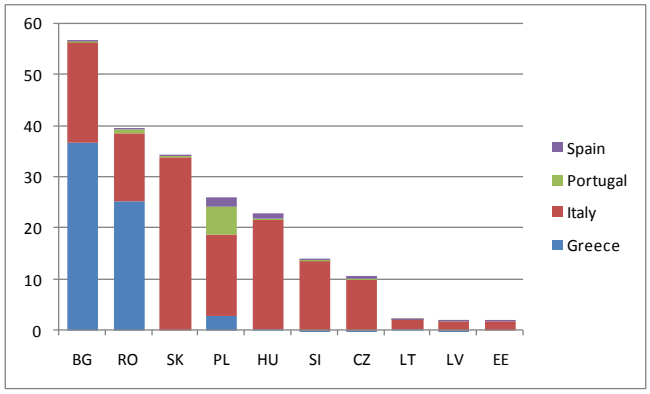
Policies for Recovery

Monetary and Financial Policy

After more than a year of improving sentiment, financial markets in Europe have come under renewed pressure in recent months in spite of a continued recovery in the global economic environment. Concerns about sovereign debt in the euro area have spilled over into its financial sector. With markets downgrading expectations about the recovery, assets in other regions have also come under pressure. To date, the spread to the EU10 region has been limited due to lower public debt, competitive exchange rates, better growth prospects, and appropriate policy stances. However, contagion to the EU10 region could be triggered through financial, trade and investment linkages or similarities in debt dynamics (Figure 38). National and EU level policy measures to bolster confidence and stability in European financial markets remain critical to ensure the economic recovery is not derailed.

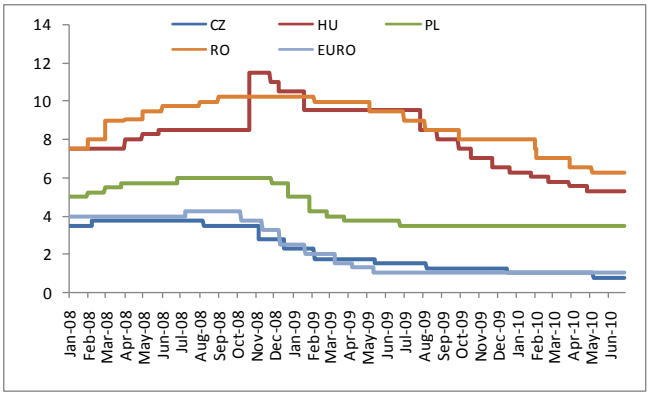
Monetary policy is expected to remain supportive of the recovery as inflation pressures continue to be moderate. The key policy rate of the euro area remained unchanged at 1 percent, reflecting the absence of inflationary pressures in view of large output gaps and accelerated budget reduction measures in a number of euro area countries. For the time being, the slack in the economy, the sluggish recovery, and the lower commodity and energy prices are expected to offset price pressures from depreciating domestic currencies. Central banks in the EU10 region have equally refrained from raising rates until private sector activity has gained firmer footing. Low interest rates support businesses and households through low borrowing costs. The easing in policy rates continued in Hungary, Romania and in the Czech Republic in late April and early June (Figure 39). Given low inflation, the Czech National Bank decreased its policy interest rate to 0.75 percent, below the ECB policy rate. The Bank of Romania lowered its monetary policy rate by 25 basis points in line with its inflation forecast. While monetary policy makers face high uncertainty regarding the trends in potential output, capital flows, and inflationary pressures, the EU10 central banks are likely to maintain low policy rates as long as the recovery remains uncertain and inflation subdued. Some EU10 countries may also at some point have to manage a surge in capital inflows in order to avoid unwarranted asset price and exchange pressures. Once monetary policy tightens in the EU10 region, incentives to undertake carry-trades may intensify with investors borrowing short-term at lower interest rates in high-income countries to invest in higher-returning instruments in EU10 region.

Figure 38. Foreign claims of selected euro area banks on EU10 residents as percent of total loans, 4Q 2009



Source: BIS, World Bank staff calculations

Figure 39. Policy rates in selected EU countries and euro area



Source: Central Banks, World Bank staff calculation

Bolstering the stability of the financial sector remains essential to safeguarding the recovery. In view of the large foreign ownership of the banking system, the recent pressure on parts of the banking system in Western Europe has increased funding risks for the EU10 region. Critical recent steps at the European level included the setting up of a financial stability facility over EUR440 billion, the provision of liquidity of the ECB for secondary bond markets, and stress testing of European banks. Building on these measures, core priorities include ensuring a smooth operation of the recently established European stabilization mechanism, continuing tackling impaired bank assets and facilitate restructuring in home countries of parent banks. Banks face the task of absorbing credit losses that are still on the rise, raise additional capital needed to support the recovery of credit and sustain the recovery under the expected new Basel Capital adequacy standards, and ensure smooth rollover of funding. Bank profitability might be under pressure from loan provisioning, capital and funding strains, and subdued credit expansion. This points to the need for further measures to facilitate bank restructuring, ensure appropriate contingency planning, and strengthen the resilience and stability of the financial system through macro-prudential regulation (Box 1).

Box 1: Reforms of governance, policy coordination, and financial regulation in the EU

Drawing on the lessons of the global financial crisis, in June 2010 the European Council endorsed two proposals of a newly set up task force on economic governance headed by EU President Van Rompuy:

- strengthening budgetary discipline through, among others, enhancing the role of the EC in reviewing national budget plans, increasing sanctions in case of excessive budget deficits, and improving the quality of fiscal data; and
- reforming the framework for surveillance of harmful macroeconomic imbalances and their correction.

The task force is expected to table additional proposals to strengthen the financial crisis mechanism and strengthen economic governance by October 2010.

From January 2011, three new European Supervisory Authorities (the European Banking Authority; the European Insurance and Occupational Pensions Authority; and the European Securities and Markets Authority) and the European Systemic Risk Board will become operational. The European Council also agreed that member states should introduce the system of taxes and levies on financial institutions which should provide funds to enable for orderly resolution in the event of the failure of financial institutions.

Most EU10 countries are currently not meeting the full set of convergence criteria for euro adoption (Table 4). The Czech Republic, Hungary and Poland have not announced target dates for euro adoption, while Bulgaria, Latvia, Lithuania, and Romania aim to join between 2013 and 2015. Estonia will enter the euro area on January 1, 2011. The economy is highly flexible and, while not immune to the crisis, has shown its ability to operate and adjust under a fixed exchange rate for close to two decades.

Table 4. Compliance with convergence criteria, March to May 2010

	Government deficit	Government debt	Inflation rate	Long-term interest rates	ERM II Membership 2010
Reference value	below 3% of GDP	below 60% of GDP	less than 0.8%	less than 6.0%	minimum 2 years
BG		✓			
CZ		✓	✓	✓	
EE	✓	✓	✓	✓	✓
LV		✓	✓		✓
LT		✓			✓
HU					
PL		✓			
RO		✓			
SI		✓		✓	Euro Area
SK		✓	✓	✓	Euro Area

Source: Eurostat, World Bank staff calculations

Fiscal Policy

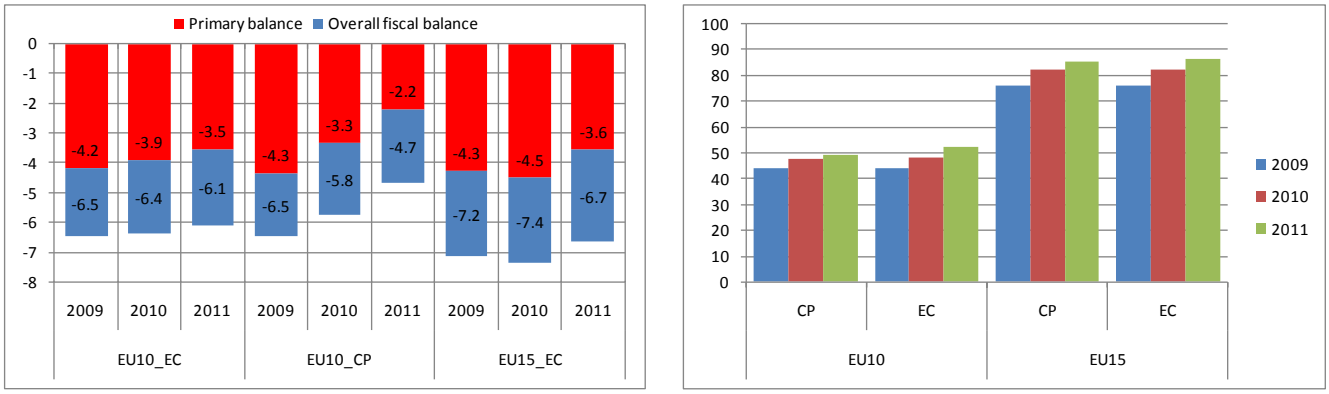
The recent volatility in financial markets has reemphasized the issue of fiscal sustainability. In an attempt to calm market concerns about unsustainable fiscal balances, high income countries committed to halving their fiscal deficits by 2013 and stabilize debt-to-GDP ratios by 2016 during the G20 summit in June 2010. The failure to advance credible fiscal adjustments in advanced countries could raise borrowing costs and require undesirably aggressive fiscal tightening in countries fearing contagion, including the EU10 region. Countries with larger fiscal deficits and public debt levels have to step up fiscal adjustment rapidly, especially if they are faced with sovereign funding pressures. For these countries, failure to commit credibly to medium-term consolidation could trigger market reactions that will force more immediate fiscal adjustment. According to IMF estimates, the planned adjustment of the structural fiscal balance in the euro area in 2011 rose from 0.3 percent of GDP in April 2010 to 0.9 percent in June 2010. This is projected to lower growth in the euro area by 0.2 percentage points. The growth slowdown in the EU15 region is likely to spillover to the EU10 region through deep lower capital flows, more expansive financing, and weaker export growth.

The concerns about sovereign debt in parts of the euro area have underlined the importance of credible fiscal consolidation efforts also in the EU10 region. While financial market sentiment towards the EU10 region has held up well to date, a loss of market confidence could trigger a sharp rise in interest rates and force painful fiscal retrenchment. Fiscal consolidation is likely to lower domestic demand initially. But this negative short-term impact can be mitigated by public sector reforms that lower the fiscal burden for the future, address the fiscal outfall of population aging, and strengthen the growth potential of the economy. In most EU10 countries, the high fiscal deficits reflects not just the weak state of the economy, but also lack of progress in advancing public expenditure and taxation reforms, generous spending and weak public expenditure controls in recent years. Furthermore, fiscal adjustment is central for complying with national public debt limits and the commitments under the Stability and Growth Pact, and for protecting priority spending for jobs and growth. Finally, fiscal consolidation will also help in rebalancing demand away from public toward private sectors. The increase in public debt over the last two years and shortening of maturities has expanded refinancing needs that could crowd out investment in dynamic sectors.

Governments reiterated their commitments in the 2010 convergence program updates to reducing the fiscal deficit to 3 percent of GDP over the medium-term. Currently, all EU countries with the exception of Estonia, Sweden and Luxembourg have ongoing EU excessive deficit procedures on the basis of fiscal deficit overruns. The EU10 countries with ongoing excessive deficit procedures are expected to bring the fiscal deficit below 3 percent of GDP from 2011 to 2013.

The pace and structure of the required fiscal consolidation varies across the EU10 region. In 2010, EU10 governments aim to reduce fiscal deficits from 6.5 percent of GDP in 2009 to 5.8 percent in GDP in 2010. By contrast, in line with EC forecasts, EU15 governments still project on average a widening fiscal deficit, as a number of countries have adequate fiscal space to delay fiscal retrenchment until 2011 in order not to undermine the fledging recovery (Figure 40). The planned fiscal adjustment in most EU10 countries is gradual, as private demand is still too weak to sustain the recovery. The scale of the fiscal consolidation is set to increase in 2011, when fiscal balances are projected to improve from -5.8 percent of GDP to -4.7 percent of GDP. By 2012, fiscal deficits are supposed to drop by 3.5 percent of GDP in the EU10 region, compared to 2.7 percent of GDP in the EU15 region (Figure 40). However, the European Commission found that the budgetary targets from 2011 onwards are based on optimistic growth projections in some countries and often on consolidation strategies insufficiently backed by concrete measures.

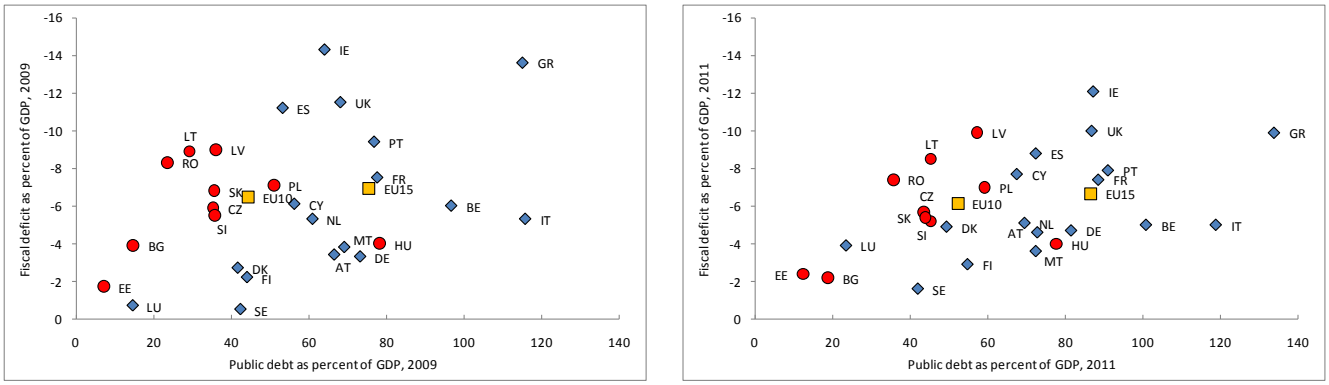
Figure 40. General government deficit and debt in EU10 and EU15 regions



Source: Convergence Program Updates 2010, EC Spring 2010 Forecasts, World Bank staff calculations.

