

INFLATION IN THE BALTIC STATES
AND OTHER EU MEMBER STATES:
SIMILARITIES, DIFFERENCES AND
ADOPTION OF THE EURO

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Inflation in the Baltic States and Other EU New Member States: Similarities, Differences and Adoption of the Euro¹

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Abstract

This paper examines the inflation experience of the EU new member states (NMS) since 2000, with particular focus on the three Baltic countries – Estonia, Latvia and Lithuania. Apart from being a natural focus of interest for residents of these countries it appears that their recent inflation experience – accelerating inflation in all three, with Latvia and Estonia posting the two highest NMS inflation rates in 2005 – marks them out from the other NMS. Indeed Latvia is now the country with the highest inflation rate in all of the EU. At the same time the actual levels of inflation are different across the three Baltic countries. So the central questions addressed in the paper concern the reasons behind the acceleration of inflation in the Baltic states when such an acceleration has not been observed in the other NMS and how to reconcile the ‘common Baltic acceleration’ with the observation that *levels* of inflation in the three countries remain different.

For Baltic governments who are pondering policy actions to reduce inflation the message is clear – if there is a serious intention to reduce inflation, then domestic demand needs to be reduced and if monetary policy is not available because of the constraint of pegged exchange rates then fiscal instruments must be used i.e. higher taxes or lower public expenditure or both. It will be painful – growth will decline, unemployment will rise and perhaps the property boom will collapse – but it will work.

A second shorter part of the paper briefly discusses the EMU convergence criteria and argues that the inflation criterion, the one which each of the Baltic states fail to meet, is increasingly unlikely to be met, partly due to fiscal policy negligence and partly due to the criterion being increasingly meaningless and unfair and that euro adoption may have to be postponed for quite a long time.

The paper is intended to be part of the current, hot economic-political discussion on inflation and euro adoption in the Baltics and thus on purpose avoids too much detailed economic theory.

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1 Introduction

After seemingly eradicated as an economic policy problem, inflation has, over the last two years, re-emerged as a matter of concern in all three Baltic countries.

In Estonia the government has postponed euro adoption by one year to January 1st 2008, saying: "In view of the developments concerning inflation, January 1 2007 has become unrealistic as a date to join the eurozone,"⁴.

Latvia has so far not publicly deviated from its plan to adopt the euro in 2008 but with Latvian inflation the highest in the EU and way above the Maastricht level early euro adoption is increasingly unlikely. There is also widespread concern and puzzlement among the general public, especially in Latvia, as to why inflation should be so high⁵, as well as the feeling that the government 'should do something about it'. Official response to public concern has been rather limited. The Bank of Latvia has tightened reserve requirements for the commercial banks, there is much hype about a 'secret plan' to fight inflation and the Latvian government has pointed the finger at uncompetitive retail markets in food and petrol. But nothing much has been done and the Latvian government has offered little in the way of its own explanation for Latvian inflation and in practice has avoided taking real actions that might reduce it.

Lithuania aimed at 1 January 2007 for euro adoption but the EU Commission in its report⁶ on Lithuania's compliance with the Maastricht criteria rejected the country admission to the eurozone for failing to meet the inflation criterion.

The aim of this paper is to examine recent inflation in the Baltic states in an EU new member state (NMS) context using the eurozone as a benchmark. We find that the evidence points to very plausible economic explanations for why inflation in the Baltic states has been higher than in both the other NMS and in the eurozone. Moreover, if the political will is there, policies are available that would ensure a rapid decline in inflation from current levels. We also argue that euro adoption is increasingly unlikely to happen any time soon, not least because of an 'unfair' inflation criterion.

The remainder of the paper is organized as follows: Section 2 provides an overview of inflation developments in the Euro area and NMS since 2000 and highlights similarities and differences. Section 3 does the same but at a disaggregated level. Theoretical explanations behind the observed inflation developments are presented and discussed in section 4 while section 5 presents possible policy options. Section 6 presents the EMU Convergence Criteria and discusses them in a Baltic context. Section 7 concludes. All data are from Eurostat unless otherwise stated.

2 Inflation in the Euro area and NMS since 2000

This section and the next present the data, for the Euro area and for the ten new member states, since 2000. Similarities and differences are highlighted while more detailed explanations are left to section 4.

⁴ EUobserver 28.04.2006, <http://euobserver.com/9/21467>

⁵ We show below (section 3) that the commodity composition of inflation has not been uniform and that in Latvia, in particular, poorer residents are likely to have been disproportionately affected with above average increases in the prices of goods and services that form a large share in the budgets of low income people.

⁶ <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/06/622>

Table 1 below suggests that the inflation experience of the NMS and the Euro area as measured by year-on-year changes in the Harmonized Index of Consumer Prices (HICP)⁷ since 2000 has been far from homogenous.

Table 1: Inflation in the Euro area and NMS, 2000 – 2005

	2000	2001	2002	2003	2004	2005
Euro area	2.1	2.3	2.2	2.1	2.1	2.2
Czech Republic	3.9	4.5	1.4	-0.1	2.6	1.6
Estonia	3.9	5.6	3.6	1.4	3.0	4.1
Cyprus	4.9	2.0	2.8	4.0	1.9	2.0
Latvia	2.6	2.5	2.0	2.9	6.2	6.9
Lithuania	1.1	1.6	0.3	-1.1	1.2	2.7
Hungary	10.0	9.1	5.2	4.7	6.8	3.5
Malta	3.0	2.5	2.6	1.9	2.7	2.5
Poland	10.1	5.3	1.9	0.7	3.6	2.2
Slovenia	8.9	8.6	7.5	5.7	3.7	2.5
Slovak Republic	12.2	7.2	3.5	8.4	7.5	2.8

Inflation in the Euro area has been virtually constant at slightly above the 2% level which the ECB aims to be below “in the medium term”. Malta is the only NMS country with a reasonably similar performance. Slovenia has experienced a continuous decline in its inflation rate over the period while in Poland and the Czech Republic inflation rates have been low for some years albeit with fluctuation. Hungary and Slovakia have only recently (2005) achieved low inflation rates. The only countries with rising rates are the Baltic countries where in all three the inflation rate increased in both 2004 and 2005 albeit from different levels and Latvia today has by far the highest inflation rate in EU25.

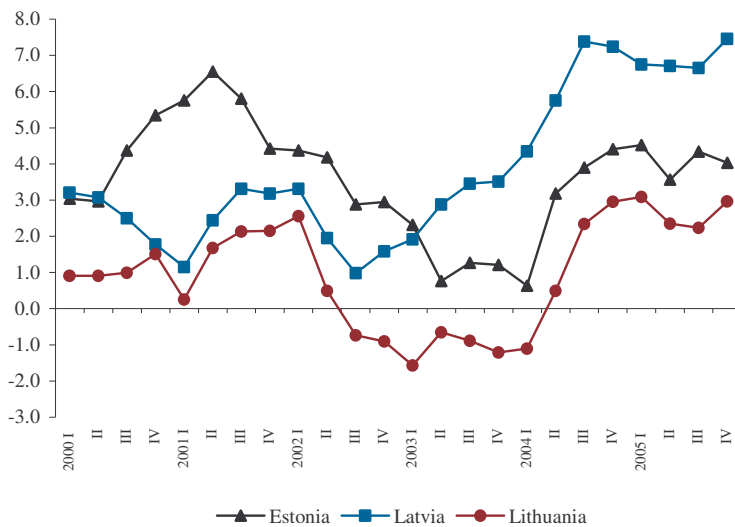
Interestingly, in 7 of the 10 NMS, the inflation rate increased in 2004 as compared with 2003 which suggests an ‘accession effect’. In all countries except the Baltics this effect moderated in 2005.

Figure 1 shows Baltic inflation rates y-o-y using quarterly data to give a more nuanced picture.

It is clearly seen that in Estonia and Lithuania the inflation rate picked up sharply in the first quarter of 2004 and that, although the Latvian rate started increasing already from the 3rd quarter of 2002, it also gained momentum in the first quarter of 2004. Thus the recent dynamics of inflation across the three Baltic countries is remarkably similar and points to the possibility that the reasons for the inflation surge in 2004 are the same, while the still quite different levels of inflation rates may be explained by differences among the countries (see section 4).

