Small currencies in the shadow of a big one: Central Europe, North Africa and the euro

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The appearance and consolidation of the euro, the European Union's common currency, compels governments, businesses and even households of many countries, and particularly countries bordering the EU, to re-think different arrangements, norms and habits to which they had been accustomed over the previous decades. Households may consider to keep more or less of their assets in euro-denominated forms; businesses may (or may have to) invoice and settle their foreign trade operations in euro; governments may consider to reshape their exchange rate, and more general monetary, regimes.

The euro in the world

The Euro Area – consisting of those 11 member countries of the EU that established the euro in 1999 and Greece, which joined two years later – has 310 million inhabitants. This represents only 5 percent of the world's population but these 12 countries' combined GDP gives 16 percent of the world's total, and their exports' share in world exports is 32 percent[1]. Beyond the borders of the Euro Area (and its member countries' overseas territories), six other (small) countries (entities) have introduced the euro with unilateral decision (euroisation) as their home currency. 10 countries, which joined the European Union, are expected to enter the Euro Area between 2006 and 2010. Half of them and another 19 countries (including Denmark, an "old" EU member country) peg their currencies to the euro. Potential candidates for joining the Euro Area are four countries candidates for EU membership (one of them is already among those pegging their currencies to the euro). Finally, there are 12 countries applying managed float of their currencies to the euro or applying peg or managed float arrangements based on baskets involving the euro (of which four are, since May 2004, EU members, and one is candidate for membership). (For details, see Appendix).

At the end of 2003, 19.7 percent of global reserve assets were held in euros, up from 16.3 percent three years earlier. This share was somewhat higher in industrialised countries (20.9 percent) than in developing and emerging market countries (18.9 percent). Beyond the official use of the euro by central banks, it is also popular with households, albeit in this case basically in developing and transition countries neighbouring the EU. According to data published by the European Central Bank, bank deposits denominated in euro in 28 non-Euro Area countries exceeded 46 billion euros, and euro cash holdings outside the Euro Area might be an even bigger amount.[2]

As concerns net issuance (gross issuance minus repayments) of international debt securities – international in the sense of being issued by non-Euro Area resident entities –, its amount between mid-2003 and mid-2004 was close to USD 207 billion, one third of world total. In the three-year period between 2001-3, in traditional foreign exchange markets (spot transactions, outright forwards

[1] Cf. IMF (2004).
[2] Cf. ECB (2005).

and foreign exchange swaps) worldwide, the euro was the second most actively traded currency after the US dollar and ahead of the Japanese yen. The euro was involved in 37% of all foreign exchange transactions. [3]

In the international trade of goods and services, global data on the share of different currencies in invoicing and settlement are unavailable. Data collected by some Euro Area countries' central banks (in official parlance member institutions of the European System of Central Banks) show that in extra-Euro Area exports and imports of goods and services of their companies the share of invoicing/settlement in euro was increasing over the last few years, and in almost all cases reached

forty-plus to sixty-plus percent in 2003. This share was usually somewhat higher in exports than in imports, refelecting „Grassman's law", according to which exporters tend to invoice in their own currencies.[4]

Euroisation in North Africa?

Of course, the strengthening of the euro's international role is of particular relevance for countries of Northern Africa. They border (or are close to the border of) the European Union, have long traditions of contacts, even ties, with EU countries, and maintain intensive trade relations with them. The share of the EU in North African countries' foreign trade is rather high, between 60 and 80 percent (and within it, the role of the non-Euro Area EU member countries does not exceed 3 percentage points). Indeed, data below show that trade relations of Algeria, Morocco and Tunisia with the "old" (15-mebers) EU are no less intensive than those of five Central European new EU member countries.

The share of the EU in the exports and imports of Algeria, Morocco and Tunisia (percent of total)
(Average of five years between mid-1999 and mid-2004)

	exports	imports
Algeria	62.4	61.8
Morocco	71	60.3
Tunisia	79.3	71.7

Source: http://www.dree.org/

The share of the EU in the exports and imports of the Czech Republic, Hungary, Poland, Slovakia and Slovenia (percent of total)
(Average of the years 2000-2003)

	exports	imports
Czech Republic	68.3	67.9
Hungary	70.6	63.5
Poland	66.2	63.8
Slovakia(1)	58.9	48.8
Slovenia	64.0	74.4

(1) 2000-2002
Source: own calculation from Eurostat Comext database

If looking only at these figures, we might conclude that the three North African countries should aim at introducing the euro as their own currency, as well as do Central European countries. This conclusion

[3] Cf. ECB (2005).
[4] Cf. ECB (2005).

might be strengthened by taking into consideration the comprehensive Euro-Mediterranean Partnership launched at the 1995 Barcelona Conference between the European Union and its 12 Mediterranean Partners. The Partnership will tend to further develop trade and economic relations between the EU (and thus the Euro Area) and North Africa.