Economic recovery and lower interest rates will not be sufficient to stabilize public debt ratios in the region. In most of the EU10 countries, negative primary balances will continue to increase debt-to-GDP ratios in 2010. In addition, based on EC projections, public debt levels will exceed in 2011 40 percent of GDP in all EU10 countries apart from Estonia, Bulgaria and Romania. The economic literature suggests that public debt levels in excess of 40 percent of GDP raise concerns with financial markets in emerging economies. Even so, debt ratios are well below the euro area average, except for Hungary, and to a lesser extent Poland, in part due to reforms that strengthened the fiscal sustainability of the pension system (Figure 41).

Figure 41. General government deficit and debt in EU10 and EU15 countries

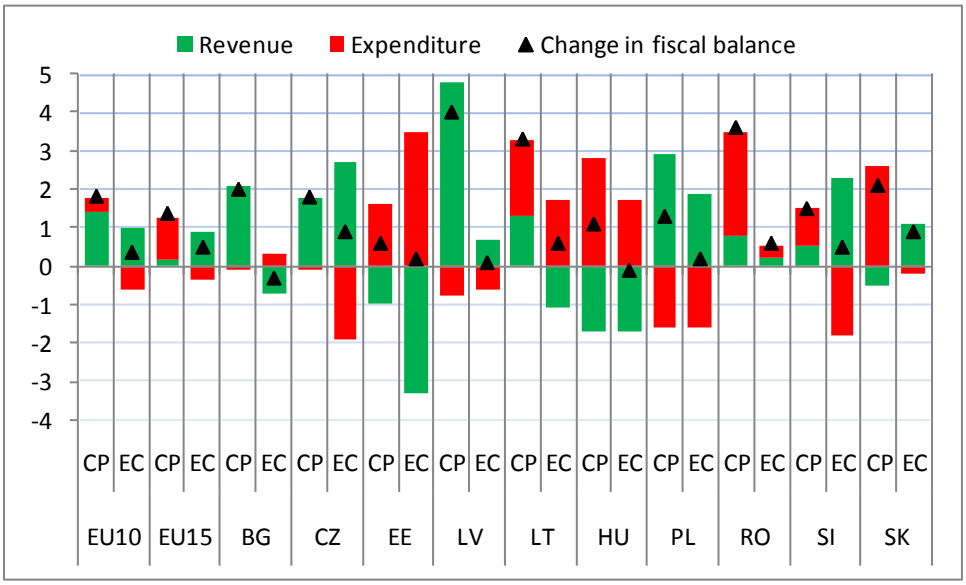


Source: EC Spring 2010 Forecasts, World Bank staff calculations

The fiscal deficit reductions rely on both adjustments in public expenditures and revenues (Figure 42). For many countries, measures underpinning the fiscal consolidation in the next couple of year are still to adopted, which makes the pace and type of the adjustment uncertain. Expenditure downsizing would ensure that countries do not emerge from the crisis with oversized public sectors that are a drag on growth. In 2010, the expenditure retrenchment is likely to be noticeable in Bulgaria, Hungary, and Lithuania; mainly thanks to a planned reduction in current spending. In the Slovak Republic and the Czech Republic, spending adjustments are likely to result mainly from the withdrawal of stimulus-related spending. In many countries, key expenditure measures for bringing about the reduction in fiscal deficits are freezes or reductions in public sector wages and pensions, consolidation of discretionary spending and increases in the flexibility of government expenditures. Countries with unfavorable demographic trends consider improved cost containment in health care and increases in retirement ages to address negative fiscal impacts from population aging. During the first four month of 2010, state budget spending is broadly in line with the budget plans in

Bulgaria, the Czech Republic, Poland and the Slovak Republic. These efforts on the expenditure side are in some countries complemented through measures to broaden the tax base, for example through elimination of reduced VAT rates, to increase selective tax rates, such as tobacco and alcohol excises, and strengthen tax administration. Since the crisis has undermined the tax base and weakened tax compliance, such policies are crucial to bolster revenue collection. Tax increases were enacted in several countries, such as the Czech Republic, Romania and Slovenia, and—as part of shifting from labor to consumption taxation—Hungary However, state budget revenues underperformed in the first four month of 2010 in some EU10 countries due to weak tax collection.

Figure 42. Composition of fiscal deficit reduction from 2009 to 2011,percent of GDP



Source: Convergence Program Updates January/February 2010, European Commission Spring Forecast 2010, World Bank staff calculations.

Note: A positive change in the fiscal balances means a reduction in the fiscal deficit.

Strong fiscal institutions can support the consolidation efforts. In times of sharp fiscal pressures, they can improve fiscal performances by ensuring that fiscal adjustments are sustainable and adhere with medium-term objectives. By laying out benchmarks against which the government can be held accountable, fiscal rules provide a stable anchor for policy decisions and help to mitigate any adverse short-term impact of fiscal consolidation on economic activity. For example, Poland's new Public Finance Act, which entered in force in January 2010, lays out defined corrective measures to be taken in case the thresholds under the debt rule are breached. The Polish government has also prepared legislation to limit the growth rate of discretionary expenditure to inflation plus one percentage point until the structural deficit has declined to one percent of GDP. Romania also adopted a new Fiscal Responsibility Law in 2010. Until Hungary's Fiscal Responsibility Law from November 2008 becomes fully effective in 2012, transition rules require a reduction of the budget deficit in percent of GDP and cap expenditure growth in 2010 and 2011.

Labor Policy

Unemployment is expected to decline only starting in 2011 (Figure 43)**.** This is driven primarily by three factors: the continued pressure on the private sector to improve its profitability and restore balance-sheets by further downward-adjusting employment; the unwinding of some of the government employment support measures; and the restructuring of the public sector, faced with severe short term fiscal pressures and the need to enhance efficiency of service delivery, particularly in countries like Romania and Bulgaria. Starting with 2011, however, as the recovery takes hold, the trend in unemployment is expected to be gradually reversed in all the countries in the region, with the exception of Poland, where it will continue to expand. Nevertheless, unemployment will remain above its 2009 level, and substantially above the pre-crisis levels, well above 10 percent of the labor force in Latvia, Lithuania, Estonia and Slovakia.

Figure 43. Forecasted harmonized unemployment rates in EU10 and EU15 countries, percent

Source: EC Ameco database, World Bank staff calculations

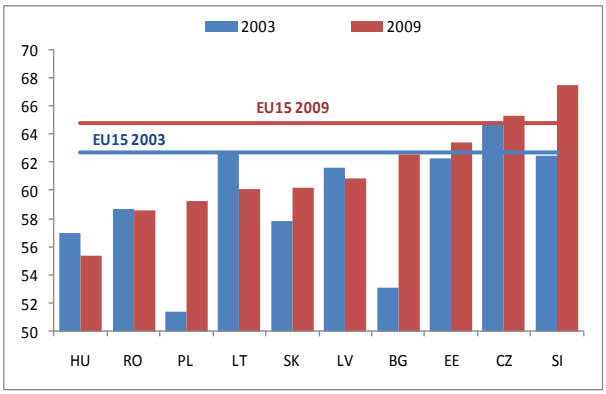
Labor market policies are central to ensuring a balanced and inclusive economic recovery. A main challenge faced by the governments in the region is to prevent the cyclical increase in unemployment from turning into structural unemployment. Regional and occupational labor mobility is low in most of the countries in the region. In addition, supported by the European Social Fund, EU10 countries have recently started to implement activation policies, linking benefit receipt to active job search and labor market attachment. Activation policies reintegrate social assistance recipients into the labor market by providing job search assistance, vocational counseling and training, as well as work experience by means of enrollment in public works and workfare schemes.

In spite of noticeable progress since the early 2000s thanks to declining unemployment and labor market reforms, the employment rate of the working age population remains below average EU levels for most EU10 countries (Figure 44**).** Demographic trends will tend to lower the growth of the working age population. Key structural issues to increase the labor supply include increasing legal retirement ages in line with life expectancy, especially for women; advancing the integration of social assistance and labor market policies, allowing women to take up jobs through child care facilities and retirement homes for the elderly, and facilitating migration.

Low labor participation is also related to skill mismatch, along with low labor productivity. Important skill challenges for EU10 countries include shifting the focus of education towards skills demanded in the labor market, and promote lifelong learning through formal, informal and vocational training schemes. On the eve of the crisis, firm managers in Poland and other transition countries reported in an enterprise survey that, among all the elements of their business environment, labor skills were along with infrastructure the most constraining in terms of their ability to operate and expand their businesses. Complaints about skilled labor

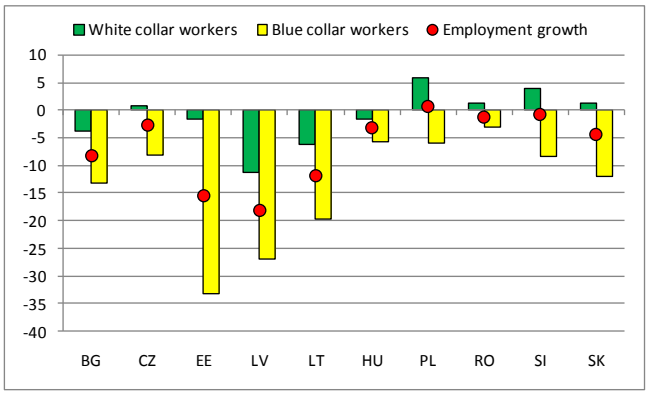
increased from previous survey rounds, suggesting that the demands for labor skills outrun their provision. This explains why blue collar workers fared far worse than white collar workers during the crisis in terms of job security (Figure 45).

Figure 44. Employment rate of 15-64 year-olds, EU27=100



Source: Eurostat, World Bank staff calculations

Figure 45. Change in employment by skill level from 1Q 08 to 1Q 10, percent



Source: Eurostat, World Bank staff calculations

Finally, labor policies have to be complemented with structural policies to enhance growth prospects. EU10 countries still have large labor productivity gaps to EU15 countries. In addition to capital scarcity and skill mismatch, the productivity gap is linked to a number of factors. This includes limited absorption capacity of new technologies; uneven FDI and trade intensity; low linkages between research centers and industry; and market rigidities in retail services and professional services, and network industries where public ownership remains often large. Following on the new EU2020 strategy for jobs and growth, member states are now preparing their national reform programs containing country specific targets for all areas covered by EU2020 and presenting the policies to eliminate bottlenecks for faster growth (see focus note on Global Financial Crisis and Growth Prospects).

EU10 July 2010

Summary of "In Focus" Notes

Focus Note # 1 Absorption of EU Funds

European cohesion policy has supported effectively budgetary stability and public investment in the EU10 region in times of heavy budgetary pressures. The EC has improved the utilization of EU structural funds by increasing the flexibility in implementing the programs, extending the final date of the eligibility for funding, and taking measures to reduce potential financing constraints for beneficiaries. In addition, capacity building within countries prior to the crisis has played an important role in raising the absorption of EU resources. All EU10 countries managed to use all the funds available from the 2004-06 perspective by the end of the period, and to advance the absorption of funds from the new perspective 2007-13. However, the rate of contracted and disbursed funds remains low in a number of countries. This reflects difficulties related to project application processes; project preparation; project evaluation and selection; project implementation at the beneficiary level; legal and institutional issues.

Focus Note # 2 Invitation Paper: Global Financial Crisis and Growth Prospects

EU10 countries had a unique development model, largely based on deep integration with the EU15, which has led to fast economic growth before the crisis. The global financial and economic crisis, however, has hit most EU10 hard, which raises questions about their development model. This focus note evaluates the need for reconsideration of this model in light of the crisis, and assesses post crisis growth prospects and growth drivers. To this end, we first review the key features of the pre-crisis development model of EU10 countries, and then use cross country growth regressions to uncover growth determinants and to offer post-crisis growth projections. While we find that the growth model was in general right and is still desirable, we highlight that in practice two main variants of the model emerged: in some countries the model has led to the build up of a competitive tradable sector and growth was generally accompanied by macroeconomic stability, while in other countries growth was based to a large extent on the non-tradable sector and was accompanied by growing macroeconomic instabilities. We find that growth is expected to be lower after the crisis than it was before and all countries have to implement important structural reforms, not least because important changes are expected in the post-crisis international and domestic environment. But in countries where growth was primarily based on the non-tradable sector, the weak competitive position, the redirection of resources from the non-tradable to the tradable sector, and the private debt overhang also need to be dealt with.

EU10 July 2010

In Focus: Absorption of EU Funds

Successful absorption of EU funds is critical for EU10 countries to protect priority spending for jobs and growth in the context of tight fiscal balances.[1] This notes looks at three main EU funds for the perspective 2007-2013: the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund (CF). These funds are grants aimed at narrowing the disparities among regions in the member states and encouraging economic and social cohesion. These funds amount to EUR348 billion, representing about 35 percent of the European Union's Budget (Box 2). While countries have improved the absorption of EU funds, the implementation of projects remains very challenging.

Box 2. EU Funds

ERDF is the largest of the three funds. It provides support for the creation of infrastructure and productive job creating investment, mainly for businesses. ESF supports mainly training initiatives for vulnerable population groups, including the unemployed. CF, which is intended for countries whose per capita GDP is below 90 percent of the EU average, has as objectives to finance environment and transport infrastructure projects. However, aid under CF is subject to certain conditions. For example, if the beneficiary member state does not take effective action in response to a Council recommendation to correct an excessive fiscal deficit, the Council may decide to suspend either the totality or part of the commitments from the CF.

The co-financing rate, or the percentage of eligible expenditures, for new member states is generally 85 percent. However, the rates of co-financing may be reduced in accordance with the "polluter pays" principle or where a project generates income, or where the State Aid rules impose it.

Objectives	Structural funds and instruments/co-financing ceilings		
Convergence	ERDF/85%	ESF/85%	CF/85%
Regional competitiveness and employment	ERDF/85%	ESF/85%	
Territorial cooperation	ERDF/ up to 75%		

Note: Source: WB staff based on EC Regional Policy Objective
Note: ERDF/85% means that the co-financing ceilings for public expenditure coming from the ERDF amount to 85 percent under the convergence objective.