⁷ The HICP was developed in order to make inflation rates between EU countries easier to compare. It has a broader consumption basket than national consumer indices (CPI) in that it includes not only the consumption of resident households but also that of tourists and consumers located in closed “territories”, such as prisons or hospitals. Also the base year of the published HICP is the same for all countries. In practice the HICP and the national CPI move very closely.

Figure 1: Inflation, y-o-y, 2000 – 2005, quarterly data, Baltic countries



3 Sectoral decomposition of inflation

More information about inflation processes in the NMS and the Euro area may be extracted by examining how prices have changed in different sectors of the economy. The overall HICP is decomposed into a set of sub-categories:

- Food
- Alcoholic beverages, tobacco and narcotics
- Clothing and footwear
- Housing, water, electricity, gas and other fuels
- Furnishings, household equipment and routine maintenance of the house
- Health
- Transport
- Fuels and lubricants for personal transport equipment
- Communications
- Recreation and culture
- Education
- Restaurants and hotels
- Miscellaneous goods and services

Examination of price developments in each of these sectors for the Euro area and NMS reveals both more differences – and even some paradoxes – but also some similarities. Table 2 shows inflation rates for the years 2003, 2004 and 2005 for the Euro area and NMS for the product groups mentioned above.

Generally the variability of inflation rates both through time and across countries is higher at the sectoral level than it is for aggregate inflation. However, variability on both dimensions is more

pronounced in the NMS than it is in the Euro area. In other words the NMS have experienced bigger and more diverse changes in relative prices. This may be explained by two factors:

- EU accession itself had a major impact on some prices in the NMS, but not in the Euro area
- In some cases in the NMS relative prices have also changed because of un-worked-out transition effects i.e. liberalisation of hitherto administered prices.

Examining the data in Table 2 it can be seen that in the Euro area fuels, housing and alcoholic beverages, all with above average price rises, have added to inflation while communication (falling prices), recreation, food and clothing have generated a negative or very small impact.

In the NMS fuels prices are also significantly up in all countries – as in the Euro area because of higher world oil prices. Differences in individual country fuels inflation rates may be partly explained by differences in taxes on fuel (for a given increase in the world price of oil the impact on retail prices will be larger in percentage terms in countries with lower taxes as compared with high tax countries). Housing is also up in all countries, which is a little surprising because housing markets are classically segmented across countries⁸. Another common feature is low or even negative inflation in the clothing and footwear sector. This is very likely part of a “China effect”, i.e. low (and lower) prices of clothes because of the growth of low-priced imports from China and other low-cost and low-wage producers in Asia. A fourth common feature is communication, which strongly contributes a negative inflation impact across the board. More competition and better regulation explain this. Outliers here are Cyprus and Malta, possibly due to very little competition given their small populations.

These sectors apart the picture is very mixed, partly because of different inflation processes as described in section 2 and partly because of changes in relative prices that depend on different local circumstances. The Slovak Republic provides a good example. Although overall inflation shrank from 8.4% in 2003 to 2.8% in 2005 individual prices saw very divergent developments. Apart from fuels, for which global factors are responsible, housing, education and health have all become dramatically more expensive in the Slovak Republic and since these last three are largely non-traded goods the reasons behind their price increase must be entirely Slovak-specific. One may possibly attribute this to the relatively late reforms of the Slovak Republic.

⁸ A common feature may come from gas prices which in the HICP are included as a component of housing costs.

Table 2: Inflation in the Euro area and in NMS, 2003, 2004 and 2005, HICP and HICP sub-groups

Product group	Euro area	CZ	EE	CY	LV	LT	HU	MT	PL	SLO	SK
Overall HICP	2.1	-0.1	1.4	4.0	2.9	-1.1	4.7	1.9	0.7	5.7	8.4
	2.1	2.6	3.0	1.9	6.2	1.2	6.8	2.7	3.6	3.7	7.5
	2.2	1.6	4.1	2.0	6.9	2.7	3.5	2.5	2.2	2.5	2.8
Food	2.2	-2.1	-1.9	5.1	2.8	3.7	1.2	2.1	-1.2	4.4	3.3
	1.2	3.9	4.4	4.2	7.6	2.7	5.8	-0.7	6.5	0.1	5.1
	0.6	0.1	3.4	2.8	9.6	4.1	1.6	1.7	2.2	-1.0	0.3
Alcoholic beverages	5.9	0.9	3.0	18.0	1.6	3.3	11.1	1.2	-2.5	11.8	12.0
	7.5	3.0	2.1	8.3	5.0	3.0	11.6	13.0	2.5	5.2	8.4
	4.9	1.4	4.3	0.5	4.2	0.1	2.7	1.8	2.6	4.0	-0.7
Clothing and footwear	1.0	-4.7	0.3	1.3	3.0	-1.6	4.2	0.3	-3.2	3.0	2.1
	0.8	-3.3	-0.3	1.0	1.7	0.0	2.1	-3.7	-3.3	1.9	-0.3
	0.3	-6.7	3.9	-2.6	-0.5	-1.2	0.3	1.5	-6.0	-0.9	-0.4
Housing	2.4	1.3	1.6	8.1	7.0	0.2	10.5	2.2	3.2	4.9	22.0
	3.5	3.2	5.4	6.5	6.3	0.6	10.8	4.2	4.3	10.5	15.8
	5.0	7.0	7.7	11.3	9.5	6.7	6.5	12.1	3.3	7.5	12.8
Furnishings	1.2	-2.3	-0.7	1.4	2.2	-3.4	0.6	-0.2	0.4	3.9	-0.1
	0.8	-2.2	-0.2	0.3	2.2	-2.8	0.9	3.7	2.5	2.3	-3.5
	0.8	-1.8	1.4	0.1	3.9	-1.1	-0.6	2.3	0.2	4.0	-2.0
Health	2.0	4.0	10.4	5.3	7.5	3.2	7.1	7.5	1.4	5.8	6.9
	8.3	3.1	3.2	3.9	14.5	11.6	2.5	5.8	1.9	0.3	15.9
	1.5	7.1	2.2	-1.9	9.8	5.9	12.8	5.5	2.9	-1.4	5.3
Transport	1.6	-0.4	-1.7	-2.5	4.0	-1.4	3.1	1.5	2.7	5.1	10.6
	4.5	3.1	10.6	1.2	10.7	9.9	6.8	5.5	11.2	5.6	6.0
	4.7	5.1	9.8	4.2	13.1	9.3	4.5	5.9	3.9	2.1	2.4
Fuels	-0.2	-2.4	-1.4	-1.0	4.0	-2.8	0.3	1.6	3.8	1.7	12.4
	11.7	12.1	25.1	20.8	23.4	17.5	9.3	12.7	18.3	11.4	7.1
	11.3	12.1	18.0	13.3	22.8	13.8	8.7	21.6	9.5	10.7	11.7
Communication	-0.7	-2.8	6.4	-1.0	-1.1	-10.9	-1.3	-1.5	-0.1	-0.9	-1.8
	-2.6	10.7	-2.9	-13.7	-1.2	-2.6	1.4	17.8	-0.1	1.9	-1.2
	-2.8	6.1	-3.6	-9.0	-6.0	-4.2	-0.5	3.6	-0.2	-0.6	-0.5
Recreation and culture	0.0	-0.7	-0.5	1.1	4.8	-2.6	4.9	-0.9	1.5	3.6	5.2
	-0.1	1.7	0.5	3.3	3.9	-2.4	4.2	1.2	0.5	3.2	4.6
	0.1	2.8	2.1	-1.4	2.6	1.7	1.8	2.3	-0.7	2.3	0.9
Education	3.2	2.0	1.5	3.8	3.0	0.8	15.3	4.2	2.1	4.2	8.5
	3.6	5.5	4.6	5.5	8.5	0.3	8.6	0.5	3.7	8.2	14.8
	2.4	2.6	2.2	4.6	8.8	-1.4	7.2	2.0	1.6	5.7	26.0
Restaurants and hotels	3.0	2.4	2.9	5.1	3.5	-0.3	9.4	5.0	1.0	8.0	9.6
	2.7	6.4	2.8	5.4	9.6	1.8	9.4	-0.3	4.5	6.2	11.4
	2.5	3.0	2.4	2.0	11.7	2.3	5.2	0.9	3.2	4.5	4.9

Overall, examination of the disaggregated data seems to suggest the following:

- The Euro area has less variation in product group inflation rates than the NMS. This is partly because of “market economy maturity” – in the absence of transition effects relative prices adjust more slowly – and partly because there is no accession effect for ‘old-EU’ member states.
- Similarities in product group inflation rates occur in areas dominated by traded goods, most notably in fuels and clothing.
- Falling communication prices represent another common feature and here the common cause is increased competition arising from a combination of technological advance and more effective regulation.
- But otherwise the main feature of the is the diversity of experience, which may be attributed to different inflation processes in general and to a variety of different local factors in particular. The country specific factors affect mainly non-traded goods such as housing, health, education and recreation.
- Cyprus and Malta and to some extent Slovenia are outliers. The former are not and never were transition countries while Slovenia is the richest of the former communist NMS and, with its location next to Italy and Austria and its diminutive size, is heavily influenced by prices in these countries.
- Not discussed here but obviously relevant are differences in exchange rate developments and the impact this has had on inflation (see section 4 below).

