Homo Oeconomicus 21(3/4): 597–619 (2004)

www.accedoverlag.de

On the Perils of Adopting the Euro in the New Accession Countries

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Abstract The politically and legally complicated character of the EU Eastern Enlargement heavily influenced the conflict between the legal and economic rationality behind the construction of the EMR-II. This makes the ERM-II vulnerable to currency crises and creates conditions for a widespread currency and asset substitution in the accession countries. As a result, the participation in the ERM-II imposes unnecessary costs on the whole enlargement process. The costs could be avoided if the EU adopted a more flexible approach to the enlargement of its monetary union, allowing for an individual path of adopting the euro in each accession country depending on its economic conditions.

JEL Classification F32, F33, F36
Keywords EU enlargement, monetary integration, currency crisis, asset substitution, dollarisation

1. The 'legal wisdom' versus the 'economic rationality' of the ERM-II

The 2004 eastern enlargement of the European Union (EU) has been undoubtedly the most difficult one in the EU 45 year history. The enlargement is not only the biggest to date (ten countries are going to join at once) but also the disparities between the EU member countries and the new accession countries[1] (AC) as well as the disparities between the AC themselves have never been so pronounced as this time (see Table 1). Therefore the negotiations prior to the enlargement were extremely complicated and time-consuming. It required enor-

[1] The ten accession countries include apart from Cyprus and Malta also Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Hungary, and Slovenia. Although the paper deals mainly with the problems faced by the eight formerly centrally planned economies of the central Europe and the Baltic Republics, for simplicity, I use here the term the Accession Countries (AC).

© 2004 Accedo Verlagsgesellschaft, München.
ISBN 3-89265-056-x ISSN 0943-0180

24/01/2005 13:40 08-21-3 Krawczyk.doc

Table 1 Selected macroeconomic indicators for the AC (2001)

	Population (thousand)	GDP[a]	GDP per capita[b]	Share of agriculture in Gross value added	Share of agriculture in Employ-ment	Unemploy-ment[c]
Czech Rep.	10224	0.76	57	4.2	4.6	8.0
Estonia	1364	0.07	42	5.8	7.1	12.4
Hungary	10190	0.68	51	4.3[d]	6.1	5.7
Latvia	2355	0.10	33	4.7	15.1	13.1
Lithuania	3481	0.15	38	7.0	16.5	16.5
Poland	38641	2.32	40	3.4	19.2	18.4
Slovakia	5380	0.26	48	4.6	6.3	19.4
Slovenia	1992	0.24	69	3.1	9.9	5.7

[a] Percentage of the EU total; [b] Percentage of the EU average; [c] Per cent of labour force; [d] Data refers to 2000.

Source European Commission (2002) and IMF *International Financial Statistics.*

mous political and legal skills of Commissioner Guenther Verheugen to convince the public opinion in the AC that they should join the EU despite much less generous conditions than they expected to receive and, not less challenging, to convince the public in the wealthy current member-states that they needed their poorer neighbours to join the union. The negotiations process and the accession treaties represent therefore a masterpiece of legal and political work but often their 'economic rationality' does not match their 'legal wisdom'. The legal logic of the enlargement process calls for an equal treatment of all AC but, while failing at the same time to acknowledge serious differences between them, it has neglected potential dangers that may result from ignoring the logic of the economic agents participating in the enlargement process.

This study concentrates on the potential problems that may arise during the process of incorporating the AC into the ERM-II framework of monetary integration. The paper is organized as follows. The remaining of the first section briefly introduces the road to the European Monetary Union (EMU) membership the AC are supposed to follow. Second section asks some questions regarding the sustainability of the ERM-II regime. The following section discusses a potential danger of asset and currency substitution (informal euroization). The euroization, if happened, may impose serious burden on the AC economies. Possible ways of avoiding burden of informal euroization are suggested in the concluding section.

The road map for including the AC into the EU monetary integration framework was prepared together with other conditions of the *acquis* by the 1993

Copenhagen European Council (see Appendix A.1). The road map was prepared more than a decade ago and its design was heavily influenced by the experience of the then members of the European Union struggling, at that time, to maintain their exchange rate regimes intact in the wake of the currency crisis that was going to undermine the fundamentals of the European Monetary System. However the world has changed (including the successful launch of the common currency) and the group of accessing countries includes quite different members than the group of candidates ten years ago. Logically, therefore, the road map should be adjusted too. However, neither the AC nor the Commission itself has shown any interest in reopening discussion about the once closed chapter. Doing so, both sides risk fuelling a considerable financial instability during the transition period

Since no AC has either requested or obtained an exemption from monetary union, they will become the members of the economic and monetary union with derogations from the adoption of the common currency, the euro, from the very moment they join the EU. The timetable for the adoption of the euro requires the AC to join the Exchange Rate Mechanism (ERM-II) for a qualifying period of at least two years before their convergence tests assessment (the Maastricht criteria – see Appendix A.2). Joining the ERM-II means declaring a fixed central parity against the euro (to be decided jointly with the current members, i.e. the euro area members and Denmark) and the obligation of maintaining the exchange rate within a fluctuation band of ±15%. There is no preset timetable for the final adoption of the euro and the Treaty only foresees an assessment of convergence at least once every two years, or at the request of a member state with

