



Work in progress  
for public discussion

WORLD BANK LATIN AMERICAN  
AND CARIBBEAN STUDIES

*Proceedings*

16251  
Jan. 1997

# Currency Boards and External Shocks

How Much Pain  
How Much Gain?



EDITED BY GUILLERMO E. PERRY

GUILLERMO CALVO

W. MAX CORDEN

STANLEY FISCHER

SIR ALAN WALTERS

JOHN WILLIAMSON



Currency  
Boards and External  
Shocks  
How Much Pain,  
How Much Gain?



EDITED BY GUILLERMO E. PERRY

GUILLERMO CALVO  
W. MAX CORDEN  
STANLEY FISCHER  
SIR ALAN WALTERS  
JOHN WILLIAMSON

THE WORLD BANK  
WASHINGTON, D. C.

Copyright © 1997  
The International Bank for Reconstruction  
and Development/THE WORLD BANK  
1818 H Street, N.W.  
Washington, D.C. 20433, U.S.A.

All rights reserved  
Manufactured in the United States of America  
First printing January 1997

The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent. The World Bank does not guarantee the accuracy of the data included in this publication and accepts no responsibility whatsoever for any consequence of their use. The boundaries, colors, denominations, and other information shown on any map in this volume do not imply on the part of the World Bank Group any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.

The material in this publication is copyrighted. Requests for permission to reproduce portions of it should be sent to the Office of the Publisher at the address shown in the copyright notice above. The World Bank encourages dissemination of its work and will normally give permission promptly and, when the reproduction is for noncommercial purposes, without asking a fee. Permission to copy portions for classroom use is granted through the Copyright Clearance Center, Inc., Suite 910, 222 Rosewood Drive, Danvers, Massachusetts 01923, U.S.A.

#### **Library of Congress Cataloging-in-Publication Data**

Currency boards and external shocks : how much pain, how much gain? /  
edited by Guillermo E. Perry ; Guillermo Calvo . . . [et al].  
p. cm. — (World Bank Latin American and Caribbean studies)  
"Proceedings."  
Includes index.  
ISBN 0-8213-3864-1  
1. Currency boards—Congresses. I. Perry, Guillermo. II. Calvo,  
Guillermo. III. Series  
HG230.5.C87 1997  
332.4'6—dc21

96-51060  
CIP



# CONTENTS

Foreword .....	v
Introduction and Summary, by Guillermo E. Perry .....	1
I. The Dilemmas of Currency Boards, by W. Max Corden .....	3
II. Features and Implications of Currency Boards: Some Thoughts about the Argentine Situation, by John Williamson .....	7
V. The Experience of Hong Kong, by Sir Alan Walters .....	11
VII. Argentina's Experience after the Mexican Crisis, by Guillermo Calvo .....	15
VIII. Closing Remarks: What Have We Learned? by Stanley Fischer .....	19
Contributors .....	23
Notes .....	25





## FOREWORD

**T**HESE PROCEEDINGS PROVIDE AN ACCOUNT OF A ROUNDTABLE DISCUSSION ON THE SUBJECT OF “External Shocks and Currency Boards: How Much Pain? How Much Gain?” held at the World Bank on October 4, 1996. The event was sponsored by the Office of the Chief Economist of the Latin America and the Caribbean Region, and its audience of more than 100 people included representatives of various national governments and central banks, the private sector, and academia, as well as staff members of the International Monetary Fund, the World Bank, and the Inter-American Development Bank.

Because the panelists, all distinguished experts in the field of international macroeconomics, had a very specialized audience at the time, some of the discussion may be unclear for readers without background on the workings of currency boards. Currency boards are institutions that replace central banks and ensure that a country’s currency can be purchased at a given price (or exchange rate) upon demand, thus imposing a fixed exchange rate on international transactions. A variety of countries have adopted such systems, including Argentina since 1991, Hong Kong since the early 1980s, and several countries undergoing transitions from planned to market-oriented economic systems. Ecuador is currently considering establishing such a system.

The key advantage of such a system is that it prohibits the use of liberal monetary policies, which can lead to high inflation. However, currency boards also limit the ability of an economy to react to changes in international economic conditions if foreign currency reserves dry up. These threats to the stability of the financial sector may come not from any domestic cause, but from economic events that originate outside the domain of national economies — so-called “external shocks,” such as the fallout from the December 1994 Mexico peso devaluation (the “tequila effect”). It was the impact of external shocks that was the focus of the World Bank discussion.

The panelists addressed the challenges countries face when operating under a currency-board system of currency exchange, with an emphasis on discussing how certain costs can be minimized while maximizing the gains. We hope the publication of these proceedings will provide stimulus to ongoing discussions regarding the costs and benefits of such monetary arrangements, not only in Latin America and the Caribbean but throughout the world.