4 Hypotheses concerning inflation

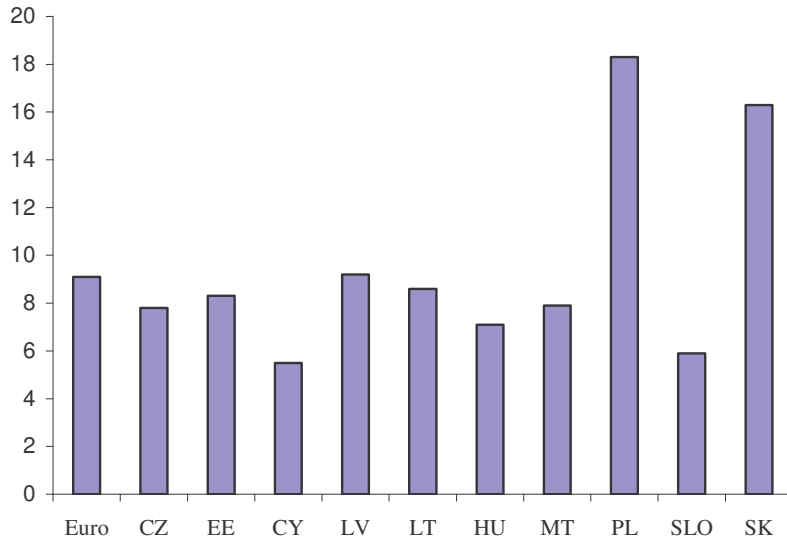
Despite Milton Friedman’s famous claim that inflation is “always and everywhere a monetary phenomenon”⁹ the proximate causes of different inflation episodes are typically diverse. There are ‘pull’ factors and ‘push’ factors which in any given case impinge in different proportions. The recent Baltic experience is no exception and this section and examines the evidence of how different factors have contributed to increasing or decreasing inflation in the Baltics as compared with the other NMS and with the Euro area.

4.1 Overheating

This builds on standard Phillips curve theory which posits an inverse relationship between inflation and unemployment. At low unemployment rates the labour market is tight i.e. the demand for labour is high relative to supply and this pushes up wages and thus costs for firms. Firms in turn attempt to pass on higher costs to consumers in the form of higher prices. The most recent unemployment rates (2nd quarter, 2005) for our sample of countries are presented in Figure 2 below.

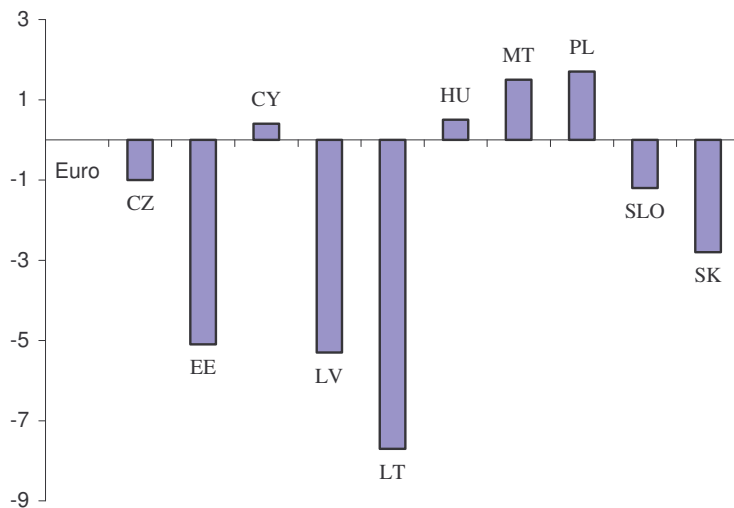
⁹ Proposition 8 of Friedman’s 1970 lecture on “The Counter-Revolution in Monetary Theory”.

Figure 2: Unemployment rates for the Euro area and NMS, 2nd quarter 2005



Because of differences in the structural characteristics of labour markets in different countries one should be careful when assessing this data. But countries like Poland and the Slovak Republic, with unemployment rates in excess of 15%, are certainly not likely to be candidates for overheating. A better measure, however, for the tightness of the labour market may be the change in the unemployment rate. A substantial decline in unemployment is a good indicator that the labour market has tightened. In Table 3 below 2005 is compared with 2000 for our sample of countries – a rather long period should be chosen since unemployment is a somewhat slow moving variable.

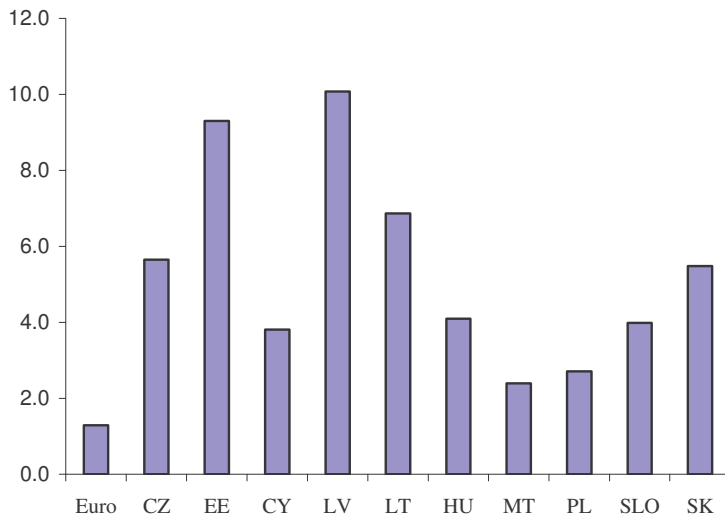
Figure 3: Percentage point change in unemployment rates from 2nd quarter 2000 to 2nd quarter 2005, Euro area and NMS



The Baltic states stand out as countries that have experienced large falls in unemployment. By contrast in the other NMS unemployment has risen in four cases, including Poland where an already high unemployment rate has only become higher thereby creating even less pressure on prices. Thus the unemployment evidence strongly suggests that in the Baltic countries tightening labour markets have been a factor in the observed acceleration of inflation.

Rates of economic growth offer an alternative indicator of movements in aggregate demand in an economy and Figure 4 below shows the 2005 dispersion of growth rates in our sample of countries.

Figure 4: GDP growth rates, Euro area and NMS, 2005



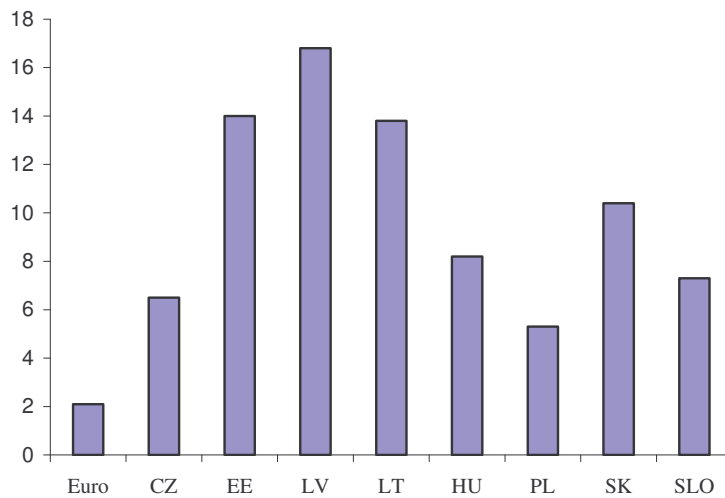
Again it is seen that growth is highest in the Baltics (and has been high for several years). Given these high growth rates and the declining unemployment rates the Baltic countries are above trend growth i.e. productivity may be increasing fast but not as fast as GDP, which is being ‘pulled up’ by growing domestic demand. Output growth in excess of long run potential is a clear sign of overheating. The International Monetary Fund came to similar conclusions on its visit to Latvia in June 2006¹⁰.