Figure 1 Integration of the AC into the monetary union through the ERM-II

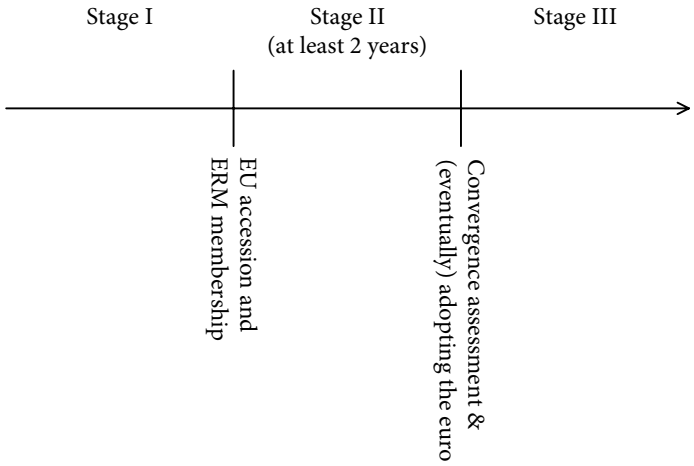


Table 2 EMU convergence criteria

	Price stability[a]		Long-term interest rates[b]		Exchange rate stability[c]		Budget deficit[d]		Public debt[e]	
	1999	2002	1999	2002	1999	2002	1999	2002	1999	2002
Ref. Value	2.0	3.0	7.3	6.4	±15	±15	–3.0	–3.0	60	60
Czech Rep.	2.1	1.8	7.0	4.3	–1.0	–2.6	–6.3	–5.8	15	23
Estonia	3.3	3.6	…	3.9	–0.1	0.0	–4.6	0.7	7	5
Hungary	10.0	5.3	8.8	6.5	3.2	–5.4	–5.2	–6.7	60	50
Latvia	2.4	1.9	…	4.4	–3.2	7.6	–3.9	–1.8	11	14
Lithuania	0.8	0.3	…	5.9	–8.5	–1.9	–8.5	–1.8	28	28
Poland	7.3	2.0	9.7	5.6	2.1	6.8	–2.0	–6.3	43	48
Slovakia	10.5	3.4	…	7.4	1.3	–3.5	–6.4	–5.8	30	34
Slovenia	6.2	7.5	…	8.9	4.6	3.7	–2.2	–1.8	26	31

[a] Annual percentage changes of consumer prices; [b] On 10-year local currency denominated government bonds, end-year. For Latvia data refer to 5-year maturity government bonds; [c] Deviation of end-year exchange rate from the average exchange rate for 1998-99 and 2001-02, respectively. An increase indicates depreciation; [d] General government deficit as a percentage of GDP; [e] Domestic and external public sector debt as a percentage of GDP.

Source BIS (2003).

derogation. The Commission rules out any short cuts on the way to the full EMU membership, as for instance joining the ERM-II before the full EU membership has been achieved, shortening the two-year period of ERM-II formal membership etc. and insists that each next step can be undertaken by each AC only after completing the previous one, as shown in Figure 1. Therefore the area membership can be achieved at earliest two years after the EU membership.

Table 2 shows how the AC fare on the nominal convergence criteria. Since the earliest year the data can be taken into account is 2006 (two years after joining the EU), the numbers should be treated as nothing more than a rough indicator of their recent progress towards a nominal convergence with the EU. The Maastricht convergence criteria originate from the fact that most of the EU countries had achieved a significant progress in real convergence while displaying serious nominal divergence in the first half of the 1990's. This in turn resulted in too much emphasis placed on the nominal convergence numbers. Despite a relatively good performance regarding nominal convergence, the AC face an enormous task in the area of the real convergence as shown in Table 1.

2. Unsustainable ERM-II?

There exists a bulk of research on what causes the currency crises and what are the requirements for a sustainable exchange rate regime.[2] The most general lessons drawn upon the rich experience of the 1990s currency crises can be summarized as:

1. The regimes that aim at limiting the exchange rate movements to a specific fluctuation bands are likely to be sustainable only under extremely benign circumstances, e.g. protected by capital movement restrictions.
2. Lack of restrictions on capital movement, limited exchange rate flexibility, high expected return on investment, and still unfinished disinflation process (resulting in high real interest rates) attract large capital inflows that put a powerful strain on domestic monetary policies. The large capital inflows figured in every currency crisis of the 1990s.
3. The capital inflows are channelled to the economy through a country's banking system. Capital inflows lead to lending booms and, if not properly regulated/supervised to a worsening of asset quality.
4. Transparent, stability oriented policies and flexible labour and product markets are helpful in containing the results of a crisis but alone cannot prevent it.
5. Although there is evidence that foreign direct investment is driven mainly by a standard set of economic fundamentals (see for instance Garibaldi et al. [2001]), the flow of portfolio investment seems to follow often the positive (negative) contagion pattern, e.g. a herd-like behaviour with little respect to economic fundamentals.

It seems possible to argue that the construction of the ERM-II went along the lines that disregard the experience of the 1990s currency crises. First, the ERM-II is a fixed but adjustable exchange rate peg, similar to the European Monetary System (EMS) of the 1980 and early 1990 from which it originates. But, while under the EMS exchange rate regime all member currencies were bilaterally tied to each other and the burden of supporting intervention was equally shared between each pair of countries, under the ERM-II regime each currency is unilaterally tied to the euro and the ECB makes no commitment to support the parities.

[2] See for instance Krugman (1979), Obstfeld (1996), Berben et al. (2002), Berg et al. (2003), or Bayoumi et al. (2003).

Table 3 Capital accounts regulations in the AC

Type of transaction	CZE	EST	HUN	LTV	LIT	POL	SLK	SLO
Direct investment	S	S	S	F[c]	S[a]	S[a]	S[b]	S,Q
Investment in real estate	L	L	L	L	S/P	L	L[b]	L
Stock market	S	L	L	F[a]	F[a]	L	F	L
Security & money market	F	F	P	F[a]	F[a]	L	F	L
Operations in current & deposit accounts with FI	F	F	F	F	F[a]	Q,P	F[a]	F[a]
Credit related to commercial transactions	F	F	F	F	F	F[d]	F	F
Financial loans	F	F	L	F	L	L	F	F
Transfers in performance of insurance contracts								
Personal capital movements	F	F[a]	F	F	F	P,Q	F	F

Key F = no limitations; L = limited; P = permission required; Q = quantitative restrictions apply; R = registration required, S = free except for certain sectoral limitations.

