

Economics and Research Department

NBH WORKING PAPER

2000/7

György Szapáry<sup>\*</sup>:

**MAASTRICHT AND THE CHOICE OF EXCHANGE RATE REGIME  
IN TRANSITION COUNTRIES DURING THE RUN-UP TO EMU**

Oktober, 2000

---

<sup>\*</sup> Advisor to the President of the National Bank of Hungary. An earlier version of this paper was presented at the conference organized by the International Triffin Foundation on “The Fragility of the International Financial System”, Louvain-la-Neuve, Belgium, September 14-15, 2000. I would like to thank Zsolt Darvas, Daniel Gros, Eduard Hochreiter, András Simon and János Vincze for their useful comments without implicating them. I also thank Sándor Valkovszky for research assistance. The views expressed in the paper are strictly personal and in no way commit the National Bank of Hungary.

Online ISSN: 1585 5600

ISSN 1419 5178

ISBN 963 9057 80 0

György Szapáry: is Advisor to the President of the National Bank of Hungary

E-mail: [szaparygy@mnbb.hu](mailto:szaparygy@mnbb.hu)

The purpose of publishing the Working Paper series is to stimulate comments and suggestions to the work prepared within the National Bank of Hungary. Citations should refer to a National Bank of Hungary Working paper.

The views expressed are those of the authors and do not necessarily reflect the official view of the Bank.

© National Bank of Hungary

H-1850 Budapest

Szabadság tér 8-9.

<http://www.mnb.hu>

### Abstract

This paper raises some specific issues concerning the choice of exchange rate regime in transition countries during the run-up to EU/EMU membership. It argues that there is no “one-case-fits-all” exchange rate regime that accession countries should uniformly adopt. It also argues that the Maastricht criterion on inflation is inconsistent with the catching-up process and that this inconsistency may encourage a “weighing-in” syndrome that diminishes the efficiency of economic management in the countries about to join the EMU. It makes suggestions on how the Maastricht criterion on inflation could be adjusted.



## I. Introduction

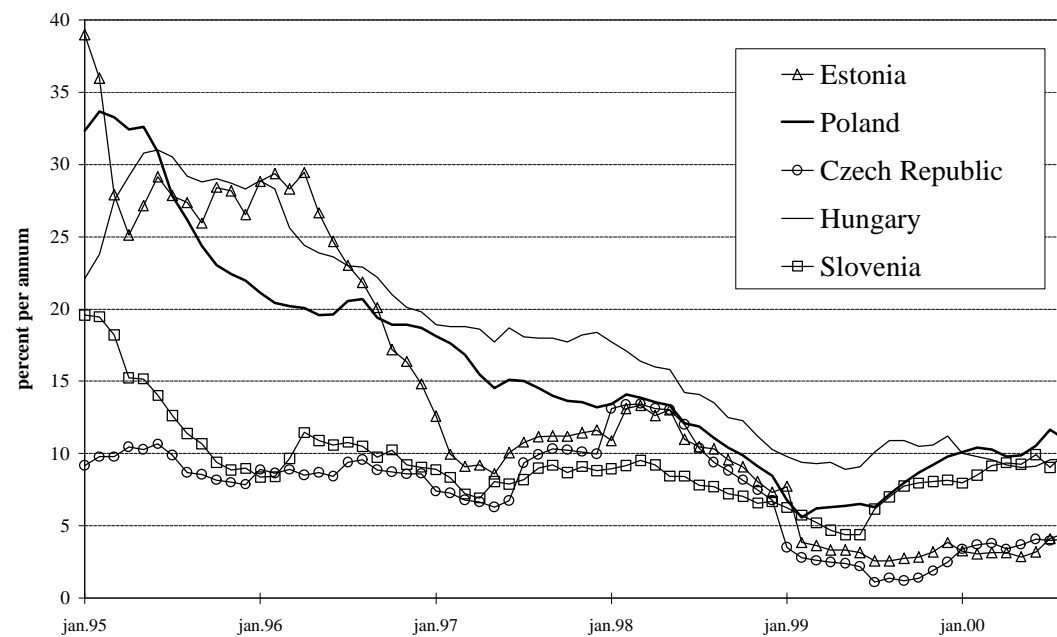
With the creation of EMU, a new chapter has been opened in the debate about the issue of exchange rate regime choice. At stake is the selection of an exchange rate regime that will best serve the interests of the accession countries from Central and Eastern Europe (CEE) as they prepare to join the EU and to meet the Maastricht criteria which will allow them to enter later the EMU. There is little doubt that from an economic standpoint, the CEEs, small economies as they are, have a strong interest in joining the euro zone once they have liberalized the trade and capital flows and have become a member of the EU. Entry into the euro zone will mean lower risk premium and interest rates, as well as lower transaction costs (to mention just the most obvious economic advantages), along with a say in shaping the ECB's monetary policy, the independence from which becomes more imaginary than real once a small country has *de facto* integrated into the economy of the euro zone. The question is whether there is an ideal exchange rate regime for transition countries during the run-up to EMU which can ensure stability, maintain competitiveness, promote structural reforms and also help to meet the Maastricht criterion on inflation.

