EFN REPORT ON THE EURO AREA OUTLOOK

European Forecasting Network

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About the European Forecasting Network

The European Forecasting Network (EFN) is a research group of European institutions, founded in 2001 and co-financed by the European Commission. The objective of the EFN is to provide a critical analysis of the current economic situation in the Euro area, short-term forecasts of the main macroeconomic and financial variables, policy advice, and in-depth study of topics of particular relevance for the working of the European Economic and Monetary Union. The EFN publishes two semi-annual reports, in the spring and in the autumn. Further information on the EFN can be obtained from our web site, www.efn.uni-bocconi.it or by e-mail at efn@uni-bocconi.it .

Participating Institutions:

IGIER, Università Bocconi (Coordinator)
Team Leader: Massimiliano Marcellino (massimiliano.marcellino@uni-bocconi.it)

Centre d´Etudes Prospectives et d´Informations Internationales (CEPII)
Team Leader: Lionel Fontagné (fontagne@cepii.fr)

The Halle Institute for Economic Research (IWH)
Team Leader: Christian Dreger (cdr@iwh-halle.de)

The Department of Economics, European University Institute (EUI)
Team Leader: Michael Artis (michael.artis@iue.it)

Anàlisi Quantitativa Regional (AQR), Universitat de Barcelona
Team Leader: Jordi Suriñach (jsurinach@ub.edu)

Instituto Flores de Lemus (IFL), Universidad Carlos III
Team Leader: Antoni Espasa (espasa@est-econ.uc3m.es)

Department of Applied Economics (DAE), University of Cambridge
Team Leader: Sean Holly (sean.holly@econ.cam.ac.uk)

External Collaborator:
Global Insight
Team Leader: Emilio Rossi (emilio.rossi@globalinsight.com)

Coordinator of the Report: Massimiliano Marcellino

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Executive Summary

Economic performance continues to disappoint

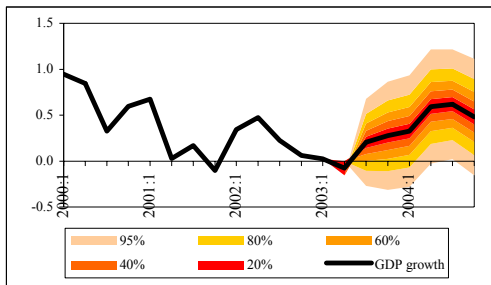**There is a 40% chance of a technical recession in 2003**

Figure 1: Forecasts for Euro area growth.

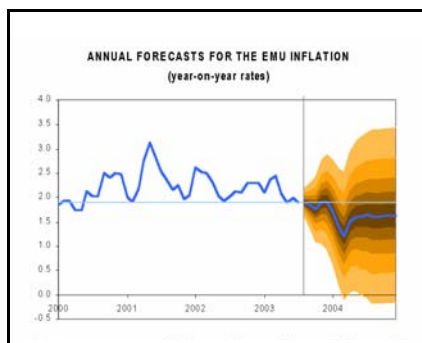**Fiscal deficit in excess of 3% for three EU-12 countries**

Figure 2: Forecasts for Euro area inflation.

The economic performance of the Euro area continues to disappoint. This is the Fourth Report of the European Forecasting Network. Once again we have had to revise down our forecast for economic prospects over the next two years. The recovery in economic activity that we have been expecting to appear during 2003 has not materialised. Assailed by a number of negative shocks from high oil prices, an appreciating Euro against the dollar, continuing geopolitical uncertainty, and a slow movement towards the liberalisation of labour and goods markets, economic recovery continues to be sluggish. GDP will only grow by 0.5% in 2003 and just 1.5% in 2004. In both years GDP growth will be reliant upon the strength of the services sector. Indeed, on a quarter on quarter basis Euro area GDP declined by 0.1% in the second quarter. We now believe that the chances of a technical recession of two consecutive falls in GDP in the Euro area during 2003 is as high as forty percent (figure 1).

Inflation continues to push up against the 2% ceiling though the output gap and the appreciation of the Euro have helped to ease the pressure on costs and we expect that inflation will move below 2% during 2004. There has been recently considerable discussion of the possibility for deflation - actual falls in the price level - in both the United States and Europe. Nevertheless, we think this is unlikely. The inflation fan chart in figure 2, suggests that the probability of deflation in the Euro area is very small.

The unexpectedly slow economic recovery has also been mirrored in fiscal positions. 3 of the 12 members of the Euro area have been, or are, in excess of the 3% deficit ceiling or close to it. In Portugal the deficit in 2001 reached 4.2% and the excessive deficit procedures of the Stability and Growth Pact (SGP) have been triggered. Some special short term measures have enabled Portugal to bring its deficit below 3% in 2002 but it is forecasted to exceed the limit again in 2003. In 2002 the deficit reached 3.1% in France and 3.5% in Germany. A deficit of around 4% is expected for both countries in 2003. The excessive deficit procedures have been opened against both countries.

Poor economic performance is also reflected in unemployment, which we now expect to climb steadily over 9% in 2004 as the Euro area continues to operate below full economic capacity.

Some perspective on the current business cycle can be gained from a comparison with the last occasion on which the Euro
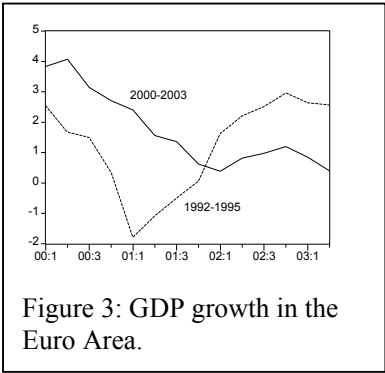
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Figure 3: GDP growth in the Euro Area.

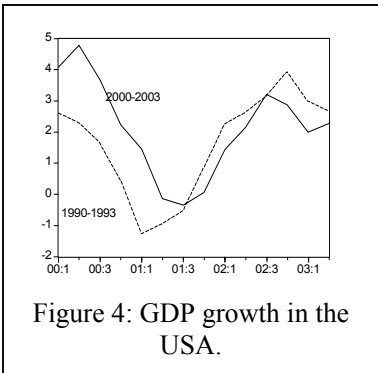## The economic recovery is more gradual than in the 1990s


Figure 4: GDP growth in the USA.

Negative or small contribution of net exports to growth in 2003 and 2004

area experienced a cyclical downturn - at the beginning of the 1990s. Then, of course, monetary policy was not centralised in the ECB, though the Bundesbank in practice played a significant leadership role in the setting of interest rates. In figure 3 we show growth of GDP for the periods from the first quarter of 1992 to the second quarter of 1995 and compare this with the first quarter of 2000 to the second quarter of 2003. From the cyclical peak of 1991, output growth decelerated rapidly and was significantly negative in 1993. Thereafter, the cyclical recovery was rapid with the Euro area returning to trend growth rates by 1994.

The most recent downturn has been much more gradual but the recovery has also been very muted. Indeed after a small acceleration in growth during 2002, output in the Euro area as a whole, as we have already noted, actually fell in the second quarter of this year. By contrast, the economic cycle in the USA at the beginning of the 1990s was very similar to that of the more recent cycle with a very similar decline in output and then recovery (figure 4), though the extent and credibility of the recovery were stronger in the '90s, with larger benefits for the European countries. This feature, combined with an appreciated Euro against the dollar and sterling (the two main trading partners for the Euro area) and the general weakness in world economic activity, means that net exports will make a negative contribution to GDP during 2003, see figure 5, and only a minor one in 2004.

Most of the growth in 2003 and 2004 is due to internal demand, with a stable pattern for consumption but stronger capital formation in 2004.

If now we compare the monetary stance (figure 6), policy
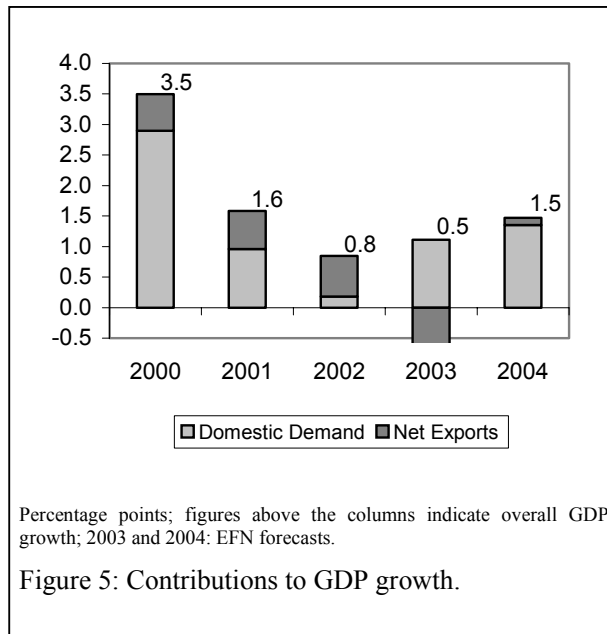
Percentage points; figures above the columns indicate overall GDP growth; 2003 and 2004: EFN forecasts.

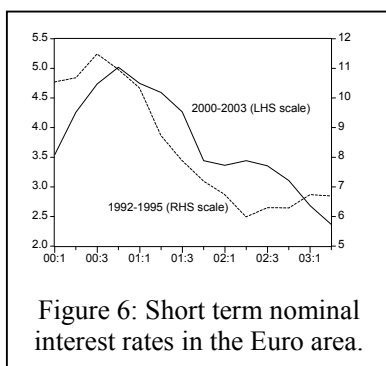Figure 5: Contributions to GDP growth.

Figure 6: Short term nominal interest rates in the Euro area.

Monetary policy provides a proper background for recovery

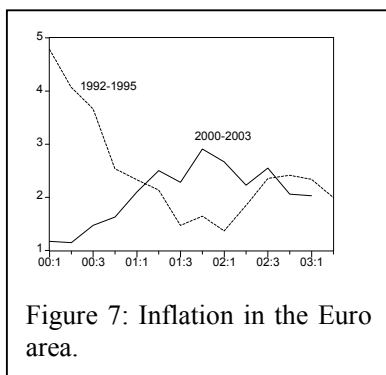**Fiscal policy not very useful for the current slowdown**
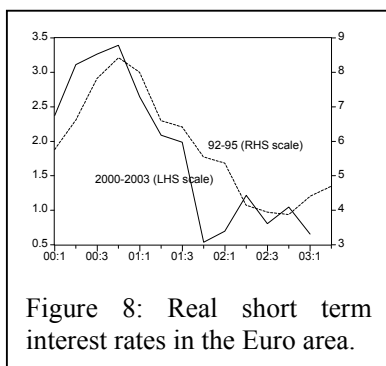

Figure 7: Inflation in the Euro area.

Figure 8: Real short term interest rates in the Euro area.

was relaxed much more swiftly in the earlier period, reflecting in part that inflation was on a downward trend in the early 1990s compared with the early part of the 21st Century (figure 7). However, if we look at real short term interest rates (figure 8), the relaxation in monetary policy was actually more pronounced in the later period. Overall, nominal and real interest rates are very low and the monetary conditions appear to be in place to provide the background to a stronger economic recovery, if only world trade could recover more quickly and geopolitical tensions and oil prices ease.

About fiscal policy, in the initial stages of the 1992-3 downturn there was an initial deterioration in the deficit for the Euro area (though starting from a much larger deficit), followed by an improvement. By contrast, in the current downturn the fiscal deficit has continued to deteriorate. The general impression is that the fiscal position is caused by the slowdown rather than causing it. Overall, without structural reforms of the labour market and the welfare system, increased competition in the good and services market, and policies to foster long run growth such as investment in education and R&D, the Euro area growth will continue to be mostly based and dependent on hardly controllable external factors.

Table 1. Economic outlook for the Euro area

	2003: annual		2004: annual	
	Point Forecast	Interval Forecast	Point Forecast	Interval Forecast
GDP		0.3		0.9
	0.5	0.6	1.5	2.2
Potential Output		2.1		1.4
	2.2	2.4	1.9	2.3
Private Consumption		0.8		0.6
	1.1	1.4	1.3	1.9
Fixed Capital Formation		-2.5		-0.9
	-1.8	-1.2	1.2	3.4
Exports		-1.1		2.1
	-0.5	0.4	4.0	5.8
Imports		0.6		1.7
	1.4	2.4	3.9	6.0
Unemployment Rate		8.9		9.1
	9.0	9.0	9.3	9.5
HICP		1.4		0.7
	2.1	2.6	1.7	2.7

Percentage change in the average level compared with the same period a year earlier, except for unemployment rate that is expressed in levels. Point forecasts and 80% confidence bounds are taken from EFN forecasting model and based on 2000 stochastic simulations.

Table 1 provides a summary of our forecasts for the main macroeconomic variables. The rest of this executive summary describes the contents of chapters 2 to 8 of the report. Additional details can be found in a set of Annexes, freely available on the EFN website at www.efn.uni-bocconi.it.

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The macroeconomic outlook for the Accession countries is brighter than for current EU members

In the previous Report we drew attention to the importance for the medium term development of the European Union of the accession of 10 more countries. We now therefore include in our report a chapter with the macroeconomic outlook and forecasts for the Accession countries. Despite weaker-than-expected growth in the Euro area, Accession countries fared fairly well in 2002 and early 2003. Private consumption and government spending compensated for weaker export growth. Inflation staged a major decline over the last 18 months and is expected to remain subdued in the nearest future. Following sharp interest rate cuts in 2001 and 2002, monetary authorities are mow more cautious. The state of public finances remains the largest obstacle to nominal convergence with the EU.

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The fiscal deficits in Poland, the Czech Republic and Hungary are a serious obstacle to economic integration

In the macroeconomic outlook for the Accession countries we have drawn particular attention to the need for many of the larger Accession countries to sharply reduce budget deficits in the next five years. The build-up in government spending in the larger Accession countries over the last few years has resulted in a public finance position that is not sustainable in the longer term. Furthermore, their fiscal situations may serve to prevent the economies not only from meeting the Maastricht criteria for public finance deficits, but also from reaching their growth potential.

In particular, the fiscal balances of the three Central European candidates for EU membership—Poland, Hungary, and the Czech Republic—have deteriorated considerably over the last two years. The Pre-Accession Economic Programs presented to the European Commission in late August 2003 provide the only official source documents outlining plans for reducing the public sector deficits in the years 2003-2006. With the exception of the Czech government, all three programs appear to be overly optimistic about economic growth and therefore the chances of reducing public finance deficits in the near-term. In addition, they are not binding and provide governments with substantial flexibility in designing each year's budget. Despite announced plans to implement legally binding medium-term spending programs, the governments are likely to make expenditure adjustments based on short-term priorities.

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An important issue for understanding the fiscal position among the Accession countries is the dating of the business cycle and

Rather low cyclical synchronicity between accession countries and the Euro area and wider fluctuations point against an early adoption of the Euro

the resulting chronology of expansions and recessions. The transition from a centrally planned economy in the 1990s, with a sharp downturn in economic activity followed by a period of sustained growth, makes the phenomenon of the *classical* cycle, in which peaks are succeeded by *absolute* declines in activity, of comparatively little interest with respect to the deviation cycle, in which deviations from the trend level matter.

The analysis of deviation cycles shows that cycles in the Accession countries tend to have a larger amplitude than those for the current EU countries. In terms of convergence, cross-correlation coefficients indicate a high correlation between the Baltic States (as well as between them and the Czech Republic), between the limited set of Euro area countries considered and, as well, between Hungary and Poland separately and the Euro area countries. The comparison of the present situation with previous enlargements shows a lower degree of convergence. Though this provides evidence against the acceptability of a single monetary policy for the Accession countries, further elements such as the extent of trade integration and the gains from enhanced financial stability point in the opposite direction. Therefore the issue deserves a deeper analysis, partly conducted in the next chapter of the report.

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The behaviour of the exchange rates, the type and the size of the economic shocks in the Accession countries and the experience of the German unification also suggest that early membership of the EMU would not be the best choice to foster convergence of the Accession countries

Much of the academic debate around Euro area enlargement has focused on the choice of the appropriate monetary regime in Accession countries prior to EU accession and on an analysis of the benefits of joining the Euro compared to the associated costs.

Currently Accession countries use a variety of exchange rate regimes, spanning the whole spectrum from fixed to freely floating exchange rates. In the early 1990s, at the beginning of their transition period, most countries chose some kind of fixed system while others, like Slovenia, opted for more flexible solutions. Since then, there has been a generalised move towards more flexible exchange rates (for example, the Czech Republic and Poland have fully flexible exchange rates), going in the opposite direction to the supposed entry into the Euro, even though the exchange rate volatility against the Euro has not increased and real exchange rates, which matter most for economic performance, are not far away from the real rates that countries such as Italy or Finland faced before adopting the Euro.

The central policy question is how fast should the Accession countries move towards monetary union and the adoption of the Euro. We believe that economic convergence will not be best served by early membership of EMU. There is not only the risk of foreign exchange market turbulence if the currencies of the Accession countries came under sustained speculative attack, but also the lesson of East Germany which was

effectively transferred to full monetary union with West Germany overnight and at a completely inappropriate real exchange rate. Finally, the size and type of shocks that hit these countries are rather heterogeneous and different from those of the current Euro area countries.

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The sixth enlargement of the European Union raises another important policy question. Although the aggregate economic impact of accession on existing members is small, it is quite large for the Accession countries and there are important issues at the level of regions that need to be addressed. What would the best policies be for the EU to fuel real convergence of the new membersat the national and regional level?

We then analyse the design and implementation of current EU regional policies…

Numerous concerns have been raised about the design and implementation of current EU structural (regional) policies and their ability to achieve stated targets. Excluding Ireland, there is little evidence for significant convergence of the first generation countries at the regional level. Clearly, the quality of local institutions and economic conditions in regions benefiting from European funding has been key to the success or failure of regional policies.

In the light of the lack of evidence concerning the effect of structural funds on long run growth, and the acute political tensions their availability and allocation creates among current members, it could be argued that regional structural funds, within an enlarged EU, should be reformed. This applies, even more so, to the funding of the Common Agricultural Policy. Theory suggests that structural funds are pure income transfers with little long-run effects. They may lead to a suboptimal allocation of regional labour, capital and entrepreneurial resources and to a self-perpetuating system of expectations in which below average income levels are almost "sought" by the regional administrations as a conduit for additional structural funding. Empirical evidence is mixed. Ireland has been an undoubted success story, but the Mezzogiorno of Italy has failed to converge on the northern part of Italy, despite significant inflows of structural funds.

Among the many suggestions contained in the report, the following are the most crucial.

…and conclude that EU regional policies need drastic reforming

- A drastic lowering of the maximum income for admission to funding at the level of 50% of the EU15 average.

- A reduction of the number of objectives to be pursued (as proposed by the Commission in 1998).

- Objective 1, properly rephrased to focus on structural deficiencies (especially large public goods, transportation and communication infrastructures and environmental protection), is

the only one that should be retained on a permanent basis. However, in the light of the accession of 10 more countries, it appears that objective 2 (recovery from industrial restructuring) and objective 5 (agriculture structural transformation) should also be maintained during the first budgeting cycle following admission (2007-2013) because of the importance of both industrial and agricultural restructuring for these countries.

To add to the debate concerning the effectiveness of structural funds at the regional level we have also conducted a study of infrastructure investment in Spain. The issue is whether infrastructure investment eventually supported by European funds leads to convergence at the regional level. We provide an analysis of the effects of infrastructure investment on regional economic growth. We assume that the effect on productivity depends on what type of public infrastructure is put in place, so that local infrastructures would enhance economic activity in the area where they are located, whereas transport and communication infrastructure may produce benefits in the area where they are located and spillovers to other regions. These spillovers can be either positive or negative.

The effect of public infrastructure investment in Spanish regions is limited…

We argued above that the macroeconomic conditions in Accession countries are similar in many ways to those of previous entrants such as Spain at the time of its accession. So the experience of Spain can provide guidance as to what may happen to the new entrants. Therefore, our empirical results may throw light on the possible effect of infrastructure on the takeoff of less-developed economies, which are opening and modernising their productive structure as a consequence of their entrance to the EU.

…but it could be positive in Accession countries due to the low initial stock

It turns out that the effects of transport infrastructure is small, declining over time, and with negative spillovers on neighbouring regions. Yet, given the rather modest stock of public capital, there is room to faster growth through public investment in the Accession countries.