I am grateful for the cooperation of the participants, the panelists, and the World Bank. I am particularly grateful to Daniel Lederman of the Office of the Chief Economist, who managed the event from beginning to end and edited the original transcripts. Mario del Carril made this timely publication possible. Finally, my staff, including Patricia Méndez, Elizabeth Miñosa, Jorge Forgues and Nelinda Andrés, did a wonderful job organizing the event.

— Guillermo E. Perry  
December 1996

---

---





# I. INTRODUCTION AND SUMMARY

BY GUILLERMO E. PERRY

**T**HERE IS LITTLE DOUBT THAT A CURRENCY-BOARD REGIME CAN HELP ACHIEVE DRAMATIC reductions in inflation rates. The transparency of the fixed exchange rate as a nominal anchor and the loss of monetary policy flexibility enhance the anti-inflation credibility of policy-makers. Currency boards also impose fiscal discipline because expenditures cannot be financed by printing money. However, it is also clear that in the event of negative external shocks, the loss in flexibility that a currency-board regime entails may pose threats to the stability of the financial sector and can be very costly in terms of foregone output and employment.

We did not intend the roundtable to concentrate exclusively on the issue of why or when countries may or may not benefit from establishing a currency board, because these had been the topics of a previous conference at the World Bank.<sup>1</sup> So, issues related to the installation of such a system (e.g., the initial level of reserves, the proper parity) or transitional issues (e.g., the speed of inflation convergence) were not the focus of the discussion. Instead, the discussion covered issues related to the impact of external shocks on economies already operating under this kind of regime. In particular, we were interested in understanding how to mitigate the potentially dire consequences of external shocks.

As is well known, external shocks may negatively affect the financial stability of an economy, because, as discussed by John Williamson, pure currency-board regimes do not offer a lender of last resort, which is a traditional role of central banks. On the other side of the economy, the “stickiness” of wages and prices preclude downward nominal adjustments, which would be

needed to maintain an equilibrium real exchange rate when capital flows out or the terms of trade deteriorate. Under these conditions the burden of adjustment consequently falls on the level of output and employment. The issue then is what we can do to mitigate these effects.

Reducing the probability of being hit by severe external

shocks may be a long-term endeavor. The vulnerability to trade shocks in the long run can be reduced through trade and productive diversification. With respect to shocks affecting the capital account, as long as capital flows respond to endogenous factors, a disciplined and credible macroeconomic stance seems to be crucial — although as Stan Fischer recalled in his comments, the experience of the European countries in 1992 shows that the degree of macroeconomic discipline required to maintain fixed parities is, in fact, very demanding. Moreover, even with a strong macro stance, consolidating credibility may take time, especially when weak credibility was the reason to institute a currency board in the first place. Unfortunately, as Max Corden reminded us, capital flows also respond to exogenous factors, which are not related to domestic economic or political events. So, what else can be done besides maintaining fiscal discipline?

Let us look first at the issue of the vulnerability of the financial sector and potential alternatives to a domestic lender of last resort. The historical experience with currency-board type regimes — such as that of Hong Kong prior to 1972 and more recently since 1983, which has been successful, according to Sir Alan Walters, and that of the U.S. states before the Federal Reserve — have shown that modifications in the regulatory structure can reduce the need for a lender of last resort. Hong Kong, for example, has a highly concentrated banking system with a highly diversified international portfolio, which has permitted the Exchange Fund to make limited use of reserves to support very small banks during times of distress. Several U.S. states during the era of free banking permitted banks to branch out within states, which reduced the number of small banks and also encouraged diversification. In general, regulations that permit greater concentration of the banking sector and portfolio diversification tend to reduce (but not eliminate) the need for a public lender of last resort.<sup>2</sup>

Turning to the case of Argentina, we see that permitting the internationalization of the financial sector can help both to reduce the vulnerability of banks to negative external shocks and to smooth out capital flows, because foreign-owned subsidiaries can draw from credit lines to their parent banks when confronted with negative external shocks. Although for good reasons, such as better client knowledge, countries like Argentina are likely to maintain a sizable domestic banking system, they also may obtain such “cushion effect” from swap arrangements, such as the one that the Argentine Central Bank signed recently with some foreign banks.

It is also evident, however, that regulatory arrangements

cannot eliminate systemic risks, and ultimately, if the swap arrangements and international private credit lines are not enough, either the Argentine Central Bank or the fiscal authorities will need to provide funds to prevent potential collapses of the payments system. In fact, the experience of Estonia has taught us that even while some banks are closed in the midst of a systemic crisis, government lending can minimize the losses.