The purpose of this paper is not to discuss the many aspects of the issue of exchange rate regime choice, a topic which is examined and debated in a vast body of literature. Rather, it would like to raise, particularly in the light of the current high degree of globalization of financial flows, some specific issues facing the accession countries which are closest to EU/EMU membership. In this

context, the paper raises the issue of the adequacy of the Maastricht criterion on inflation and makes some suggestions for adjusting that criterion.

The accession countries maintain a wide diversity of exchange rate regimes: practically all varieties can be found from currency board arrangements (e.g., Estonia) to floating regimes (e.g., the Czech Republic and Poland since April)<sup>1</sup>. Hungary's system is somewhere between these two ends: a preannounced crawling peg with a relatively narrow band of  $\pm 2.25$  percent. A common goal of these countries is to move toward meeting the Maastricht criteria while completing the transition, but there seems to be no direct link between the exchange rate regime in place and the progress achieved in meeting that goal. For instance, close to EU inflation level has been achieved in Estonia with a currency board and in the Czech Republic with a floating regime; and approximately the same path of disinflation has been secured in Poland with a wide band crawling peg and in Hungary with a narrow band crawling peg (Chart 1). This is testimony to the fact that other policies matter more than the exchange rate regime. Yet there is an issue of exchange regime choice because the ultimate goal is to fix the currencies to the euro and that process should be as orderly and efficient as possible.

**Chart 1: Inflation in Transition Countries, January 1990 - September 2000**



Source: IMF, *International Financial Statistics*

## II. Characteristics of CEEs from the point of view of exchange rate regime choice

The acceding transition countries share a number of characteristics which have a bearing on exchange rate policy.

First, their wages and non-tradable prices are lower than those of the EU countries. Since they have a lower level of technical development and productivity, they are expected to grow faster than the EU as real convergence proceeds. This means that their wages and non-tradable prices will grow faster in accordance with the Balassa-Samuelson (BS) effect. The BS effect arises from the fact that the growth of productivity differs among sectors while wages tend to be less differentiated. Typically, productivity growth is faster in the traded goods

---

<sup>1</sup> Until April 2000, Poland had a preannounced crawling peg with a band which had been progressively widened to  $\pm 15$  percent.

sector than in the non-traded goods sector, such as services. To the extent that the faster productivity growth in the traded goods sector pushes up the wages in all sectors, the relative prices of the non-traded goods to those of the traded goods will rise. Since the growth of productivity is, by definition, faster in a catching-up economy than in a more mature economy, the BS effect implies that, *ceteris paribus*, the CPI of the former will rise faster than that of the latter, as the levels of productivity, wages, and non-traded goods prices converge between the two economies. Hence, the real exchange rates of the accession countries, as measured by the CPI, will appreciate during the catching-up process. However, this process will necessarily take many years and the real appreciation has to be broadly in line with the underlying BS effect if the country is to avoid loss of competitiveness and serious balance of payments problems.

The inflation differentials observed within the EMU and the approaching enlargement of the EU have focused interest on the BS effect. ECB (1999) notes that there is clear evidence that the BS effect has been at work within the euro area, though it does not provide precise estimates. IMF (2000) reports calculations estimating the BS effect in the range of 1.5 and 2 percent per year for certain individual member countries of the EU. Pelkmans-Gros-Nunez Ferrer (2000) make precise estimates for the candidate countries and find that the BS effect could be around 3.5-4 percent for these countries. Simon and Kovács (1998 and 2000) estimate the BS effect for Hungary at 1.9 percent per year during the period 1991-98. For Slovenia, IMF (2000) reports an estimate of 2.5 percent per annum. While these estimates for the candidate countries vary reflecting the different methodologies of calculations, they all show that the BS



effect for these countries exceeds the 1.5 percent permissible inflation deviation under the Maastricht criterion.

Second, as a result of the liberalization of trade and payments, the economies of the accession countries are highly open and integrated into a global financial system in which the flow of capital is much less restricted than it was when, for instance, Spain, Portugal, and Greece joined the EU. At the same time, because of their status as emerging markets, the accession countries remain exposed to volatile capital flows, as witnessed during the Russian financial crisis of 1998 when capital fled these countries, irrespective of the state of their fundamentals or exchange rate regimes.

Third, the candidate countries still face relative price adjustments beyond the BS effect, due to the continuous structural reforms and liberalization in such areas as telecommunication, energy, transportation and healthcare. The inflationary impact of these changes is less stable and progressive than that of the BS effect because it is linked to the timing of reforms which, in turn, is often linked to the privatization of those activities.