Finally, we evaluate whether accession can modify the economic geography of the Accession countries. In particular, since in centrally planned economies, market forces are not allowed to operate, we might expect to see a concentration of certain sectors and higher relative wages in the region where the capital city is.

When we examine regional wages and employment shares in

In the Accession countries the capital cities pay higher relative wages …

… and have a larger share of service employment

Accession is likely to reverse this pattern in favour of border regions

the Central and Eastern European Countries in their reaction to the increased access to EU markets, three main results emerge.

First, there is a strong effect of the capital city on relative wages. On average, being a capital city produces a 32% higher wage, and doubling the distance from the capital reduces relative wages by 4%.

Second, proximity to the EU seems to give an advantage in terms of relative wages. However, this effect only reflects the wage premium enjoyed by border regions. Workers' wages in those regions are on average 2.8 % higher.

Finally, the share of service employment (in the private as well as in the public sector) is strongly concentrated in capital city regions. The comparison with the current EU countries shows that these concentrations are significantly stronger in the Accession countries than in the long-established member states.

What can we conclude from this analysis? The extreme centralisation of wages and service sectors in Central European capital cities is likely to erode and give way to a more even distribution of wages and service sector employment driven by market access. Moreover, Accession countries that have regions that border the current EU stand to gain most in terms of relative wages and employment growth in dynamic sectors, confirming the findings in the previous EFN report.

Chapter 1
Euro Area Outlook and Forecasts

Uncertainty is still prevailing

Euro appreciation impairs exports…

… but reduces inflation

Economic outlook for 2003 and 2004

In the first half of 2003, the Euro area economy remained sluggish. Seasonally adjusted GDP did not exceed its level in the second half of 2002.

After the quick end of military action in Iraq, geopolitical tensions eased in the spring but a high degree of uncertainty is still prevailing. The persistent economic imbalances outside the Euro area, notably the continuing twin deficit in the US, prevent a quick recovery of confidence. Moreover, in the course of the recent downturn, the business sector worldwide and in the Euro area has undertaken measures to reduce debt levels and to increase profitability. While these restructurings improved the prospects for a rebound of profits and investment, they were associated with a layoff of workers in the short run, exerting a negative influence on employment expectations and on the willingness of households to consume.

The marked appreciation of the euro vis à vis the US dollar, but also against other major currencies, in 2002 and in the first half of 2003 is taking its toll. Though the appreciation has taken away the gain in Euro area competitiveness realized with the depreciation of the euro between 1999 and 2001, the real effective exchange rate of the euro is now at the level observed when the common currency was introduced. At present, cost competitiveness of Euro area companies is roughly at its long term average over the past 20 years.

The development of Euro area net exports since autumn 2002 reflects the appreciation of the euro. While exports decreased significantly, imports grew more than implied by the sluggish domestic demand. Obviously, producers switched to imported intermediate goods, and stocks of finished goods were mainly replenished by imports. The stronger euro squeezes profits from exports to markets outside the Euro area. If exporters try to hold the euro prices constant, demand for their products will decline. If, on the other hand, companies try to retain export volumes by maintaining the price in foreign currency, revenues transferred into euros will decrease. When assessing the effects of the appreciation of the euro, the focus often lies on the negative impact on exports. It has to be kept in mind, however, that a stronger euro reduces euro import prices. In principle, imported intermediate goods as well as raw materials such as oil become cheaper, thereby reducing production costs. To the extent that the cost relief is passed on to consumers, a rise in real disposable income is induced. As the increase of consumer prices is limited, the ECB has some room for further interest rate cuts.

Overall, the impact of a euro appreciation on GDP growth is negative. As simulation results documented in earlier EFN reports show, a ten percent appreciation of the euro with respect to the US dollar reduces the GDP growth rate in the range of 0.2-0.3 percentage points once all adjustment processes have run their course.

In the first half of the year, the muted profit prospects caused by the delayed global economic recovery and by the euro appreciation led to weak capital formation. Due to the slower accumulation of capital, potential output growth started to decline.

Positive but small contribution of private consumption

The negative contributions of investment and net exports were partially offset by private consumption. Disposable income in real terms was fuelled by the fall in inflation. However, though households continued to expand their purchases, consumption remained subdued. This is in particular related to the dampening impact of the increase in unemployment. The worsening employment expectations exerted a negative impact on consumer confidence.

Global economic recovery will only gradually stimulate Euro area activity

A gradual recovery of the Euro area economy is predicted over the forecasting horizon. Both internal and external factors are expected to contribute. In the latter part of this year and more pronounced in 2004 production in the major world regions will gain momentum. World trade will expand by 4 percent in 2003 and by around 7.5 percent in 2004. This is supported by a rising investment activity in particular in the US and to a lesser extent in Japan. Also, expansionary fiscal and monetary policies are expected to stimulate economic activity in the US. Due to robust domestic demand, growth has remained robust in Southeast Asia as well as in the Central and Eastern European countries which will join the European Union in May 2004. Details about the assumptions of important exogenous variables are summarized in box 1, in page 15. Our forecast of a gradual recovery of the Euro area economy is supported by the view that we do not expect further marked exchange rate movements of the euro. In fact, the current level of the exchange rate reasonably reflects economic fundamentals. A slight depreciation of the euro in real effective terms of around 0.2 percent is expected for 2004. The impact of the euro appreciation will fade out over time, and the rising external demand will stimulate exports. The improved profit prospects are expected to induce investors to increase their production capacities. Investment will also benefit from the fact that the long-lasting weakness of capital formation has increased the obsolescence of the capital stock. Furthermore, financing conditions are supported by the ECB interest rate cuts by 125 basis points since December 2002. From a historical perspective, interest rates in the Euro area are currently very low, both in nominal and real terms. We expect no significant changes over the forecasting period. In addition, stock markets have recovered from their recent troughs observed in the spring.
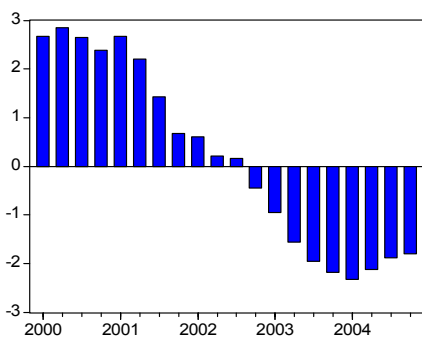
The Euro remains almost stable

The expansion of government consumption will be limited by

Monetary policy supportive to growth

Slowdown in growth of unit labour costs

Output gap widens until spring 2004

Figure 1.0: Output gap in percent of potential GDP

Domestic demand is the driving force of the recovery

Euro area lags behind

tight public finances in a number of Euro area countries, notably in the larger ones. On the other hand, some countries are expected to pursue counter-cyclical fiscal policies. The latter effect will stabilise government consumption growth in the short run.

After two years of very low growth, labour productivity will gradually pick up in the forecasting period. Due to wage moderation labour costs will expand at a slower pace than in the previous years. Therefore, unit labour costs will grow slower than before. Profit prospects, approximated by the difference between HICP inflation and the increase in unit labour costs, will improve in 2003 and, more pronounced, in 2004. This development in conjunction with the increasing production will back up investment behaviour. The euro appreciation observed until the middle of 2003 and a roughly constant oil price will contribute to a decrease in inflation, supporting real disposable income. In addition, the gradual recovery will restore the willingness of households to consume.

Potential GDP continues to increase faster than actual GDP in the next few quarters. While actual growth will accelerate gradually over the course of next year, potential growth is hampered by the weakness in fixed capital formation since 2001. In Figure 1.0 we plot the output gap calculated using a production function approach. The gap widens until the first quarter of 2004 before it begins to decrease slightly as growth moves above the underlying growth potential. As a consequence of the lower trend growth rate, a rise in the NAIRU is predicted. Overall, this development exerts downward pressure on wage and price inflation.

As can be seen from figure 1.1, a mild recession in the Euro area cannot be excluded at the 80 percent level of confidence for the next three quarters. Then, growth will gain momentum, but towards the end of the forecasting horizon, the quarterly rates are forecasted to decline. As they are based on lower initial levels, the y-o-y growth rates shown in figure 1.2 continue to increase.

Over the forecasting horizon domestic demand will become the driving force of the economic recovery, see figure 1.3. However, when compared to recent periods of upturns like 1998-2000, domestic demand remains subdued. In particular, the weakness in private investment is critical, since it hampers capital accumulation and growth potential. Therefore, policies should support domestic demand by restoring confidence of consumers and investors. The low and even negative contribution of net exports is due to the euro appreciation and to the delayed recovery of the world economy.

There are still factors preventing a quick expansion of the Euro area economy. Due to the persisting economic imbalances as well as the latent risks of further terrorist attacks, some degree of uncertainty will prevail. In comparison to the other major regions of the world economy, the recovery in the Euro area will be less pronounced and takes place even later. In particular, the growth of labour productivity will be only moderate.

Figure 1.1 Quarterly GDP growth rates and confidence bands
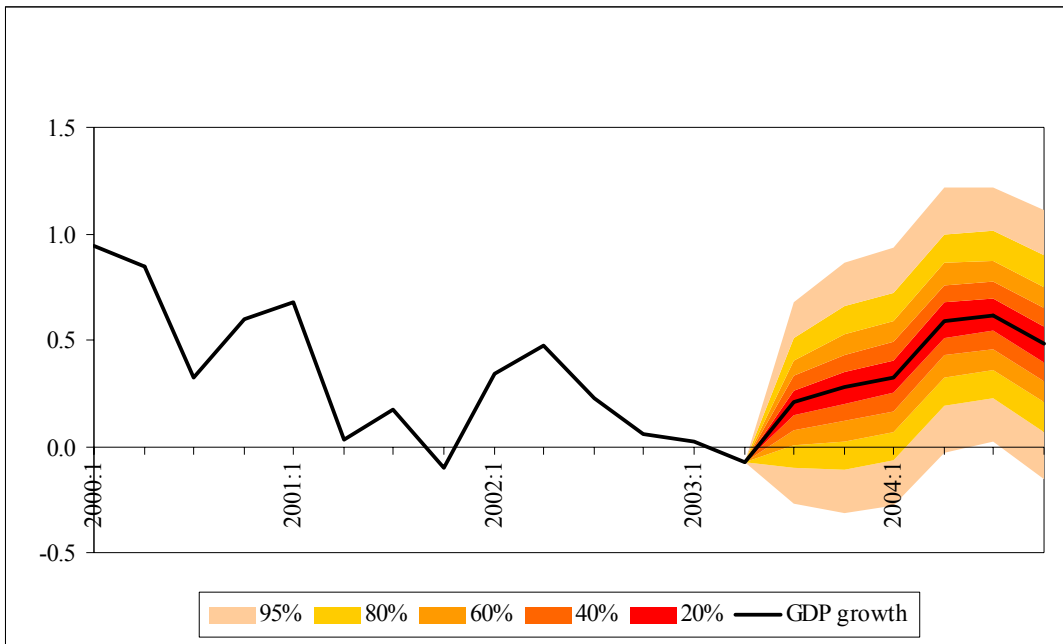
Percentage change over the previous quarter

Figure 1.2 Year-on-year GDP growth rates and confidence bands
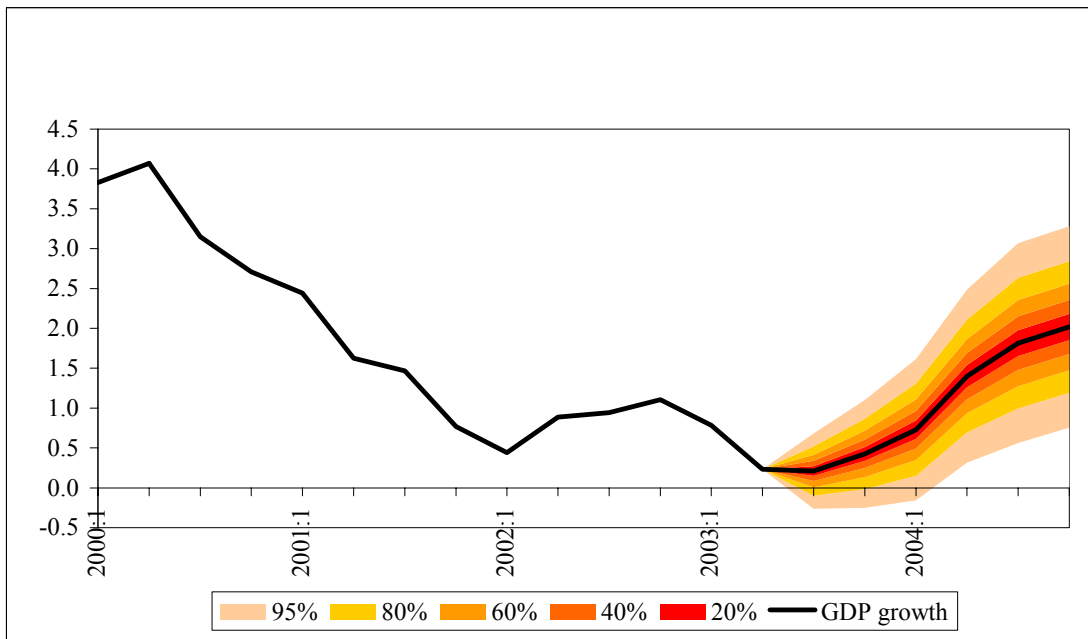
Percentage change over the same quarter in the previous year

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Figure 1.3 Contributions to GDP growth
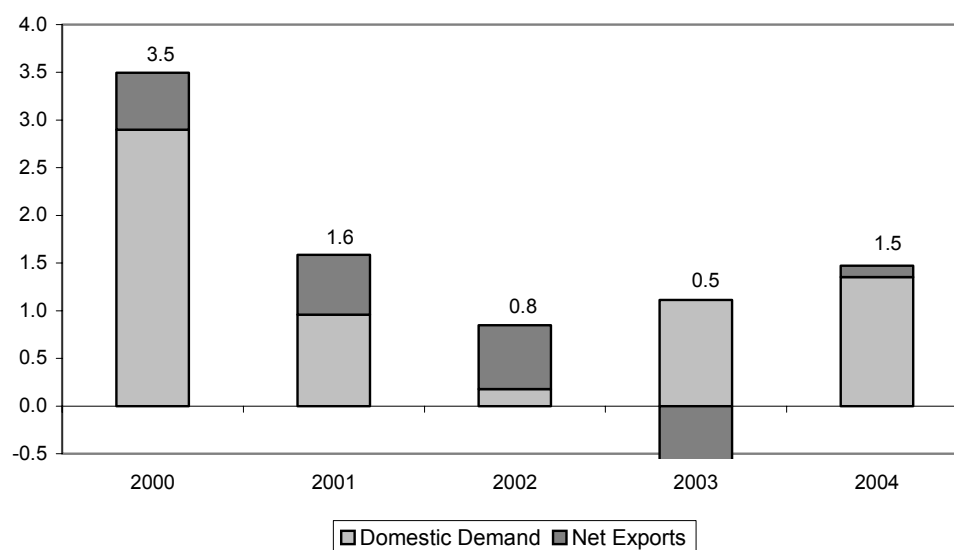
Percentage points; figures above the columns indicate overall GDP growth; 2003 and 2004: EFN forecasts

Table 1.1 Contribution of the production sectors to GDP growth

Contributions of production sectors						
Year	GDP growth	Agriculture	Industrial	Construction	Services	Net taxes
1999	2.82	0.08	0.23	0.12	2.10	0.29
2000	3.50	-0.02	0.88	0.12	2.56	-0.04
2001	1.59	-0.04	0.16	-0.03	1.61	-0.12
2002	0.85	-0.01	0.19	-0.05	0.93	-0.22
2003	0.48	0.02	-0.15	-0.12	0.79	-0.08
2004	1.51	0.02	0.17	-0.01	1.27	0.04

Industrial production and GVA per sectors in the Euro zone emphasize the relevance of services

In the industrial sector in the EMU, energy will be in 2003 the most dynamic sector and capital, durable consumer and intermediate goods sectors still will register negative rates of change. In 2004 the mild recovery will be lead by the capital, intermediate, energy and non-durable consumer goods sectors. The production in durable consumer goods could remain for the fourth consecutive year with negative rates of change. In US the recovery in 2004 will be stronger.

A disaggregated analysis of GDP by production sectors produces the forecasts in table 1.1, with total GDP growth in line with forecasts from our macroeconometric model. Figure 1.4 reports the evolution of the economic sentiment indicator, where the expansion zones are in shadow. With information till mid-2000 a fall was already expected, but not as relevant as was finally observed. Recovery is not yet clear from the latest information available.

Loose monetary policy still possible in the near future

Total inflation in the Euro area will average 2.1% and 1.7% in 2003 and 2004, respectively assuming that the evolution of exchange rates and monetary policy variables in those years will be compatible with their performance in the past (see box 3.). Core inflation will be quite stable with average annual rates of 1.9% in both 2003 and 2004. The monetary factors pushing up inflation are compensated by the behaviour of unit labour costs, the negative output gap and the appreciation of the euro. Consequently, over the forecasting horizon there arises no need for deviating from the current expansionary stance of monetary policy.

Inflation should move below 2% in 2004 but with substantial variation across countries, associated with different real interest rates

Different institutions are currently considering a possible, although low, risk of deflation in the EMU. As figure 1.5 shows, we think that the probability of deflation in the EMU is almost negligible.

The inflation forecasts for the Euro area conceal a different inflation situation through countries in observed values and in expectations. Thus the expectations for 2004 go from 0.9% in Germany (including the increase in tobacco taxes) to 4.0% in Ireland. Consequently, the real interest rates show a large discrepancy, with one-year actual interest rates going from a negative 1.7% rate in Ireland to a positive 1.5% in Germany. This differential around three percentage points shows that countries in the Euro area are facing different investment conditions.

The forecasts of the main macroeconomic aggregates are summarized in table 1.2.