The substantial growth in nominal wages in the Baltics – in 2005 wages grew by about 14% in Estonia and Lithuania and by nearly 17% in Latvia (see Figure 5) – also points in the direction of overheating. By contrast in the Euro area nominal wages grew by just over 2% and in the other NMS only the Slovak Republic¹¹ with wage growth of just over 10% experienced double digit wage increases.

¹⁰ IMF, Republic of Latvia – 2006 Article IV Consultation Mission, Press Statement June 6, 2006.

¹¹ The Slovak Republic is potentially interesting. Although unemployment remains high (at more than 16%) it has fallen quite sharply and at the same time wage inflation was over 10%. This suggests that that the Slovak labour market may suffer from rather deep structural problems.

Figure 5: Growth of nominal wages, Euro area and NMS (except Cyprus and Malta), 2005



4.2 Persistence

In addition to standard Phillips curve theory one may apply the theory of the expectations-augmented Phillips curve to interpret Baltic inflation experience. The idea is that observed high inflation because of a tight labour market is incorporated into people's inflation expectations. As people expect high inflation also in the future they will incorporate these expectations into their wage demands in order to preserve their expected real wages. Thus, expected inflation may help create actual inflation and this may be observed as "inflation stubbornness". That is inflation may not abate very fast even when the conditions that generated it in the first place have faded. There is obviously no data for inflation expectations but this "inflation stubbornness" seems to be evident in Estonian and Latvian data¹². By contrast, in Poland, one may argue that high unemployment and thus a more moderate wage development lowered actual inflation and also inflation expectations thus paving the way for the very low inflation rate today.

4.3 Credit boom

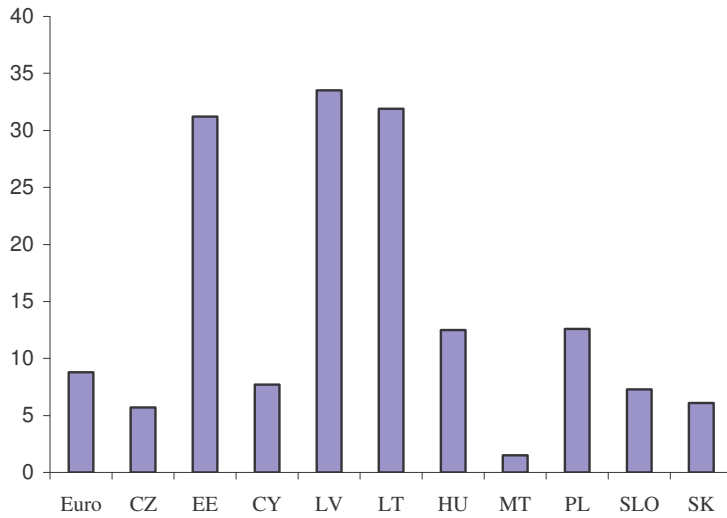
All three Baltic countries are experiencing a massive credit boom, fuelled by rising real incomes, ultra-low interest rates and fast developing financial sectors. As Figure 6 clearly displays, credit expansion in the Baltics, as measured here by the growth of M2¹³, is more than three times as high as in the other NMS or in the Euro area. All this extra credit boosts the demand for goods and services and adds to inflationary pressure.

¹² In Latvia between the start of 2002 and the first quarter of 2004 real wages more or less tracked GDP growth (productivity). However, the inflation surge that started at the beginning of 2004 took labour markets by surprise and real wage growth declined to zero in the third quarter of 2004. After that inflation expectations adjusted and real wage growth quickly reverted to the rate of productivity growth. Thus in 2005 the 17% growth of nominal wages may be interpreted as composed of 10% productivity growth and 7% inflation expectations.

¹³ Credit growth would obviously be a better indicator but data was not available for all countries. As an example one may mention the most recent figure (May 2006) for Latvian credit growth which is no less than 97% y-o-y!

Figure 6:

M2 growth, 3rd quarter 2004 – 3rd quarter 2005

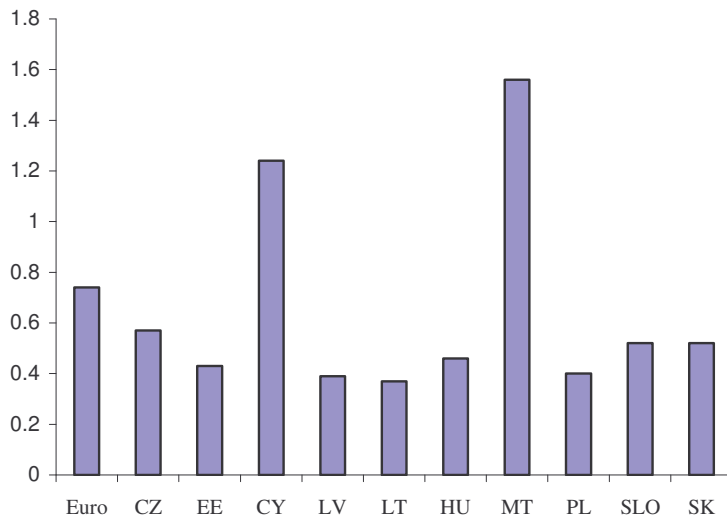


Nevertheless, money supplies should be expected to grow faster in the eastern European NMS than in the Euro area because of a catching up effect associated with previously undeveloped financial sectors. As Figure 7 shows, in the NMS money supplies as a share of GDP are still at relatively low levels as compared with the Euro area, indicating that financial markets are not yet fully mature. The ultra-high rates for Malta and Cyprus may be attributed to the status of these countries as off-shore financial centres.

Nevertheless, the very rapid growth in money in the Baltics is eye-catching and signals a current development which is in rather sharp contrast to the rest of the new eastern European EU members and which undoubtedly adds to inflationary pressure.

Figure 7:

Ratio of M2 to nominal GDP, 2005



4.4 Exchange rate effects

Exchange rate regimes are and have been very different across the NMS (see Table 3) and there are reasons to believe that this has significantly contributed to different developments in prices of imports and thus in their price levels. If the exchange rate changes there is a direct effect on the prices of imported goods which appears in the home price level.

Table 3: Exchange rate regimes in NMS as of April 2006

Cyprus	Fixed to EUR, joined ERM II April 2005
Czech Republic	Floating
Estonia	Fixed to EUR, joined ERM II June 2004
Hungary	Floating
Latvia	Fixed to EUR, joined ERM II May 2005
Lithuania	Fixed to EUR, joined ERM II June 2004
Malta	Fixed to EUR, joined ERM II May 2005
Poland	Floating
Slovenia	Fixed to EUR, joined ERM II June 2004
Slovak Republic	Fixed to EUR, joined ERM II November 2005

Source: <http://www.euractiv.com/en/enlargement/adopting-euro-new-member-states/article-129655>

Additionally, changes in import prices affect a country's competitiveness. An appreciation of the nominal exchange rate will make imported goods cheaper which in itself lowers the consumer price index but in order to compete with imports domestic firms may have to lower prices thus exacerbating the downward trend in the price level. Since the NMS are very open economies such effects have a quite strong impact on the overall price level movements and thus on inflation.