[a] Some restrictions/requirements on outward operations; [b] Outward investments are free to OECD or EEA members; [c] Certain requirements on citizenship and language proficiency; [d] Short-term investment P.

Source Begg et al. (2003).

In this respect, despite of its relatively wide fluctuation bands,[3] ERM-II is similar to the failed regimes of the 1990s rather than to jointly managed system of the EMS. Consequently, each country on the periphery (the EMU members with derogations) will have to bear alone the burden of defending its parity while facing the consequences of the core's (the full EMU members represented by the ECB) monetary policy decisions on which it will have no influence. Given the Maastricht criterion of exchange rate stability the stakes may be high.

[3] As the experience teaches, authorities usually do not use the realignment option at the right time and, under such circumstances, even the wide bands of ±15% may not be sufficient. Furthermore, the ERM-II fluctuation bands may even be reduced to ±2.5% as suggested by Commissioner Pedro Solbes in Prague on May 19, 2003.

Table 4 Foreign direct investment in the AC

	FDI inflow (2001)		FDI stock (2000)	
	Million EUR	Percent of GDP	Million EUR	Per capita
Czech Rep.	5489	8.7	23352	2284
Estonia	603	9.7	2843	2084
Hungary	2730	4.7	17946	1790
Latvia	198	2.3	2284	970
Lithuania	498	3.7	2508	720
Poland	6377	3.2	36783	952
Slovakia	1414	6.3	2801 [a]	521 [a]
Slovenia	390	1.9	3041	1527

[a] Data refer to 1999. *Source* European Commission (2002)

The second important feature of the ERM-II is the fact that it operates under a full capital mobility. As required by the *aquis*, the AC will enter the EU (and therefore the ERM-II) with almost full liberalization of their capital movements (see Table 3).

Full capital mobility is known to be hardly compatible with a fixed exchange rate regime. In addition, as a low-cost part of the EU, the AC are likely to continue attracting direct investment as investors seek higher profits (see Table 4). Given the large scale of catching-up with the EU (as shown in Table 1), the large direct investment flows are likely to contribute, through the productivity increases in industry, to Balassa-Samuelson effect and real exchange rate appreciation.[4] De Broeck and Sloek (2001) estimate that one percent increase in the relative productivity differential leads to 0.4% real exchange rate appreciation. And according to the Begg et al. (2003) estimates, the productivity differentials between tradable and non-tradable sectors are between 6% in Estonia and Slovenia and 11% in the Czech Republic.

[4] Price levels are lower in poor countries than in rich countries. When a country catches-up, usually through productivity gains, then its price level expressed in foreign currency rises. This happens either through nominal exchange rate appreciation or (and) increase in domestic price level. This productivity driven real exchange rate appreciation is a healthy equilibrium phenomenon and reflects the ongoing real convergence between the EU and the AC.

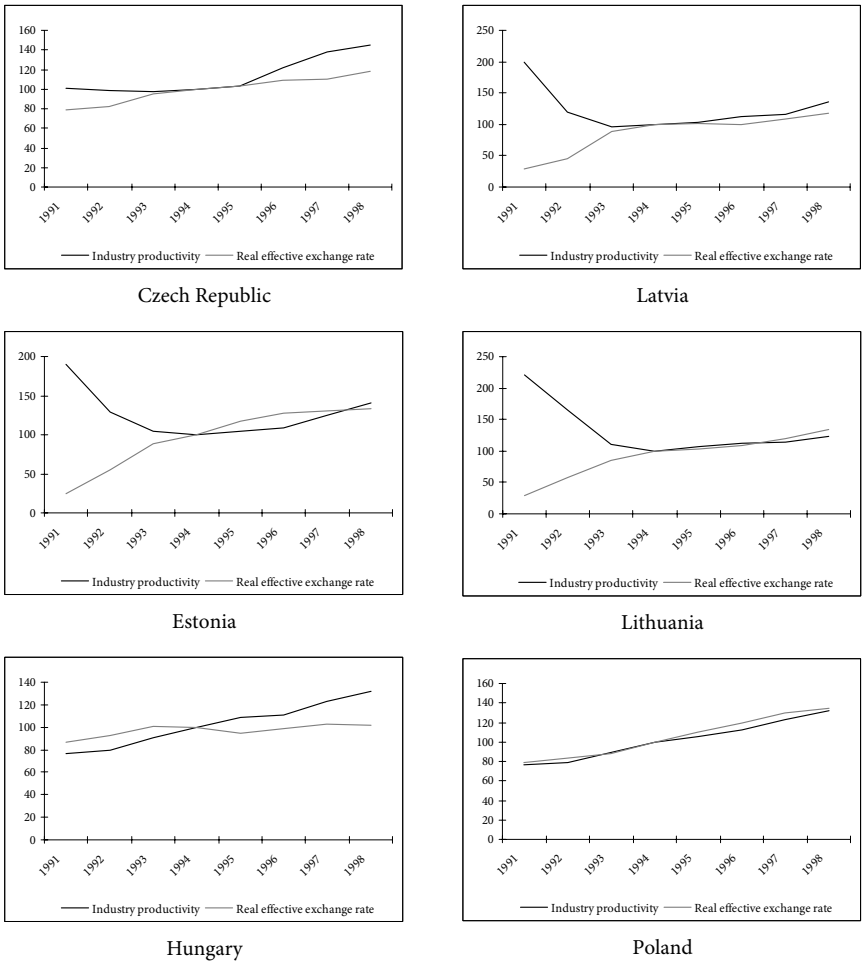


Figure 2 Productivity in industry and real exchange rate in selected AC (1994=100)

Figure 2 shows the empirical evidence on the relation between the productivity in industry and real effective exchange rate in selected AC. The positive correlation between the productivity growth and the real exchange rate appreciation in the AC is clearly visible from the data presented there. Halpern and Wyplosz (2001) and Begg et al. (2003) predict that the real exchange appreciation may reach on average approximately 2% per year during the 10 years following the EU accession. The real exchange rate appreciation is likely to happen almost at the same time when the Eastern European AC are close to complete their long

disinflation processes and to put their inflation rates in line with the Maastricht criteria. As it happens, they will find themselves offering potential investors a combination of relatively high real interest rates and the prospect of a steady real appreciation (through Balassa-Samuelson effect). Given the existence of a 'positive contagion' (herd-like investors' behaviour), the AC are likely to attract huge portfolio and short-term capital inflows that alarmingly resemble the characteristics of virtually every financial crisis of the 1990's.