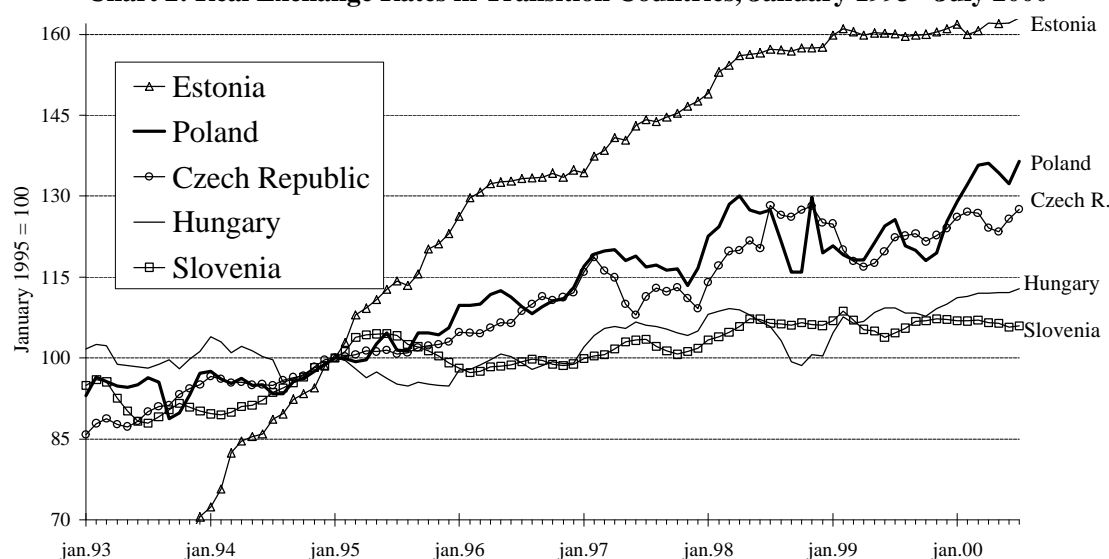
Fourth, these countries have small domestic markets and rely heavily on exports and imports for investment and growth. A loss of competitiveness translates fairly rapidly into a deterioration of the balance of payments.

When considering the choice of an appropriate exchange rate regime, the authorities of the accession countries are therefore confronted with three conflicting objectives: (i) to ensure reasonable exchange rate stability in the face of capital volatility; (ii) to secure an orderly real exchange rate appreciation more

or less along the path dictated by the BS effect; and (iii) to move toward meeting the Maastricht criterion on inflation.

The stability objective would be best served by a fixed rate regime. However, because of the faster inflation inherent in the catching-up process and the risk that the required wage flexibility and strong supportive policies to sustain a fixed rate can not be implemented, a rigidly fixed rate carries the danger of leading to a rapid appreciation of the real exchange rate which could prove intolerable for most countries. In Estonia, for example, where a currency board arrangement is in effect, the real exchange rate appreciated by more than 100 percent between 1993 and 1999 (Chart 2). Estonia has been able to cope with this appreciation because its wages are very low (relative to the skill of the labor force) and because the small size of the country means that foreign direct investment (FDI) was able to cover a large part of its sizable current account deficit, which averaged about 10 percent of GDP in 1996-98. The other countries would not be able to tolerate such rapid appreciation and such high current account deficit. The real appreciation in Estonia is perhaps an extreme case and there are examples of fixed rate regimes where the real appreciation was more modest and gradual. The point is that a fixed rate needs the backing of strong monetary and fiscal policies and flexible wages which may not exist in all cases. Furthermore, a fixed rate would deprive the country of one of its instruments, the nominal appreciation of the currency, that could help the country to bring inflation down to the Maastricht level without resorting to excessively tight monetary and fiscal policy.

**Chart 2: Real Exchange Rates in Transition Countries, January 1993 - July 2000**



A flexible exchange rate arrangement, in the form of a wide band or free floating regime could, in principle, provide the possibility for a gradual appreciation of the real exchange rate in conformity with the BS effect and could also help the country to meet the inflation target without relying on unduly restrictive monetary and fiscal policy. However, because transition countries are particularly exposed to the volatility of speculative capital flows, such regimes may lead, as seen during 1997-98, to large real exchange rate variability. Although opinions differ on how bad real exchange rate variability actually is, there are convincing empirical studies in the literature which demonstrate their negative economic effects<sup>2</sup>. While the multinational firms operating in these countries might more easily cope with real exchange rate fluctuations, the smaller domestically owned firms, whose development is essential for broad-based economic prosperity, are much more sensitive to changes in competitiveness. A wide band or free floating regime also carries the danger that

<sup>2</sup> See for example Baldwin and Krugman (1989), Campa (1993) and Gourinchas (1999).

if the country's fundamentals are seen by the markets as appropriate, the inflow of capital will lead to an excessive appreciation of the currency. Good fundamentals are not a precondition though, as evidenced by the large inflows into Russia prior to the summer of 1998.

One argument often made in favor of floating or wide bands is that it provides better protection against speculative attacks. However, the experience during the Russian crisis of Poland and Israel, two countries considered as emerging markets, showed that when there is a sudden shift in market sentiment, wide bands do not shield against speculative attacks<sup>3</sup>. Another argument is that because of the greater potential risk of depreciation, wide bands discourage speculative capital inflows. The experience of the above two countries prior to the Russian crisis does not support that argument, as both countries witnessed large capital inflows.