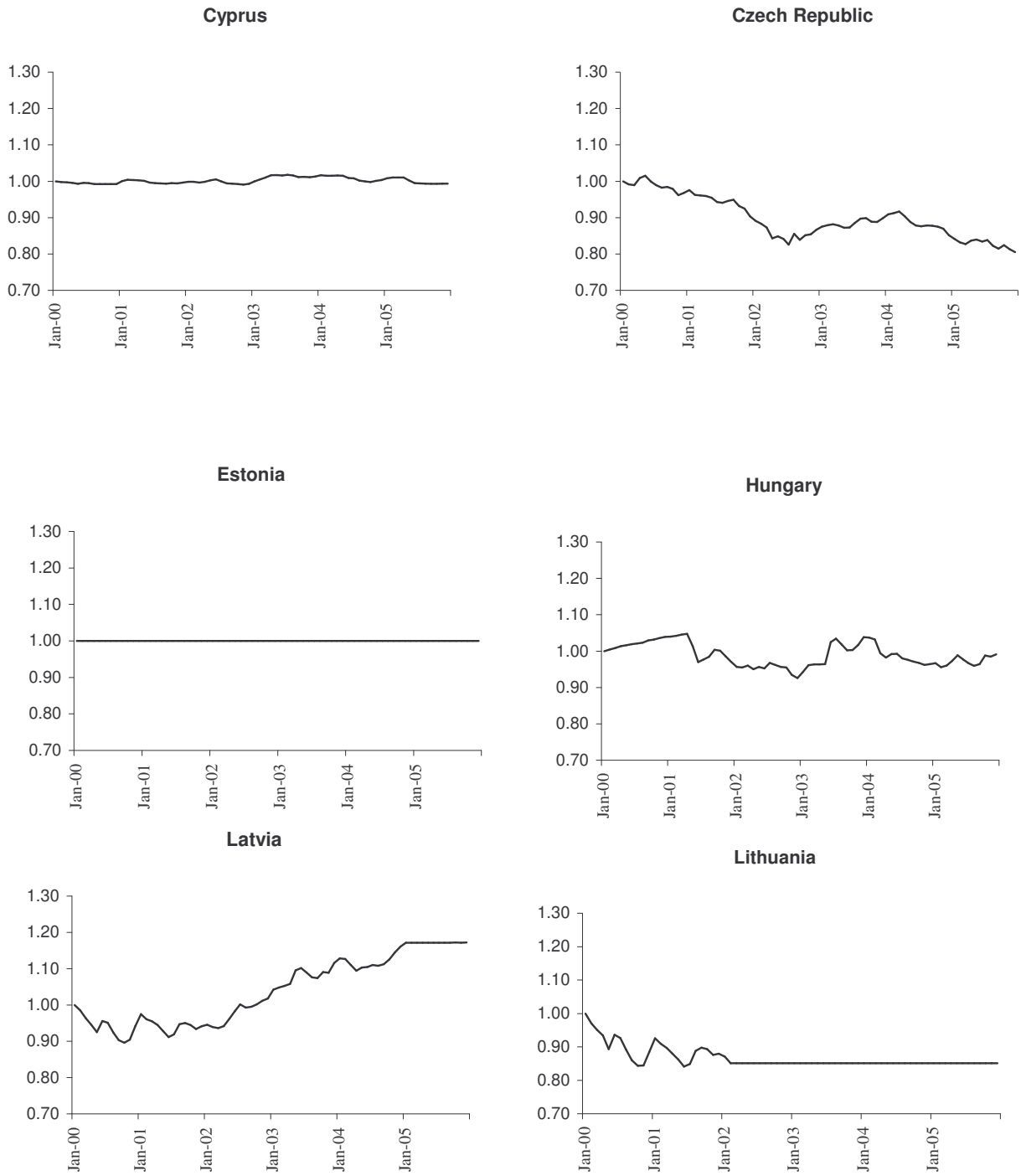
What springs to mind from Table 3 is that a) some countries still float and b) entry into ERM II¹⁴ is very recent for several countries. Furthermore, pegging to EUR is typically very recent, too, except for Estonia which has pegged to EUR since the introduction of the euro.

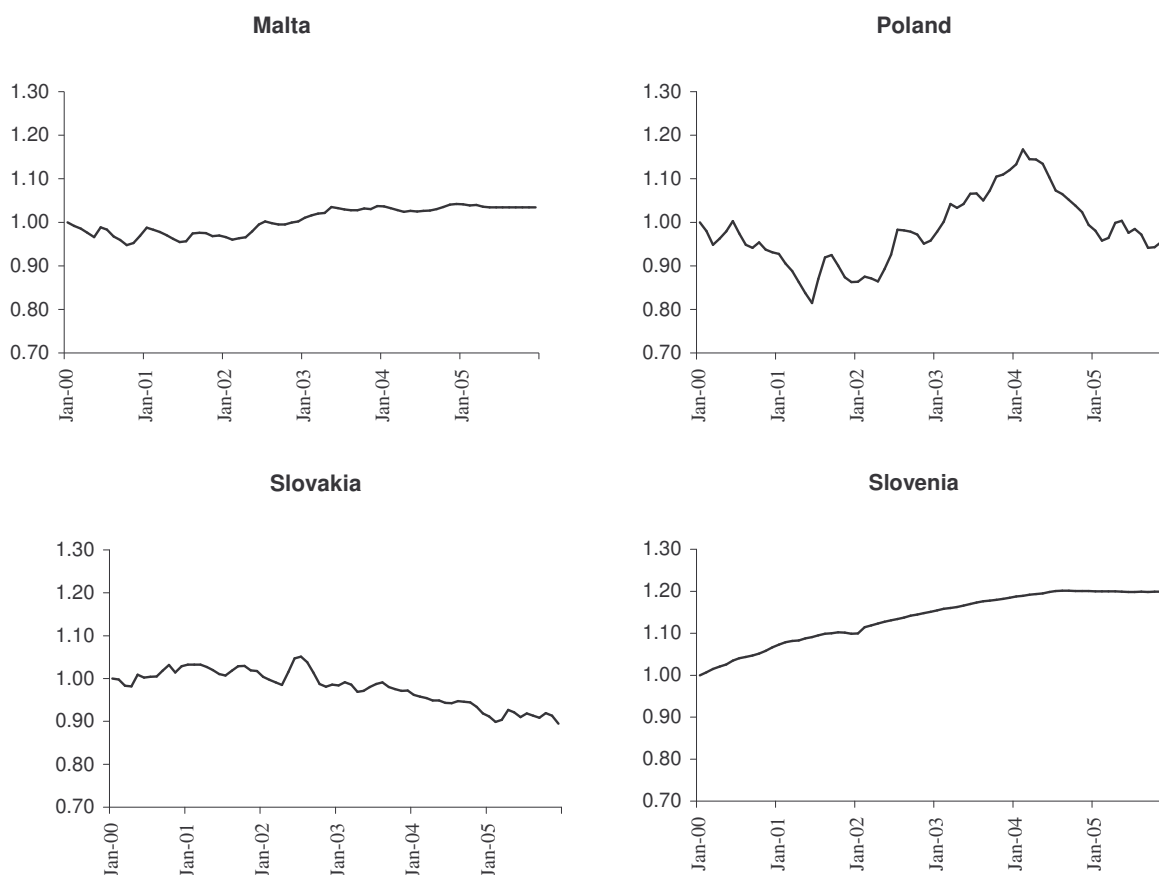
Looking at exchange rate movements vis-à-vis the euro provides a good indicator of the impact of exchange rate movements on import prices since the Euro area is a substantial trading partner for all NMS. Furthermore, several other significant trading partners fix to EUR.

Figure 8 below shows the development of the nominal value of the ten NMS currencies vis-à-vis the euro since 2000. The vertical axis is an index of the price of the euro in terms of each country's domestic currency where for each country the exchange rate has been normalised to 1.00 for January 2000. So, a rise in the index (graph) indicates that the euro has appreciated i.e. the price of the euro is higher in terms of domestic currency.

¹⁴ERMII is the current version of the European Exchange Rate Mechanism and represents a phase of exchange rate commitment that aspiring Euro area members are required to go through before euro adoption can be finalised.

Figure 8: Nominal exchange rates of NMS currencies against EUR, 2000 – 2005





It is apparent that the NMS have experienced very different exchange rate developments. Estonia's currency has been completely fixed against the euro while the currencies of Cyprus and Malta have hardly moved in value over the period. The currencies of the Czech Republic, the Slovak Republic, and, until it fixed to EUR in 2002, of Lithuania, have all experienced a substantial appreciation against the euro. On the other hand the Latvian currency has depreciated strongly against the euro (by 20 – 30%, depending on which date is chosen as reference period) all the way to the date of pegging to EUR (30 December 2004). The Slovenian tolar has had a similar experience but not as strong as with the Latvian lat and not so pronounced since 2003. The Polish zloty has appreciated strongly since 2004 after a three year period of depreciation. Hungary's experience can best be described as "wobbly" with modest appreciation following depreciation and vice versa.