Those capital inflows are extremely hard to manage. If unchecked, they will result in an exchange rate appreciation. In order to prevent this, a central bank must intervene and soon its monetary policy may become far too lax to keep inflation within the desired (here, the Maastricht criterion) level. The pressure on the real exchange rates resulting from the capital inflows could be eased if there was a room for a nominal exchange rate adjustment.

The desire, however, for remaining within the Maastricht exchange rate fluctuation bands may then result in an additional and unnecessary inflation. Since the low inflation is one of the requirements of the Maastricht criteria too, the ERM-II, designed as an entry to the euro area, may actually impede the adoption of the euro in the AC. No less important is the fact, that such foreign exchange market interventions are very costly to the central bank and may even bring it to the brink of insolvency. This constitutes what Wyplosz (2002) calls 'quasi-fiscal costs of intervention' which can significantly weaken the central bank's independence since, after all, it is the government that effectively underwrites its central bank's solvency.

Needless to say, it is equally easy to imagine a reverse in capital flows. A loss of confidence in the AC policies (for instance due to a prolonged inability to meet the Maastricht criteria and adopt the euro) or resurgence in expected inflation may result in a standard, Krugman (1979) type, balance of payments crisis. Also lower expectations regarding real exchange rate appreciation or real interest rates will make local assets less attractive and prompt a capital outflow.

Third, as the capital inflows are going to be channelled through a banking system, the development of the financial system in the AC is crucial for the ERM-II sustainability. This includes not only a 'technology level' of financial institutions (the more sophisticated the institutions are, the better they will cope with large capital flows), but also the effectiveness of prudential regulation and supervision as well as the degree of government's direct involvement in the banking sector and in the economy in general. Table 5 presents the development of the financial sector in the AC. Despite of a huge progress achieved in recent years[5] the banking sector in the AC is still undercapitalized, with large presence

[5] More on creating a market based banking system in formerly centrally planned economies can be found for instance in Krawczyk (2001, 2003).

Table 5 Financial sector development, 2000

Category	CZ	EE	HU	LV	LT	PL	SK	SV
Private sector share in GDP (%)	80.0	75.0	80.0	65.9	70.0	70.0	80.0	65.0
Budgetary subsidies (% of GDP)	10.2	0.8	4.8[a]	5.0	0.2	0.4[a]	4.0	1.5
Asset share of state-owned banks (%)	28.2	0.0	8.6	2.9	38.9	24.0	49.1	42.2
Bad loans (% of total loans)	19.3	1.5	3.1	5.0	10.8	15.9	26.2	8.5
Domestic bank credit to enterprises (% of GDP)	43.8[a]	25.9	23.6	19.6	10.1	18.8	37.6	35.9[a]
Stock market capitalization (% of GDP)	23.2	35.2	26.3	8.3	14.0	18.8	3.9	24.0

[a] Data refers to 1999 *Source.* Begg et al. (2003)

of state-owned banks and suffers from the bad loan problems. The 2002 European Commission report on the progress of the AC towards accession describes only the Estonia's, Hungary's, and Czech banking sectors as sound. The weakness of the AC financial systems also constitutes a serious problem to the ERM-II sustainability.

The weakness of the banking industry means that the effects of the emerging currency mismatch can be very serious. Capital inflows are denominated in foreign currency (here, the euro) but lending is mediated through local currency. Sudden capital flows reversal transforms then a currency crisis into a banking crisis, and ultimately into an economic crisis. The negative effects of such a currency mismatch are much more pronounced if the banking sector is weak.

In the light of the above considerations, it seems possible to argue that insisting on the ERM-II participation as a precondition for adopting the euro means a disregard to the experience of the 1990s currency crises and makes the waiting period inside the ERM-II likely to become a self-defeating experiment. This, in turn, may have a serious influence on the behaviour of the market participants. It is argued in the next section that a widespread currency and asset substitution (in other words informal euroization) is likely to become one of the side-effects of the prolonged period of the interim ERM-II exchange rate regime.

3. The euro goes East

The discussion about potential benefits of giving up own currency and simply replacing it with the euro reflects the frustration in the AC with the problems resulting from their participation in the ERM-II. Conflicting goals of maintaining peg, low inflation, promoting economic growth while reducing at the same time the size of a budget deficit combined with the presented above problems of a real exchange appreciation and a danger of speculative attacks, led some to advocate the unilateral adoption of the euro.[6] The proposition faced fierce opposition from proponents of pegged regimes as well as from the EU authorities.[7]

Although the unilateral euroization has been effectively ruled out as a viable policy option before adopting the euro, there is a growing evidence that a widespread currency and asset substitution (in other words informal euroization) is already well under way in the AC. The theory of currency substitution[8] predicts that currency substitution (spontaneous dollarization, or here euroization) takes place when:

1. Inflation differentials tend to penalize the holdings of a domestic currency.
2. Holding foreign currency deposits may be convenient for some economic agents (for instance those involved in foreign trade etc.).
3. The uncertainty attached to a future inflation rate rises without bound over time (the stronger currency – the euro – would then dominate a weaker local currency).
4. The insufficient credibility of a monetary regime raises fears of its collapse and return of high and unstable inflation rates (sometimes called 'a peso effect').