Figure 1.4

General Economic Sentiment Indicator
Past Values and Forecast Intervals
(The shadowed areas correspond to periods in which de probability of being in an expansion
regime is not lower than 70%)

—— Economic sentiment Indicator	- - - Economic sentim. Indicat. For (2000-7)
—— Upper Interval 80% (2000-7)	—— Lower Interval 80% (2000-7)
····· Economic sentim. Indicat. For (2003-8)	—— Upper Interval 70% (2003-08)
—— Lower Interval 70%(2003-08)	
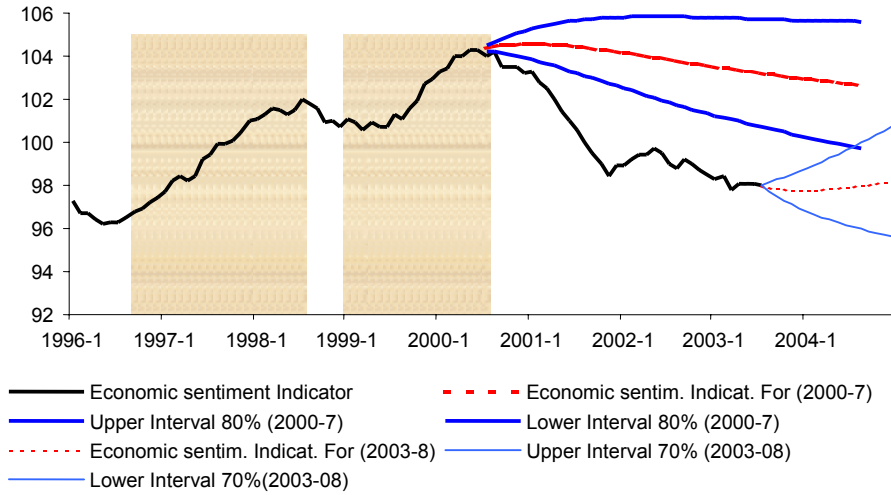
Source: Eurostat & EFN Date: September 17, 2003

Figure 1.5

ANNUAL FORECASTS FOR THE EMU INFLATION
(year-on-year rates)
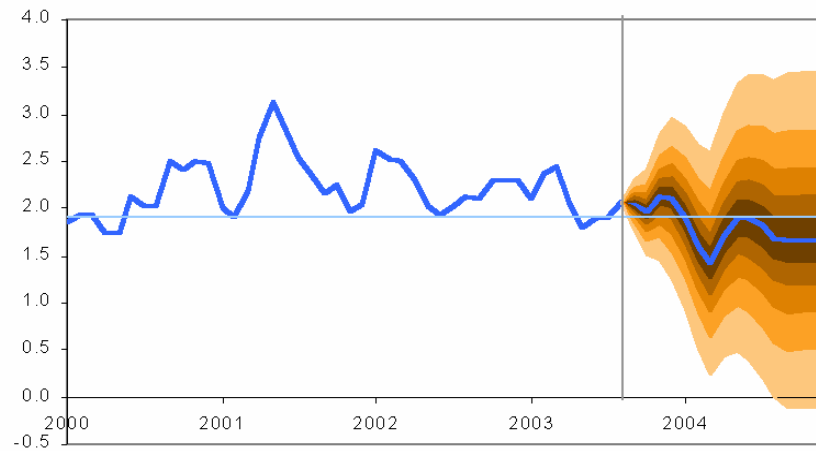
Confidence intervals at: —— 20% —— 40% —— 60% —— 80% —— 95%
Historical Inflation mean ——

Source: Eurostat & IFL   Date: September 18, 2003

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Table 1.2 Economic outlook for the Euro area

	2000	2001	2002	2003: 1st half	2003: annual		2004: annual	
					Point Forecast	Interval Forecast	Point Forecast	Interval Forecast
GDP	3.5	1.6	0.8	0.5	0.5	0.3 / 0.6	1.5	0.9 / 2.2
Potential Output	2.9	2.5	2.5	2.2	2.2	2.1 / 2.4	1.9	1.4 / 2.3
Private Consumption	2.7	1.8	0.4	1.3	1.1	0.8 / 1.4	1.3	0.6 / 1.9
Government Consumption	2.0	2.3	2.8	1.7	1.9	1.7 / 2.0	2.0	1.5 / 2.6
Fixed Capital Formation	5.0	-0.2	-2.7	-1.7	-1.8	-2.5 / -1.2	1.2	-0.9 / 3.4
Exports	12.6	3.2	1.5	0.9	-0.5	-1.1 / 0.4	4.0	2.1 / 5.8
Imports	11.3	1.6	-0.3	2.9	1.4	0.6 / 2.4	3.9	1.7 / 6.0
Unemployment Rate	8.5	8.0	8.4	8.8	9.0	8.9 / 9.0	9.3	9.1 / 9.5
NAIRU	9.1	8.7	8.4	8.2	8.3	8.3 / 8.4	8.6	8.4 / 8.8
Labour Costs	2.4	3.0	3.3	2.6	2.4	2.2 / 2.5	2.2	1.9 / 2.6
Labour Productivity	1.2	0.5	0.3	0.3	0.2	0.0 / 0.4	1.8	1.1 / 2.4
HICP	2.1	2.3	2.3	2.1	2.1	1.4 / 2.6	1.7	0.7 / 2.7
IPI	5.3	0.5	-0.6	0.4	-0.1	-0.9 / 0.7	1.4	-1.0 / 3.8

Percentage change in the average level compared with the same period a year earlier, except for unemployment rate and NAIRU that are expressed in levels. Point forecasts and 80% confidence bounds are taken from EFN forecasting model and based on 2000 stochastic simulations.

BOX 1: EXOGENOUS VARIABLES

The exogenous variables for the forecasts are shown in the table below. For the most important world economic regions outside the EU, i.e. the US and Japan, a gradual economic recovery over the forecasting horizon is expected. This is reflected in an increase in the GDP growth rates; while inflation will remain moderate. For the oil price, a slightly decrease from 28 to 27 US dollar per barrel is expected for 2004. The depreciation rate of the capital stock is around 5% p.a. Results are robust to small changes in this parameter. It is included in the equations for capital accumulation and the user cost of capital.

Table 1.3: Exogenous variables for EFN forecasts

	2003	2004
Population Euro Area	303.1	303.1
Capital Depreciation Rate	4.8	4.8
Japan Consumer Price Inflation	-0.3	-0.4
Japan GDP Growth Rate	1.9	1.2
Japan Long Term Interest Rate	0.6	0.6
Japan Short Term Interest Rate	0.1	0.1
US Consumer Price Inflation	2.3	1.8
US GDP Growth Rate	2.6	3.9
US Long Term Interest Rate	3.6	3.6
US Short Term Interest Rate	1.3	1.3
Oil Price	28.0	27.0

Population in million people, oil price in US dollar per barrel, all other variables in percent

BOX 2: THE EURO APPRECIATION AND INFLATION

In order to analyse the effect of the appreciation of the euro against the US dollar and other currencies on total inflation in the Euro area, we are going to study the effect of the nominal effective exchange rate and the real effective exchange rate on each of the seven components into which the HICP has been broken down, namely, processed food, tobacco, non-energy industrial goods, services, unprocessed food and energy. This last component is also disaggregated into fuel and gas, which includes electricity and gas prices. For all these components except fuel, we consider linear univariate time series models, and for fuel non-linear models with leading indicators. Then, the exchange rate enters all the relations as an additional explanatory variable. Due to data limitations, we focus on a narrow group of major Euro area trading partners (United States, Japan, Switzerland, United Kingdom, Sweden, Denmark, Norway, Canada, Australia, Hong-Kong, Korea and Singapore).

The results show that both the nominal and real exchange rates only have a minor effect on inflation. However, the model for domestic fuel prices already includes international crude prices in euros as an explanatory variable. Therefore, the results indicate that the exchanges rate does not exert an independent influence on inflation beyond the effect on fuel prices. The fact that in our time series models we do not find a direct effect of the exchange rate means that in forecasting inflation in 2003 and 2004 our models rely on the past performance of the system that is finally incorporated in price lags. Therefore our inflation forecasts for 2003 and 2004 are implicitly assuming that the evolution of exchange rates and monetary policy variables in those years will be compatible with their performance in the past.

BOX 3:   EURO AREA CONVERGENCE OF INFLATION AND OUTPUT GROWTH

In the early stages of monetary union, before the integrating forces of financial and trade linkages work themselves through, there is likely to be divergences between member states that reflect the extent to which the initial exchange rates at which monetary union was set are not quite right. In these circumstances individual member states can alter their competitiveness by adjustments to domestic prices and wages. But measures of dispersion also provide a guide to the extent to which economic convergence fluctuates over the business cycle because member states are experiencing the same shock but responding differently or experiencing different shocks. Moreover, convergence in the level of per capita incomes between the poorest and the richest member states requires differences in growth rates.

In Chart 1 and 2 we plot Boxplots of output growth and inflation for the Euro 12 countries. A boxplot provides a visual interpretation of the variability across members, and is less sensitive than other measures of dispersion to outliers. The shaded box is the inter-quartile range, so it covers 50 percent of the member states. The solid line within the box is the median. The 'whiskers' that extend above and below the box are up to 1½ times the interquartile range. Any observations lying outside of this range are individually marked. So we see that on growth (we have excluded Ireland since it is an extreme outlier, while data is incomplete for Luxembourg) Greece was an outlier in 2001 and 2002. It is also noticeable that the variability of inflation rates across the Euro area has risen since 1999, while the variability in growth rates has diminished.
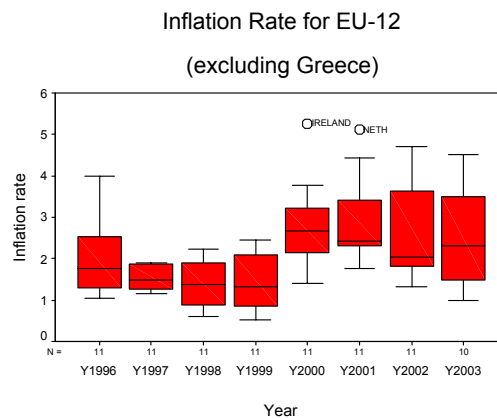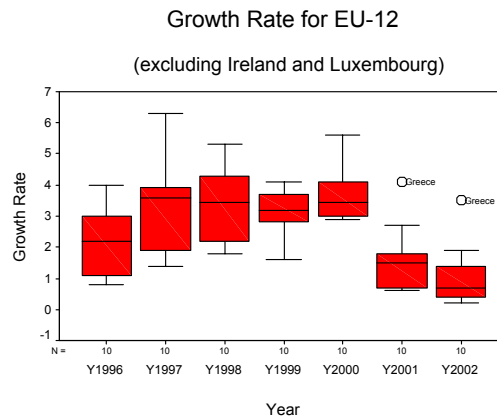
Growth Rate for EU-12

(excluding Ireland and Luxembourg)

Inflation Rate for EU-12

(excluding Greece)

Table 1.4 Comparison of EFN forecast with alternative forecasts

	EFN		EU		IMF		ECB		OECD		Consensus	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
GDP	0.5	1.5	1.0	2.3	0.5	1.9	0.7	1.6	1.8	2.7	0.5	1.7
Private Consumption	1.1	1.3	1.2	2.0	1.3	1.9	1.4	1.7	1.5	2.5	1.2	1.6
Gov. Consumption	1.9	2.0	1.6	1.5	1.9	1.4	1.2	1.0	1.6	1.4	1.4	1.3
Fixed Capital Form.	-1.8	1.2	0.3	3.2	-0.2	3.1	-1.1	2.1	1.6	3.1	-0.9	2.2
Unemployment rate	9.0	9.3	8.8	8.8	9.1	9.2	-	-	8.5	8.3	8.9	9.0
HICP	2.1	1.7	2.1	1.7	2.0	1.6	2.0	1.3	2.2	2.0	2.0	1.5
Industrial Production	-0.1	1.4	-	-	-	-	-	-	-	-	0.2	1.8

EU: European Commission, European Economy, No. 2, 2003; IMF: World Economic Outlook, September 2003; ECB: ECB Monthly Bulletin, June 2003, OECD: OECD Economic Outlook, No. 73, June 2003; Consensus: Consensus Economics Inc., Consensus Forecasts, September 2003. IMF forecasts for demand aggregates are for the European Union. ECB figures correspond to their macroeconomic projections. Numbers in the table refer to the mean of the respective projected interval.

Comparison with alternative forecasts

The forecasts presented above were obtained from the EFN macroeconometric model, described in detail in the Spring 2002 report. Table 1.4 reports a comparison of the EFN forecasts for the main macroeconomic aggregates with alternative forecasts, notably those of the European Commission, the IMF, the European Central Bank, the OECD, and Consensus Economics Inc.

To some extent, the comparison must be biased because of the different information set. Generally speaking, the most recent forecasts are more pessimistic than the ones carried out a few months ago. This reflects the fact, that the recovery in the Euro Area will take place later than previously anticipated.

EFN forecasts pessimistic for domestic demand and labour market

However, for both years of the forecasting horizon, the EFN outlook seems to be more pessimistic, in particular regarding the development of private consumption. This can be traced to the worse unemployment forecast with its negative impact on disposable income. Although the IMF has almost the same unemployment outlook, it expects a more pronounced acceleration of private consumption. This could be related to a faster rebound of confidence of private households.

While private consumption and fixed capital formation are on a lower path than in other forecasts, our outlook for government consumption is higher. According to our model, strong countercyclical behaviour will offset the dampening effects of the Stability and Growth Pact in the short run.

According to the EFN outlook, the increase of working days in 2004 is expected to have only a negligible effect on the economic performance. This view is confirmed by the empirical evidence. For example, growth rates are available for both unadjusted and working day adjusted German GDP. Over the last 10 years, the series did not deviate by more than 0.2 percentage points, even in those years where the number of working days differed by three.

Inflation forecasts are similar to those published by the Consensus Forecasts. A main feature of our models is that they project each price component of the HICP accordingly with its corresponding innovations and that the more negative recent innovations are mainly concentrated in energy prices.

Forecast comparison with previous outlooks

Table 1.5 provides a comparison between the forecast for 2003 and 2004 with the forecasts in the previous reports and with the actual outcome in 2002. In autumn 2002, no EFN forecast for 2004 was published.

Over time, forecasts have become more pessimistic

For 2003 and 2004, the growth rates of GDP and most aggregates have been successively revised downwards, except for government consumption.

The slow evolution of the world economy and the euro appreciation have worsened the export prospects. Due to multiplier effects, domestic expenditure components were adversely hit.

The inflation forecasts for 2004 are one tenth of percentage point lower than in the previous report mainly due to the changes in the expectations of service prices.

Table 1.5 Comparison of autumn forecast with previous outlooks

	Actual	Autumn 2002		Spring 2003		Autumn 2003	
	2002	2002	2003	2003	2004	2003	2004
GDP	0.8	0.9	2.2	1.2	2.1	0.5	1.5
Private Consumption	0.4	0.5	1.4	1.0	2.0	1.1	1.3
Government Consumption	2.8	1.7	1.2	1.8	1.3	1.9	2.0
Fixed Capital Formation	-2.7	-1.7	2.3	0.9	4.3	-1.8	1.2
Exports	1.5	1.7	8.7	3.3	6.3	-0.5	4.0
Imports	-0.3	0.1	8.6	4.0	7.7	1.4	3.9
Unemployment rate	8.4	8.3	8.6	8.8	9.0	9.0	9.3
HICP inflation	2.3	2.3	1.8	2.4	1.8	2.1	1.7
Industrial Production	-0.6	-0.2	2.6	0.8	2.0	-0.1	1.4

BOX 4: FORECASTING METHODS

Short term forecasts are derived by means of a quarterly macroeconometric model. The model treats the Euro area as a single entity and variables are obtained as Euro area aggregates. The underpinning theoretical framework refers to an open economy with competitive markets. Agents have been aggregated into the sectors of households, firms, government and foreign countries. Within each sector, individuals are assumed to be homogeneous. The goods, labour and financial assets markets are included. The latter covers money, bonds and foreign exchange. Households and firms maximize individual utilities or profits, respectively. Government and foreign countries are broadly exogenous. Due to sluggish prices and wages, output and employment are demand driven in the short run and determined by the supply side in the long run. Short run imbalances initiate wage and price adjustments, leading to interest rate reactions via a Taylor rule. All equations are specified in an error correction form. Point forecasts are extended by confidence bands to quantify the range of uncertainty around the most likely developments. The model is discussed in more detail in the spring 2002 EFN report.

As an exception, forecasts for the HICP are obtained from a disaggregated monthly model for the components of the index, see the spring report for details. This gives a better insight into the underlying causes of inflation. Different stochastic trends in the main price components (food, energy, non energy industrial goods, and services) require a disaggregated framework which is based on leading indicators and non-linear structures. Given the access to the components, total inflation is split into core and residual inflation, where the former is especially relevant for competition on international markets. In the case of sensitivity analysis, the HICP is derived within the model, and regressors include the output gap, import prices, unit labour costs and the money stock. The results of this model are also used to provide an explanation of the determining factors of the inflation forecast.

BOX 5: FORECASTING FISCAL VARIABLES

In this box we compare alternative procedures for forecasting fiscal variables for the largest countries in the Euro area. An important motivation for this exercise comes from the recognition that fiscal forecasts are playing an increasing role in macroeconomic policy decisions. This has been particularly obvious in the European context where, for example, the operating procedures of the Stability and Growth Pact involve reference to forecast values of the fiscal deficit and debt at more than one point.

We consider four different types of forecasts. First, standard ARMA model based forecasts, which perform quite well for several European macroeconomic variables, both on a country by country basis and at the Euro Area aggregate level. Second, VAR based forecasts, since VARs have been often used to model fiscal variables and their interaction with other macroeconomic variables. Third, forecasts from small scale structural models containing three types of variables: macroeconomic indicators, fiscal policy indicators and monetary policy indicators. We consider both national models, along the lines of Favero (2002) who used similar models to study the interaction between fiscal and monetary authorities, and a larger Euro area model, where the national models are linked up together to take into account the implications of the convergence process started by the adoption of the single currency, and in particular the presence of a single monetary policy with different fiscal policies. Finally, pooled forecasts obtained by taking either the mean or the median of the previous three types of forecasts.

We focus on four key fiscal variables, i.e. government expenditures and receipts, the deficit and the government debt, and on three macroeconomic variables, i.e. the output gap, inflation and a short term interest rate, since these are important variables to determine the evolution of the fiscal aggregates. All data are semi-annual and are extracted from the OECD dataset, with details provided in Favero and Marcellino (2003). In the table below we report results for one-step and two-step ahead forecasts, that can be used to derive current year and year ahead forecasts, using the mean square error (MSE) relative to a random walk forecast as the evaluation criterion.

Six main comments can be made. First, for the macroeconomic variables the ARMA forecasts are often the best, with a slightly worse performance at the longer horizon. Second, for the fiscal variables the time-series forecasts in general are the most accurate at the shorter horizon, while more mixed results are obtained at the longer horizon. Third, the good performance of the random walk forecasts emerges also from our analysis, though in general it is possible to find a model that outperforms the random walk. Fourth, in general the structural models do not yield any substantial forecasting gains, and a similar result holds for the OECD forecasts at the shortest horizon. This finding is likely due to the fact that our models are not fine-tuned for forecasting, but it is yet another indication that simple time series models or pooling often yield the best forecasts. Fifth, substantial uncertainty surrounds the forecasts, so that the competing forecasts are seldom statistically different, and the size of the average forecast error for the fiscal balance, perhaps the most interesting fiscal variable from the policy point of view, is rather large. Finally, these results are robust to the adoption of the mean absolute error as the evaluation criterion and to the use of rolling rather than recursive estimation.

Chapter 2

Accession Countries Macroeconomic Outlook and Forecasts

Despite weaker-than-expected growth in the Euro area, Accession countries fared fairly well in 2002 and early 2003

Against the backdrop of continued weakness in growth in the Euro area and other developed markets, the preliminary data on economic performance in the EU Accession countries in the first half of 2003 are quite positive. The most recent data releases seem to suggest that the vast majority of countries in Central and Southeastern Europe either grew strongly in the first quarter of 2003 or continued to recover gradually from the slowdown experienced in 2001 and 2002. While partially reflecting statistical base effects of weaker expansion in early 2002, growth in exports, industrial output, and market services surprised on the upside. In fact, despite planned downgrades of growth prospects in Western Europe this year, we decided to keep our forecasts for 2003 unchanged for most of the markets (Hungary being the only exception among the larger economies), and even raise them in the case of the Baltic States. In most cases, growth in the region has been generated by slightly better export performance that supported manufacturing output, while domestic demand, predominantly private consumption, provided additional support. Wherever possible, national governments continued to support growth with expansionary fiscal policies. Facing rapidly declining inflation, central banks followed suit and aggressively lowered interest rates. The combination of those policies stimulated private consumption and investment.

Among the largest economies, Poland's economy is clearly coming out of stagnation that characterized the last two years. Growth in the second quarter of 2003 accelerated to 3.8% year on year, up from the 2.2% growth reported for the fourth quarter of 2002 and the first quarter of this year. Although the drop in West European demand certainly contributed to Poland's mediocre performance last year (1.4% growth in GDP) and in 2001 (1.0% growth), the slowdown in growth, to a large extent, was self-inflicted, a result of an unfortunate mix of loose fiscal policy and very tight monetary policy. In Hungary, GDP grew 3.3% last year and is currently slowing down, on the back of negative pull from net exports and weaker investment spending and despite a rebound in industrial output growth. We have recently downgraded the GDP growth for this year to 3.0%. In the case of the Czech Republic, revised data show that GDP grew only 2.2% in the first half of this year. Other candidates for EU accession in

2004 also recorded respectable growth rates in 2002 and the first half of 2003 with the Baltics leading the way with year-on-year growth rates exceeding 6.0%. The Baltic States are in great shape. GDP growth of 5.6% (Estonia), 5.9% (Latvia), and 6.7% (Lithuania) was truly impressive last year, and prospects for accession to the European Union in 2004 are fuelling substantial inflows of foreign investment, further contributing to faster growth in exports. In fact, GDP in Lithuania surged by 9.1% year on year in the first quarter of this year, as the country's largest refinery benefited from higher prices of refined petroleum products boosting production and export sales. Slovakia is in the second year of strong economic recovery registering aggregate output growth in the 3.5-4.5% range annually. Slovenian GDP growth is expected to slow this year below 3.0% mainly due to sluggish private consumption. Malta's economic performance rebounded weakly in 2002. Malta's real GDP grew 1.0%, compared with a decline of 1.2% a year earlier, but significantly below the 1995-2000 average growth of 4.6%. All sectors of the economy remained stagnant in 2002, however, with the only signs of a recovery coming from the performance of private and government consumption as well as investment in the construction sector. Despite slowing down in 2002, the economy of Cyprus still managed to grow by 2.0% last year. While the war in Iraq and increased geopolitical tensions have hurt the country's economic prospects early in 2003, the quick fall of the Saddam Hussein regime and the expected more pronounced recovery in the world economy in the remaining months of this year should help the Cyprus' economy pick up speed through the remainder of the year, though economic growth should come in weaker than initially expected.