Exchange rate developments very much help explain the inflation performance of the NMS in recent years. Appreciation of the home currency (fuelled by relatively high interest rates and thus capital inflows) has helped the Czech Republic, the Slovak Republic and Poland to constrain inflation via lower import prices. Quite massive depreciation on the other hand has significantly added to Latvian inflation (imports constitute more than half of Latvian GDP).

Closer examination of the Baltics shows that the exchange rate movements have indeed been significant in forming inflation. Table 4 shows in more detail Baltic exchange rate regimes where the three Baltic countries initially chose to peg to different currencies. Estonia chose to peg to the

D-Mark and then to the euro and Lithuania to the US dollar, with Latvia “in the middle”, pegging to the IMF basket currency SDR (Special Drawing Rights)¹⁵.

Table 4: Exchange rate regimes, Baltic countries

Estonia	Fixed to DEM 1992, currency board Fixed to EUR 1999 (January), currency board
Latvia	Fixed to SDR 1994, hard peg Fixed to EUR 2004 (December), hard peg
Lithuania	Fixed to USD 1995, currency board Fixed to EUR 2002 (February), currency board

The different choice of peg means that changes in the exchange rate between the euro and the dollar have had quite different implications for prices in the three countries. Since the past seven years have seen quite massive swings in the USD/EUR¹⁶ exchange rate, see Figure 9 below, these exchange rate effects have been quite significant.

Figure 9: USD/EUR 1999 – 2005



Figure 9 shows that after its introduction in January 1999 the euro persistently depreciated against the dollar until 2001 when the trend was reversed. The euro then appreciated strongly until another part-reversal took place in early 2005. With an appreciating dollar the Latvian currency (when pegged to the SDR) will thus appreciate vis-à-vis EUR and EEK (Estonian kroon) but depreciate against LTL (Lithuanian litas). At the same time, as the dollar appreciated and thus the litas with it, the Lithuanian currency appreciated against virtually all currencies in Europe. Imported goods

¹⁵ The SDR consists of USD, EUR (formerly DEM and FRF), GBP and JPY with USD and EUR currently having weights of 44% and 31%, respectively.

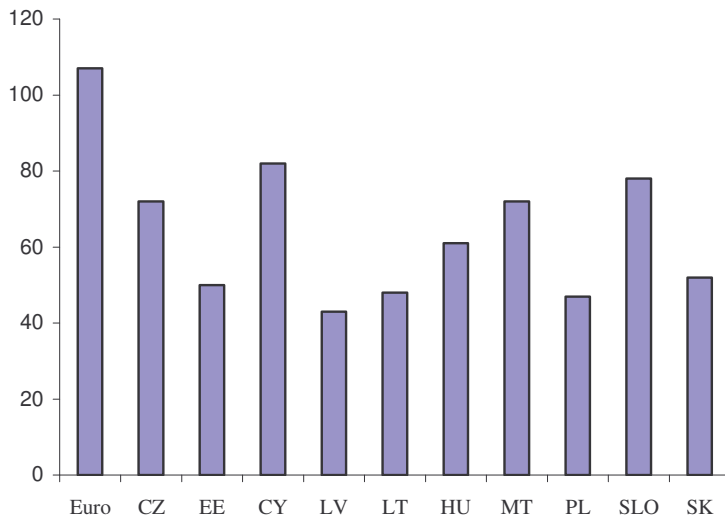
¹⁶ The exchange rate between the euro and the dollar is by convention expressed as the dollar price of a euro i.e. USD/EUR.

decreased in price and Lithuanian producers were forced to slash prices to remain competitive. The result was deflation in Lithuania (see Table 6 in section 4.8). Lithuania then changed its peg at a time when the dollar and thus the litas was at its strongest, the subsequent euro appreciation only served to sustain the deflationary impact of the exchange rate. This explains why inflation in Lithuania is still lower than in the two other Baltic countries although it now experiences similar dynamics as in those two countries. On the other hand, in Latvia, as the euro appreciated strongly between 2001 and 2005 the Latvian lat depreciated against the euro and against virtually all other currencies in Europe. Import prices thus rose and inflationary pressure was created. As imported inputs increased in price Latvian producers passed such cost increases on to consumers in the form of higher prices. The Latvian peg to the euro came at the peak of the euro against the dollar and thus resulted in a lat that was quite possibly undervalued against the euro. These very different exchange rate developments in Latvia and Lithuania thus account for much of the different inflation outcomes in those two countries since 1999-2000. Estonia's early exchange rate peg to the euro also helps to explain why Estonia's inflation rate is in between the other two – Estonia neither felt a deflationary impact from the appreciating dollar in 2000-2001, nor an inflationary impact from the depreciating dollar after 2001.

4.5 Balassa-Samuelson effect

The 2004 enlargement added a cohort of relatively poor countries to the EU. The poorest eight are all NMS and only Portugal is behind the two richest newcomers – Cyprus and Slovenia. Figure 10, which shows GDP per capita at PPS for the NMS and the Euro area as a percentage of the EU25 average, illustrates this.

Figure 10: GDP per capita at PPS, Euro area and NMS as % of EU average

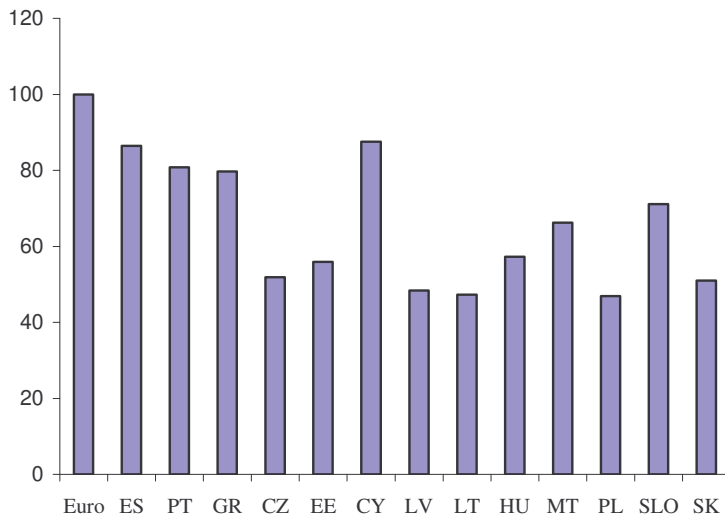


Lower GDP per capita reflects lower productivity and as (if) productivity catches up (higher growth in the NMS as compared with the Euro area on average for many years) this will raise wages in the faster growing NMS economy in general. Both in the traded goods sector and also in the non-traded sector where productivity already may be at Euro area levels (a person cutting hair in Slovakia is

neither more nor less productive than a similar person in France but (s)he receives a lower wage in Slovakia because of the generally lower wages there). This will push up prices in the non-traded sector in the NMS while prices in the traded sector will (largely) follow the price developments in the Euro area. As long as there is growth and productivity convergence this implies higher inflation on average in NMS as the price of services in the NMS rises relative to the prices of traded goods¹⁷.

By examining the data on NMS price levels we may make some rough and ready estimates of how big an inflation differential between the NMS and the Euro area might be expected as a consequence of the price catch-up process. Figure 11 below shows price levels for the Euro area (= 100), for the NMS and for the three poorest ‘old EU’ member states – Greece, Portugal and Spain.

Figure 11: Price levels in the Euro area (= 100), Spain, Portugal, Greece and NMS, 2004



Portugal and Greece, two of the poorest ‘old EU’ countries have price levels of about 80% of the Euro area average. The gap between them and, say, Poland is 33 percentage points, which suggests that in order for the Polish price level to ‘catch up’ with Portugal or Greece Poland should be expected to have an accumulated rate of inflation in excess of Portugal’s and Greece’s of about 70% (33/46.9). If catching up takes about 25 years this will imply an average inflation differential of approximately two percentage points per year.