Narrower bands reduce exchange rate variability and can also prevent an excessive appreciation/depreciation at times of capital inflows/outflows. Whether this is a sensible policy depends on the magnitude of the capital flows. Hungary has so far managed to prevent an undue appreciation of its currency without excessive sterilization costs and successfully defended the forint without excessive loss of reserves in the wake of the Russian crisis. This experience, and that of Greece when the authorities defended the drachma during the Asian crisis, turned out to be beneficial, since output growth strengthened and inflation continued to decline in both countries after the defense of their currencies. The point to make here is that there are circumstances, i.e. when the fundamentals are

---

<sup>3</sup> See Darvas and Szapáry (2000).

right, under which it makes sense to defend the currency in order to maintain stability. A narrow band, if it is supported by credible policies, may also lead to lower premium on domestic interest rates, since the risk of depreciation and exchange rate variability are lower<sup>4</sup>. That said, a narrow band is not necessarily the right regime for all cases; the break-up of ERM1 illustrates that point. A narrow band, just as a fixed rate, needs to be backed by adequate supportive policies.

### III. The convergence play

The developments of the recent past place the issue of exchange regime choice in a somewhat new light in the case of the accession countries. The most important event is the creation of the EMU and the reasonable expectation that the applicant countries will follow policies that will allow them to become a member of EMU in the not too distant future. This seems to have provided enough of certainty for the markets to engage in speculation for a convergence of interest rates and an appreciation of the exchange rates, if the fundamentals of the country are judged to be broadly appropriate. Another important development is the liberalization of markets. Capital has never been as free as it is now to move across borders and the progress in technology has made the flow of capital much easier and faster. There is a vast amount of potentially fickle capital ready to take

---

<sup>4</sup> Until the Russian crisis, the interest rate premium was lower in Hungary which maintains a narrow band preannounced crawling peg regime than in the Czech Republic with a free floating regime and in Poland with a wide band regime. The Russian crisis triggered a change in market sentiment and the interest rate premium in Hungary increased to the level of that prevailing in the Czech Republic and Poland (see Darvas and Szapáry, op. cit.).

a higher risk in emerging markets in order to take advantage of higher expected returns. Fund managers throughout the world invest only a small portion of their portfolio in emerging markets to maximize returns. Investment banks offer dedicated emerging market funds to investors, while advising them to invest only a small portion of their total portfolio into such funds. While all this sounds very conservative from the point of view of the investor, it adds up to billions of volatile dollars available to move around among emerging markets. Capital flows that are insignificant for markets of the size of the United States or the euro zone can be very disruptive for the exchange markets of small countries like the Czech Republic, Hungary or even Poland.

Accession countries have some characteristics that promise good returns with less risks for speculative capital. In order to meet the inflation criterion for joining the EMU, the monetary authorities are likely to maintain a nominal interest rate level that is higher than the uncovered interest rate parity, encouraging investment in fixed income investments, such as government securities. The favorable growth prospects attract investment into the stock markets of these countries by investors both with a short run and a medium to long run perspective. The experience of Greece, Portugal and Spain, where stock markets outperformed the other European markets in the years following their entry into the EU, serves as a good example. The expected return on both of these types of portfolio investments is enhanced by the anticipated appreciation of the exchange rate.

#### IV. No “one-case-fits-all” exchange rate regime

This situation creates specific problems for the accession countries. First, it is too early for them to be caught up in the convergence play. The date of EMU membership is still uncertain and an undue appreciation of their currencies or a too rapid fall in domestic interest rates will not be consistent with their stabilization goals. Second, these countries remain vulnerable to shifts in market sentiment triggered by financial crises elsewhere. The more speculative capital enters the country, the more capital will be able to leave it when market perceptions change, undermining stability. In such circumstances, controls on short-term capital flows might be of some help. Although such controls can be circumvented once trade and long-term capital movements have been liberalized, they can mute the magnitude of short-term capital movements by throwing sand into the wheels. Nevertheless, since the ultimate goal is full liberalization, short-term capital controls can only provide a temporary relief. At best one can argue in favor of not making a full liberalization of short-term capital flows a precondition for EU accession, only a precondition for joining ERM2.

The experiences with different exchange rate regimes in the transition countries and elsewhere convincingly show that there is no “one-case-fits-all” exchange rate regime that accession countries should uniformly adopt in the run-up to EU/EMU membership. There are many factors that need to be taken into account when selecting an exchange rate regime. The most obvious is the strength of the political commitment to pursue macroeconomic policies – in particular, fiscal, monetary and incomes policies – which will ensure internal and

external stability. The looser that commitment is, the less likely it is that a rigidly fixed system can survive the pressures of the market. The progress with structural reforms, such as privatization, the lifting of price controls, healthcare reforms, etc., also need to be taken into consideration, since they influence the future path of inflation. Slower progress in these areas would argue in favor of adopting a more flexible exchange rate regime to accommodate the potential inflationary shocks.