This conclusion would be somewhat weakened by the fact that North African countries' foreign trade openness is mostly lower than that of Central European countries (with the exceptions being Tunisia on one side and Poland on the other). This is displayed in the table below. But of course, foreign trade openness will also be increasing with the development of the Partnership program.

The share of foreign trade (exports + imports) in the GDP of North African and Central European countries, in percent

Algeria	54
Morocco	52
Tunisia	75
Czech Republic	113
Hungary	109
Poland	40
Slovakia	130
Slovenia	96

A further consideration that might strengthen the orientation towards introducing the euro in North Africa is related to foreign direct investments. The latter in the North African region have been modest. The total stock of FDI, from Mauritania to Egypt, was USD 48.3 billion at the end of 2002 (in the Central and Eastern European region, it was 187.9 billion; the total North African stock equalled Poland's and Slovakia's combined FDI inflow between 1995-2002). Future FDI opportunities may be enormous, and primarily EU investors can be expected. Host countries using their own currency would certainly be very attractive for them.

Thus, should North African countries euroise, i. e., introduce the euro as their own currency?

Well, for the long term, I have no answer to this question. "Yes" is possible as well as "no". As concerns short-to-mid-term, euroisation would not be a good option. However, these countries' full monetary independence from the euro would also be problematic, not to say impracticable.

North Africa, the euro, and the theory of optimal currency areas

Euroisation (as well as dollarisation) is, in any country, partly a political issue. Politics is not the focus of this paper but some remarks about it cannot be avoided here. Largely political considerations motivate the reluctance to join the Euro Area in the United Kingdom, Denmark and Sweden, three "old" EU member countries. Even within the Euro Area, there are many negative feelings about the euro; neither are the latter totally absent in Central Europe (already now, much before the introduction of the euro). The idea of euroisation in North Africa, if raised seriously, might be even more problematic politically because in countries that are not EU members euroisation can only be unilateral. This implies to things. First, these countries cannot delegate members to the European Central Bank's governing bodies, neither can they participate in any other decision-making bodies of the EU whose decisions affect monetary policies. Second, countries euroising unilaterally lose any

seigniorage revenue (except in case of special agreement with the EU but there are no precedents of such agreements).

As concerns the economics of monetary unions in general, and euroisation in particular, the starting point has to be the theory of optimal currency areas.

This theory, initially founded by Mundell's famous article (1961), deals with the consequences of the fact that a currency union deprives its member countries of the capability of changing the exchange rate of their currencies vis-à-vis the other member countries. With this, a very important tool of macroeconomic management is lost. The country cannot improve its competitiveness, thus accelerate its output growth, reduce its unemployment and improve its fiscal position by the means of devaluation.

The theory suggests that monetary unions should only be established under such conditions when the probability of the emergence of a strong need for a devaluation – which is impossible – is minimal; this minimal probability means that we face an optimal currency area. There are three main criteria of such optimality. The first one is that labour migration be free between the countries of the monetary union. The second one is the real possibility of significant budgetary cross-subsidisation between the member countries. In an economic downturn of one of the member countries of the monetary union (an asymmetric shock), which would require the devaluation of that country's currency, these two opportunities may assure an alternative cure. (Workers losing their jobs can partly find work abroad, partly receive unemployment benefits, facilitated by budget transfers from partner countries.) Even more important is the third criterion of the optimal currency area, namely the low probability of asymmetric shocks among member countries of the currency union. The possibility of asymmetric shocks stems from different countries' specialisation in different industries. A negative demand shock to a country's leading industry (country A's industry X) would necessitate the devaluation of its currency. If this country is in currency union with country B whose leading industry is also industry X then the shock is not asymmetric from their point of view. They both have to devaluate vis-à-vis third countries, and their currency union does not hamper them in so doing. However, if industry X is not a leading sector in country B then this sector's crisis is a reason to devaluate for country A but not for country B, and A alone cannot devaluate. For the necessary but (in a currency union) impossible devaluation of country A's currency, some economists see a good substitute in the reduction of nominal wages in that country[5] but that seldom happens on the national level anywhere in the world.