Private consumption and government spending compensated for weaker export growth

In light of weaker external demand, domestic consumption picked up the slack in 2002 in early 2003. Most governments reacted to the slowdown in economic growth by loosening fiscal strings. This trend was particularly visible in Hungary, where, partly in anticipation of the parliamentary elections in May 2002, the former government offered increases in wages to public-sector employees and continued to fund large infrastructure projects. This fiscal largesse continued in the second half of 2002 as the new Socialist government tried to meet some of its pre-election promises. The governments in Poland and the Czech Republic have also been reluctant to cut budget deficits, although such reductions will be necessary in the coming years if Central European countries are to meet the Maastricht criteria for EMU entry. The sectors pulling performance down relative to the same periods of 2001 were usually industry and construction. The industrial sector has been suffering from slack export demand in key markets and, like the construction sector, from slow growth in investment spending, as enterprise profits have been squeezed. The data releases for the first half of 2003 show

that industrial output is gradually recovering this year on the back of export growth and steady domestic demand.

Inflation staged a major decline over the last 18 months…

Both consumer and producer price inflation staged a major decline in the region over the last 18 months. Mainly due to rapid declines in prices of food products, delays in more aggressive increases in administratively controlled prices, and strengthening currencies, inflation reached all-time lows in majority of Accession countries either in late 2002 or early this year. Among the Central European economies, inflation in Hungary and Slovenia remained more stubborn early this year, but even there year-on-year consumer price inflation has slowly came down. All core inflation indicators have shown consistent declines that continued during 2003. Most major price fluctuations in the region can be tracked the volatile energy and food prices, or changes in administrative prices of services. Even in Slovakia, where year-on-year inflation rates have grown quite strongly in recent months due to increases in taxation and adjustments to administratively controlled prices, the core inflation indicators are under control. After recessions or sharp declines in growth following the 1998 Russia crisis, inflation in the Baltic economies remains very much under control as well. Producer price inflation has fallen even more dramatically, sometimes below Euro area rates. In some cases, most notably in the Czech Republic, declines in producer prices persisted in 2002 and during the first five months of this year, despite large increases in costs of fuels and transportation services earlier this year.

…and is expected to remain subdued in the nearest future

The inflationary pressures in the EU Accession countries have been substantially reduced in the last several months, and the risk of a major resurgence in inflation is rather limited in the short to medium term. In light of the global disinflationary environment and weak growth, most of the governments and central banks in Emerging Europe should have no problem keeping inflation at or close to the current low levels. This is not to say that headline inflation will not rise in some countries. Wage pressures could be much greater in this region than in the Euro area, particularly in the medium term as citizens in the Accession countries demand purchasing power parity closer to that of their new compatriots. Also, the extraordinary decline in food prices in 2001 for most of these countries due to bumper harvests will not likely be repeated going forward. Performance on inflation is projected to be more mixed, coming off exceptional years in 2001 and 2002 that saw consumer and producer price inflation plummeting to record lows. Bumper harvests and relatively strong currencies put downward pressure on domestic prices last year. In many countries in the region, consumer prices are already below Euro area levels. Producer prices contracted in Central Europe in 2002 and are rebounding only gradually in early 2003. With the exception of Hungary, where rapid wage increases constitute

a potential threat in the short run, central banks are quite relaxed about the inflationary outlook for the rest of 2003. In countries where we forecast slightly higher inflation this year, price growth will be driven by one-off increases in taxes and administratively controlled prices of utilities. Core inflation indicators are likely to remain stable or increase only modestly.

Following sharp interest rate cuts in 2001 and 2002, monetary authorities are now more cautious

The monetary authorities started 2003 on a considerably more cautious note. Most of the central banks anticipated that after the stellar performance on inflation in 2002, the situation would likely reverse during this year. As a result, they were reluctant to ease monetary conditions too aggressively to avoid having to hike rates later in the year. Consistency in implementing interest rates policies was considered crucial in providing investors with a transparent environment and in establishing credibility by independent central banks. This consistency was successfully applied in all countries, with the sole exception of Hungary, were questionable decisions on exchange rate policy led to large fluctuations in interest rate in January-June 2003. Among the largest economies, only Poland proceeded with gradual but consistent interest rate cuts during the first six months of this year, reducing them by 25 basis points each month for a cumulative 150 basis points since the end of 2002. Given high real rates at the outset of the year and further declines in inflation, these cuts did little to loosen the monetary conditions. Real rates in Poland still remain at close to 4%, the second highest level in the region after Hungary, and there is clearly more room for future cuts. The monetary authorities in the Czech Republic decided to cut the rates three times, by 25 basis points each time, in unexpected moves in January, June and July. The Czech National Bank has originally considered reducing rates in early June to adjust them to ECB levels, but the market uncertainty surrounding the recent developments in Hungary resulted in a slight delay in the CNB's decision. The July cut surprised almost everybody and brought the Czech rates down to ECB levels. In light of still fragile situation in the external accounts and the rapid increase in headline consumer price inflation as a result of the introduction of large increases in VAT tax this year, the Slovak National Bank opted for keeping the rates unchanged and we expect this policy to continue in the near term. While the appreciation pressures on local currencies have moderated due to uncertainty surrounding the conflict in Iraq earlier in the year, along with domestic political instability in Poland and the Czech Republic as of late, the upward pressures could possibly return later in 2003, providing central banks with further arguments to cut rates.

Against the background of consistent policies elsewhere in the region, the Hungarian case clearly stands out. In mid-

January 2003, with the forint continuing to strengthen, the Hungarian National Bank started to intervene heavily in the foreign exchange market, buying an estimated 4 billion euro in a series of interventions. When the interventions did not weaken the currency sufficiently to stay away from the top end of the 15% fluctuation band, the NBH cut its base two-week deposit rate in two moves over January 15 and 16, lowering it cumulatively by 200 basis points from 8.5% to 6.5%. The bank seemed determined to defend the current fluctuation band at any cost. The bank also restricted the availability of the two-week deposit facility to 100 billion forints during the next session, and widened the overnight rate corridor to 3.5–9.0%. While the NBH scored a bid victory over the "speculators," and booked a nice profit when it gradually sold the euros from the reserves, the damage done to the bank's credibility was difficult to quantify. The bank then kept the interest rate stable for five months, contributing to the stabilization of the foreign exchange markets. Unfortunately, this policy was again crushed by the effects of the bank's unexpected decision to devalue the forint's parity rate on June 4, 2003 at the insistence of the government. Over the next several days, the forint exhibited continued weakness, forcing the NBH to hike its two-week deposit interest rate by a cumulative 300 basis points on June 11 and June 19: from 6.50% to 9.50%. Even that move was not sufficient to prop up the forint, however. The short-term interest rate differential against the European Central Bank policy rate is now at 750 basis point, by far the highest in the region. The Hungarian case is further proof of how delicate is the balance between using interest rates to keep interest rates under control, while at the same time attempting to keep local currencies for appreciating excessively.

The period of radical cuts in interest rates in Central Europe is clearly over. While real interest rates in several countries, most notably Poland and Hungary, are still relatively high, the downward adjustments to nominal interest rates this year will be considerably more moderate than in the past. Gradualism and moderation are in fashion, as local monetary authorities want to avoid volatility in any form, as they slowly prepare for the accession to the European and Monetary Union. With inflation picking up somewhat later this year in almost all countries in the region, and fiscal deficits staying well above set targets for 2003 and 2004, central bankers will need to undertake a balancing act between providing support to investment activity and safeguarding the achievements in fighting inflation. The convergence in interest rates, particularly at the longer end of the curve, should continue without major disruptions.

The state of public finances of four largest Central European candidates for EU membership—Poland, Hungary, the Czech Republic and Slovakia—has deteriorated considerably over

The state of public finances remains the largest obstacle to nominal convergence with the EU

the last two years. The reasons for the widening of state and consolidated budget deficits has differed among the countries. Some of the excessive increases in expenditures stemmed from outlays related to the implementation of pension, health care, and educational reforms. The new members of NATO also found that increased security comes at a cost, as the alliance required upgrades to military installations and equipment. Furthermore, the economic slowdown across the region that hit in late 2001 and early 2002 cut tax revenues below expectations and resulted in short-term liquidity problems for public finances. Finally, the governments in Hungary and the Czech Republic introduced extensive fiscal packages to stimulate their struggling economies through large-scale investments and spending programs.

A snapshot of the current situation is not very rosy. In Poland, the state budget deficit and the consolidated public sector deficit are hovering around 5.0-5.5% of GDP, although both measures of fiscal deficits have been reduced to below 3.0% of GDP in past years. The detailed plan to reform Polish public finances is currently under consideration by the government. The cabinet will have to identify savings on the expenditure side to avoid a negative net effect of new expenditures related to Poland's accession in 2004. Even with the implementation of the plan, that now is questionable due to changed political situation in the country (SLD-UP governing coalition is now a parliamentary minority), the nominal budget deficits are to remain relatively large in 2004–05. Using the ESA-95 methodology and including the flows between the budget and private pension funds, Polish consolidated budget deficit can possibly be reduced to around 3.0% by 2007. In Hungary, the pre-election fiscal largesse of the former Fidesz government and the initial spending by the new Socialist government drove the general budget deficit out of proportion. Most recently, the general budget deficit in 2002 amounted to 1,612 billion forints—more than three times the size of the deficit in the corresponding period last year, double the annual target and 9.2% of GDP according to the ESA-95 methodology. The Hungarian government approved its medium-term economic program that was presented to the European Commission on August 15, 2002, in time for the periodic review of the Accession countries in September. The document states that the cabinet will aim to cut the general government budget deficit to 4.5% of GDP, by another 1.5% of GDP in 2004 and an annual 0.5 percentage point in the later years in order to ensure a smooth entry into the EMU by 2007. In light of the most recent budget numbers, the assumptions of the plan have to be put in question.

In the Czech Republic, the Czech Finance Ministry now appears to realize the need to deal with the country's growing

fiscal deficits. However, even in the Finance Ministry's most optimistic scenario, revealed on December 16, 2003, the consolidated budget deficit would only be cut to 3.7% of GDP by 2006, meaning that the Czech Republic remains the only accession country that is not currently aiming to meet the Maastricht criteria for admission to the EMU by 2006. The pessimistic scenario would provide for a deficit of 4.9% of GDP in that year.

The Slovak Parliament approved the 2003 state budget on December 11, with a planned deficit of 56.0 billion koruna, or 4.85% of projected GDP. State budget revenues are projected at 235.4 billion koruna, up from a targeted 219.9 billion koruna in 2002. The budget sets expenditures at 291.4 billion koruna, including 10.7 billion koruna linked to bank restructuring. In its revised medium-term financial outlook, published on November 22, the Finance Ministry announced plans to lower the public finance deficit to 3.3% of GDP by 2005. In that year, GDP growth is projected to reach 5.1%, with average inflation of 4.9%. The consolidated public debt is forecast to grow to 553 billion koruna by 2005, or 39.1% of GDP, up from an estimated 385 billion koruna (36.2% of GDP) in 2002. According to ESA 95 methodology, the public finance deficit should fall from an estimated 7.8% of GDP in 2002 to 5.0% in 2003 and 3.8% in 2004. That will require a reduction in the debt of health insurance companies, as well as improved collection of tax and customs arrears. Moreover, it will also depend on whether privatisation proceeds are used to repay public debt.

Whereas external imbalances are essentially under control in Poland and the Czech Republic (in the latter case, the current account deficit, although relatively high as percentage of GDP, is fully financed by foreign direct investment flows). On the other hand, the current account deficits in Hungary, Slovakia and some Baltic States widened rapidly, putting central banks on alert to keep domestic demand under control. Foreign direct investment and portfolio investment continue to flow to the EU candidate countries, although at a slower pace, attracted by relatively stable currencies and the projected convergence of local interest rates to Euro area levels.

Looking forward to the remainder of 2003, we projects that the modest average growth in EU accession economies in 2002 will pick up steam some steam this year. The recovery this year will be gradual.

BOX 1: EARLY SIGNALS OF FINANCIAL MARKET CRISES

The signals approach was proposed by Kaminsky and Reinhart (1996) as a early warning system to a financial crisis. The basic idea is to analyse the behaviour of macroeconomic variables during tranquil and crisis periods. In order to assess whether the signal of a variable heralds a crisis looming or whether it predicts more settled times, a threshold has to be determined. It serves as a critical cut-off value that is the borderline between a sustainable and an unsustainable development. To find the threshold a grid search is provided. In particular, a balance has to be struck between setting the threshold too high and missing too many crises or setting it too low, indicating too many crises (false alarms). A variable with a noise-to-signal ratio (NTS-ratio) of less than 1 points to a good indicator as it is issuing more good than bad signals while the reverse is true for a NTS-ratio of greater than 1.

Thresholds for the Central and Eastern European transition countries are taken from Kaminsky et al. (1998) which were calculated for a sample of 20 countries from Western Europe, Asia, and Latin America, see Brüggemann and Linne (2002). This procedure has the advantage that it provides a real test of the prognostic quality of the signals approach as an early warning system as the thresholds are generated out-of-sample.

The best indicators are the Real Exchange Rate vs. the US-Dollar (NTS ratio: 0.15), the Budget Deficit (0.38), the World Interest Rate (0.39), and Foreign Debt (0.42). Only two variables issue more bad signals than good ones: Imports (1.10), and the Ratio of Lending Rate to Deposit Rate (1.50). The threshold for each indicator is applied to the country-specific distribution of an indicator. In other words, the relative threshold is the same for an indicator across countries, but the absolute value is different. For instance, the NTS-ratio for Exports is minimised at the 44th percentile of the empirical distribution. This means for Hungary that Exports are issuing signals if the annual decline is stronger than 2 %, while for Romania this is already the case at a decrease of more than 0.7 %.

The Accession countries were strongly affected by the economic slowdown in Western Europe in the years 2001 and 2002, as many of the indicators crossed their respective thresholds. The situation started to improve in the second half of 2002 as the economic activity in Western Europe started to recover. In particular, as industrial production and exports started picking up again, these indicators often left the critical area and did not exhibit any further violations of their thresholds. Little signalling activity came from the real exchange rate versus the Euro, which reflects the fact that inflation in the Accession countries is converging to the Eurozone level. In addition, strong domestic demand helped to keep the internal indicators like changes in the money supply and bank deposits at a subdued signalling level. Also, the monetary indicators point to a further reduction in the inflation rate for most countries for the second half of 2003. The exception being Hungary where the budget deficit is likely to stimulate domestic demand, which makes a reduction in the inflation rate harder.

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Chapter 3

Promoting Fiscal Restraint in Central European Accession Countries

Introduction

Reducing budget deficits is the biggest challenge for Accession countries

The developments in the area of public finance and the need to sharply reduce budget deficits in the next several years constitute by far the biggest challenge for Accession countries. This challenge is of particular importance for the largest economies in the group, as in their case, the build-up in government spending, especially the last two years, resulted in a public finance position that is not sustainable in the longer term. Poland, the Czech Republic and Hungary (or CE-3) were by far the furthest from meeting the Maastricht criterion for fiscal budget deficit levels (with the exception of Malta). Some of the excessive increases in expenditures stemmed from outlays related to the implementation of pension, health care, and educational reforms. In addition, the economic slowdown across the region that hit in late 2001 and early 2002 kept tax revenues below expectations and resulted in short-term liquidity problems. Finally, the governments in Hungary and the Czech Republic introduced extensive fiscal packages to stimulate their struggling economies through large-scale investment and current spending programs.

Public Finance in the Pre-Accession Economic Programs

Central European governments tend to consider a short term horizon for financial planning

One inherent weakness of public finance planning in Central Europe relates to its short-term horizon. Some attempts at providing a more extended view of the budgetary policy making process have been undertaken, but only quite recently. It appears that the safest way to reduce expenditures gradually and without a dampening of economic growth is the implementation of a system of medium-term expenditure ceilings. Such ceilings, usually applied for periods of between three and five years, apply to spending by all branches of the government including off-budgetary funds. The absence of a

Table 3.1. Poland - Fiscal Developments (Central government budget, percentage of GDP)

	2002	2003	2004	2005	2006
Budget revenues	42.1	43.1	42.9	42.2	42.1
Budget expenditures	45.9	47.2	47.9	46.2	45.5
Deficit (ESA-95)	-3.8	-4.1	-5.0	-4.0	-3.4
Deficit (Current Polish Methodology)	-6.0	-6.1	-5.8	-4.8	-4.0

Source: Ministry of Finance: Pre-Accession Economic Program of Poland, August 2003

No clear planning guidelines in the three biggest economies…

transparent medium-term budget plan and clear planning guidelines makes forecasting budget deficits in CE-3 very difficult. Information on the medium-term public finance plans is included in the Pre-Accession Economic Program filed by candidate countries with the European Commission. The picture transpiring from these plans is not very promising. While Hungary is planning to undertake a massive reduction in government spending to bring the deficit down from 9.2% of GDP in 2002 to just under 3.0% of GDP in 2006, the other two countries seem to take a much more liberal approach to budget expenditure management. As such, the target date of meeting the 3.0% of GDP level is seriously postponed from the original plans, to 2007 in Poland and 2008 or even 2009 in the Czech Republic.

The Polish government plans to cut spending after 2004 but this objective may prove difficult to achieve

The **Polish** government now seems resigned to the fact that the public finance deficit is likely to expand substantially in 2004 before accelerating economic growth permits a reduction in the gap in the subsequent years. Calculated according to the ESA-95 methodology, the public finance gap is set to rise to 5.0% in 2004 before declining gradually to 4.0% in 2005 and below 3.4% of GDP in 2006. While the rise in 2004 reflects the unwillingness of the government to cut expenditures already next year, the forecast for the subsequent years is even more questionable. First, the assumed growth of 5.0% in both 2004 and 2005 and 5.6% in 2006 exceeds even the most optimistic consensus forecasts. Second, the first year of planned reduction falls in 2005, an election year. The plan provides little information in terms of identification of areas where cuts or realignments will be introduced.

The Czech government is set to drive the deficit level down to 4% in 2006

In its pre-accession program the **Czech Republic** government presented a general government deficit forecast which moves from 7.6% in 2003 to 4% in 2006. However, the government openly admits that the lack of any sensible reform in the nearest future may raise the general budget deficit to 8-9% of GDP during 2004-2006. This is mostly due to a persistent tendency for expenditures to grow in real terms. The increases in general expenditure levels are mostly due to growing social expenditures. This expenditure is essentially crowding out all remaining types of expenditure. Proposed fiscal reforms are

Table 3.2. Czech Republic -- Fiscal Deficits (ESA-95, general government, percentage of GDP)

	2002	2003	2004	2005	2006
General government deficit	-6.7	-7.6	-5.9	-4.8	-4.0
Central government deficit	-6.7	-7.3	-5.3	-4.3	-3.6
Local government deficit	0.1	-0.2	-0.5	-0.4	-0.4
Social security funds	-0.1	-0.1	0.0	0.0	0.0

Source: Pre-Accession Economic Program, August 2003

very gradual compared to those suggested in Hungary and even Poland. The reform if consists of a combination of measures on both the revenue and the expenditure sides of the general government budgets including a reform of the pension system as well as cutting sickness benefits.

The **Hungarian** government stated the goal of joining the Euro at the earliest possible date, and the fulfilment of the convergence criteria has high priority on its agenda. The government forecasts that following a 4.8% of GDP budget deficit in 2003, the deficit would be then cut by 1 percentage point of GDP in each of the subsequent two years, thus dropping to 2.8% of GDP in 2005. It will be then reduced to 2.5% in 2006. The Hungarian government is ready to admit that an overshooting of this year's target is likely. The excessive spending might be combined with an unexpected reduction in tax revenues not only in 2003, but also next year. According to the plan, if the deficit in 2004 runs the risk of exceeding the target, expenditures will be cut to implement necessary corrections.