Prior to EU membership, candidate countries are free to adopt the exchange rate regime of their choice and they can enter the EU with their prevailing exchange rate regime. At some point after their accession to the EU, they are expected to enter ERM2. The logic of ERM2 excludes the adoption of crawling pegs, free floating without a central rate, and pegs against a currency other than the euro. It seems that the EU and the ECB will accept euro-based currency board arrangements (CBA) if they are deemed sustainable, although the question of the exchange rate being a “matter of common interest” is raised if it turns out that the exchange rate under the CBA is not sustainable. The EU is likely to turn around this problem by declaring that CBA may be compatible with ERM2 as a “unilateral commitment”, meaning that the Eurosystem is not committed to take part in any possible defense of the peg. Since a rigidly fixed rate in the form of a CBA, or in any another form for that matter (e.g. the hard currency policy of Austria)<sup>5</sup>, can be a powerful catalyst for the adoption of the right policies, the acceptance of the CBA as a form of participation in ERM2 is appropriate. The EU is likely to take the view that euroization is not compatible

---

<sup>5</sup> See Hochreiter and Winckler (1995).



with ERM2 on the grounds that it should be the final act of the convergence process and that the new members should receive treatment equal to that of the initial members with respect to the fulfillment of the convergence criteria. In my view, the most serious problem with euroization or a CBA is that it takes away the possibility of an appreciation of the nominal exchange rate as an instrument of disinflation, placing all the burden of meeting the Maastricht criterion on inflation on monetary and fiscal policy. This brings me to point out an inconsistency built into the Maastricht criteria.

V. Encourage “weighing-in” syndrome or change the Maastricht criterion on inflation?

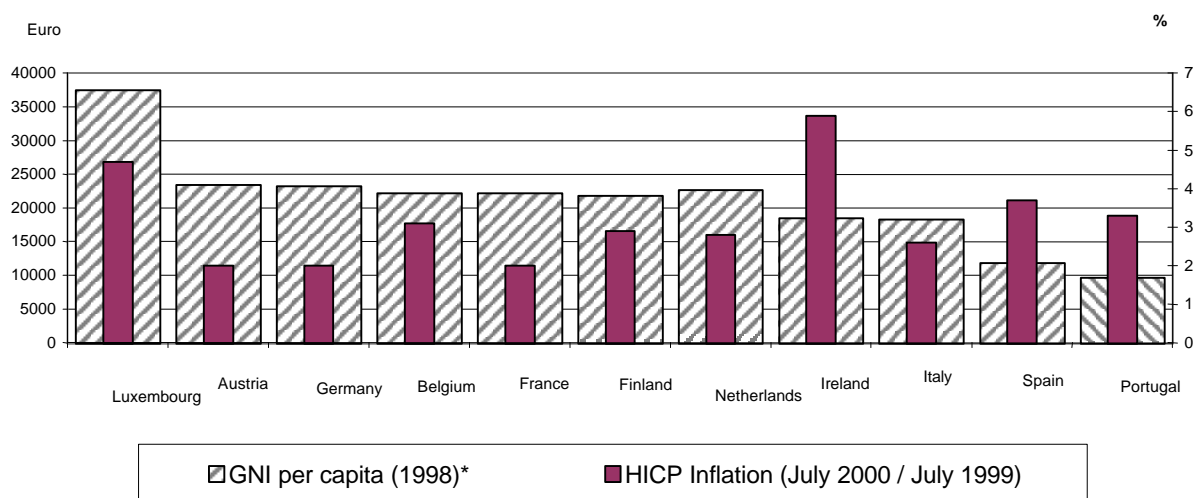
One of the Maastricht criteria is that one year prior to joining the EMU, the accession country's rate of inflation should not exceed by more than 1.5 percentage point the average rate of inflation in those three EMU countries where inflation is the lowest. Since, as pointed out earlier, the catching-up process implies a higher rate of inflation, it is not logical to demand the same level of inflation from countries at very different stages of development. The same level of inflation can only be achieved either by a very restrictive monetary and fiscal policy which may result in an excessive sacrifice to growth and employment or by an appreciation of the nominal exchange rate. The appreciation of the nominal exchange rate is likely to be resisted because of a fear of loss of competitiveness as capital inflows intensify with the approach of EMU membership. Since there is a lag between an appreciation of the nominal exchange rate and the

concomitant slowing down of CPI, the combination of higher inflation and a nominal appreciation may lead to excessive loss of competitiveness. This will encourage the candidate countries to adopt an attitude which one might call the “weighing-in” syndrome: like the boxer who refrains from eating for hours prior to the weigh-in only to consume a big meal once the weigh-in is over, the candidate country will maintain very tight monetary policy and resort to all sorts of techniques (freezing of administered prices, lowering of consumption taxes, etc.) to squeeze down inflation prior to accession only to shift back gears after it has joined the EMU. The convergence of short-term interest rates to EMU levels that will come with accession will automatically mean a loosening of monetary policy after the country has become a member of the monetary union. That loosening will be reinforced if the country had previously allowed its exchange rate to appreciate against the euro. The result of this stop-go cycle is that the efficiency of economic management will suffer.

