

**Development Centre
Studies**

Don't Fix, Don't Float

INTERNATIONAL DEVELOPMENT



**Edited by Jorge Braga de Macedo,
Daniel Cohen and Helmut Reisen**

BIBLIOGRAPHICAL REFERENCES

p. 33, 3rd paragraph, 3rd line; read (updated in Braga de Macedo, 2001a)

BRAGA DE MACEDO, J. (2001a), “The Euro in the International Financial Architecture”, *Acta-Oeconomica*, forthcoming.

p. 36, 3rd line, read (Braga de Macedo, 2001b)

BRAGA DE MACEDO, J. (2001b), Statement to the Preparatory Committee of the UN Financing for Development Conference, New York, February 20, available at www.fe.unl.pt/~jbmacedo/oecd/un.htm.

CORRECTION

p. 68, last line, read:

with the dissolution of the USSR. Once Finland devalued in August 1991, the pressure

Development Centre Studies

Don't Fix, Don't Float

The exchange rate in emerging markets,
transition economies
and developing countries

Edited by

Jorge Braga de Macedo, Daniel Cohen and Helmut Reisen



DEVELOPMENT CENTRE OF THE ORGANISATION
FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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Foreword

This study was carried out under the Development Centre's research programmes on Global Finance. It grew out of a workshop on "Capital Flows: What Exchange-Rate Regime for Development?" during the Annual Bank Conference on Development Economics held at the French Ministry of Finance, Economy and Industry, on 26th June 2000.

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Preface

Should the monetary authority *fix* the exchange rate of the national currency or should it instead let the currency *float* in foreign exchange markets? What about bands, baskets and crawls between the fix and the float corners? These questions are relevant to the architecture of international economic co-operation and development. Answering them is not only of significance within national borders, but also globally.

The consequences of each answer for national and international development have been debated since the mid-1870s, when the gold standard based on the pound sterling began spreading from England to the rest of the world. The debate continued when sterling collapsed in 1931 and again with the Bretton Woods system based on the US dollar. In the early 1970s, pegged — but adjustable — exchange rates were replaced by a float between key currencies.

Alongside academics, officials in central banks, national governments and international organisations, investors, analysts and other market observers have been active participants in the debate about whether it is possible to combine the benefits of the two corner solutions and, if so, how. Exchange-rate issues often feature in the international diplomatic agenda and are sure to grab headlines whenever financial crises hit.

In the 1990s, “the brave new world of global finance” (from Chapter 3 in this volume) began to spread beyond the United States, Western Europe and Japan, just as the classical gold standard had done before. For example, the joint effort of an economist and a historian demonstrated at a conference recently held in Israel (where Chapter 2 in this volume was first presented) that the roots of the two-corner solution can be found at the Economic and Financial Organisation of the League of Nations. There, the Austrian-born Gottfried von Haberler was a floater, whereas Ragnar Nurkse, from Estonia, wanted to fix. The latter view, shared by Jacques Polak, the Dutchman who later headed research at the International Monetary Fund, determined the practical operation of the Bretton Woods system during several decades.

In the current debate, Jacob Frenkel favoured the float corner when he was Chief Economist at the Fund and when he served as Governor of the Bank of Israel. The fix corner is the hard peg provided by a currency board arrangement, championed by

Guillermo Calvo, who left the Fund and is now serving as Chief Economist at the Inter-American Development Bank. Both were invited to debate their views in a workshop organised by the OECD Development Centre at the ABCDE Europe.

The title chosen for this volume underscores the deficiencies of the “fix” and “float” corners on development policy grounds. In the same way that there may never be a pure float, even among key currencies, an instant fix does not provide a fast lane to credibility. Rules for budgetary adjustment (such as the zero deficit in Argentina or the EU Stability and Growth Pact) are necessary for any exchange-rate regime to deliver economic growth and development.

To cite the courageous expression of Argentina’s Economy Minister Domingo Cavallo — a recurrent name in the debate and a select Centre “alumnus” — credibility is earned abroad as emerging markets “grow up”. In “Argentina Must Grow Up” (*Financial Times* of 26 July 2001), he shows how sustained institution building in monetary, financial and budgetary matters may help the process at home.



This volume makes a contribution to answering the “fix, float, neither” questions in a way that sustains the process of building credibility in each particular national or international situation. From the acknowledged inconsistency between free capital movements, an independent monetary policy and a fixed exchange rate, the four chapters draw policy implications for developing countries, emerging markets and transition economies.

After reviewing the experiences of the African franc zone and of the Argentine currency board, Chapter 1 argues that a largely unwritten code of conduct emerged during the 1980s among the members of the European Monetary System (EMS); allowing them to float in order to fix, and to manage the introduction of the single currency. The benefits of such a “neither corner” solution are evident in the European Union (EU) cohesion countries (Ireland, Spain, Portugal and Greece), which earned external credibility in times of crisis. But the lesson applies on a broader scale: the multilateral surveillance framework underlying the EMS is portable to EU applicants and even to Latin America, Asia and Africa.

Chapter 2 argues that some intermediate regimes are better for developing countries than either one of the corners. It also includes illustrative weights for basket pegs for five potential country groups. The dollar, the euro and the yen would have equal weight for nine countries in East Asia (roughly the ASEAN plus China and Korea) and for four countries in the Pacific side of Latin America. The dollar and the euro would have equal weights on the Atlantic side of Latin America. In West Africa, the euro share would be double that of the dollar while East Africa could safely peg to

the euro. The main purpose of the proposed exchange–rate regime is to stabilise the real effective exchange rate against a currency basket, resulting in a crawling band for the nominal rate. This form of management should be used by groups of countries that have similar trade patterns using a common basket. The reason is consistent with the European experience, to the extent that collective arrangements spread speculative pressure instead of focusing it on one country at a time.

Chapter 3 argues that a hard peg is a special case of inflation targeting, where the monetary authority strives to achieve a predetermined rate of change in a basket of goods and services. As long as foreign exchange is not the only good contained in the basket, inflation targeting will be consistent with a floating exchange rate (as practised by two EU currencies outside the euro). Since in developing countries the credibility of inflation targeting is more difficult to establish than in the United Kingdom or Sweden, the flexibility relative to hard pegs may not help in the brave new world of global finance.

The focus of Chapter 4 is on transition. While the interpretation of the EMS crises is different from that presented in Chapters 1 and 2, there is agreement that most exchange–rate regimes found in transition countries, whatever their *de jure* classification, are in fact “neither fix nor float”.

The six authors agree that unsustainable fiscal policy is inimical to long–term credibility. This indictment goes well beyond the doctrinal debate about fix, float or neither. In the language of the current work programme of the OECD Development Centre, better corporate and political governance is required in order to empower people to face the challenge of globalisation.



François Bourguignon, from DELTA and the World Bank in Paris, asked me to organise a workshop on exchange–rate regimes for developing countries at the ABCDE Europe 2000. We agreed to invite Guillermo Calvo, Jacob Frenkel and Brigitte Granville to present papers, which Centre colleagues Daniel Cohen and Helmut Reisen would discuss. In the event, the former governor, now at Merrill Lynch, had to cancel. However, William Branson, who visited the Centre a couple of times during the first half of 2001, produced a survey of exchange–rate arrangements in developing countries for this volume. Other contributions, carried out in the context of past and current work programmes (e.g. Martin Grandes, Development Centre Technical Paper No. 177, June 2001) were used in Chapter 1. The chapter essentially consolidates the discussants’ comments and my own synthesis, drawing on national experiences brought out during the workshop, from the Balkans to Pakistan (see note 40 on page 30 of Development Centre Technical Paper No. 162, August 2000). I am grateful to all of them for their help in making this publication possible.

One year after the ABCDE Europe 2000, developing countries, emerging markets and transition economies, together with the OECD area, are faced with the consequences of a worsening global economic outlook. In this environment, the development perspective underlying this volume is of particular relevance.

I presented parts of Chapter 1 at several meetings, notably hosted by the Reserve Bank of Argentina in Buenos Aires, the European Association for Comparative Economic Studies in Barcelona, the Centre for Economic Policy Research in London and the National Bureau of Economic Research in Cambridge, Mass. I received useful comments from other participants during the panel on dollarisation which closed the latest Inter-American Seminar on Economics, the claim that the EMS code of conduct is portable to the Southern Cone or to East Asia was, it is true, greeted with scepticism. Yet the Argentine congress did put into practice the proposal of shifting to a basket peg including the euro, which Domingo Cavallo had made on the occasion of his Paris honorary degree two years ago. Hopefully this will be another case where building up long-term credibility for economic co-operation and development is helped by avoiding either corner. In other words, when it comes to the exchange rate, *don't fix, don't float*.

Jorge Braga de Macedo
President
OECD Development Centre

August 2001

Monetary Integration for Sustained Convergence: Earning Rather than Importing Credibility

*Jorge Braga de Macedo, Daniel Cohen and Helmut Reisen**

Introduction

Identifying and implementing an appropriate exchange–rate regime is giving rise to heated debate and urgent research. Virulent and contagious financial crises have hit diverse emerging markets repeatedly over the past decade, the last instance being Turkey, a founding member of the OECD. The recurrence of crises has redefined policy choices and trade–offs in a world of intense capital mobility. “Corner solutions”, either moves towards purely floating regimes or hard pegs such as dollarisation or currency boards, became the flavour of the month in prescription if not in practice. Moreover, the introduction of the euro may have led to a period of higher fluctuations between the key currencies, dollar, euro and yen, producing risks of destabilising trade–weighted exchange rates in many countries facing several different export markets. Hence the quest for regional monetary integration, as a means to earn credibility in world financial markets and therefore to promote a sustained convergence of living standards.

We concede that pure floating is rarely practised in emerging markets, and for good reasons. Old and recent historical experience warns against adopting hard pegs or establishing monetary integration schemes without a sufficient set of institutional prerequisites built up beforehand. That experience will be highlighted here. We shall build upon the CFA experience and upon the Argentine currency board to argue that corner solutions are not a panacea.

* The authors are, respectively, President, Special Advisor and Head of Division, OECD Development Centre.

Is there room for clean “dirty floating”? Much can be learned from the European Monetary System (EMS), especially from the latter part of its existence, after the 1992 crisis. Central parity with large bands seems to have worked reasonably well, in the midst of large uncertainties regarding the path to Economic and Monetary Union (EMU). The way out of the “don’t fix, don’t float” conundrum is the idea that you may have to float in order to fix. This is like a financial “cruel to be kind” (Braga de Macedo, 2000).

In practice, the operation of the EMS brought out a largely unwritten code of conduct through the Exchange Rate Mechanism (ERM). This turned what was essentially an agreement between central banks into an instrument of budgetary discipline and then into a vehicle for the convergence of Ireland, Spain and Portugal towards the criteria set out by the 1992 Union Treaty. Acquiring a good financial reputation was an essential prerequisite for the so-called cohesion countries to catch up with the EU average (see, e.g. Reisen, 1993a; Braga de Macedo, 1996).

Co-ordination mechanisms among monetary and fiscal authorities like the ones found in the European Union (EU) have been the best response to threats of contagion of national crises. In effect, the current international system calls for more effective regional and global responses adapting EU methods in cases like the Central European Free Trade Association (CEFTA), the Association of South East Asian Nations (ASEAN) and Mercosul. The evolution of the swap arrangements between ASEAN, China, Japan and Korea towards more systematic macroeconomic consultations and the creation of a “macroeconomic monitoring group” in Mercosul are specific examples presented in Braga de Macedo (2000). The *Financial Times* of 7 March 2001 reviews these arrangements under the title “Yearning for stability spurs surge of regional harmony”. The ERM code of conduct reflects a particular governance response to the pressure of globalisation which impinged on the European economy. With respect to African economies, which stand at the very early stage of their institutional endeavour, this may be a safer way to monetary stability than the one-shot jump to full monetary integration.

The adoption of a regional multilateral surveillance framework (MSF) complementary to IMF global surveillance may promote the kind of “peer pressure” that has become associated with the ERM code of conduct. Just like the emerging markets which are moving towards more integration, African countries will find useful lessons in the practical operation of the EMS. Another painful lesson in CFA countries highlights the importance of an appropriate anchor currency.

This paper first deals with so-called “corner solutions” such as currency boards or dollarisation — providing some theoretical background and a brief survey of recent contributions to the policy literature; dealing with the CFA experience, explaining why the 1994 devaluation was inevitable in view of the appreciation of the real effective exchange rate; and, similarly, explaining how Argentina could not manage a real exchange-rate misalignment.

It then aims to show why a transition where a country “earns” its credibility is a crucial prerequisite to any fixed exchange–rate arrangement. It looks at the EMS experience, stressing the *portability* of the MSF that emerged from the ERM code of conduct; and draws lessons for the choice of exchange–rate regime in emerging markets and for international financial architecture. A general conclusion then interprets the “don’t fix and don’t float” conundrum chosen for the title of this volume as a rationale for intermediate regimes capable of earning credibility abroad through peer pressure.

CORNER SOLUTIONS IN THEORY AND PRACTICE

Theoretical Background

The Impossible Trinity

The adoption of appropriate exchange–rate regimes has become a live theme. Consider the following three important statements:

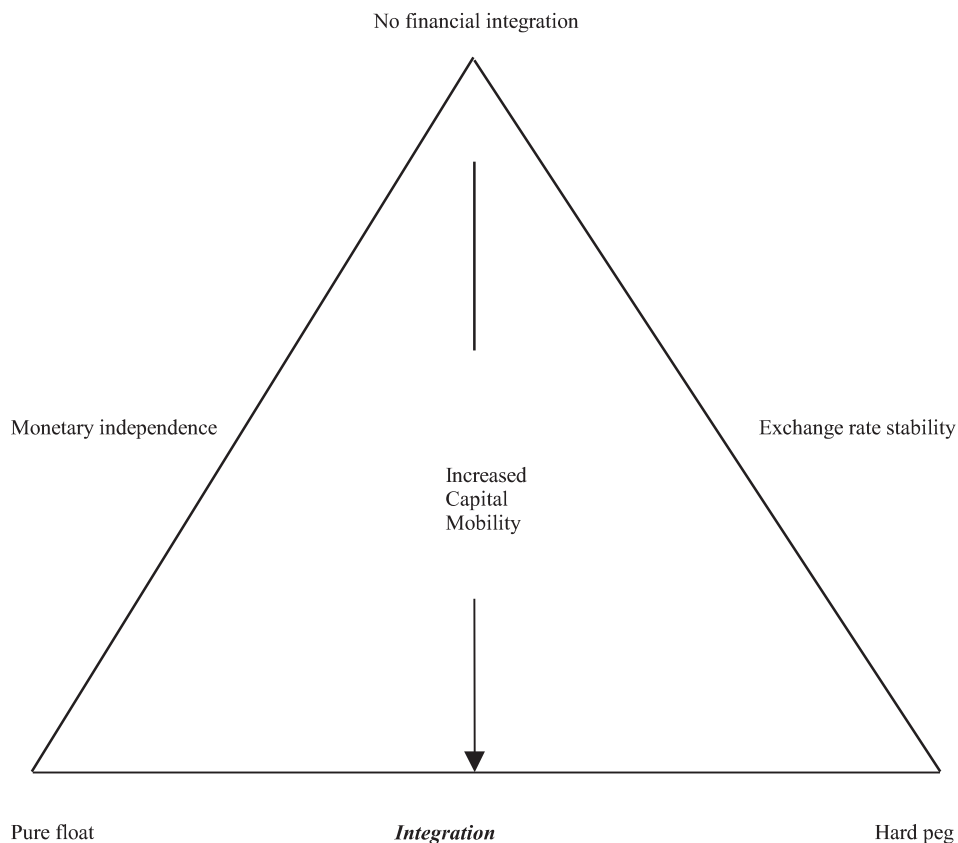
“...the choice of an appropriate exchange–rate regime, which, for economies with access to international capital markets, increasingly means a move away from the middle ground of pegged but adjustable fixed exchange rates towards the corner regimes of either flexible exchange rates or a fixed exchange rate supported, if necessary, by a commitment to give up altogether an independent monetary policy.” Summers (2000).

“I will argue that proponents of what is now known as the bipolar view — myself included — probably have exaggerated their point for dramatic effect. The right statement is that *for countries open to international capital flows*: i) pegs are not sustainable unless they are very hard indeed; but ii) that a wide variety of flexible arrangements are possible.” Fischer (2001).

“Countries seeking both to maintain flexibility and to avoid excessive volatility in exchange rates might consider intermediate regimes such as band arrangements.” Third Asia–Europe Finance Ministers’ Meeting, Chairman’s Statement (2001).

Immediately after the Asian crisis, it had become an almost common view that intermediate or BBC (bands, basket or crawling pegs) regimes are not sustainable in a world of intense capital mobility. There were few efforts to revive the intermediate option (but see Williamson, 2000). Countries were advised, for example by the US Treasury, to the corners of either firm–fixing or free–floating. As stressed by Fischer (2001), each of the major international capital market–related crises since 1994 had in some way involved a pegged exchange–rate regime. Turkey in early 2001 added another victim to the list of pegs gone bust. The Treasury advice also reflected the desire to keep capital markets open, as can be inferred from Figure 1.1.

Figure 1. **The Impossible Trinity**



The logic behind the proposition in favour of corner solutions is the impossible trinity (see Frankel, 1999). Impossible trinity, because a country must give up one of three goals: exchange–rate stability, monetary independence (useful to cope with slumps), or financial–market integration. It cannot have all at the same time. Countries can attain only two of the three goals simultaneously:

- lack of financial integration allows simultaneous pursuit of exchange–rate stability and monetary independence;
- a full float allows integration and monetary independence.
- hard pegs (dollarisation, monetary union) allow integration to be combined with exchange–rate stability;

These trade-offs may appear to be an *embarras de richesse*. The many poor developing countries which are not yet on the radar screen of foreign investors and where domestic residents do not place their money at home anyway, are not concerned. This comes at a large cost of foregone benefits of foreign flows which a recent Development Centre study has shown to be particularly significant for direct and portfolio equity investment (Reisen and Soto, 2001). Hence the focus of this paper is not only on emerging markets, but on those among the least developed countries which want to escape that condition by acquiring a financial reputation and therefore entering the radar screen of international investors.

Corner Solutions

As Guillermo Calvo rightly states in Chapter 3 of this volume, there is widespread “fear of floating” in emerging markets. Governments in a typical emerging country can hardly tolerate massive overvaluation or undervaluation of their currencies. Calvo provides as reasons for fear of floating the transmission of inflation and devastating balance-sheet effects. We add to this list the growth disruptive effects of prolonged periods of misalignment (such as in New Zealand in the 1980s) which threaten growth strategies based on diversifying exports away from traditional crops towards non-traditional industries (see, e.g. Joumard and Reisen, 1992).

Whether hard pegs are a better alternative for open economies depends very much on institutional and regulatory prerequisites and on their degree of endogeneity with respect to the exchange-rate regime (Eichengreen, 2000). These can be summarised as follows:

- the banking system must be strengthened, so that the central banks’ more limited capacity to provide lender-of-last-resort services does not expose the country to financial instability;
- the fiscal position needs to be strong so that the absence of the central banks’ ability to absorb new public debt does not end in a funding crisis;
- commercial and intergovernmental credit lines must have been negotiated to secure liquidity in an investor sentiment crisis;
- the labour market must be made flexible in order to accommodate asymmetric shocks without higher levels of un(der)development; and
- the real economy structures should be aligned to ensure that cyclical and monetary conditions coincide with the pegging partner.

This is a long list which is not easily met. In order to see why one should not take for granted that these conditions will be met (somehow endogenously), we will review two cases that bear their note of caution: the CFA experience and the Argentine

currency board. In addition, later in this chapter, the EMS experience is brought to bear on this issue, while Chapter 2 by William Branson deals with the pound sterling's entry into the EMS and with the monetary preconditions for EU accession by EU applicant countries. Chapter 4 by Brigitte Granville deals with broader issues of exchange-rate regimes in transition countries.

Bénassy-Quéré and Cœuré (2000) have recently stressed the regional dimension of the debate on corner solutions. They argue that both pure floating and hard pegs make future regional co-operation more difficult. This is important in a world of regional trade blocs which look for ways to intensify co-operation. A float is an inherently unstable regime for countries competing on world markets for a similar range of products and hence sets incentives for beggar-thy-neighbour competitive devaluation. Floating induces non-co-operative strategies, especially when the competing neighbours face a common shock. Hard pegs are hard because it is so difficult to reverse them and because they lack an exit strategy. They are thus only suited for countries which aim at joining a monetary union with the anchor currency in not too distant a future (such as some countries in Central Europe). On the other hand, the perspective of joining or creating a monetary union can make intermediate regimes more robust in the meantime.

With increasing financial integration, emerging markets may thus opt to give up on *some* exchange-rate stability and on *some* monetary autonomy. There is ample choice on currency regimes inside the corners, although most of the regimes will amount to some sort of inflation targeting. Edwards (2000) lists the range of regimes from 1) free float (with the exchange rate determined in the market alone), to 2) floating with a "feedback rule" (indirect intervention which does not result in changes in reserves); 3) managed float (with intervention resulting in changes in international reserves); 4) target zone (floating within a band, with the central parity fixed); 5) sliding band (with adjustable central parity); 6) crawling band (backward- or forward-looking change of central parity); 7) crawling peg (passive or active adjustable peg); 8) fixed, but adjustable peg; 9) currency board; and 10) full adoption of another country's currency. Fischer (2001) excludes fixed but adjustable pegs and narrow band exchange-rate systems as not viable in countries open to international capital flows.

Fiscally disciplined Southeast Asia succeeded for quite a while (1978–96) in reconciling stable exchange rates, low inflation and massive capital inflows without resort to capital controls. In the absence of developed money markets, the Southeast Asian central banks extended the open-market sterilisation instruments common in industrial countries through the use of public institutions such as social security funds, state banks and public enterprises as monetary instruments (Reisen, 1993b). From the mid-1990s, the regime ceased to keep the real effective exchange rate stable, and gradually turned into a dollar peg, as demonstrated by Bénassy-Quéré and Cœuré (2000).

Further, exchange-rate target zones with little intra-marginal intervention and moderate width have been pursued quite successfully in Chile, Colombia and Israel in the early 1990s (Williamson, 1996), despite a large degree of financial openness in

these countries: their crawling bands help to achieve the trade-off between the conflicting objectives of reducing inflation and maintaining export growth. That they were given up in all cases needs some explanation. A possible theoretical rationale is the complexity of basket pegs with bands, which hampers their verifiability, but is nevertheless needed for credibility (Frankel *et al.* 2000). We argue that, once the effectiveness of the MSF is verifiable, there will be greater tolerance for intermediate regimes, so the argument that they are “too complicated for locals and for Wall Street” need not apply.

The CFA Experience

The Long Peg to the Franc

Even when monetary unions survive, they can be harmful to growth when the effective (trade-weighted) exchange rate gets out of line, which can happen to a dollarised Latin America as it has happened to the CFA franc zone in Africa, which had been pegged to the French franc since 1949. When the French franc started to appreciate in the mid-1980s against the dollar, but at the same time a prolonged fall in commodity prices reduced the CFA zone terms of trade, the CFA zone countries recorded low growth relative to the rest of Africa, increased current-account deficits and a build-up of external debt. Alternative adjustment measures were unable to rectify the imbalances, and 1994 saw the end of the longest peg in memory: a 50 per cent devaluation of the CFA franc against the French franc. Table 1.1 presents a very clear-cut summary of what happened up to the massive devaluation in January 1994 and thereafter.