Generally, there seems to be a trade-off between the use of reserves to support convertibility or to support the banking system. In practice there may be a need for public institutions to play some limited role of lender of last resort in order to maintain the convertibility of the currency, as long as deposits are allowed to be withdrawn in cash. Guillermo Calvo argued that in fact, in the Argentine case, where a large share of deposits are in dollars, a devaluation could have made the financial crisis even worse.<sup>3</sup>

It may be true, however, that in the long run banks with no access to a lender of last resort may become very conservative, because the moral hazard is eliminated. As Stan Fischer pointed out in his presentation, the existence of a currency board may produce healthy pressures. As international experiences have demonstrated, in the short run it may be wise to accumulate excess international reserves, strengthen supervision, establish high reserve or liquidity requirements — as the Argentines have done — and to have either the government or an independent specialized agency to act as a limited lender of last resort.

Regarding the impact of external shocks on employment and economic activity besides their impact on the financial system, Max Corden emphasized that reforming the labor market should be the first item on the agenda. The remaining question is how much and how fast it will contribute to achieving downward nominal wage and nontradable price flexibility. Sir Alan Walters emphasized that Hong Kong has a very flexible labor market. (It would be interesting to know how much the currency-board regime has contributed to this development.) Corden also reminded us that to the extent that employment can be affected by counter-cyclical fiscal policies, a country that has gained credibility and a high level of reserves could eventually attempt to use fiscal policies to counter negative shocks.

These were some of the issues covered during the roundtable discussion. Professor Max Corden led the way, followed by Dr. John Williamson, Sir Alan Walters, and Professor Guillermo Calvo. Dr. Stanley Fischer provided the final remarks.



## II. THE DILEMMAS OF CURRENCY BOARDS

BY W. MAX CORDEN

I ACTUALLY CAME PREPARED TO GIVE YOU MY VIEWS ABOUT WHETHER IT IS A GOOD IDEA TO have currency boards, and I can't stop myself from saying something on the subject. But the main task here is to consider a country that has decided to establish some system of that kind — whether it is Argentina, Hong Kong, or Estonia. What should it do to deal with the inevitable dilemmas? I will give you my views on that topic straight away without filling in the details, so that there will be something for the other panelists to say. Then I would like to say a few words about the broader issue: What are the criteria for deciding whether a country should have a currency board or not?

So, assume that the decision has been made, there is a pretty firm political commitment, and the country is stuck with all these problems, like those confronting Argentina today. I will just make three simple points:

First, labor market flexibility is crucial. This is easier said than done. That is the big problem, and I am sure that it is a major problem for Argentina, as for any substantial economy. I have no elementary propositions to make about how to bring about labor market flexibility; that is the art of politics. And how does one persuade politicians and, above all, trade unionists, that it is necessary, that in the long run workers are going to be just as well off — or better off — with nominal wage flexibility downward than by hanging on to nominal wage levels while nominal demand declines when there is, for example, a capital outflow? That is the central issue. I have no simple answers, but I am sure that other members of the panel will have simple solu-

tions to that little problem.

Second, if one could avoid shocks, it would be great, because then there would be no problem. Shocks that cannot be avoided are those that originate from, say, variations in U.S. monetary policies or from changes in the terms of trade. But a country can avoid capital inflow-outflow shocks, to some extent, by making the currency-board system credible. So if there is going to be a currency board, it is necessary to convince the market that the government really means it, that it is going to stick with it and with the associated necessary policies — above all, tight fiscal policy. If it will run a big budget deficit and borrow abroad, it will end up with a debt crisis, in spite of the fixed

exchange rate. By the way, we have had such cases. I am thinking particularly of Côte d'Ivoire, which had a fixed exchange rate regime for a long time, as part of the African franc zone, very similar to a currency board, but nevertheless had fiscal and foreign-debt problems. If credibility can be achieved, there will be fewer shocks that come from sudden capital outflows. That is easier said than done, but credibility is the second requirement, and I think that Argentina is trying on that front. Hong Kong maybe has achieved a high degree of credibility, but the thing has to be *really* credible.

Third, some fiscal flexibility can be helpful. In the situation where there is, say, an adverse-terms-of-trade shock or a capital-outflow problem, it helps to be able to engage in some temporary fiscal expansion, which could involve more foreign debt. This would offset, at least to some extent, the domestic deflationary effects resulting otherwise from the currency-board system. Of course, this means that big fiscal surpluses must be run during the previous boom. In other words, one cannot just say that the obvious solution is to run a big budget deficit to reduce the pain — what Côte d'Ivoire did when its terms of trade deteriorated in the mid-1970s. If the government had achieved big surpluses earlier and had run up high foreign reserves or investments abroad, then it can afford to use Keynesian fiscal stabilization, given that monetary policies are ruled out. So if one believes in the possibility of stabilization through fiscal policy, and monetary stabilization is ruled out because of the currency-board system, one may want to leave some room for fiscal stabilization. (Incidentally, this is an important issue in Europe.) Of course, one may not believe in stabilization policies. That is another matter.

To summarize, one has to look for answers to this almost insoluble problem under three headings: labor market flexibility, credibility of the system to avoid unnecessary capital inflow-outflow problems, and some degree of fiscal flexibility to bring about some moderate degree of stabilization.