It would be better to recognize the principle of the BS effect explicitly in the Maastricht criteria by giving more room for maneuver than the one provided by the present rule which falls short of most estimates of the BS effect. From a strictly economic point of view, the logical solution would be to link the permissible inflation deviation to the size of the productivity growth differential, since it is that differential which determines the BS effect. However, because the growth of productivity is subject to cyclical factors which can differ from one country to the other, it would be difficult to find a standard measurement of the BS effect which can be uniformly applied for defining the permissible inflation deviation. A better solution would be to group both the member countries and the

accession countries on a per capita income basis and define the reference value for inflation deviation on that basis. The reference for high income countries would be average inflation rate in the highest per capita income group, and the reference for the low income countries would be the average inflation rate in the lowest per capita income group. The logic of grouping the countries on a per capita income basis is that it is a good proxy of the level of development and therefore of the extent of the expected faster productivity growth (i.e., of the real convergence) and hence of the BS effect. Indeed, it is not surprising that the EMU member countries with the lowest per capita incomes, Portugal and Spain, have recorded higher than average inflation rates within the euro zone (Chart 3). Such a differentiated treatment would of course violate the principle of equal treatment between the initial EMU members and those who join the monetary union later. It is understandable that the principle of equal treatment was upheld when the initial criteria for joining the EMU were negotiated and the founding members established the monetary union. It is difficult to imagine how it could have been otherwise, since finding an agreement on the different rates of inflation to be assigned to the different countries could have paralyzed the negotiations for ever. However, now that the monetary union is established and functioning, a more fine tuned approach that takes into account the laws of economic development would better serve the efficiency of economic management.

**Chart 3: Gross National Income Per Capita and Inflation**



\* For Spain: 1997. For Portugal: GDP per capita  
 Sources: IMF, *International Financial Statistics* and Eurostat

Though logical from a purely economic point of view, there also lies a danger for the accession countries in the differentiation of the permissible EMU entry-level inflation rate on the basis of the level of economic development of the candidate countries. This danger stems from the popular fear in the EMU that such “permissiveness” could dilute the price stability within the euro zone and hence to weaken the euro. Such fear could weaken the political support for enlargement and delay the accession of the CEEs, particularly those whose per capita income is lowest. A reasonable compromise would be to define the permissible inflation deviation in reference to the average inflation rate of all the EMU member countries, not just the three with the lowest inflation rate. It is understandable that when Maastricht was negotiated and there were several national monetary policies, the founding members wanted to encourage convergence toward the lowest level of inflation. Now that EMU exists and there is only a single monetary policy responsible for the inflation in the zone as a

whole, it would make more sense to define the deviation in reference to the average inflation rate in the whole euro zone. In July 2000, this would have given an additional margin of 0.4 percent (2.4 percent EMU average vs. 2 percent for the three lowest inflation countries) for a country wishing to join the EMU. Although this difference is small, at such low levels of inflation even a difference of this magnitude is not insignificant. Another option would be simply to increase the permissible inflation deviation, but this would also be regarded as a watering down of the Maastricht criterion and therefore could raise the same popular fear as mentioned above.

## VI. Conclusions

As can be seen from the above discussion, the characteristics of the economies of accession countries, their decision to adopt a track leading to membership in the euro zone, and the globalization of financial markets have confronted the authorities of these countries with a complex set of issues to be taken into account when choosing their exchange rate system. While EU/EMU accession is still several years away, it is close enough to require decisions as to what type of exchange rate regime will best serve these countries' economic development and the transition to EMU membership. As a result of the combined impact of globalization and EU convergence, accession countries are likely to experience continued financial capital inflows which are creating difficult problems of economic management, even if most of this capital stays in the country. At the same time, these countries remain exposed to shifts in market

sentiment which can cause a sudden reversal of capital flows not otherwise justified by the development in the fundamentals of the country. There are no clear-cut solutions for the management of this situation which poses one of the greatest challenges for the monetary authorities of these countries for the years ahead, all the way up until EMU membership. This is one reason why those CEE countries which are the most prepared and the most integrated into the euro zone should have a strong interest in an early accession to the EU and the EMU. Meanwhile, the choice of the exchange rate regime in the run-up to EMU should be essentially determined by the state of the reform process and the political commitment to continued reforms and sound macroeconomic policies, backed by sufficient wage flexibility to deal with possible reform-induced or external shocks. If that commitment is strong and wages are flexible, a more rigid exchange rate regime can be sustainable. Otherwise a flexible arrangement would be more appropriate.

## References

**Baldwin, R., and P. Krugman** (1989), 'Persistent Trade Effects of Large Exchange Rate Shocks', *Quarterly Journal of Economics*, 104(4), pp. 635-54.