The CFA countries had grown by 3 per cent more rapidly than their non-CFA counterparts in the decade 1975–85. They achieved this with (mildly) lower inflation and a larger current account deficit. This came at a time when the terms of trade were extremely favourable. Then came the bad times: in 1986–93 growth was 3 per cent lower in CFA countries, in effect cancelling all the benefits of the previous years. The fact that inflation was absent in CFA countries can be taken as evidence of a deflationary pressure of the price level, which begged to be solved by devaluation. The good years had created an overvaluation of the currency, which became unbearable when the dollar fell with respect to the franc. Although fiscal imbalances were indeed larger compared to the non-CFA performance, it is hard to see that such might have been the critical factor.

From this very brief overview of the CFA record, it is fair to say that an irrevocably fixed exchange-rate system is a dangerous bet. On the one hand, it needs a fiscal straitjacket that is credible, which is not easy to achieve. Yet, even when the fiscal stance does not seem to be the critical problem, the typical emerging economy remains too volatile to fix its exchange rate to a given level.

Table 1.1. CFA's Performances up to the Devaluation

	1975-85	1986-93
Growth (per capita, in %)		
CFA	1.7	-3.1
non CFA	-1.3	-0.1
Inflation (in %)		
CFA	11.8	1.0
non CFA	17.8	53.5
Fiscal balance (% of GDP)		
CFA	-5.0	-7.2
non CFA	-6.1	-5.1
Current account (% of GDP)		
CFA	-6.5	-5.0
non CFA	-1.9	-0.9

Source: IMF (1998).

Should African Currencies Peg to the Euro?

Trade Patterns

Despite the difficulties of the CFA countries to cash in the benefits of their integration to the franc, could one make a better case when the issue becomes one of locking in African currencies to the euro, or as an alternative to the dollar? Table 1.2 (from Cohen *et al.*, 1999) shows the diversity of exchange-rate regimes in Africa. On the face of it, it seems that a good case towards unifying these exchange-rate regimes into one monetary agreement, say euroisation or dollarisation, could be made. It would boost, one would hope, intra-African trade and reduce the volatility which is inherent to these piecemeal agreements.

In favour of euroisation, one can point to the fact that some 43 per cent of merchandise imports to Sub-Saharan Africa originate from the European Union. EU countries account for 24 per cent of all merchandise exports from Sub-Saharan Africa. For the CFA countries the share is already much larger, at 40 per cent, one-quarter of it going to France (Table 1.3, from Cohen *et al.*, 1999).

These numbers however are misleading, if one fails to take account of the fact that most Sub-Saharan African exports to EMU countries are almost exclusively primary commodities, such as cotton, fruits, nuts, fish, coffee, pearls, silver, platinum, and crude petroleum. Petroleum alone accounts for 35 per cent of the value of Sub-Saharan African exports to OECD countries. Since primary commodities, which generally have a low income elasticity, account for the greatest share of exports from Sub-Saharan Africa, any increase in exports to EMU countries induced, say, by economic growth in Europe will be limited. The medium-term impact on CFA members of a 1 per cent increase in euro-area GDP has been estimated by IMF staff as a 0.6 per

Table 1.2. **Exchange-Rate Regimes, 31 December 1997 (or later)**

Country	Exchange-rate regime	Basket or target; remarks
<i>West and Central Africa</i>		
CFA franc zone	Fixed peg	Euro (formerly pegged to French franc)
Gambia, The	Independent float	
Ghana	Independent float	
Guinea	Independent float	
Liberia	Independent float	Pegged to the US dollar
Mauritania	Managed float	Dual exchange rate structure
Nigeria	Managed float	Pegged to the US dollar
Sierra Leone	Independent float	
<i>East and Southern Africa</i>		
Angola	Fixed peg	Pegged to the US dollar since July 1, 1996
Botswana	Fixed peg	Basket of weighted currencies of regional trading partners and SDR
Burundi	Fixed peg	Basket of currencies of main trading partners
Congo, Dem. Rep.	Independent float	
Eritrea	Independent float	
Ethiopia	Managed float	
Kenya	Managed float	US dollar is the principal intervention currency
Lesotho	Fixed peg	South African rand
Madagascar	Independent float	
Malawi	Managed float	Exchange rate is managed in a flexible manner with interventions limited to smoothing out of rate fluctuations and considerations of reserves levels
Mauritius	Managed float	
Mozambique	Independent float	
Namibia	Fixed peg	Pegged to the South African rand
Rwanda	Independent float	
Somalia	Independent float	Dual exchange-rate structure. Official rate applies to goods and services and debt-service payments of the government. The US dollar is the principal intervention currency
South Africa	Independent float	External value determined in the interbank market
Sudan	Managed float	
Tanzania	Independent float	
Uganda	Independent float	External value determined in the interbank market
Zambia	Independent float	Multiple exchange rate structure. Market-determined official rate
Zimbabwe	Independent float	External value determined in the exchange market. The US dollar is the intervention currency

Source: IMF 1998 and Cohen *et al.* (1999).

Table 1.3. **Destination of Sub-Saharan African Countries' Exports, 1997**
(per cent)

Country	EU	United States	Japan	African developing countries	Asian developing countries	Others
<i>West and Central Africa</i>						
Benin	16.9	3.2	0.6	12.6	27.3	39.6
Burkina Faso	30.7	0.5	2.1	30.8	23.2	12.7
Cameroon	73.0	0.7	0.7	8.4	12.4	4.7
Central African Rep.	47.5	0.5	0.3	10.0	3.5	38.2
Chad	45.2	2.8	1.6	9.7	24.3	16.3
Congo, Rep.	36.2	23.8	0.4	1.4	29.4	8.8
Côte d'Ivoire	52.4	6.7	0.3	25.4	4.7	10.6
Equatorial Guinea	37.1	10.3	15.0	10.7	26.6	0.3
Gabon	12.7	68.0	3.2	1.6	11.0	3.4
Guinea-Bissau	14.4	0.1	0.8	1.6	82.2	0.9
Mali	31.5	1.4	1.0	8.5	44.1	13.4
Niger	46.0	29.8	0.2	8.8	7.8	7.5
Senegal	15.8	0.2	0.3	36.6	27.8	19.3
Togo	14.7	2.4	0.0	22.1	31.2	29.7
Gambia, The	86.1	1.6	4.7	1.0	4.4	2.3
Ghana	49.4	8.4	4.4	17.6	8.5	11.6
Guinea	39.0	12.4	0.4	6.7	4.8	36.6
Liberia	48.0	0.4	0.0	1.3	7.3	43.0
Mauritania	59.9	0.1	24.5	10.9	1.8	2.8
Nigeria	29.0	38.1	1.1	10.5	11.1	10.1
Sierra Leone	69.7	8.0	0.9	4.0	0.7	16.7
<i>East and Southern Africa</i>						
Angola	14.6	64.9	0.1	1.5	15.4	3.5
Botswana	..	..	..	..	..	..
Burundi	48.8	0.9	0.0	2.7	0.7	46.9
Congo, Dem. Rep.	59.5	21.4	3.7	10.2	3.4	1.7
Eritrea	..	..	..	..	..	..
Ethiopia	50.8	12.0	11.2	5.8	2.5	17.7
Kenya	34.5	3.0	0.8	40.5	9.8	11.4
Lesotho	..	..	..	..	..	..
Madagascar	69.1	9.6	5.8	8.0	3.8	3.7
Malawi	27.9	11.8	4.5	25.1	6.3	24.4
Mauritius	74.0	14.3	0.6	5.7	1.8	3.6
Mozambique	35.5	12.0	8.0	25.1	12.0	7.4
Namibia	..	..	..	..	..	..
Rwanda	66.1	3.6	0.0	4.8	8.0	17.4
Somalia	13.3	0.1	0.0	1.6	2.1	83.0
South Africa	28.8	5.5	4.9	13.8	11.7	35.2
Sudan	35.3	2.3	4.2	2.4	11.6	44.1
Tanzania	33.1	3.6	7.5	16.9	28.4	10.5
Uganda	71.9	6.0	0.7	2.2	3.3	15.9
Zambia	23.1	4.4	10.7	20.8	28.9	12.1
Zimbabwe	31.8	5.2	6.7	37.7	8.9	9.6
<i>Sub-Saharan Africa</i>	33.5	18.1	3.3	13.3	11.6	20.2

Source: IMF, Direction of trade data base and Cohen *et al.* (1999).

cent increase in exports and a 0.2 per cent increase in GDP (Feldman *et al.*, 1999). In addition, most of these commodities are priced in dollars, which further reduces the stability benefits of a euro peg.

In other words, despite the significance of the trade relationship between African countries and Europe, the degree of economic integration is lower than it appears at first sight. Pegging to the euro would make those countries vulnerable to fluctuations of the real exchange rate of the euro to other currencies, in particular to the dollar. The same could be said of the opposite choice in favour of the dollar. This is the specific lesson of the CFA countries, which benefited first from the depreciation of the franc to the dollar, and then suffered from the opposite swing. If the euro were now to appreciate relative to the dollar, CFA countries with a relatively low share of exports going to the European Union would be the most affected. Among these are Benin (16.9 per cent), Togo (15.8 per cent), Senegal (14.7 per cent), Guinea-Bissau (14.4 per cent), and Gabon (12.8 per cent). Cameroon is in fact the only CFA country with more than half its exports going to the European Union (73 per cent).

Capital Account Integration

Trade is one dimension of the problem. Financial integration is another one. If African countries were to lock in their exchange-rate regimes to any one of the two leading currencies, what would be the likely financial implications? Could it raise the credit ranking of African countries, better their access to world financial markets, raise foreign direct investments (FDI)?

Let us start with the last of these. The distribution of FDI is very unequal: South Africa and Nigeria alone accounted for 68 per cent of FDI in Africa in 1997. A very large share of the FDI in Sub-Saharan Africa is either in natural resources or concentrated in South Africa where there is a significant domestic market. In case of euroisation or dollarisation, would a portfolio shift occur in favour of Africa? For the most part, Sub-Saharan African countries lack the basic features needed to attract foreign private investors (especially pension funds), such as a long history of macroeconomic stability, good credit ratings (by Moody's, Standard & Poors and others), and reasonably well-developed domestic security markets and stock exchanges. Few Sub-Saharan African countries are rated by international agencies. *Euromoney* and *The Institutional Investor* which measure a broader range of countries, including those in Sub-Saharan Africa, rank them against each other in terms of risk (Table 1.4, from Cohen *et al.*, 1999). All Sub-Saharan African countries are ranked very low, except for Botswana, Mauritius and South Africa. The general picture that emerges is of severely underdeveloped domestic capital markets, with limited access to private foreign finance, according to *Euromoney*, except for the same three countries that are ranked relatively better in terms of risk ratings. In particular, one sees that CFA countries are not treated in more favourable terms either in terms of credit rating or in terms of access to the world financial markets. This confirms the view that monetary agreements do little to improve the credit rating of a country or its access to capital markets. Good policies seem to work better, as exemplified by Mauritius ratings, for instance, against Côte d'Ivoire or Senegal.

Table 1.4. Country Risk Rankings, March 1999

Country	Risk rankings		Access to capital markets
	<i>Euromoney</i>	<i>The Institutional Investor</i>	<i>Euromoney</i>
<i>West and Central Africa</i>			
Benin	144	115	0.13
Burkina Faso	105	106	0.13
Cameroon	135	110	0.13
Central African Republic	158	..	0.00
Chad	157	..	0.00
Congo, Rep. of	140	128	0.00
Côte d'Ivoire	121	96	0.17
Equatorial Guinea	155	..	0.00
Gabon	99	98	0.00
Guinea-Bissau	163	..	0.00
Mali	108	119	0.00
Niger	129	..	0.00
Senegal	90	100	0.33
Togo	119	114	0.00
Gambia, The	103	..	0.00
Ghana	86	78	0.00
Guinea	133	118	0.00
Liberia	173	131	0.00
Mauritania	154	..	0.00
Nigeria	128	113	1.00
Sierra Leone	170	134	0.00
<i>East and Southern Africa</i>			
Angola	149	124	0.00
Botswana	61	40	0.75
Burundi	..	..	..
Congo, Dem. Rep.	168	136	0.00
Eritrea	..	..	..
Ethiopia	148	116	0.00
Kenya	97	97	0.17
Lesotho	116	..	0.00
Madagascar	162	..	0.00
Malawi	131	102	0.00
Mauritius	46	39	2.50
Mozambique	150	111	0.00
Namibia	151	66	0.50
Rwanda	165	..	0.00
Somalia	172	..	0.00
South Africa	56	50	2.67
Sudan	160	132	0.00
Tanzania	145	109	0.00
Uganda	95	103	0.00
Zambia	147	117	0.00
Zimbabwe	101	91	0.50
<i>Sub-Saharan Africa</i> (unweighted average)	130	103	0.22

a. The maximum score is 5.00, which is obtained by most OECD countries.

Source: *Euromoney* and *The Institutional Investor* and Cohen *et al.* (1999).

In conclusion, African countries have no easy solution at hand. Their trade patterns are too diverse to make a one-fits-all formula attractive in terms of currency agreements. Even the CFA countries, despite their historical link to France, are not a clear case of strong trade integration with Europe. Furthermore, when analysing the credit ratings of these countries, or their level of financial integration to world financial markets, there is no clear sign that these countries have performed better than other African countries.

Argentina's Currency Board: from Monetary Panacea to Fiscal Straitjacket

The Case for Currency Boards

Currency boards, once designed as a monetary arrangement for British colonies and then discarded as countries gained political independence, have been back in fashion recently. Currency boards now exist in Argentina, Bosnia, Bulgaria, Estonia, Hong Kong and Lithuania. They consist of exchange rates which are strictly fixed, not just by policy but by law. Domestic money can only be issued when it is fully backed by foreign exchange, removing monetary policy discretion from the government and the central bank.

Supporters of currency board arrangements have stressed that the regime provides credibility, transparency, low inflation and financial stability in countries where the central bank is unable to pre-commit to a low rate of monetary growth. While the traditional reason for the time inconsistency problem of monetary policy has been an employment creation motive, the desire to inflate away nominal debt and to strengthen external competitiveness have been considerations of greater importance to developing and emerging-market economies. Currency board supporters have argued that a particularly important feature of that regime is to lower and stabilise domestic interest rates, by reducing devaluation and default risk and by reducing countries' exposure to speculative attacks. Low and stable interest rates, in turn, should encourage investment and growth.

Such claims have been validated by the historical track record of currency boards. Ghosh *et al.* (2000) find that countries operating under a currency board arrangement have experienced lower inflation than those with either a floating or a simple-peg regime, reflecting both a discipline effect (lower rate of money growth) and a credibility effect (higher money demand growth). The authors find also that better inflation performance has not been bought at the expense of lower output growth, although they concede that this might be due to a rebound effect from the typically depressed output levels before a currency board was adopted.

Specifics of the Argentine Regime

Argentina provides one of the most-debated cases of a currency board regime. In April 1991, after a long history of macroeconomic mismanagement and two episodes of hyperinflation, the currency board started to operate, with the peso pegged to the dollar parity. The regime is based on the Convertibility Law passed in March 1991 by Congress, which grants the dollar legal tender status, and was subsequently supported by comprehensive deregulation of the economy and the full liberalisation of the current and capital accounts of the balance of payments.

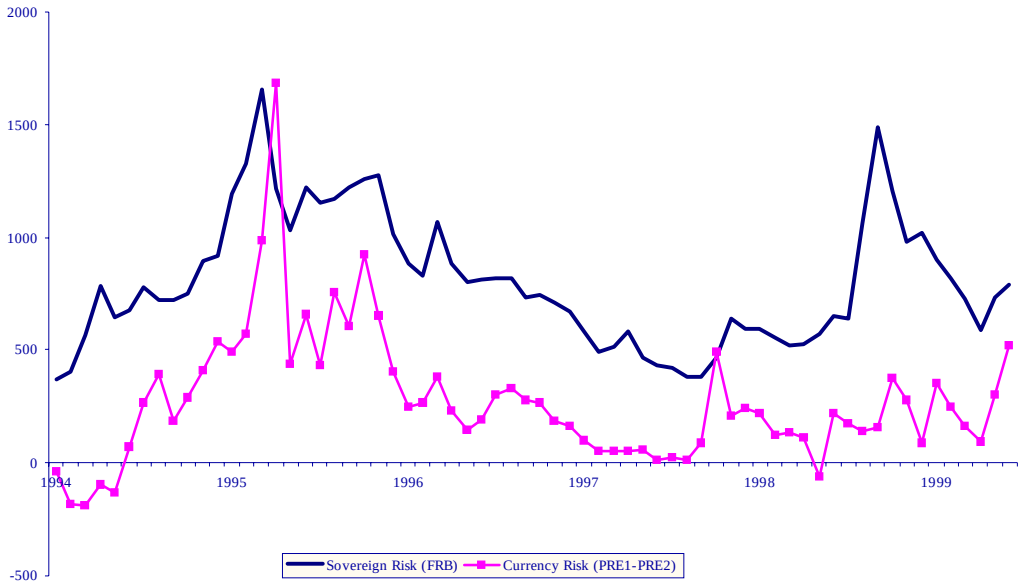
Argentina's regime features some notable design elements that represent a deviation from a strict currency board. These elements were introduced to accommodate the loss of a lender of last resort which a currency board entails and which exposes the country to financial crises with insufficient provision of liquidity; this in turn requires strong and liquid domestic banks. First, the currency board is integrated into the central bank, there are no designated currency board accounts. Second, currently 20 per cent of the money-base cover can be provided in the form of dollar short-term Argentinian public debt, rather than through international reserves. Third, the Argentine system is characterised by demanding capital requirements and a series of liquidity provisions. Banks are obliged to hold 21 per cent of all deposits in liquid international reserves at the Central Bank or at Deutsche Bank New York. The Central Bank has also a contingent line of credit with a dozen international banks covering 10 per cent of deposits in the banking system.

A Performance Overview

As seen from Figures 1.2 and 1.3, Argentina's economic performance has been mixed. The short-term contribution of the currency board to Argentina's economic performance was undoubtedly positive. The board arrangement provided a linchpin for deep reform of a very distorted economy and helped to bring inflation down quickly. Inflation and interest rates came down quickly, supporting rapid GDP growth (which was helped by idle capacity). Argentina's currency board has survived two major financial crises, with contagion from Mexico in 1994–95 and from Brazil in 1999, not least because of its strong bank regulatory system. Bank regulatory policy promoted privatisation, financial liberalisation, free entry and proper risk management by banks (Calomiris and Powell, 2001).

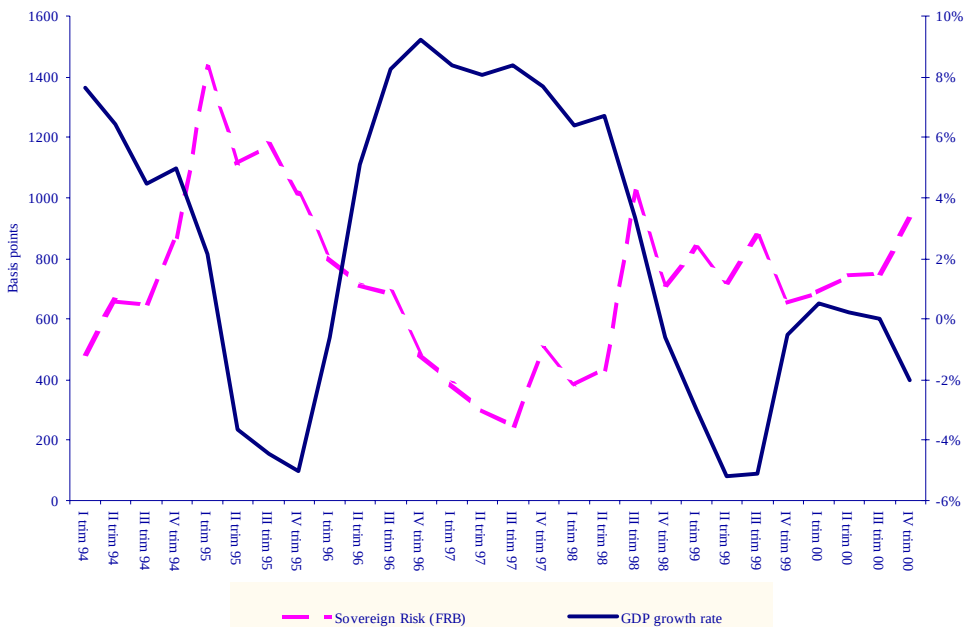
Ultimately, however, the currency board system has delivered a sustained reduction neither in devaluation risk nor in sovereign risk. Growth, apart from recovery episodes after the adoption of the currency board and after Mexico's 1994–95 crisis, has been low and volatile; investment and employment creation have remained anaemic. The failure of the currency board system in Argentina to deliver further reductions in risk premiums and to stimulate investment, growth and employment can be traced to insufficient fiscal discipline, an overvalued real effective exchange rate, and to the disincentives for savings promotion due to heavy liquidity requirements in the banking system.

Figure 1.2. Sovereign and Currency Risks, Argentina-Basis Points



Source: Grandes (2001).

Figure 1.3. Country Risk and Interannual GDP Growth Rate



Source: Grandes (2001).

Insufficient Fiscal Discipline, Decline in Competitiveness and Heavy Liquidity Requirements

Argentina's currency board arrangement has ceased to confer sufficient *fiscal discipline* and the consolidated public-sector deficit has been gradually rising from 1995 on, culminating at 4.1 per cent of GDP in 1999. This has gradually set in motion a vicious circle of rising country risk premiums and depressed growth, in turn fuelling the public deficit through lower tax receipts and higher debt service cost.

In a simulation exercise for Argentina, Grandes (2001) demonstrates the strong endogeneity of these variables. In a forecast variance decomposition, he finds that 40 to 60 per cent of the variance of the seasonally adjusted fiscal deficit, seasonally adjusted output growth and the sovereign risk premium can be explained by a shock to these very variables. While these findings may confirm the hypothesis of hard-peg supporters that *in theory* super-fixed exchange-rate regimes can trigger off a virtuous cycle of lower deficits, lower yield spreads and higher growth, the cycle has *in practice* turned very vicious indeed. Deutsche Bank (2000), in a thorough study on debt sustainability in Latin America, recently concluded that "Argentina will have to close an underlying fiscal gap that extends beyond improved tax collections associated with growth (p. 3)". The bank, which calculated the non-interest (primary) budget balance at 0.63 per cent of GDP for 2000, saw a need for a further 2 per cent of GDP improvement in the primary balance in order to stabilise the public debt to GDP ratio. By comparison, in 2000 both Brazil and Mexico, countries on an exchange-rate float, showed sufficient fiscal discipline to ensure debt sustainability according to Deutsche Bank indicators.

Initial inflation inertia and ongoing nominal wage rigidity have implied real appreciation of the Argentinian peso, with attendant current account deficits and a recessionary impact on the economy. While disinflation undid much of the initial overvaluation during the 1990s, Brazil's devaluation in early 1999 has strongly impacted on Argentina's *real effective* exchange rate, an indicator for external competitiveness. In early 2000, real overvaluation of the peso was estimated at between 7 and 17 per cent according to estimates by Deutsche Bank, Goldman Sachs and JP Morgan (Edwards, 2000). Even if estimates of exchange-rate disequilibria have to be consumed with caution, the fact that influential investment banks issue such estimates cannot fail to damage the credibility of Argentina's currency board regime. More importantly, the dollar is an anchor currency for Argentina that is certain to destabilise its real effective exchange rate: just 8 per cent of Argentina's exports are directed towards the United States. Business cycles in the United States and Argentina have not been synchronised over the 1990s and, given the different structures of the two economies, are not likely to coincide for long.