During the debate about the effects of staying outside the EMU, it was sometimes argued that rational economic agents in the non-euro-area member countries of the EU would spontaneously adopt the euro due to the advantages associated with using the common currency (the second of the above arguments). However, since the monetary policies in those countries are stable even if they stay outside of the EMU and there is no clear commitment to adopt the euro there,[9] the argument proved to be quite off the mark. But the situation changes

[6] See for instance Bratkowski and Rostowski (1999a, 1999b) or Rawdanowicz (2001).

[7] See for instance European Council (2000), Rosati (1999), Wójcik (2000, 2002).

[8] See for instance Genberg (2002), Feige and Dean (2002), or De Nicolo et al. (2003).

[9] Quite opposite, all three countries have clearly indicated (Sweden and Denmark through national referenda, the United Kingdom through its famous 'five tests' result announcement) their willingness to stay outside the euro-area.

significantly if a country (unlike the UK, Denmark, and Sweden) has taken a formal decision to adopt the euro but, for the administrative reasons (e.g. the ERM-II time schedule), its practical implementation will have been delayed for some time. Faced with an announced official euroization (a formal adoption of the euro), an investor knows that any asset denominated in local currency will have to be changed into a euro denominated asset at a time the euro is adopted. If the investment horizon is longer than the expected deadline for the euro adoption, it might be rational to complete the changeover earlier in order to match the currency composition of the assets and planned future expenditures (*the euro as a store of value*). Analogously, an economic agent dealing with the rest of the world and facing a pre-announced conversion of a domestic currency into the euro may choose to use the euro for purely cost saving purposes (*the euro as a unit of account*). Finally, except for border regions or sectors dealing with tourism, the use of the euro as a means of transaction before an official changeover may be rather limited unless there is a significant difference in stability of purchasing power in terms of domestic consumption between the euro and local currency (e.g. when the expected volatility of the real exchange rate is low and the expected volatility of domestic inflation is high). But, on the other hand, once a 'critical mass' of economic agents switches to the euro the process of currency substitution will become irreversible (*the euro as means of transaction*).

Already the above reasoning is, in my opinion, sufficient to believe that risk averse EU enterprises and individuals, in order to reduce negative effects of the financial turbulence resulting from the combination of high capital mobility and an intermediate exchange rate peg prevailing under the ERM-II, may prefer transactions in euro and rather avoid dealing in local currencies. Still, there are some additional reasons to believe that markets are likely to choose the euro. First, the AC citizens have little reason to love their own currencies. Notwithstanding the recent relative stability of most of the AC currencies, there is a deeply rooted distrust towards local currencies among the AC's population (partly resulting from the hyperinflation experienced at the beginning of the market reforms in the formerly centrally planned economies that are going to join the EU).[10] Also the domination of the euro-area financial institutions offering various euro denominated financial services at the AC's domestic markets tends to overcome a natural fear towards foreign currency among the ordinary population.

[10] Although the reliability of various public opinion polls may differ, for instance usually two thirds of Poles declare no regrets about the future disappearance of the country's currency. Only 20% tend to oppose it (CBOS public opinion poll: *'Do Poles want the euro?'* performed on Jan. 10 to 14, 2001).

Table 6 Exchange rate arrangements in the AC

Country	Exchange rate regime
Czech Republic	Managed floating with the euro as a reference currency
Estonia	Euro-based currency board
Hungary	Unilateral shadowing of the ERM-II
Latvia	Peg arrangement based on the basket involving the euro (SDR)
Lithuania	Euro-based currency board
Poland	Independent floating
Slovakia	Managed floating with the euro as a reference currency
Slovenia	Managed floating with the euro as a reference currency

Source. Krawczyk (2002).

Table 7 Outstanding euro-denominated bank deposits in the AC (end-December 2001)

Country	Absolute values (EUR millions)	As a percent of total deposits	As a percent of foreign deposits
Czech Republic	3522	7.4	50.9
Estonia	603	19.2	50.4
Hungary	3029	11.2	41.0
Latvia	592	11.6	15.7
Lithuania	47	1.9	4.5
Poland	4571	5.3	31.5
Slovakia	1121	8.5	43.3
Slovenia	3006	37.9	83.6

Source. ECB (2002)

The second important argument is that the euro is already the *de facto* currency in many of the AC. As shown in Table 6, Estonian and Lithuanian currencies have been linked to the euro through their currency boards. Hungary has been unilaterally shadowing the ERM-II. Countries with managed float use the euro as a reference currency. Even Poland's freely floating currency tends to follow closely the euro.[11] The euro is actually beginning to perform important functions as a regional key currency for the countries in the near neighbourhood of

[11] Between December 2001 and December 2003, Poland's currency fluctuation from its average parity against the euro (EUR 1 = PLN 4.11) has not exceeded the margin of ±15%.

the EU (including the AC):

1. As an international unit of account for invoicing of foreign trade (since the trade with the EU amounts for approximately between 45 and 75% of total AC trade, then naturally the euro role as an invoicing currency is increasing),
2. As an international store of value (i.e. assets denominated in euro, local banks are to a high degree owned by euro area banks – see also Table 7),
3. As an international medium of account (euro as a vehicle currency as well as substitute currency, e.g. Kosovo, Montenegro etc),
4. As an official international unit of account – euro as exchange rate peg (see Table 6),
5. As an official international store of value or as a foreign exchange reserve currency in the AC,[12]
6. As an official international medium of exchange (euro as intervention currency in the AC).[13]

And finally, once a 'critical mass' of population prefers foreign currency holdings to local currency holdings, the whole process becomes irreversible. Therefore, as the reasons underlying the original dollarization do not cease to exist, the introduction of a new international currency in the region (here, the euro) does not create incentives for the reversal to local currencies but it rather creates incentives for switching from holdings of one foreign currency (US dollar and the euro legacy currencies) to holdings of another foreign currency (the euro). Therefore, 'highly dollarized' economies of the EU near neighbourhood (including the AC) will likely become 'highly eurorized' economies instead. Balino et al. (1999) classify as 'highly dollarized' the economies where the ratio of foreign currency deposits to broad money exceeds 30 percent. As shown in Table 8, already in the first half of the 1990s, the AC, with exception of the former Czechoslovakia, Estonia, and to some extend Poland, were quite heavily dollarized. And although the phenomenon of dollarization subsided somehow in the second half of the decade, the heavy asset dollarization continues at least in some AC.

