

# Beauties and the Beast

**When will the new EU members from Central and Eastern Europe join the Eurozone?\***

Provisional version; comments welcome

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On 1 May 2004, eight Central European former communist states, together with Cyprus and Malta, joined the 15-member European Union. Estonia, Lithuania and Slovenia joined the Exchange Rate Mechanism (ERM) of the Economic and Monetary Union (EMU) in June 2004 and hope to become members of the Euro area by 1 January 2007.<sup>1</sup> Latvia joined the ERM in May 2005 and targets full membership of the EMU in 2008. Slovakia also joined ERM in 2005 and hopes to join the Eurozone in 2009. The Czech Republic, Hungary and Poland have not yet joined the ERM. In this article we consider whether or not the new member states would benefit from joining the Eurozone and any potential economic grounds for excluding them. Then we consider whether, regardless of the fundamental economic merits of Eurozone membership, the Maastricht convergence criteria are likely to stand in the way of the five countries that joined the ERM achieving Eurozone membership by their target dates.

## ***I. Should the New Members Join the Eurozone?***

### ***Ia. The benefits to the new members from Central Europe of membership***

From the point of view of the economic fundamentals emphasized by optimal currency area theory, it is in the interest of all eight new Central European members (the CE8) to join the Eurozone as soon as possible. They are all too small, too open and too vulnerable to speculative attacks against their national currencies to be optimal currency areas. For the smallest ones among them, it is indeed doubtful whether a national currency is a viable option in the medium to long run.

In terms of economic size, as measured by their percentage share of world GDP, the new member states are tiny, as seen in Figure 1.<sup>2</sup> Several of the countries are about the size of

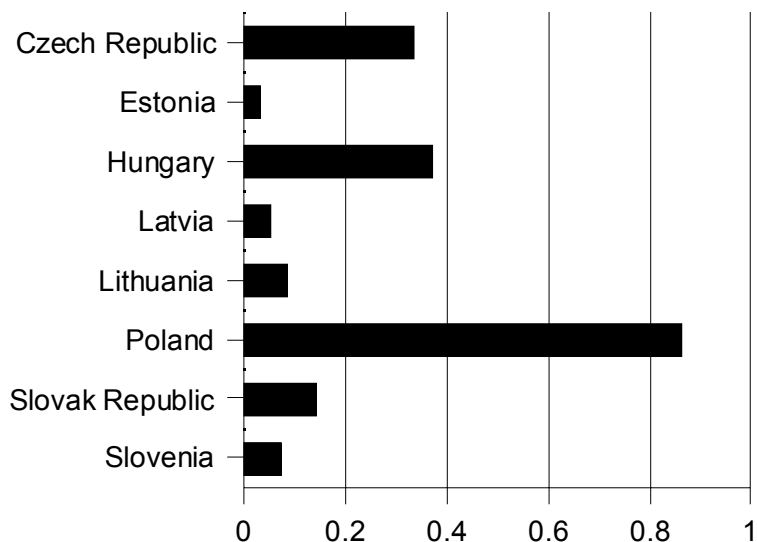
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<sup>1</sup> The Eurozone has 12 members. The UK, Sweden and Denmark, as well as the 10 new EU members that joined the EU on 1 May 2004, are not members of the Eurozone.

<sup>2</sup> GDP based on purchasing power parity (PPP) share of world total, source: IMF *World*

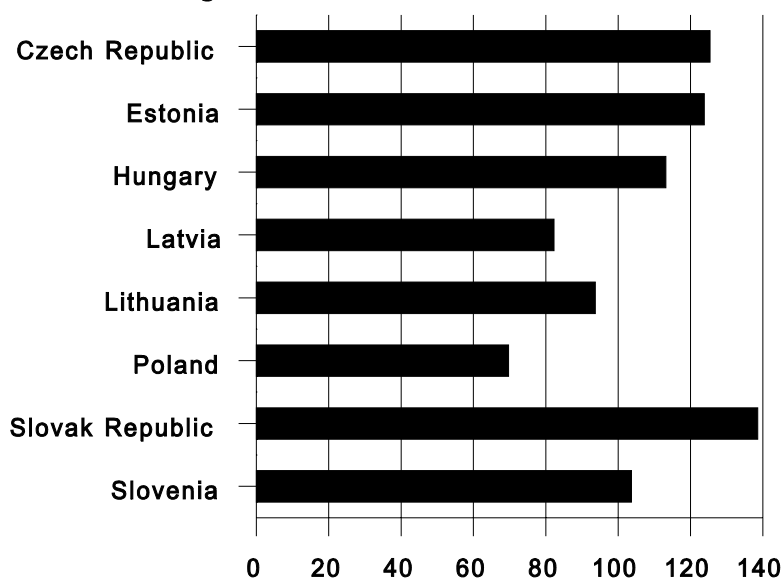
Luxembourg (0.05 percent) and collectively – at 1.93 percent – the eight countries are about the same size as Mexico (1.76 percent) or Canada (1.84 percent).

**Fig 1. Percentage Share of World GDP**



As shown in Figure 2, the CE8 are relatively dependent on trade.<sup>3</sup>

**Fig. 2. Share of Trade in GDP**



Their share of trade in GDP, calculated as the percentage of the sum of imports and

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*Economic Outlook and EconStats 2006.* At market exchange rates the shares of the Central European countries would be just over half their values at PPP exchange rates.

<sup>3</sup> Source: *World Bank Development Indicators, 2004.*

exports to GDP ranges from about 70 percent for Poland to nearly 140 percent for the Slovak Republic. This contrasts with the United States, where the share of trade in GDP is about 24 percent and with France, where it is about 56 percent. Moreover, openness is increasing in the new member states and should become significantly higher. These countries still trade significantly less than would be expected, given their size, per capita income, distance from trading partners and number of borders to cross.<sup>4</sup> The fact that the countries of Central Europe despite being open are still ‘not open enough’ is primarily the legacy of the distortions and misdirected trading patterns of central planning which has still not been completely overcome.

If openness to trade is merely high, financial openness is all but complete. As part of the ‘acquis’ (the body of EU laws, regulations and directives that the new EU members have to adopt to qualify for EU membership) virtually all fiscal, administrative and other institutional barriers to financial capital mobility have been lifted. The only exceptions are some remaining restrictions on foreign ownership of land and real estate that are not of macroeconomic significance.