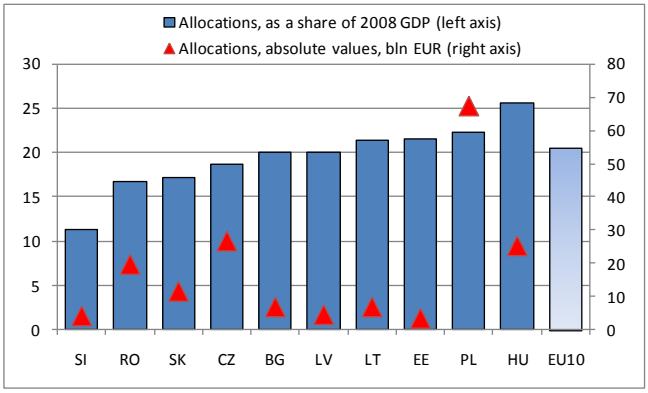
Access to funding under the three objectives (convergence, regional competitiveness and employment, and European territorial co-operation) is determined by the eligibility criteria. The convergence objective targets regions of EU member states with GDP per capita of less than 75 percent of the EU average, in addition to a number of other member states which are only slightly above this threshold "due to the statistical effect of the larger EU"[2]. The allocation of funds across member states depends notably on the following criteria: eligible population, national wealth, regional wealth and unemployment rate. Each member state then decides on the specific details of how the resources will be divided up among the regions by taking into account the geographical eligibility.

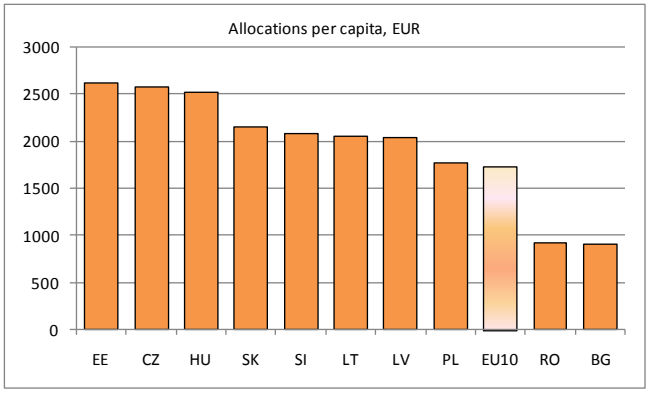
Over half of the EU funds for the 2007-2013 perspective benefit EU10 member states. In most countries, the annual amounts doubled in nominal terms compared to the previous perspective, with the greatest increases seen in the Czech Republic and Hungary. Allocations for the EU10 countries average 3 percent of GDP per year. Poland has the largest overall allocation. In per capita terms, Estonia, the Czech Republic and Hungary are the main beneficiaries with the allocations of around EUR 2,500.

[1] Prepared by Paulina Holda and edited by Swati Ghosh and Emilia Skrok.

[2] European Commission Regional Policy Objective available at http://ec.europa.eu/regional_policy/policy/object/index_en.htm

Figure 46. Distribution of EU funds across countries, 2007-13





Source: OECD, World Bank staff calculations

However, the allocations only provide a ceiling—the actual use of funds depends on countries' absorption capacity. Actual absorption depends on the administrative capacity to control and assess projects, ensure efficient implementation, provide co-financing and finally claim refund of expenditure from the European Commission. To facilitate payments to beneficiaries a part of the available funds is transferred to member states at the start of operational programs as pre-financing. A budgetary commitment is automatically de-committed if it is not drawn within the time frame set by the European Commission. In particular, according to the n+2 rule, all claims for refunds have to be submitted by the end of the second year following the year in which the budget commitment took place.

Box 3. Allocation, Contracting, Absorption and Implementation

Allocation refers to the amount of EU structural funds available for member states. **Contracting** refers to committing these resources through signing contracts for projects. **Absorption** refers to payments from these allocations to the member states. Payments include both the advance payments and ex-post reimbursements of co-payments for expenditures incurred and claimed.

- **Contracting rate** refers to the ratio of committed amounts relative to the allocation.
- **Absorption rate** refers to the ratio of payments relative to the allocation.
- **Implementation rate** refers to the ratio of ex-post reimbursements relative to contracting.[3]

Source: World Bank staff.

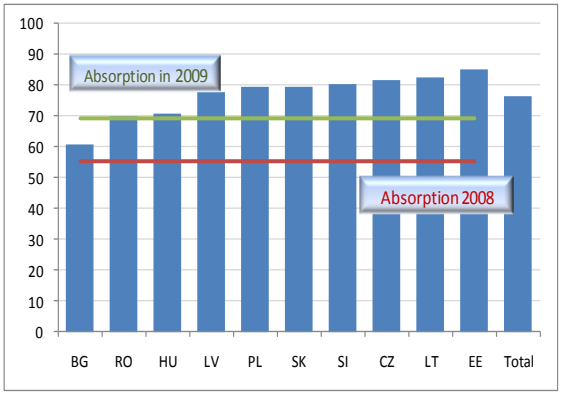
[3] Implementation rate takes into account only project-related disbursement and does not include payments in the form of advance payments.

Completing Perspective 2004-2006

The structural funds from the 2004-2006 perspective have been almost fully absorbed. This includes the European Regional Development Fund (ERDF), the European Social Fund (ESF), the European Agricultural Guidance and Guarantee Fund (EAGGF), and the Financial Instrument for Fisheries Guidance (FIFG). The eight EU10 member states which acceded in 2004 have contracted all their structural funds, aided by an extension in the absorption deadline beyond 2008. They reached an absorption rate of 95 percent as of the end of 2009, up from 93 percent at the end of 2008.[4]

The absorption rate of the Cohesion Fund is lower. This reflects in part that infrastructure projects are more prone to encounter implementation difficulties. In addition, the Cohesion Fund operates in a different time frame, as eligibility runs in general until end of 2010, or in some cases until 2011. With the exceptions of Bulgaria, Romania and Hungary, the EU10 countries have absorbed over three-quarters of the allocation (Figure 47).[5] In most cases, the countries still have until the end of 2010 to absorb resources from Cohesion Fund fully.

Figure 47. Cohesion funds absorption rate as of June 2010, as percent of total 2000-06 allocation



Source: World Bank staff.

Facilitating absorption of Perspective 2007 to 2013

Learning from the experience of the previous perspective, EU10 countries have streamlined their initial frameworks for EU funds management to improve absorption capacity. Experience shows that the absorption capacity depends heavily on institutional factors, both at the EU and national level. An availability of internal resources for projects co-financing, adequate administrative capacity at central and local levels (high skills and motivation of human resources), a practical approach to implementation procedures, a successful planning process, and appropriate inter-institutional coordination and public-private partnerships are all key in EU funds utilization at the country level. All EU10 member states have taken steps to improve and accelerate the use of EU funds (Table 5). Across the region, governments raised the amount of available funding to beneficiaries to reduce co-financing pressure. They accelerated the advance payments (almost all countries), allowed quick costs reimbursement for large investment projects (so called major projects) without waiting for EC approval (Hungary, Poland), offered state guarantees for local governments (Romania) or provided other financial assistance such as direct loans (i.e. loans to municipal utilities in Bulgaria). Some countries in the region have reformed institutions responsible for EU funds management, strengthened coordination mechanisms and revised legislation, including public procurement rules (Bulgaria, Poland, and Slovenia), although most countries focused on improving implementation process through simplifying the process of receiving and assessing the applications (Czech Republic, Estonia, Poland (see Box 4), Slovakia , and Bulgaria), easing the eligibility criteria (Romania, Hungary), shortening the time necessary for processing payments from the managing units to final beneficiaries (Latvia, Poland), or investing in training and increased salaries of administrative staff working in implementation units. In addition, monitoring and evaluation system have been improved together with simplified financial management and control (Slovenia).

[4] The vast majority of the programs have reached the ceiling of 95 percent of payments. For these programs, further payments will be made only upon closure of the program. For the programs that have not yet reached the ceiling of 95 percent, interim payments can still be made in the course of 2010.

[5] For Bulgaria and Romania, cohesion funds refer to the pre-accession ISPA projects which became cohesion fund projects upon accession.

Table 5. Selected measures taken by EU10 countries to speed up absorption

	BG	CZ	EE	HU	LT	LV	PL	RO	SK	SL
I. Increased financial absorption capacity										
Available pre-financing, higher advanced payments, loans, state guarantees	x	x	x	x	x	x	x	x	x	x
II. Improved administrative absorption capacity										
Management	x						x			x
Programming			x	x		x				x
Implementation	x	x		x		x	x	x	x	x
Evaluation & monitoring	x						x		x	
Financial man. & control						x	x			x

Source: World Bank staff based on countries' information and KPMG 2010

Box 4. Improving EU Funds absorption – the case of Mazowieckie Region in Poland

Mazowieckie Region had the lowest absorption rate of EU funds in Poland in the perspective 2004-06. The slow progress in utilization of the Funds was due to several reasons, but the most plausible explanation is administrative procedures.

Poland decentralized EU funds implementation in 2007, moving the management responsibility from the central to the regional level –Guidance on projects selection criteria remains responsibility of the Ministry of Regional Development.

Mazovieckie's EU Funds Implementation Unit received typically thousands of individual projects for every competition. Each was evaluated in isolation. The process of technical evaluation was cursory. The level of political evaluation, on the other hand, was reportedly thorough. The procedure also entailed high costs for potential participants. Candidates were required to present fully prepared projects at the initial stage of competition. As a result projects that had no reasonable prospect of funding nevertheless had to undergo substantial project preparation costs.

Procedures in Mazowieckie have been substantially revised for the 2007-2013 period. Under the new approach, candidates are required to submit only a short (6 page) project concept at the initial stage. This is then subject to multi-stage evaluation. The voivodship has taken steps to improve the rigor of the evaluation process. A 40-person bureau of regional planning has been established to undertake evaluation of major regional projects. The voivodship also employs approximately 500 staff to evaluate the smaller projects arising from competitions (although their evaluations are largely limited to the so-called 'formal' evaluations). Technical evaluations are performed by consultants, drawn from a national list of experts maintained by the Ministry of Regional Development.

At the conclusion of this process, all project proposals are to be ranked and tentatively approved, in order of rank, until the money allocated to the particular competition is exhausted.

Only at this point, detailed feasibility studies are to be undertaken for projects that have been tentatively approved for funding. The feasibility studies are to be evaluated by the technical experts.

The new approach appears to solve several of the problems associated with the 2004-2006 allocation process. The new two-stage evaluation process reduced the initial cost of participation. The use of rosters of technical experts improved the quality of technical evaluations.

The initial data for the 2007-2013 perspective shows that Mazowieckie is still somewhat below the average absorption ratio in Poland, but the distance to other regions have decreased significantly as compared to 2004-2006.

Source: World Bank staff adopted from Poland: Mazowieckie Public Expenditure Review - Local Responses to the Global Economic Crisis, 2009

At the EU level, new rules have also been adopted for the perspective 2007-2013 to simplify the financial management of the funds and speed up the rate of absorption. The most important changes from the EU10 perspective include the introduction of n+3 rule for the newest member states (EU10 and Cyprus and Malta) as well as Greece and Portugal between 2007 and 2010. This rule allows these countries to alleviate some of the absorption pressures resulting from the overlapping of the two programming periods and the much larger allocation in 2007-2013. The co-financing rates have also been changed, increasing to a maximum of 85 percent from 75 percent in the previous programming period. Eligibility rules for expenditures are now established at the national rather than the European level. Finally, financial management becomes more flexible, allowing for a partial closure of operations already completed before the program as a whole is completed.

Additional changes have been introduced to help the member countries address the challenges of the global economic crisis. In response to the global financial and economic crisis, the European Commission has proposed a number of measures as part of the November 2008 European Economic Recovery Plan to speed up the utilization of EU funds in order to provide support for budgetary stability and public investment in the member states in times of heavy budgetary constraints. The measures aim to increase flexibility in implementing the programs by member states, alleviate potential financing pressures for beneficiaries and increase emphasis on investment in areas of high growth potential.

- **Increasing flexibility.** The EC, in cooperation with the member states, revised policies to simplify delivery and speed up implementation of EU funded projects to help the member states address the economic challenges. Importantly, as for 2000-06 operational programs, the EC extended the final date of the eligibility for funding by six or twelve months. This applied to 385 out of 555 programs (and 29 out of 37 programs implemented in the EU8 countries), where available resources had not been fully utilized.[6]. The EC also increased the flexibility in allocating funding between different priorities. The flexibility margin for managing authorities to transfer funding between priorities within operational programs was increased from 2 percent to 10 percent. Greater flexibility was also introduced in the calculation of the final EU contribution. Last but not least, financial management was simplified to reduce the administrative burden. This includes introduction of lump sum or flat-rate payments for reimbursement and direct contracts that can be awarded to the EIB or EIF.

- **Alleviating potential financing pressures and boosting public investment**. The EC increased the pre-financing for the 2007-13 operational programs. In 2009, an additional 2 percent in the new member states and 2.5 percent in the EU15 countries were given for structural funds. This brought an additional cash injection of EUR 6.25bn in 2009, compared to a total pre-financing for all EU27 countries of EUR 11.25bn. More than a third of this additional pre-financing was directed to the EU10 countries. Moreover, to alleviate the fiscal pressures imposed by the required co-financing rates, the flexibility of the system was increased. National and the EU co-financing may vary for projects within a program so that in practice some operations could be financed at 100 percent from structural funds in 2009 if they are balanced by operations funded from national sources by the end of the programming period. As for projects financed by the European Social Fund, the EC may reimburse 100 percent of costs declared by the member states with no need for national co-financing in 2009 and 2010. This will speed up the implementation of the projects supporting employment. The EC also offered support to accelerate the development of major projects: the resources available to JASPERS were increased by 25 percent starting from 2009 and interim payments for major projects were accelerated.[7] Finally, the rules governing state aid schemes co-financed by cohesion policy were simplified. Other temporary arrangements were introduced until 2010 to address the impact of credit squeeze on the real economy.