[12] Although official breakdowns of foreign reserves are rarely published, Croatia, Latvia, and Slovakia have announced that the euro constitutes 66, 36, and 59% of their foreign exchange reserves respectively. There is no reason to believe that the share of the euro in the foreign reserves of the other AC differs significantly, European Central Bank (2002).

[13] As countries defending exchange rate parity tend to use the currency of reference for intervention purposes, the use of the euro for those of the AC that had linked their currencies to the euro seems to be obvious.

Table 8 Dollarization in the AC (Share of foreign currency deposits in M2 broad money)

Country	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Czech R.	7.9	9.3	8.1	7.2	6.4	7.6	11.6	11.1	10.9	11.0	9.9
Estonia	56.3	22.9	4.6	11.1	10.9	10.8	18.4	13.8	15.7	16.5	17.6
Hungary	16.5	14.3	18.7	20.4	26.6	24.2	21.5	18.4	16.6	16.6	17.0
Latvia	–	35.1	26.2	27.6	29.5	30.7	31.2	28.6	29.9	31.1	30.8
Lithuania	–	46.6	25.7	27.0	25.8	25.5	20.8	24.1	30.4	34.0	32.9
Poland	24.7	24.8	28.8	28.6	20.4	17.3	17.5	15.2	15.1	14.6	16.1
Slovakia	3.1	6.3	11.5	13.0	11.0	10.0	11.0	14.5	14.5	15.5	15.5
Slovenia	48.4	44.4	45.5	38.0	34.5	33.9	28.7	25.3	26.0	30.1	32.1

Source. Based on data from Balino et al. (1999) and IMF *Country Reports*

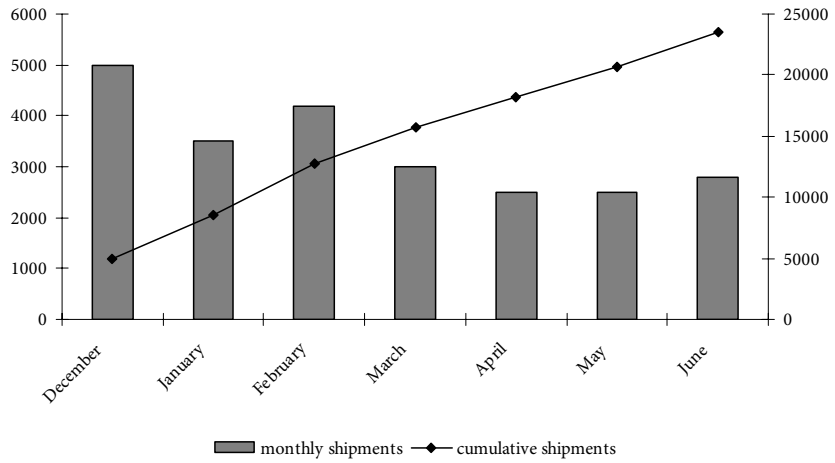
Table 9 Frontloading of euro banknotes outside the euro area (December 2001)

Destination	EUR millions	Share (%)
Turkey	1502	38.5
Industrialized countries	1273	32.7
Western Balkans	529	13.6
Northern Africa	436	11.2
Accession countries	121	3.1
Sub-Saharan Africa	25	0.6
Commonwealth of Independent States	11	0.3
Total	3897	100.0

Source. ECB (2002).

The major limitation of any analysis concerning the currency substitution (including informal euroization) is the lack of reliable empirical information on the actual extent of the foreign currency use. It has been estimated that more than half of US cash was held abroad in 2000 (US Treasury Department, 2000). Analogously, the German Mark holdings abroad were estimated at approximately DEM 65 to 90 billion – equal to EUR 32 to 45 billion or 35-70% of total DEM cash in 1995 (Seitz, 1997, Feige and Dean, 2002). Although certainly not all of these holdings were located in the AC, it shows the scale of the phenomenon. Regular surveys conducted since 1997 by the Gallup Institute for the Austrian Central Bank show that over 50% of Slovaks, Czechs, and Slovenians, and about 30% of Croats and 10% of Hungarians hold foreign currencies. The DEM was the

Figure 3 Net shipments[a] of euro banknotes to destinations outside the euro area (December 2001 to June 2002, EUR millions)



[a] Euro banknotes sent abroad less euro banknotes received. Source ECB (2002)

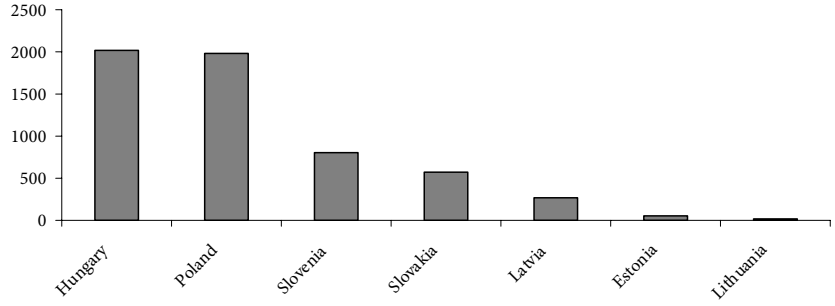
most important foreign currency in all of the results, the Austrian Schilling usually coming second, sometimes closely behind the DEM (Slovakia, Hungary), with the US dollar taking the third place (Nauschnigg, 2002). Consequently, the introduction of the euro in the form of cash must have triggered the wave of changeover from the legacy currencies to the EU common currency.