The Hungarian government is committed to reducing the deficit to 2.8% in 2005, cutting expenditures if tax revenues shrink in 2004

Scenarios

While the government scenarios could be described as relatively optimistic, at least three other scenarios can be developed.

The "Official" Scenario

Scenario based on official forecasts

Among the three government baseline scenarios, the Hungarian approach is clearly the most radical in terms of timing and severity of expenditure cuts in the first several years. It is also the plan that brings the deficit to target levels of below 3.0% of GDP in the shortest amount of time. On the other hand, the Czech government's baseline seems overly pessimistic with respect to growth prospects for the Czech economy. This does not change the opinion, however, that the fiscal problems in this country are by far the most severe.

Table 3.3. Hungary -- Fiscal Developments (General government, percentage of GDP)

	2002	2003	2004	2005	2006
Budget revenues*	44.5	43.0	44.5	44-44.5	43.5
Budget expenditures*	53.7	47.8	48.3	47.0	46.0
Deficit	9.2	4.8	3.8	2.8	2.5
* of which: EU transfers	0.2	0.4	0.5-1.0	1.0	1.0

Source: Pre-Accession Economic Program of Hungary, August 2003

Scenario based on a realistic assessment of each country's ability to curb government spending

The "Baseline" Scenario

This scenario reflects our current assessment of the economic outlook for the CE-3 economies and our view of the most likely scenario of fiscal adjustments in the coming years. This scenario is *de facto* roughly based on similar assumptions as those used by the government scenario, but is stripped of the overly optimistic assumption as to the governments' ability to reduce deficit spending in the current political and social environment. It also reflects different growth and inflation trends that are assumed in our forecasts.

The "Expansion/Austerity" Scenario

This hypothetical scenario (with assumed probability of no more than 10%) incorporates higher spending in the initial period of the forecast. The resulting overshooting of the deficit target, when compared with the official scenario, is then "corrected" in the years 2005-2006 by application of very restrictive spending control policies that freeze most of the expenditure categories at the previous year's real levels.

Scenario based on a disciplined approach to reforms

The "Fiscal Prudence" Scenario

This most desirable approach to fiscal management is also the least likely in terms of implementation. It requires a disciplined approach to reforms, setting up a system of medium-term limits on certain expenditures and an almost complete elimination of other categories of expenditures by incorporation of off-budgetary funds into the main budget, a program of annual savings on the ministerial level with respect to variable expenditures. Application of a combination of increased taxes on VAT and excise taxes is matched with a more liberal application of tax cuts for individuals and businesses.

POLAND - Fiscal Scenarios	2003	2004	2005	2006
OFFICIAL SCENARIO				
GDP (annual growth in %)	**3.0**	**5.0**	**5.0**	**5.6**
General budget balance (% of GDP)	**-4.1**	**-5.0**	**-4.0**	**-3.4**
BASELINE				
GDP (annual growth in %)	**3.0**	**3.9**	**4.3**	**4.0**
General budget balance (% of GDP)	**-4.1**	**-5.5**	**-4.5**	**-4.0**
EXPANSION/AUSTERITY SCENARIO				
GDP (annual growth in %)	**3.0**	**3.9**	**4.3**	**3.8**
General budget balance (% of GDP)	**-4.1**	**-5.8**	**-4.8**	**-3.8**
FISCAL PRUDENCE SCENARIO				
GDP (annual growth in %)	**3.0**	**3.9**	**4.4**	**4.2**
General budget balance (% of GDP)	**-4.1**	**-5.1**	**-4.5**	**-3.8**

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CZECH REPUBLIC - Fiscal scenarios	2003	2004	2005	2006
OFFICIAL SCENARIO				
GDP (annual growth in %)	**2.4**	**2.8**	**3.2**	**3.6**
General budget balance (% of GDP)	**-7.6**	**-5.9**	**-4.8**	**-4.0**
BASELINE				
GDP (annual growth in %)	**2.5**	**3.5**	**4.1**	**4.4**
General budget balance (% of GDP)	**-8.3**	**-5.8**	**-4.6**	**-4.0**
EXPANSION/AUSTERITY SCENARIO				
GDP (annual growth in %)	**2.5**	**3.5**	**4.1**	**3.8**
General budget balance (% of GDP)	**-8.3**	**-6.1**	**-4.8**	**-3.8**
FISCAL PRUDENCE SCENARIO				
GDP (annual growth in %)	**2.5**	**3.5**	**4.1**	**4.4**
General budget balance (% of GDP)	**-8.0**	**-5.4**	**-4.5**	**-3.8**

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HUNGARY - Fiscal scenarios	2003	2004	2005	2006
OFFICIAL SCENARIO				
GDP (annual growth in %)	**3.5**	**3.5**	**4.0-4.5**	**4.5-5.0**
General budget balance (% of GDP)	**-4.8**	**-3.8**	**-2.8**	**-2.5**
BASELINE				
GDP (annual growth in %)	**3.2**	**3.9**	**4.0**	**4.0**
General budget balance (% of GDP)	**-5.2**	**-4.4**	**-4.0**	**-3.8**
EXPANSION/AUSTERITY SCENARIO				
GDP (annual growth in %)	**3.2**	**3.9**	**4.0**	**3.6**
General budget balance (% of GDP)	**-5.4**	**-5.1**	**-4.4**	**-3.8**
FISCAL PRUDENCE SCENARIO				
GDP (annual growth in %)	**3.2**	**3.9**	**4.1**	**4.0**
General budget balance (% of GDP)	**-5.2**	**-4.3**	**-3.2**	**-3.0**

BOX 1: EMERGING EUROPE COUNTRIES - MODEL DESCRIPTION

We use discrete, general equilibrium growth models for all Accession countries from the region. GDP is forecast by projecting and then summing net output from the various key economic sectors separately (industry, agriculture, services, construction, trade, etc.). Growth in value-added in industry is extrapolated from monthly output data to forecast industrial output for the upcoming 24 months. Forecasts for the ensuing few years of growth are based on a recovery scenario. Because large shares of the labour force and capital stock are underutilised at this point due to the transition, industrial output growth can be very strong in the initial years of the recovery without much additional investment as idle assets are re-employed. After industrial output approaches previous peaks, the industrial sector becomes more "normal." Time series and cross-country analysis are employed to project rates of growth in industry, services, and agriculture as well as to project structural changes in the economies. Activity in the trade sector is driven by personal consumption. The output of the construction sector is driven by changes in gross investment in fixed capital.

Aggregate demand is projected by taking the difference between forecast GDP and the current account. Investment within aggregate demand is forecasted using historical and comparative statistics on the share of investment in GDP in the country itself and in Western Europe to establish an equilibrium share of investment in GDP. Because in some countries, such as Russia, investment is currently at fairly low levels by historical or comparative measures, investment levels need to rise in these countries to reach the equilibrium level. A lagged adjustment model is used to increase the share of investment toward the equilibrium rate. Government consumption is forecast based on policies toward government spending. In general, spending on government services has been rising more slowly than personal consumption during the transition; policy statements indicate this trend will continue. Personal consumption is the residual category of aggregate demand, after investment and government consumption are specified. The forecast for personal consumption drives the forecast for retail sales. Labour productivity growth determines changes in real wages.

A separate module is used to forecast trade flows. In these models, export growth is driven by projected demand growth in key export markets, such as the EU, as well as overall growth in world demand. In addition to export volumes, these models also explicitly incorporate major changes in world commodity prices into the forecasts of overall trade flows. Import demand is determined by changes in aggregate output subject to a financing constraint. Import demand, in turn, generates current account balances, which generate changes in gross and net debt and hence future debt servicing.

Inflation is projected on the basis of exchange rate policy, fiscal and monetary policy, and a trend rate, which reflects inflationary expectations. The latter are assumed to be partially adaptive, i.e., expectations of future inflation within a country is, in part, driven by the experience of the recent past. Exchange rate policy in most of these countries is directed toward eventually stabilizing the exchange rate around the euro or dollar. However, the ability of the central banks to achieve this policy goal is determined by monetary policy and the behaviour of the current account. Monetary policy, in turn, is tightly constrained by fiscal policy. Current commitments and past performance drive our assumptions concerning fiscal policy.

The U.S. Bureau of the Census periodically projects population growth for most of the countries of the world by gender and age. Our demographic forecasts were based on these projections. Unfortunately, the U.S. Census forecasts are not always based on the most recent country data. Consequently, we needed to adjust the U.S. Census figures for the more accurate, more recent figures published by the national statistical offices of these countries.

Chapter 4
Characterising the Business Cycle for Accession Countries

In this paper, we apply the business cycle dating algorithms developed for, and reported on, in a previous report (that of Autumn, 2002) of the *European Forecasting Network,* to data for the Accession countries (specifically, for the eight countries: Poland, Hungary, the Czech Republic, Slovakia, Estonia, Latvia, Slovenia and Lithuania).

The GDP data sample is short and has a structural break…

An immediate difference, in dealing with these countries as opposed to those of the Euro area, to which the dating algorithms were applied in the earlier report, is that the available data sample is comparatively short and is marked at its beginning by a structural break as the countries concerned emerged from their "transition recession". In many cases the recovery from this transition, when it came, proved to lead onto a phase of speedy and uninterrupted growth. This makes the phenomenon of the *classical* cycle, in which peaks are succeeded by *absolute* declines in activity, of comparatively little interest, especially where economic activity is identified with GDP, the availability of which is less than that of industrial production.

…so we choose to work with industrial production

For this reason the paper concerns itself a good deal with industrial production data. An important technical feature of the paper is the modelling that is undertaken to take care of the seasonal behaviour of these series, which are available at a monthly frequency. The modelling follows a variant of the "classical" structural model according to which a time series may be viewed as the sum of a trend (including a cyclical component), a seasonal component and calendar effects. In the case of the accession countries effecting this decomposition is complicated by continuing structural change. After identifying and removing the seasonal component the dating algorithm is then applied to the deseasonalised industrial production series to yield a chronology of the classical cycle.

Industrial production data are not only available for a longer period than the GDP series, but are also more cyclical. In contrast to the single (or no) classical cycles recorded on GDP data, three peaks and troughs are now revealed for the Czech Republic, Slovakia, Hungary and Poland and as many as four for Slovenia and Latvia over the period (respectively) from

Economic cycles are identified in the IP series for six countries

Larger output loss in recession compared to the Euro area

1989 to 2002 and from 1980 to 2002. Data availability for Estonia and Lithuania is less extensive and only one complete cycle (trough to trough) is identified for these two countries in the period from 1995 to 2002. The corresponding "stylised facts" are not dissimilar to those for the Euro area average (taken over the period since 1993) – for example, the average time spent in expansion, at 77% of the whole period, is a bit less than that of the Euro area (82%), but the loss of output sustained in recession is larger and there is a considerable dispersion of experience among the enlargement countries (as there is among the Euro area countries). In particular, the Baltic States seem to have sustained larger output losses as well as more time spent in recession. A contribution of the techniques used to deseasonalise the data is to permit some examination of the uncertainty that should be associated with the identification of turning points purely on grounds of doubt about the seasonal adjustment.

Deviation cycles are also investigated

Larger amplitude compared to the Euro area

Given the short data span and the structural change that the countries have experienced, deviation cycles seem likely to be of more interest than the classical cycle – though, clearly, not easy to identify with certainty. Here the deviation cycles are identified by applying the dating algorithm to the output gap, where the output gap is obtained by applying the well-known Hodrick-Prescott filter, following the example set in earlier work on the Euro-Area business cycle. Both GDP (Figure 1) and industrial production data (Figure 2) are used, the greater availability of the latter making for a stronger emphasis on results achieved by using these series. Comparison with the Euro area as a whole (and with Germany, Austria and Italy separately) highlights the fact that the cycle in the enlargement countries has a larger amplitude.

Synchronicity of business cycles between the Euro area and Hungary, Poland

The synchronicity of business cycles among the enlargement countries is examined by using the tools of cross-correlation coefficients and concordance indices. The latter are applicable where the cycle is identified to the point of the phase of the cycle (expansion, recession), without there necessarily being a continuous series of data representing the cyclical deviate to which to apply a correlation measure. In the exploration of synchronization data for the Euro area and for Germany, Austria and Italy are again involved. Focusing on the cross-correlation coefficients measured on the deviation cycle from 1993 to 2002, the main findings are that there is quite a high correlation between the Baltic States (as well as between them and the Czech Republic), between the limited set of Euro area countries considered and, as well, between Hungary and Poland separately and the Euro area countries. The concordance-based measures are less clear-cut.
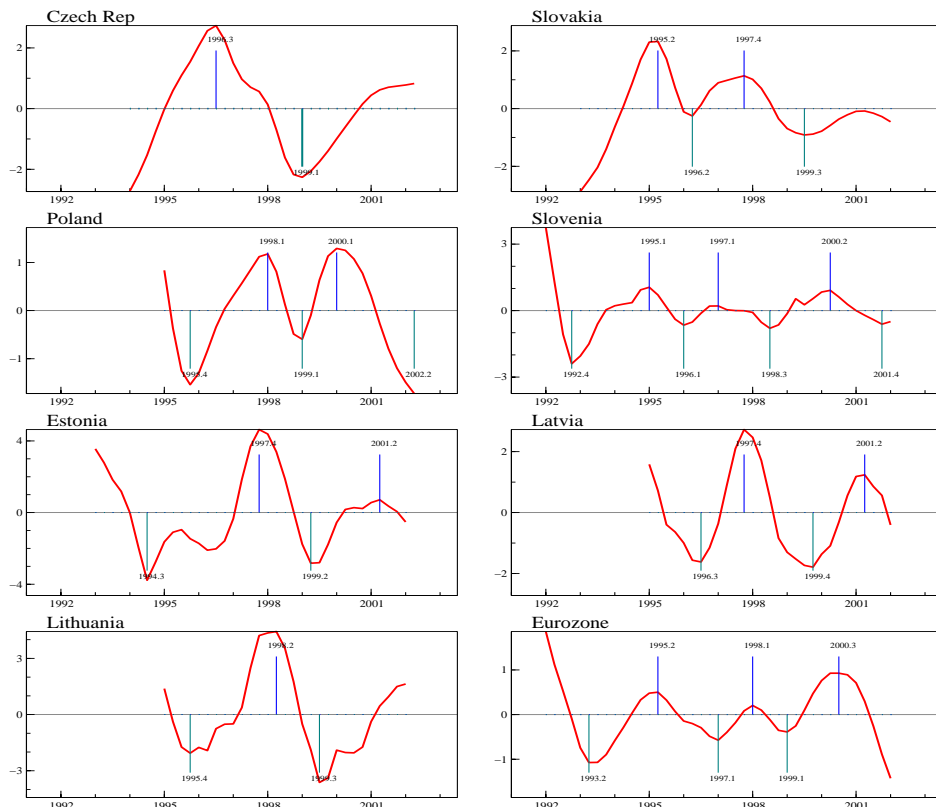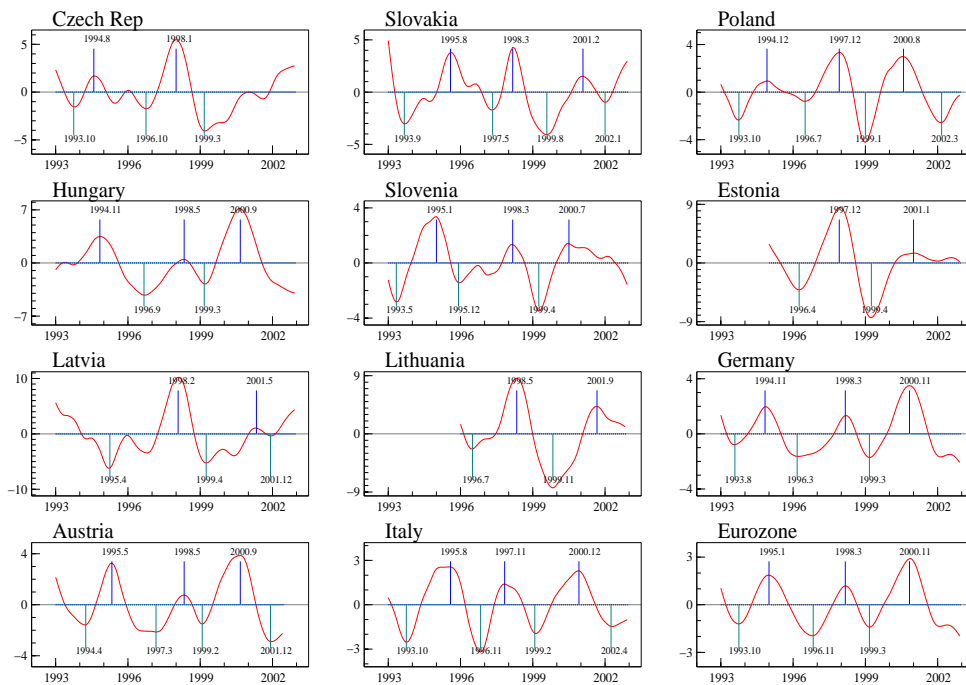
Figure 4.1. Quarterly GDP – Deviation Cycles

Figure 4.2. Monthly Industrial Production – Deviation Cycles

We compare the degree of convergence found in previous enlargements

Lower degree of convergence in the present enlargement…

…but no conclusive evidence against the acceptability of a single monetary policy to the accession countries

A particular interest in business cycle synchronization arises from the concerns of optimal currency area (OCA) theory in relation to the acceptability of a single monetary policy to the members of a currency union. Given the salience of this issue in relation to the enlargement countries, for which the "*acquis communataire*" specifies a move in the direction of participation in the EMU, the paper supplements the examination of synchronization in two ways. First, it introduces a focus on recent developments by computing weighted rolling window correlations and, second, it makes a comparison with the degree of convergence attained between previous groups of "enlargement" countries and the then existing core. There are four previous enlargements in this exercise – the first involving the UK, Denmark and Ireland (in 1973), the second involving Greece (in 1981), the third the Iberian countries, Spain and Portugal (in 1986) and the fourth the enlargement to bring in Austria, Sweden and Finland (in 1995). What emerges from this type of comparison is that the present enlargement – with the exceptions of Poland, Hungary and Slovenia - offers a lower degree of convergence (lower correlations) than was available in previous enlargements.

The prospect of application to participate in EMU is of course not an immediate one, and we conclude by noting that other traditional (and newer) OCA criteria are well-fulfilled in the case of the current Accession countries – most notably the criterion pertaining to trade (where higher trade is a positive indicator for monetary union) and monetary stability (where the prospect of joining a block with higher credibility and reputation is positive). This issue is examined in another chapter of the report.

A final note of caution is also imparted in relation to the interpretation of the business cycle evidence in the light of the countries' short post-transition history and their heady development and ongoing structural change.

Chapter 5

Exchange Rate and Economic Shocks in Accession Countries

Assessing the synchronicity between Euro area and Accession countries business cycles would be useful to predict the short-term effects of joining the EMU…

…but little academic work has been done due to the lack of historical data

During the last years, different studies have focused on the effects of the accession of Central and Eastern European Countries to the European Monetary Union. Nowadays, accession countries have no choice: once they are part of the European Union, their goal is to join the euro. In fact, after they accede to the EU in 2004, they will have to consider their timetables for joining the Monetary Union and they will likely be participating in ERM II as soon as possible. This period will be a time of high vulnerability to financial instability. As they will have only limited exchange rate flexibility in a context of full capital mobility, they may experience substantial capital outflows that can seriously damage the dynamics of their integration in the European Union. Recent works by Begg *et al.* (2003), Eichengren (2003) and Eichengreen *et al.* (2003), among others, have considered this issue.

An early adoption of the euro would be also associated with the loss of autonomous monetary policy, whose costs depend to a certain extent on the similarity between business cycles in the Euro area and acceding countries, as mentioned in the previous chapter. Only a few studies have considered this issue. One of the reasons may relay on the shortage and instability of economic data-series in accession countries. In fact, as Fidrmuc (2001) states, some of these studies review periods of seven years or less, implying that only a single business cycle is covered by the available data when the available time period needed to establish such synchronization should be higher to provide reliable results. On the other hand, the euro can be expected to yield substantial gains over a longer horizon.