Can I say a few words going beyond our limited task? What is my view of this whole currency-board idea? Well, I would put it like this: The main argument for currency boards is to avoid inflation; you tie your currency to a low-inflation currency, make a firm commitment, and you will keep inflation down. Countries that have a great deal of other problems but have maintained a fixed parity, such as francophone African countries in the past, have achieved low inflation. So, it certainly works; and there are other examples. If you really stick with it, you are going to get low inflation. But one must remember that there can still be reasons for capital inflows. Hence, prices will rise when the money supply rises as capital flows in, or when the terms of trade improve. For example, though Hong Kong's currency board has prevented *continuous* high inflation,

Hong Kong has gone through periods of fairly high inflation and has used the inflation tax for financing government.

My first criterion is: Don't bother introducing a system like this unless the country has had some inflation problem. If there is a country where a currency-board system appears to be suitable but where there has never really been a major inflation problem, I would say, "Let sleeping dogs lie." There are other ways of keeping inflation down in the future. So, we are narrowing the problem down to those countries that have experienced a significant inflation problem.

The second and most important consideration — coming from the theory of optimum currency areas — is that there is a serious case for small and very open economies to have a currency-board system of some kind. The degree of openness — the ratio of tradables to nontradables — is crucial. The argument in favor of adopting a currency board is weaker — and possibly there is no case — for large economies (with a low ratio of tradables). This raises the practical question (which I don't have time to get into) of where to draw the line. It seems to me obvious that some small economies, let's say in the West Indies, possibly in Central America, and certain countries in Africa, are definitely candidates for that sort of system, unless they have managed to avoid inflation in any case with whatever system they have now. On the other hand, it seems to me that countries such as Mexico or Russia are not candidates for an optimum currency. Of course, that can be disputed. Again, the interesting issue is, where does one draw the line?

I was involved in a World Bank-sponsored study comparing 18 developing countries' macroeconomic history, and we did include a number of small economies.<sup>5</sup> The small countries that come to mind are Côte d'Ivoire, Cameroon, Kenya, and Costa Rica. Those are the countries that one would think of as good candidates for currency boards. But one must ask whether nominal exchange rate changes have had real effects in those countries or whether nominal devaluations were rapidly washed out by wages and prices rising. If nominal devaluations were rapidly washed out, then there is no point in having a flexible exchange rate. They might as well have completely fixed exchange rate regimes. And, if there is going to be an attempt at a fixed exchange rate, they are much better off with a currency board than with a fixed but potentially adjustable exchange rate regime, because of the speculation problem. So I think there is a lot to be said in favor of a currency board relative to a fixed-but-adjustable exchange-rate regime. By "fixed-but-adjustable" I mean a rate that is fairly firmly fixed, with an attempt by the authorities to hang onto the fixed rate, but never eliminating the possibility of exchange-rate realignment.

So, where does one draw the line? Looking at the experience of these countries, I was surprised to find that in Co-

rica, for example, the nominal exchange rate change did have significant real effects. So I am not sure where I would draw the line, to be honest. Cameroon and Côte d'Ivoire had bad experiences even though they had fixed exchange rates. It was not bad or their inflation, since they experienced much less inflation than those West African countries that were not in the franc zone. But they did generate big budget deficits and ended up with crises. Out of the 18 countries included in the World Bank project, these two were the only ones with negative growth rates at the end of the period we studied (1965-1992). Of course, both had suffered severe adverse-terms-of-trade shocks. So, where does one draw the line? What economy is small enough to justify a currency board? Some line must be drawn, and most of us would think that, for example, the District of Columbia should not have its own exchange rate. Since the economy of D.C., and, even more so, of Maryland and Virginia, is larger than that of many small developing countries, clearly there must be some case for an automatic system of this kind.

A third consideration is one's attitude toward risk and crisis. Any finance minister (I name no names) who commits himself or herself to this kind of regime is running a risk. If it is successful, it is fantastic. If it is not successful, there is a disaster. Suppose someone says you should cross the Grand Canyon on a rope, and if you get across, you will get a Nobel Prize and an extra million dollars, and you have a 50-50 chance of making it. Is it a good decision in that case to cross the Grand Canyon? I think the same issue arises for finance ministers when they com-

mit themselves to fixed exchange rates. To focus on the main point, I have already mentioned that country experiences with nominal devaluations are important: Do nominal devaluations have real effects or not? If the effects quickly wash out, then such countries might as well have truly fixed nominal exchange rates, and hence currency boards or similar arrangements.