An open financial account has many advantages: it permits nations, such as the new member states, with high economic potential to draw on foreign savings to augment their domestic capital stocks. It permits foreign direct investment, which brings financial resources and transfers skills, knowledge and technology. It increases the efficiency of financial intermediation and permits cross-border risk sharing. However, it exposes countries to whims of international financial markets. Average *daily* global turnover in the global foreign exchange market is roughly \$2 trillion and a single hedge fund may have more financial resources at its

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<sup>4</sup> This can be demonstrated empirically using gravity models, which relate trade intensity to such variables as real GDP per capita and distance from trading partners, see e.g. *Transition Report 2003*, European Bank for Reconstruction and Development, London 2003.

disposal than the monetary authorities of most of the new member states.

An independent national monetary policy (including a flexible nominal exchange rate) may be a useful stabilisation instrument for a country if there are significant *nominal* wage or price rigidities and the country is subject to asymmetric real shocks. Borghijs and Kuijs (2004) show that, for the Czech Republic, Hungary, Poland, the Slovak Republic, and Slovenia-empirical results on the basis of a structural VAR suggest that in these countries the exchange rate has served as much or more as an unhelpful propagator of monetary and financial shocks than as a useful absorber of asymmetric real shocks (see also Gros and Hobza (2003)). Empirical results that will be relevant to the new EU members in the post-2006 era are, however, unlikely to be obtained from structural VAR models that rely heavily on observations from the 1990s – a period of systemic collapse and transformation quite unlike the much steadier real convergence process that the Central European countries will face in the years and decades to come. The fact that the sectoral composition of production of the five Central European ERM members is already similar to that of the EU15 (the only significant exception here is Lithuania with its large agricultural employment share), makes it less likely that asymmetric real shocks will be a common feature in the future.

Even in a large and rather closed<sup>5</sup> economy like the US or the Eurozone, it is by no means obvious that monetary policy makers are any good at stabilising the economy, beyond what would be achieved as a by-product of inflation targeting. Indeed, it can be argued that monetary policy should attach no *intrinsic* weight to the stabilisation of the real economy, and should only respond to its perception of the output gap or the employment gap to the extent that these are useful predictors of future inflation. One reason is that an *inflation bias* may result when the monetary policy maker actively pursues the stabilisation of output or employment. Another

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<sup>5</sup> As regards trade in real goods and services.

reason is that stabilization is difficult: shocks are hard to identify and quantify and monetary policy is subject to lags which are long, variable and highly uncertain.

The smallness and openness of the member states implies that the exchange rate is not an effective instrument or buffer that would allow them to achieve the necessary changes in international relative costs and prices with small transitional costs of excessive inflation and unemployment. Instead, the foreign exchange market itself is a source of excess volatility, instability and, at times, persistent misalignment.

Regardless of the likelihood and severity of asymmetric real shocks, their small size and high degree of openness to trade and financial flows imply that for the CE8, a national currency is a liability. If they attempt to peg their exchange rates, then sooner or later they will almost certainly undergo a sudden and costly disruption to their financial sectors. The disastrous experiences of East Asia, Russia and Latin America in the late 1990s and 2002 serve as a warning that, for small open economies with mobile financial capital, pegged exchange rates lead to turmoil and output loss. The current situation of Iceland and New Zealand illustrates the problem with the alternative floating exchange rate regime. Swings in capital flows brought about by external events can force central banks to have to choose between cutting off growth with high interest rates or allowing precipitous declines in the value of their currency.

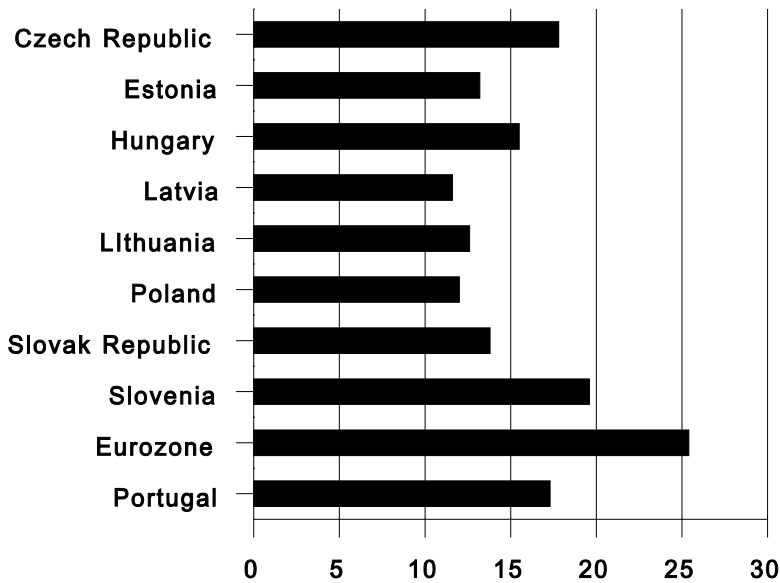
Writing in the *Financial Times*, Wolfgang Munchau argues that Estonia and Lithuania are too poor to join the Eurozone.<sup>6</sup> Indeed, as shown in Figure 3, Estonia and Lithuania are poor relative to most of the new member states and the new member states are poor relative to the Eurozone.<sup>7</sup>

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<sup>6</sup> "Monetary union is not for the poor", 30 Jan 2006

<sup>7</sup> Source: *Eurostat*.

**Fig. 3. Per Capita GDP in Thousands of Euros**



But, the gap is narrowing and two new member states (the Czech Republic and Slovenia) are wealthier than the Eurozone member Portugal. However, if poverty implies sharing a common currency with wealthier neighbours is undesirable, perhaps Tower Hamlets should leave the sterling area.<sup>8</sup> Differences in the levels and growth rates of real income and productivity have no bearing on a country's ability to benefit from membership in a monetary union.

A factor which might mitigate any cost associated with losing a stabilisation role for the central bank is the surprisingly high degree of cross-country labour mobility between the CE8 and the few earlier EU member countries that did not invoke the option to restrict (for a transitional period of up to 7 years) labour immigration from the new member states after May 1, 2004. Labour mobility can serve as a substitute for conventional stabilisation policy in coping with country-specific shocks.

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<sup>8</sup> Tower Hamlets is a London (UK) borough, just east of the City of London. It contains the heart of the old London docklands and is among the poorest boroughs of London, although it contains Canary Wharf, London's new financial centre.