In this chapter, we focus on a partial analysis of the problems that Accession countries are facing in their road to the Monetary Union. In particular, the objective of this chapter is to assess if the recent economic evolution of these countries have put them in a better or a worst position to join the euro. In this sense, it extends previous works in four directions. First, it uses longer time series, In fact, the availability of data for the period 2000-2002 provides useful information to test if the slowdown of the EU economy has changed the similarity of business cycles between countries in the Euro area and the

We use longer time series and compare Accession countries both to Euro area and Non-Monetary Union countries

Accession countries have used a variety of exchange rate regimes in the last decade

Exchange rate volatilities vary considerably across countries…

accession countries. Second, it compares the most recent evolution of accession countries with the situation of Euro area countries in the years before the currency unification and with the situation of the three European Union countries that have not joined the Monetary Union: Denmark, Sweden and the United Kingdom. Special attention is also paid to the evolution of country groups. Third, three different structural VAR models are applied in order to check the sensibility of the results to the considered econometric methodology. And, last, it also tries to shed some light on whether the symmetry of shocks has increased over time.

As a starting point, it is important to highlight that nowadays accession countries use different exchange rate regimes, nearly covering the whole spectrum from fixed exchange rates to free floating. In fact, in the early nineties, at the beginning of their transition period they opted for different exchange rate regimes (see table 1). Although most of them chose some kind of fixed arrangement, others like Slovenia opted for more flexible solutions. During the following years, most of them have moved towards more flexible exchange rate arrangements. For example, the Czech Republic and Poland have fully flexible exchange rates. However, this fact points to a certain contradiction, as these movements are just in the opposite direction than the supposed entry into the euro.

In this context, a first possibility to assess the position of the accession countries[1] to join the euro consists in analysing the evolution of their exchange rate variability in their transition towards the euro (this line of reasoning would be related with the Maastricht criteria regarding exchange rates). With this aim, we have calculated the standard deviation of the growth rate of the monthly exchange rate between each country and the Euro area. According to the results, the countries with the lowest levels of volatility are Estonia and Slovenia while the ones with the highest levels of volatility are the Czech Republic and Poland. Of course, these results are clearly related to their different exchange rate systems. But, is this volatility too high? In order to establish a benchmark, we have also calculated the values of the exchange rate variability against the euro for Euro area countries[2] between 1985 and 1998 and for Denmark, Sweden and the United Kingdom for two different periods: 1985-1998 and 1994-2002 2. The results show that, as a group, Euro area countries have a higher volatility than non Monetary Union countries for the same period and than Euro area countries during the years before the adoption of the euro. But, however, the values for some of the individual accession countries were not far away from the values of some Euro area countries such as Italy or Finland

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[1] Malta and Cyprus are not included in the analysis due to data restrictions.

Table 5.1. Official exchange rate regimes since 1994

Czech Republic		Estonia	
1994-1996	Basket Peg 65% DEM, 35% USD Band +- 0.5%	1992 -	Currency board Ecu/Euro
1996-1997	Basket Peg 65% DEM, 35% USD Band +- 7.5%		
1997-2001	Managed float		
2001-	Free float		

Hungary		Latvia	
1994-1996	Crawling peg 70% ECU, 30% USD Band +-2.25%	1994-	Fixed Peg SDR* Band +-1%
1997-1999	Crawling peg 70% DEM, 30% USD Band +-2.25%		
2000-2001	Crawling peg 100% Euro Band +-15%		
2001-	Fixed Peg Euro Band +-15%		

Lithuania		Poland	
1994-2002	Currency board USD	1994-1995	Crawling peg 45% USD, 35% DEM, 10% GBP, % FF, 5% SF Band +-1%
2002-	Currency board Euro	1995-1998	Crawling peg 45% USD, 35% DEM, 10% GBP, % FF, 5% SF Band +-7%
		1998-1999	Crawling peg 45% USD, 35% DEM, 10% GBP, % FF, 5% SF Band +-10%
		1999-2000	Crawling peg 45% USD, 55% EUR Band +-7%
		2000-	Free float

Slovenia		Slovak Republic	
1994-	Managed Floating	1994-1996	Basket peg 60% DEM, 40% USD Band +-1,5%
		1997-1998	Basket peg 60% DEM, 40% USD Band +-7%
		1998-	Managed floating

…and are larger, on average, for Accession than for Euro area countries before joining the Monetary Union…

…even though the gap is narrowing

The ERM-II may be compatible with most current exchange rate regimes …

…although this period will be highly vulnerable,

and unilateral "euronization" is not a possibility

Banking systems should be closely monitored

(although it is important to take into account the effects of the speculative attacks of 1992-1995 for some Accession countries). Moreover, if we look at the evolution of the exchange rate volatility during the last years, in general, it has decreased. This reduction has been more relevant in Slovenia and Hungary, but also in the Czech Republic, where the exchange rate system has changed from fixed to free floating.

Summarising, not all the Accession countries are in the same position in their transition from their exchange rates systems towards the euro and although some of them have moved towards more flexible exchange rate arrangements (which is in part a certain contradiction), the exchange rate volatility towards the euro has not increased substantially. In any case, it is important to take into account that until they join the EU, there are no restrictions on the choice of the exchange rate regime although once they enter, they will not be given the possibility to opt-out. For this reason, a key issue during the next months is to design an effective strategy for accession countries in their road to Monetary Union taking into account the peculiarities of each of these countries. However, it is also important to consider that ERM-II may be fully compatible with most current exchange rate regimes, from currency boards to relatively wide bands. The problem is that, as a fixed but adjustable regime, the transition period will be a time of high vulnerability to financial instability because of the potential pressure of large capital flows. In this context, as Begg *et al.* (2003) point out, the dangerous combination of high capital mobility and an intermediate exchange rate peg could be avoided if Accession countries were to unilaterally adopt the euro without becoming full members of the Euro area. This makes sense for countries that are seeking fast entry into the Euro area, and which have achieved fiscal responsibility, price stability and a sound banking sector, but the Maastricht Treaty avoids this possibility. Taking this into account, the risk of experiencing currency crises is real. However, if the accession economies continue to internationalise their banking systems and efficient monitoring mechanisms are implemented, the danger of such banking problems should be reduced considerably (Eichengreen and Ghironi, 2001).

Another aspect that should be considered when analysing the position of accession countries towards the euro is the degree of cyclical synchronicity, as it indicates that the single monetary policy will be broadly appropriate for all union members. In this sense, when comparing economic developments of these countries with those in the Euro area, one has to take into account that accession countries are involved in a transformation process that leads to a high

[2] Austria, Greece, Ireland, Luxembourg and Portugal are not included in the analysis to keep homogeneity with later sections, where they are excluded due to data restrictions.

number of structural changes in their economies. Moreover, data quality for some of the Accession countries before these years cannot be comparable to that in Euro area countries. For this reason, the time period considered for the analysis here starts in 1993 (or 1995) and the countries considered are the following: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic and Slovenia. Regarding EU countries, we analyse both Euro area and Non Monetary Union countries, with the exceptions of Austria, Greece, Ireland, Luxembourg and Portugal due to data restrictions. The calculations in this chapter use quarterly data obtained from the OECD Main Economic Indicators, the IMF International Financial Statistics and the European Central Bank data set and different national sources.

As a first look to the analysis of business cycle synchronicity between accession countries and the Euro area, we can plot the standard deviation of growth and inflation between 1994.I and 2002.IV (figure 1). It seems clear that the fluctuation of inflation and growth rates was higher in accession countries than in Euro area countries. These results provide evidence that there are considerable differences in the business cycles between accession countries and Euro area countries, confirming the findings in the previous chapter with a different methodology.

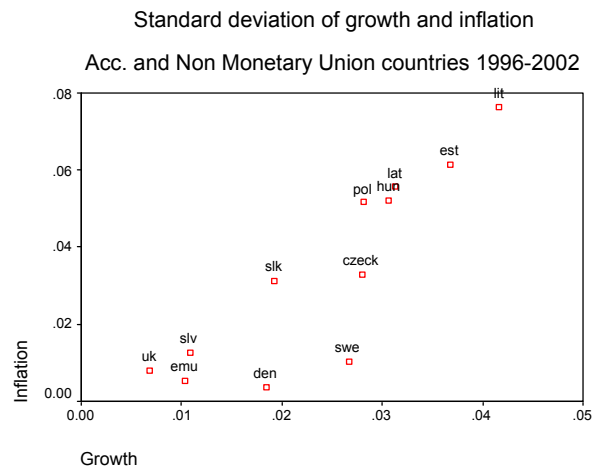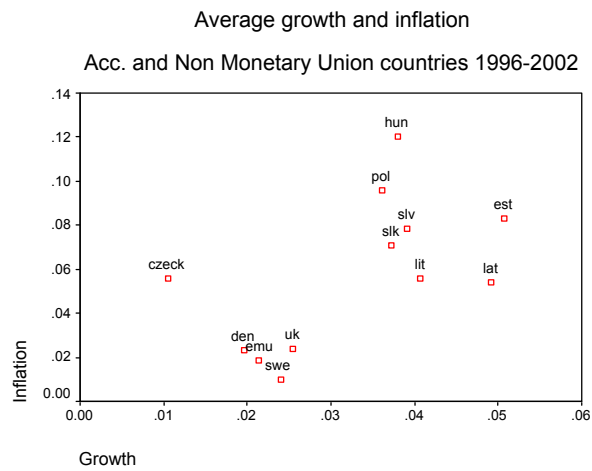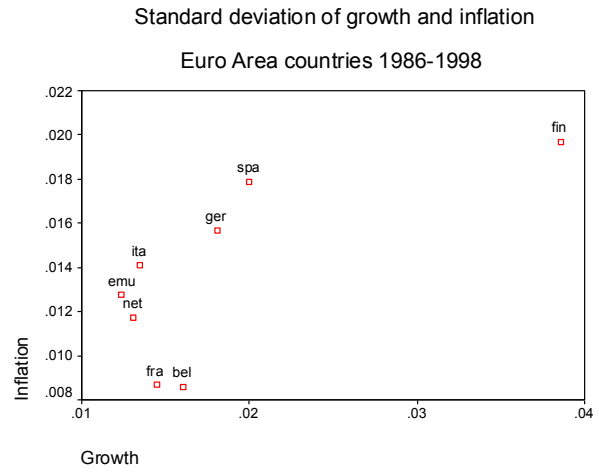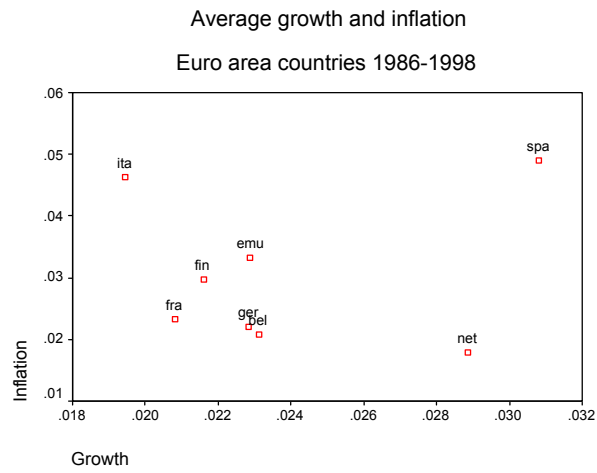**Inflation and GDP growth rates fluctuate more in the CEEC than in the EU**

Looking at the cross-correlations between real GDP growth rates and inflation for accession countries and Euro area aggregates, during the last ten years there is a clear increase in the values of the correlations for the Czech Republic, Estonia and the Slovenia, while the situation has worsened for Hungary, Lithuania, and the Slovak Republic. In fact, on average, the results are still below the values of other EU countries and, moreover, using a five year rolling window the situation has worsened during the last years for nearly all countries. It seems that the economic slowdown of 2000 to 2002 has affected the synchronisation of accession countries with the Euro Zone. However, these differences between countries and time periods can arise either from differences in the shocks that they have experienced, or from differences in the responses to these shocks. The above correlation analysis cannot discriminate between the two aspects. For example, for some countries, the second period lower correlations can be due to a strong discipline among the considered countries in terms of monetary policy (a self-imposed restriction on adjustment mechanisms) rather than to an increase of asymmetric shocks.

Cross-correlations indicate that convergence has lost pace in the last three years…

In order to distinguish whether the differences in business cycles synchronicity between countries and time periods arise because of differences in shocks or differences in the responses

Figure 5.1. Growth and inflation in Euro area, Non Monetary Union countries and Accession countries

Average growth and inflation

Euro area countries 1986-1998

Standard deviation of growth and inflation

Euro Area countries 1986-1998

Average growth and inflation

Acc. and Non Monetary Union countries 1996-2002

Standard deviation of growth and inflation

Acc. and Non Monetary Union countries 1996-2002

Note: Axis scales are different in both sets of figures.

Please note that the axis ranges in the bottom figures are higher than the ranges for the top ones.

…but this may be due do asymmetric shocks or different reactions to symmetric shocks

to these shocks, we consider different Structural VAR models:

- First, the Bayoumi and Eichengreen (1992, 1996) model where two different kinds of shocks are considered: shocks that affect the demand curve (for example, due to monetary or fiscal policy changes) and shocks that affect the supply curve (for example, technological changes). Using appropriate identifying assumptions, the series of demand and supply shocks can be easily estimated from a structural bivariate VAR on output and prices.

- Second, as the Bayoumi and Eichengreen model ignores the potential role of policy in creating shocks (see Artis, 2003), two different extensions of the model have been specified where two different types of demand shock have been considered: Real demand shocks (resulting for example from increases in private sector spending or government expenditure) and nominal demand shocks (resulting from shocks to the stance of monetary policy or from shocks arising in foreign exchange markets). The first extension of the model includes the evolution of real interest rates while the second includes the evolution of real exchange rates. In both cases, further restrictions are introduced to identify real demand, nominal demand and supply shocks from the residuals from these trivariate VAR models.

We distinguish between real and nominal demand shocks

The main findings can be summarised as follows: Similarly to previous studies (Fidmruc and Korhonen, 2001 or Lättemäe, 2003), the structural shocks (both supply and real demand shocks) are more asymmetric in candidate countries than in current Euro area members. However, there are some countries that are more ready to adopt the euro from this perspective. For example, if we look at supply shocks, the values of the correlation coefficients for Hungary, Poland, the Czech Republic and Estonia are quite high. And, in terms of real demand shocks the most recent years, only Latvia, the Slovak Republic and Slovenia show negative values of the correlation coefficients.

Structural shocks are more asymmetric in Accession countries

Some interesting results emerge also from the analysis of symmetries in monetary shocks when using the real interest rate specification. It seems that monetary shocks in most candidate countries are more correlated with Euro area countries than supply shocks or real demand shocks. This result, also found by Lättemäe (2003) for the Baltic countries, is especially interesting due to the actual differences between the exchange rates systems and levels of financial integration. Moreover, it shows that monetary policies in accession countries are closely influenced by monetary conditions in the

Higher correlation of monetary shocks compared to supply or real demand shocks

The flexibility of real sector and labour markets will be essential

Euro area. If this is the case, then the costs of loosing monetary independence when joining the euro would be reduced.

In any case, since on average correlations are still far away from the values of the EMU countries, a flexible real sector and labour markets will be essential for the sustainability of joining the euro.

Chapter 6
The Impact of Infrastructure on Regional Economic Growth: Some Indications for the EU Enlargement

The effect on growth of new investment in infrastructure is not clear once the stock has reached a certain level

Notwithstanding the importance that EU ascribed to infrastructure, it was more a matter of conviction than the result of analytical studies; indeed, the real effects of these investments are far from being clearly identified. Most studies analysing the infrastructure impact on regional growth show that the relationship between the two is positive. However, the public capital elasticity estimated in a Cobb-Douglas function, which is the most common specification in these studies, is sometimes too large to be credible (Aschauer, 1989). Consequently the results have been partially discredited. For instance, Holtz-Eakin (1994) and Garcia-Milà *et al.* (1996) criticize the initial findings on positive infrastructure effects in the US case on econometric grounds, presenting estimations of regional production functions that use standard techniques to control for state-specific characteristics, revealing essentially a zero role for public capital. Therefore, although there is consensus on the need for a certain level of infrastructural provision, once this level is reached, different results and conclusions are obtained.

Here the focus is on the spatial dimension of this effect

Positive spillovers caused by the connectivity of transport networks

Negative spillovers in case of factor migration

This chapter analyses the spatial dimension of infrastructure impact on regional economic growth. We assume that the effect of infrastructure on industrial productivity depends on the various types of public infrastructure, so that local infrastructures would enhance economic activity in the area where they are located, whereas transport and communication infrastructure may produce both benefits in the area where they are located and spillovers to other regions. These spillovers can be either positive or negative. The positive spillovers would be caused by the connectivity characteristic of most transport public capital. This network characteristic supposes that any piece of a network is related and subordinate to the entire network, increasing the interrelationships between regions. Hence, part of the infrastructure benefits (if they really exist) would fell beyond the limits of the region where it is located. Alternatively, the negative spillover would arise from factor migration, in the sense that transportation infrastructure in one region could have a negative effect in those other regions that are the region's closest competitors for labour and mobile capital. In this chapter we check which of these two hypotheses on the spillover effect of transport infrastructure is prevalent.

The empirical analysis in order to address the above question will rely on the effect of the public capital stock on the industry of Spanish regional economies (NUTS III level) during the period 1965-1997.

We analyse the evolution of regional infrastructure in Spain to gain new insights on the role public investment may play in the Accession countries

It is worth remembering that both the level of infrastructure endowment and the level of economic activity in most Spanish regions in the early sixties were far below that of other European economies and that both figures have undergone a significant increase during the period under consideration, especially after the accession to the EU. In this sense, we believe that the previous experience of Spain can provide guidance as to the role that public capital may play in explaining economic growth in the Accession countries. To a certain extent, it has been argued that admission countries stand, relative to the EU15 average member, in the same position in which about twenty years ago, Greece, Portugal and Spain stood in relation to the then older members of the EU. Boldrin (2003) upon a number of aggregate statistics (GDP per capita, labor productivity, share of employment in agriculture and openness of the economy) demonstrates that the macroeconomic conditions in Accession countries are similar to those of previous entrants and the gains from joining the EU will be probably comparable to those experienced by the previous three newcomers. Even some cultural and historical features resemble very much those of Spain at the time of accession to the EU: about a decade had elapsed since the previous regime collapsed and a number of changes had already been implemented. Among the differences of the present environment are that current level of economic integration within the EU, which is much higher than it was in the eighties, and the fact that the Accession countries will enter a larger and richer market than the early entrants did (Boldrin and Canova, 2003). These features should, in any case, benefit Accession countries and should facilitate their integration. Another potential difference consists on the fact that the level of infrastructure stock in the present Accession countries may differ from the level of public capital in Spain at the time of accession. Due to the lack of monetary data on infrastructure stocks in the Accession countries, we can not conclude whether this is a real difference or not. But we know that the level of infrastructure endowment in the Spanish case at the moment of accession had considerable increased if compared with the levels at the seventies and early eighties so that all the benefits coming from the infrastructure investment effort in this country were not only due to the entrance in the EU. Therefore, empirical results for the Spanish case may be understood as the effect of infrastructure on the takeoff of less-developed economies which are opening and modernizing their productive structure as a consequence of their entrance in the EU.

Based on the theoretical model by Boarnet (1988) we estimate

50

Alternative sources of connectivity are taken into account to proxy the infrastructure spillover

an empirical model based on the log-linear Cobb-Douglas aggregate production function in which public capital is disaggregated into two main components (local and transportation) as well as including a spillover variable for the transportation component. The calculation of the spillover variable will be computed using the idea of a spatial lag given in Spatial Econometrics. Different definitions for connectivity will be used when constructing the variable that will reflect the infrastructure spillover in order to test its sign and magnitude. The three first definitions for connectivity will rely on the idea that geographical proximity matters in the interaction across regions: physical contiguity (W_{bin}), the inverse of the distance (W_{dist}), and the third one consisting on the inverse of the square of the distance (W_{dist2}). Apart from the connectivity due to closeness in space, we will also consider that relations among regions appear due to their similarity in density of population (W_{dens}), and we will take into account the fact that economically powerful regions may have a greater impact on the others than a poor one, although weighting this power according to the distance between the two regions.