**Campa, J. M.** (1993), 'Entry by Foreign Firms in the United States under Exchange Rate Uncertainty', *Review of Economic Statistics*, 75(4), pp. 614-22.

**Darvas, Zs. and Gy. Szapáry**, „Financial Contagion in Five Small Open Economies: Does the Exchange Rate Regime Really Matter?", *International Finance*, 3:1, 2000, pp. 25-51.

**ECB**, Monthly Bulletin, October, 1999

**Gourinchas, P. O.** (1999), 'Exchange Rates Do Matter: French Job Reallocation and Exchange Rate Turbulence, 1984-1992', *European Economic Review*, 43(7), pp. 1279-316.

**Hochreiter, E. and G. Winckler**, "The Advantages of Tying Austria's Hands: The Success of the Hard Currency Strategy", *European Journal of Political Economy*, Vol. 11, 1995, pp. 83-111.

**IMF**, "Exchange Rate Regimes in Selected Advanced Transition Economies – Coping with Transition, Capital Inflows, and EU Accession", SM/00/43, February 24, 2000

**Pelkmans J., D. Gros and J. Nunez Ferrer** (2000), "Long-Run Economic Aspects of the European Union's Eastern Enlargement", Scientific Council for Government Policy, WRR, *Working Paper* 109, The Hague.

**Simon, A. and M. A. Kovács**, "Components of the Real Exchange Rate in Hungary", *NBH Working Paper*, 1998/3 and subsequent update (mimeo, 2000).

**MNB Füzetek / NBH Working Papers:**

**1995/1** (november)

Simon András: Aggregált kereslet és kínálat, termelés és külkereskedelem a magyar gazdaságban 1990-1994

**1995/2** (november)

Neményi Judit: A Magyar Nemzeti Bank devizaadósságán felhalmozódó árfolyamveszteség kérdései

**1995/3** (február)

Dr. Kun János: Seignorage és az államadósság terhei

**1996/1** (március)

Simon András: Az infláció tényezői 1990-1995-ben

**1996/2** (június)

Neményi Judit: A tőkebeáramlás, a makrogazdasági egyensúly és az eladósodási folyamat összefüggései a Magyar Nemzeti Bank eredményének alakulásával.

**1996/3** (június)

Simon András: Sterilizáció, kamatpolitika az államháztartás és a fizetési mérleg

**1996/4** (július)

Darvas Zsolt: Kamatkülönbség és árfolyam-várákozások

**1996/5** (augusztus)

Vincze János - Zsoldos István: A fogyasztói árak struktúrája, szintje és alakulása Magyarországon 1991-1996-ban

*Ökonometriai vizsgálat a részletes fogyasztói árindex alapján*

**1996/6** (augusztus)

Csermely Ágnes: A vállalkozások banki finanszírozása Magyarországon 1991-1994

**1996/7** (szeptember)

Dr. Balassa Ákos: A vállalkozói szektor hosszú távú finanszírozásának helyzete és fejlődési irányai

**1997/1** (január)

Csermely Ágnes: Az inflációs célkitűzés rendszere

**1997/2** (március)

Vincze János: A stabilizáció hatása az árakra, és az árak és a termelés (értékesítés) közötti összefüggésekre

**1997/3** (április)

Barabás Gyula - Hamecz István: Tőkebeáramlás, sterilizáció és pénzmennyiség

**1997/4** (május)

Zsoldos István: A lakosság megtakarítási és portfólió döntései Magyarországon 1980-1996.