It should also be noted that the cost of a common monetary policy to countries such as Estonia and Lithuania would not necessarily be greater than the cost to the existing Eurozone members. In the fourteen years since their independence Estonia and Latvia have been remarkably successful in transforming themselves into flexible and resilient market economies. The World Bank publishes an index measuring the ease of doing business in different countries. The index depends on such factors as business regulations, property rights and labour market rigidities. On this index, Lithuania and Estonia rank 15<sup>th</sup> and 16<sup>th</sup> in the world, respectively, not far behind the best EU25 performer (Denmark in 9<sup>th</sup> place) and ahead of Germany (19<sup>th</sup> place) and France (44<sup>th</sup> place).<sup>9</sup> The Heritage Foundation ranks all five ahead of France in its Index of Economic Freedom and Estonia, in seventh place, is ahead of the US.

Another potential cost of losing an independent monetary policy arises from public finance considerations. Due to different abilities to collect taxes and differences in the size of the informal sector, different countries may have different optimal inflation rates. If a government is relatively poor at collecting taxes and if its (frequently cash-intensive) informal sector is relatively large -- so that non-inflation taxes are distortionary -- then a country may find it optimal to collect a significant inflation tax, either through seigniorage (revenues from base money issued by the central bank) or an erosion of the real value of domestic-currency fixed interest debt at a rate of inflation higher than was anticipated when the debt was issued. Thus, the inflation rate which is optimal for one Eurozone member may not be optimal for another. Furthermore, as different member countries have different consumption baskets, there can be significant differences in inflation rates across countries even with a common monetary policy. Thus, even if all member countries had the same optimal rate of inflation and this rate were

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<sup>9</sup> World Bank, *Doing Business in 2006*, overview. The first three countries are New Zealand, Singapore and the United States, respectively.



achieved on average across countries, inflation could still be too high or too low in individual member countries. For the CE8 however, this cost is likely to be small compared to the benefits of Eurozone membership.

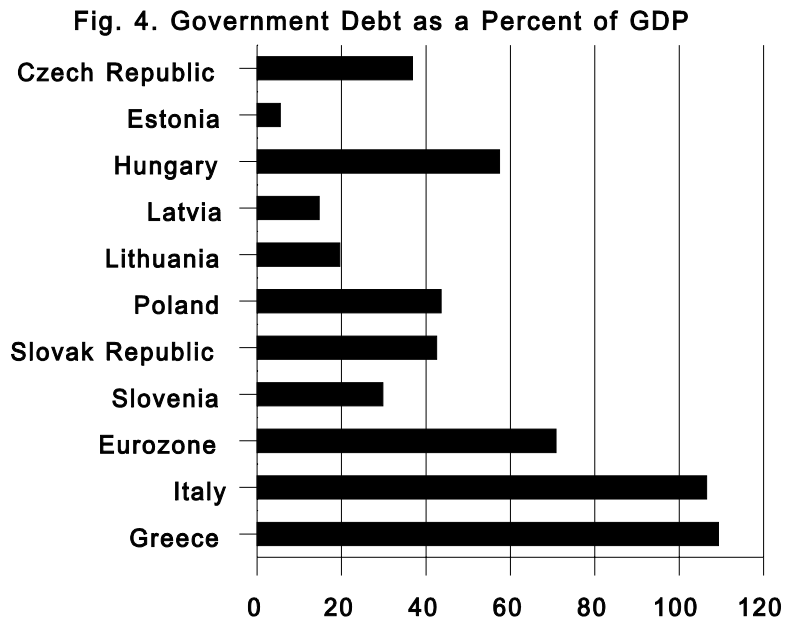
***Ib. The Cost to the Eurozone of the new members from Central Europe becoming members***

An inability or unwillingness of new member states to commit themselves to a sustainable fiscal policy is viewed as a potential cost of their membership in the Eurozone to the existing member states. It is frequently believed that a country's actual or threatened insolvency might jeopardise the entire Eurozone financial system or destabilise the common currency by forcing the European Central Bank into a bail out. While it is not entirely clear that this fear is reasonable, this is one reason why the current Eurozone members might have grounds for objecting to the entry of some new member states.

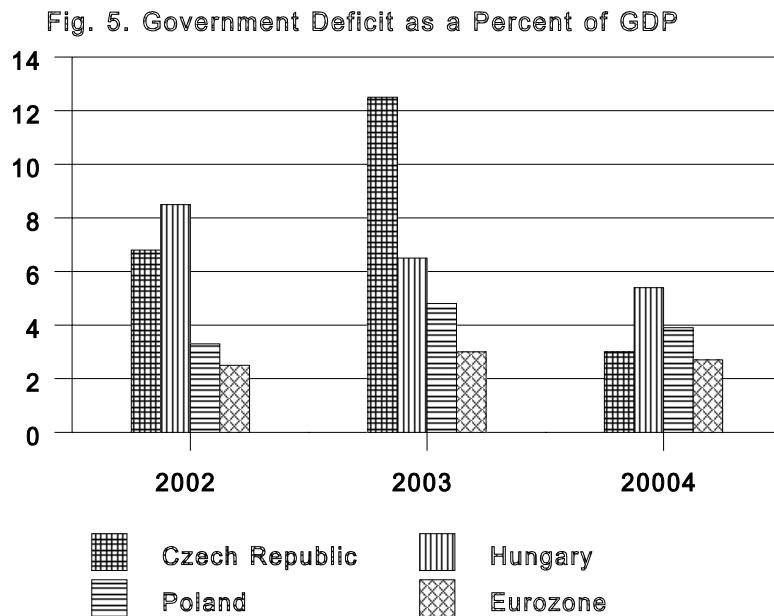
Establishing whether or not a country is following a sustainable fiscal policy is not a straightforward matter. The *economic* concept of sustainability should not be confused with whatever numerical benchmarks or criteria may feature in a set of legal documents or administrative procedures, be it the two fiscal Maastricht criteria for EMU membership, the fiscal criteria of the Excessive Deficits Procedure for existing EMU members or UK Chancellor Gordon Brown's golden rule and sustainable investment rule. Unsustainable public debt, implying the prospect of government insolvency and debt default, is a threat whenever the outstanding stock of debt is high relative to the ability and willingness of present and future governments to generate primary budget surpluses, that is surpluses before interest payments.