Applying these criteria to the European Union, we can say the following. In the EU, cross-border budgetary subsidisation is modest and clumsy, and so is – despite all positive formal rules – cross-border migration. The consequence of this is that if one country's unemployment increases, and its economic growth declines more than those of other countries, then these mechanisms will not help much to overcome these problems. But the probability of the emergence of such problems is low because, with respect to the third criterion, things stand differently. Most EU countries are not specialised to any meaningful extent in any economic sector. Trade within the EU is to a high extent intra-industry trade[6]. Thus, the probability of significant asymmetric shocks is rather low.

A suggestive example illuminating the problems and treatment of asymmetric shocks is a comparison between the reaction of two entities, Belgium in Europe and Michigan in the US, at that time both specialised in heavy industries, to the severe world-wide crisis experienced by these industries at the beginning of the 1980s. In 1980-84, Michigan lost 6 percent of its population. With inter-state migration being normal everyday practice in the US, the shock affecting this state much more than others (i. e., an asymmetric shock) did not cause an untreatable problem, even though Michigan as part of the US was "participant of a currency union", thus it could not devaluate its

[5] Cf. Dornbusch (2001).
[6] Cf., e. g., Fontagné et al. (1997).

currency vis-à-vis other States. The federal budget's revenues diminished, its expenditures increased in this State (but the other 49 States represented a sufficient cushion). On the other hand, Belgium (which had pegged its franc to the ECU but that arrangement did not exclude a devaluation) devaluated its currency by 20 to 25 percent (in the real sense). The country hardly had any other choice. It did not (and could not) send a part of its workforce abroad (at that time, free movement of labour was, even in principle, hindered within the European Communities), it could not finance increasing unemployment benefits from any other budget than its own, and it did not try to reduce nominal wages (nominal wage reduction was also of a minimal size in Michigan)[7]. One consequence of that crisis in Belgium was that the country ceased to be specialised in heavy industry.

As concerns Central Europe, its trade with the ("old") EU has developed over the last decade towards insertion into the intra-industry trade pattern. According to some authors, these countries tend to remain producers of low-quality, low-price products[8]. Other research seems to find a more favourable picture.[9] However, even if the former researchers are right, "specialisation" in low-quality, low-price products (including the production of less demanding and delicate component parts of complex

products, e. g., machinery and equipment) is no sectoral specialisation, and it can hardly entail asymmetric demand shocks. Thus, in the final analysis we can say that the optimal currency area of the euro extends to Central Europe. This conclusion is also confirmed by the analysis of macroeconomic fluctuations, which reflects parallel shocks and shock adjustments between the leading industrialised countries of Western Europe and the most advanced Central European countries.[10]

With respect to specialisation, the position of North African countries is very different from that of Central Europe. This difference can be observed even on a rather aggregate level of the product composition of these countries' exports and imports.

The share of different product groups in the exports and imports of three Central European and three North African countries (percent of total)
(Average of five years between mid-1999 and mid-2004)

Product	**Czech Republic**		**Hungary**		**Poland**	
group	Exports	Imports	Exports	Imports	Exports	Imports
Primary products	4	10	4	7	7	12
Basic manufacturing products	11	9	8	7	12	7
Intermediate products	30	25	23	29	25	28
Machinery and equipment	24	26	31	28	16	21
Consumption goods	20	15	22	15	22	18
Miscellaneous	11	15	12	14	18	14
Total	100	100	100	100	100	100
	Algeria		**Morocco**		**Tunisia**	
	Exports	Imports	Exports	Imports	Exports	Imports
Primary products	75	14	17	23	8	10
Basic manufacturing products	1	7	8	7	7	6
Intermediate products	0	21	15	27	11	29

[7] For more detail, see De Grauwe (1997).
[8] Cf.., e. g., Gabrisch – Werner (1998), Aturupane et al.. (1999).
[9] Cf. Soós (2001).
[10] Cf.. Frenkel. – Nickel (2002).