Since all legacy currencies had to be replaced with new euro banknotes and coins, the introduction in the euro cash provided a unique opportunity to collect information on foreign holdings of the euro (and therefore its legacy currencies). In order to achieve the changeover of the currency held in countries outside the euro area, the euro cash had to be provided to those countries. The initial supply of euro banknotes abroad was conducted in December 2001 entirely through central banks and commercial banks. Therefore the data precisely captures the scale and the destination of the euro outflow (see Table 9). Foreign shipments of the euro banknotes amounted to EUR 23 billion in 6 months of 2002 (see Figure 3). This represents roughly 8% of the total amount of euro currency in circulation.[14]

Although only 3% of total frontloading found its destination in the AC, these are big numbers comparing to the size of their economies (except of Poland, none of them represents more than 1% of the EU GDP – see Table 1). The

[14] See more in ECB (2002), Padoa-Schioppa (2002).

Figure 4 Changes in euro-denominated bank deposits in the AC (December 2000 vs. December 2001[a]) in EUR millions



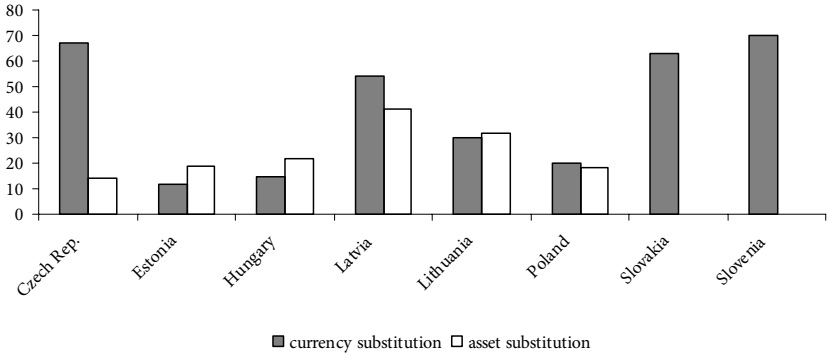
[a] For Hungary and Slovakia data refer to December 2001 vs. June 2001 *Source* ECB (2002)

replacement of the legacy currencies cash was accompanied by an unexpected development: *legacy currencies banknotes converted into euro-denominated deposits*. Several countries in Central and Eastern Europe encouraged households to deposit their 'under-the-mattress' legacy currency cash into the euro denominated deposits rather than change them directly into new euro cash. The strategy intended to improve the public confidence into banking system resulted in substantial increase in euro denominated deposits in the run-up to the euro cash changeover. According to the ECB (2002), the result was an increase of euro denominated deposits that amounted to EUR 13.5 billion (see Figure 4). This *cash into deposit* changeover allows for accounting for the gap of at least EUR 10 billion between the foreign holdings of the German Mark (estimated at EUR 32 to 45 billion) and the cumulative shipments of the euro banknotes in the first months after the changeover.

Already the data on the euro initial frontloading indicates a strong presence of the euro in AC. However, as time goes by, data on additional shipments by banks becomes less and less reliable as a measure of the euro holdings outside the euro area. Therefore, the data is likely to fail to capture the full scale of the phenomenon. Unfortunately there exists no equivalent to the US Currency and Foreign Transactions Reporting Act[15] in the euro area. Feige and Dean (2002), using their own methodology, propose the index of dollarization alternate to the ratio of

[15] Known also as the 'Bank Secrecy Act', it requires agents importing or exporting currency or other monetary instruments in excess of $10,000 to file a Report of International Transportation of Currency or Monetary Instruments (CMIR). The aggregated data provide information on the US currency held abroad and its location.

Figure 5 Measures of currency and asset substitution, 1999 (%)



Source Feige and Dean (2002)

foreign currency deposits to broad money used by the IMF (see Figure 5). Their findings suggest that only in Estonia, Hungary, and Poland local currency stands for more than 80% of total currency supply. Other AC can be classified as highly dollarized.[16] The findings are especially important in light of a potential changeover to the euro from currencies other than legacy currencies.

The data indicates therefore that a widespread informal euroization is already well under way in the AC and, for the earlier stated reasons, will probably continue. This, in turn, spells serious economic policy implications for those countries.

First, the informal euroization implies the loss of the seigniorage. There are two kinds of seigniorage lost. First, as the demand for local currency subsides, central bank must buy back its domestic currency from the market participants and therefore effectively return to them the seigniorage associated with the currency. Second, when the demand for local currency decreases, authorities give up future seigniorage earnings resulting from printing new currency in order to satisfy an increasing money demand. Authorities lose also an interest on the euro-denominated assets when they circulate them. On the contrary, in case of an official euroization, upon joining the EMU, the ECB shares its seigniorage with a country. The lost seigniorage may amount to as much as a few percent of country's GDP.

[16] The 2003 IMF Article IV mission to Latvia expressed its concern about the scale of the phenomenon. 54% of all domestic credits at the end of 2002 were denominated in foreign currencies. Steadily increasing nonresident deposits (mainly short-term) exceeded 50% of total deposits in 1999 and remained at that level ever since. The share is considerably higher than the analogous share in Uruguay that suffered a bank run under similar circumstances. IMF *Country Report* no. 03/113.

Second, informal euroization brings about also serious fiscal consequences. Foreign cash transactions, through reducing costs of tax evasion etc, facilitate participation in an underground economy reducing the country's fiscal revenue, inducing corruption and rent seeking, and, through distorting macroeconomic information system, distort the whole process of the macroeconomic policies formulation.

The third problem is related to the currency mismatch. Banks with large domestic euro liabilities would hold euro denominated claims rather than local currency claims. Then, even euro liabilities carry a default risk premium that stems from the currency depreciation risk.[17] Needles to say, in order to avoid a pressure on a banking system, authorities are afraid to permit exchange rate adjustment. Therefore, as the experience of dollarized countries teaches, the effectiveness of an exchange rate as a policy tool is rather low under such circumstances.