Finally, to make up for the lack of the lender-of-last-resort function in a currency board (or in a fully dollarised system), high liquidity requirements are needed for the domestic banking system to withstand a drawdown of deposits in times of crisis. Just like any minimum reserve requirement, the need for more liquidity drives is an important wedge between lending rates, which are increased, and saving rates, which are lowered (McKinnon and Mathieson, 1991). Such a wedge obviously discourages both savings and investment. This again may support a vicious cycle of growth being constrained by low investment and foreign debt fuelled by the lack of local savings. This may go up to a point where exploding debt dynamics (driven by the difference of debt cost over the growth rate) and rising default risk leave the country with just three options: exit from the currency board, default, or new foreign finance.

In early 2001, the IMF board approved a loan agreement to cover Argentina's borrowing needs for 2001 (and beyond), with the Fund offering \$13.7 billion, \$6 billion from the IDB and Spain, and some \$20 billion from private, including domestic, sources. The currency board arrangement had got another, perhaps the last chance, to prove itself right.

In March 2001, Domingo Cavallo was called to defend the regime he introduced a decade earlier. In mid-June, the congress approved Cavallo's plan to add the euro alongside the dollar in the peso's peg. Interestingly, the initial reaction of the markets was again a sudden increase in the currency premium. Furthermore, the onerous liquidity requirements imposed on the country's banking system were alleviated, while a financial transaction tax that had proved an effective tax raiser in Brazil allowed corporate taxes to be reduced and public accounts to be rebalanced. These policy measures rectified the essential elements that caused the vicious cycle of Argentina's rigid currency board scheme. They should help stabilise effective exchange rates (hence halt the decline in competitiveness), and lower the wedge between saving and borrowing rates (hence stimulate savings and investment).

Meanwhile the need to restore fiscal balance was made even more acute by the rising spreads on Argentine debt instruments. A policy of zero borrowing in 2001, confirmed by the Senate in late July, overcomplied with IMF targets (and was deemed "impressive" by the US Treasury), in spite of recurrent market concerns about whether long-term debt sustainability was thereby insured. Even under stable debt dynamics, a repetition of the run on bank deposits observed after Mexico's crisis would interact perversely with the social and political unrest associated with strenuous fiscal adjustment. The well-designed banking supervision scheme that has been put in place provides for greater transparency than usual in emerging markets but it does not, by itself, add more commitment to discipline banks than already exists (Diamond, 2001). In any event, if the zero borrowing fiscal policy does not succeed in stabilising debt dynamics, a financial crisis might occur at a time when no new payments on the existing debt are due. This would be the cruel revenge of the fiscal straitjacket.

Indeed, Domingo Cavallo — the architect of Argentina’s convertibility law — suggested that, based on growing confidence in the Argentine economy, an eventual currency union between Mercosul members might be based on a currency basket also including the euro (*Financial Times* of 17th March 1999, “Cavallo says Argentina could float its currency”). The reaction of the markets to the proposal was negative, with a sudden increase in the currency premium (measured by the spread of local peso time deposit rates over local US dollar interbank deposit rates with maturities up to two months, see Schmukler and Servén, 2001).

Lessons From the Two Case Studies

In short, one cannot properly address the benefits of a hard peg without first answering the question: where does the relevant financial instability come from? It may stem from the lack of credibility of governments with respect to fiscal sustainability and underlying inflation; or from the extrinsic noise that arises from the booms and busts of financial euphoria. The question then is whether dollarisation can fit the bill and protect the emerging countries from these risks.

As we have seen, the answer is not obvious. In the case of a financial crisis, the risk that the local banks will lose access to the international inter-bank market remains intact. The (expected) optimal response of the authority confronted with such risk is easily derived from the textbook: it is the suspension of convertibility. The risk of a credit crunch and of generalised default is therefore still alive.

Dollarisation in itself does not protect the country against the risk of distrust geared by the threat of default and suspension of convertibility. In that sense, dollarisation may be a fast lane to import credibility, but long-term policy credibility cannot be imported, it has to be earned. As the domestic reforms that earn credibility abroad are often unpopular, the exchange-rate regime is but one of the difficult choices to be made by emerging markets and developing countries.

If one thinks that the critical driving force behind such risk is the lack of fiscal discipline, dollarisation can only be an answer if one believes that governments’ debt will be held in check, once it is denominated in dollars. The massive defaults on international bonds in the past show that this is not a generalised outcome.

One can argue that — at the least — the rest of the economy would be better insulated from government default. But this is not obvious either: regional banks and the private sectors are likely to hold government bonds, and it can actually become harder to differentiate default to foreigners and nationals, raising systemic risk rather than lowering it. One cannot avoid thinking that dollarisation can only go well if some fiscal straitjacket is also provided. Taking for granted that semi-constitutional commitments to low deficit are feasible, the question then becomes whether it remains optimal to go all the way towards dollarisation.

A second important policy lesson that we derive from both the CFA and the Argentine experience is the choice of a *numeraire*. Whenever the anchor currency reflects a shock, the endogeneity of structural variables is not high enough to prevent peggers becoming victims of asymmetric shocks. This suggestion of the optimal currency area literature carries the proviso, attributed to Frankel and Rose (1996), that the criteria for the choice between floating and pegging the currency are in fact endogenous (we return to this later). The criteria suggest that countries which are seen to be small (with the non-tradable sector negligible) and open (in terms of trade shares in GDP) would be advised to peg. Such countries will exhibit a high degree of regional concentration of trade towards the country that could provide a potential monetary anchor and they would also face shocks similar to the country with the *numeraire* currency. Varieties of the Barro–Gordon model in open economies would suggest a peg for countries with a bad record of abusing monetary discretion. These countries can reach a lower inflation equilibrium if they can credibly commit to sustaining the peg with the anchor currency that enjoys a better reputation than the local currency. A peg becomes hard to the extent it makes exit hard.

The foregoing discussion of the CFA and Argentine experiences showed that a hard peg, or dollarisation, does not automatically bring about long-term policy credibility. The importance of the choice of the *numeraire* was also noted, and indeed reference was made to euroisation and to basket pegs. This might suggest that the creation of a European single currency was equivalent to a hard peg. While the euro certainly reflects the “don’t fix, don’t float” conundrum, we believe it must be interpreted as the outcome of a process of convergence among EU members sharing a common MSF. In this regard, the euro is rather a case of “float in order to fix” and more portable outside the euro zone than generally thought. This is what we shall proceed to show later. First we describe the experience of the EMS, then we embed it in a view of European integration based on “peer pressure” and suggest that this is a way to earn credibility that is accessible to emerging markets worldwide, interested in acquiring financial reputation.

EARNING CREDIBILITY THROUGH PEER PRESSURE

The Experience of the EMS

The Evolution of the ERM

After the demise of the Bretton Woods system of fixed but adjustable exchange rates in 1973, various continental arrangements to stabilise exchange rates were tried, the last of which was the EMS, created in 1978 by a Resolution of the EC Council of Finance Ministers (EcoFin) and supported by an agreement among participating central banks.

The primary objective of the 1986 Single European Act was achieving free trade in goods and services and assets, as well as free movements of people among 12 nation-states. In turn the abolition of internal borders created market pressure for stable exchange rates in terms of the European Currency Unit (ECU) basket.

Most member states changed their economic regime towards fiscal discipline and stable prices after realising that they could no longer improve export competitiveness by engineering exchange-rate devaluations. This followed the creation of the ERM, with the Netherlands foregoing devaluation after 1982 and France after 1983. Poorer states took longer to be convinced but, the economic regime did change in Ireland after 1987, in Spain after 1989 and in Portugal after 1992.

The EMS functioned without any realignments after January 1987 and the progress towards the single currency accelerated. At the Madrid European Council in 1989, the report of a Committee of Central Bank Governors chaired by the President of the European Commission (EC) was accepted as a basis for EMU. The single currency was to be achieved in three stages, beginning 1 July 1990. Rather than relying on national reserve currencies, a new currency was chosen, the ECU (European currency unit) — it was renamed euro at the Madrid European Council of 1995.

Over the years, a code of conduct built up as the ERM developed from a mere exchange-rate arrangement into a powerful convergence instrument. In addition to compulsory intervention, for unlimited amounts, at the agreed bilateral limits and to the need to reach a consensus for modifying a parity, the Basle-Nyborg Agreement called for convergence to establish and maintain stable exchange rates. The rules also refer to the creation of ECUs through swap operations, to the provision of currencies for intervention purposes, to the settlement of claims arising from intervention, and so on.

The ERM code of conduct implied the acceptance of the deutschmark (DM) as the anchor of the system and thus the recognition of the leadership of the Bundesbank. It also involved a consensus on crisis management.

Shortly after the first stage of EMU began, the United Kingdom joined the ERM. Sterling appeared to trade its past allegiance to the broad Atlantic standard for a narrower continental bloc. This first experience lasted less than two years but it involved the United Kingdom in the design of an MSF which turned out to be decisive for the sustainability of the system.

With respect to the MSF, the rules of the game changed for all the member states including the United Kingdom. Without such a broad base, the MSF would have been less credible and might consequently have hindered the governance of the eurosystem. This emphasis on the MSF also reflects the finding, going back to Cooper (1968), that the costs and benefits of co-operative responses to growing interdependence depend on the co-ordination of domestic institutions.

The Need for a Regime Change

The plans for the single currency were agreed upon at the Maastricht European Council in late 1991. They were conditional upon convergence and cohesion, as explained in Braga de Macedo (2001). The second stage of EMU was set to begin on 1 January 1994. The third and final stage of EMU was to begin after the 1996 revision of the Treaty signed at Maastricht if convergence was sufficiently high, and in 1999 if not.

A medium-term orientation of macroeconomic policy, coupled with measures designed to improve the functioning of factor markets and of the public sector, is favoured in principle. In transition and developing economies, though, the institutional framework for such an orientation is lacking, so that the rules for monetary stability are not credible. The expectation of EU membership, under conditions of convergence and cohesion, provides this credibility. In contrast with the Asian and Latin American experiences mentioned at the outset, candidates for membership have not been willing to set up an MSF among themselves, even when an institutional vehicle like CEFTA already exists (Braga de Macedo, 2000).

Yet this is the way in which geographical peripheries can acquire global reputation. In a sense, they overcome the cost of physical distance through financial proximity. Of course, initial and terminal conditions matter as much as the capacity to transform. Doctrinal controversies often reflect different assumptions about each one of these three factors. The principle of a stability-oriented policy based on the respect of property rights and open markets goes back to the gold standard, and reflects “rules of good housekeeping” valid at the core and at the periphery (Bordo and Rockoff, 1995; Braga de Macedo *et al.*, 1996).

For EMU, “sustained regime change” was identified in EC (1990, Chapter 9) as a condition for benefits to accrue to peripheral nations or regions. This argument was especially strong under the limited labour mobility and flexibility, coupled with low fiscal redistribution among states, which prevails in the European economy. In these circumstances, exchange-rate adjustments may become necessary to eliminate declines in competitiveness but they may not succeed in changing relative prices. The greater the underlying capital mobility and the more likely the repetition of exchange-rate adjustments, the less effective a devaluation will be.

EC (1990) also used survey data to suggest that firms did not expect devaluation to solve their problems but rather thought that credit constraints were a more severe hindrance to expansion at the peripheries than at the centre. The fear that restrictions on fiscal policy called for by the excessive deficit procedure (EDP) contained in the Treaty and later by the Stability and Growth Pact (SGP) would hurt growth and prosperity was addressed in Buti *et al.* (1997), who showed that the retroactive application of the SGP would not have exacerbated recessions over the 1961–97 period.

Yet enhancing price and exchange-rate stability and buttressing the soundness of public finances is a formidable task in countries with histories of high inflation, where neither the social partners nor public employees automatically appreciate the benefits of the regime change that the policymakers are attempting to engineer.

Errors in policy appraisal can unduly raise the costs of reform, when information about the change in regime is not readily available to international financial markets. Repeated market tests of the authorities' commitment to exchange-rate stability may result from this imperfect information. If these tests of the authorities' resolve greatly increase the cost of defending the exchange rate, they can lead to policy reversals. Conversely, if the volatility of the exchange rate is a direct consequence of system turbulence, market tests will be short-lived and the threat of a reversal will become less and less credible, both abroad and at home.

Since its meeting in Brussels in late 1993, the European Council has been issuing "broad guidelines" against which policy and performance in the member states are to be gauged in what has become a regular test of the MSF for all EU members. The progress of policy reform depends on how effective this MSF might be among EU officials whose interaction with national officials should be accountable in their respective parliaments and in the European Parliament.

The time it takes for a nation to acquire a reputation for financial probity varies but it typically involves several general elections where alternative views of society may confront each other. The number of years most frequently cited in financial circles is 10. This suggests that it may be better to take time and set up a self-reinforcing process of reform, than to attempt a succession of overly ambitious and excessively drastic measures that will ultimately fail, damaging policy credibility.

To construct a social consensus domestically, credible signals that the authorities are committed to reform may be needed. If stable democratic governments succeed in implementing reforms which help to achieve convergence between poorer and richer nations and regions, they can set off a self-reinforcing virtuous cycle of stability and growth. On the other hand, there will be a vicious cycle if short-lived governments, fearing the social conflicts associated with reforms, delay implementation and impair convergence. The cases of Spain, Greece and Portugal discussed in Bliss and Braga de Macedo (1990) confirm both the need for the regime change and the difficulty in bringing it about without overcoming the resistance of vested interests.

The initial conditions a government inherits may limit the alternatives at its command. For example, the 1992–93 recession aggravated the plight of Europe's unemployed, making it more difficult to reduce the generosity of unemployment benefits. At the same time, by demonstrating the costs of labour market rigidities and the importance of competitiveness at the firm level, the experience of the 1992–93 recession may have actually encouraged structural adjustment and, ultimately, cohesion.

Managing the ERM Crises

In the spring of 1992, all Community currencies except the Greek drachma were in the ECU parity grid, though the Atlantic dimension was very weak. Even in the presence of sterling, the continental bloc continued based on the DM. Indeed, it included currencies of countries in the European Free Trade Association which were to become members of the union, such as Finland and Sweden. In September 1992, sterling and the Italian lira left the ERM. Until August 1993, political instability and speculative attacks on the grid interacted with a severe recession and with the highest unemployment the Community had ever witnessed.

The currency crises threatened the reputation for financial stability in small national markets, to the extent that national policies became less relevant than the proximity to a turbulent large market. Examples of this effect of “geographic” rather than “economic” fundamentals on the value of currencies were provided by Portugal and Ireland, who suffered currency attacks based on what was happening to the Spanish and British currencies. The attacks were short-lived but they nevertheless led Ireland to request a realignment in January 1993 and Portugal had partly to follow several realignments of the peseta.

Using the case of the Portuguese escudo and a technique of analysing changes in the variance of the exchange rate which was first applied to the US stock market, Braga de Macedo *et al.* (1999), (updated in Braga de Macedo, 2001) report weekly probabilities for the period preceding the widening of the bands in August 1993. The period begins with the last entry into the ERM, which involved the escudo itself in April 1992. This includes some of the realignments involving the peseta and the escudo and the shifts from high to very high volatility show the incidence of a currency crisis. The few instances of very low volatility in the sample show instead massive intervention by the central bank shortly before the November 1992 realignment.

In 1993, on the contrary, there is no instance of this “artificial stability”, suggesting that the code of conduct had meanwhile been learned by the Bank of Portugal. Given that the financial reputation of the country was not fully established as the regime change was quite recent, this serves as an illustration of the power of the ERM code of conduct as a convergence instrument. The case of Portugal is one where the regime change was gradual because of the need to combine selling political stability at home and earning credibility abroad (Braga de Macedo, 1996).

A related reason is that testing the ERM parity made sense when the real appreciation was perceived as excessive by export-oriented firms and the government may have been sensitive to their pressure.

The reason why the convergence process was not hurt by the decision to widen the band was that external credibility, while necessary for medium-term policy credibility of any nation-state, is never sufficient. This was again apparent in the

turbulence in early March 1995, which led Spain to ask for a new realignment in spite of fairly sound fundamentals. The lack of political stability was undermining the confidence in the currency.

As it turns out, after this realignment, Italy joined the ERM in late 1996 and Greece followed in early 1998, consolidating their own regime changes. At one time or another, therefore, all of the EU member states followed the ERM code of conduct. Austria joined with accession in 1995 and Finland in October 1996. Sweden shadowed the ERM before the 1991 banking crisis.

The single market for financial services, established in 1993, also built on the operation of the ERM code of conduct. In effect, the gradual acceptance of stability-oriented policies is at the heart of such code of conduct. This is why it remained valid after the widening of the bands, even though the obligation of compulsory intervention for unlimited amounts at the agreed bilateral limits was unlikely to be applied.

The need to reach a consensus for modifying a central rate remained, as the parity grid was not changed by the decision to widen the fluctuation bands. It is also noteworthy that the economic priorities of the Treaty (low inflation, sound public finance, medium-term stability framework) remained undisputed among member states and Community institutions, stressing the need for convergence to establish and maintain stable exchange rates.

During the second stage of EMU, the MSF designed to ensure convergence of national economies towards price stability and sound public finances became binding. The EDP, in particular, determined whether or not a member state could adhere to the single currency. Since convergence was not achieved in a majority of national economies, the EcoFin Council approved the SGP to ensure that the entry conditions for EMU would continue to be met after the euro was created and set the beginning of the third stage for 1999.

The Widening of the ERM Fluctuation Bands

With high capital mobility, exchange-rate stability requires a speedy real and nominal convergence process. The indicators of budgetary discipline have become signals of regime change sustained by the structural reform of the public sector.

Given that financial markets tend to exaggerate rather than to dampen such signals, apparent reversions during a relatively rapid convergence are also more liable to misinterpretation. The cohesion objective involves a degree of social awareness that may not be required with respect to the convergence of fiscal variables. In any event, whatever the credibility of national policies, it became apparent during the first stage of EMU that fast convergence was more difficult with slower growth. Moreover, during the transition, the main macroeconomic costs arise before the main microeconomic benefits are felt.

The Treaty convergence criterion relating to exchange–rate stability requires the observance of the “normal fluctuation margins” during two years, and not having been involved in any realignment during the same period (or at least not having initiated one). Maintaining the currencies within the parity grid is the result of more than intervention by participating central banks. It reflected the credibility of national policies especially in Germany, and also that of the entire EMS relative to the dollar or the yen.

If, in the final analysis, the exchange rate reflects the credibility of national policies over the medium term, it may do so with considerable noise if the entire parity grid is under attack. This is why little indication about the credibility of national policy could be gathered from the realignments which occurred during this period. Speculative attacks on more vulnerable currency parities will have more negative effects on the system if parities are already locked, than if they continue to be flexible. Flexibility within a sufficiently wide band allows speculation not to be a one–way bet. That lesson was learned in the 12 months preceding 2 August 1993 when very wide bands of 15 per cent replaced the normal fluctuation margins. The temporary nature of the move notwithstanding, these new “normal fluctuation margins” eliminated the need for exceptional measures, such as exchange controls, designed to deal with a protracted second stage of EMU.

As can be gathered from MNC turbulence in the foreign exchange market began in late August and early September 1992, when dollar interest rates fell substantially. In the meantime, German short–term interest rates remained high. Pressures for wage increases increased the reluctance of the Bundesbank in acknowledging that a Europe–wide recession was imminent. The policy conflict led to the exit of some currencies from the ERM and to speculative attacks against others. The attack of July 1993 (pictured in MNC for one bilateral rate) was so massive that an emergency meeting of the EcoFin Council including central bank governors was convened and exchange–rate fluctuation margins were broadened to 15 per cent on each side of the parity.

The 15 per cent wide band was not used by any participating central bank and margins of 2.25 per cent were observed between the DM and the Dutch guilder. The basic difference relative to the previously normal fluctuation margin was the absence of one–way bets on parities. The external discipline provided by the grid no longer obtained and each central bank decided whether or not to intervene within the old fluctuation bands. Most decided to do just that, so that the convergence process was not hurt by the decision to widen the band.

Float in Order to Fix?

That the EMS “dirty floating” worked may be widely accepted nowadays, at least for those who do not see the euro as another step in the creation of a European “superstate”. When the decision to widen the bands was taken, however, many observers and prominent economists thought that the EMS and the euro were dead. As Branson (1994) remarked at the time, it was rather the opposite. That you may float in order to

fix introduces the earning credibility process explicitly in what we think is the major lesson from the European experience. Using a line from Hamlet, which made its way into a pop song, this is a financial “cruel to be kind” (Braga de Macedo, 2001).

After the EMS crises, successive emerging markets were similarly hit during 1997–99. The fact that few opportunities for testing the credibility of exchange–rate parities were missed by market operators made the exchange–rate regime as crucial a determinant of macroeconomic stability as fiscal, debt management and banking policy. The perception that pure floating was beyond most emerging markets, mentioned earlier, rationalised direct policy responses such as exchange controls, perhaps along the lines of the so–called Tobin tax on short–term capital movements. Bartolini and Drazen (1997) stress the credibility effect of capital account liberalisation. See also Dornbusch (1998). A more cautious stance can be found in Eichengreen (1999).

With respect to the exchange–rate regime, and except for the DM, which was the anchor currency of the ERM, the former national currencies of the eurosystem could neither float nor credibly fix without the well–defined institutional framework for multilateral surveillance provided by the 1992 Treaty — including the introduction of the EDP and of the European System of Central Banks (ESCB) — and by subsequent adjustments like the SGP and the Euro Group.

The pound sterling and the Swedish krona follow an inflation–targeting monetary rule which allows the exchange rate to float, but in fact the latter has been fairly stable against the euro. Calvo discusses in Chapter 3 of this volume the similarities between hard pegs and inflation targeting in emerging markets. The question of credibility is different in EMU members because they are more used to following an MSF.

Financial crises have caused hardship in individual countries, but to date they have not threatened globalisation. Any tendency to draw back from world financial markets, as in Malaysia, has been isolated and temporary. The debate about Malaysia’s crisis is summarised in Edwards and Frankel (2001), with Dornbusch (2001) taking the position that the general presumption against controls remains.

The same presumption applies to the Chilean experiment, described in Reisen (1999). So as to revive the domestic stock market, Chile lowered its barriers in spring 1998 to short–term capital inflows (a tax called *encaje*) and set the tax rate to zero in the autumn for a few months. Even a country endowed with a relatively well–functioning administration found it difficult to keep an exchange control geared to a long–term objective when the environment became turbulent. The objective was to improve the composition of capital inflows towards long–term instruments, especially foreign direct investment, relative to short–term flows, which were considered more volatile. In any event, the rationale for the *encaje* was clear during the boom of the mid–1990s but ceased to apply afterwards, reinforcing the idea that such measures work temporarily and only if they are introduced in good times.