Machinery and equipment	0	25	5	19	12	23
Consumption goods	0	17	39	12	49	17
Miscellaneous	24	16	16	12	13	15
Total	100	100	100	100	100	100

Source: http://www.dree.org/

Export and import shares of individual product groups are close to each other in the Czech Republic, Hungary and Poland but they are rather different in the North African countries. The latter three are largely net importers of machinery and equipment. Morocco and Tunisia are "overweight" in the exports of consumer goods; Algeria's exports are dominated by primary products (mostly oil and gas). These asymmetric trade structures imply real risks of asymmetric demand shocks for North African countries. At the same time, migration between the EU and North African countries is not free. Neither can these countries expect budgetary subsidies from the EU (or for that matter from anywhere else) in amounts that might be an effective cushion against any significant economic slowdown.

The corollary of this analysis is that, on the basis of optimal currency area theory, North African countries cannot be advised to euroise their economies.

Independent float, peg or managed float?

Independent or free floats, in the full sense of these words. i. e., with an actual indifference to exchange rate movements, are rare in the real world. After the crises of pegged currency regimes in 1997-1998, South-East Asian countries and Russia became, in principle, independent floaters. However, after 1999 the Russian regime became a managed float, with high attention of the central bank being paid to the ruble/dollar and ruble/euro exchange rates[11], and in some Asian countries, e. g., Korea, in recent years there have been no less clear signs of policy responsiveness to exchange fluctuations than there had been during the pre-crisis period[12].

The "fear of floating" characterising most countries' exchange rate (and, more generally, monetary) policies has been subject to much discussion and debate over the last few years.[13] An independent float would hardly be desirable for North African countries having strong and developing trade relations with the EU.

Thus, after the exclusion of currency substitution (euroisation) and independent floating, the remaining possibilities are different kinds of pegs and managed float.

Pegs can be "hard" or "soft". Indeed, currency substitution is one kind of hard pegs. The other well-known kind of hard pegs is a currency board arrangement. It means a strictly fixed exchange rate (sometimes meaning that only Parliament might decree a devaluation) and the forbid to the central bank of lending to domestic entities (including the government). Under such circumstances, central

[11] Cf. Osipova (2004).

[12] One of the usual signs of economic policy's sensitivity to exchange rate fluctuations can be found by examining the fluctuations of official foreign currency reserves in relation with exchange rate fluctuations. Linear regression calculation, based on monthly data published in the IMF's International Financial Statistics database, shows the traces of foreign exchange interventions by Korea's central bank, aimed at dampening the fluctuations of the von/US dollar exchange rate. Estimating for 1991-96 the deviations from trend of the foreign exchange reserves with exchange rate fluctuations, we find that 1 percent appreciation entailed then 1.4 percent increase of foreign exchange reserves (which means intervention sales of von, leaning against the wind of appreciation) and vice versa, with 0.00 percent significance level but a rather low R^2(0.13). For the period 1999-February 2004, we receive a lower (0,5 percent) but not less significant coefficient, and an importantly better R^2 (0.33).

[13] Cf., e. g., Calvo – Reinhart (2000), Fisher (2001).

bank money can only be created via purchasing foreign exchange, i. e., its full amount is covered by foreign exchange reserves. A currency board arrangement is short, but actually not very much short, of currency substitution. Usually, it is introduced in an emergency situation, with (the danger of) hyperinflation and an extremely weak credibility of the government's economic policies of the recent past. It was introduced in two Baltic (former Soviet) republics, Estonia and Lithuania, after the collapse of the Soviet Union, in 1992 and 1994, respectively, and in Bulgaria, amidst a banking and currency crisis in 1997, and it has functioned in those countries remarkably well. If there is no such emergency then the introduction of such a system has to be subject to compliance with optimal currency area criteria (of the introducing country and the home country or countries of the target currency, in our case the EU or the Euro Area). This of course means that a currency board arrangement is not really an option for countries of North Africa.