- **Increasing emphasis on investment in areas of high growth potential**. The EC cooperates with the member states to modify the existing priorities towards smart investments, such as in

[6] The extension of eligibility deadline is valid for projects financed from the four structural funds, comprising the Structural Funds in 2004-06 programming period: ERDF, ESF, EAGGF and FIFG. The deadline for Cohesion Fund payments from the 2004-06 programming period is in most cases the end of 2010.

[7] JASPERS is a partnership between the Commission (DG Regional Policy), the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD) and KfW which became operational in 2006. JASPERS offers technical assistance to the twelve Member States that joined the EU in 2004 and 2007.to prepare major projects for EU support.

energy efficiency, clean technologies, environmental services, infrastructure an interconnections, broadband networks, forecasting and matching skills with future labor market needs or opening up new finance for SMEs. In addition, more flexibility in co-financing rates is introduced, for example by allowing some measures to be fully financed from the EU funds in 2009.

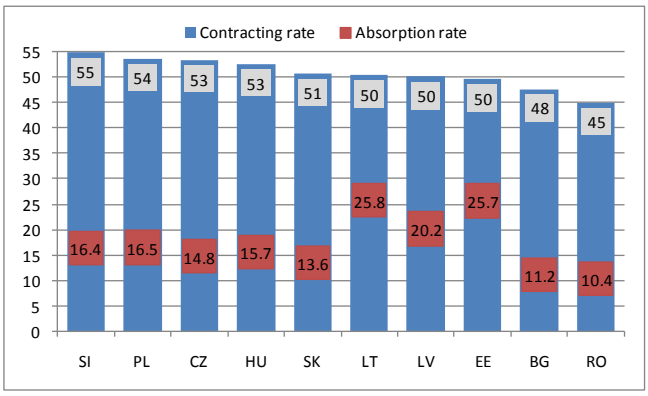
Progress in absorption of 2007 to 2013 perspective

These measures have contributed to improvements in the take up of EU funds. The contracting of structural funds from the new programming period is well advanced, although there are significant differences between countries. Slovenia and Poland have the highest contracting rates (Figure 48). They have already contracted around 55 percent of funds available. Other 2004 EU accession countries have contracting rates of at least 50 percent. Even for Bulgaria and Romania the contracting rate was above 45 percent. The performance is remarkable, as for most countries 2008 was the first effective year of implementation of 2007-2013 perspective[8], also because the countries were still focused on absorbing funds from the previous perspective.

However, executing projects proves still to be a challenge. The absorption rate ranges from 26 percent in Estonia and Lithuania to just over 10 percent in Bulgaria and Romania (Figure 49). The implementation rate is as low as 2 to 3 percent, and suggests that countries have problems at the level of project implementation and co-financing. The low rate of contracted and disbursed funds results from a number of difficulties. They relate to project application processes; project preparation; project evaluation and selection; project implementation at the beneficiary level; legal and institutional issues. These shortcomings reflect in turn lack of capacity at national, local and regional levels for the management and absorption of funds.

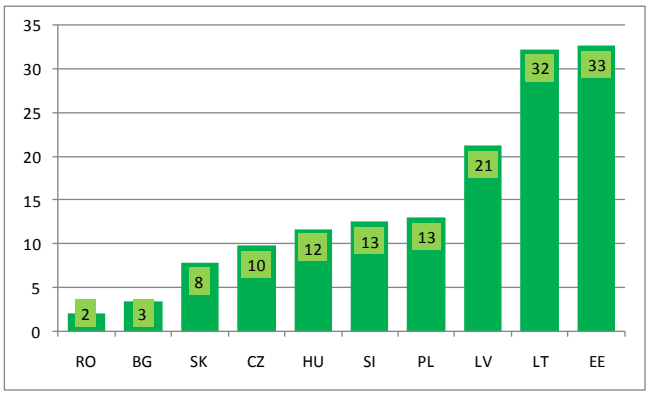
Slow implementation reflects difficulties of managing authorities and beneficiaries. For example, managing authorities encounter difficulties in the insufficient number of independent evaluators, or the applicants' lack of experience in project preparation, especially on the part of SMEs and local authorities in small and medium sized towns. Beneficiaries face difficulties in areas such as limited capacity and experience of the staff in local and central administration; lack of strategic and budgetary planning; inadequate skills in public procurement or financial and budget management; and difficulties in securing financial resources for project implementation, including the own contribution.

Figure 48. *Contracting* and *absorption* rates as of June 2010, 2007-2013



Source: European Commission, World Bank staff calculations

Figure 49. *Implementation* rate as of June 2010, 2007-2013



Source: European Commission, World Bank staff calculations

[8] The launch dates of the EU co-funded programs were different in each member state according to approvals by the European Commission and local authorities. The first calls for tenders were announced in four main waves in the CEE countries: first half of 2007: Hungary, Slovenia and the Czech Republic; second half of 2007: Bulgaria, Poland and Estonia; first half of 2008: Latvia, Romania and Slovakia; and second half of 2008: Lithuania.

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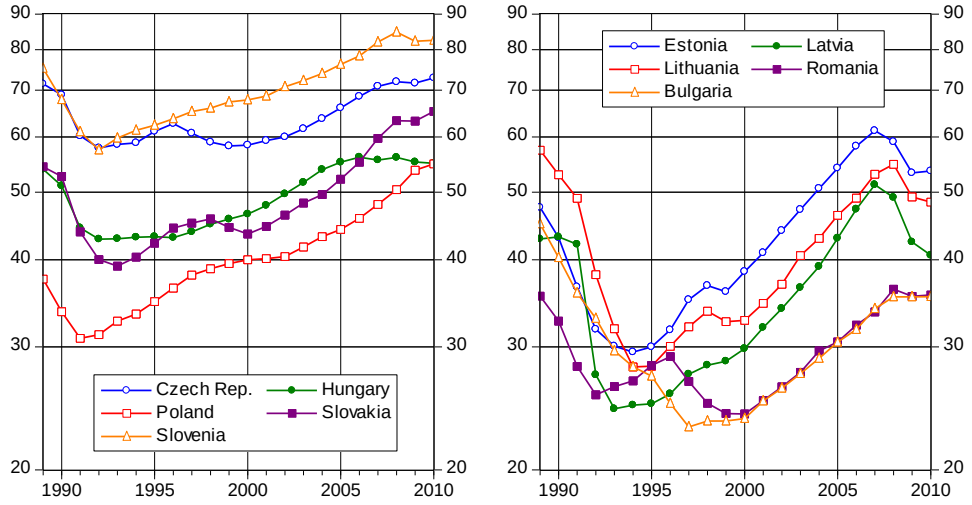
Invitation Paper: Global financial crisis and growth prospects[9]

Introduction

Before the crisis, the economic progress of the ten Central and Eastern European member states that joined the EU between 2004 and 2007 (EU10) seemed to be fast and reasonably smooth. The extraordinary deep recession after transition had been followed by rapid economic catching up, as illustrated by Figure 50. Most countries had entirely recouped their initial post-transition relative income losses in comparison to the EU15 (the first 15 members of the EU) and others were en route to reaching this goal.

Figure 50. GDP per capita at purchasing power parity (EU-15=100), 1989-2010



Source: Own calculation based on data from IMF World Economic Outlook April 2010 and EBRD.

Note: The 1989 levels of GDP per capita and GDP growth rates in the first few years of transition should be interpreted with caution given the differences in statistical methodology, changes in relative prices, and measurement errors.

The development model of EU10 countries had many common features, such as deep political, institutional, trade and financial integration with the EU and significant labor mobility to EU15 countries. However, there were substantial differences across countries as well, which have grown in the run-up to the global crisis. Some EU10 countries became increasingly vulnerable due to huge credit, housing and consumption booms, high current-account deficits and quickly rising external debt levels.[10] It was widely expected before the crisis that these vulnerabilities would have to be corrected at some point (World Bank 2007, Darvas and Szapáry 2008), but the correction experienced during the crisis was much faster and deeper than expected, especially as regards the current account deficits. As a result, GDP declined much more than expected. Most EU10 countries have been hit harder than the EU15 average and other emerging and developing countries (Darvas 2009b, IMF, 2010). The magnitude of the revision was exceptionally high in the Latvia, Lithuania and Estonia where output in 2010 is set to be 30 or 40 per cent below the level forecasted for 2010 in late 2007. But with the notable exception of Poland, even those EU10 countries which had maintained pre-crisis macroeconomic stability have also suffered large output declines. The speed of recovery from the crisis is also slower in EU10 countries than in many Asian and Latin American countries with similar level of economic development.

Beyond the current shock, a major issue for the future is whether the crisis is likely to have lasting economic effects on the region. This focus note aims to answer the following questions:

[9] Prepared by Zsolt Darvas, Research Fellow at Bruegel, Research Fellow at the Institute of Economics of the Hungarian Academy of Sciences, and Associate Professor at the Corvinus University of Budapest.

[10] For a more detailed discussion, see for instance Mitra, Selowsky and Zalduendo (2009).

- Should the previous growth and development model of the region be fundamentally reconsidered?
- Are the post-crisis growth rates in EU10 countries likely to decline?
- What have been and what are likely to be the most important drivers of growth in EU10 until 2015?

Answering these questions requires an understanding of the major factors that have contributed to convergence in the pre-crisis period and the severe recession in response to the global financial and economic crisis. These issues are briefly discussed in Section 2. Section 3 presents cross-country growth regressions to uncover the determinants of pre-crisis growth, including the impact of EU membership. Based on these model calculations, hypothetical scenarios for developments in the potential growth rates in EU10 countries until 2015 are also presented. Finally, Section 4 assesses the most important drivers of growth going forward and whether the post-crisis growth models in EU10 should be redesigned.

1. Growth before the crisis

EU10 countries have pursued a distinctive model of development since the beginning of transition. Their approach has been based on political and economic integration with the EU, including institutional development, trade integration, financial integration and labor mobility. The low level of physical capital, the prospect of eventual EU integration and the related improvement in the business climate, the generally highly-educated labor force and low level of wages, and finally, the low level of domestic credit offering the potential for substantial credit expansion were the main supply-side factors for capital flows into EU10 countries. Capital inflows have indeed exploited the economic growth potential of these countries and consequently EU10 countries have reached very high levels of integration. In particular,

- there were huge net inflows of capital: larger than in any other emerging or developing regions of the world (IMF World Economic Outlook database);
- ownership of the banking sector has been almost fully transferred to Western European banking groups, which is a unique feature of EU10 economies relative to all other regions of the world (Berglöf et al 2009);
- gross external assets and liabilities have increased rapidly: their level (as a percent of GDP) was broadly similar in EU10 countries relative to emerging countries in Asia and Latin America in 2000, but by 2007 their level was about twice as high in EU10 than in other emerging country regions (Bruegel and WIIW, 2010);
- the ratio of foreign trade to GDP increased fast and became in general much higher in the EU10 than in EU15 countries and other emerging/developing country regions (Bruegel and WIIW, 2010).

This development model has led to a remarkable increase in total factor productivity (TFP). TFP growth in EU10 countries during 1995-2005 was faster than in any other region of the world, except the CIS (World Bank, 2008), although it slowed during 2005-08 (Conference Board, 2010).[11] While the development model of EU10 countries had many common features, when considering various indicators different groups within the region can be identified.

In Slovenia, Poland, the Czech Republic and Slovakia the average current account deficit has remained reasonably low in the run-up to the crisis despite the existence of a strong negative relationship between GDP growth and current-account imbalances among EU10 countries before the crisis.[12] The current account deficit (as a percentage of GDP) has skyrocketed in Latvia, Estonia and Bulgaria and was also high in Lithuania, Romania and Hungary.

It needs to be emphasized, however, that current account imbalances are not necessarily bad: current account deficits and the consequent capital flows across countries may reflect the better utilization of

[11] TFP is measured as the "residual" part of total output growth not explained by capital and labor. Its measurement is more difficult for EU10 and other transition countries than for advanced economies due to the lack of reliable capital stock data. Furthermore, TFP can capture cyclical movements in output as well.

[12] In fact, the EU10 region and the broader Central and Eastern European region was the only region of the world in which economic growth and the current account balance had a negative relationship (Darvas, 2009a; Prasad, Rajan and Subramanian, 2006; Collins, 2006).

resources when capital moves to fast-growing regions to the benefit of both the source and the recipient countries. It therefore has to be considered whether a current account deficit is the reflection of sustainable developments or not. This was not the case for example in Bulgaria and Lithuania, where the goods and services balance deteriorated continuously before the crisis.

There are many other factors in which countries in the region differed[13]. Specifically,

- external indebtedness in countries like Bulgaria, Estonia, Latvia, Lithuania or Romania rose much faster than in Poland or the Czech Republic owing to the accumulation of large current account deficits;
- Capital inflows into real estate and financial services were dominant in Bulgaria, Estonia Latvia, Lithuania, and Romania, while investment in manufacturing was much more significant in Slovakia, and also countries like the Czech Republic, Hungary, Poland and Slovenia;
- gains in export market share was more pronounced in Poland, the Czech Republic, Slovakia and Hungary than in other countries;
- inflation accelerated above 10 percent per year before the crisis in Latvia, Bulgaria, Lithuania and Estonia, and was also higher in Romania and Hungary than in the remaining four EU10 countries;
- real interest rates were lower in countries with higher inflation rates;
- credit growth was much faster and the composition of credit was highly biased in favor of foreign currency loans in Latvia, Estonia, Lithuania, Romania and Hungary than in the other four EU10 countries;
- housing price booms emerged in Bulgaria, Estonia, Latvia, Lithuania, and Romania, while housing price increases were modest in the other five countries;
- the real exchange rate appreciation rose strongly in Bulgaria, Estonia, Latvia, Lithuania, and Romania, and less in the other five countries.