The problem is rather how to tailor macroeconomic and financial arrangements to the imperatives of globalisation and in particular to limit the vulnerability of the domestic economy to the crisis problem. The complexity of this problem is evident in the exchange–rate dilemma. It has become clear that exchange–rate systems involving fixed but adjustable rates, bands and crawls are increasingly crisis prone. The alternatives are to float more freely, as such Latin American countries as Brazil, Chile, Colombia and Mexico and such Asian countries as the Philippines, Korea and Thailand have begun to do, or to adopt a hard currency peg, as in Argentina, Hong Kong and, more recently, Ecuador.

The crisis encouraged responses that would not have been possible in calmer periods. Bank restructuring which took place during the crisis may not have otherwise happened; as a result, debt structures are in better shape now than if countries had postponed reforms.

The lesson of widening the ERM bands described previously was that an MSF must go beyond exchange–rate surveillance. Moreover, it is by allowing responses that would not obtain in calm periods that financial crises serve as co–ordinating devices. In effect, co–ordinated systems like the one implied by the ERM code of conduct are difficult to adapt to a world system without shared values, even when they refer to what is essentially a *shared* variable, the exchange rate.

The exchange–rate regime is just one instance of needed improvements in financial architecture. Nevertheless, it plays a central role in the debate on the reform of the system of international relations and its main institutions, which for the most part were established in the aftermath of World War II. The portability of the European MSF on a broader scale presumes that the exchange regime is well defined.

Intermediate solutions between the pure float and the currency board are sometimes taken to be too complex to be credible but the credibility of an exchange–rate regime cannot be judged in general. Since the best indicator of policy credibility is that an MSF exists and is effective, it is the MSF that determines the choice of an exchange–rate regime. This is why a way out of the “don’t fix, don’t float” conundrum may be that you may have to float in order to fix.

As a consequence, the MSF that is emerging among Mercosul and ASEAN+3 members does not for the moment imply a single exchange–rate regime among them. On the other side, the MSF in the eurosystem should not neglect trends in the current account, as argued by Deccassin and Dysiatat (2000).

Flexible Integration and International Financial Architecture

Convergence and Cohesion as Common Good

The current international system calls for a more effective regional and global response to threats of contagion of national crises. US national interest in preserving world stability is one such response. Co-ordination mechanisms among monetary and fiscal authorities, like the ones found in the EU and in the eurozone, relying on economic and societal values shared among sovereign states, are another.

The US and European interests have been complementary on many occasions and indeed originated 50 years ago in the process of allocating Marshall aid through the European Payments Union and the Organisation of European Economic Co-operation, which later became the OECD. The current relevance of these distant origins is described by Eichengreen and Braga de Macedo (forthcoming 2001). Bergsten (2000) provides a list of similarities and differences between European and Asian integration, and concludes that the former are beginning to outweigh the latter.

The global applicability of the European experience to the search for the “common good” suggests itself because it hinges on the “centre” in Europe not being a nation-state, but rather a community thereof. Moreover, the lesson from the EMS crises is that the largely unwritten ERM code of conduct implied more effective co-ordination mechanisms among monetary and fiscal authorities than expected. Non-compliance with the ERM code of conduct played a major role in the development of the currency turmoil, but after 2 August 1993 the EMS regained stability, thanks to the widening of the fluctuation bands which limited speculative pressure by eliminating one-way bets and reintroducing two-way risks. The option to float in order to fix shows that the set of principles, rules and code of conduct which underlie the monetary union in stage two have proved correct for the euro as well.

The adaptation of the ERM code of conduct to improving international financial architecture would also support the creation of new networks including major emerging markets, as long as they manage to enforce financial stability. This applies to the Financial Stability Forum and to the G-20, for example.

Enforcing financial stability can lead to a virtuous cycle, whereby currency stability delivered by monetary union feeds back to a more employment-friendly economic environment. Conversely, when terminal conditions lack credibility, a “stop-go” convergence process that hinders change may appear. Temporary, unaccountable shifts in sentiment in financial markets thus may disrupt the convergence process permanently. A government can only protect itself from this threat by acquiring a reputation for subordinating other goals of economic policy to the pursuit of convergence.

The MSF can play a role in providing timely information on national economic policies in a way that enhances the reputations of deserving governments. The same is true of the adoption of appropriate budgetary procedures at national and union levels.

Thanks to its code of conduct, the ERM acted as an instrument of convergence towards the single currency. The code was partly unwritten, but it encompassed instruments specified in the 1992 EU Treaty. These were essentially a timetable with three stages, the convergence programmes and the specific procedures included in the MSF, especially the ones dealing with excessive deficits. In addition, progress towards independence of national central banks was impressive during stage two of monetary union, as was the fact that the public sector could no longer be financed by central banks or by privileged access to financial institutions.

The European Monetary Institute was established at the end of stage one of monetary union in order to contribute to the realisation of the conditions necessary for the transition to stage three. The fact that it was delayed from 1997 until 1999 may actually have helped prevent an excessively fast politicisation of monetary policy. The politicisation would increase the temptation to soften the excessive deficit procedure, raising fears that some governments would expect to be bailed out by the Union, in contradiction to Article 103 of the Rome Treaty (in its 1999 version). The approval in 1996 of the Stability and Growth Pact (SGP) also contributed to allay such fears because it actually tightened the excessive deficit procedure included in the 1992 EU Treaty. The creation of the European Central Bank (ECB) at the end of stage two of monetary union proceeded on schedule, in spite of a political dispute about the term of the initial governor.

Once again, an effective MSF, supported by all member states, was decisive for medium-term policy credibility at national and union level. Indeed, all of these instruments and procedures effectively delivered convergence and cohesion. Together with political stability or social consensus and national cohesion, the MSF delivered convergence. Social consensus implies, first and foremost, that social partners and public opinion understand and accept the medium-term stance of economic policy. In particular, trade unions must recognise the perverse interaction between price and wage increases, which hurts the poor and unemployed disproportionately. With the feedback of wages into prices in operation, price stability will not be durable without wage moderation. The social acceptance of these norms can be turned into a factor of national cohesion if the government takes the leadership in wage negotiations for the public sector employees.

A single market with a single currency reflects a particular combination of private and public goods, determined by the mobility of the tax base and the availability of inter-regional or inter-national transfers. Article 2 of the EU Treaty in its 1999 version refers to “the strengthening of economic and social cohesion” as instruments of “economic and social progress which is balanced and sustainable”. Therefore, some income redistribution among nation-states is supposed to correct the economic geography that market integration brought about. As this should not be a pretext for creating an additional burden on enterprises, the structural funds directed to member states have been made conditional on appropriate policies.

Such conditionality turned out to be difficult to agree upon at the Maastricht European Council, and accordingly cohesion countries were reluctant about the proposals for flexible integration made during the preparation for the 1996 revision of the Treaty. This reluctance has been overcome, as discussed next. But it reinforces the perception that poorer member countries are more favourable than richer ones towards political integration along sheer income redistribution lines. Such perception is not only detrimental to cohesion, it also feeds the fears of a future European “superstate” where taxation would be excessive because of international redistribution, an extremely unlikely scenario.

Where local financial monopolies exist, differences between interest rates at the core and at the periphery may endure, even in the presence of full currency convertibility and perfect capital mobility among core markets. Belonging to the convertibility and stability club is nevertheless useful to the extent it signals to market participants that the country is keen on achieving external credibility without relying only on instruments it could control — and might therefore manipulate.

A converging country is attempting to buy domestic credibility for its efforts. This is the only way in which the national authorities could escape the adverse selection bias from which new participants in the international capital market have been shown to suffer. The instruments and procedures underlying the ERM code of conduct delivered convergence and cohesion because of the earned credibility and of the “common European good”. The notion of medium-term policy credibility emerges as essential in the evaluation of the EU MSF.

Now the European System of Central Banks (ESCB) provides price stability in the eurozone by means of a single monetary policy but the institutional framework of the eurosystem draws on the functioning of the EMS based on a common (now single) monetary policy and on national fiscal policies. The single monetary policy is conducted by the ESCB led by the ECB and independent of national governments and of the EC. The national fiscal policies are co-ordinated by multilateral surveillance procedures. These include the SGP; they are monitored by the Euro Group (which gathers the Ecofin Council members from the eurosystem) and by the EcoFin Council itself.

Yet the ESCB, the Euro Group and the SGP together do not quite match the “rules of good housekeeping” of the gold standard because some features of the articulation between the single monetary policy and national fiscal policies remain ambiguous. Is the ESCB accountable to the European parliament, national parliaments, both or neither? Who is responsible for exchange-rate policy? No matter how crucial, these aspects are not alone responsible for the observed weakness of the euro relative to the dollar and the yen (Gros, 2000). Difficulties in making the institutional architecture more flexible and the (related) propensity of governments to procrastinate on unpopular reforms are also to blame, as shown below. But before this, it helps to explain the benefits of peer pressure by analogy with “yardstick competition” (Shleifer, 1985).

Peer Pressure and Yardstick Competition

While looking at the EU as a more ambitious attempt to promote rules of good conduct among its members helps draw lessons for other countries and regions, it must be stressed that the Bretton Woods institutions and the World Trade Organisation (WTO) also played a role in spreading the results of alternative policy paths among their member states. In this way, they reinforced the notion that some paths worked better than others beyond the confines of the mature democracies gathered in the OECD. The wide acceptance observed suggests that national policymakers follow these two principles in part because they see other policymakers do the same.

The issue of whether peer pressure brings about improved performance has been addressed by Besley and Case (1995) in the context of “yardstick competition”, a term coming from industrial organisation which suggests comparing similar regulated firms with each other. For any given firm, the regulator uses the costs of comparable firms to infer a firm’s attainable cost level. This may not fully overcome moral hazard problems, but it is certainly preferable to the traditional procedure of comparing current and future costs to past performance. The peer pressure scheme is thus susceptible to manipulation by participating firms but the difficulty in co-operating to impose collusive behaviour makes this perverse outcome less likely. Note also that in the case where heterogeneity is observable and can therefore be corrected for, Shleifer (1985) shows that a regulatory scheme based on peer pressure should lead to a superior performance.

This implies that the regulator can credibly threaten to make inefficient firms lose money and cost reduction can therefore be enforced. When national objectives are at stake, best practices can thus be achieved, rather than allowing a convergence towards the mean. Conversely, when peer pressure is used to stall reforms, rather than to promote them, the outcome is equivalent to the collusive equilibrium and an alternative yardstick must be devised.

Therefore, adapting the same reasoning, when there is peer pressure among national policymakers to follow best practices, these are likely to become more and more accepted. Peer reviews have enhanced competition for better macroeconomic and trade policies among OECD members. Similar benchmarking has begun with respect to structural policies, especially those relating to the regulatory framework. The greater complexity of such policies makes them more susceptible to procrastination, and the same problem has been observed in the EU, as discussed below. This hinders institutional change and makes corporate and political governance more difficult.

Among the G-7, only the four European states have attempted to deal explicitly with their regional architecture, so that the presidents of the European Commission (EC), Central Bank (ECB) and Council (especially the EcoFin) attend the meetings. There is no sovereign national centre equivalent to that of the United States, Japan or Canada (let alone Russia, set to become the eighth member), even though the complexity of the current EU institutional framework leaves substantial room for manoeuvre to the United Kingdom and to the three large members of the eurosphere.

The question of external representation of the EU has been a source of controversy at least since its creation. Because the EC has participated in the discussions of the G-7 since 1977, the four EU (three eurozone) members tend to ignore their 11 (eight) “peers” when global affairs are on the agenda. The same applies to the OECD, where the EC also participates. At the IMF, as in the G-7, a representative of the ECB addresses all matters directly pertaining to monetary policy.

The ambiguity of the solutions reflects, once again, the complexity of the EU institutional framework. Nevertheless, the strengths of the perspective can be put to good use in the global arena, as long as the European identity is understood as a flexible partnership portable to other groups of nations. The creation of a single currency among most members based on an MSF supported by all helps to make the case for flexible integration below.

The MSF developed among EU nation-states can be adapted to build a global financial architecture resilient to financial crises. To begin with, its intercontinental domain reflects longstanding cultural and commercial ties. Moreover, the EU probes into budgetary procedures and corporate governance standards in ways that may offend national sovereignty if applied to Washington or Tokyo. In the OECD peer reviews and in the standards agreed upon at the Bank of International Settlements (BIS), unanimity is required so that national sovereignty is entirely preserved. The role of the Commission as regulator and that of the Court of Justice help bring procedures closer to a regulatory framework allowing for yardstick competition.

The EU MSF does not focus on balance of payments adjustment, but rather attempts to bring together principles of good government commonly accepted and which indeed are jointly transferred to Community institutions. The degrees of commitment to the EU and to each one of its main institutions have been changing in various issue areas, as a partial response to a more turbulent global and regional environment. The creation of the eurosystem in January 1999 was followed by a difficult institutional period, which has also delayed the accession calendar. The delay reflects the propensity to procrastinate on structural reforms, rather than the recurrent European debate about whether multiple-speed convergence towards union objectives is possible and desirable.

Principles of Variable Geometry

The debate about multiple-speed convergence helps illustrate the complementarity between global and regional common good. One extreme position in the European debate draws on the view of a unified constitutional state, for which variable geometry is impossible. The other extreme position calls for a set of contractual arrangements, where common institutions are undesirable.

From the beginning, the European Community attempted to transcend the rigid intergovernmental nature of the OECD or of the G-7 (which does not even have a permanent secretariat) in the direction of supranational institutions such as the EC. But the convergence stopped far short of establishing Community-wide democratic

legitimacy. As a consequence, the institutional framework became more and more complex, especially after a Union with three pillars (the Community and two intergovernmental ones) was created in the 1992 EU Treaty. In the process, flexibility was lost and this is why the debate about multiple-speed convergence towards union objectives has resurfaced. Another reason is, of course, the imminent enlargement.

For any given number of member states, there is a trade-off between the freedom to enter into contractual agreements which include some members and exclude others and the ultimate requirement of “one man, one vote” which would be associated with a new state emerging from the integration of all members. In Figure 1.4, adapted from Centre for Economic Policy Research (CEPR) 1996, p. 47), the vertical axis measures flexibility and the horizontal axis measures depth of integration. The origin represents purely intergovernmental co-operation among the same member states. The vertical axis represents economic efficiency and executive performance, or the forces of competition, while the horizontal axis represents legal status and legislative activity, or the forces of co-operation. Each point in the quadrant can therefore be seen as a combination between competition and co-operation.

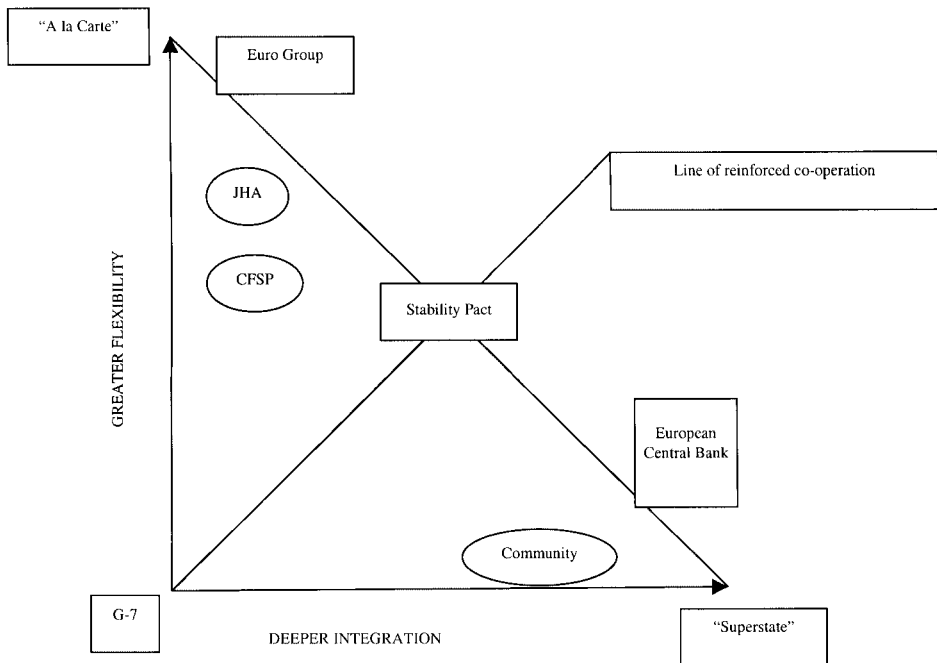
The highest point on the vertical axis, labelled *à la carte*, would be equivalent to a purely contractual institutional design where any combination of subgroups of member states is acceptable, so that the basic intergovernmental principle of equality of member states applies and unanimity in decision-making is preserved. During the revisions of the Union Treaty in 1996 and 2000, intergovernmental schemes of “reinforced co-operation” have been called for among some member states, as their creation still requires unanimity of all member states and their membership is open to all of the member states who qualify (Braga de Macedo, 1995 describes the positions taken by the Portuguese parliament).

These manifestations of flexible integration are consistent with the operation of the principle of proximity (or subsidiarity) mentioned at the outset, according to which further decentralisation is acceptable and desirable. Indeed, CEPR (1996, p. 65) mentions a generalised subsidiarity principle, where decentralisation can go towards groups of states, rather than local and regional bodies within each state.

The horizontal axis would go to the extreme where majority voting applies to the voting population without regard to its national location, labelled “superstate”. There co-operation among the (former) member states would cease to be relevant politically, economically or socially. Quite clearly, even in areas where single policies have existed for a long time, such as tariffs, and the EC has an undisputed mandate, the relevance of the member states is always there. The same can be said about monetary policy, administered by the eurosystem.

With respect to the objective of a free movement of persons, it was achieved properly for the first time on 19 March 1995 by the seven member states (Belgium, France, Germany, Luxembourg, the Netherlands, Portugal and Spain) that are parties to the Schengen convention. When the EU Treaty modified at the Amsterdam European Council came into force on 1 May 1999, the freedom of movement was extended to all others, with the exception of the United Kingdom and Ireland.

Figure 1.4. European Institutional Architecture



Not all combinations of flexibility and integration defined by the two axes are possible, let alone desirable. In effect, for each specific issue–area, when integration becomes deeper, purely contractual arrangements are constrained and when the principle of equality between members is sacrificed to the democratic deficit, flexibility is constrained. Therefore a downward sloping line can be defined between the point of maximum flexibility and no common institutions and the point to the right of which deeper integration would prevent any flexibility in the co–operation among member states. The intersection should be to the left of the point labelled “superstate”.

It is assumed that along the 45 degree line, there is a balance between integration and flexibility. This means that flexible integration schemes along this line will balance the contractual commitment and the deeper integration, as called for by schemes of “reinforced co–operation” mentioned above. If the combinations of a common base and open partnerships defined in functional rather than geographical terms (CEPR, 1996, p. 59) were along this line, they would balance integration and flexibility in the best possible way, given the number of states involved.

The creation of the EU called for new institutions such as the ESCB while the excessive deficit procedure regulated the surveillance in the area of budgetary policy required for a sustained operation of the eurosystem. Increased intergovernmental

co-operation common foreign and security policy (CFSP) and justice home affairs (JHA), the latter in conjunction with the free movement of people and the creation of a common asylum and immigration policy. These institutional procedures have been put in place gradually but this has not overcome the fact that the architecture resulted from last-minute negotiations at the European Council in Maastricht rather than from an explicit commitment to flexible integration.

As shown in Figure 1.4, the array of open partnerships provided by the two pillars complements the Community, as a very significant base including all members, but the areas of interaction are limited. In the economic and financial area, on the contrary, the ECB and the Euro Group are complemented by the SGP. In all three set-ups, but especially in the SGP, countries not in the eurosystem follow the rules anyway. Moreover Denmark continues to follow the ERM code of conduct.

In any event, the resulting institutional framework is extremely complex with areas of duplication and inefficiency alongside areas where resources are insufficient. This applies to the various secretariats but also to the Commission itself which has been involved over some years in a difficult internal restructuring. Whatever the place of the entire Community architecture in Figure 1.4, the combination of the three pillars is unlikely to be along the diagonal. Probably a legalistic approach would place the union architecture more towards the Community than towards the intergovernmental pillars. While the common base remains difficult to distinguish from open partnerships nearly ten years after the EU Treaty was negotiated, with the revisions agreed at the European Councils in Amsterdam and Nice, there is a suspicion that the balance has tilted towards the vertical axis, but so far without noticeable improvements in executive performance.

Since all member states have met the entry criteria for monetary union (independently of the willingness to join for Sweden and the United Kingdom, and the membership of Denmark in the ERM), the case for flexible integration has been strengthened by the euro and there is greater acceptance that variable geometry was inevitable in the case of a single currency. Jacquet and Pisani-Ferry (2000) note in closing that the Nice Treaty provides the possibility of making use of “reinforced co-operation” in the field of economic and monetary union.

In sum, the flexibility approach to European integration stresses the portability of the European experience to countries in different stages of economic and financial development. As such it may facilitate enlargement. But it also helps improving the EU institutional framework, especially its financial architecture, now that the stability culture prevails among its 15 members.

The Danger of Procrastination

The notion of medium-term policy credibility emerged as essential in the evaluation of how the regime in the EU Treaty combined convergence and cohesion. This credibility hinged on the functioning of the SME. It now depends on the institutional framework of the eurosystem, which is based on a single monetary policy and on national fiscal policies.

The lack of credibility of the “common European good” in world financial markets reflects the absence of reforms in member states. If the propensity to procrastinate is reversed, a European identity might appear even in areas of reinforced co-operation among some member states, such as money and finance, let alone development and even migration. This combination of global unity with regional and national diversity would certainly increase the portability of EU procedures in transition and emerging markets.

Unfortunately, national governments have used the euro as an excuse for procrastinating on unpopular but essential structural reforms. Yet, even if the euro-based MSF is effective, it cannot replace reform in labour markets, social security, education and training etc. Only if reforms take place will medium-term credibility be ensured so that replacing national currencies with the euro will have effects according to the credit ratings of nations, cities and firms rather than their geographical location. Indeed if countries use monetary union to procrastinate on their unpopular reforms, the benefits of the stability culture may vanish both at the core and at the peripheries. The “hold up” problem in the industrial organisation literature, mentioned in this connection by Buiter and Sibert (1997), suggests the similar danger of a “euro hold up” (Braga de Macedo *et al.*, 1999).

Traditionally, system stability has been provided by the largest national economy. The provision of the international public good is made in ways that are often determined by national traditions and institutions. The provision of the international public good is also in the national interest, which in this case is often represented by institutions sensitive to the needs of the taxpayer and therefore more prone to understand and fight against the incentive of each one of the member countries to free ride. As there is no dominant player in the EU, procedures relying on an agreed MSF had to be devised and implemented.

The incentive to free ride on the public good is indeed greater for the small countries, but without a decision to join which can be domestically supported the benefits of convertibility and stability are also less apparent.

The public good element of the euro cannot be achieved against market sentiment, but policy credibility can overcome hierarchy. Any solution not based on the national cohesion of the member states would be unstable. No member state is likely to remain in a slower speed of convergence against its national interest, expressed by majority vote. National and union cohesion thus became requirements for the competitiveness of European business worldwide.

In other words, the euro is largely an enabling reform that requires additional structural adjustment. If carried out by the EU states, structural reforms would not only enhance the potential of the euro as a world currency but also the competitiveness of European firms. The role of the EU notwithstanding, the institutions of global economic and financial governance have, in one way or another, helped prevent the 1997–99 financial crisis in emerging markets from becoming a 1930s style global depression. This is true in spite of the spectacular interruption of the Millennium Round

of the WTO launched in Seattle in late 1999 and of subsequent protests at meetings of the Bretton Woods institutions. While it is essential to empower people to face the challenges of globalisation, the changes in governance that are called for cannot become protectionist without threatening the basic benefits of open trade in goods, services and assets and of the free movement of people.