As concerns soft pegs, usually their birth is also related to more or less emergency situations. The peg principle itself means a nominal anchor helping in dampening price increases, encouraging home currency holdings, improving investor and consumer confidence in general. Its success for the short term is usually guaranteed if it is coupled with other necessary (and difficult) measures, e. g., cutting the budget deficit, introduction of income policies, etc. However, with time, such a peg – an asset when introduced – tends to become a liability. Inflation melts down the initial real devaluation of the home currency. This process can be slowed down – but hardly eliminated – by a crawling peg, meaning continuous devaluation of the exchange rate. On the other hand however, such a crawl may perpetuate inflation. With the peg gaining confidence, initially high home currency interest rates tend to diminish. However, they seldom fall to uncovered interest rate parity level, and with diminishing currency risk, foreign hot money investors can earn almost guaranteed interest premiums. Banks borrow abroad in foreign currencies, and pass on the money to domestic clients at higher domestic interest rates. The currency mismatch in banks' balance sheets, (and with time and direct borrowing in foreign currencies, in firms' and even households' balances of payables and earnings), if it becomes widespread, is a serious systemic risk for the case of a devaluation. These problems can be alleviated by widening the peg's fluctuation band but only until the actual exchange rate gets close to the border of the band and maybe even gets stuck there. The most serious trouble with such a worn off peg is the danger of a speculative attack, which may force a devaluation revealing currency mismatches, thus entailing a bankruptcy wave and serious economic crisis, as we could see in Mexico in 1995 and in quite a few emerging market countries later in the 1990s[14].

Central Europe's most recent history knows such worn off pegs. The Czech Republic's peg, introduced in 1991, ended in a speculative attack and a (rather mild) crisis in 1997. Poland (having pegged the zloty from 1990) averted a similar fate by abolishing its peg in 1998. These countries apply managed float nowadays (which in Poland is called independent float though). Hungary has maintained its peg but widened its fluctuation band to +/-15 percent in 2001. When preparing for joining the Euro Area, the Czech Republic and Poland will also have to re-peg their currencies to the euro but then – within the EU's exchange rate mechanism – they (together with the Hungarian forint) will be at least to some extent less exposed to speculative attacks because they will also receive conditional protection against speculative attacks from the European Central Bank. And this re-pegging might not last too long. After two years, if the above mentioned criteria are satisfied, the countries can join the Euro Area.

As concerns North African countries, pegging their currencies now (to the euro or otherwise) would not be a good idea. A peg far in time from the emergency situation of high inflation and the like is necessarily one loaded with many of the usual problems of worn off pegs, even if it is newly introduced. Tunisia is abolishing its peg, Morocco might also consider loosening its peg to a euro-

[14] On this series of crises, much has been written in the economic literature. See, e. g., Krugman (1999) and Dabrowski (2002).

dominated basket of the dirham, and Algeria does not seem to have any reason to introduce its own peg.

Having found that all other possibilities are very problematic, we remain with managed floating as the least bad solution. Indeed, in economic policy there seldom is anything better than a least bad solution. As I mentioned it already, managed float – officially often labelled independent or free float – is very widespread; it may be the most frequently applied exchange rate arrangement in the world. However, as Calvo and Reinhart (2000) stress it, managed float (even if labelled free or independent) in actual practice often stands very close to a soft peg.

This is rather unfortunate because the drawbacks of soft pegs, shortly described above, cannot be obviated by simply giving such arrangements another name. The difference between the two arrangements is that in a peg, authorities stick to a certain level or a certain path over time of the nominal (sometimes the real) exchange rate, allowing market forces very little or no influence, whereas in managed float an interplay of the market and central bank interventions shape exchange rate levels and fluctuations. Still, Calvo and Reinhart rightly underline that there is no clear dividing line between these two regimes. This means that certain basic safety rules of soft pegs – e. g., restraint in the liberalisation of international capital movements, strict regulation preventing the emergence of large size currency mismatches in banks' balance sheets – also have to be respected under managed float. At the same time, under managed float, monetary policy is less dominated by exchange rate-related considerations. This is important because thus monetary policy gains more space to perform its more adequate tasks: smoothing inflation and output fluctuations.

Finally, let me make a specific remark with respect to Algeria. Differently from the other two North African countries treated in this paper, Algeria's export are largely concentrated on one product (oil), and even though the latter is being sold mostly to member countries of the European Union, it is priced in US dollars, and the dollar pricing of oil (and other commodity) exchanges is unlikely to change on the short-to-mid-term. Mostly dollar pricing of exports and mostly euro pricing of imports may mitigate the huge fluctuations[15] of Algeria's terms of trade if rising oil prices are coupled with the dollar's weakening – as it happened over the last two years – but in the last decades mostly the opposite of this was the rule. Many consequences of this double exposure are not the subject of this paper (neither are Algeria's obviously very rational strivings to dampen the fluctuations by creating an oil fund (Fonds de Régulation des Recettes, FRR) and diversifying its exports). However, the double exposure also means that, for Algeria, the dinar/dollar exchange rate is no less important than the dinar/euro rate. A managed float aiming at the stabilisation of both rates is not easy under the conditions of the prevailing international monetary system. But a possible favourable consequence of this difficult situation may be that Algeria is not really threatened by the danger of committing the usual mistakes of countries pegging (including: pegging under the name of free or managed float) their currencies.