It is clear from Figure 4 that the existing debt-to-GDP ratios of all of the new member countries from Central Europe are well below the average of the Eurozone and much lower than

the stratospheric levels of Greece and Italy.<sup>10</sup>



Poland, Hungary and the Czech Republic are, however, as shown in Figure 5, running large and persistent conventional budget deficits.<sup>11</sup>

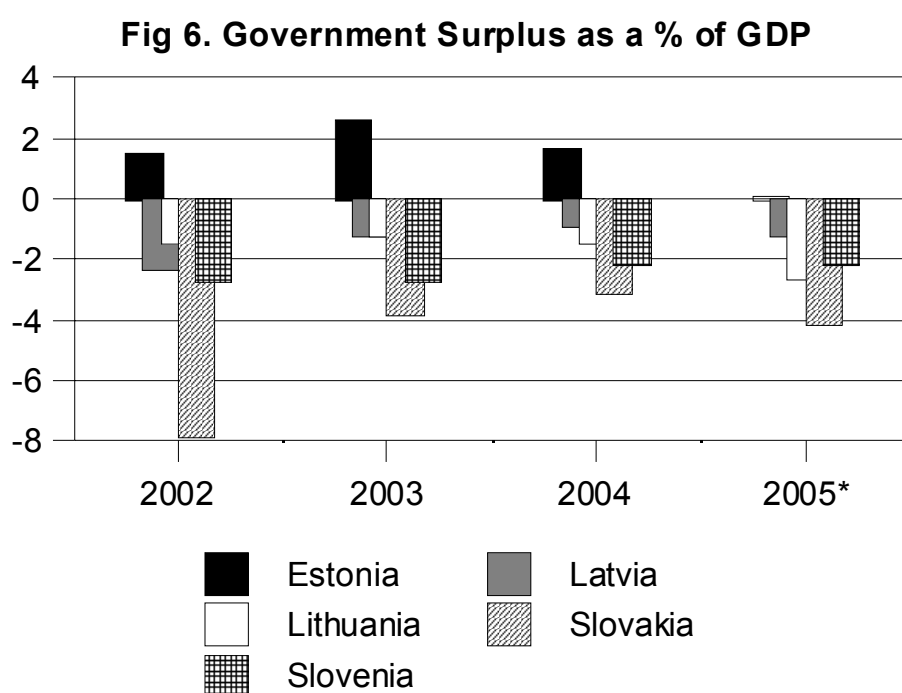


<sup>10</sup> Source: Eurostat, OECD

<sup>11</sup> Source: Eurostat.

They certainly show no evidence of being capable and willing to generate primary surpluses. For this reason it may be justifiable to claim that at present Poland, Hungary and the Czech Republic are not ready for Eurozone membership.

As regards fiscal sustainability, the three Baltic countries and Slovenia, and possibly even Slovakia, are ready for Eurozone membership now (see Figure 6). Indeed, they were ready on 1 May 2004 and are clearly far more ready than Italy, Greece, and quite possibly also France and Germany, none of which can be confidently stated to have sustainable fiscal programmes.



## II. What are the prospects for Estonia, Lithuania, Latvia, Slovakia and Slovenia to satisfy the Maastricht convergence criteria?

There are four Maastricht convergence criteria for full membership in EMU. The first is a pair of fiscal conditions that constrain gross general government debt to be less than sixty percent of (annual) GDP. The second is an interest rate criterion: long-term (ten-year) nominal interest rates on central government debt are to be within two percent of the average in the three EU member countries with the best inflation record. The third is an inflation criterion that

specifies that the annual inflation rate cannot exceed the average of the three best performing EU member countries in terms of price stability by more than 1.5 percent during the year prior to the examination (the formal assessment of whether a candidate has met the EMU membership criteria). Finally, there is an exchange rate criterion: the exchange rate has to remain within the normal fluctuation margins provided for by the ERM of the European Monetary System without severe tensions for at least the last two years before the formal assessment. In particular, the candidate must not devalue its currency on its own initiative during the period. The 'normal fluctuation margins' have been interpreted by the ECB and the European Commission to be plus or minus 15 percent around a fixed central parity against the euro. In addition, there is a requirement that central bank of the candidate country must be independent. Only the fiscal criteria have any hope of being rationalisable in terms of optimal currency area considerations, and even there the connection is weak: the two Maastricht fiscal criteria are neither necessary nor sufficient for fiscal sustainability.

By being fiscally profligate and by not joining the ERM, Poland, Hungary and the Czech Republic are effectively out of the running for Eurozone membership this decade. However, Estonia, Lithuania and Slovenia aspire to adopt the euro on 1 January 2007, Latvia sometime in 2008 and Slovakia during 2009. Slovenia is likely to be successful in meeting the ECB's and the European Commission's (mistaken) interpretation of the Maastricht criteria; Estonia is unlikely to be and it is uncertain whether or not Lithuania will comply.

As was seen in Figure 4, no CE8 country is in danger of exceeding the upward bound on government debt. The general government surplus (deficit, if negative) is depicted in Figure 6 and it can be seen that the of the five candidate countries, only Slovakia is in danger of exceeding the three percent limit.<sup>12</sup> Estonia has been running surpluses and Slovenia and