No Portability under Protectionism

The interpretation of the European experience presented above is consistent with the view that the creation of the euro does not reflect a collective hard peg, but it goes beyond that. In effect, the case made for flexible integration turns the European MSF into a more easily portable institution than the usual interpretation along political integration lines. As we argue next, even the interpretation of European integration as determined by the Franco–German post-war alliance is inadequate, for the effects of peer pressure applied in similar measure to Italy and to the Benelux countries. Of course, an Argentine–Brazilian integration momentum would have positive effects for Mercosul, but the role of the smaller states could still not be neglected. Chile, an associate member, may be as crucial to Mercosul as the United Kingdom was to the promotion of the ERM code of conduct — and hence to the success of the euro!

Can devaluations and exchange controls be co-ordinated at the regional or global level, to lessen their beggar-thy-neighbour character? Probably not without co-ordination mechanisms among monetary and fiscal authorities like the ones found in the EU. How precisely the MSF which evolved from the ERM code of conduct may apply to ASEAN or Mercosul remains to be thoroughly investigated. There has been no formal application to relations within CEFTA in part because the candidate countries are already greatly involved with the EU, whereas there have been recent instances of adaptation in Asia and in Latin America. The lessons from the crises in the ERM may also help design a new international financial architecture because they were overcome by the ERM code of conduct.

With the experience gathered during the first two years of the euro, a new code of conduct may be developing, which acknowledges the importance of international banking supervision. The potential costs, stability and magnitude of private capital flows to developing countries are an important criterion to assessing current proposals to reform the functioning of the international financial system. In this regard, there have been proposals for regional fora, which could help the IMF improve its performance when exchange-rate and banking issues are difficult to disentangle, as is more and more frequently the case. The usefulness of the euro for international financial architecture hinges on recognising the role of peer pressure and yardstick competition as they have been applied for decades. The proposals for flexible European integration hinge on ensuring that regional economic and financial institutions are complementary to the global ones — IMF, World Bank and WTO.

The immediate effect of the 1997–99 emerging market crises is to underscore a lesson from the interwar period: liberalisation and globalisation must be managed in order to face the threat of protectionist pressures, which could conceivably spread from tariff escalation to non-tariff barriers like exchange controls. Therefore, containing financial instability means avoiding a relapse of protectionism while fostering reform in the international system. This will allow for a more effective regional and global response to threats of contagion of national crises. In short, it is widely acknowledged that globalisation calls for better governance at national and global levels. Our interpretation of the European experience suggests that regional governance based on peer pressure may be a crucial ingredient for better governance at national and, indeed, global levels.

CONCLUSIONS

The defining traits of this early 21st century are the move towards global and regional integration of finance, production and trade; the introduction of the euro in the greater part of Europe and the corresponding benign neglect of fluctuations between the world's key currencies; and the high incidence of currency and financial crises in a world of intense capital mobility. This is the background for the choice of an appropriate strategy for monetary integration and exchange-rate regimes in many countries throughout the developing world. Mainstream advice has recently favoured monetarist corner solutions to that choice: the international monetarist variety, recommends hard pegs, the domestic monetarist variety pure floating.

We hold against that mainstream view. We show that corner solutions are not as crisis-free as is often maintained. Pure floating has at times led to costly misalignment of exchange rates, devastation of unhedged balance sheets and inflation import — reasons why it is rarely practised in developing countries. Hard pegs have become more popular, but we visit two importation cases — the CFA (Communauté financière africaine) experience and Argentina's currency board — which warn against underestimating the risks involved. In maritime terms, no sensible sailor drops the anchor before the boat stops moving.

While hard pegs often confer initial gains in credibility and hence lower capital cost, these gains can be ephemeral when they are not supported by a sufficient degree of institutional development and economic flexibility. Both CFA countries and Argentina became trapped by an inappropriate anchor currency; inappropriate as the

anchor reflected neither their trade directions nor their cyclical needs. As there are few currencies available to borrow credibility from, this lesson will not be unique: it suggests either a basket peg or, if possible, to build rather than to borrow credibility.

The prospect of regional integration invalidates corner solutions as non-co-operative (float) and costly to exit (hard pegs), but it revives the intermediate exchange-rate regime. The European Monetary System (EMS) experience shows that target zones, together with effective codes of conduct, wide enough to allow for sufficient flexibility, can indeed confer sustained credibility so as to avoid large misalignments and to reduce crisis vulnerability. What they need to achieve these objectives goes beyond the public perception that the central parity is consistent with long-term fundamentals. Expectations need to be guided by mutually agreed and monitored governance codes towards intensifying integration, based on visible progress in macroeconomic stability and regulatory reform.

The MSF has to be “owned” by, rather than imposed on, the countries concerned. It must therefore be supported by peer pressure and yardstick competition, both of which are built gradually. The “Eurocentric” approach to earning credibility on the way to monetary integration holds impressive successes in the former periphery. This is why the practical operation of the EMS provides important lessons for authorities struggling to implement sustainable exchange-rate regimes to support economic convergence. These lessons are beginning to spread beyond the European continent, reaching Asia and Latin America. While an EU-style MSF is no panacea either, the fact that it does not seem to avoid difficult choices will certainly be welcomed by reformist governments worldwide.

Bibliography

- ASEM – ASIA–EUROPE MEETING (2001), “Exchange–rate Regimes for Emerging Economies”, Discussion Paper prepared for Asia Europe Finance Ministers’ meeting, January.
- BARTOLINI, L. AND A. DRAZEN (1997), “Capital Account Liberalization as a Signal”, *American Economic Review*, Vol. 87, No. 1.
- BÉNASSY–QUÉRÉ, A. AND B. CŒURÉ (2000), “Big and Small Currencies: the Regional Connection”, CEPII Working Paper No. 2000–10, June.
- BERGSTEN, F.C. (2000), “The Empire Strikes Back”, *International Economy*, 14(3), May–June, pp. 10–13, 52.
- BESLEY, T. AND A. CASE (1995), “Incumbent Behavior: Vote–Seeking, Tax–Setting and Yardstick Competition”, *American Economic Review*, Vol. 85, No. 1.
- BLISS, C. AND J. BRAGA DE MACEDO (eds.) (1990), *Unity with Diversity in the European Community*, Cambridge University Press, Cambridge.
- BORDO, M. AND H. ROCKOFF (1995), “The Gold Standard as a Good Housekeeping Seal of Approval”, NBER Working Paper No. 5340.
- BRAGA DE MACEDO, J. (1996), “Portugal and European Monetary Union: Selling Stability at Home, Earning Credibility Abroad”, in F. TORRES (ed.) *Monetary Reform in Europe*, Catholic University Press, Lisbon.
- BRAGA DE MACEDO, J. (2000), *Financial Crises and International Architecture: a ‘Eurocentric’ Perception*, OECD Development Centre Technical Paper No. 162, August.
- BRAGA DE MACEDO, J. (2001), Statement to the Preparatory Committee of the UN Financing for Development Conference, New York, February 20, available at www.fe.unl.pt/~jbmacedo/oecd/un.htm.
- BRAGA DE MACEDO, J., L. CATELA NUNES AND F. COVAS (1999) “Moving the Escudo into the Euro”, CEPR Discussion Paper no. 2248, October.
- BRAGA DE MACEDO, J, B. EICHENGREEN AND J. REIS (eds.) (1996), *Currency Convertibility: the Gold Standard and Beyond*, Routledge, London.
- BRANSON, W.H. (1994), “German Reunification, the Breakdown of the EMS, and the Path to Stage Three”, in D. COBHAM (ed.), *European Monetary Upheavals*, Manchester University Press, Manchester.
- BRANSON, W.H. (2001), “Intermediate Exchange–rate Regimes for Groups of Developing Countries”, Chapter 2 of this volume.

- BUITER, W. AND A. SIBERT (1997), "Transition Issues for the European Monetary Union", unpublished paper.
- BUTI, M., D. FRANCO AND H. ONGENA (1997), "Budgetary Policies during Recessions: Retrospective Application of the 'Stability and Growth Pact' to the Post-War Period", European Commission, DGII mimeo, Brussels .
- CALOMIRIS, CH. AND A. POWELL (2001), "Can Emerging Market Bank Regulators Establish Credible Discipline? The Case of Argentina, 1992–1999", in F. MISHKIN (ed.), *Prudential Supervision*, NBER, University of Chicago Press, pp.147–191.
- CALVO, G. (2001), "The Case for Hard Pegs in the Brave New World of Global Finance", Chapter 3 of this volume.
- CEPR – Centre for Economic Policy Research (1996), *Flexible Integration, Towards a More Effective and Democratic Europe*, Monitoring European Integration 6, London.
- COHEN, D. (1989), "The Costs and Benefits of a European Currency", in M. DE CECCO AND A. GIOVANNINI (eds.), *A European Central Bank? Perspectives on Monetary Unification after Ten Years of the EMS*, Cambridge University Press, Cambridge.
- COHEN D., N. KRISTENSEN AND D. VERNER (1999), "Will the Euro Create a Bonanza for Africa?", CEPR Discussion Paper No. 2304.
- COOPER, R. (1968), *The Economics of Interdependence*, McGraw Hill, New York.
- DECRESSIN, J. AND P. DYSIATAT (2000), "Capital Markets and External Current Account: What to Expect from the Euro", IMF Working Paper, October.
- DEUTSCHE BANK (2000), "Debt Sustainability in Latin America", DB Global Markets Research, December.
- DIAMOND, D. (2001), "Comment on Calomiris and Powell", in F. MISHKIN (ed.), *Prudential Supervision*, NBER, University of Chicago Press, pp.191–194.
- DORNBUSCH, R. (1998), *Capital Controls: An Idea Whose Time Has Gone*, MIT, March.
- DORNBUSCH, R. (2001), "Malaysia's Crisis: What Was Different?", MIT, January.
- EDWARDS, S. (2000), "Exchange Rate Systems in Emerging Economies", mimeo, UCLA.
- EDWARDS S. AND J. FRANKEL (eds.) (2001), *Preventing Currency Crises in Emerging Markets*, University of Chicago Press, Chicago.
- EICHENGREEN, B. (1999), *Towards a New International Financial Architecture: A Practical Post Asia Agenda*, IIE, Washington, D.C.
- EICHENGREEN, B. (2000), "When to Dollarize", mimeo, University of California, Berkeley.
- EICHENGREEN, B. AND J. BRAGA DE MACEDO (forthcoming 2001), "The European Payments Union and the Evolution of International Financial Architecture", in A. LAMFALUSSY, B. SNOY AND J. WILSON (eds.), *Fragility of the International Financial System — How Can We Prevent New Crises in Emerging Markets?*, Fondation Robert Triffin.
- EUROPEAN COMMISSION (1990), "One Market One Money: An Evaluation of the Benefits and Costs of Forming an Economic and Monetary Union", *European Economy* No. 44, October.

- FELDMAN, R., K. NASHASHIBI, R. NORD, P. ALLUM, D. DESRUELLE, R. ENDERS, R. KAHN AND H. TEMPRANO-ARROYO (1999), "Impact of EMU on Selected Non-European Union Countries", IMF Occasional Paper 174, International Monetary Fund, Washington, D.C., February.
- FISCHER, S. (2001), "Exchange-rate Regimes: Is the Bipolar View Correct?", www.imf.org.
- FRANKEL, J.A. (1999), "No Single Currency Regime is Right for All Countries or at All Times, NBER Working Paper No. 7338, September.
- FRANKEL, J.A. AND A. ROSE (1996), "The Endogeneity of Optimum Currency Areas", NBER Working Paper No. 5700, August.
- FRANKEL, J.A., S.L. SCHMUKLER AND L. SERVÉN (2000), "Verifiability and the Vanishing Intermediate Exchange-rate Regime", mimeo, Harvard University.
- GHOSH, A., A.-M. GULDE AND H. WOLF (2000), "Currency Boards: More than a Quick Fix?", *Economic Policy* 31.
- GOLDSTEIN, M. (rapporteur) (1999), *Safeguarding Prosperity in a Global Financial System: The Future International Financial Architecture*, Council on Foreign Relations, New York.
- GLICK, R. AND A. ROSE (1998), "Contagion and Trade: Why are Currency Crises Regional", CEPR Discussion Paper No. 1947.
- GRANDES, M. (2001), *External Solvency: Dollarisation and Investment Grade. Towards a Virtuous Circle?*, OECD Development Centre Technical Paper No. 177.
- GRANVILLE, B. (2001), "Exchange Rates in Transition", Chapter 4 of this volume.
- GROS, D. (2000), *Quo Vadis Euro? The Price of Muddling Through*, 2nd Macroeconomic Policy Report from the Macroeconomic Policy Group, CEPS, Brussels, June.
- INTERNATIONAL MONETARY FUND (1998), *Exchange Arrangements and Exchange Restrictions Annual Report*, Washington, D.C.
- INTERNATIONAL MONETARY FUND (1998), "The West African Economic and Monetary Union", Occasional Paper No.170.
- JACQUET, P. AND J. PISANI-FERRY (2001), *Economic Policy Co-ordination in the Euro-zone; What has been Achieved? What Should be Done?*, Centre for European Reform, London.
- JOUMARD, I. AND H. REISEN (1992), "Real Exchange Rate: Overshooting and Persistent Trade Effects: The Case of New Zealand", *The World Economy*, 15.3., May.
- KRUGMAN, P. (1994), *Peddling Prosperity*, Norton, New York.
- MCKINNON, R. AND D. MATHIESON (1981), "How to Manage a Repressed Economy", *Princeton Essays in International Finance*, No. 45.
- REISEN, H. (1993a), "Integration with Disinflation: Which Way?", in R. O'BRIEN (ed.), *Finance and the International Economy: 7*, The Amex Bank Review Prize Essays in memory of Robert Marjolin, Oxford University Press.
- REISEN, H. (1993b), "South-East Asia and the Impossible Trinity", *International Economic Insights*, Institute for International Economics, Washington, D.C., May/June.

- REISEN, H. (1999), *After the Great Asian Slump: Towards a Coherent Approach to Global Capital Flows*, OECD Development Centre Policy Brief No. 16, January.
- REISEN, H. AND M. SOTO (2001), "Which Types of Capital Inflows Foster Developing-Country Growth?", *International Finance* 4.1., March.
- SHLEIFER, A. (1985), *Theory of Yardstick Competition*, Rand Journal of Economics, 16(3), pp. 319–27.
- SCHMUKLER, S.L. AND L. SERVÉN (2001), "Pricing Currency Risk: Facts and Puzzles from Currency Boards", paper presented at the NBER Inter-American Seminar on Economics, 20–21 July.
- SUMMERS, L.H. (2000), "International Financial Crises: Causes, Prevention and Cures", *American Economic Review, Papers and Proceedings*, Richard T. Ely Lecture, pp. 1–17.
- WILLIAMSON, J. (1996), *The Crawling Band as an Exchange-rate Regime: Lessons from Chile, Colombia and Israel*, Institute for International Economics, Washington, D.C.
- WILLIAMSON, J. (2000), *Exchange-Rate Regimes for Emerging Markets: Reviving the Intermediate Option*, Institute for International Economics, Washington, D.C.

Intermediate Exchange–Rate Regimes for Groups of Developing Countries

William H. Branson

Introduction and Summary*

This chapter discusses intermediate exchange–rate regimes for developing countries as the alternative to “corner solutions” of floating or hard pegging to a single major currency. We focus on stabilising the real effective exchange rate (REER) against a basket of currencies, perhaps using a crawling band that is a declining weighted average of past actual REERs. This has recently been called by Williamson (2000) the BBC (band, basket, and crawl) rules, a phrase Williamson attributes to Rudi Dornbusch. We add to the BBC rules the idea of joint management of the exchange rate by similar developing countries. Thus the chapter focuses on two points: stabilising the REER, and collective action.

Similar developing countries would be defined by similarities in their trade patterns, both in terms of commodity composition and geographic origin and destination. We see developing countries as similar in that they trade similar products in essentially the same third markets. Their trade is potentially competitive. Thus they differ from the EU or NAFTA, where trade is predominantly within the area. The developing country groups we tentatively identify are East Asia, the Andean countries, an expanded Mercosur, West Africa and East Africa.

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The inspiration for the chapter came from two crises in which there was a cascading of speculative attacks and devaluations, seemingly as the result of the lack of joint action. The first was the EMS breakdown in 1992; the second was the Southeast Asian crisis in 1997. In the EMS case, the equilibrium exchange-rate response to the fiscal expansion associated with the German reunification was a unilateral upward realignment of the DM. The refusal of the other members of the EMS to agree to this was a signal to the markets that the others were likely to have to devalue. Speculation then focused on the weakest link, the Finnmark, and proceeded to the Swedish krona, sterling, and so on around the periphery of the EMS. This was a clear case of contagion and cascading due to the refusal of the non-German members to take joint action. This case is analysed in Branson (1994). Eventually Germany agreed that the DM merge into the euro. The possible implications of this for the international financial architecture are drawn out in Braga de Macedo (2000).

The Southeast Asian case was more complicated. The ASEAN countries experienced external shocks from the Japanese stagnation and yen depreciation against the dollar. They also had internal imbalances in the form of investment booms not matched by domestic saving. The result was rising current account deficits combined with real appreciation. This led to an unstable path of external debt denominated in foreign exchange. Eventually the markets saw this and the attacks began in Thailand. After the baht devaluation, contagion set in and the attacks cascaded to Malaysia, Indonesia and Korea. Since the markets concentrated on one country at a time, speculative pressure was maximised and devaluations overshot. In this case, there was a fundamental imbalance, but the lack of joint action exacerbated the problem. Joint management of the BBC rules has the potential to spread speculative pressure instead of concentrating it.

The chapter proceeds as follows. First it describes briefly the corner solution hypothesis and its roots in the “impossible trinity” of open capital markets, a fixed exchange rate and independence of monetary policy. The corner solution hypothesis is that countries must or should move toward the corners. This section concludes by raising questions about the application of the impossible trinity for many developing countries. Next it reviews recent empirical evidence that developing countries are not moving toward the corners, mainly because of “fear of floating”. It does seem in practice that countries follow intermediate regimes. We then go on to discuss why fear of floating is warranted, and propose stabilising the REER as policy for individual countries. This is an alternative to using the nominal exchange rate as a “nominal anchor,” and requires an independent source of internal discipline, such as fiscal control.

Then the chapter introduces the idea of joint management of the BBC rules against a common basket. This has the potential to prevent contagion and cascading, and other forms of competitive devaluation as well. The early EMS might be a model for this form of joint management. It goes on to discuss institutional developments that could be stimulated by joint management. It would require central bank co-operation and some measure of fiscal coordination, and stimulate the development of common trade policies and institutions. We then conclude with very tentative illustrative calculations of weights for REERs for several groups of developing countries.

The basic message of the chapter is that not only do developing countries not move to corner solutions, but that they should not. Stabilising the REER in groups and relying on domestic policy to stabilise internally is a better option.

The “Corner Solution” Hypothesis

The corner solution hypothesis states that with increasing capital mobility countries will move either to freely floating exchange rates or “hard pegs”, that is, effectively adopting one of the major currencies as their own. The latter corner can be thought of as dollarisation, euroisation, or yenisation. The sudden appearance of the corner solution hypothesis came in the wake of the collapse in Southeast Asia in 1997. I quote Ricardo Hausmann:

This cataclysm has also shattered the consensus among bankers, policymakers, academics, and ideologues about appropriate economic policy in emerging markets. As economic professionals now return to the drawing board, one question is generating particularly fierce debate: should emerging-market countries allow their currencies to float freely, or should they abandon them altogether in favour of strong international or supra-national currencies such as the US dollar or the euro? Interestingly, the debate has quickly become polarised: both sides seem to accept that there can be no middle ground, no halfway arrangement between allowing a currency to float freely and bolting it down completely (see Hausmann, 1999, pp. 65–79).

In December 1999 at the meeting of the G-20, US Treasury Secretary Summers proposed that IMF lending be made conditional on countries accepting a corner solution.

Implicit in the Hausmann quote and the US Treasury position, it is rarely clear in statements of the corner solution hypothesis whether it is positive or normative. Is it that countries must move toward the corners, or that they should do so? I argue below that the evidence is that they do not generally move toward the corners, so it is not inevitable that they do so. I then go on to argue that they should generally not move toward the corners.

The basis for the corner solution hypothesis is the so-called “impossible trinity” of free capital movements, a fixed exchange rate, and an independent monetary policy. The impossible trinity is described in Branson (1991). It can be traced back to Padoa-Schioppa (1987), earlier Haberler (1937), and undoubtedly earlier antecedents. With a fixed exchange rate, perfect capital mobility ties the domestic interest rate to the world rate (real or nominal) by open interest parity. This ties monetary policy to movements in domestic output and price level, to maintain financial market equilibrium with the interest rate tied to the world rate.

To express these ideas more precisely, we can summarise them in a simple model. With perfect capital mobility, uncovered interest parity, a no-arbitrage condition, says that

$$I = I^* + dE \quad (1)$$

Here I is the home nominal interest rate, I^* is the world rate, and dE is the expected change in the nominal exchange rate. If the exchange rate is credibly fixed, dE is equal to zero. This ties the domestic interest rate to the world rate by equation (1). This leaves monetary policy unable to affect domestic activity through either the exchange rate or the interest rate.

A standard expression for money–market equilibrium is

$$M/P = m(I, Y), \text{ or } M = Pm(I, Y) \quad (2)$$

Here M is the monetary base, P is the domestic price level, and m is the demand for real monetary base as a function of the interest rate and GDP, Y . With I fixed by (1), M must follow movements in P and Y to maintain financial equilibrium. Further expansion of M will simply result in a capital outflow. Insufficient growth of M will result in a capital inflow. In a small, very open economy, P is also constrained by the international price level P^* and the fixed exchange rate:

$$P = EP^* \quad (3)$$

In this case, inflation is determined by international prices, and the monetary base must follow international prices and GDP to prevent capital account imbalances.

In this situation, excessive expansion of M , for example, to finance a budget deficit, will lead to capital outflows and reserve loss, undermining the credibility of the exchange rate peg. As the market perceives the capital outflow and reserve loss, eventually a speculative attack will develop. Thus an attempt to use monetary policy independently of equation (2) will undermine credibility and lead to a collapse of the exchange rate. One “corner solution” to this dilemma is to float the exchange rate in the first place, freeing the constraint on monetary policy. The other corner solution is to adopt a hard peg via a currency board or to give up on maintenance of a domestic currency and adopting a hard currency, i.e. dollarisation.

The impossible trinity may not hold perfectly, or even well for many developing countries. Perfect capital mobility requires not just the lack of controls on capital movements. It also requires that assets denominated in domestic currency be at least close to perfect substitutes for assets denominated in world currencies in the view of international investors. This is clearly not the case for many developing countries. In this case, a potentially substantial risk premium would have to be added to equation (1). This risk premium would depend on the country’s

debt position, and the market's perception of the stability of the future debt path. Thus the lack of perfect capital mobility greatly weakens the impossible trinity, and adds separate consideration of the current and capital accounts to the policy problem, as discussed in Branson and Braga de Macedo (1996). In addition, Frankel (1999) notes that a fixed exchange rate and no independent monetary policy or a floating rate and independent monetary policy are not the only choices. One could give up a little of the fix and a little independence, adopting an intermediate regime. The empirical evidence suggests many countries have adopted some version of an intermediate regime.