These are the main issues. I have already referred to West Africa (an important example), and Hong Kong will be discussed by Alan Walters. Finally, I want to mention another country among the 18 we studied for the World Bank. Indonesia has had a more or less fixed-but-adjustable regime. What is notable is that after its stabilization in the late 1960s, it institutionalized a very effective presidential decree that mandated that the government cannot run budget deficits. The deficit for this purpose is calculated in the following way: Foreign loans and aid are included as government revenue. That boils down essentially to saying that budget deficits cannot be money-financed. This case shows that it is possible to introduce some kind of rule or institution that prevents the monetization of fiscal deficits without going as far as a currency-board system, and, indeed, without making a long-term fixed exchange rate commitment. I am not saying that this type of arrangement carries the same credibility as a currency board, nor that it is ideal and will solve every problem. But then one has to ask how much credibility a currency-board system carries, and here I think the experience of Hong Kong is relevant.

---

---



# III. FEATURES AND IMPLICATIONS OF CURRENCY BOARDS: THOUGHTS ABOUT THE ARGENTINE SITUATION

BY JOHN WILLIAMSON

**I**T SEEMS TO ME THAT CURRENCY BOARDS HAVE THREE FEATURES THAT CAN CONSTRAIN an economy's ability to react to external shocks. In the first place, a currency board implies a fixed exchange rate. That can be modified a little, as the IMF showed several years ago, but only to a predetermined crawl, which still does not give any major freedom to react to external shocks. The second feature is that it requires the monetary base to be contracted by 100 percent of a reserve outflow; there is no facility to sterilize the reserve outflow in order to preserve internal balance or the level of domestic economic activity. The third feature is that it precludes any lender-of-last-resort facilities in the event of a bank run.

The fixed exchange rate, of course, precludes the use of the exchange-rate instrument to help adjust the balance of payments when faced with some negative external shock that requires a payments improvement. The 100 percent marginal reserve requirement prevents any attempt to use sterilization to ameliorate the impact of a reserve loss. The lack of a lender-of-last-resort facility makes the banks more vulnerable to a confidence crisis.

The consequence of the first two features is to ensure that any reserve loss is translated into a deflationary impact on the domestic economy. One of the counter-advantages is that that reaction is guaranteed, which serves to mitigate the danger that a loss of confidence will turn into a speculative run. So it is important to recognize that there is a significant offset there. But it is also important to recognize that it is a misconception to think that that danger is eliminated by a 100 percent reserve requirement against M0, because M2 can be converted into M0 freely. If it can't, then that constitutes a bank crisis. So, to make

a crisis impossible, one would need 100 percent backing of M2, which is much stronger than a currency-board system.

I think that the first two of those constraints are clearly less important in a small economy than in a large one. The traditional optimal currency area analysis tells us that the exchange rate is a less effective instrument for facilitating balance of payments adjustment in a small economy. For this reason adjustments in a small economy have to come by deflation, and then you may as well have the 100 percent marginal reserve requirement. Essentially, you have to take that medicine, and so there

is no great advantage in being able to avoid it in the short run, which is all that you get by sterilization. So I agree with what Max Corden just said about currency boards' being rather good instruments in small economies but being more dubious with respect to large economies.

As regards the third constraint imposed by a currency board — the elimination of the lender of last resort — we also used to think that that was another reason for thinking that currency boards were rather benign for small economies, because small economies were likely to have a strong presence of foreign banks, and the foreign banks would tend to put in money to support the system in a crisis. But, of course, the foreign banks suddenly stopped doing that in Argentina last year. So that does not look as convincing as it did. Perhaps other speakers will address the question whether a change in policy could give countries more protection against being cut off by the foreign banks than Argentina found it had last year.

For those reasons I concluded in a study I did last year<sup>6</sup> that currency boards might make sense for small, highly open economies, but that they were a doubtful proposition for relatively large economies. I also noted that there might be exceptional circumstances that could justify the adoption of a currency board in a relatively large economy. Here I instanced Argentina: The total loss of credibility it was suffering in 1991 seemed to me to provide a justification for what it did at that time. On the other hand, Argentina (by my book, at least) is a relatively large economy. I wondered whether the traditional textbook concept of a small, open economy had not somewhat misled us here. We tend to think of a small economy as one whose actions have no impact on the world economy, and by that token Argentina is a small economy. But I think that really is not the right concept here. The right concept is how much scope an economy has for autonomy, and how much scope there could be once confidence was re-established. Maybe the exchange rate was useless in Argentina in the circumstances of the early 1990s, but maybe once confidence has been fully re-established, there will be much more potential benefit there. In any event, the Convertibility Law adopted by Argentina in 1991, which included a currency board, was a spectacular success. It completely eliminated inflation. Argentina had four years of rapid growth, which accumulated to a 35 percent recovery of GDP. That was impressive, and I doubt that it could have been achieved by simply fixing the fiscal situation, without those other measures of which the currency board was a major part.