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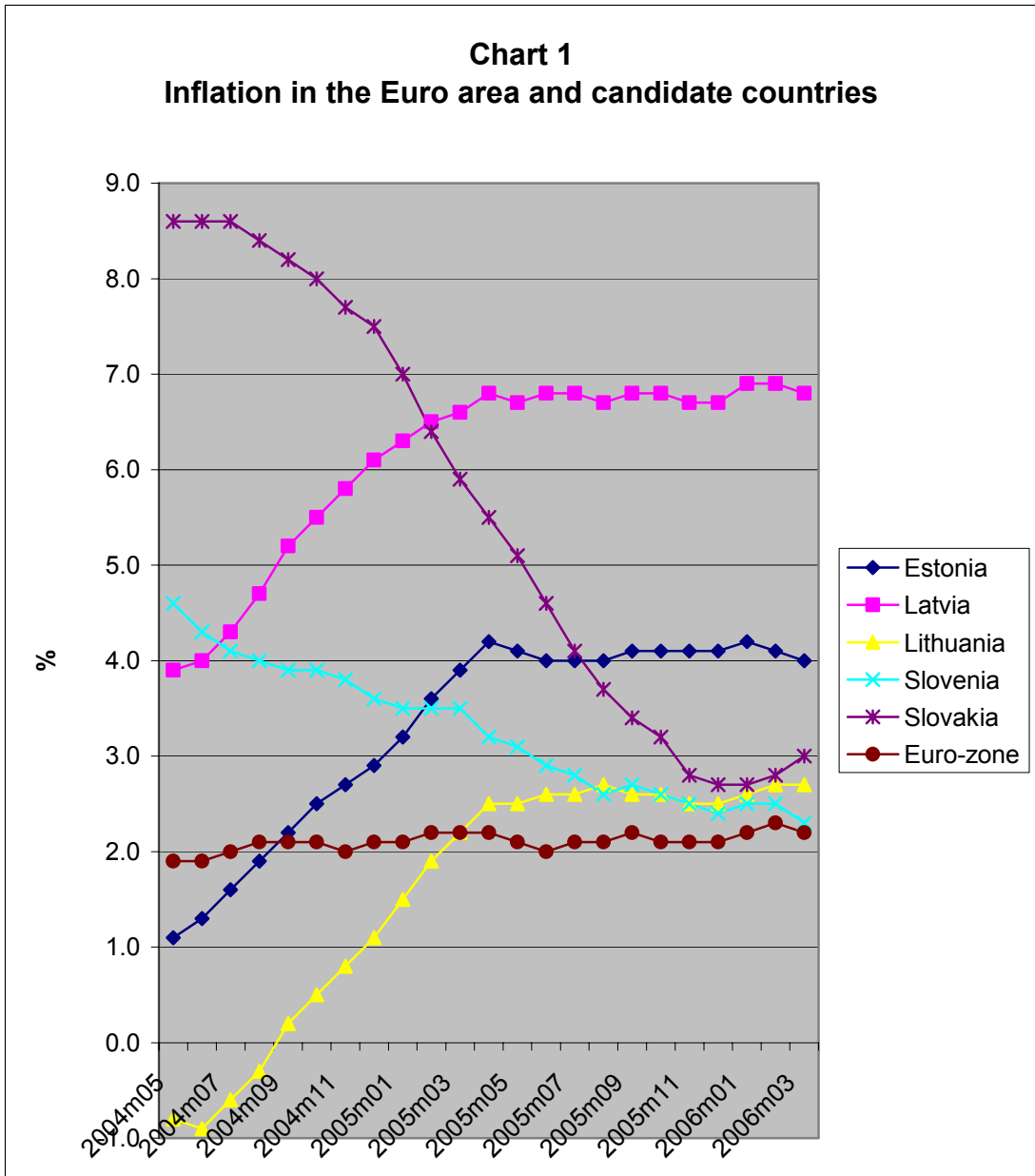
<sup>12</sup> ECB *Monthly Bulletin* Feb. 2006. The 2005 estimates are from the EBRD *Transition*

Lithuania are running small deficits. The Slovenian central bank projects that its deficits will continue to decline and to reach one percent in 2008. The same fiscal austerity has not characterised Euro-member countries; in 2004 the Euro area as a whole had a 2.7 percent deficit-to-GDP ratio and the three-percent limit was exceeded by Germany, Greece, France and Italy.

The five candidate countries should easily meet the long-term interest rate criterion; bond yields within the Eurozone have converged and the average of the three lowest inflation countries interest rates is close to the Eurozone average. In December 2005, the ten-year interest rates on public debt in Latvia, Lithuania, Slovakia and Slovenia were 3.59, 3.79, 3.62 and 3.69 percent, respectively. The Euro area average was 3.41 percent, making the target rate well over five percent. Estonia has lacked an instrument for comparison (that is, at least a five-year bond), but based on its low public-sector kroon interest rates and sound budgetary position, it should not face difficulties meeting this criterion.

Estonia and Lithuania maintain currency board arrangements and assumed a unilateral commitment to peg their currencies to the euro; the kroon and litas have traded at their central parity rate since Estonia and Lithuania joined the ERM. Slovenia's monetary policy is aimed at stabilising its exchange rate and the tolar has traded close to its fixed central euro parity rate since entry. Latvia joined the ERM on 2 May 2005 and the lats has remained well within Latvia's target zone of plus or minus one percent around the central parity. Since Slovakia entered the ERM on 28 Nov 2005, the Slovak Koruna initially appreciated, but has since stabilised between one and two percent above the central rate.

Inflation, measured according to the ECB's conventions for determining whether the inflation criterion is satisfied, is shown in Chart 1 below.



Since this is the criterion that may delay the Eurozone membership of Estonia and even Lithuania, it is key to be clear what the inflation benchmark is, according to the Treaty, its Protocols and the operational practice of the ECB.

**III What is the inflation criterion for Eurozone membership?**

It is useful to start at the source: the Treaty and its protocols:

*III.1 The inflation criterion of the Treaty*

The following statement of the Treaty provisions and their application is taken

verbatim from Box 1, p.9 of the *Convergence Report 2004* of the ECB. The remainder of Section III.1 is a quote from this Report.

### *1. Treaty provisions*

Article 121 (1), first indent, of the Treaty requires:

“the achievement of a high degree of price stability; this will be apparent from a rate of inflation which is close to that of, at most, the three best performing Member States in terms of price stability”.

Article 1 of the Protocol on the convergence criteria referred to in Article 121 of the Treaty stipulates that:

“the criterion on price stability referred to in the first indent of Article 121 (1) of this Treaty shall mean that a Member State has a price performance that is sustainable and an average rate of inflation, observed over a period of one year before the examination, that does not exceed by more than 1½ percentage points that of, at most, the three best performing Member States in terms of price stability. Inflation shall be measured by means of the consumer price index on a comparable basis, taking into account differences in national definitions.”

### *2 Application of Treaty provisions*

In the context of this report, the ECB applies the Treaty provisions as outlined below:

First, with regard to “an average rate of inflation, observed over a period of one year before the examination”, the inflation rate has been calculated using the increase in the latest available 12-month average of the HICP over the previous 12-month average. Hence, with regard to the rate of inflation, the reference period considered in this report is September 2003 to August 2004.

Second, the notion of “at most, the three best performing Member States in terms of price stability”, which is used for the definition of the reference value, has been applied by taking the unweighted arithmetic average of the rate of inflation of the following three EU countries: Finland (0.4%), Denmark (1.0%) and Sweden (1.3%). As a result, the average rate is 0.9% and, adding 1½ percentage points, the reference value is 2.4%. The price developments in Lithuania over the reference period, which resulted in a 12-month average rate of -0.2% due to the accumulation of specific factors, have been judged to be an outlier. This figure has consequently been excluded from the calculation of the reference value as it might otherwise have given rise to a distortion in the reference value and reduced the usefulness of the reference value as an economically meaningful benchmark. It should be noted that the concept of “outlier” was already referred to in earlier convergence reports. It does not imply any mechanical approach to the exclusion of certain inflation rates but was introduced in the 1998 EMI Convergence Report to appropriately deal with potential significant distortions in individual countries’ inflation developments.