Fourth, when a large share of prices is set in the euro, then the usual set of monetary policy indicators becomes misleading. This may greatly impair the AC's abilities to perform optimal monetary policies at the early stages of the EU membership.[18]

Finally, the evidence from dollarized economies indicates that they are likely to grow at significantly lower rate (Edwards, 2001) and face banking system instability (De Nicolo et al. 2003).

4. No exchange rate regime is good for all countries at all times

The construction of the monetary enlargement process, requiring all AC to participate in the ERM-II framework, seems to have been done with complete disregard to the experience of the 1990s currency crises. The ERM-II framework, if adopted *prima facie,* may result in a serious financial instability in the region. The intention of the paper is to draw attention to at least two potential dangers resulting from the conflicting logic of the EMU enlargement. First, the ERM-II, as a combination of intermediate exchange rate (fixed with adjustment possibility) and full capital account liberalization, is likely to induce large capital flows that will exert strong pressure on the real exchange rate and make it difficult, if not impossible, to meet the nominal convergence criteria. And while impeding the chances to adopt the euro quickly, the ERM-II may, at the same time, induce

[17] Parity adjustment is permitted under the ERM-II rules and depositors may fear that the banks may not be able to provide euros in the event of capital outflow from the country.

[18] Ironically, the merits of being able to perform independent monetary and exchange rate policies and thus reducing the burden of convergence with the EU are one of the main arguments raised by the EU and ECB officials against an early adoption of the euro in the AC's.

serious speculative attacks. Hungary's experiment with unilateral shadowing the ERM-II confirms, in my opinion, the reservations about the framework.[19] The second danger arising from the participation in the ERM-II is the possibility of a widespread currency and asset substitution (informal euroization). This phenomenon is not only costly (needless to say, the wasted resources could be used for other convergence purposes) but also undermines the rationale for staying inside the ERM-II framework. In this sense there is a great possibility that, at least in some cases, the ERM-II becomes a self-defeating mechanism.

So far the issue of a monetary union enlargement has been dealt with on the basis of the earlier concluded legal agreements. While the agreements, calling for an equal treatment of all the EMU members, are based on strong legal logic, they violate the economic logic of the enlargement. Therefore, in order to prevent serious disturbances, the contradictions between the two logics should be corrected. Many solutions are technically possible. However, it requires a major assumption made by the EU authorities that, to paraphrase the title of the Frankel (1999) paper, there is 'no single exchange rate regime that is good for all countries at all times'. As the AC currently have been displaying a wide variety of exchange rate regimes, they should be allowed for varying monetary integration strategies. For the countries with currency boards, an immediate EMU membership is a natural step. For countries that successfully introduced floating exchange rate regimes it makes little sense to return to vagaries of a soft peg. Instead, they should be allowed to retain their current strategies, including inflation targeting, and adopt the euro only when the degree of their real convergence becomes sufficient (the strategy the UK and Sweden have been allowed to adopt). As for the countries that operate de facto narrow peg regimes, provided the immediate adoption of the euro and (or) retaining capital controls is ruled out, they should be allowed to *eurorize* in order to reduce the likelihood of a ERM-II related financial instability.[20]

A small increase in flexibility towards the EMU enlargement could help to make the EU slogan of *'the euro, our money'* true for *all Europeans*. Otherwise,

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[19] Short-term capital inflows of EUR 4-5 billion, equivalent to several percent of the country's GDP, entered the country within a few hours on January 15-16, 2003. This forced the central bank to reduce its interest rate, reintroduce restrictions on short-term deposits, and intervene heavily in the exchange rate market. Speculation was calmed, but as an outcome, inflation target for 2003 had to be abandoned. Ultimately, Hungary adjusted its currency parity to the euro on June 4, 2003 (BIS, 2003, IMF *Country Report* no. 03/124, and *Reczpospolita* June 5, 2003).

[20] If for political or other reasons, a formal agreement on euroization could not be reached, then providing the AC the amount of euro equal to the money in circulation *at the beginning* of the transition period rather than at the end would ease a lot of problems resulting from the currency substitution (Genberg, 2002). This however would not solve the sustainability problems of the ERM-II regime as discussed earlier in the paper.

sarcastic comments in the AC, that the EU does not want to allow Eastern European barbarians into its euro paradise, may prove to be well founded.[21] It may seem that the incumbent euro area members have not very much at stake in the case of the ERM-II failure, because all the costs and risks will be borne by the AC that have been presented with the ERM-II framework as a take-it-or-leave-it proposal. But this way of reasoning neglects the fact that serious financial instability in the AC will have a negative impact throughout the whole integration process in Europe and there will be no country left unhurt.

Appendix

A.1 *The Copenhagen enlargement criteria*

The Copenhagen European Council in June 1993 defined the overall criteria that applicant countries should meet as a prerequisite for becoming members of the European Union. The 'Copenhagen criteria' require:

- The stability of institutions guaranteeing democracy, the rule of law, human rights, and the respect for and protection of minorities.
- The existence of a functioning market economy as well as the capacity to cope with competitive pressure and market forces within the EU.
- The ability to take on the obligations of membership, including adherence to the aims of political unification, as well as the Economic and Monetary Union.

A.2 *The Maastricht nominal convergence criteria*

- The inflation rate should not exceed the average in the three countries with the lowest inflation by more than 1.5 percentage points.
- The long term interest rate should not exceed the average rate in the three countries with the lowest inflation by more than two percentage points.
- The exchange rate should not have been devalued over the two preceding years.
- The budget deficit should not exceed 3% of GDP.
- The public dept should not exceed 60% of GDP.

[21] *Rzeczpospolita*, December 11, 2002.

Acknowledgements

I am grateful for financial support from the Ministry of Education (grant-in-aid no. 16203023) and from the Central Research Institute of Fukuoka University (grant no. 032001).

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