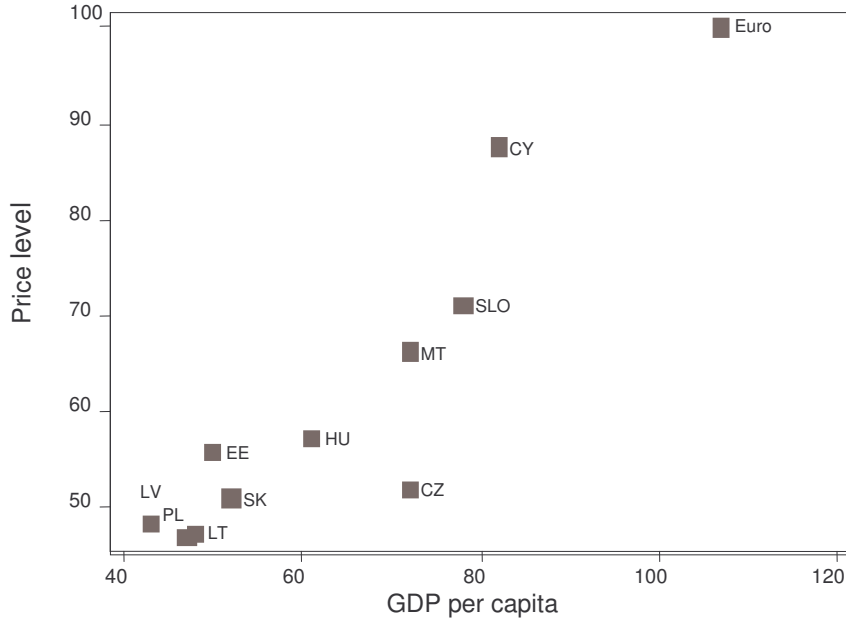
While current inflation rates across the NMS are quite diverse, and indeed may continue to be diverse, because of the many factors described here and their different impact, one should nevertheless expect inflation rates in NMS to be 1-2 percentage points above Euro area inflation per year for many years to come. (See e.g. Egert et al (2002). Kuzmina and Lobakovs (2004) provide estimates for Latvia). It should be mentioned that this catching up includes not just higher prices on non-traded goods but also higher taxes on certain goods (as an example one can mention that taxes

¹⁷ This phenomenon (the Balassa-Samuelson effect) was independently identified in 1964 by Bela Balassa and Paul Samuelson as a reason why services tend to be cheaper in poor countries than in rich ones and hence why purchasing power parity may fail to hold. See Balassa (1964), Samuelson (1964). De Grauwe and Schnabl (2003) provide a fine overview.

on cigarettes in the eastern European NMS are low because incomes are low – with rising incomes one may expect these taxes to rise, too) and higher administered prices, see section 4.7 below.

Another way to show the Balassa-Samuelson effect is to combine the two previous graphs in the same graph. This is done in Figure 12. The positive relationship between GDP per capita and price levels may be identified as the Balassa-Samuelson effect.

Figure 12: Price level vs. GDP per capita, Euro area and NMS, 2004



Note: For simplicity Spain, Greece and Portugal have been left off the graph.

4.6 Accession effects

Did accession to the EU on 1 May 2004 add to inflation? It was certainly a much-hyped topic in newspapers and TV and the data seems to provide some evidence in favour of an accession effect. Nevertheless, as demonstrated in the previous section price levels in NMS are still significantly below the Euro area average and will converge if income per capita converges.

As seen already in Table 1 no less than seven of the NMS saw inflation rise in 2004 (the exceptions were Cyprus, Slovenia and the Slovak Republic where the two latter were already in a disinflation process). Below, as an illustration of a possible accession effect, is data on ‘milk, cheese and eggs’ – a sub-group of the food product group ‘food’ from Table 2. Price increase in this group slowed down in the Euro area in 2004 and even fell in 2005 while in some of the NMS (in particular in Latvia, Estonia and Poland) prices in this group rose quite dramatically. With accession came access to ‘old EU’ agricultural markets whereby, say, cheap Estonian cheese and milk can find its way to Finland where prices are substantially higher. This trade should thus depress prices in Finland and raise them in Estonia, which is exactly what happened. Why, however, price increases in Lithuania slowed down in 2004 remains a mystery to us.

Table 5: Inflation in the Euro area and in NMS, 2003, 2004 and 2005, HICP sub-group Milk, cheese and eggs.

Product group	Euro area	CZ	EE	CY	LV	LT	HU	MT	PL	SLO	SK
Milk, cheese and eggs	1.6	-2.9	-1.9	6.6	3.9	12.9	1.8	-0.1	0.6	1.3	5.8
	0.8	3.9	8.1	5.5	14.7	0.5	1.6	0.8	5.0	-0.7	6.7
	-0.1	0.5	2.6	3.5	13.9	4.8	-1.8	2.0	1.2	-2.0	-3.5

4.7 Administered prices

Part of the difference in prices between the richer Euro area and the poorer NMS is due to differences in certain administered/regulated prices. Examples of (possibly) regulated prices are housing, water supply, electricity, gas, public transportation and postal services i.e. mainly utilities.

Which prices are regulated vary from country to country and their weights in the HICP differ hugely. A detailed analysis of the future inflationary impact of convergence in regulated prices would require data on the level of and coverage of these prices in the Euro area and in NMS. But when such prices are deregulated the consequent price convergence can be regarded as part of the Balassa-Samuelson effect discussed in section 4.5.

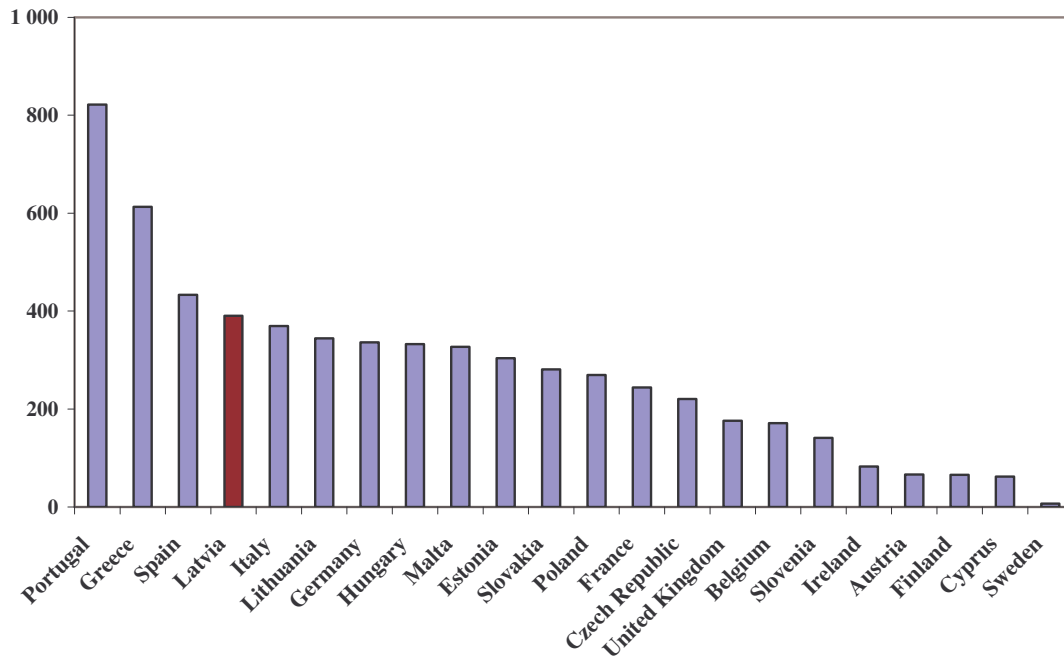
4.8 Other factors

One may briefly point to other factors that may have and/or will add to inflation but where data is either scarce or the issue is harder to confront with evidence.

An important example is another accession effect, namely emigration. Sweden, the UK and Ireland have opened their labour markets fully to workers from NMS and preliminary evidence shows that Lithuania and Latvia are the countries from which by far the most people (in relative terms, of course) have left. This reduces unemployment in the sending countries and increases the risk of bottlenecks in the construction industry creating upward wage pressure in the sending countries and thus adding to the problems outlined in section 4.2. The inflationary impact of this is hard to measure because we have inadequate data on emigration and even if we did have accurate migration data the chain of causality to the ultimate impact on prices requires sophisticated measurement.

Another EU factor is that EU membership entitles the NMS to support via the Structural Funds. This can only add to demand and thus possibly to inflation. It is ominous for medium term inflation prospects that Latvia, the country with the highest inflation rate, will receive more SF support per capita than any other NMS.

Figure 13: Total aid per capita for each Member State in the 2007-2013 Financial Framework (EUR)



Source: Alf Vanags and Julia Pobyarzina, “Latvia and Cohesion Policy” in *From Policy Makers to Policy Takers*, Sieps, 2005.