*III.2 What is the criterion for choosing “the three best performing Member States in terms of price stability”?*

It is remarkable that the ECB never explains how it chose, for the reference period September 2003 to August 2004, Finland, Denmark and Sweden as the three best performing members in terms of price stability.<sup>13</sup> How did the ECB interpret ‘best performing in terms of price stability’?

It is clear that the three best performing EU members in terms of price stability does not *quite* mean ‘the three EU members with the lowest rates of inflation’. Lithuania had a negative inflation rate in August 2004, and the ECB used its judgment and discretion to treat it as an outlier and discard it for the purpose of calculating the benchmark.

It also does not *quite* mean ‘the three EU members with the lowest rates of inflation in absolute value’. This is clear because the absolute value of each of the (positive) inflation rates that were included in the benchmark (Finland (0.4%), Denmark (1.0%) and Sweden (1.3%)) were higher than the absolute value of the negative inflation rate of Lithuania ( $|-0.2| = 0.2$ ).

What it appears to have meant (and subsequent ECB and European Commission statements support this interpretation) is ‘the three EU members with the lowest *non-negative* rates of inflation’. For March 2006, the most recent month for which the inflation data are available, this measure would give us Sweden (1.0%), Finland (1.0%) and either Poland or the

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<sup>13</sup> There are a few more technicalities involved in the calculation of the inflation rates of the 25 EU member countries. Consider the calculation of the inflation rate for country  $i$ ,  $i = 1, \dots, 25$  in month  $j$ ,  $j = 1, \dots, 12$  of year  $N$ . Let  $p_i(N, j)$  be the HICP price level of country  $i$  for month  $j$  in year  $N$ . The inflation rate in month  $j$  of year  $N$  for country  $i$ ,

$$\text{denoted } \pi_i(N, j), \text{ is defined by: } \pi_i(N, j) = \left[ \left( \frac{\sum_{k=1}^j p_i(N, k) + \sum_{k=j+1}^{12} p_i(N-1, k)}{\sum_{k=1}^j p_i(N-1, k) + \sum_{k=j+1}^{12} p_i(N-2, k)} \right) - 1 \right] * 100,$$

where  $\pi_i(N, j)$  is rounded to one decimal. This is done for each country. Subsequently, the unweighted arithmetic average is taken of three of these 25 countries (the best performing ones in terms of price stability) these three numbers. This arithmetic average is also rounded to one decimal. Finally 1.5 is added to the rounded arithmetic average.



Netherlands (1.5%) (see Table 1).

Note that neither Sweden nor Poland are Euro-zone members. The unweighted arithmetic average of the three lowest non-negative inflation rates, rounded to one decimal is 1.2%. The benchmark inflation rate would therefore be 2.7%. As can be seen from Table 1, Slovenia (2.3%) would meet the benchmark, Lithuania (2.7%) would just scrape in, but Estonia (4.0%), Slovakia (3.0%) and Latvia (6.8%) would not.

<b>Table 1</b>	
<b>Inflation Rates in the EU, March 2006</b>	
<b>%</b>	
	March 2006
Latvia	6.8
Estonia	4.0
Luxembourg	3.9
Spain	3.6
Greece	3.5
Hungary	3.2
Slovakia	3.0
Lithuania	2.7
Malta	2.7
Belgium	2.5
Ireland	2.3
Italy	2.3
Portugal	2.3
Slovenia	2.3
Cyprus	2.2
United Kingdom	2.1
Denmark	1.9
Germany	1.9
France	1.9
Czech Republic	1.8
Austria	1.8
Netherlands	1.5
Poland	1.5
Finland	1.0
Sweden	1.0
EU25	2.2
EU15	2.2
Euro-zone	2.2
Source: Eurostat and National Statistics, UK	

The problem with this interpretation is that it is inconsistent with the ECB's own definition of price stability for the Eurozone as a whole. Once again, there is no mouth like the

horse's own to reveal the truth, so the following citation is straight from the ECB's Website:

*"The ECB's monetary policy strategy*

The ECB has adopted a specific strategy to ensure the successful conduct of monetary policy. The ECB's Governing Council has defined price stability as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. In the pursuit of price stability, the ECB aims at maintaining inflation rates below, but close to, 2% over the medium term."<sup>14</sup>

So the definition of price stability adopted by the ECB for the Euro area as a whole, is an inflation rate below, but close to, 2 percent. Performance in terms of price stability for the Euro area as a whole is therefore measured in terms of its deviation (in the medium term) from some number below, but close to, 2 percent. A natural interpretation of 'best performing in terms of price stability', given the ECB's own definition of price stability, is therefore the inflation rates of the three countries (out of the 25 EU members) that are closest to, but below, 2 percent. For March 2006, this would, from Table 1, be the inflation rates of Denmark (1.9%), Germany (1.9%) and France (1.9%). The unweighted arithmetic average of these three inflation rates rounded to one decimal is 1.9%. Adding 1.5 % gives the inflation benchmark *excluding the Balassa-Samuelson effect* as 3.4%.<sup>15</sup> Even the excessively stringent Balassa-Samuelson-deprived benchmark would easily be met by Slovenia and Lithuania (and indeed Slovakia) on the

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<sup>14</sup> <http://www.ecb.int/mopo/intro/html/index.en.html> . See also the quantitative definition of price stability given in <http://www.ecb.int/mopo/strategy/html/index.en.html> : "The first element of the ECB's strategy is a quantitative definition of price stability. The ECB's Governing Council has defined price stability as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. Price stability is to be maintained over the medium term. The Governing Council has clarified that, in the pursuit of price stability, it aims to maintain inflation rates below, but close to, 2% over the medium term."

<sup>15</sup> Alternatively, one could define some HICP inflation rate close to but below 2 percent, say 1.8 percent, to be the operational number defining price stability. One could then choose the three inflation rates 'closest to 1.8%'. with closest measured as the absolute value of the deviation from 1.8%. From Table 1 below, that would mean, for March 2006, the Czech Republic (1.8%), Austria (1.8%) and any one of Denmark, Germany and France (each with 1.9%). The unweighted arithmetic average of these three inflation rates, rounded to one decimal is 1.8%.

basis of the March 2006 data. Estonia and Latvia would not meet this benchmark.