Appendix

The euro is the official currency of 12 member countries of the European Union. These 12 countries – full members of the EU's Economic and Monetary Union – appoint the members of the decison-making bodies of the European Central Bank, in this way they exert a certain control over it and thus over euro monetary policies (but, because of the ECB's high level of independence, their control is rather limited).

Euro Area member countries

Austria	France	Finland

[15] E. g., between 1998, a year of notoriously low prices, and 2002, Algeria's terms of trade almost doubled.Cf. UNCTAD (2004).

Belgium	Germany	Ireland
Netherlands	Spain	Greece
Luxembourg	Portugal	Italy

Beyond these countries (and their overseas territories, which either use the euro or peg their currencies to it), the euro is legal tender in another six entities. They are not member countries of the EU and of the Euro Area, and have no control over the ECB and its policies. Four of these „euro users" are very small European countries, two – Kosovo and Montenegro – are not separate countries in the formal sense. Nowadays Kosovo is under the control of the international community.

Euro users ("euroised" countries)

Andorra	San Marino	Kosovo
Monaco	Vatican City	Montenegro

24 countries peg their currencies to the euro. Among them, non-European pegs usually are monetary arrangements of former, mostly French colonies. The Sub-Saharan former French colonies have a common currency, the CFA Franc, and that is pegged to the euro. In Northern Africa, Tunisia pegs its currency to the euro. But Tunisia is now on the way to change this arrangement, and is not included in Table 2 below.

One "old" EU member country (Denmark), five new member countries (Cyprus, Estonia, Hungary, Lithuania and Slovenia) and two former Yugoslav republics (Bosnia-Herzegovina and Macedonia) also peg their currencies to the euro. These pegs are rather various. E.g., Hungary's peg nowadays is characterised by a rather wide (+/-15%) fluctuation band. Bulgaria has a firm, hard peg – a currency board arrangement. Lithuania and Estonia have, in a rather particular way, both of these two solutions.

They have rigourous currency board arrangements, which have functioned remarkably well for more than a decade. These arrangements – as the two countries' unilateral commitments – have been maintained even after June 2004, when they (together with Slovenia, another new EU member country) joined the European Union's Exchange Rate Mechanism (ERM II), which is, for all practical purposes, an entrance-hall to the Euro Area. ERM II membership is a specific kind of currency peg, in which all participants –of course, most importantly the ECB – extend help (conditional on sound economic policies) in the case of a speculative attack against any one of the member currencies. The normal fluctuation band allowed to member currencies is +/-15 percent. Denmark is also aparticipant of this system but, with a special arrangement, it has a narrower (+/-2.25 percent) fluctuation band.

Countries pegging their currrencies to the euro

Burkina Faso	Ivory Coast	Bulgaria
Cameroon	Mali	Macedonia
Central African Republic	Niger	Cyprus
Chad	Senegal	Denmark
Congo	Togo	Estonia
Equatorial Guinea	Cape Verde	Hungary
Gabon	Comoros	Lithuania

Guinea-Bissau	Bosnia-Herzegovina	Slovenia

In May 2004, ten countries joined the EU According to their Accession Treaties, all of them will also join the Euro Area when they will have complied with the so-called Maastricht criteria (meaning ceilings for the fiscal deficit, the public debt, exchange rate fluctuations, long-term interest rates and inflation). The above mentioned pegs (ERM II-membership and otherwise) of several of these countries are steps towards that. They all intend to be in the Euro Area before 2011. However, for the time being, some of them (the Czech Republic, Poland and Slovakia) still maintain an (actually managed) float of their currencies, and Latvia and Malta have non-euro pegs (the former pegs its lat to the SDR, whereas the latter pegs its lira to a basket consisting of the US dollar, the British pound and the euro).

join the New (2004) EU member countries, supposed to Euro Area

Country	Currency	May join euro area
Cyprus (South)	Pound (Cypriot)	2007
Czech Republic	Koruna (Czech)	2009/10
Estonia	Kroon	2006/07
Hungary	Forint	2010
Latvia	Lat	2007
Lithuania	Litas	2006/07
Malta	Lira (Maltese)	2007/2008
Poland	New Zloty	2008
Slovakia	Koruna (Slovak)	2008/09
Slovenia	Tolar	2007

Four candidate countries for EU membership are also potential member countries of the Euro Area. The accession to the EU of Bulgaria and Romania in 2007 is almost fait accompli. (And their accession treaties also foresee their joining the Euro Area at a later date.) Turkey and Croatia are less obvious cases; their accession negotiations are just about to start.