The Empirical Evidence on Intermediate Regimes

The positive version of the corner solutions hypothesis says that countries must move their exchange rate regimes to the corners. The normative version says they should do so. This section reviews recent empirical evidence that they do not move toward the corners. Members of the IMF report their exchange rate regimes, and the IMF publishes their classification annually. Table 2.1, taken from Bénassy-Queré and Cœuré (2000) summarises the evolution of these classifications. Very few countries have adopted major currencies or currency boards. Among them are Ecuador and Panama (the dollar), Argentina, Estonia and Hong Kong (currency boards). The EU is adopting a single currency, the euro. The French franc zone in Africa has devalued, so it is unclear what its classification should be. Several anglophone countries in West Africa have plans to stabilise with the franc zone. We will discuss this briefly in the section on Speculation, Contagion and Cascading. Thus the indication that countries are moving toward the corner solutions would come mainly from an increase in the percentage of countries that are floating more or less freely. This seems to be the case in the data of Table 2.1. These show an increase in the percentage of countries that are floating from 6 per cent in 1983 to 32 per cent in 1999. There is, however, mounting evidence that countries that claim to be floating actually manage their exchange rates, mostly stabilising them against the dollar. This section briefly reviews some of that evidence in three studies, by Calvo and Reinhart (2000), Frankel *et al.* (2000), and Bénassy-Queré and Cœuré (2000). All of these support the idea that countries that say they are floating actually are not, a phenomenon labelled “fear of floating” by Calvo and Reinhart.

Table 2.1. **Share of Various Regimes among IMF Member Countries**
(end of year)

Exchange rate regimes	1983	1988	1994	1999
Fixed pegs on single currencies, including currency boards	35.6	38.2	26.0	29.9
US dollar	23.3	25.7	13.8	15.0
FF, DM, euro	8.9	9.2	8.3	12.3
Others	3.4	3.3	3.9	2.7
Fixed pegs on baskets	27.4	25.7	13.3	9.6
SDR	8.9	5.3	1.7	3.2
ECU	17.8	19.7	11.0	6.4
Other baskets	17.8	19.7	11.0	6.4
Limited flexibility	11.0	7.2	7.2	5.9
European exchange-rate mechanism	4.8	4.6	5.0	1.1
Other arrangements with bands	6.2	2.6	2.2	4.8
Crawling pegs, managed floats	19.9	17.8	19.9	23.0
Free floats	6.2	11.2	33.7	31.6
TOTAL	100.0	100.0	100.0	100.0
Number of currencies	146	152	181	187

Source: Bénassy-Queré and Cœuré, Working Document No. 2000-10, CEPII (2000).

Table 2.2. **Exchange-Rate Volatility in Recent or Current “Floating” Exchange-Rate Regimes**

Country	Period	Probability that the monthly per cent change in nominal exchange rate falls within:	
		+/- 1 per cent band	+/- 2,5 per cent band
United States	February 1973-April 1999	26.8	58.7
\$/DM			
Japan	February 1973-April 1999	33.8	61.2
Australia	January 1984-April 1999	28	70.3
Bolivia	September 1985-December 1997	72.8	93.9
Canada	June 1970-April 1999	68.2	93.6
India	March 1993-April 1999	82.2	93.4
Kenya	October 1993-December 1997	50	72.2
Mexico	December 1994-April 1999	34.6	63.5
New Zealand	March 1985-April 1999	39.1	72.2
Nigeria	October 1986-March 1993	36.4	74.5
Norway	December 1992-December 1994	79.2	95.8
Peru	August 1990-April 1999	45.2	71.4
Philippines	January 1988-April 1999	60.7	74.9
South Africa	January 1983-April 1999	32.8	66.2
Spain	January 1984-May 1989	57.8	93.8
Sweden	November 1992-April 1999	35.1	75.5
Uganda	January 1992-April 1999	52.9	77.9
Average, excluding US and Japan		51.67	79.27
Standard deviation, excluding US and Japan		17.83	11.41

Source: Calvo and Reinhart, Working Document, University of Maryland, 2000.

The values of floating exchange rates are determined in asset markets, in daily trading. They generally show the variability of prices of financial assets. This has been the case with the dollar, yen, and DM/euro in the past 20 years. Thus countries with truly floating exchange rates should exhibit variability comparable to these major currencies. These countries should also have low variability of international reserves, since they would be refraining from intervention in the foreign exchange markets. Since floating is linked to independence of monetary policy, the latter would be aimed at domestic targets, such as inflation. This would suggest less volatility of interest rates than if domestic monetary policy were being used to stabilise the exchange rate. In the case of a fixed exchange rate, the exchange rate itself would be less volatile, reserves more volatile, and as in the impossible trinity, interest rate movements tied to world interest rates.

Calvo and Reinhart (2000) study the volatility of exchange rates, reserves, and interest rates for countries that claim to be floating, relative to the same variables for the United States, Japan and Germany (the G-3). These are taken as the benchmark floaters. Reinhart (2000) also provides a useful summary. Tables 2.2 to 2.4 are taken from Calvo and Reinhart. Each table provides a statistic to measure volatility for the relevant variable for the group of IMF “floaters,” and compares it to the United States and Japan. The statistic is the probability that the monthly change in the variable falls within a band of alternatively ± 1 per cent and ± 2.5 per cent.

Table 2.2 shows the Calvo–Reinhart results for exchange–rate volatility. From the beginning of the G-3 float in 1973 through to 1999, the probability of the monthly change in the \$/DM rate falling in the ± 1 per cent band was 26.8 per cent, for the \$/yen rate it was 33.8 per cent. For most of the “floaters” in the table, the probability of the monthly change being within the same band was higher, with an average of 51.7 per cent, twice that of the \$/DM rate. Thus the floaters were substantially less volatile, or more stable, than the G-3.

The mirror image of exchange–rate stability would be a combination of volatility of foreign exchange reserves and interest rates. The former would be the case if foreign exchange intervention were used to stabilise the exchange rate, the latter if domestic monetary did the stabilisation. Table 2.3 shows the Calvo–Reinhart results for foreign exchange reserve volatility. There the probability that the monthly change in reserves is in the ± 1 per cent band is 28.8 per cent for the United States and 44.8 per cent for Japan. For the floaters it is much lower, averaging 16.2 per cent. Thus reserves were more volatile, less stable, in the “floaters,” consistent with the use of intervention to stabilise the exchange rate. Table 2.4 shows the results for interest rate volatility. There the probability for the monthly change in the short–term interest rate to fall in the ± 1 per cent band is 59.7 per cent for the United States and 67.9 per cent for Japan. The average for the “floaters” is 33.3 per cent. Thus domestic interest rates were also more volatile, less stable, in the “floaters,” consistent with the use of domestic monetary policy to stabilise the exchange rate.

The Calvo–Reinhart results support the proposition that many countries that are categorised as floating by the IMF stabilise their nominal exchange rates compared to the fluctuations in the G–3, thus their term “fear of floating”. This is consistent with the widespread use of intermediate regimes of one sort or another.

Calvo and Reinhart concentrate on volatility to detect exchange–rate management. Another way to discriminate between floating and managing is to study the average relationship between local interest rates and international interest rates. According to the impossible trinity, fixers, or more broadly, managers, have interest rates constrained to move with international rates, on average, as in equation (1) earlier. On the other hand, floaters can exercise independent monetary policy, and should be able to move interest rates independently of international interest rates. This approach to discriminating between floating and managing, or even fixing exchange rates is taken by Frankel *et al.* (2000). They estimate regressions of domestic money–market interest rates on the US T–bill rate over time using monthly data for the 1970s, 1980s and 1990s. They study countries grouped by IMF exchange–rate regime, by income level, by level of development, and by decade. The equations include control variables including relative inflation and dummies for turbulent vs. tranquil periods. They expect the slope coefficient on the US rate to be 1 with fixed rates, approximately 0 with floating rates, and somewhere in between for intermediate regimes. Table 2.5, taken from their study, shows fairly typical results. The coefficient on the US rate is around 1 independent of regime, except for Mexico. This indicates that independently of exchange–rate regime, countries are not exercising independent monetary policy.

Table 2.3. Foreign Exchange Reserve Volatility in Recent or Current “Floating” Exchange-Rate Regimes

Country	Period	Probability that the monthly per cent change in foreign exchange reserves falls within:	
		+/- 1 per cent band	+/- 2.5 per cent band
United States	February 1973–April 1999	28.6	62.2
Japan	February 1973–April 1999	44.8	74.3
Australia	January 1984–April 1999	23.9	50
Bolivia	September 1985–December 1997	8.1	19.6
Canada	June 1970–April 1999	15.9	36.6
India	March 1993–April 1999	21.6	50
Kenya	October 1993–December 1997	13.7	27.4
Mexico	December 1994–April 1999	13.2	28.3
New Zealand	March 1985–April 1999	11.8	31.4
Nigeria	October 1986–March 1993	7.7	12.8
Norway	December 1992–December 1994	36.1	51.9
Peru	August 1990–April 1999	23.1	48.1
Philippines	January: 1988–April 1999	9.7	26.1
South Africa	January 1983–April 1999	8.7	17.4
Spain	January 1984–May 1989	18.5	40.1
Sweden	November 1992–April 1999	8.9	33.3
Uganda	January 1992–April 1999	17.7	32.9
Venezuela	March 1989–June 1994	20.3	35.9
Average, excluding United States and Japan			
Standard deviation, excluding US and Japan		16.18	33.86

Source: Calvo and Reinhart, Working Document, University of Maryland, 2000.

**Table 2.4. Nominal Interest Rate Volatility in Recent or Current "Floating"
Exchange-Rate Regimes**

Country	Period	Probability that the monthly per cent change in foreign exchange reserves falls within:	
		+/-0.25 per cent (25 basis points)	+/-0.5 per cent (50 basis points)
United States	February 1973-April 1999	59.7	80.7
Japan	February 1973-April 1999	67.9	86.4
Australia	January 1984-April 1999	28.1	53.9
Bolivia	September 1985-December 1997	16.3	25.9
Canada	June 1970-April 1999	36.1	61.9
India	March 1993-April 1999	6.4	15.9
Kenya	October- 1993-December 1997	19.6	25.5
Mexico	December 1994-April 1999	5.7	9.4
New Zealand	March 1985-April 1999	40	59.4
Nigeria	October 1986-March 1993	89.7	91
Norway	December 1992-December 1994	32.1	51.9
Peru	August 1990-April 1999	24.8	32.3
Philippines	January 1988-April 1999	22.1	38.9
South Africa	January-1983-April 1999	35.6	53.1
Spain	January 1984-May 1989	30.8	41.5
Sweden	November 1992-April 1999	71.8	91.1
Uganda	January 1992-April 1999	11.6	32.6
Venezuela	March 1989-June 1994	62.5	62.5
Average, excluding US and Japan		33.33	46.68
Standard deviation, excluding US and Japan		23.44	23.68

Source: Calvo and Reinhart, Working Document, University of Maryland, 2000.

It is worth quoting from the conclusion to their study:

The main result of the paper is that over the last decade all exchange rate regimes exhibit high sensitivity of local interest rates to international ones. Indeed, in the 1990s we find very few instances of less-than-full transmission (i.e. a slope coefficient significantly smaller than one), regardless of exchange rate regime. This result emerges both from the country-specific estimates and from close inspection of the pooled estimates.

The main exception to this rule is provided by a few large industrial countries, which according to the evidence in the paper appear to be the only ones that can or choose to benefit from independent monetary policy. Frankel *et al.* (2000, p. 21).

These results are consistent with fear of floating, and suggest that countries are not moving toward the float corner.

**Table 2.5. Local Interest Rates Responsiveness to US T-bill Rate
Developing Countries**

	Sample	Constant	US T-bill rate	Test slope = 1 (p-value)	R-squared	Number of observations
Fixed regimes						
Argentina	3/91-12/99	0.01 (0.04)	1.33 (0.87)	0.70	0.71	106
Hong Kong	1/94-12/99	0.01 (0.01)	1.01 ** (0.16)	0.96	0.16	72
Intermediate regimes						
Chile	1/90-8/99	0.03 50.04°	1.99 ** 50.80°	0.21	0.49	116
Indonesia	1/90-6/99	0.05 * 50.03°	1.35 ** (0.67)	0.60	0.50	102
Israel	1/90-12/99	0.08 ** (0.01)	0.94 ** (0.12)	0.65	0.41	120
Singapore	1/90-12/99	0.00 (0.01)	0.86 ** (0.11)	0.21	0.41	120
Thailand	1/90-3/97	0.02 (0.01)	1.42 ** (0.29)	0.15	0.44	87
Free-floating regimes						
Mexico	12/94-12/99	0.22 * (0.12)	-1.22 (2.54)	0.38	0.76	61
Philippines	1/90-12/99	0.05 ** (0.02)	1.29 ** (0.46)	0.52	0.24	120
South Africa	1/90-12/99	0.06 ** (0.01)	1.44 ** (0.19)	0.02	0.44	120

Note: The table reports the constant and slope coefficients of the local interest rate (money market) on the US T-bill rate. The coefficient for inflation is not reported, but it is included in all regressions. Newey-West standard errors are in parenthesis. ** and * mean that the estimate is statistically different from 0 at the 5 per cent and 10 per cent level respectively.

Source: Frankel *et al.*, Working Document, World Bank, June 2000.

A third empirical approach to detection of *de facto* exchange-rate regimes is used by Bénassy-Quéré and Cœuré (2000). They use a regression technique similar to that used in Branson (1981) to estimate implicit weights for basket pegs. They estimate the equation

$$a(\$, i)dE(\$, i) + a(EU, i)dE(EU, i) + a(Y, i)dE(Y, i) = B + u, \quad (4)$$

on monthly data for each of 111 currencies, the i countries in equation (4). Here the a 's are regression coefficients; the dE 's are monthly percentage changes in the currency's exchange rate against the dollar, the euro, and the yen respectively; B is a constant, and u is a random error. The estimates are performed by the generalised method of moments with the coefficients $a(\cdot)$ constrained to sum to unity.

The interpretation of the estimates of the a coefficients in (4) is straightforward. A significant coefficient of unity for any single a means that the currency of the country i is effectively pegged to that currency. A single significantly positive coefficient less than unity is interpreted as a partial peg. Two or three significant coefficients indicate a basket peg. The equation is estimated for each currency over the period April 1995–June 1997 (before the Southeast Asian crisis), and October 1998–December 1999.

The results are shown in Table 2.6, taken from Bénassy-Quéré and Cœuré. The unitary pegs on a single currency are the cases in which one of the a coefficients is one; the partial pegs are the cases where one coefficient is significantly positive but less than unity; the basket pegs are the cases where two or three coefficients are significant; the free floaters are the cases where no coefficient is significant.

The results in Table 2.6 should be compared with the stated distribution of regimes for 1999 in Table 2.1. There are two striking results. In Table 2.1, 15 per cent of the countries report a dollar peg; in Table 2.6, half the countries are revealed to follow a dollar peg. In Table 2.1, 31.6 per cent of the countries report a free float; in Table 2.6, about 4 per cent are revealed to float in practice. In addition, in Table 2.6, 14 per cent follow a dollar/euro basket, and 7.5 per cent follow a three-way basket. These numbers will be relevant when we calculate illustrative basket weights at the end of the chapter.

The empirical evidence summarised here points to the prevalence of intermediate exchange-rate regimes. By and large, countries are not giving up their currencies and adopting hard currencies, and they are not freely floating. They are managing or stabilising their exchange rates against one of the G-3 currencies or a basket. In the next section we move on to discuss why this is a good idea for most developing countries.

Table 2.6. ***De Facto Regimes***
(% of currencies under review)

Country	April 1995-June 1997 (before Asian crisis)	October 1998-December 1999 (after Asian crisis)
Unitary peg on a single currency		
US dollar	50.6	49.5
Euro	10.3	10.3
Yen	0.9	0.0
Partial peg on a single currency		
US dollar	12.1	6.5
Euro	0.9	1.9
Yen	0.0	0.9
Peg on a basket		
Dollar/euro	12.1	14.0
Dollar/yen	5.6	2.8
Euro/yen	1.9	2.8
Euro/dollar/yen	0.9	7.5
Free floating	4.7	3.7
Total	100.0	100.0
Number of currencies	107	107

Note: The French franc zone is considered as a single country (one estimation). Negative coefficients are not considered as partial pegs.

Source: Bénassy-Queré and Cœuré, Working Document No. 2000-10, CEPII (2000).

Stabilising the Real Effective Exchange Rate (REER) as the Intermediate Regime

The argument for stabilising a REER against a currency basket as optimal exchange-rate policy for developing countries was put forward in Branson and Katseli (1980), (1981), (1982). Rules for adjusting the REER to keep it in the vicinity of equilibrium were developed in Branson and Braga de Macedo (1982). Williamson (1996) proposed adjusting the REER using a crawling band. He has called this arrangement the “BBC” rules (basket, band, and crawl). The idea of stabilising the REER was applied in Branson (1983) and Branson and Braga de Macedo (1989). It was incorporated into an overall macro policy package as the pre-pegging exchange-rate regime (PPERR) for potential entrants to the EU in Branson and Braga de Macedo (1996). There the natural currency basket for the Central Europeans was the ECU. Here we summarise the line of argument for stabilising the REER as it applies to the current discussion of intermediate regimes.

We can begin with fear of floating. Why do developing countries that declare that their exchange rates are floating still manage them? The answer given in Branson and Katseli (1981) was that they are afraid that their exchange markets would be unstable. For many developing countries there is little demand by international portfolio investors for assets denominated in the country’s currency. In this sense, the country’s financial markets are not well integrated into the international financial system.

The United States, Germany and Japan can float with confidence because international investors hold portfolios diversified across assets denominated in dollars, DM and yen. Small movements in relative returns will eliminate short-run disequilibria in their foreign exchange markets. This is not the case for many developing countries with little demand for their financial assets. This is evidenced by their interest rate volatility and the sometimes extremely high interest rates needed to keep investors in their currencies. In this sense, fear of floating is warranted, and the exchange market must be managed. The central bank must be the market maker.

How should exchange-rate management proceed in these cases? One extreme is the corner solution of adopting one of the hard currencies. This could be appropriate if that country is a dominant trading partner and the developing country in question wishes to give up on any independence of monetary policy. Revealed preference in the small number of countries rushing to this corner requires other options. Most developing countries have diversified trade, so a currency basket defining an effective exchange rate (EER) may be useful for management. Then the question comes down to managing, or stabilising, a nominal or real EER. Advocates of importing price stability prefer stabilisation of the nominal rate as providing a “nominal anchor”. An alternative is to incorporate the exchange rate into a programme for internal and external balance, following Mundell (1962). This leads to the choice of stabilisation of the REER, targeting the current account, as developed in Branson *et al.* (1998) for the Central European countries.

The exchange rate as nominal anchor approach works back from the exchange rate to fiscal control. Targeting the nominal exchange rate is meant to import price stability and remove monetary independence. This eliminates the ability of the central bank to finance a fiscal deficit, and therefore is intended to impose control on fiscal policy. This is not likely to succeed if fiscal policy is truly out of control, and is not necessary if it is not. A better approach may be to achieve fiscal control directly, and target fiscal policy to internal balance. This is the Multi-annual Fiscal Adjustment Strategy (MAFAS) of Bliss and Braga de Macedo (1990), applied to the Central European countries in Branson *et al.* (1998). Once fiscal control has been established, monetary policy and the exchange rate can be targeted toward external equilibrium. In this case, the REER can be aimed at a current account target, with gradual adjustment as the equilibrium REER changes. Adjustment could be done with a crawling band, centred on a declining weighted average of past actual values of the REER. This arrangement would follow Williamson’s BBC rules. This gives us REER stabilisation as the intermediate regime.

A remaining important question is the weights for the REER. A natural starting point is a total trade share for major partners. These change slowly over time and provide a stable basis for the REER. These might be adjusted for stable capital flows associated with the concept of basic balance in the balance of payments. This raises the problem of defining stable capital flows in a world of globalisation of the capital account. A source of instability in recent crises has been the instability of capital

movements. A second adjustment might be made for trade elasticities for countries that are not price-takers in world markets. An example of this adjustment is provided in Branson and Katseli (1980). Another example is the IMF multi-lateral exchange rate model (MERM), which provides implicit weights for countries that are included. Below in the concluding section we provide illustrative weights for groups of developing countries.

Speculation, Contagion and Cascading: Arguments for Group Arrangements

The last two decades have seen an increase in regional trade arrangements. These are based on similarities of trade patterns among geographically close groups of countries. In the industrial countries, the similarities tend to be based on trade with each other, frequently intrasectoral trade. Examples are North America (NAFTA) and Europe (EU). Among the developing countries, the similarities tend to be based on trade in similar products with similar origins and destinations, frequently based on intersectoral trade based on resource differences. Examples are Southeast Asia (ASEAN), and South America (Mercosur and the Andean Pact). West and East Africa also display such similarities, although regional trade arrangements are less formalised. In the developing country groups, trade tends to be competitive in third markets. This is also the case in some sub-groups of the industrial countries, especially the northern and Mediterranean Europeans. In these cases, devaluations tend to be competitive, and co-operation in avoiding this form of competition may be useful.

The financial markets see the potential for competitive devaluation in these groups, and that appears to inform the pattern of speculation when one of these groups appears to have a disequilibrium in the REER. In these cases, the markets seem to tend to attack the weakest member of the group first, and then to work down a schedule of perceived competitive weakness. Once the weakest member devalues, the pressure moves to the next weakest, and so on. Weakness here could have several guises. It could be simply trade imbalance, unstable debt dynamics, or vulnerable financial markets. This movement of speculative pressure has been termed *contagion*, and it has led to *cascading* of devaluations. Two examples are the EMS crisis in 1992, analysed in Branson (1994), and the Southeast Asian crisis of 1997.

The German reunification in 1990–91 generated a large shift in the German fiscal position from surplus to deficit, and a sharp increase in German interest rates. The conventional wisdom of the Mundell–Fleming model says that the equilibrium response to these events was a real appreciation of the DM. The Bundesbank asked its EMS partners for a unilateral upward realignment to relieve the pressure of the disequilibrium, but they refused, thinking that they were importing anti-inflationary credibility from the Bundesbank. The markets saw the disequilibrium, and first attacked at the weakest point. This was Finland, which was pegging to the EMS grid, but was not part of its reserve-sharing arrangements, and whose exports to Russia had collapsed with the dissolution of the USSR. Once Finland devalued in August 1997, the pressure

turned to Sweden. After Sweden devalued, the pressure turned to the United Kingdom, and so on. The markets seemed to be following a competitive weakness measure such as that discussed subsequently by Eichengreen and Wyplosz (1993). In this case, collective action within the EMS, allowing the upward realignment of the DM, might have prevented the cascade of speculative attacks.

The second case was the East Asian crisis in 1997. These countries, especially Thailand, Malaysia, Indonesia and South Korea, had experienced both external and internal shocks that pointed toward real devaluation. The external shocks came from the decade-long slowdown in growth in Japan and the depreciation of the yen against the dollar after 1995. The internal shock was a domestic investment boom, with investment rising relative to saving. This led to a growing current account deficit, financed by capital inflows that were facilitated by low interest rates in Japan. At the same time, with their currencies stable against the dollar, they had appreciating real exchange rates. Thus their debt dynamics were unstable. Debt denominated in foreign exchange was growing, the current account deficits were growing, adding to the speed of debt accumulation, and the real exchange rates were appreciating. In addition, the financial sectors of these countries were fragile, so that any devaluation would lead to pressure on financial institutions.