Nevertheless, we have to face the fact that Argentina's current situation is problematic — and for exactly the reason that it suffered an acute external shock last year. It is normal for an exchange-rate based stabilization to eliminate inflation only after the currency has become overvalued; and I think that happened

in Argentina. By 1994, the current account deficit was 3.5 percent of GDP and increasing, and it did not look as though it was going to stop increasing as long as the boom persisted. The combination of a fixed exchange rate, a current account deficit, substantial short-term international debt, and a weak banking system made Argentina the principal victim of the tequila effect. I experienced capital flight; the banking system looked very vulnerable; the government naturally dithered between tightening enough to restore confidence in the currency, on the one hand and trying to give some type of support to the banking system by cutting reserve requirements and so on, on the other hand. Argentina did avoid a complete collapse of confidence but, of course, it ended up with a very sharp recession, and unemployment rose from the traditional low levels to something like 18 percent. It seems to me that Argentina is unable to afford a brisk recovery because it has to accept a period of the classical medicine of falling prices if it is to strengthen competitiveness and overcome the problem of the currency overvaluation with a fixed exchange rate. Of course, Max is right in saying that, to the extent that the current effort to make labor markets more flexible can indeed succeed and can permit faster disinflation, that will help.

Sebastian Edwards has talked about this as being the "exit problem."<sup>7</sup> Having used a fixed exchange rate to good effect as a nominal anchor in bringing inflation down, how does a country get out of the commitment to the fixed exchange rate in order to restore its competitiveness and make good use of its newly found stability? Personally, I am not sure this is a very general problem but it certainly seems to be present in Argentina, where (I guess this is still true) the whole stabilization could be unhinged if the country took any action that was construed as abandoning the commitments made in the Convertibility Plan. Certainly any sudden devaluation, even if you could engineer it by having the Congress approve the necessary legislation with a super-majority over the weekend while the markets were closed, would risk reawakening all the latent distrust of government that had made Argentina almost ungovernable. And so I do not see a good alternative to soldiering on.

If and when this patience is rewarded by a return of confidence, it is at that point that one wants to try to make the system more flexible. The first step should be to follow the example of first Singapore and more recently Hong Kong in not monetizing 100 percent of the reserve inflow, which means moving away from the strict concept of a currency board and beginning to build up foreign exchange reserves over and above those constitutionally needed, so that one will then have some scope for acting as a lender of last resort in any future crisis. That also has the effect of enhancing the market's perception of the country's strength, so that it may subsequently become possible to modi-



exchange-rate policy to move to a more flexible policy (my preference would be a crawling band, such as Colombia had when Guillermo Perry was finance minister, and still has). But I think one would only want to move to that type of system when market perceptions were that the currency was more likely to strengthen than to weaken. One would do it after a long concessional debate and avoid any impression of perpetrating some swindle on the public, because it is that sort of perception that has been so fatal to the credibility of the Argentine government in the past, and not the idea per se that one could have a more flexible policy regime.

Such a reform would seem to me to place Argentina in a better position to confront future shocks efficiently, and that is what I would like to see the authorities thinking about, rather than some sudden exit from the current dilemma, which would risk throwing away everything achieved since 1991. It seems to

me that a measure of recession is a price that has to be paid to exorcise the ghost of Argentina's past mismanagement. The important thing is to try to make sure that this price is paid only once.

I am sure that there will be some people who will tell me this is too pessimistic, because Argentina is already coming out of recession. I think the point is that if it is not going to find itself vulnerable to another crisis in two or three years' time, whenever the next foreign or domestic problem arises, it needs to have that extra element of flexibility built in, and it needs to get rid of that overvaluation that was there two years ago. If one allows any recovery that begins to develop to run at full throttle, one will not have enough flexibility to face the next shock. My advice is to use any incipient recovery to build up the strength in order to be able to have a more flexible system with which to confront future shocks.

---

---



## IV. THE EXPERIENCE OF HONG KONG

BY ALAN WALTERS

*Flexibility in the public sector begets rigidity in the private sector, just as rigidity in the public sector promotes flexibility in the private sector.”*  
— *Baroness Thatcher*

### THE “LINK” IN HONG KONG

**H**ONG KONG OPERATES A CURRENCY-BOARD ARRANGEMENT WHERE THREE commercial note-issuing banks issue Hong Kong dollar banknotes against holdings of certificates of indebtedness (CIs) issued by the Exchange Fund. The currency-board system, introduced in October 1983, has redeemed and issued at a par value of HK\$7.8 to the greenback. The note-issuing banks are required by law to hold CIs as cover for the banknotes they issue.<sup>8</sup>

Money market operations are automatically directed toward the maintenance of the \$7.80 parity. If, due to some shock or other, the market exchange rate appreciates to, say, 7.7, then interest rates in Hong Kong dollars would be reduced, and net inflows into the Hong Kong dollar would recede. A fall in the demand for Hong Kong dollars would lead to a depreciation, but money-market operations will arouse Hong Kong interest rates and restore the value of the currency to its par value of 7.8.