We are convinced that any reasonable interpretation of the inflation criterion has to allow for any appropriate *equilibrium* inflation differentials due to persistent structural factors like the Balassa-Samuelson effect. In an economy that, starting from a low level of real per capita income and productivity, is catching up with and converging successfully to the productivity and income levels of its richer neighbours, the real exchange rate will be appreciating. The relative price of non-traded goods to traded goods in the poorer country will be rising faster than in its richer neighbours. The reason is that productivity levels in the traded goods sector of the poorer country will be catching up and rising faster than those in its non-traded, sheltered sectors. With a constant nominal exchange rate, an appreciating real exchange rate means a higher rate of inflation.

This is an efficient, equilibrium phenomenon, that should not be penalised by the inflation criterion. Short data sets, cyclical factors and oil price shocks make it hard to estimate the size of the inflation increase due to the Balassa-Samuelson effect on the accession countries, but current estimates are in the range of 1.5 percent to 2.5 percent per year for the relatively poor new EU members .like Estonia, Lithuania and Latvia. For richer new members, like Slovenia, it could be significantly smaller (see e.g. CEC5 National Banks (2002), Jazbec (2002), Gros and Hobza (2003), Égert, Drine, Lommatzsch and Rault (2003) and Borghijs and Kuijs (2004). Other drivers of structural equilibrium real exchange rate appreciation (and, in a monetary union, inflation differentials) have been identified and quantified by Égert, Drine, Lommatzsch and Rault (2003). There are, of course, also country-specific drivers of differential inflation that reflect past and present demand management errors. Such disequilibrium inflation differentials ought not to be allowed for in the inflation benchmark.

Slovenia's better inflation performance may reflect Slovenia's greater real convergence

towards Euro area levels, seen in Fig. 3. Per capita income in Slovenia is already about three quarters of the average of current area members and, thus, Slovenia is likely to be experiencing less of a Balassa-Samuelson catch-up effect. In addition, it is possible that Slovenia is more able than are Estonia and Lithuania to influence inflation through its control of administered and regulated prices and more willing to put up with the resulting distortions.<sup>16</sup>

As the Maastricht Treaty only allows for inflation to be 1.5 percent above the *best*-performing members of the EU, the Balassa-Samuelson effect creates a serious problem for Estonia, Lithuania and Latvia if they wish to maintain their pegs with the Euro during their time in ERM purgatory. Economic theory suggests that if their equilibrium inflation rate threatens to exceed the benchmark at the examination time, the only macroeconomic policy options are either to abandon their highly successful currency pegs/boards and adopt a more flexible exchange rate system: the fifteen percent exchange rate bands may permit more leeway than the 1.5 percent band in the inflation target. Or, they can use fiscal policy to drive down their domestic demand to the point where both criteria can be met. Neither choice seems particularly appealing.

It is true that, with an unchanged inflation target for the monetary union as a whole, the accession of countries with a higher equilibrium inflation rate will impose a *disinflation externality* on the existing monetary union members. However, given the size of the candidate Eurozone countries, the magnitude of the disinflation externality imposed by the candidate countries on the current members is negligible.<sup>17</sup>

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<sup>16</sup> The European Bank for Reconstruction and Development ranks countries on their degree of price liberalisation from 1 (a rigid centrally planned economy) to 4+ (an industrialised market economy). Estonia and Lithuania scored 4+; Slovenia scored a 4. Some other countries scoring a 4 were Azerbaijan, Kazakhstan and Ukraine.

<sup>17</sup> Let  $1 + \pi^* = (1 + \pi) \frac{O}{O+N} + (1 + \pi)(1 + \beta) \frac{N}{O+N}$ , where  $\pi^*$  is the target rate of inflation for the Eurozone as a whole,  $\pi$  is the inflation rate of the old Eurozone members

An inflation benchmark that includes an estimate of the Balassa-Samuelson premium is, in our view, completely compatible with the spirit of the Treaty and its Protocols. Based on March 2006 data, it therefore makes sense to set candidates for Eurozone membership an inflation benchmark of 1.5 % plus 1.9 % (the average of the inflation rates of the three best performing countries in terms of price stability), plus the Balassa-Samuelson equilibrium inflation differential of no less than 1.5 % for the three Baltic states. This would put the benchmark at 4.9%. Of the five Eurozone candidate countries, this would only exclude Latvia, and they are only targeting Eurozone membership sometime in 2008.

A good case can be made, however, that setting the benchmark on the basis of the inflation rates of the three EU members whose inflation rates are closest to, but below 2 percent, is grossly unfair because it means making demands on the candidate members that the Eurozone itself has been unable to meet. The only reasonable inflation rate on which to base an inflation benchmark is the inflation rate actually achieved by the Eurozone as a whole.

Good economics and ECB rhetoric agree on the point that the only inflation rate that matters is the inflation rate for the Eurozone as a whole: “The ECB has defined price stability . . . . *for the euro area . . . .*” (italics added)<sup>18</sup> Note that price stability is defined for the euro area, not for any subset of countries. Chart 1 shows the Eurozone inflation rate and that of the candidate countries since May 2004, the month the candidate countries joined the EU. Since July 2002, the Euro area’s inflation rate has not been below 2.0%. In March 2002, the Eurozone inflation rate

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and  $\beta$  is the Balassa-Samuelson real exchange rate appreciation premium. The size of the GDP of the old Eurozone members is  $O$  and that of the new member(s) is  $N$ . When the target rate of inflation for the Eurozone as a whole is 1.9%, the Balassa-Samuelson effect is 1.5% and the candidate country’s GDP is 1.0% of the old Eurozone GDP, the inflation rate of the old Eurozone would have to fall by just over 1 basis point, from 1.90% to 1.89%. This does not seem to be an insurmountable obstacle, especially in view of the fact that the ECB rounds inflation figures to 1 decimal point, that is, 10 basis points.

<sup>18</sup> <http://www.ecb.int/mopo/intro/html/index.en.html>

was 2.2 percent. Economic logic and the spirit of the Treaty both argue for making the actual inflation rate achieved by the Euro area the benchmark. The sensible benchmark for March 2006 would therefore be 2.2% plus 1.5% plus another 1.5% for the Balassa-Samuelson effect, that is, 5.2%. On this basis too, of the five candidates only Latvia would fail to meet the test.