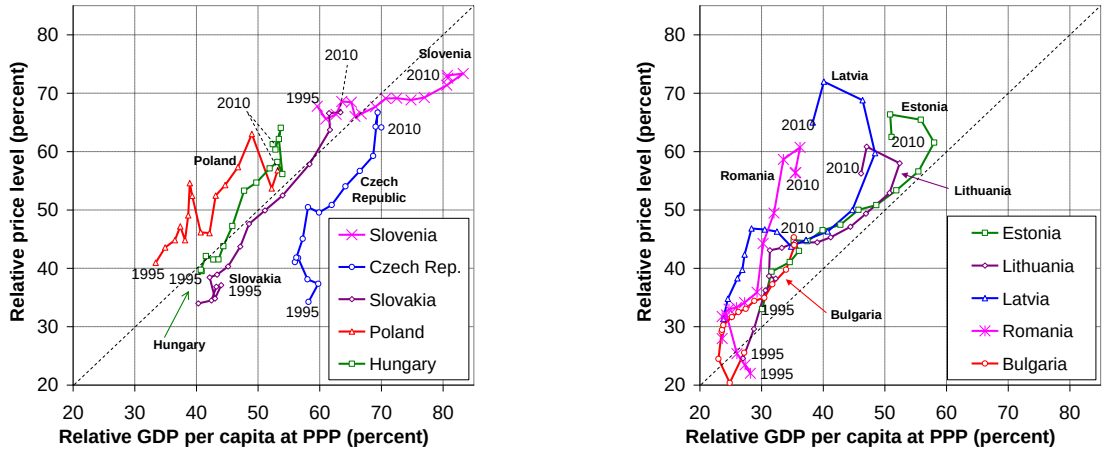
Movements in the real exchange rates may provide an assessment of competitiveness. Figure 51 shows the relative price level[14] of GDP compared to a weighted average of 22 industrialized countries. The figure again reveals crucial differences within the EU10 region.[15] In Slovakia, Slovenia, Hungary and Poland the two indicators went broadly hand in hand. Real appreciation was fast in the Czech Republic, but as the figure suggests, the price level was very low in 1995 and the data point of this country is still below the 45 degree line in 2010. Therefore, both the speed and the level of real appreciation seem to have been sustainable in these economies.

Estonia and Lithuania showed a similar pattern before the crisis, but as the crisis has led to a huge collapse of output and the price level has fallen much less, question marks were raised about the competitiveness of these countries. In Latvia and Romania rapid real appreciation far outpaced the expansion of GDP per capita before the crisis, suggesting that these countries ended in a weak competitive position, at least compared to other EU10 countries.

Similarly, nominal interest rate convergence and higher inflation pushed down real interest rates in all EU10 countries, but again with large variation across the countries. Low and even negative real interest rates in Bulgaria, Estonia, Latvia, Lithuania, and Romania likely contributed to the unsustainable credit and housing booms in these countries, in addition to supply side factors related to foreign bank ownership and the improved legal environment due to EU admission (Darvas and Szapáry, 2008).

[13] See more details in Darvas and Szapáry (2008), Bruegel and WIIW (2010), and Darvas (2010b).
[14] The relative price level is proportional to the GDP deflator based real effective exchange rate index, but has the advantage that it has a natural unit of measurement. The relative price level is related to the relative GDP per capita and therefore we have plotted these two variables against each other.
[15] We have considered only industrialized countries, and not all trading partners, because emerging countries aim to converge to industrialized countries.

Figure 51. Real exchange rate, 1995-2010



Source: Own calculation based on data from IMF World Economic Outlook April 2010, IMF IFS, and Datastream.

Note: Countries are ordered according to their GDP per capita level in 2010. The relative price level (=real exchange rate) is plotted against relative GDP per capita and both variables are measured as a per cent of the weighted average of 22 industrialized countries using country-specific weights derived from foreign trade. The 2010 values were calculated the following way: forecast for GDP per capita, PPP exchange rate and inflation are from the IMF April 2010 WEO; nominal exchange rate is actual data from 1 January till 18 June 2010 and the 18 June 2010 values are assumed to be unchanged for the rest of the year.

As a consequence of these developments, and in particular of high external indebtedness and large current account deficit, Estonia, Latvia, Lithuania, and—to a somewhat lesser extent—Bulgaria and Romania, entered the crisis more vulnerable than many other emerging countries, including the largest economies in the region, Poland and the Czech Republic. Hungary was also vulnerable due to low confidence in its economic policies, high external debt, large foreign currency loans, and slow economic growth since the mid 2000s.

What factors have played roles in these diverging developments? Exchange rate policy had a crucial importance as we argued in Darvas and Szapáry (2008) and in Bruegel and WIIW (2010). Fiscal policy was less of a cause, even though most countries followed pro-cyclical policies before the crisis. In many countries, expenditure was growing very rapidly driven by demand-boom fueled revenue surge (Darvas, 2009a). Domestic financial regulation and supervision may have not been cautious enough before the crisis, but there is anyway little room for domestic regulatory measures in a financially integrated environment (Bruegel and WIIW, 2010). The sometime reckless lending practices of banks certainly had played a role.

In addition to mostly macroeconomic factors, it is important to provide at least a snapshot about some structural features of EU10 economies, because these features will impact longer term economic growth and also provide guidance to structural reforms (Table 6). Considering these deep drivers of growth, in most cases Estonia and Slovenia stand out, while Poland, the only EU10 country with positive GDP growth in 2009, is generally not among the best performers. While the EU10 countries are not far behind the EU15 countries in terms of function of markets, there is still to improve, especially compared to the USA and the best performers within the EU15. On the other indicators, the EU10 countries on average fall considerably below the EU15 and US, suggesting substantial room for improvement in almost every EU10 country.

Table 6. Some structural characteristics of EU-10 countries

	Quality of institutions (scale: from 1 to 7)	Corruption perception (scale: from 1 to 10)	Ease of doing business rank 2009, (out of 183)	Infrastructure (scale: from 1 to 7)	Markets (scale: from 1 to 7)	Employment rate, 2009 (percent)	Quality of the educational system (scale: from 1 to 7)	Technology access (scale: from 1 to 7)	Absorptive capacity (scale: from 1 to 7)	Creative capacity (scale: from 1 to 7)
Bulgaria	3.28	3.8	44	2.79	4.40	62.6	3.28	3.81	3.62	3.10
Czech Rep.	3.87	4.9	74	4.11	5.23	65.4	4.66	5.01	4.54	4.16
Estonia	4.85	6.6	24	4.44	5.14	63.5	4.50	5.50	4.71	4.40
Hungary	3.94	5.1	47	3.85	5.03	55.4	3.19	4.80	4.40	4.07
Latvia	4.50	4.5	27	3.81	4.87	60.9	3.67	4.47	4.47	3.66
Lithuania	4.19	4.9	26	4.24	4.81	60.1	3.66	4.69	4.50	3.99
Poland	3.63	5.0	72	2.77	4.79	59.3	3.80	4.35	4.15	3.64
Romania	3.63	3.8	55	2.56	4.67	58.6	3.59	4.16	3.83	3.43
Slovakia	3.85	4.5	42	3.64	5.23	60.2	3.40	4.99	3.87	3.64
Slovenia	4.40	6.6	53	4.49	4.45	67.5	4.36	4.59	4.85	4.36
EU-10 (unweighted average)	**4.01**	**5.0**	**46.4**	**3.67**	**4.86**	**61.4**	**3.81**	**4.64**	**4.29**	**3.85**
EU-15	**5.24**	**7.1**	**34.6**	**5.69**	**5.38**	**64.8**	**4.60**	**5.43**	**5.05**	**4.83**
USA	**4.93**	**7.5**	**4**	**6.10**	**5.96**	**70.9***	**5.02**	**5.84**	**5.62**	**5.78**

** 2008*

Note: A higher value indicates a better score with the sole exception of the ease of doing business rank, for which a lower rank is better.

Sources: Quality of institutions, Infrastructure, Markets, and Quality of the educational system are from the World Economic Forum's Global Competitiveness Report; Corruption perception is from the Transparency International; Ease of doing business is from the World Bank; Employment rate is form the Eurostat; Technology access, Absorptive capacity and Creative capacity are from Veugelers (2010).

2. Growth regressions

2.1. Methodology and in-sample results

Our main purpose is to assess growth drivers and the medium term economic growth effects of the crisis on the EU10 region.[16] To this end, we use cross-country growth regressions, which estimate – in cross-section and panel regression frameworks – empirical relationships between growth and a number of potential growth drivers. Regarding growth drivers, our particular emphasis will be on indicators related to the integration model of growth EU10 countries followed.

Many papers have adapted cross-country growth regressions to the EU10 countries, but all of these papers used sample periods that ended before the crisis. We argue that the crisis fundamentally questions the results of these papers, because the estimated relationships are likely to be distorted by the unsustainable pre-crisis booms in many EU10 countries. We have therefore extended the sample period until 2010 with available forecasts (we primarily use IMF's World Economic Outlook April 2010 and the June 2010 forecasts of the Economist Intelligence Unit) and perform the calculations both on the pre-crisis sample and on this extended sample period as well, studying the results for different country groups, different sample periods and a large number of possible explanatory variables.

We have chosen from a large number of potential growth drivers and correlates for examination related to some general determinants of growth and to the particular features of the growth model of EU15: financial integration, trade integration, and institutional developments. At the end we have selected 13 potential growth drivers in addition to GDP per capita. Seven of them are initial conditions: GDP historical gap[17], secondary school enrolment, dependency rate, legal system & property rights, freedom of trade, share of fuel exports, and the stock of inward FDI. We also selected six contemporaneous correlates: fiscal balance/GDP, investment/GDP, exports plus imports/GDP, change in the terms of trade, growth in credit to private sector/GDP, and FDI inflow/GDP.

[16] This section is primarily based on Darvas (2010a), which includes full details, many other results, and references to the related literature.

[17] Our new variable, "GDP historical gap", measures the ratio of a country's comparative output, measured by its current GDP per capita at PPP compared to the US, to the country's maximum comparative output in the past. The intuition is that countries that were closer to the US at a point in time in the past may have a better chance to catch up than other countries with similar fundamentals, because catching-up in this case implies reaching a level that has already been reached in the past.

Having selected 13 potential variables, we run growth regressions with all possible quartets (i.e. 4-element subsets) of the 13 variables. There are 715 such quartets (13!/(4!*9!)). Our initial conditioning variable (GDP per capita compared to the US) is always included, as well as time-period fixed effects for the panels. We do not report individual regression results, but some summary measures of the 715 regressions.

We found substantial downward revision of fitted growth when considering the full sample that includes the crisis compared to the sample covering the pre-crisis 'boom years' only. This suggests that the relationship between growth and fundamentals is likely mismeasured when only the pre-crisis sample period is considered.

We have also found a positive, but less benign impact of EU accession compared to the earlier literature that considered pre-crisis data only. EU accession can (1) directly improve fundamentals that drive economic growth, such higher capital inflows, higher trade flows, better legal environment, etc, but (2) can also have a 'growth dividend' beyond the effects of enlargement on the fundamental determinants of growth, due to, for example, enhanced credibility, which is not captured by any other variable included in the model. This second channel is studied by the European Commission (2009) using a dummy variable approach. Their results indicated that EU enlargement contributed to 1.75 percent excess annual growth of the new EU member states (in every year between 2000 and 2007)[18] beyond the effects of enlargement on the fundamental determinants of growth. We have confirmed this finding for the pre-crisis period, but argue that since the pre-crisis period was characterized by unsustainable booms in several EU10, the result for this period is unreliable. According to our estimates for the extended sample period that included the crisis, the dummy variable approach suggested that EU accession increased annual GDP growth by about 0.3-0.4 percentage points. We have also used a counterfactual simulation approach to study the first channel indicated above. We set up a counterfactual scenario for the fundamentals under which no EU enlargement occurred, basing the scenario on the developments of 44 non-EU middle income countries to study the impact of EU admission on fundamentals. This approach suggested that EU enlargement boosted GDP growth by about 0.15 percentage point per year (Darvas, 2010a).

[18] European Commission (2009) rightly argues that the impact of EU admission on growth does not start from the actual date of admission (i.e. 2004 for eight EU10 countries and 2007 for Bulgaria and Romania), but from somewhat earlier. It seems reasonably to consider 2000 as the starting date.

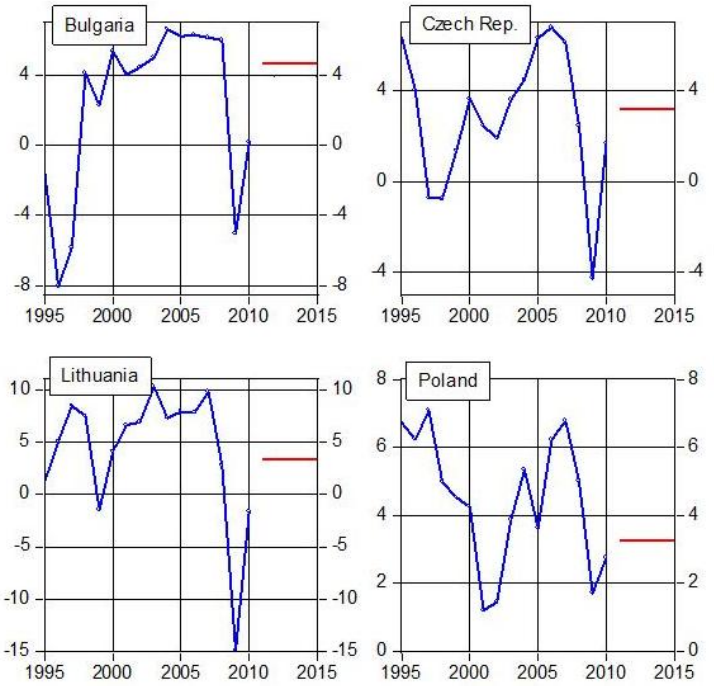
2.2. Post-crisis growth prospects

Finally, we study prospects for post-crisis growth using our estimated models and by setting up hypothetical scenarios for the future development of growth drivers. To this end, we use the sample of 66 middle income countries (including the EU10) and estimate the models for 1995-2010 sample divided into three non-overlapping 5-year long periods.