Candidate countries for EU mambership

Candidate Country	Estimated date of Joining EU	Notes
Bulgaria	2007	On target to join in 2007.
Romania	2007	On target to join in 2007.
Turkey	not before 2008	Start of accesion negotiations foreseen
Croatia	not before 2008	Start of accesion negotiations foreseen

Finally, 13 countries apply managed floats targeting the euro or peg or managed float arrangements targeting a currency basket including (beside other currencies) the euro.

Countries with managed float to euro or peg arrangements or managed floats targeting a basket including the euro

Country	Currency	explanation or euro's share in pegging basket
Latvia	Lat	peg to SDR
Malta	Lira (Maltese)	70 percent
Romania	Leu	managed float, informal euro and USD basket
Czech Republic	Koruna (Czech)	managed float with euro as reference currency
Slovakia	Koruna (Slovak)	managed float with euro as reference currency
Croatia	Kuna	managed float with euro as reference currency
Serbia	Dinar	managed float with euro as reference currency
Israel	Shekel	approx. 28 percent
Seychelles	Rupee	37.7 percent
Russian Federation	Ruble	managed float, euro 40 percent of the basket
Morocco	Dirham	Peg to Euro-USD basket
Tunisia	Dinar	peg to euro being loosened

Sources: ECB (2005), central banks' websites and //www.wilkiecollins.demon.co.uk/euro/eurocountries.htm

References

Aturupane, C. - Djankov, S. - Hoekman, B. (1999), "Horizontal and Vertical Intra-industry Trade between Eastern Europe and the European Union", *Weltwirtschaftliches Archiv*; 135(1), pp. 62-81
Calvo, G. A. – Reinhart, C. M. (2000), Fear of Floating, NBER Research Paper No. 7993, NBER, Cambridge (Mass.).

Dabrowski, M. (ed.) (2002) Currency Crises in Emerging-Market Economies: Causes, Consequences and Policy Lessons, Case Reports No. 51, Case, Warsaw.

De Grauwe, P. (1997), The Economics of Monetary Integration, Oxfor University Press, Oxford.

ECB (2005), Review of the International Role of the Euro 2005, European Central Bank, Frankfurt.

Dornbusch, R. (2001), Fewer Monies, Better Monies, NBER Working Paper 8342, NBER, Cambridge (Mass.)

Fischer, S. (2001), Exchange Rate Regimes: Is the Bipolar View Correct? www.imf.org

Fontagné, L. – Freudenberg, M. – Péridy,N. (1997), *Trade Patterns Inside the Single Market*, CEPII Document de travail, No. 97-07, Paris

Frenkel, M. – Nickel, C. (2002), How Symmetric Are the Shocks and the Shock Adjustment Dynamics between the Euro Area and Central and Eastern European Countries?, IMF Working Papers, No. 02/222, Washington, D. C.

Gabrisch, H. – Werner, K. (1998), "Advantages and drawbacks of EU membership - the structural dimension", *Comparative Economic Studies*, Fall 1998

IMF (2004), World Economic Outlook, International Monetary Fund, Washington, D. C.

Krugman, P. (1999), The Return of Depression Economics, Penguin, London.

Mundell, R., (1961), "A Theory of Optimal Currency Areas", American Economic Review, Vol. 51.

Osipova, O. (2004), Strakh pered svobodnim plavaniem ili vinuzhdennaya stabilizatsiya kursa?, Voprosi ekonomiki, 6. sz., 112-122.

Soós, K. A. (2001), "Structural upgrading in Manufacturing under Transition. A Comparative Analysis of Eight Countries" pp.245-294 in Bara, Z. - Csaba, L. (eds.): *Small Economies' Adjustment to Global Tendencies*, Aula Publishing Co., Budapest.

UNCTAD (2004), Handbook of Statistics 2004, UNCTAD, Geneva