This situation was seen by the markets, which started speculative pressure on Thailand in spring 1997. Finally Thailand gave way in July. Once Thailand devalued competitive pressure came immediately on Malaysia and Indonesia, which export similar products to the same markets as Thailand. This was an obvious case of contagion. Eventually, both Malaysia and Indonesia devalued. The speculative pressure cascaded across Southeast Asia.

Similar competitive pressures arise in Africa and South America. The devaluation in the franc zone in Africa put pressure on the anglophone countries exporting similar products to Europe and North America. A devaluation in Argentina puts the same sort of pressure on the other Mercosur countries.

This contagion and cascading leads to overshooting in individual devaluations. This is particularly clear in Southeast Asia. The deep devaluations, one at a time, have all been partially reversed. The concentration of speculation on one market at a time leads to maximum pressure on that market and an overly deep devaluation when it comes. This adds to the competitive pressure on the next market, and a series of overly deep devaluations that will eventually be at least partially reversed. This situation could be eased if members of the group managed their BBC systems for REER stabilisation jointly against a common basket.

This sort of group arrangement would spread a given amount of speculative pressure across a broader area, minimising the pressure on any single country. It could eliminate cascading of devaluations and the consequent overshooting. It would also minimise the possibility of competitive devaluations within the group. The arrangement would resemble a reserve-sharing arrangement. It would require provision for occasional realignments within the group to account for differential productivity trends.

The early EMS, with its PPP-based realignments and reserve-sharing arrangement, might be a useful model for these group exchange-rate arrangements. Potential groups could be East Asia, East Africa, West Africa, Mercosur and the Andean countries.

Institutional Development within Currency Groups

Maintenance of a currency group would require, in the first instance, central bank co-operation. This would include information sharing and computing as the REER band is maintained. It would also require some degree of common decision-making and perhaps joint or delegated exchange-market intervention. This could lead to a welcome institutional development in the central banks and financial markets, especially in the African groups.

The group arrangements with the central banks aimed at maintaining the common REER band would also require some degree of coordination of domestic macro policies. Budget policies would have to be aimed at internal balance. This would benefit from co-operation among finance ministries, perhaps along the lines of Ecofin in the EU. Here again, information sharing and discussion of common policy problems could stimulate institutional development.

Maintenance of the common REER would virtually rule out competitive devaluations among the groups. This could stimulate common trade arrangements. These could include common positions on external trade negotiations, common external tariffs, and common trade institutions such as export development and credit arrangements. These are examples of institutional development that could advance institutions in common, reducing the aggregate human capital required, relative to that needed if the institutions were all developed separately. This would be an important side effect of joining in a common exchange-rate arrangement.

Potential Groups for Exchange-Rate Arrangements

Now we present some initial and very approximate examples of weights for REERs for several groups of developing countries. These are based on geographical trade shares, without adjustment for stable capital flows or market power. For serious calculation of weights, research is needed on trade similarity indexes to determine optimal potentially competitive groups. Eventually, if any proposal such as this were to be adopted, the weights would have to be calculated and agreed by the countries involved. Thus the calculations here are strictly illustrative. We begin with the East Asian countries, for which Williamson (2000) has calculated trade similarity indexes. Then we look at South America and Africa, where these indexes remain to be calculated.

Table 2.7. Direction of Trade of East Asian Economies Excluding Intra-group Trade in 1994
(percentage)

	X	China M	Total	X	Hong Kong M	Total	X	Indonesia M	Total	X	South Korea M	Total	X	Malaysia M	Total
United States	28.5	18.0	23.2	40.9	17.9	31.0	24.7	14.7	20.2	30.8	24.9	27.4	36.0	24.3	29.7
Japan	28.6	33.9	31.3	9.8	39.0	22.4	45.4	40.1	43.0	20.3	29.2	27.4	20.3	39.0	30.4
Western Europe	21.2	25.4	23.3	28.2	28.9	28.5	25.8	31.0	28.1	16.9	17.1	17.0	24.7	24.2	24.4
Rest of Western Hemisphere	4.9	5.1	5.0	7.8	2.7	5.6	3.0	4.9	3.8	9.7	5.4	7.3	4.2	2.1	3.0
Rest of World	16.8	17.6	17.2	13.2	11.5	12.5	1.1	9.3	4.8	22.3	23.4	22.9	14.8	1.5	12.5
Deviation from weighted average	23.3	11.4	14.9	22.4	18.4	12.5	55.2	27.3	39.2	24.5	24.6	22.9	6.7	21.8	10.8
	X	Philippines M	Total	X	Singapore M	Total	X	Chinese Taipei M	Total	X	Thailand M	Total	X	Weighted Average M	Total
United States	50.4	26.0	35.6	35.2	24.1	29.0	55.1	24.8	37.7	35.4	14.9	23.1	36.7	21.4	28.6
Japan	19.7	34.1	28.4	13.2	3.5	7.7	21.1	34.6	28.9	27.5	40.1	35.1	20.8	31.0	26.2
Western Europe	23.2	16.5	19.2	26.5	53.8	41.7	14.3	24.3	20.0	26.9	23.2	24.7	22.7	22.7	25.4
Rest of Western Hemisphere	3.2	3.6	3.4	4.0	2.0	2.9	9.5	3.9	6.3	3.7	2.8	3.1	6.4	3.7	5.0
Rest of World	3.5	19.8	13.4	21.2	16.7	18.7	0.0	12.4	7.1	6.5	19.1	14.1	13.4	16.2	14.9
Deviation from weighted average	28.4	22.6	18.4	23.1	58.5	41.1	43.7	14.4	26.1	21.6	24.0	17.7			
Weights for the common basket						Weights for the common basket						Weights for the common basket			
US dollar						Japanese yen						DM			
38.1						32.6						29.3			
39.7						31.0						33.8			
29.3						29.3						26.8			

Notes: X = exports; M = imports. Figures for Chinese Taipei are a mix of data reported by Chinese Taipei and its trading partners.

Source: Williamson, Working Document, IIE, 2000.

East Asia

Williamson computes trade similarity indexes for the East Asian countries. He shows that, of the nine countries listed in Table 2.7, all but Indonesia (surprisingly!) has at least half of its principal competitors in the region. Each except Indonesia and the Philippines is one of the principal competitors of at least four other countries in the region. Singapore differs from the other countries in the low proportion of its trade with Japan, as shown in Table 2.7. Williamson computes external trade shares for each of the countries, and provides weights for a common three-currency basket for all nine countries, eight excluding Singapore, and six excluding further Indonesia and the Philippines. These weights are shown at the bottom of Table 2.7. The variation among the weights depending on the number of countries is minimal. For simplicity and transparency, we could approximate these weights by 1/3 each on the dollar, the euro and the yen.

South America

Trade shares for selected South American countries are shown in Table 2.8, taken from Bénassy-Queré and Cœuré (2000). These exclude trade within Latin America. In Table 2.8 two groups stand out. Except for Argentina's exports to the United States, Argentina, Brazil, Colombia and Ecuador have external trade dominated by the United States and the EU. These are all Atlantic countries. This group could use $\frac{1}{2}$ weights for the dollar and the euro. Argentina and Brazil are already tied in Mercosur, and Argentina recently moved to these weights for its commercial transactions. A trade similarity calculation would have to be used to ask whether these four countries, and possibly others, could form a cohesive group. The other group is the Andean pair, Chile and Peru. They have a more substantial weight on trade with Asia, so that $\frac{1}{3}$ weights on the three currencies might be more appropriate.

Table 2.8. Latin American Trade Share, 1997

	United States	Japan and Other Asia	EU
A. Exports			
Argentina	20.2	9.9	29.5
Brazil	25.5	12.0	27.5
Colombia	36.8	11.3	19.3
Ecuador	31.8	10.5	17.8
Chile	23.9	17.1	21.3
Peru	25.8	12.6	18.3
B. Imports			
Argentina	8.7	10.4	18.3
Brazil	17.4	15.5	25.2
Colombia	38.3	3.8	22.5
Ecuador	36.5	12.1	18.7
Chile	13.1	35.2	26.1
Peru	27.2	25.2	21.6

Source: Bénassy-Queré and Cœuré, Working Document No. 2000-10, CEPII (2000).

Africa

While trade similarity indexes have not been calculated for the Sub-Saharan African (SSA) countries, it seems likely that they would show strong competition among them. This would be in exporting agricultural and mineral products mainly to Europe, and importing capital goods and industrial inputs, again mainly from Europe. Shares in total trade for the United States, the EU and Japan for the African countries are shown in Table 2.9, calculated from the IMF Directions of Trade. Surprisingly, two groups are evident in Table 2.9: West and East Africa. West Africa has substantial trade with the United States. Its external trade is about 1/3 with the United States and 2/3 with the EU. These might be appropriate starting weights for discussion on West Africa. The EU dominates East Africa's trade. Thus simply stabilising the real exchange rate vs. the euro might be best in the case of East Africa.

Table 2.9. **Shares in Total Trade in Africa**
(percentages)

	United States	EU	Japan
Cameroon	3.7	61.5	2.6
Chad	4.1	53.7	1.7
Congo	18.3	25.7	0.2
Central African Republic	1.4	70.2	1.4
Equatorial Guinea	27.8	42.5	4.5
Gabon	33.6	41.2	1.4
CEMAC Total (A)	20.6	44.4	1.7
Benin	5.0	38.7	2.8
Burkina Faso	1.7	35.6	2.1
Côte d'Ivoire	6.2	45.6	1.1
Guinea-Bissau	0.6	25.8	0.6
Mali	2.7	30.6	0.6
Niger	2.0	39.5	10.5
Senegal	2.8	50.5	3.2
Togo	1.9	22.9	1.5
UEMOA Total (B)	4.4	41.3	1.9
CFA Franc Zone (A+B)	11.2	42.6	1.8
Cape Verde	2.4	82.9	0.0
Gambia	5.0	49.5	3.0
Ghana	8.6	41.5	2.9
Guinea	13.1	50.1	1.5
Liberia	2.0	29.3	0.0
Nigeria	25.8	32.4	2.4
Sierra Leone	6.0	36.6	0.7
Other Western Countries	18.5	35.1	2.1
Kenya	5.8	34.9	3.7
Madagascar	4.5	47.3	4.7
Mozambique	3.9	12.3	3.8
Rwanda	15.1	24.4	2.3
Sudan	0.4	31.0	5.1
Tanzania	5.3	25.0	8.4
Uganda	4.0	35.4	4.5
Zambia	3.6	23.5	6.8
Zimbabwe	5.3	28.4	5.6
Other Eastern Countries, Total	4.7	29.4	5.1

Source: Direction of Trade, 1998.

Conclusions

Since the collapse of the Southeast Asian economies the idea that developing countries should, or would inevitably choose between two extreme exchange rate regimes, hard peg or float (corner solutions), has become a conventional wisdom. The US Treasury proposed in 1999 that this be a condition for IMF support. This paper argues that intermediate regimes that stabilise the real effective exchange rate against a currency basket are better than the corners. This would result in a crawling band for the nominal rate. We also argue that this form of management should be used by groups of countries that have similar trade patterns using a common basket. This would spread speculative pressure instead of focusing it on one country at a time. Illustrative weights for five groups of countries are calculated.

The basic conclusion of the chapter is that not only do developing countries not move to corner solutions, but that they should not. Stabilising the REER in groups and relying on domestic policy to stabilise internally is a better option.

Bibliography

- BÉNASSY-QUÉRÉ, A. AND B. CŒURÉ (2000), "Big and Small Currencies: the Regional Connection", CEPII Working Paper No. 2000-10, June.
- BLISS, C. AND J. BRAGA DE MACEDO (1990), *Unity with Diversity in the European Economy: the Community's Southern Frontier*, Cambridge University Press, Cambridge.
- BRAGA DE MACEDO, J. (2000), *Financial Crises and International Architecture: A "Eurocentric" Perspective*, OECD Development Centre Technical Paper No. 162, August.
- BRANSON, W.H. (1994), "German Reunification, the Breakdown of the EMS, and the Path to Stage Three", in D. COBHAM (ed.), *European Monetary Upheavals*, Manchester University Press, pp. 16-28.
- BRANSON, W.H. (1991), "Exchange Rate Policies for the EFTA Countries in the 1990s", EFTA Occasional Paper No. 35, June.
- BRANSON, W.H. (1983), "Economic Structure and Policy for External Balance", IMF Staff Papers V. 30, No 1.
- BRANSON, W.H. (1981), "Exchange Rate Objectives and Monetary Policy in Singapore", Monetary Authority of Singapore (ed.), *Papers on Monetary Economics*, Singapore University Press, Singapore.
- BRANSON, W.H. AND J. BRAGA DE MACEDO (1996), "Macroeconomic Policy in Central Europe", Pew Papers No 1. Center of International Studies, Princeton, N.J.
- BRANSON, W.H. AND J. BRAGA DE MACEDO (1989), "Smuggler's Blues at the Central Bank: Lessons from Sudan", in G. CALVO *et al.* (eds.), *Debt, Stabilisation and Development*, Basil Blackwell, London.
- BRANSON, W.H. AND J. BRAGA DE MACEDO (1982), "The Optimal Weighting of Indicators for a Crawling Peg", *Journal of International Money and Finance*, August.
- BRANSON, W.H., J. BRAGA DE MACEDO AND J. VON HAGEN (1998), "Macroeconomic Policy and Institutions during the Transition to European Union Membership", NBER Working Paper No. 6555, May.
- BRANSON, W.H. AND L.T. KATSELI (1982), "Currency Baskets And Real Effective Exchange Rates", in M. GERSOVITZ *et al.*, (eds.), *The Theory and Experience of Economic Development*, George Allen and Unwin, London.

- BRANSON, W.H. AND L.T. KATSELI (1981), "Exchange Rate Policy for Developing Countries", in S. GRASSMAN AND E. LUNDBERG (eds.), *The World Economic Order: Past and Prospects*, Macmillan, London.
- BRANSON, W.H. AND L.T. KATSELI (1980), "Income Instability, Terms of Trade, and the Choice of Exchange Rate Regime", *Journal of Development Economics*, March.
- CALVO, G.A. AND C.M. REINHART (2000), "Fear of Floating", mimeo.
- EICHENGREEN, B. AND C. WYPLOSZ (1993), "The Unstable EMS", *Brookings Papers on Economic Activity*, 1, pp. 51–125.
- FRANKEL, J.A. (1999), "No Single Currency Regime is Right for all Countries or at All Times", International Finance Section, *Essays in International Finance* No. 215, Princeton, N.J.
- FRANKEL, J.A. S. SCHMUKLER AND L. SERVEN (2000), "Global Transmission of Interest Rates: Monetary Independence and the Exchange Rate Regime", World Bank, Washington, D.C.
- HABERLER, G. (1937), *Prosperity and Depression*, League of Nations, Geneva.
- HAUSMANN, R. (1999), "Should There Be Five Currencies or One Hundred and Five?", *Foreign Policy*, Fall, pp. 65–79.
- MUNDELL, R.A. (1962), "The Appropriate Use of Monetary and Fiscal Policy for External and Internal Balance", *IMF Staff Papers*. IX, No. 1, March, pp. 70–79.
- PADOA-SCHIOPPA, T. (1987), *Efficiency Stability and Equity: A Strategy for the Evolution of the Economic System of the European Community*, Oxford University Press, Oxford.
- REINHART, C.M. (2000), "The Mirage of Floating Exchange Rates", *American Economic Review*, v. 90, No. 2, May, pp. 65–70.
- WILLIAMSON, J. (1996), *The Crawling Band as an Exchange Rate Regime: Lessons from Chile, Colombia, and Israel*, Institute for International Economics, Washington, D.C.
- WILLIAMSON, J. (2000), "Exchange-rate Regimes for Emerging Markets: Reviving the Intermediate Option", mimeo, Institute for International Economics, Washington, D.C.

The Case for Hard Pegs in the Brave New World of Global Finance

Guillermo A. Calvo

Background*

As a first approximation, recent currency crises in emerging economies (EM) can be likened to hurricanes. They came from nowhere, caused major destruction and left with the same force, leaving residents astounded, confused and apprehensive. Right after the Tequila 1994/95 crisis, observers quickly arrived at the conclusion that affected countries were punished for not heeding the commandment: Thou shalt save. However, the ravaging winds in Asia that followed soon after raised serious questions about this kind of explanation. Asians had taken the commandment to heart and, if anything, had gone beyond the call of duty. Thus, the consensus view started to focus on the foreign exchange regime as a reason, although there was no holy commandment that gave any guidance in this respect. A hurricane explained by a small fly in the ointment?

Sudden Stop

Calvo and Reinhart (1999) show that currency crises are associated with major contraction in international credit (sudden stop). For example, capital inflows have exhibited cuts ranging from 10 to more than 20 per cent of GDP in recent crises. These cuts are too large to be explained by strictly economic factors in periods of relative tranquillity. Therefore, a plausible conjecture is that external factors played a key role (e.g. contagion) coupled with serious structural deficiencies that could give rise to multiple equilibria. In this respect, a weak domestic financial sector is a natural suspect.

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First, as shown in Kaminsky and Reinhart (1999) currency crises are usually accompanied by banking crises (the twin crises phenomenon). Second, the unholy combination of credit and payment system in the banking sector implies that banking crises reverberate all over the economic system. This often leads to bank bailouts that involve the sacrifice of a large stock of international reserves, and seriously compromise government's credibility. The effect on government's credibility is the more serious because it contributes to the government's loss of access to international capital. These bailouts are therefore financed by higher taxes and inflation, dealing a real shock on the private non-financial sector. This leads to a smaller demand for credit.

Liability Dollarisation

What if, in the midst of a hurricane, authorities refuse to defend the exchange rate, and let it go through the roof? Some observers claim that this policy would have minimised the damage. At first sight, this may look right. Certainly, reserves' drainage provoked by a run on domestic currency would stop. However, this view misses a very important point: a key characteristic of EM is liability dollarisation (LD), i.e. that financial contracts are expressed in foreign currency (say, dollars). For example, the proximate cause of Mexico's 1994/95 crisis was the government's inability to roll over its short-term dollar-denominated debt (*tesobonos*). A flexible exchange rate would not have helped to stem the reserves drainage due to that. Furthermore, a large devaluation under these circumstances could be highly damaging for the domestic financial system. Unless debtors are fully hedged — which is unlikely unless the government offers hedging instruments, like Brazil in 1998 — a large devaluation will wreak havoc in the financial system; bankruptcies will show a sharp increase and banks' loan portfolios will deteriorate. In fact, this is the kind of consideration that prompts central bankers to avert major swings in the exchange rate.

Moral Hazard

Those who believe that “pegged-exchange-rates did it” may not be persuaded by the above argument. Risky LD positions could themselves be a result of the expectation that the government will come to the rescue as pressure on the currency mounts, making its international reserves available to those that are subject to currency risk. This is an interesting argument. If relevant, the key would be to convince the private sector that the central bank would never again be an LOLR no matter what. This is very hard. It is not even obvious that it would be optimal to operate the economy without an LOLR. Sovereign countries are subject to risks that cannot be ensured by the private market because they emanate from their political authorities. For instance, individual banks may be unable to borrow in case of a systemic crisis because their counterparts may fear that the government where these banks are located may impose foreign exchange controls. Hence, government can only ensure them.

LOLR are also a feature of advanced economies. How come problems appear to be so much less severe there? An answer is that the LOLR in advanced economies is able to borrow (it really is the borrower of last resort), while, as noted above, during crises EM see their borrowing capacity precipitously shrink.

Why Sudden Stops?

The discussion leads us back to the sudden stop issue. In the absence of sudden stops, it is not obvious that pegged exchange rates would have been damaging, and even that currency crises would have occurred, in the first place! In my opinion, the key problem of EM is captured in their name, i.e. they are nascent capital markets.

Capital flows to EM exhibited a sharp increase from 1989, shrank a little during the Tequila crisis in 1995, suffered another setback during the Asian crisis in 1997, and received a major blow after the 1998 Russian crisis. Since then, portfolio capital has only hesitantly come back to life. In the meantime, however, a new breed has been blooming, especially in Latin America, namely, foreign direct investment. Portfolio capital inflows that dominated the scene from 1989 to 1998 can be argued to stem from the development of the market for Brady bonds. These bonds signified a repackaging of non-performing sovereign debt originally held in bank portfolios. Their marketability gave rise to an interest in EM that resulted in *better information* about these nascent markets. Consequently, fresh-minted EM debt obligations could more easily find their way to the market, generating a sharp increase in portfolio capital inflows. The basis for these flows, however, was somewhat fickle. Their market was not very liquid. A sale by a major holder or low prices in new bond issues had a major impact on the EM market. The reason for this is that although market information was better than before, EM suffered from a series of structural weaknesses (e.g. new political configurations) that made information rapidly obsolete. Besides, the market value of an asset does not only depend on information available to *specialists*. Non-specialists who rely on the advice of specialists hold the bulk. Thus, when specialists suffer a liquidity crunch — as it reportedly happened during the 1998 Russian default — non-specialists become like chicken without a head, switch into panic, and shy away from EM paper unless it falls to a fraction of its real value. The counterpart of this run to safety is a sudden stop [see Calvo (2000a) and Calvo (1998)].

What to Do

A useful policy discussion to prevent recurrence of recent crises has to address the above issues head-on. Taking “best practices” from advanced economies will not do, and could be harmful. Alan Greenspan (Chairman of the US Federal Reserve Board) can shake the markets with a subtle hint or 25 basis points. Not so in EM where the central banker may have to tie himself to the mast or a currency board to command any respect. When sudden stops are possible, emphasis should be on credibility.

The Exchange–Rate System: The Case for Hard Pegs

The exchange rate is a side show, almost a distraction, compared to the hurricane story. Swept by the strong winds, governments sacrifice all their possessions to mitigate the pain. Down the drain go international reserves, and the exchange rate rises to the sky like an unguided missile. Witness the recent devaluations in Korea, Brazil and Mexico. Although so far the outcome of these devaluations has been surprisingly favourable, they give us no basis to conclude that exchange–rate flexibility is desirable for EM. We saw “exploding” exchange rates; not flexible exchange rates as understood in advanced economies such as that of the United States.

Let me start by defining two key concepts: Hard peg and flexible or floating exchange rates. The definition of a hard peg (HP), is straightforward. It corresponds to fixing the exchange rate to a hard currency, and holding enough reserves to back up the peg (e.g. through holding a stock of international reserves equal to the money base). Full dollarisation is an example. The definition of flexible exchange rates, on the other hand, is much more problematic. The textbook definition is a system in which the monetary authority sets money supply and lets prices and the exchange rate free to reach their market equilibrium levels. However, few countries follow this practice. A system that is becoming very popular these days is inflation targeting (IT), where the central objective of the monetary authority is to achieve a predetermined rate of inflation. It can be shown that HP is a special case of IT because the former targets the price of foreign exchange, while the latter targets the price of a basket. However, as long as foreign exchange is not the only type of good contained in the basket, the exchange rate will show some flexibility under IT. Therefore, IT could be classified as a system of flexible exchange rates. Given its current relevance in policy discussion, I will centre my comments on IT, its similarities with an HP, and the relative advantages and disadvantages of each system.