#### *IV. Conclusion: what to do when “the law is a ass” and its servants are gormless ”*

All three candidates for Eurozone membership in January 2007, Estonia, Lithuania, Slovenia, are fit for purpose. With some anti-inflationary effort, Latvia should be ready for Eurozone membership in 2008 and with continued fiscal restraint Slovakia can be ready in 2009. All that stands between Estonia (and perhaps even Lithuania, if there is slippage of even one decimal point in its inflation rate) and an imminent Eurozone membership that would benefit both them and the existing EU members, is the risk of a rigid application of an inconsistent interpretation of a flawed inflation criterion.

The existence of this risk reflects two problems. The first problem is that “the law is a ass”.<sup>19</sup> The Treaty and its Protocols, as they relate to monetary union (and fiscal matters) is a mess – badly drafted, at times inconsistent, and at times pure gobbledegook. Three manifestations of this are relevant to the Eurozone accession debate.

First, the Treaty sets candidate Eurozone members *three* nominal objectives: a (short-run) inflation ceiling, a (long-run) nominal interest rate ceiling and a medium-term nominal exchange rate target zone centered on a fixed nominal euro parity. Even talented central banks have their hands full pursuing just one nominal objective.

Second, the Treaty bases the inflation benchmark for Eurozone membership on the

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<sup>19</sup> If the law supposes that,” said Mr. Bumble,.....“the law is a ass - a idiot. If that's the eye of the law, the law is a bachelor; and the worst I wish the law is that his eye may be opened by experience - by experience.” From Charles Dickens, *Oliver Twist*, chapter 51, p. 489 (1970).

inflation performance of all EU countries. Only 12 of the 25 current EU members are currently members of the Eurozone. Two of the four countries that between them had the three lowest inflation rates in March 2006 were Sweden and Poland, neither of which is a member of the Eurozone. It would make as much economic sense to base the decision on admitting the candidate Eurozone members on the inflation performance of Sub-Saharan Africa as on that of EU members that are neither in the Eurozone nor candidates for Eurozone membership. Indeed, even the inflation performance of the 12 *individual* Eurozone members is from the point of view of economics, irrelevant for prior nominal convergence by the candidate members. This prior nominal convergence requirement (which is not implied by optimal currency area considerations) would require convergence on the Eurozone average rate of inflation (shown in Chart 1) or on the target rate of inflation of the Eurozone - close to but below 2 percent per year.<sup>20</sup>

Third, the Treaty ignores the presence and importance of structural drivers of equilibrium real exchange rate appreciation such as the Balassa-Samuelson effect. The associated equilibrium inflation differentials between members of a monetary union are no obstacles to the effective functioning of that union.

The servants of the law and its official interpreters, the ECB and the Commission, have compounded the problem of the asinine law, through further errors of logic and interpretation.

The most egregious of these is their interpretation of the three best performing countries in terms of inflation as the three countries with the lowest (non-negative) inflation rates. This is not part of the Treaty and Protocols. It is also inconsistent with the ECB's own operational definition of price stability for the Eurozone as a whole, which is an inflation rate close to but

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<sup>20</sup> For a small country joining a large common currency area, prior inflation convergence (up to the differential warranted by the Balassa-Samuelson effect) is helpful but not essential. Membership in the common currency is a swift and efficient way of achieving the right degree of inflation convergence.

below two percent in the medium term. It is extraordinary that persons in a position of influence and responsibility should have performed this legerdemain. It is time for their political masters to set them straight.

Failure to enforce a law, or a Treaty-based rule like the application of the Maastricht convergence criteria, weakens the rule of law and the respect for rule-bound behaviour. Enforcing a law or a rule that makes no sense and inflicts unnecessary harm also weakens respect for the rule of law and for rule-bound behaviour and thus undermines them. In the case of the Maastricht criteria, this dilemma has, for better or worse, already be resolved by the fact that the criteria have been violated both in spirit and in the letter so frequently, and in so shamelessly opportunistic a manner, that little or no further damage will be done by a flexible interpretation of the inflation criterion that respects most of the letter and all of the spirit of the law. Italy, Greece and Germany joined EMU despite not meeting the debt criterion at the time of the examination. Finland, Italy and Greece also did not satisfy the exchange rate criterion. Greece turned out, after having achieved EMU membership, to have fiddled, in a comprehensive manner, the government deficit data during the qualifying period. Greece was allowed to remain in a Eurozone it never ought to have been allowed to join and no sanction of any kind was imposed.

Furthermore, the ECB has, in its Convergence Report 2004, explicitly opened the door to a flexible interpretation and calculation of the reference value for inflation. As pointed out earlier, it contains the statement: *"The price developments in Lithuania over the reference period, which resulted in a 12-month average rate of -0.2% due to the accumulation of specific factors, have been judged to be an outlier and were consequently excluded from the calculation of the reference value."*<sup>16</sup>. The ECB then further underlines the scope for flexibility and discretion by

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<sup>16</sup>European Central Bank, *Convergence Report 2004*, Frankfurt am Main, p.16.



making the following point: *"It should be noted that the concept of "outlier" was already referred to in earlier convergence reports. It does not imply any mechanical approach to the exclusion of certain inflation rates but was introduced in the 1998 EMI Convergence Report to appropriately deal with potential significant distortions in individual countries' inflation developments.*<sup>21</sup>

Finally, if the ECB and the European Commission persist in their flagrant misinterpretation of the inflation criterion for Eurozone membership, and if a recommendation based on this faulty interpretation, to deny membership to Lithuania and/or Estonia were to be approved by the Council, this would represent a 'constitutional' issue of such importance that it should be referred to the European Court of Justice. It may not come to that, however, even if the ECB and the Commission do not see the error of their ways. The decision on whether Estonia and Lithuania will join Slovenia on January 1, 2007 as Eurozone members, will be taken by the European Council – the political leaders of the European Union. The ECB and the European Commission have a merely advisory role in this matter. The very creation of EMU has been a triumph of political will over technocratic timidity, obstinacy and ignorance. It could happen again.

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<sup>21</sup> ECB *Convergence Report 2004*, Box 1, Page 8. There is, actually, nothing exceptional about Lithuania's inflation performance in that period. Its inflation rate was negative from January 2003 till August 2004 with no apparent ill effects for the country.

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