**1997/5** (június)

Árvai Zsófia: A sterilizáció és tőkebeáramlás ökonometriai elemzése

**1997/6** (augusztus)

Zsoldos István: A lakosság Divisia-pénz tartási viselkedése Magyarországon



- 1998/1** (január)  
 Árvai Zsófia - Vincze János: Valuták sebezhetősége: Pénzügyi válságok a '90-es években
- 1998/2** (március)  
 Csajbók Attila: Zéró-kupon hozamgörbe becslés jegybanki szemszögből  
ZERO-COUPON YIELD CURVE ESTIMATION FROM A CENTRAL BANK PERSPECTIVE
- 1998/ 3** (március)  
 Kovács Mihály András - Simon András: A reálárfolyam összetevői  
THE COMPONENTS OF THE REAL EXCHANGE RATE IN HUNGARY
- 1998/4** (március)  
 P.Kiss Gábor: Az államháztartás szerepe Magyarországon  
THE ROLE OF GENERAL GOVERNMENT IN HUNGARY
- 1998/5** (április)  
 Barabás Gyula - Hamecz István - Neményi Judit: A költségvetés finanszírozási rendszerének átalakítása és az eladósodás megfékezése  
 Magyarország tapasztalatai a piacgazdaság átmeneti időszakában  
FISCAL CONSOLIDATION, PUBLIC DEBT CONTAINMENT AND DISINFLATION  
*Hungary's Experience in Transition*
- 1998/6** (augusztus)  
 Jakab M. Zoltán-Szapáry György: A csúszó leértékelés tapasztalatai Magyarországon
- 1998/7** (október)  
 Tóth István János - Vincze János: Magyar vállalatok árképzési gyakorlata
- 1998/8** (október)  
 Kovács Mihály András: Mit mutatnak?  
 Különböző reálárfolyam-mutatók áttekintése és a magyar gazdaság ár- és költség-versenyképességének értékelése
- 1998/9** (október)  
 Darvas Zsolt: Moderált inflációk csökkentése  
 Összehasonlító vizsgálat a nyolcvanas-kilencvenes évek dezinflációit kísérő folyamatokról
- 1998/10** (november)  
 Árvai Zsófia: A piaci és kereskedelmi banki kamatok közötti transzmisszió 1992 és 1998 között  
THE INTEREST RATE TRANSMISSION MECHANISM BETWEEN MARKET AND COMMERCIAL BANK RATES
- 1998/11** (november)  
 P. Kiss Gábor: A költségvetés tervezése és a fiskális átláthatóság aktuális problémái
- 1998/12** (november)  
 Jakab M. Zoltán: A valutakosár megválasztásának szempontjai Magyarországon
- 1999/1** (January)  
 ÁGNES CSERMELY-JÁNOS VINCZE: LEVERAGE AND FOREIGN OWNERSHIP IN HUNGARY
- 1999/2** (március)  
 Tóth Áron: Kísérlet a hatékonyság empirikus elemzésére a magyar bankrendszerben

**1999/3** (március)

Darvas Zsolt-Simon András: A növekedés makrogazdasági feltételei  
Gazdaságpolitikai alternatívák

CAPITAL STOCK AND ECONOMIC DEVELOPMENT IN HUNGARY (May 1999)

**1999/4** (április)

Lieli Róbert: Idősormodelleken alapuló inflációs előrejelzések  
Egyváltozós módszerek

**1999/5** (április)

Ferenczi Barnabás: A hazai munkaerőpiaci folyamatok Jegybanki  
szemszögből

*Stilizált tények*

LABOUR MARKET DEVELOPMENTS IN HUNGARY FROM A CENTRAL BANK PERSPECTIVE -  
*Stylized Facts*

**1999/6** (május)

Jakab M. Zoltán - Kovács Mihály András: A reálárfolyam-ingadozások  
főbb meghatározói Magyarországon

DETERMINANTS OF REAL-EXCHANGE RATE FLUCTUATIONS IN HUNGARY

**1999/7** (July)

ATTILA CSAJBÓK: INFORMATION IN T-BILL AUCTION BID DISTRIBUTIONS

**1999/8** (július)

Benczúr Péter: A magyar nyugdíjrendszerben rejlő implicit  
államadósság-állomány változásának becslése

CHANGES IN THE IMPLICIT DEBT BURDEN OF THE HUNGARIAN SOCIAL SECURITY SYSTEM

**1999/9** (augusztus)

Vígh-Miklós Szabolcs-Zsámboki Balázs: A bankrendszer mérlegének  
denominációs összetétele 1991-1998 között

**1999/10** (szeptember)

Darvas Zsolt-Szapáry György: A nemzetközi pénzügyi válságok tova  
terjedése különböző árfolyamrendszerekben

FINANCIAL CONTAGION UNDER DIFFERENT EXCHANGE RATE REGIMES

**1999/11** (szeptember)

Oszlay András: Elméletek és tények a külföldi működőtőke-  
befektetésekről

**2000/1** (január)

Jakab M. Zoltán - Kovács Mihály András - Oszlay András: Hová tart a  
külkereskedelmi integráció?

*Becslések három kelet-közép-európai ország egyensúlyi  
külkereskedelmére*

HOW FAR HAS TRADE INTEGRATION ADVANCED?

AN ANALYSIS OF ACTUAL AND POTENTIAL TRADE OF THREE CENTRAL AND EASTERN EUROPEAN  
COUNTRIES

**2000/2** (February)

SÁNDOR VALKOVSKY - JÁNOS VINCZE: ESTIMATES OF AND PROBLEMS WITH CORE INFLATION IN  
HUNGARY

**2000/3** (március)

Valkovszky Sándor: A magyar lakáspiac helyzete

**2000/4** (május)

Jakab M. Zoltán - Kovács Mihály András - Lőrincz Szabolcs: Az export előrejelzése ökonometriai  
módszerekkel

FORECASTING HUNGARIAN EXPORT VOLUME

**2000/5** (augusztus)

Ferenczi Barnabás – Valkovszky Sándor – Vincze János: Mire jó a fogyasztói-ár statisztika?

**2000/6** (August)

ZSÓFIA ÁRVAI – JÁNOS VINCZE: FINANCIAL CRIESES IN TRANSITION COUNTRIES: MODELS AND FACTS

**2000/7** (Oktober)

GYÖRGY SZAPÁRY: MAASTRICHT AND THE CHIOCE OF EXCHANGE RATE REGIME IN TRANSITION COUNTRIES DURING THE RUN-UP TO EMU