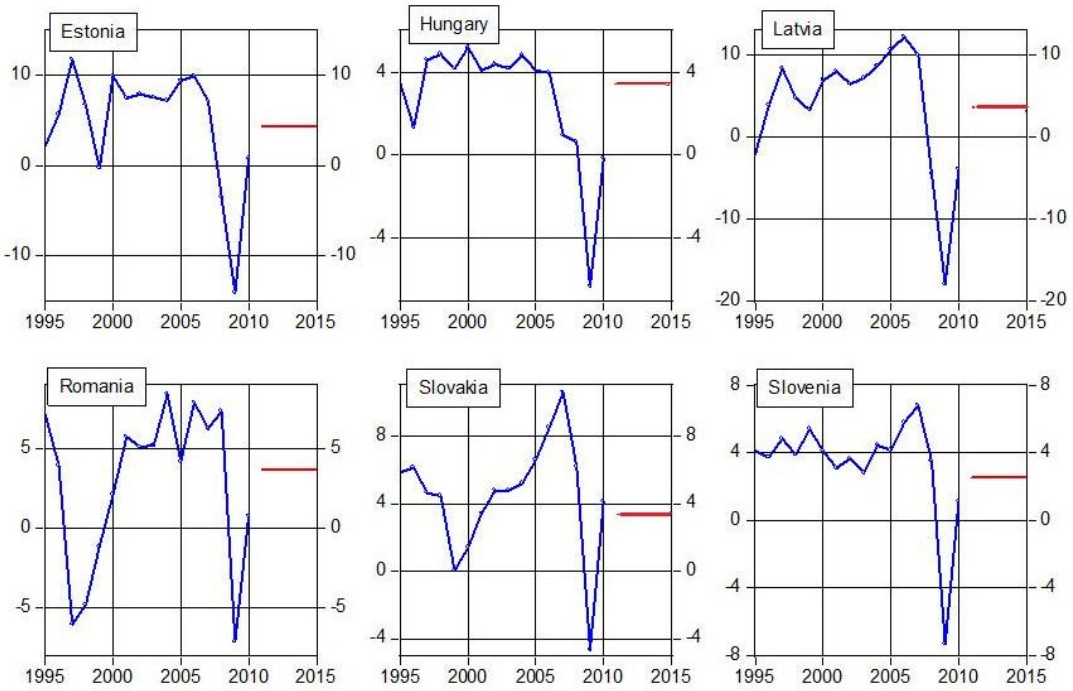
The prospects of growth drivers returning to pre-crisis levels differ across countries. For example, countries like the Czech Republic, Poland, or Slovakia did not experience unsustainable bubbles before the crisis. However, for other countries such as Bulgaria and Latvia, it would be unrealistic to expect that the pre-crisis developments could return as they implied unsustainable trends for competitiveness and private debt. To reflect these differences, we assume that pre-crisis developments will resume in the Czech Republic, Poland, Slovakia and Slovenia, i.e. foreign capital inflows will return to pre-crisis levels etc. For Bulgaria, Latvia, Lithuania and Romania, we assume that capital inflows will be permanently reduced, foreign trade and domestic credit will expand only in line with GDP, the investment rate will stabilize at the 2010 level and the budget balance will not improve after 2010. For Estonia and Hungary, we assume that the key variables take the simple average of these two scenarios. The Table A1 in the Appendix details the assumptions behind these scenarios.[19]

Figure 52 shows actual GDP growth rates between 1995 and 2010 and the results of our scenarios for 2011-15. The results suggest that most countries medium-term outlooks are well below pre-crisis actual growth, especially in those countries that experienced substantial credit and consumption booms.

Figure 52. Actual GDP growth between 1995 and 2010 and model scenarios for 2011-2015



[19] Darvos (2010a) presents results for the scenarios for each of the EU10 countries.



Note: blue line: actual growth between 1995 and 2010; red line: the mean of model projections. The projections for 2011-15 consider the growth rate of potential output, but not the correction of the negative output gap that likely characterized all countries in 2010.

The finding of reductions in post-crisis growth rates is due to two effects. First, the crisis has altered the estimated parameters of the models, and the full-sample estimate associates less benign effects with capital inflows. Second, since all countries in the region increased its income level relative to the EU15 average during 2001-10 (even considering the impact of the crisis), growth driven by conditional convergence may diminish in the future. However, actual growth rates might exceed potential growth rates in the coming years, as negative output gaps are diminishing. Our models projects potential growth and implicitly assume that the output gap will be zero. This effect could, at least in part, compensate for the reduction in potential growth in the next few years (see Appendix B).

3. Post-crisis growth in EU-10

3.1. Should the previous growth and development model of the region be fundamentally reconsidered?

The econometric analyses presented in the previous section suggests that the key elements of the development model of EU10 countries, mostly based on ever deeper integration with the rest of the EU, was indeed growth enhancing. In particular, variables related to: financial integration, trade integration, and institutional development were found to positively affect growth, in addition to the standard growth drivers, such as investment, educational attainment, or per capita income.[20] We have also found that EU accession had a positive impact on growth in EU10 countries, though our results are much less optimistic than those of the European Commission, partly because of different time periods considered. Taken together, all these results suggest that the pre-crisis growth and development model of the EU10 region was fundamentally right.

That said, with the exception of Poland, most countries in the region was much more heavily affected by the crisis that many other emerging countries. The recovery in the EU10 region, particularly in its smaller economies, is also slower than elsewhere. This suggests that while the overall pre-crisis growth model was on the whole beneficial, there were important differences among countries in economic developments allowed within the same 'growth model' in the pre-crisis period. These differences primary arose due to different exchange rate strategies, due to different success in controlling inflation, but initial conditions also played roles (Darvas and Szapáry, 2008; Bruegel and WIIW, 2010). In

[20] See EBRD (2009) for different estimates establishing that financial integration was beneficial to pre-crisis growth.

short, the Czech Republic, Hungary, Poland, Slovakia, and Slovenia were able to build up competitive tradable sectors and maintain reasonable external and internal balances (except Hungary's fiscal outcomes), and the impact of the crisis on these countries was in general a reflection of their trade and financial linkages to the EU15. However, in other countries, such as Latvia and Lithuania, the pre-crisis growth model was based to a much larger extent on the non-tradable sector and unsustainable external developments and high inflation emerged before the crisis. Due to these domestic vulnerabilities these countries suffered from the global crisis much more.

Does the crisis necessitate a fundamental reconsideration of the previous growth and development model? Our answer for those countries that built up strong export-oriented sectors is a clear 'no'. This is because the model worked fine before the crisis and small open economies cannot exempt themselves from adverse developments in the area with which they are integrated. Instead, countries like Poland or the Czech Republic should continue to exploit the potential within the framework of the EU-integration-based growth model, but ensure that they learn lessons from the most crisis affected countries in the region. This certainly has implications for exchange rate, fiscal and financial sector policies. For example, Poland and the Czech Republic have not announced target dates for euro adoption in view of the role of exchange rate flexibility as a shock absorber during the crisis.

However, countries such as Latvia, Lithuania or Bulgaria will need to implement fundamental changes to their growth models to ensure that the pre-crisis macroeconomic vulnerabilities do not re-emerge. In the meantime, they will also have to deal with the weak competitive position, the need to redirect resources from the non-tradable to the tradable sector, and the private debt overhang..

3.2. Are the post-crisis growth rates in EU-10 countries likely to decline?

Our answer is alas "yes". According to our estimates, the projected potential growth rate in 2011-15 will be less than the estimated potential growth rate for 2001-05 by about 0.5 percentage point in Bulgaria, about 1 percentage point in the Czech Republic, Estonia, Hungary, Poland, Slovakia and Slovenia, and about 1.5 percentage points in Latvia, Lithuania, and Romania (see Table A2 in the Appendix).

Part of the expected potential growth deceleration is due to key changes to the international environment[21]:

- more difficult external financing conditions and higher risk premium, partly related to the 'crowding out' effect of the huge increase in sovereign borrowing of advanced economies;
- question marks about the lending intentions of foreign owned banks, especially in highly indebted countries, but also in less indebted countries due to changes in financial regulation and taxation at the European level;
- lower potential growth in EU15 countries (main trading partner), which will lessen export demand for EU10 products.

Furthermore, as argued by Piatkowski (2010), TFP growth, which was an important component of pre-crisis economic growth in EU10, may remain subdued in the near future due to a decline in the growth rate of productivity-enhancing private investment, lower corporate profitability, weak demand prospects, and continued low efficiency of public R&D spending. In addition, increases in the cost of funding may distort productivity-enhancing reallocations across sectors. Finally, there is evidence that the crisis impacted more negatively innovative, young and skill intensive companies in EU10, possibly dampening future productivity growth rates (Correa and Iootty, 2010).

In addition to the supply side factors, the short and medium term economic outlook may also be negatively affected by domestic demand factors:

- In several EU10 countries, and not just in the more vulnerable ones, both households and non-financial companies are likely to continue to increase savings and decrease debt, dampening private demand;
- Worsened public finance situations in most EU10 will necessitate fiscal adjustment, dampening public demand[22], even though overall fiscal sustainability is supported by a more favorable relationship between economic growth and the interest rate (Bruegel and WIIW, 2010) and the

[21] See a more elaborated discussion of these issues in Bruegel and WIIW (2010).
[22] The notable exception is Estonia that has kept the budget deficit below 2 percent in 2009, despite the 14 percent drop in GDP, in order to qualify for euro-area membership. Hungary and Bulgaria were also able to contain budget deficits during the crisis.

2010 level of public debt is significantly lower in EU10 countries (except Hungary) than in the EU15.

3.3. What have been and what are likely to be the most important drivers of growth in EU-10 until 2015?

The most important drivers of potential growth have so far been EU-integration related capital inflows and the related investment, knowledge transfer, and TFP growth, which were also confirmed by the regression analysis. While these factors will continue to drive growth in the future, their impact will likely be reduced and capital will be more selective across countries. EU10 countries should also stand ready to face the competition coming from other dynamic emerging economies, especially in Asia.

EU10 governments (similarly to many other governments) therefore have to introduce a host of structural reforms to increase the attractiveness of their countries to capital inflows and increase domestic investment. The simplest way is to improve the business climate, where—as shown in the first three data columns of Table 6—most EU10 countries have still much scope for reform. Other important framework conditions for growth are macroeconomic stability, the quality of infrastructure, and the proper functioning of markets. Both the pre-crisis period and the crisis have demonstrated the crucial importance of macroeconomic stability, and those countries generally suffered more during the crisis that had pre-crisis imbalances, such as higher inflation and large current account deficits.[23] Table 6 suggested that the quality of infrastructure needs significant improvement in most EU10 countries, in which better absorption of EU funds can help, among others. [24] Considering the functioning of markets, the gap of EU10 compared to EU15 is not as high as in the case of e.g. institutions or infrastructure, but there is still much to improve, especially compared to the USA and the best performers within the EU15.

Better utilization of labor would provide an obvious way to increase potential output, as well as improving the generally low quality of education system (except perhaps the Czech Republic, Estonia and Slovenia, where the gap to the EU15 average is fairly small). Since the population of EU10 is rapidly aging, proper migration policies should also be developed in due time.

Finally, while innovation used to be a key driver of TFP growth and EU10 countries should also boost their innovation activities, it was rather technology absorption, and not own innovation that drove TFP growth before the crisis in EU10 countries (Veugelers, 2010). Lack of proper absorptive capacity may limit the effectiveness of a technology-led strategy for growth that many EU10 followed, and indeed improving this capacity will be crucial for growth. According to last column of Table 6, the creative capacity prerequisite represents the biggest gap for EU10 to bridge among the three indicators related to technology development, but this is commensurate with their position relative to the technology frontier and improvement of absorptive capacities would be more important.[25]

4. Summary

Most EU10 countries were hit hard by the crisis, which raised concerns about the sustainability and desirability of their unique pre-crisis growth model, which was primarily based on deep financial and trade integration. But a closer look at these countries suggests that there is considerable heterogeneity within the region: in some of the EU10 countries pre-crisis growth was characterized by the build up of a strong tradable sector, but in other countries investments were biased toward non-tradable sectors, and in particular, toward the real estate sector, and growth was accompanied by growing internal and external imbalances.

The post-crisis growth rates in EU10 countries are likely to decline relative to the pre-crisis period, but the key features of the development model of these countries, such as deep trade and financial integration with the EU and reliance on capital inflows, are to be preserved. Those EU10 countries that could not build up a competitive export sector, but were characterized by unsustainable booms before

[23] Exchange rate policy and financial market regulation have crucial implications in achieving macroeconomic stability and in redirecting investment from the non-tradable to the tradable sector, as discussed by Bruegel and WIIW (2010).
[24] EU cohesion fund disbursement for EU10 is set to increase from about 0.7 percent of the combined GDP of these countries in 2008, to above two percent per year by 2012. Simulations by Varga and in 't Veld (2010) show that structural funds disbursement will likely lead to significant output gains in the long run due to sizeable productivity improvements.
[25] In addition, Veugelers (2010) argues that it is unlikely that innovation will be the main driver of future growth in EU-10. It is because innovation has different roles for countries with different levels of development: in less developed countries, such as EU-10 countries, technology adoption is more important than their own innovation activity.

the crisis face more significant challenges to manage the transition of their economic model to a model which is more similar to that of, for instance, the Czech Republic or Slovakia. But all EU10 should work hard on improving their business climate, labor markets, educational system and macroeconomic stability to convince investors that the EU10 region is still prosperous and is a good place to invest.