The effect of local and transport public capital on growth is statistically significant but modest

Applied to data referring to the industry of the 50 regions of Spain (NUTS III level, known as provinces) for the period 1965-1997, the results we obtain using the fixed-effect estimator of panel data techniques are shown in Table 1. In all of them it can be concluded that private capital (K) and labour (L) elasticities are approximately 0.24 and 0.78, according to what is indicated by the theory. The parameter accompanying local public capital (G_local) seems robust given its constant significance with a value of around 0.06, so that an increase of 1% in the stock of local public capital would increase value added by 0.06%, a modest but significant effect. On the other hand, transportation infrastructure (G_trans) is also significant although of a somewhat lower value than the local one, varying between 0.03 and 0.05. In conclusion, although public capital seems to have had a positive impact on Spanish productivity growth, this impact is lower than that reported in earlier public capital studies, and indeed in line with the most recent ones, which conclude that the role of infrastructure is a subtle one. Also, in contrast to what happens in the US economy (Holtz-Eakin, 1994; Garcia-Milà *et al.*, 1996) where controlling for state effects reduces or invalidates public capital impact, in the Spanish case the use of panel data techniques to control for regional effects presents credible values, not only for public capital elasticities, but also for labour and private capital shares. In our belief, this could be due to the fact that at the beginning of the period under consideration Spanish regions were lacking in infrastructure; as the provision increased, it had a positive influence on productivity growth. Conversely, with large initial infrastructure endowment, the US states would have reached a saturation point.

Investment in transport infrastructures has negative spillovers on neighbouring regions

About the sign and magnitude of the transport infrastructure

Table 6.1. Estimation results

		Wbin	Wdist	Wva_d	Wdens
L	0.779	0.786	0.782	0.782	0.784
	(0.046)**	(0.046)**	(0.046)**	(0.046)**	(0.046)**
K	0.248	0.242	0.245	0.245	0.239
	(0.026)**	(0.026)**	(0.026)**	(0.026)**	(0.026)**
G_local	0.058	0.062	0.058	0.058	0.065
	(0.012)**	(0.012)**	(0.012)**	(0.012)**	(0.012)**
G_trans	0.029	0.049		0.037	0.037
	(0.017)*	(0.018)**	0.038	(0.018)**	(0.017)*
			(0.018)**		
W*G_trans		-0.104	-0.189	-0.189	-0.101
		(0.033)**	(0.107)*	(0.107)*	(0.042)**
R^2	0.99	0.99	0.99	0.99	0.99

The negative spillover of infrastructure dominates its positive spillover from its network characteristics

spillover (*W*G_trans*), we observe that it is significantly negative in all the cases considered. The value of the coefficient ranges between the -0.10 for the case of the physical contiguity up to the -0.19 in the case of the inverse of the distance. Therefore the negative value of the impact of transportation infrastructure of region *i* on the other regions would exceed the positive impact that this infrastructure has in region *i*. Not only the closeness concept seems to support the negative spillover hypothesis, but also with the other three definitions for connectivity, based on similarities across regions, the spillover effect results significantly negative with a similar magnitude than the one specified before. It seems therefore that the negative spillover of infrastructure dominates its network characteristic. This result would be in line with the ones obtained for the states of the US in Kelejian and Robinson (1997) and in Boarnet (1998).

The positive effect of infrastructure on growth has decreased with time, so that, although still positive, it is unlikely to persist with the same strength in the future

Additionally, it is commonly accepted that the output effect of an increase in the public capital stock depends on the size of the existing endowment, the degree of its congestion, and the level of economic development in the region. Hence, on the one hand, additions to infrastructure networks would not have the same impact on output growth as the construction of the network (presence of decreasing returns for public capital). On the other hand, adding capacity to an uncongested endowment would not affect private productivity, while the benefits from an increase in the amount of public capital would be large when congestion is high. These issues can be analysed by estimating the marginal effect of output to public capital. These marginal effects are computed from the estimates obtained when considering the definition of physical contiguity for the spillover effect. As observed in Table 2, there appear to be

Table 6.2. Returns to transport and local public capital. Regional average

| Return G_trans				Return G_local			
1965	0.073			**1965**	0.239		
1967	0.07	**1983**	0.07	**1967**	0.226	**1983**	0.18
1969	0.074	**1985**	0.066	**1969**	0.229	**1985**	0.174
1971	0.078	**1987**	0.07	**1971**	0.228	**1987**	0.173
1973	0.08	**1989**	0.069	**1973**	0.228	**1989**	0.168
1975	0.078	**1991**	0.062	**1975**	0.233	**1991**	0.155
1977	0.071	**1993**	0.053	**1977**	0.216	**1993**	0.136
1979	0.073	**1995**	0.053	**1979**	0.221	**1995**	0.134
1981	0.073	**1997**	0.053	**1981**	0.209	**1997**	0.133

decreasing returns for both types of public capital, since the regional average value decreases with time. This decrease is higher in the case of local infrastructure, where the return has constantly diminished from 0.024 to 0.013, a 44% decrease. In the case of transportation capital, the decrease represents a 27%, ranging down from 0.073 to 0.053. Hence, it could be said that although infrastructure in Spain has had a significant role during the period analysed, it has decreased with time, and is unlikely to persist with the same strength in the future. In fact, it can be observed that the highest decrease is observed after 1987, that is, after the accession of Spain to the EU. This is probably due to the fact that public capital at the end of the eighties and the beginning of the nineties was getting close to the level needed so as not to hinder economic development.

Given the relatively modest stock of public capital, there is still room to foster growth through public investment in the Accession countries

In figures 1 and 2, the time average for the returns is plotted against the time average of the stock of public capital both for the transportation and local capital. A clear negative relationship between both variables is obtained. This is true for the endowment of public capital per unit of private capital and per unit of output (although only the latter is shown). Again we find evidence of the existence of decreasing returns to public capital which are working in the Spanish case.

According to our result on the existence of a positive but modest impact of public infrastructure on industrial output, it can be concluded that new developments in the EU policies should renew interest in ensuring that infrastructure policy should, at least, not hinder economic development. This could be especially relevant for Accession countries, less developed than others in Europe and with lower endowments of public capital, whose main purpose is to reduce disparities in relation

Returns to public capital. Time average. (returns based on the estimation with Wbin)

Figure 6.1	Figure 6.2
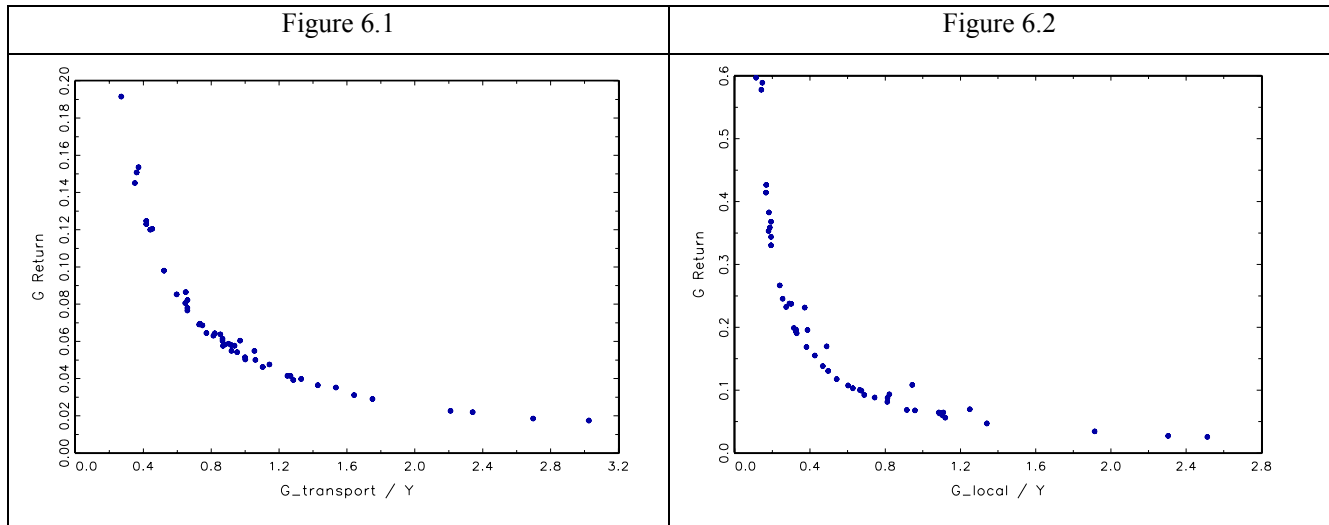
In designing a new EU regional policy, care should be taken to avoid negative spillovers from public investment that would increase regional disparities

to them. Given the similarities observed between Spain at the time of accession and the Accession countries at the present time, similar to what happened in Spain, there seems to be still a potential for industry for getting output benefits from public capital, both from local and transportation infrastructure, although these benefits tend to decrease with the increases in the stock of public capital. Our results also indicate that a region's output is negatively related to the stock of transportation infrastructure in other regions. This negative output spillover from transport public capital can be due to the fact that when input factors are mobile, transportation infrastructure in one region can draw industrial production away from other regions. In other words, regions with similar infrastructure would compete for mobile factors of production. Therefore, in early stages, the use of public investment to deepen an integration process may increase disparities, since regions with weak competitive positions may be adversely affected. Politically, the presence of negative spillovers would imply that regions could use infrastructure as a competitive tool for attracting factors of production and thus increasing their own industrial output at the expense of the other regions. In such a case, each region would try to provide more infrastructures that it would have otherwise provided. Therefore, EU regional policy should have this result in mind, since the possibility that the decision that public capital should be supplied by a local entity could imply an excess of infrastructure endowment.

Chapter 7

The Impact of Enlargement on the Internal Geography of Accession Countries

Introduction

Accession countries economies redirected their economic focus towards the EU

After the overthrow of their socialist regimes in 1989/90, most Accession countries redirected their political and economic focus towards the European Union. This process has already profoundly transformed their economies and is certain to trigger further adjustments. Lower barriers to trade and factor mobility will yield aggregate gains that are well understood by economists and estimated to be significant (see e.g. Baldwin *et al.*, 1997).

Integration will modify the internal structure of the economies

Although the potential for aggregate gains from EU enlargement is undisputed, economists also acknowledge that integration transforms the internal structures of national economies, which can have important distributional consequences. One dimension of integration-induced restructuring concerns geography. How does European integration impact on the spatial distribution of activities, prices and incomes between and within countries? This question has in recent years been an object of intense scrutiny by both academic and policy-oriented economists, and it remains one of the most active areas of research for European economics.

A key question for policy makers is how market forces will alter the spatial distribution of activity

For the academic researcher, these countries present an interesting "laboratory case", due to their legacy of centrally planned economic structures and rapid trading reorientation towards the EU. Is the old centrally planned spatial organisation of those economies unravelling and giving way to a different geographic distribution of activities, shaped by market forces? If so, what is the nature of these forces, and what new spatial equilibrium is likely to emerge? These questions are of evident interest to policy makers too, particularly in the context of designing appropriate regional policies.

Market Forces Vs. Central Planning

Our empirical analysis is based on a model from the "New Economic Geography" (NEG) literature, that is particularly well suited to the European context.

In New Economic Geography models, market access is a key determinant of employment and wages

In these models, the key determinant of industrial location and wages is market access. An increase in profitability of a region will be translated into adjustments either in terms of factor prices (higher wages) or in terms of output (higher employment). The better a region's access to large markets (and pools of suppliers), the higher its wages and the greater its locational attractiveness for trade-oriented sectors.

As an alternative to the market-driven spatial structure described by the model, we formulate a "Comecon hypothesis", based on the idea that the artifice of central planning created economic geographies whose only regularity is a concentration of certain sectors and high wages in the capital region.

The evolution of Trade Integration

**Trade integration between the Accession countries and the EU has rapidly increased since 1990**

The first step of our empirical analysis is to document the degree of trade integration of Accession countries with the four largest current EU economies. We use a simple measure of "trade freeness", defined as:

$$\hat{\Phi}_{ij} = \sqrt{\frac{m_{ij} m_{ji}}{m_{jj} m_{ii}}},$$

where m stands for exports, i and j denote countries, and own-country exports are calculated as output minus total exports.

Some Accession countries have reached the level of trade integration of Spain at the time of its accession

Figure 1 compares average "trade freeness" measures of five Accession countries and of Spain with respect to four of the largest EU economies. It appears that, in spite of their marked opening towards the EU since 1990, the Accession countries are still less economically integrated with the EU than Spain. The first interesting point to note is that in 1986, when Spain entered the EU, its level of "trade freeness" *vis à vis* the EU was similar to the levels experienced in 1999 (our latest sample year) by Poland, Hungary and Slovenia. Second, we can see that the level of trade integration of the Accession countries with the EU is quite homogeneous; an upward trend starts in 1990, with the beginning of the signature and implementation of the Europe Agreements, aimed to liberalise trade progressively between the EU and the Accession countries.

Figure 7.1. Trade freeness, comparison between CEECs and Spain
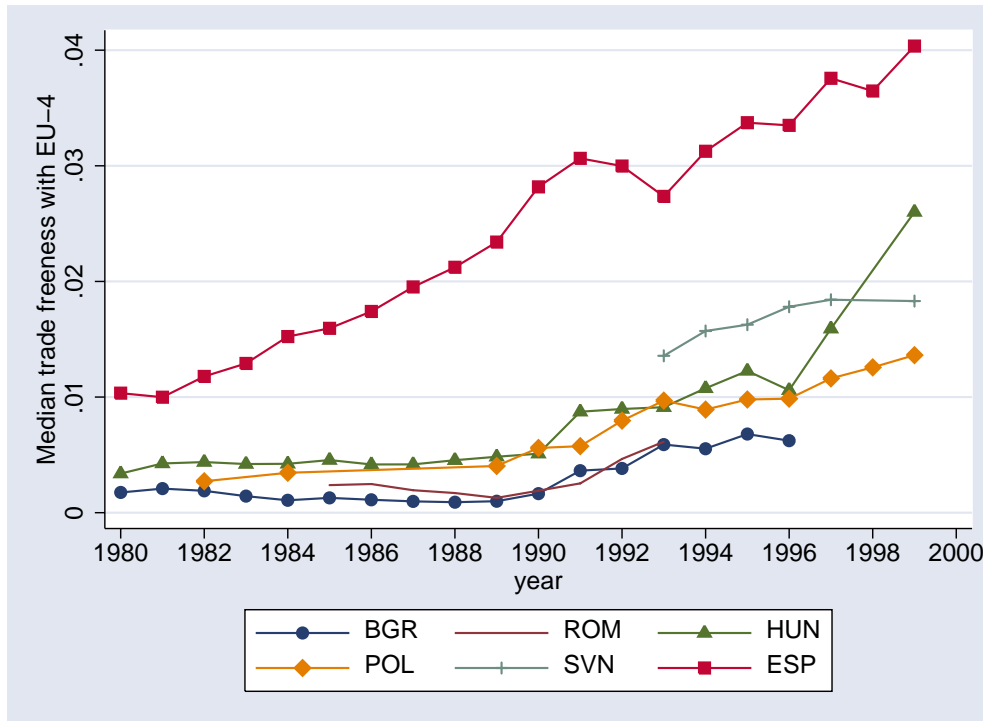
The internal geography of Accession countries

We analyse the internal economic geographies of Central European Accession countries, drawing on regional data for wages and sectoral employment in the Czech Republic, Hungary, Poland, Slovenia and Slovakia. Specifically, we examine regional wages and employment shares and look for spatial gradients inside each country

Are regional wages and employment shares influenced by proximity to the EU…?

We also compare wages and employment gradients in Accession countries with those observed in existing EU member countries. Specifically, we regress regional nominal wages and regional employment shares of eight sectors on a range of variables representing market access. The main two explanatory variables are a region's distance from the national capital and its distance from Brussels. In addition we include dummy variables for capital regions, regions bordering the EU, regions bordering other Accession countries and coastal regions.

Or do they follow a centrally-planned configuration?

These regressions are estimated using a new and uniquely comprehensive regional data set for the five Accession countries plus a comparison group of 16 EU and EFTA countries, covering the 1996-2000 period. By interacting the market access variables with a variable that identifies the five Accession countries, we can estimate to what extent the

internal geographies of accession economies differ from those of established member countries. If we assume, quite plausibly, that the existing EU economies are closer to their long-run spatial equilibrium than those of Accession countries, we can interpret any significant effects on the interaction variables as an (inverse) indicator of impending spatial changes in Accession countries.

A strong discontinuous wage premium to the capital is to be observed in the Accession, but not in EU countries

The results for the *wage* equations are given in table 1. For the EU, we find statistically significant *continuous* wage gradients with respect to the capital. The statistically significant coefficients on interaction terms confirm that the geography of wages is very different in Accession countries, where wages are discretely higher in capital regions.

The same results are found for employment, especially in services

When we compare internal *employment* gradients of Accession countries with those of existing EU members, we find a similar result: Accession countries are marked by significantly stronger concentrations of employment in both market and public service sectors in their capital manufacturing employment. Manufacturing jobs in Accession countries seem to be relatively under-represented in and near capital regions as well as in EU border regions. We can interpret these findings as evidence of a legacy from central planning, under which manufacturing plants were often located on the basis of purely political considerations. Our analysis therefore suggests a tendency for increasing agglomeration of manufacturing activities near the capital regions of Accession countries and near the border with the EU, confirming a result we reported in the Spring 2003 Report using a different methodology.

Conclusions

We have drawn on a multi-region NEG model to study the internal economic geographies of five Central European Accession countries (Czech Republic, Hungary, Poland, Slovenia and Slovakia). According to the theory, the external trade liberalisation represented by progressing integration into the EU market will have significant location effects in those countries.

Referring to the predictions of New Economic Geography models, we have studied the internal economic geography of five Accession countries, by analysing the spatial structure of wages and employment shares.

Model :	Dependent variable: $\ln(w_i / \overline{w}_{ctr})$		
	(P)	(Q)	(R)
ln dist. to capital	-0.071	-0.065	-0.086
	(-7.58)	(-5.07)	(-6.60)
ln dist. to cap x Accession Countries	-0.037	0.032	0.047
	(-2.71)	(2.14)	(3.15)
ln dist. to Brussels	0.085	0.081	0.097
	(3.33)	(2.89)	(3.62)
ln dist. to Bru. x Accession Countries	-0.094	-0.178	-0.079
	(-1.71)	(-4.29)	(-1.73)
Accession Countries	0.791	1.030	0.297
	(2.20)	(3.92)	(1.01)
Capital		0.030	0.022
		(0.69)	(0.53)
Capital x Accession Countries		0.257	0.261
		(5.23)	(5.66)
Land border with EU, N, CH			0.071
			(5.64)
Accession Countries x land border with EU,N,CH			-0.040
			(-2.73)
Land border with Accession Countries			-0.018
			(-1.75)
Access to sea			0.076
			(6.96)
ctrdum	Yes	Yes	Yes
yrdum	Yes	Yes	Yes
N	1520	1520	1520
R^2	0.123	0.138	0.176

Table 7.1: wage gradient estimations

Still an important effect of the capital on relative wages…

However, the advantages given by proximity to EU markets are already visible:

In the Accession countries, border regions have a higher relative wage

Inside Accession countries, Integration is likely to benefit the regions sharing a border with current EU members

Using a measure of trade freeness (i.e. trade integration) between the Accession countries and the EU, a first set of results shows that there is a clear increasing trend in trade integration since 1990, up to the point that some of the future member states seem to have reached the level of trade integration that Spain had with the EU at the time of its accession.

We then studied how regional wages and employment shares in the Accession countries reacted to the increased access to EU markets. The results support both the "New Economic Geography" predictions and the "Comecon hypothesis". Three points are to be emphasised.

First, there is a strong effect of the capital on relative wages. On average, being a capital city yields a 32% higher wage, and doubling the distance to the capital reduces the relative wage by 4%.