Although accounts of most currency-board regimes represent them as purely passive — exchanging currency notes on demand — the actual operation of the boards are much more positive. The Hong Kong Monetary Authority (HKMA) can assist the overriding need to maintain the external value of the currency through the so-called “accounting arrangements.” These permit the Exchange Fund to bring pressure to bear on inter-bank liquidity. And although Hong Kong has no indebtedness —

on the contrary, it sits on a pile of cash — the HKMA has issued bills so that it can influence rates through open market operations. To complete its instruments, the HKMA introduced a discount window in June 1992, called a Liquidity Adjustment Facility. This gives the Authority more control over short-term inter-bank interest rates as well as some influence over the nature of the paper offered. Finally the HKMA has been given power to levy deposit charges.

It seems that the HKMA has most of the instruments of a central bank. It encourages sound credit policies in the banks — for example, keeping loan growth in line with GNP and limiting real estate exposure to 40 percent of the portfolio. The Authority has as one of its objectives the “safety and stability of the banking system through the regulation of banking business ... and the supervision of authorized institutions.” But unlike central banks it has no discretion in its objectives. Its single objective is to maintain the parity.

## HISTORY

Since its earliest days as a colony, with the exception of the period of Japanese occupation, Hong Kong has maintained a currency-board arrangement. Up to 1973 the Hong Kong dollar was fixed to sterling, so virtually all reserves were in sterling. From 1949 to 1967 sterling was fixed to the U.S. dollar through the Bretton Woods agreements — although there was little free convertibility of sterling into dollars until 1958, due to the infamous “sterling balances” overhang. In 1967 Hong Kong adjusted with the sterling depreciation and incurred a substantial capital loss on its reserves. The Basel agreement of 1968 gave various exchange-rate guarantees to holders of sterling, and Hong Kong participated. In 1971, however, the dollar went off gold, and all the major exchange rates were soon floating.

Hong Kong also floated. The (then) two note-issuing banks continued to provide Hong Kong dollars in exchange for foreign currency, but at varying parities. Hong Kong participated fully in the great inflation of the 1970s. (I must confess that I do not understand why inflation did not increase far more than it did; in that sense the floating period remains something of a mystery that would repay further research.)

The floating period was a misery of high inflation and low growth; but even more important were the enormous swings in both prices and production. High volatility was the hallmark of the floating period 1974-1983. For example, the Hang Seng index fell 60.5 percent in 1974 and rose 105 percent in the following year. GDP growth swung from the trough of 2.7 percent in 1975 to more than 16 percent in 1976. Inflation varied from 2.7 percent in 1975 to 15.5 percent in 1980. And the Hong Kong dollar duly depreciated against the U.S. dollar from HK\$5.1 in 1981 to HK\$9.60 in 1983.

Under the fixed regime, from 1984 to 1994

- average real GDP growth was 6.4 percent, and Hong Kong overtook the UK in per capita income;
- the trade surplus was 7.7 percent of GDP;
- the budget surplus averaged 2.1 percent of GDP;
- inflation was 7.7 percent between 1982 and 1994, compared with 12.6 percent between 1979 and 1983.

## THE WORKING OF THE CURRENCY-BOARD LINK

The fix resulted in the supply of money being largely determined by the demand. Interest rates were very closely related to those in the United States. The HKMA allowed the three issuing banks to supply whatever notes were demanded.

A common misperception is that with a fixed exchange rate the rate of inflation in Hong Kong should be very near to that of the United States. Clearly this has not occurred in the 1983-1995 period — more than 12 years. The fixed exchange rate gives approximately the same rate of inflation only in tradable goods, which provides the price anchor. The overall inflation rate is an average of tradables and nontradables. With the rate of inflation of tradables fixed, the inflation rate of nontradables will be determined by the relative productivity growth of nontradable goods and services vis-à-vis tradables.

One may readily conclude that the productivity growth in tradables has been high relative to that in nontradable sector. Manufacturing and more recently financial and other services have made great strides in improving productivity, whereas main service, haircuts and housing have not found many avenues of productivity growth. Thus, while tradables have increased in price only by 1-3 percent per annum, the general consumer price index has been near 8 percent.

This high rate of domestic inflation could be brought down to 3 percent, in line with inflation of tradables, with a currency-board type of arrangement if the parity were increased every day by  $(1/365) \times 5$  percent (on the assumption that the relative productivity growth continues as in the past 12 years). It is a crawling link, no less, but one can well see objections to such a suggestion. Nor would a fix to a basket of currencies be much better than the fix to the dollar, since the vast majority of Hong Kong's trade is with the wider dollar area of the Pacific.