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Appendix A

Table A7. Detailed assumptions of the scenarios

	Optimistic scenario	Pessimistic scenario
Initial conditions (same for all scenarios)		
GDP per capita at PPP compared to the US in 2010	IMF WEO April 2010 forecast	
GDP historical gap in 2010	Calculated on the basis of IMF WEO April 2010 forecast	
Dependency rate in 2010	Linear projection from the latest actual data (2008) assuming that the trend of the previous three years continues	
Secondary school enrolment in 2010	Latest available data (typically 2007 or 2008)	
Share of fuel exports in total exports in 2010	Latest available data (2008)	
Stock of inward FDI relative to GDP in 2010	Calculated on the basis of IMF WEO April 2010 forecast	
Freedom of trade index in 2010	Latest available data (2008)	
Index for legal system & property rights in 2010	Latest available data (2008)	
Contemporaneous correlates		
fiscal balance/GDP in 2011-2015	Budget balance is achieved by 2020 with the same improvement in every year till then	The ratio stays constant at 2010 forecast level
investment/GDP	Average ratio between 2001 and 2007 (or 2010 level if higher)	The ratio stays constant at 2010 forecast level
exports plus imports/GDP	Average annual increase between 2001 and 2007 resumes from 2011*	The ratio stays constant at 2010 forecast level
terms of trade	No change	No change
credit to private sector/GDP	Average annual increase between 2001 and 2007 is resumed from 2011	The ratio stays constant at 2010 forecast level
FDI inflow/GDP	Average ratio between 2001 and 2007	The ratio stays constant at 2010 forecast level

Note. The interim scenario assumes the average of the values for the optimistic and pessimistic scenarios.

** Average annual increase between 2001 and 2006 for the three Baltic countries, since the trade/GDP ratio already fell in these countries in 2007.*

Table A2. Average annual potential growth: in-sample fit and projections

	1996-2000 Fit	2001-05 Fit	2006-10 Fit	2011-15 Projection	Revision of 2011-15 projection compared to 2001-05 fit	EC potential growth forecast for 2011
BG	2.82	5.03	3.74	3.96	-1.06	
	3.15	**5.35**	**4.05**	**4.74**	**-0.61**	1.85
	3.52	5.61	4.36	6.01	0.40	
CZ	2.78	3.83	2.13	2.74	-1.09	
	3.02	**4.13**	**2.45**	**3.20**	**-0.93**	2.22
	3.26	4.48	2.78	3.60	-0.88	
EE	3.89	5.11	3.17	3.73	-1.37	
	4.19	**5.42**	**3.62**	**4.35**	**-1.06**	-0.43
	4.46	5.74	4.03	5.33	-0.41	
HU	3.25	4.17	2.40	3.25	-0.92	
	3.44	**4.44**	**2.74**	**3.53**	**-0.90**	0.42
	3.64	4.75	3.10	3.79	-0.96	
LV	3.59	4.86	2.93	3.23	-1.64	
	3.88	**5.08**	**3.14**	**3.59**	**-1.49**	-2.26
	4.12	5.31	3.35	4.03	-1.28	
LT	3.15	4.70	2.81	2.97	-1.73	
	3.44	**4.96**	**3.05**	**3.36**	**-1.60**	0.70
	3.72	5.10	3.22	3.83	-1.27	
PL	3.04	4.00	2.51	3.10	-0.90	
	3.28	**4.21**	**2.71**	**3.27**	**-0.94**	4.59
	3.51	4.38	2.92	3.44	-0.94	
RO	2.87	4.74	2.97	3.35	-1.40	
	3.09	**4.93**	**3.21**	**3.68**	**-1.25**	2.87
	3.29	5.10	3.46	4.05	-1.05	
SK	3.00	4.17	2.74	3.11	-1.06	
	3.37	**4.47**	**3.05**	**3.42**	**-1.05**	3.60
	3.72	4.81	3.36	3.79	-1.02	
SI	2.65	3.46	1.58	2.23	-1.22	
	2.84	**3.62**	**1.85**	**2.54**	**-1.09**	1.27
	3.02	3.82	2.15	2.88	-0.94	

Note: the mean (with bold numbers) and the interquartile range are shown. Note that European Commission (2010) uses a different methodology and its projection is available only for 2011, while our projections relate to the average of 2011-15.

Appendix B

Interpretation of our projections in light of macroeconomic vulnerabilities and the output gap

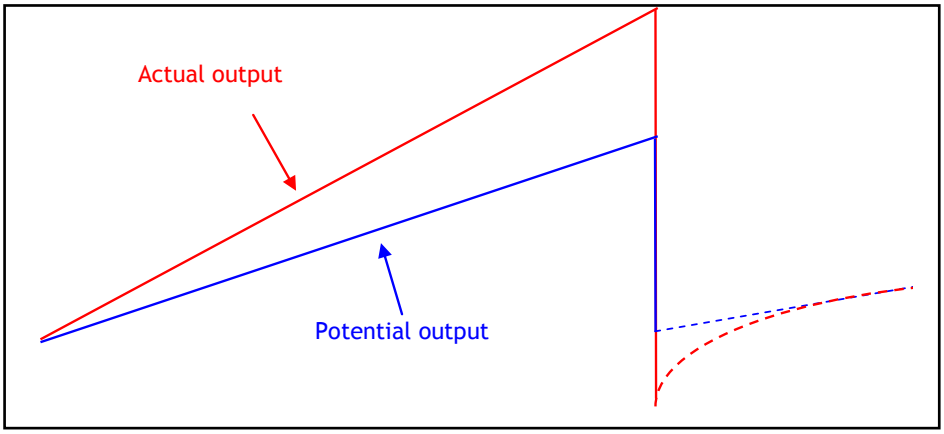
Note that variables related to vulnerabilities, such as the current account balance, external debt, or inflation, are not included in the regression because of the difficulties in addressing modeling issues related to causality, time profile and functional form.[26] Instead, our models can be interpreted as being conditioned on the average macroeconomic stability of the countries included in the panel. Since our panel regression includes 66 middle income countries of the world, which countries, on average, had better macroeconomic stability than those EU-10 countries that experienced unsustainable

[26] For example, during the pre-crisis boom period, fast economic growth was accompanied by growing internal and external vulnerabilities in several EU-10 countries, which would suggest a perverse relationship between vulnerabilities and economic growth.

developments, our projections can also be interpreted as being conditional on the achievement of this average macroeconomic stability. This factor provides an additional downside risk (even compared to our pessimistic scenario) for countries such as Bulgaria and Latvia.

It is important to highlight the potential implications of the recent negative output gaps for the interpretation of our projections. Figure B1 provides a schematic picture of actual and potential output before, during and after the crisis. The overheating economies in many EU-10 countries, as discussed in the previous section, have led to faster actual output growth than potential growth before the crisis, and hence actual output level has become greater than potential output. Cerra and Saxena (2008) have demonstrated that crises tend to generate a sizeable permanent loss in the level of output compared with the pre-crisis trend, and therefore the level of potential output in EU-10 is likely to have fallen during the recent crisis. But it is also likely, in line with theory and empirical research, that actual output falls below potential GDP, ie the output gap becomes negative after the crisis. European Commission (2010) estimates that the 2010 output gap in EU-10 ranges from -10.7 in Latvia to -2.1 in Poland. The growth scenarios we present consider the slope of potential output, but do not consider the possible growth-enhancing impact of closing the negative output gaps.

Figure B1. Schematic depiction of actual and potential output



Source: Author's illustration

Statistical Annex

	2006	2007	2008	2009	2Q 09	3Q 09	4Q 09	1Q 10	Feb-10	Mar-10	Apr-10	May-10
Real GDP growth, (% change, y/y)												
Bulgaria	6.3	6.2	6.0	-5.0	-4.9	-5.4	-5.9	-3.6				
Czech Republic	6.8	6.1	2.5	-4.1	-5.0	-5.0	-2.9	1.1				
Estonia	10.0	7.2	-3.6	-14.1	-16.1	-15.6	-9.5	-2.0				
Hungary	4.0	1.0	0.6	-6.3	-7.5	-7.1	-4.0	0.1				
Latvia	12.2	10.0	-4.2	-18.0	-18.1	-19.1	-16.8	-6.0				
Lithuania	7.8	9.8	2.8	-14.8	-19.5	-14.2	-12.1	-2.8				
Poland	6.2	6.8	5.0	1.7	1.2	1.2	3.5	2.9				
Romania	7.9	6.3	7.3	-7.1	-8.7	-7.1	-6.5	-2.6				
Slovakia	8.5	10.6	6.2	-4.7	-5.5	-4.9	-2.6	4.8				
Slovenia	5.8	6.8	3.5	-7.8	-9.2	-8.3	-5.5	-1.2				
Croatia	4.7	5.5	2.4	-5.8	-6.3	-5.7	-4.5	-2.5				
Industrial production, WDA (%, y/y)												
Bulgaria	6.0	9.5	0.6	-17.4	-19.7	-18.6	-13.2	-3.4	-9.8	-0.6	-2.6	-1.7
Czech Republic	8.7	10.6	-2.4	-13.1	-18.0	-11.7	-2.8	7.7	6.9	8.4	10.0	11.3
Estonia	10.1	6.4	-4.8	-25.9	-31.6	-27.0	-15.4	6.0	4.6	10.8	18.3	17.2
Hungary	10.6	8.0	-1.0	-17.3	-22.0	-17.9	-7.5	5.2	8.1	2.9	9.7	:
Latvia	6.5	1.0	-3.8	-15.8	-18.9	-15.0	-6.8	7.5	4.4	11.5	9.6	13.3
Lithuania	6.5	2.4	5.5	-14.6	-20.2	-15.2	-8.3	-2.7	-0.8	1.3	4.3	3.2
Poland	12.2	9.5	2.0	-3.6	-6.2	-2.5	4.7	10.9	10.2	11.4	8.4	12.1
Romania	9.8	10.1	2.6	-5.9	-8.1	-5.0	3.5	4.2	-0.4	6.2	1.8	2.7
Slovakia	15.0	16.5	3.1	-14.1	-21.5	-12.8	1.1	20.2	20.7	19.2	21.1	:
Slovenia	6.3	7.4	1.6	-16.7	-23.2	-18.2	-7.6	-0.7	0.9	6.2	9.0	11.8
Croatia	4.3	5.0	0.7	-8.9	-8.3	-9.5	-8.1	0.3	0.2	-0.7	-6.6	-3.4
Volume indices of retail sales, WDA (excl. motor vehicles and motocycles, %, y/y)												
Bulgaria	19.8	26.7	20.7	-9.9	-11.5	-11.6	-10.3	-7.9	-8.3	-6.6	-6.3	-3.5
Czech Republic	7.5	7.8	6.0	-5.4	-7.1	-6.2	-4.1	-1.4	-1.9	0.0	-2.9	-2.4
Estonia	21.7	15.7	5.1	-18.8	-17.9	-22.3	-18.6	-5.6	-6.0	-4.0	-2.0	1.6
Hungary	7.9	2.8	3.6	-3.5	-3.0	-4.6	-3.4	1.9	1.5	2.2	0.6	:
Latvia	26.2	22.4	3.6	-26.0	-26.5	-28.7	-27.4	-11.6	-13.3	-6.8	-6.9	-7.8
Lithuania	11.6	19.3	15.0	-19.8	-18.8	-21.8	-23.3	-12.2	-14.7	-7.9	-9.6	-8.4
Poland	11.5	12.6	7.2	3.9	4.2	3.4	2.7	3.2	0.6	6.3	-3.0	2.3
Romania	23.4	22.6	28.3	-7.2	-11.1	-10.4	-4.3	-1.2	-2.3	3.1	0.1	5.3
Slovakia	9.6	7.5	13.5	-11.9	-12.7	-12.6	-11.6	-2.1	-3.4	0.4	-4.2	-2.0
Slovenia	6.1	10.5	20.5	-13.5	-15.7	-19.1	-10.1	-0.8	-2.0	3.3	2.9	4.2
Croatia	6.8	6.1	5.7	-5.9	-4.2	-6.8	-10.5	-6.1	-5.4	-3.2	-7.1	-5.0
Harmonized unemployment rates NSA (%, LFS data)												
Bulgaria	9.0	6.9	5.6	6.8	6.4	7.0	8.2	9.3	9.3	9.5	9.7	9.7
Czech Republic	7.2	5.3	4.4	6.7	6.5	7.3	7.4	7.8	7.9	7.9	7.6	7.5
Estonia	5.9	4.7	5.5	13.8	13.5	15.2	15.6	19.0	19.0	19.0	:	:
Hungary	7.5	7.4	7.8	10.0	9.8	10.5	10.6	11.2	11.2	11.2	10.9	10.4
Latvia	6.8	6.0	7.5	17.1	16.5	18.5	19.8	20.0	20.0	20.0	:	:
Lithuania	5.6	4.3	5.8	13.7	13.5	14.3	15.9	17.4	17.4	17.4	:	:
Poland	13.9	9.6	7.1	8.2	8.0	8.5	8.9	9.7	9.8	9.9	9.9	9.8
Romania	7.3	6.4	5.8	6.9	6.4	7.2	7.6	7.4	7.4	7.4	:	:
Slovakia	13.4	11.1	9.5	12.0	11.2	12.7	14.1	14.6	14.7	14.7	14.8	14.8
Slovenia	6.0	4.9	4.4	5.9	5.8	6.4	6.5	6.7	6.7	6.9	7.1	7.1
Croatia	11.2	9.6	8.4	9.1	9.0	9.4	9.1	9.3	9.3	9.3	9.3	9.3