Second, proximity to the EU seems to give an advantage in terms of relative wage. However, this effect only reflects the wage premium enjoyed by border regions. Workers' wage in those regions lies in average 1.028 times above other regions' wage.

Concerning employment shares, the share of service employment (in the private as well as in the public sector) is strongly concentrated in capital regions. The comparison with the current EU countries shows that these concentrations are significantly stronger in the Accession countries than in the long-established member states.

What can we conclude from this analysis? Based on our estimations, we conjecture that the extreme centralisation of wages and service sectors in Central European capital cities is likely to erode and give way to smoother gradients driven by market access. In sum, both the theory and our comparative estimations suggest that Accession countries' regions nearest the border to the current EU stand to gain most in terms of relative wages and employment growth in dynamic sectors.

Chapter 8
Regional Policies in the Light of the EU Enlargement

Introduction

The European Union is implementing the sixth enlargement of its history. Among others, this raises the following policy question:

What policies to fuel real convergence at the national and regional level?

- Taking the enlargement process as a given, what would the best policies be for the EU to fuel real convergence at the national and regional level?

In the next Section, we argue that, although economically backward, Accession countries stand on average, relative to the EU15 average member, roughly in the same position in which, about twenty or so years ago, Greece, Ireland, Portugal, and Spain (GIPS, from now on) stood in relation to the then older members of the EEC. Admittedly this picture does hinder discrepancies at the regional level: whether such sub-regional income disparities should be tackled at the centralised level of the EU rather than on the local level remains however questionable; anyway, heterogeneity among acceding countries dominates. Based on a large body of previous research related to the previous enlargement, we point out to mixed evidence concerning the effect of EU structural policies on the process of economic convergence of acceding countries. The policy conclusions can be found in section 3.

Initial conditions in the Accession countries

Per capita income and labour productivity

Compared to EU15 countries Accession countries have lower GDP per capita and labour productivity…

Accession countries are poor according to GDP per capita, measured in Purchasing Power Standards (PPS). The GDP per capita of the mean acceding country has oscillated between about 36 and 42 percent of the EU average, the oscillations reflecting, to a large extent, changing business cycle conditions. Roughly speaking, there is little difference between relative labour productivity and relative GDP per-capita. Hence the conclusion that, on average, Accession countries are at about 40 percent of EU15 in per-capita income, with Czech Republic, Poland, and Slovenia displaying above average growth performances while the rest grows, more or less, at the same rate as the EU. Within acceding countries, disparities among regions have to be added to this global picture. However, inequality among countries dwarfs the within

country differences.

Saving and Investment

…a similar average stock of human capital (although the available indicators may be misleading)…

Capital comes in two forms, human and physical. When one looks at a pure measure of the average number of years of schooling attended, the Accession countries, with 9.8 years of schooling on average, come on top of the EU15 mean, which was only 9.5 in 1999 (OECD). This would lead to the, in our view incorrect, conclusion that the quality of the Accession countries labour force is, from a strictly economic viewpoint, as good as that to be found in the average EU15 country. Plenty of anecdotal evidence suggests this is not the case. Nevertheless, it should also be stressed that controlling for content and for quality of schooling, the average Accession country may be somewhat below the EU15 average human capital stock, but this adjustment is unlikely to make a major difference.

…a considerably smaller average stock of physical capital

The picture is less rosy when one looks at machines, equipment, plants, infrastructures and so forth. There are two problems in this respect: bad initial conditions (obsolete factories and infrastructures) and relative low investment rates since the transition started. In the EU over the last 10 years, the investment rate has been 17.6 percent on average, with little variations around that level. The four Cohesion countries all had investment rates in excess of 20 percent during the 1990s. Assuming similar depreciation rates of about 10 per cent a year, a steady state EU level of capital/output ratio of 1.7 and an initial capital/output ratio of 1.3 for the Cohesion countries, it will take them approximately other 10 years to match the EU capital/output ratio.

Accession countries' FDI to GDP ratio is larger than in the EU

The role of Foreign Direct Investments (FDI) in bringing backward countries' capital stock and labour productivity in line with the ones of the developed world is well understood, and confirmed by a number of positive growth experiences in Europe and elsewhere (see, e.g., Martin *et al.* (2001)). The proportion of FDIs in the total investment of Accession countries displays an increasing trend, in particular after 1995-96. The ratio of FDI to GDP is, on average, more than twice as large as the corresponding number for the EU (5 as compared to 2 percent). For some Accession countries the net FDI inflow as a percentage of GDP has reached fairly high levels (11 percent in Slovakia, 8 in the Czech republic, 8 in Estonia).

Most of the FDI coming from the EU

For others, it is still around 2 or 3 percent of GDP. Over two-thirds of the FDI in Accession countries come from the EU; Germany, the Netherlands and Austria are providing the largest amounts, while Poland, the Czech republic and Hungary are the largest recipients, taking about 70 percent of the total flow to the region (see Eurostat 2000a, 2003c).

Labour Market

Labour markets in Accession countries displayed complex trends in the last decade. Activity rates in the 15-64 age group oscillated without a precise trend and are currently comparable to EU15 averages (slightly below 70 percent) with Hungary and Bulgaria being, from an historical perspective, the worst (at about 60 percent) and Romania the best (at about 75 percent). Employment rates in the same age group are not worse than those registered, on average, in the EU15 (about 64 percent). In comparison, with the EU15 laggards (Greece, Italy and Spain, all travelling around a 55 percent employment rate) only Bulgaria (51 percent) scores lower, while Romania, with a 69 percent employment rate, still stands out at the top. Second, even if now equal to those in the EU15, participation rates have declined substantially over the decade and are currently about 5 percent lower than in 1991. The large increase in unemployment and the fall in participation rates contrast dramatically with the dynamics of unit labour costs (defined as real wages divided by productivity) (ULC). According to the ULC metric only Slovenia and, to a lesser extent, the Slovak republic have managed to keep the growth rate of real wages roughly in line with labour productivity gains.

At the opposite extreme is Romania where, because of the long stagnation in labour productivity, unit labour costs have more than doubled over the period. One should stress, though, that, as of 2000, unit labour costs are still 50 percent lower in the average Accession country than in the EU (see Eurostat (2001a)).

Since 1999 the unemployment level has began to slowly decrease in the majority of the Accession countries, Bulgaria being again the most serious exception to this trend. This also appears to follow a tendency common to the EU15, even if there are no examples of employment miracles which could be compared to e.g., the Netherlands or Ireland. But then, again, there are no examples among the Accession countries of courageous labour market reforms either. Therefore, the appropriate comparison to be made is with those EU economies in which unemployment is still high and labour markets are still heavily regulated, e.g. Germany, France, Italy and Spain. When this comparison is made, recent movements in labour markets in the Accession countries resemble very much those in the countries of the EU.

Growth Accounting

Make the following assumptions:

- The share of labour in national income is 70 percent. This roughly corresponds to the estimate obtained using data for the Czech Republic, Hungary and Poland.

Similar average activity rates and employment rates…

…but changing dramatically in the past decade

Average real wages increase faster than productivity…

…but are still lower than in the EU

Steady decrease in unemployment from 1999

- Capital stock increments are computed summing up investment over the period and subtracting yearly depreciation. Data for depreciation is available only for the three Baltic States, in which the depreciation rate is estimated to be 40, 47 and 52 percent of the gross investment rate. These estimates seem to be on the high end of the distribution, hence we use a value of 40 percent for the remaining countries.

- Since no information about part-time vs. full time labour is available, the increments of the labour input are computed using bodies. Data for Hungary indicates that the accounting discrepancy between using bodies and hours is small. We expect the same to hold for the remaining nine countries.

- The increment in the domestic stock of capital is calculated as a residual, subtracting FDI increments from total increments. The same depreciation rate is applied to domestic capital and FDI. Since the technological content of FDI is higher and its depreciation is probably lower, this procedure biases FDI's contribution downward.

- Since reliable data on FDI flows are available only for a subset of the 10 years we consider, we make the assumption that FDI were zero in all the non-available years. Again, this assumption biases downward the estimated contribution of FDI to growth.

- We calculate the contribution to growth of the shrinking of the agricultural sector by multiplying the average labour share by the decrement in the population employed in agriculture.

The relative contributions of labour and capital follow analogous patterns across countries: the capital stock has a small influence while the contribution of labour to growth is negative.

TFP changes account for most of the growth in per capita GDP

Averaging over the whole Accession countries, TFP changes have contributed to growth for about 2.2 percent per year out of a total of 2.5 percent per year (roughly 88 percent). This result is not unusual. With few exceptions, TFP invariably accounts for most of the growth in per-capita output. However, this average masks substantial cross country differences. For example, in Lithuania, Latvia, Slovenia and Poland, TFP growth would have implied GDP growth in excess of 4.0 percent, had the two production inputs remained constant, while in Bulgaria, Romania and the Czech republic the contribution of TFP changes to growth has been either negative or negligible. For Hungary and Poland, two of the largest recipients of FDI in the group, TFP contribution is positive but not large. While this heterogeneous behaviour may require further country-by-country investigation, what we collect from this exercise is that the transition process in the Accession

countries constitutes no exception to the growth accounting rule: GDP increases because TFP does, whatever the cause of the latter may be.

Regional Inequalities in the Accession countries

Regional inequalities in the Accession countries are smaller than in the EU

Regional inequalities are not very large in the Accession group and, to some extent, they are smaller or at most comparable to those already present in the EU15. There are two reasons for this: most Accession countries are small, in size and population, and this fact limits heterogeneity among reasonably sized internal territorial units; even if it magnifies the heterogeneity among EU25 regions, the high level of inequality among countries (one to three in per-capita GDP) dwarfs the within country differences.

This is a crucial fact to be kept in mind when thinking about economic growth and convergence in the Accession countries: regional and national economic convergence are, to a first approximation, the same problem. Hence, the extent to which regional disparities are a problem for the acceding countries is smaller than that for some of the current EU15 member.

Basically, regional disparities are relevant only in countries (such as Poland and Romania) which are large enough for regional comparisons to make sense. For the rest, concentrating on regional income inequalities would be tantamount to asking if provincial or intercity inequalities in, say, Lombardy or Andalucia are important for aggregate economic growth and require intervention via some specific structural policies. For example, the city-region of Prague in the Czech Republic has a population of about 1.5 million people (about 15 per cent of the country total), enjoys an income per-capita of 122 percent of EU average and an unemployment rate of 3.4 percent. The other eight Czech regions, host the remaining 8.9 million people, score around 49-56 percent of the EU average in term of income and display unemployment rates between 5 and 15 per cent. These are significant variations, although not much different from those existing between any capital city in EU and its countryside.

Can we assess the impact of past EU cohesion policies?

Trade integration facilitates growth but is not sufficient

The predictions of "new growth" or "new trade" theory models are that trade openness combined with increasing returns and a variety of external effects can eventually translate into agglomeration phenomena, poverty traps, economic divergence and increased inequality.

Agglomeration theories, in particular, predict that capital and labour will, under certain conditions, agglomerate in a few privileged areas, leaving the rest far behind as a result of economic integration. Hence the need for active public intervention for subsidising economic activity in poorer areas

Large transfers to regional authorities do not generate economic growth in the long run

Recent empirical studies conclude that Structural Funds are ineffective, if not detrimental to economic convergence

where it would not, otherwise, take place. Applied to the European experience of cohesion policies, the accuracy of such recommendations is questionable. Studies agree that the observed economic convergence across countries has been mainly driven by Ireland. Reciprocally the Italian Mezzogiorno has not converged; moreover, an assessment based on a true regional level would not authorise to conclude to convergence. The problem here is to assess the responsibility role of European policies in these evolutions. In absence of proper counterfactual due to a lack of statistics at the adequate level of regional disaggregation, it is impossible to statistically assess what has eventually been the impact of cohesion policies. What microeconomic evidence tells us however is that the quality of local institutions and business environment in regions benefiting from European funding has been decisive.

This is confirmed by the second lesson we have learned: trade integration facilitates economic growth but is far from guaranteeing it, especially if appropriate internal economic policies are not adopted. Empirical evidence has consistently shown that when reasonably large territorial units are chosen for the analysis, opening up trade and allowing internal markets to work lead to a certain degree of convergence (see e.g. Ben David (1994)).

It should be self-evident that this does not mean that the transfers involved with the structural policies made no difference for the countries and regions on the receiving end. They certainly did and still do: receiving a nice yearly cheque of an amount in between two and five percent of national income is valuable. But to claim that they have made a difference for growth is an entirely different matter. From the large body of literature available, we should mention here a most recent one. Pedro Arevalo (2003) has carried out a painstaking and meticulous investigation of Spanish regional development since the late 1950s, using a high quality data set of both provincial and regional human, public, and private capital stocks, and sectoral value added. He shows that TFP growth accounts for the lion's share of economic growth and convergence across Spanish regions, with little left for public and private capital and a somewhat larger share for human capital. More importantly, he shows internal and external trade liberalisation coupled with factor movements across Spanish regions are the driving forces behind Spanish economic convergence at the regional level.

While speaking against current EU regional policy is a political taboo, other people have also started looking at the question. Boldrin and Canova (2001), show econometrically that, at least in the EU15, the conjecture that regional transfer policies are behind the partial convergence episodes, is not supported by the data. Regional policies, at least in the form implemented by the EU since the middle 1980s, made little difference on long run growth at the regional level. A recent paper by Ederveen,

de Groot and Nahuis (2002) use a statistical methodology which is quite different from Boldrin and Canova (2001), but reach similar conclusions. The recent East German experience seems to lend strong support to this claim: badly conceived, very generous and sustained transfer policies do not spur economic growth and convergence.

Conclusion

It is worth recalling what regional policies are about and how they are supposed to work.

Structural funds are transfers supported by distorting taxation, which imply a deadweight loss. The deadweight loss could be justified, on public policy grounds, if the social rate of return from the investments financed via structural funds was large enough to compensate both for this deadweight loss and for the opportunity cost of the funds. The latter, after all, could have been used by private agents in other productive activities. To decide what a reasonable social rate of return on public investment should be is a hard task, and we are not going to try to quantify it here. The Congressional Budget Office of the US Congress, for example, recommends a 10 percent real annual return as an absolute minimum for any public investment project. Has such a minimum rate of return been obtained by the investments financed by the EU Structural Funds? Even without capitalisation, the cumulated investment financed by Structural and Cohesion Funds in Spain amounts to at least 40 percent of Spanish GDP. This is a benevolent choice, first because we are not capitalising and second because the number would have been 70 percent for Portugal and more than a 100 percent for Greece. Have Structural Funds increased, e.g. Spanish GDP of at least 4 percentage points each year during the last ten?

Choosing meaningful territorial units

Reforming EU Regional Policies. Suggestions

The theoretical principles underlying the EU regional and structural policies are, prima facie, commendable and hard to dispute. The Commission calls for (i) concentration of funding where it is most needed, on the base of explicit and certified (ii) planning of such intervention in (iii) cooperation with local and national authorities whose funding the EU transfer are suppose to (iv) complement (with co-funding going from 50 to 80 percent of the value of the project). As it is often the case, reality is quite different. We have already insisted on the lack of both common and economic sense behind the choice of NUTS2 and NUTS3 regions as the territorial levels at which economic convergence should be measured. We will not harp further on this point, but list it as the first natural step in a long-due reform of European regional policies: elect territorial units that are both homogenous and large enough to make convergence in per-capita GDP a reasonable target and coordination at the European level justifiable. Common sense

Involving homogeneous administrative entities at the local level

suggests choosing areas with a population of about ten million people. In the light of the accession this would imply that convergence should be measured at a country level, exception made for Poland and Romania. A very similar argument is developed by Sapir et al. (2003), Chapter 8.

The choice of appropriate territorial units for measuring convergence brings together the issue of the level at which resources are funnelled. Currently various sub-national administrative levels are involved, sometimes particularly small ones. Theoretically the choice of subnational units is meant to stimulate decentralisation. However, the restrictions imposed make the approach resemble a degenerate form of fiscal federalism. First, the administrative entities involved are very unequal and since the Commission imposes homogenous technical requirements on planning, financing and implementing the projects, this places a huge burden on small regions or administrative units. All but a handful of very large local administrations use the services of consulting companies located in Brussels to handle Structural Funds projects. Alternatively, they let their central governments elaborate, present, bargain and manage those projects in their behalf - not much decentralisation and/or federalism.

Italy, where Structural Funds for the Mezzogiorno are *de facto* handled, coordinated, and almost dished out by a dedicated "Direzione Generale" at the Italian Treasury is the most egregious example.

EU funding should not replace local spending

Second, while EU funding is not supposed to replace local spending, it obviously does because of the aggregate budget constraint at the level at which resources are funnelled. Furthermore, as central governments are active partners in the funding process and are allocating national resources to the same regional entities to which European funds go, it is at the level of central governments budgeting that substitution takes place. With the sole exception of Germany, the administrative units involved have little or no autonomous fiscal power: their resources flow from central governments which, obviously, count European Structural Funds provisions as part of total financing. Finally, the desired territorial concentration of funding is, to say the least, long gone: not a single country of the EU15 goes without receiving some regional subsidy. Counting in a map of Europe, the number of NUTS2 regions receiving some transfer under some objective one reaches more than ninety percent of the total. In fact, at most 70 percent of the total amount of funding goes to areas with an income per-capita lower than the EU average.

The recognition that structural and cohesion funds are just

Lowering the maximum income for admission to funding

Reducing the number of objectives

Finding a suitable mix of national policies

Allowing free movement of labour

transfer payments across countries used to facilitate political bargaining and coalition building is probably not forthcoming. Still, two reforms should be advocated. One is a drastic lowering of the maximum income for admission to funding. A level equal to 50 percent of the EU average would, in our view, be a good choice, allowing funds to really be concentrated where they are most needed. Such cutoff would not only exclude all current EU members from funding but, among the Accession countries, would also let Slovenia, the Czech republic and possibly Hungary out. Of the first entrants, only Poland (minus the metropolitan area of Warsaw) would clearly be a potential beneficiary of structural funds. It seems most likely that (by 2008) Romania, Bulgaria, Latvia and Lithuania would still be below fifty percent of EU average income per capita and therefore qualify for this target. Secondly, a reduction of the number of objectives to be pursued is to be recommended (as proposed by the Commission in 1998 and being implemented currently). In our view objective 1, properly rephrased to focus on structural deficiencies (especially large public goods, transportation and communication infrastructures and environmental protection), is the only one that should be retained on a permanent basis. In the light of the accession, it appears that objective 2 (recovery from industrial restructuring) and objective 5 (agriculture structural transformation) should also be maintained during the first budgeting cycle following admission (2007-2013) because of the relevance of both industrial and agricultural restructuring in these countries. Sapir et al. (2003) suggest that the improvement of administrative capacity and institution building should be given priority in the allocation of funds.

Both evidence and economic theory suggest that, given a stable macroeconomic environment, the presence or lack of supply side incentives play a crucial role in determining long run regional performances. Accordingly, national policies such as reduction in fiscal pressure, accompanied by parallel reduction in public spending, play an important role. Capital and labour mobility, together with a competitive level of labour income taxation also play a role in fostering real convergence. The experiences of Ireland, Portugal and the Italian North-East in the EU15 and of Poland and Estonia in the Accession countries show that sustained above average economic growth is the consequence of an attractive environment for FDIs and new small firm creation, risk-taking entrepreneurial behaviour, exploitation of local comparative advantages via enhanced labour and capital mobility. Low marginal taxes, efficient transportation and communication infrastructures, good financial facilities, a relatively flexible supply of high level human capital appear as the key ingredients for the establishment of a growth friendly environment.

In the light of the lack of evidence concerning the long run

growth effects of regional structural funds and of the particularly acute political tensions their availability and allocation creates among current members, one could re-consider the emphasis put on these funds within the enlarged EU as appropriate convergence policies. This applies, with stronger force, to the funding of the Common Agricultural Policy, if not to its objectives and existence. Pure income transfers with little long-run effects may lead to a suboptimal allocation of regional labour, capital and entrepreneurial resources and to a self-perpetuating system of expectations, as well as corruption and underground activities. Hence, we would recommend a threefold policy: i) the phasing out of Structural funds, ii) their focus on few objectives and iii) incentives to pursue sound economic policies aiming at providing the right business climate in which transfers will have positive impacts.