The potential effect of demand shocks is illustrated by the Russian crisis (the huge rouble devaluation of 1998). The collapse of demand from Russia led to plummeting growth rates in the Baltic states (Estonia and Lithuania even experienced negative growth in 1999) and to a surge in unemployment. This, however, brought inflation down substantially via the mechanism explained in section 4.1 (see also Table 6 below) and Latvia and Lithuania were indeed the first transition countries to experience single digit inflation.

Table 6: Inflation in the Baltics, 1997 – 2005

Year	Estonia	Latvia	Lithuania
1997	11.2	8.4	8.9
1998	8.2	4.7	5.1
1999	3.3	2.2	1.6
2000	3.9	2.6	1.1
2001	5.6	2.5	1.6
2002	3.6	2.0	0.3
2003	1.4	2.9	-1.1
2004	3.0	6.2	1.2
2005	4.1	6.9	2.7

It is sometimes argued by e.g. by the Latvian central bank, Bank of Latvia, that the current spurt in inflation is a response to the Russian crisis, i.e. that the crisis made inflation drop too fast, too much and too early.

Yet another factor that has been mentioned in the Latvian context is a possible lack of competition. It is argued that several sectors of the Latvian economy e.g. the retail trade and fuels are dominated by very few firms that may act monopolistically. If indeed this is true i.e. that Latvian retail markets are less competitive than, say, Lithuanian ones, then economic analysis suggests that this should add to a higher price level but not to persistently higher inflation. Perhaps there is an effect that works through expectations. The argument thus goes that more competition would lower prices and if this enters inflation expectations it may help reduce inflation. This is an area worthy of more research.

5 Policy implications

If we look at the Baltic states and especially Latvia all the economic indicators point in one and the same direction: developments in GDP growth, in the labour market and in the credit market unequivocally signal overheating. Latvian (and Estonian and Lithuanian) inflation is currently sustained by strongly growing domestic demand and is reinforced by inflationary expectations. There is no mystery about the causes, as explained in the preceding sections, and there is no secret about the solution. If there is a political will to rapidly reduce inflation it is well understood how to do it – engineer a recession. Since a fixed exchange rate limits the scope for monetary policy this would have to be done using fiscal instruments. Quite simply either taxes have to be raised or government expenditures reduced or both. This will be painful (not to mention unpopular) but it will work. Recession worked to reduce inflation in all three countries in 1999 when the demand shock came from the Russian crisis and it will also work if the demand shock is fiscally generated.

A complementary policy that has been widely used all over the world to reduce inflationary pressures originating in the labour market is the encouragement of inward migration. Migration policy was used by the UK in the 1950s, by e.g. Germany in the 1960s and most recently by Ireland.

We would like to suggest the encouragement of inward migration for several reasons.

- It may sustain high growth rates
- It will work as replenishment of the work force lost to outward migration, especially to Ireland, the UK and Sweden
- It will offset further loss of workers as more ‘old EU’ labour markets are liberalised
- It will work as replenishment of the work force lost to demographic factors. Low birth rates for the past 20 years are beginning to have adverse effects in the Latvian and Estonian labour markets.

It is rather obvious that inward migrants to the Baltic states will not come from Western Europe, rather they will come from the east and the south. In Estonia and Latvia such migration is, however, anathema to politicians and perhaps also to the majority of the general public because of an ethnic distribution, which implies already rather small ethnic Estonian and Latvian majorities. A fiscal

contraction is thus likely to be more politically acceptable although inward migration avoids a negative impact on growth rates and thus convergence in the long term.

6 The EMU Convergence Criteria in a Baltic context

The high and growing inflation rates in the Baltic countries pose serious problems for early euro adoption and as mentioned earlier both Estonia and Latvia have postponed their plans for joining the eurozone while Lithuania was forced to do so on May 16 2006 when its membership application was rejected. It may be fruitful to recapitulate the criteria¹⁸ (Maastricht Treaty Article 121):

- The achievement of a high degree of price stability: This will be apparent from a rate of inflation that is close to that of, at most, the three best performing member states in terms of price stability.
- The observance of the normal fluctuation margins provided for by the exchange-rate mechanism of the European Monetary System, for at least two years, without devaluing against the currency of any other member state.
- The durability of convergence achieved by the member state and of its participation in the exchange rate mechanism of the European Monetary System, as reflected in the long term interest-rate levels.
- The sustainability of the government's financial position: this will be apparent from having achieved a government budgetary position without a deficit that is excessive as determined in accordance with Article 104(6).

This is now interpreted as, respectively, an inflation rate of no more than the average of the three lowest inflation rates in the EU25 countries plus 1.5 percentage points, minimum 2 years in ERM II without devaluation, long term interest rates of no more than the average of the three lowest inflation rates in the EU25 countries plus 2.0 percentage points, budget deficits of no more than 3% of GDP and public debt not exceeding 60% of GDP (see again footnote 18). All of the Baltic states easily fulfil the same three of these five criteria as the following example for Latvia of March 2006 shows:

	Criterion	Value, Latvia
Long term interest rate*	5.31%	3.75%
Budget balance**	- 3.0%	0.2%
Public debt**	60%	11.9%

Source: www.bank.lv/eng/main/pubrun/presrunas/index.php?34676

* March 2006

** 2005

Estonia and Lithuania joined ERM II in June 2004 and will at the time of writing fulfil the exchange rate stability criterion very soon. Latvia only joined ERM II in May 2005 and does not fulfil this criterion which, however, should be seen as more of a technicality. Only the inflation criterion is not fulfilled; as of March 2006 the EMU criterion stood at 2.6% while Latvian inflation was 7.0%. But one may on several grounds object to this apparent non-fulfilment.

¹⁸ See e.g. <http://www.ecb.int/ecb/orga/escb/html/convergence-criteria.en.html>

- Due to the Balassa-Samuelson effect especially the poorest EU members should be expected to see higher inflation rates. To qualify for EMU these countries must thus introduce very restrictive fiscal policies. If e.g. the Balassa-Samuelson effect adds two percentage points to annual inflation they must aim for almost zero inflation besides this effect which may be close to impossible.
- To the extent high growth is associated with higher inflation (which this paper as well as economic theory suggest) countries are punished for high economic growth.
- Using the three EU25 countries with the lowest inflation rate is absurd: Lithuania's euro membership was thwarted by low inflation in Sweden and Poland (and Finland), two countries which are not themselves euro zone members.
- With a larger and larger European Union simple probability theory suggests that the likelihood of three countries with extraordinarily low inflation rates increases – and thus a larger union makes it more difficult, *ceteris paribus*, to join EMU.
- And why use the notion of the three lowest inflation rates plus 1.5 percentage points when a very reasonable and transparent benchmark exists, namely the eurozone inflation. A much more reasonable criterion would thus be the eurozone inflation plus 1.5 percentage points.

Gros (2004) argues very well on these peculiarities while Buiter and Sibert (2006) are vehement in their criticism of the existing rules¹⁹.

While we agree that the existing inflation criterion is unreasonable and perhaps even silly this does not lead to full acquittal of the Baltic states. All features we have examined; labour markets, growth, credits, Balassa-Samuelson, EU funds, migration, EU accession etc. point in the same direction, namely towards more inflation. With pegged exchange rates monetary policy is largely inefficient but the Baltic governments, not least the Latvian one where inflation has remained high for a considerable amount of time, have been sitting on their hands, seemingly unwilling to use fiscal policy to cool their economies. Recent experience from e.g. Iceland suggests that the price to pay for this may be very high indeed.

7 Concluding remarks

We have examined the recent inflation experience of the EU new member states with a particular focus on the Baltic states and on the reasons why inflation is both high (Latvia and Estonia) and accelerating in all three. As compared with both the other NMS and the eurozone we observe overheated labour, goods and property markets all of which interact to generate accelerating inflation. Although the recent dynamics of inflation in the three countries has been very similar we continue to observe differences in levels. These differences in levels we believe are entirely a consequence of the 'accident' that each country chose to peg their national currency to different international units and now that they are all pegged to the euro we would expect the Baltic inflation rates to converge with one another.

¹⁹ See also Buiter and Siebert in the Financial Times on May 19 2006 where they call for Lithuania to appeal the Commission's decision to the European Court of Justice on the grounds "that the inflation criterion violates both the spirit and the letter of the treaty".

High inflation, together with a much too restrictive inflation convergence criterion will delay entry into the eurozone and possibly for a substantial amount of time, given the still significant amount of price level convergence needed.

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