Lender of Last Resort

A major concern about HP and IT (that most people wrongly identify exclusively with HP) is that the central bank might be forced to abandon the role of the LOLR. However, this need not be the case. An effective LOLR (like the US Fed) is able to borrow in order to lend to a troubled banking sector. Printing money is not essential and, at best, it solves one problem by creating another — high inflation.

However, a key obstacle faced by EM, as noted above, is a sudden stop. Thus, the relevant question is whether an LOLR that is not able to borrow can improve the situation by issuing money to bail out banks, letting the exchange rate go through the roof. A moment’s reflection shows that the answer is far from obvious. First, a large devaluation could exacerbate the currency mismatch problem, worsening financial difficulties. Second, if credibility is a central issue, monetary policy is bound to become largely ineffective and possibly lead the monetary authority into discretionary policy, further impairing credibility.

Understandably, however, many a policymaker will be concerned about the inability of printing money to bail out the banking system implied by HP and (a credible) IT, and adopt some variant of a soft peg. The option is not cheap. Aside from the considerations laid out at the outset, if the public is aware that the LOLR will resort to inflationary finance to bail out the banking sector, inflationary expectations will rise, increasing the level of domestic interest rates. High domestic interest rates, in turn, become high real interest rates in tranquil periods (called the peso problem in the literature), which leads to a deterioration of banks' loan portfolios. Actually, to prevent this from happening, banks may offer indexed deposits, which increase the inflationary consequences of bank bailouts. This is so because inflation will likely be much less effective in lowering the real value of indexed bank liabilities. Therefore, keeping the option of inflationary bailouts may create financial difficulties and eventually make the LOLR largely ineffective.

Another concern with HP or IT is that monetary policy could not be used to offset shocks that require possibly painful and time-consuming changes in relative prices. For example, a negative terms-of-trade shock may call for lower equilibrium real wages. If the adjustment is not facilitated by monetary policy, this situation may lead to protracted unemployment. This is an argument in favour of flexible exchange rates (textbook version) popularised by the optimal currency area literature. The main problem with the argument is that it ignores the financial angle. In the context of the present example, a devaluation may tend to solve the unemployment problem but it may deepen financial difficulties.

HP vs. IT

As shown by Chile's experience with IT, this system could be effective in ameliorating the LD problem highlighted above. In Chile most domestic financial contracts are denominated in terms of a price index. This has reportedly helped to develop the market for long-term loans (e.g. mortgages). The same is true for HP, as shown by the experience of Hong Kong (currency board) and Panama (full dollarisation). However, an advantage of HP over IT is transparency. The exchange rate, in contrast with a price index, is easily observable, and the information is available with virtually no time lag. Moreover, under IT the central bank can only indirectly influence the relevant price index, in contrast to full dollarisation, for example, in which the exchange-rate peg is automatic. All of this is highly relevant for cases in which policy or policymakers credibility is a major issue. Another advantage of HP over IT is that many EM are already partially dollarised, and IT is unlikely to revert that pattern.

A major concern with HP, and especially full dollarisation, is its irrevocability. Abandoning a HP is totally transparent. Anybody can see and testify about it. IT, on the other hand, gives more degrees of freedom. Nobody expects the target to be hit on the nose at all times. Moreover, given price stickiness, the policymaker can momentarily gear monetary policy to purposes other than inflation control. These are positives in a

context of high credibility. However, this is not the relevant context for most EM, as pointed out above. The spectre of a sudden stop constantly hangs over these economies. The public knows that and, as a result, is always looking over the shoulder of the policymaker for a clue on his/her future actions. An awkward move quickly triggers a loss of credibility (see Calvo, 2000b).

A large body of evidence shows that exchange-rate volatility in EM is significantly smaller than in advanced countries, a phenomenon that is labelled fear of floating. This appears to be a result of liability dollarisation and high pass-through coefficients (which measure the speed of transmission of devaluation into inflation) — see Calvo and Reinhart (2000). Thus, fear of floating seems to be a reflection of fear of financial collapse and fear of inflation. This situation is unlikely to be reversed at short notice. Therefore, IT may end up operating much like a HP without the benefit of strong commitment to fixing the exchange rate. Without such commitment interest rates may remain high and volatile.

In summary, IT has no clear advantage over a HP, and the credibility of IT is difficult to establish. It would be a serious mistake to let one's choice be guided by the sirens' song of the extra degrees of freedom provided by IT.

This should not be taken to imply that HP automatically carries an economy to the bliss point. HP has to be supplemented by adequate institutions and regulatory conditions. For example, it is essential that government wages and regulated prices show a high degree of flexibility. Otherwise, the full brunt of adjustment will fall upon the private sector, increasing the pain of a recession and triggering social unrest. Thus, inflexibility of public sector wages will generate larger fiscal deficits during recession. If these recessions are accompanied by sudden stop, the fiscal authority will have to resort to higher taxes (because loans would not be available), deepening recession (the recent experience in Argentina illustrates this point).

Bibliography

- CALVO, G.A. (1998), "Capital Flows and Capital Market Crises: The Simple Economics of Sudden Stops," *Journal of Applied Economics*, CEMA, Argentina, Vol. 1, No. 1, November 1998, pp. 35–54.
- CALVO, G.A. (2000a), "Capital Markets and the Exchange Rate: With Special Reference to the Dollarisation Debate in Latin America", manuscript, April 14. Available online: www.bsos.umd.edu/econ/ciecalvo.htm.
- CALVO, G.A. (2000b), "Capital Flows or Capital Flaws?", presented at the conference International Financial Markets: The Challenge of Globalisation, Texas A & M University, College Station, Texas, 31 March.
- CALVO, G.A. AND C.M. REINHART (1999), "When Capital Inflows Come to a Sudden Stop: Consequences and Policy Options", manuscript, June 1999. Available online: www.bsos.umd.edu/econ/ciecalvo.htm.
- CALVO, G.A. AND C.M. REINHART (2000), "Fear of Floating: Theory and Evidence," manuscript, April. Available on line: www.puaf.umd.edu/papers/reinhart.htm.
- KAMINSKY, G.L. AND C.M. REINHART (1999), "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems", International Finance Discussion Paper No. 544, March 1996. Washington: Board of Governors of the Federal Reserve. Published in *American Economic Review*, Vol. 89, No. 3, June 1999, pp. 473–500.

Exchange Rates in Transition

*Brigitte Granville**

Introduction

Increased capital mobility coupled with rather violent exchange and payment crises of the 1990s has led contemporary economists to rethink exchange-rate arrangements. Despite this effort, progress to date has been rather modest: the most robust theoretical conclusion being that “no single currency regime is right for all countries or all time”¹.

This paper examines exchange-rate arrangements with regard to countries in transition. At the beginning of the transition process, fixed exchange rates played a special role in anchoring the price level and relative prices. With time, under pressure of capital flows, fixed exchange rates came under strain leading to the recommendation that countries should adopt “crawling peg”. But during the 1990s financial crises, crawling peg regimes were swept away leading to today’s consensus that, given capital mobility, the choice is between flexible and very hard peg exchange-rate arrangements.

As the transition process progresses, the rationale for the exchange rate acting as an anchor to price levels loses its special importance and the exchange rate becomes only one part of the overall economic strategy. At present, the countries of central and Eastern Europe (CEECs) aspire to be part of the EU, with its Economic and Monetary Union (EMU). None of them currently meets all the Maastricht qualification criteria (on inflation, government deficit, public debt, long-term interest rates and exchange-rate stability), but these criteria are used as benchmarks in shaping their economic policy².

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The question is not whether the CEECs should join the EMU but whether there are risks involved with their exchange–rate strategy given the capital account liberalisation required under Maastricht. The choice they face is threefold: currency boards, a band around an adjustable parity, i.e. ERM2, or flexible exchange rates³.

Hard Pegs: Currency Board Arrangements (CBA)

I tend to follow Roubini (1998) in failing to see what is so magical about currency boards and so different from fixed exchange rates. For instance, a currency board has been suggested for Russia⁴. But high volatility of trade and dependence of the economy on primary exports require the central bank to be able to sterilise capital flows. However it just happened that after the August 1998 internal debt default and the collapse of the government bond market, the central bank had nothing to sterilise with⁵. A CBA would introduce such large fluctuations in the monetary base of the economy that it would have a deeply destabilising influence. The credibility of such a system is said to be achieved because the monetary authorities' loss of freedom to print money is set by law, so the political cost of altering such exchange–rate regimes is high. But similar to all other fixed exchange–rate regimes, if the fiscal position is unbalanced and the banking sector poorly regulated, there is little chance for such a system to survive a speculative attack. It is revealing for instance that Estonia is planning to abandon its currency board.

Indeed:

Due to increasing capital inflows (parallel to an increasing trade deficit) and an economy near overheating, the real exchange rate has experienced that familiar peg phenomenon, a substantial real appreciation. The lack of a more sophisticated set of macroeconomic policy tools, which would enable the monetary authority to cool down the economy and achieve a sustainable external balance, places doubts on the long–term prospects of the CBA.⁶

Intermediate Exchange Arrangements: Crawling Pegs

Under crawling pegs, the central bank has two targets: the monetary base and the band of the crawling peg. Capital flows create conflict between these two targets. An open capital market immediately confronts the monetary authorities with a decision over controlling interest rates or the exchange rate. This has led to the identification of the principle named as the “open economy trilemma”⁷. That is, countries cannot simultaneously maintain independent monetary policies, pegged exchange rates and an open capital account.

While the convention is that a peg (crawling or galloping) has become “understood as a band in which the margins on either side of the central parity are less than or equal to 2.25 per cent”⁸. The trilemma cannot be solved, or even eased, by the actual width of the band either side of the central parity. The experiences for instance of Portugal and Spain in 1995 illustrate well this point:

The ERM2 mechanism, which will link the euro to non-euro EU currencies, is intended to be more flexible than the ERM of the early 1990s, since bands are considerably wider. However, it needs to be recognised that in March 1995, strong pressures within the wider bands also developed, leading to the devaluation of the peseta and escudo. In practice, well before exchange rates reach the 15 per cent limit of fluctuations, strong expectations of realignment develop, forcing changes in a crisis atmosphere.⁹

Russia provides another example of the risks involved whatever the width of the bands. In July 1995, an exchange-rate anchor was introduced. It took the form of an exchange-rate corridor or band whose outer limits were set for first three then six or 12 months at a time, allowing the rouble to fluctuate within a total range of about 12 per cent. The band itself was adjusted moderately downwards against the dollar in successive periods, in such a way as to allow the rouble exchange rate to remain approximately constant in real terms, i.e. to depreciate by the excess of Russia's inflation rate over the average inflation rate of the outside world.

These exchange-rate arrangements lasted until the autumn of 1997, when they were modified to take account of the strong capital inflows of the previous year. The exchange rate had played a key part in attracting these foreign capital inflows into Russian T-bills (GKO's), since the dollar returns on GKO's depended on the credibility of the rouble peg; and this credibility was enhanced by the effects of these very same inflows. The modified exchange-rate regime involved longer-term targeting of the central rate and greater fluctuation on either side (up to 15 per cent) around an annual average exchange rate¹⁰.

Still, here the “open economy trilemma” was rearing its head for the first time. Opening the gates to capital inflows had forced an unwelcome loosening of monetary policy, leading the authorities to adapt exchange-rate arrangements to accommodate possible rouble appreciation in the face of these inflows. No sooner had this change been announced, however, than the Asian crisis broke, and the trilemma reappeared in the polar opposite sense. The question now was whether the peg could resist pressure for devaluation.

The Asian crisis reversed almost overnight the direction of financial flows out of emerging markets. But in the absence of effective domestic financial intermediation, the Russian government depended on these foreign inflows to finance its chronic budget deficit, or at least to refinance the considerable stock of short-term domestic debt,

which it had rapidly accumulated to finance that deficit over the previous two years. Yet the newly risk-averse foreign investors were even less inclined to finance the Russian budget owing to the second effect of the Asian crisis. This was a massive terms of trade shock through the fall of the oil price and hence the budget's commodity rents on which the government's creditworthiness was largely dependent.

In these circumstances where the government was trying to limit outflows, imposing capital controls was out of the question. Capital account liberalisation had been done in the first place to allow foreign financing of the budget deficit, and to reverse this would have meant default. The same went for devaluation: all hope of luring back the foreign money would have disappeared if the peg had been abandoned and \$ GKO returns destroyed. So the element in the trilemma which had to give was monetary policy. The central bank's refinancing rate was raised to 150 per cent in May 1998. But this was no real solution, for the incentive was perverse. For investors were less attracted by the prospect of extraordinarily high real returns than they were deterred by the doubts which ever higher interest rates created as regards the government's ability to meet the consequent rising debt service costs. Hence the perception of increasing default risk. This perception led the market to expect that the government would be forced to surrender the exchange-rate peg.

Perhaps an early devaluation would have offered an escape route. But the authorities had compelling reasons for defending the peg. Some of these reasons were contingent (such as the vulnerability of the domestic banking system to the foreign exchange hedges it had sold to foreign GKO investors); but others were better founded. Any significant devaluation would cause a sharp increase in the CPI due to the predominance of imported goods in food¹¹ and other consumer product markets. Over the longer term moreover, exchange-rate stability would assist the repatriation of flight capital, by making the rouble more credible as a financial asset worth holding. And until that effect had been achieved, with a normal level of domestic savings available for government and private sector financing needs, a stable real exchange rate would be essential to attract private voluntary international capital. (This was a strategic consideration, going beyond the immediate emergency over T-bill refinancing.)

The only true escape from the trilemma, and hence avoidance of the crash of August 1998 with combined devaluation and default, would have been to remove fiscal imbalances. But it was only in the emergency created by the "Asian" crisis that the political will crystallised for decisive fiscal action. By then, there was too little time left to overcome all the obstacles, whether external (market confidence) or domestic (political opposition).

Flexible Exchange Rates

Therefore flexible exchange–rate arrangements seem the most attractive arrangement. But the definition of “flexibility” is extremely loose. For instance, according to Fischer and Sahay (2000), “today, all but four countries have formally adopted a flexible regime”¹². The authors present the table below (in an abbreviated form) to support their point.

The authors’ classification makes one believe that CEECs’ exchange rates are either fixed or flexible, with “flexible” meaning either a free or a managed float (see note b, Table 4.1).

The reality is rather different since CEECs¹³ currently cover a large range of alternative exchange–rate arrangements — from very hard currency pegs to managed floats and many variations in between. This was even more so in 1998 at the time when the authors compiled their data. For instance, the authors define the exchange–rate regime of Hungary as flexible while Hungary’s crawling peg had a 2.25 per cent band and the Russian regime as fixed while the band was first set at 12 per cent then at 15 per cent.

Obstfeld (1998) comes closer to giving a definition:

The choice between fixed and floating exchange rates should not be viewed as dichotomous. In reality, the degree of exchange–rate flexibility lies on a continuum, with exchange–rate target zones, crawling pegs, crawling zones, and managed floats of various other kinds residing between the extremes of floating and irrevocably fixed. Indeed, the notion of a “free” float is an abstraction with little empirical content, as few governments are willing to set monetary policy without some consideration of its exchange–rate effects.¹⁴

Indeed,

...not stressed by the traditional literature on the choice of exchange–rate regime is the authorities’ objective function, in particular the trade–off between a desire to control inflation (that is, to provide a nominal anchor) and a wish to limit fluctuations in competitiveness or to minimise output losses.¹⁵

But when both interest rate and exchange rate are targeted, tensions always arise. One answer discussed in the literature is to adopt alternative ways to anchor inflationary expectations. A number of countries such as Poland and the Czech Republic have introduced inflation targeting. However the necessary framework (such as modelling the transmission mechanism of monetary policy, estimating the impact of exchange–rate volatility on inflation and inflationary expectations and calculating the output gap) is not yet there¹⁶. Also the share of imports in consumption makes it difficult to meet a narrow inflation target given volatile exchange rates or commodity prices.

Table 4.1. Transition Economies: Stabilisation Programmes and Inflation Performance, 1989–98

Country	Stabilisation Programme date	Pre-Programme Inflation ^a	Exchange rate Regime adopted ^b	Exchange Regime today ^b	Inflation In 1998
Albania	Aug-92	293	Flexible	Flexible	8.7
Armenia	Dec-94	1 885	Flexible/fixed ^d	Flexible	-1.2
Azerbaijan	Jan-95	1 651	Flexible/fixed ^d	Flexible	-7.6
Belarus	Nov-94	2 180	Flexible/fixed ^d	Flexible	181.7
Bulgaria ^c	Feb-91	245	Flexible	Fixed ^e	1
Croatia	Oct-93	1 903	Fixed	Flexible	5.3
Czech Republic	Jan-91	46	Fixed	Flexible	6.8
Estonia	Jun-92	1 086	Fixed ^e	Fixed ^e	4.5
Georgia	Sep-94	5 6476	Flexible/fixed ^d	Flexible	10.6
Hungary	Mar-90	26	Fixed	Flexible	10.6
Kazakhstan	Jan-94	2 315	Flexible/fixed ^d	Flexible	1.9
Kyrgyz Republic	May-93	934	Flexible/fixed ^d	Flexible	18.3
Latvia	Jun-92	818	Flexible/fixed ^d	Fixed ^f	2.8
Lithuania	Jun-92	709	Fixed	Fixed ^e	2.4
Macedonia	Jan-94	248	Flexible	Flexible	-2.4
Moldova	Sep-93	1 090	Fixed	Flexible	18.2
Poland	Jan-90	1 096	Flexible	Flexible	8.5
Romania	Oct-93	314	Fixed	Flexible	40.6
Russia	Apr-95	218	Flexible/fixed ^d	Flexible	84.4
Slovak Republic	Jan-91	46	Fixed	Flexible	5.6
Slovenia	Feb-92	288	Flexible	Flexible	7.5
Tajikistan	Feb-95	73	Flexible	Flexible	2.7
Turkmenistan	Not started	20	Not applicable	Flexible	19.8
Ukraine	Nov-94	645	Flexible/fixed ^d	Flexible	20
Uzbekistan	Nov-94	1 555	Flexible	Flexible	26.1

- a. Pre-Programme inflation is inflation in the 12 months previous to the month of the stabilisation Programme. For Turkmenistan, the figure is for the latest year available (1998). All other inflation is calculated from December to December.
- b. Fixed regimes are those that have a currency board, pegged (explicitly or implicitly) at a fixed rate or have a narrow crawling band. Flexible regimes includes those that are free or managed floating.
- c. The data of the first stabilisation attempt.
- d. Since 1995, these countries have adopted a *de facto* peg to the US dollar for one or two years.
- e. Currency board. Lithuania adopted a currency board in April 1994 and Bulgaria adopted one in July 1997.
- f. The Latvian currency was pegged to the SDR in February 1994; Russia announced an exchange rate corridor in July 1995. Both countries had flexible exchange rate regimes prior to these dates.

Sources: International Monetary Fund, *International Financial Statistics*, *World Economic Outlook*; IMF Staff estimates quoted in Fischer and Sahay (2000), Table 2, p. 35.

Conclusion

This paper contests the current “conventional wisdom” that given capital mobility, there is a straight choice between flexible and very hard peg exchange arrangements. Flexibility is very loosely defined in most cases making one wonder what really differentiates flexible from intermediate exchange–rate arrangements. Currency boards are said to be more credible than fixed exchange rates but here again the theoretical framework for such assertion is very weak and seems to rest purely on the fact that to abandon a currency board is costly, but the same is true of a fixed exchange rate. The truth is that very little progress has been made theoretically on the question of optimal exchange–rate arrangements given capital mobility. In the meantime, exchange–rate arrangements will continue to be decided on a case–by–case basis according to economic targets and fundamentals.

Notes

1. Frankel (1999).
2. See Temprano–Arroyo and Feldman (1998), Table 2, p. 9 and p. 25.
3. See Masson (1999).
4. Chown (1999).
5. Granville (2001).
6. Eden *et al.* 1999, p. 38.
7. See Obstfeld and Taylor (1998).
8. Mussa *et al.* (2000), p. 48.
9. Masson, 1999, p. 17.
10. From 1998 until December 2000 there was to have been a targeted central rate of Rbs 6.2 to the US dollar with a band of 15 per cent on either side (giving an upper limit of 5.25 and a lower limit of 7.15 to the dollar). The target for 1998 was an average rate of 6.1 to the dollar.
11. As high as 60 per cent according to official estimates.
12. Fischer and Sahay (2000), p. 8.
13. Eden *et al.* (1999), Table 4.1, p. 36.
14. Obstfeld (1998), p. 8.
15. Eichengreen *et al.* (1999), pp. 5–6.
16. Masson (1999).

Bibliography

- CHOWN, J. (1999), "Currency Boards or Dollarization – Solutions or Traps?", Briefing Paper, New Series No. 6, October, International Economics Programme, The Royal Institute of International Affairs.
- EDEN, VAN, H., A. DE GROOT, E. LEDRUT, G. ROMJIN AND L. VINHAS DE SOUZA (1999), "EMU and Enlargement: A Review of Policy Issues", Working Paper, Economic Affairs Series, ECON 117 EN, Directorate General for Research, European Parliament, Luxembourg.
- EICHENGREEN, B., P. MASSON, M. SAVASTANO AND S. SHARMA (1999), "Transition Strategies and Nominal Anchors on the Road to Greater Exchange–Rate Flexibility", Essays in International Finance, No. 213, April, International Finance Section, Department of Economics, Princeton University, Princeton, N.J.
- FISCHER, S. AND R. SAHAY (2000), "The Transition Economies After Ten Years", IMF Working Paper, WP/00/30, International Monetary Fund, Washington, D.C., February.
- FRANKEL, J.A. (1999), "No Single Currency Regime is Right for All Countries or At All Times", NBER Working Paper No. 7338.
- GRANVILLE, B. (2001), "The Problem of Monetary Stabilization" in *Russia's Post-Communist Economy*, B. GRANVILLE AND P. OPPENHEIMER (eds.), Oxford University Press.
- MASSON, P.R. (1999), "Monetary and Exchange Rate Policy of Transition Economies of Central and Eastern Europe after the Launch of the EMU", IMF Discussion Policy Discussion Paper 99/5, International Monetary Fund, Washington, D.C.
- MUSSA, M., P. MASSON, A. SWOBODA, E. JADRESIC, P. MAURO AND A. BERG (2000), "Exchange Rate Regimes in an Increasingly Integrated World Economy", Advance copy, International Monetary Fund, April, Washington, D.C.
- OBSTFELD, M. (1998), "The Global Capital Market: Benefactor or Menace?", NBER Working Paper Series, Working Paper 6559, National Bureau of Economic Research, Cambridge, Ma., May.
- OBSTFELD, M. AND A.M. TAYLOR (1998), "The Great Depression as a Watershed: International Capital Mobility over the Long Run", in *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century*. M. BORDO, C. GOLDIN AND E. WHITE (eds.) University of Chicago Press, Chicago, pp. 353–402.

ROUBINI, N. (1998), "The Case Against Currency Boards: Debunking 10 Myths about the Benefits of Currency Boards", February, web site: <http://www.stern.nyu.edu/~nroubini/asia/AsiaHomepage>

TEMPRANO-ARROYO, H. AND R.A. FELDMAN (1998), "Selected Transition and Mediterranean Countries: An Institutional Primer on EMU and EU relations", IMF Working Paper, WP/98/82, June, International Monetary Fund, Washington, D.C.

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