	2006	2007	2008	2009	2Q 09	3Q 09	4Q 09	1Q 10	Feb-10	Mar-10	Apr-10	May-10
Consumer price inflation (% change, y/y)												
Bulgaria	7.3	8.4	12.3	2.8	4.1	1.0	0.1	0.9	0.9	1.3	1.8	1.9
Czech Republic	2.5	2.8	6.3	1.1	1.4	0.2	0.4	0.7	0.6	0.7	1.1	1.2
Estonia	4.4	6.6	10.4	-0.1	-0.3	-1.1	-2.0	0.3	-0.2	1.7	2.9	3.0
Hungary	3.9	8.0	6.1	4.2	3.6	5.0	5.2	6.0	5.7	5.9	5.7	5.1
Latvia	6.6	10.1	15.3	3.3	4.7	1.6	-1.1	-3.7	-4.3	-4.0	-2.8	-2.4
Lithuania	3.7	5.7	10.9	4.5	5.2	2.8	1.4	-0.3	-0.5	-0.2	0.3	0.7
Poland	1.0	2.5	4.2	3.4	3.7	3.6	3.3	3.0	2.9	2.6	2.4	2.2
Romania	6.6	4.8	7.8	5.6	6.1	5.0	4.6	4.6	4.5	4.2	4.3	4.4
Slovakia	4.5	2.8	4.6	1.6	1.9	1.2	0.4	0.5	0.4	0.8	1.3	1.2
Slovenia	2.5	3.6	5.7	0.9	0.7	-0.2	1.1	1.4	1.3	1.4	2.3	2.1
Croatia	3.2	2.9	6.0	2.4	2.9	1.2	1.7	0.9	0.7	0.9	0.6	0.9
Exchange rate (nominal, LCU/EUR, period average)												
Bulgaria	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96
Czech Republic	28.34	27.77	24.95	26.44	26.68	25.60	25.92	25.87	25.98	25.54	25.31	25.66
Estonia	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65
Hungary	264.26	251.35	251.51	280.33	285.71	271.35	270.88	268.52	271.21	265.40	265.53	276.78
Latvia	0.70	0.70	0.70	0.71	0.71	0.70	0.71	0.71	0.71	0.71	0.71	0.71
Lithuania	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45
Poland	3.90	3.78	3.51	4.33	4.45	4.20	4.17	3.99	4.01	3.89	3.88	4.06
Romania	3.53	3.34	3.68	4.24	4.20	4.23	4.27	4.11	4.12	4.09	4.13	4.18
Slovakia	37.23	33.78	31.26									
Slovenia	239.60											
Croatia	7.32	7.34	7.22	7.34	7.35	7.32	7.28	7.28	7.30	7.26	7.26	7.26
Exchange rate (nominal, LCU/USD, period average)												
Bulgaria	1.56	1.43	1.34	1.41	1.44	1.37	1.32	1.41	1.43	1.44	1.46	1.56
Czech Republic	22.59	20.29	17.07	19.07	19.59	17.90	17.57	18.70	18.98	18.81	18.85	20.47
Estonia	12.47	11.43	10.69	11.26	11.49	10.94	10.59	11.31	11.44	11.53	11.66	12.49
Hungary	210.42	183.57	172.36	202.23	209.87	189.75	183.44	194.27	198.40	195.52	197.67	221.08
Latvia	0.55	0.51	0.48	0.51	0.52	0.49	0.48	0.51	0.52	0.52	0.53	0.56
Lithuania	2.75	2.52	2.36	2.48	2.54	2.41	2.34	2.50	2.52	2.54	2.57	2.76
Poland	3.10	2.77	2.41	3.12	3.26	2.93	2.83	2.88	2.93	2.86	2.89	3.24
Romania	2.81	2.44	2.52	3.05	3.08	2.96	2.89	2.98	3.01	3.01	3.08	3.34
Slovakia	29.70	24.69	21.36	--	--	--	--	--	--	--	--	--
Slovenia	190.97	--	--	--	--	--	--	--	--	--	--	--
Croatia	5.84	5.36	4.94	5.28	5.40	5.12	4.93	5.27	5.34	5.35	5.41	5.79
Exports of goods (EUR, %, y/y)												
Bulgaria	27.4	15.0	12.5	-22.5	-33.1	-26.4	0.2	12.5	8.4	15.9	36.7	
Czech Republic	20.4	18.2	11.7	-18.5	-25.0	-17.4	-5.0	17.1	19.3	19.1	18.1	
Estonia	24.5	4.1	5.4	-23.5	-26.8	-25.1	-16.3	17.1	23.8	16.4	35.3	
Hungary	18.5	16.1	6.0	-18.6	-25.1	-18.4	-2.7	17.7	18.2	18.1	20.4	
Latvia	18.2	23.7	13.8	-20.1	-24.8	-26.0	-4.4	14.0	17.0	20.7	33.8	
Lithuania	18.7	11.1	28.5	-26.6	-36.0	-31.8	-11.4	10.9	15.6	19.4	36.2	
Poland	22.7	15.9	13.3	-16.8	-23.8	-19.0	-1.1	18.0	19.4	20.1	15.1	
Romania	16.2	14.3	14.0	-13.5	-20.6	-14.3	1.2	20.5	23.2	16.9	32.2	
Slovakia	30.0	28.1	13.3	-17.0	-23.9	-18.8	-1.5	17.5	16.2	21.9	19.2	
Slovenia	19.6	18.7	5.6	-19.0	-24.7	-20.9	-7.4	8.9	4.7	17.3	14.1	
Croatia	16.7	9.1	6.5	9.3	3.9	-1.1	23.3	12.4	-14.3	28.0	8.3	
Imports of goods (EUR, %, y/y)												
Bulgaria	23.4	41.7	14.8	-33.3	-39.4	-36.8	-26.1	-5.0	-11.2	1.1	12.6	
Czech Republic	20.7	16.2	12.0	-21.9	-27.7	-20.9	-12.5	15.8	17.1	23.4	18.9	
Estonia	30.2	6.8	-4.7	-33.4	-38.2	-35.1	-25.5	11.4	8.9	27.4	15.7	
Hungary	16.5	11.9	6.2	-24.3	-31.0	-25.5	-10.8	13.2	17.6	16.5	18.8	
Latvia	31.5	21.6	-1.8	-36.2	-41.8	-39.8	-27.8	-4.0	-3.8	5.6	13.2	
Lithuania	23.5	15.4	18.7	-38.2	-44.9	-39.4	-24.3	13.9	14.5	20.8	46.9	
Poland	23.8	19.6	17.4	-26.0	-31.7	-28.1	-15.2	17.0	20.8	21.7	16.0	
Romania	25.1	25.9	11.4	-31.9	-37.4	-34.5	-20.8	12.5	8.7	19.9	20.2	
Slovakia	28.2	23.9	13.6	-21.1	-29.0	-23.5	-9.7	11.4	15.6	17.4	20.8	
Slovenia	17.6	19.8	9.3	-24.7	-31.6	-26.8	-14.2	8.3	7.5	15.0	15.3	
Croatia	14.4	10.1	10.5	1.9	-5.0	-1.8	16.5	-4.4	-7.4	-4.5	-4.1	

	2006	2007	2008	2009	2Q 09	3Q 09	4Q 09	1Q 10	Feb-10	Mar-10	Apr-10	May-10
Trade balance (% GDP)												
Bulgaria	-22.0	-25.1	-25.2	-12.1	-19.5	-16.3	-12.1	-9.6				
Czech Republic	2.0	3.4	2.8	5.0	3.1	3.6	5.0	5.6				
Estonia	-17.4	-17.5	-13.2	-4.1	-8.8	-6.4	-4.1	-3.7				
Hungary	-2.3	0.2	0.0	4.3	1.5	2.9	4.3	4.9				
Latvia	-25.6	-23.9	-17.6	-6.6	-13.0	-10.0	-6.6	-5.5				
Lithuania	-13.9	-15.0	-12.0	-2.9	-6.6	-4.8	-2.9	-3.2				
Poland	-2.0	-4.0	-4.9	-1.0	-3.0	-2.1	-1.0	-1.0				
Romania	-12.0	-14.3	-13.7	-5.9	-9.9	-7.7	-5.9	-5.5				
Slovakia	-5.5	-1.5	-1.1	1.9	-0.6	0.5	1.9	2.4				
Slovenia	-3.7	-4.8	-7.1	-1.8	-4.6	-3.2	-1.8	-1.7				
Croatia	-21.3	-22.0	-22.8	-16.3	-19.0	-17.5	-16.3	-15.3				
Current account balance (%GDP)												
Bulgaria	-18.4	-26.8	-24.0	-9.4	-19.0	-15.4	-9.4	-6.0				
Czech Republic	-2.4	-3.2	-0.6	-1.0	-1.4	-1.8	-1.0	-1.3				
Estonia	-15.5	-17.4	-9.8	4.6	-2.1	1.7	4.6	4.6				
Hungary	-7.1	-6.5	-7.1	0.1	-5.1	-2.7	0.1	1.3				
Latvia	-22.5	-22.3	-13.0	9.6	-2.2	3.7	9.6	11.6				
Lithuania	-10.6	-14.5	-11.9	3.8	-3.9	-0.1	3.8	3.9				
Poland	-2.7	-4.7	-5.1	-1.6	-2.8	-2.1	-1.6	-1.9				
Romania	-10.4	-13.4	-11.6	-4.5	-7.3	-5.4	-4.5	-4.9				
Slovakia	-8.2	-5.7	-6.6	-3.2	-5.0	-4.0	-3.2	-2.6				
Slovenia	-2.5	-4.8	-6.2	-1.0	-4.2	-2.8	-1.0	-0.5				
Croatia	-6.9	-7.6	-9.2	--	-5.7	-6.1	-5.4	-4.4				
FDI, net (% GDP)												
Bulgaria	24.1	30.6	18.2	9.8	14.4	10.8	9.8	7.3				
Czech Republic	2.8	5.1	1.0	0.7	1.1	0.2	0.7	1.3				
Estonia	4.2	4.6	2.6	0.7	-0.5	-2.0	0.7	1.9				
Hungary	2.8	1.3	2.7	-0.1	0.8	0.5	-0.1	-1.4				
Latvia	7.5	6.8	3.0	0.4	-0.1	-0.5	0.4	-0.8				
Lithuania	5.1	3.6	3.2	0.4	3.1	1.5	0.4	-0.3				
Poland	3.1	4.3	2.2	2.0	1.7	2.3	2.0	2.6				
Romania	8.9	5.7	6.7	3.8	5.6	4.9	3.8	3.1				
Slovakia	6.8	3.6	3.4	-0.5	1.8	0.8	-0.5	-0.3				
Slovenia	-0.6	-0.6	1.0	-1.9	-0.1	-0.7	-1.9	-2.0				
Croatia	6.5	8.0	6.8	2.6	4.6	3.9	2.6	2.7				
Portfolio investment, net (% GDP)												
Bulgaria	1.2	-1.8	-2.2	-1.8	-3.2	-2.2	-1.8	-0.4				
Czech Republic	-0.8	-1.6	-0.2	3.1	1.0	1.5	3.1	3.5				
Estonia	-8.0	-2.4	3.2	-10.5	-0.9	-1.1	-10.5	-10.3				
Hungary	5.6	-1.6	-2.6	-3.8	-6.8	-6.1	-3.8	0.7				
Latvia	0.2	-2.3	1.1	1.5	0.9	0.8	1.5	1.5				
Lithuania	-0.8	-0.8	-0.3	2.6	1.2	1.7	2.6	7.8				
Poland	-0.9	-1.3	-0.6	3.5	0.5	1.8	3.5	5.7				
Romania	-0.2	0.4	-0.4	0.4	-0.8	-0.5	0.4	1.8				
Slovakia	2.9	-0.6	2.4	-1.5	-0.7	-2.4	-1.5	-1.5				
Slovenia	-4.6	-6.5	1.5	13.3	9.5	15.9	13.3	14.1				
Croatia	-1.4	0.0	-1.3	0.3	-1.7	-2.4	0.3	-0.2				

	2006	2007	2008	2009	2Q 09	3Q 09	4Q 09	1Q 10	Feb-10	Mar-10	Apr-10	May-10
General Government balance (ESA95, % GDP)												
Bulgaria	3.0	0.1	1.8	-3.9								
Czech Republic	-2.6	-0.7	-2.7	-5.9								
Estonia	2.5	2.6	-2.8	-1.7								
Hungary	-9.4	-5.0	-3.8	-4.0								
Latvia	-0.5	-0.3	-4.1	-8.9								
Lithuania	-0.4	-1.0	-3.3	-8.9								
Poland	-3.6	-1.9	-3.7	-7.1								
Romania	-2.2	-2.5	-5.4	-8.3								
Slovakia	-3.5	-1.9	-2.3	-6.8								
Slovenia	-1.3	0.0	-1.7	-5.5								
Croatia	-3.0	-2.5	-1.4	-4.1								
General Government revenues (ESA95, % GDP)												
Bulgaria	39.5	41.5	39.1	36.9								
Czech Republic	41.1	41.8	40.2	40.3								
Estonia	36.5	37.4	37.1	43.6								
Hungary	42.6	44.8	45.4	45.8								
Latvia	37.7	35.4	34.4	34.0								
Lithuania	33.1	33.8	34.2	34.1								
Poland	40.2	40.3	39.6	37.4								
Romania	33.1	33.5	32.1	32.1								
Slovakia	33.5	32.5	32.5	34.0								
Slovenia	43.2	42.4	42.6	44.4								
Croatia	39.2	40.3	39.4	38.5								
General Government expenditures (ESA95, % GDP)												
Bulgaria	36.5	41.5	37.3	40.7								
Czech Republic	43.7	42.5	42.9	46.1								
Estonia	34.0	34.8	39.9	45.4								
Hungary	52.0	49.8	49.2	49.8								
Latvia	38.1	35.7	38.6	42.9								
Lithuania	33.6	34.8	37.4	43.0								
Poland	43.9	42.2	43.3	44.5								
Romania	35.3	36.0	37.6	40.4								
Slovakia	36.9	34.4	34.8	40.8								
Slovenia	44.5	42.4	44.3	49.9								
Croatia	42.2	42.8	40.8	42.6								
General government debt (% GDP)												
Bulgaria	22.7	18.2	14.1	14.8								
Czech Republic	29.4	29.0	30.0	35.4								
Estonia	4.5	3.8	4.6	7.2								
Hungary	65.6	65.9	72.9	78.3								
Latvia	10.7	9.0	19.5	36.1								
Lithuania	18.0	16.9	15.6	29.3								
Poland	47.7	45.0	47.2	51.0								
Romania	12.4	12.6	13.3	23.7								
Slovakia	30.5	29.3	27.7	35.7								
Slovenia	26.7	23.4	22.6	35.9								
Croatia	36.0	33.4	29.3	35.3								
Exchange rate (USD/EUR)	1.256	1.371	1.471	1.395	1.363	1.430	1.478	1.383	1.369	1.357	1.341	1.257

Source: Eurostat, EC, WIIW, CSOs, NCBs, World Bank, IMF IFS, staff calculations.

Note: Cut-off data for data collection: July 15, 2010