## SHOCKS

One of the main arguments against the currency-board system is that it does not allow the use of the interest rate weapon to combat shocks. Indeed, measured in terms of domestic prices, real interest rates became substantially negative in the 1991-1994 period. The HKMA could not control nominal interest rates through arbitrage they had to be approximately the same as in the United States. Hong Kong suffered a boom in asset prices and particularly in house prices. It is not difficult to conclude that, had the HKMA been able to raise nominal interest rate above those dictated by the link, the asset price inflation could have been largely avoided.

Perhaps so. But the evidence is not convincing. Counter examples abound. The most striking is Japan. Certainly the yen-dollar exchange rate was not fixed, yet of all OECD countries

Japan suffered perhaps the most paralyzing asset inflation from 1987 to 1989, followed by deflation. The United Kingdom, Australia, and the Scandinavian countries, together with even stable Switzerland, have all endured considerable, even traumatic, asset price inflation. All of these currencies were floating — some more dirty than others but nevertheless not constrained by any institutional fix. Certainly it is difficult to attribute the by no means unusual asset inflation of Hong Kong to the currency-board link. It is true that Singapore, with its appreciation against the dollar, did have a somewhat smoother ride than Hong Kong, but this would be a weak reed to lean upon.

In the case of Hong Kong one would clearly claim that the most disruptive shocks have been (and perhaps will be) political. For example, there were the September 1983 threats of the Peoples Republic of China (PRC) to invade and “restore order” in response to the panics and run that precipitated the outflow of capital in mid-1983. The political crisis fed on and magnified the economic collapse. But all this occurred before the introduction of the currency board. The collapse of the Hong Kong dollar was the occasion for insisting that confidence could not be restored until the currency was once again fixed! Certainly the announcement, preceded by informal rumor, that the Hong Kong dollar was to be fixed stemmed the flight of capital. We saw then a great reflux of capital back into Hong Kong. Goods flooded back into the stores as panic-buying ceased. The recovery seemed miraculous — and it was dubbed by the *Economist* an unalloyed success.”

A number of shocks that would be expected to have a serious effect on Hong Kong's finances — such as the BCCI failure and fraud, the stock market crash of 1987, Tiananmen Square in June 1989, the Gulf War of 1990, and the collapse of the European exchange-rate mechanism in 1992 and 1993 — seemed to be dealt with relatively painlessly. Perhaps the biggest shock was the “tequila crisis” in 1994. But the effect on Hong Kong was very short-lived. The effect on the exchange rate was small and limited to the first few days of 1995. True, there was a slowdown in activity levels and some increase in unemployment, but this had little to do with the Mexican crisis. The cause is almost entirely due to the monetary squeeze being imposed by the PRC.

## THE PRC EFFECT

The susceptibility of Hong Kong to gyrations in the PRC is obvious. One might think that the switches in policy in the PRC could be the main cause of instability in Hong Kong. Yet the evidence does not support such a view. In fact, exactly the opposite may be true. The great liberalization of the PRC, ordained in 1978, began in 1979 and continued apace to 1983. This period coincided with the greatest volatility in virtually all indices in

Hong Kong. It appears that the flexible exchange rate did not contribute noticeably toward stabilizing the economy.

As liberalization of the PRC has proceeded, Hong Kong has made tremendous structural adjustments as it has developed closer links with South China. The low wage costs of the PRC, combined with the know-how that has come from Hong Kong, has seen manufacturing largely disappear from Hong Kong and migrate to the PRC. More than 70 percent of Hong Kong's GDP now derives from services. Truly it has become the service center of South China and even for the whole PRC. Most of this adjustment has occurred in a stable environment under the aegis of the currency board during the last 13 years.

One might be forgiven for claiming that the currency board turned out well because China reformed and provided the impetus to growth that smoothed out the adjustments. Other countries that do not have a reforming China with its enormous growth on their doorstep would suffer much more.

Again, however, one cannot draw such a simple conclusion. It is noteworthy that up to 1974, with a currency fixed to sterling, Hong Kong developed dramatically, particularly in manufacturing and various services. Maoist China, however, went through the paroxysms, absurdities, and cruelties of the Cultural Revolution and the Great Leap Forward. Famine was common, and income per capita fell precipitously. Such negative shocks would be expected to have large effects on confidence and economic conditions in Hong Kong. Yet in spite of periodically closed borders and the influx of droves of penniless, disease-ridden, starving refugees, Hong Kong, with its currency allied to the dubious sterling, continued as one of the highest growth countries in the world. Of course, it might have done better without a currency-board system — but that was tried from 1975-83 and found wanting.

## SPECIAL REASONS FOR HONG KONG'S SUCCESS

Hong Kong, as everyone says, is different. With its free trade and liberal regime, it is perhaps the most flexible economy in the world — rivaled only by Singapore and perhaps New Zealand. It has enormous reserves (around \$57 billion at the end of 1995) — about five times the note issue and near 40 percent of Hong Kong's M3 (a broad measure of the size of the financial system). Comparable levels are 6 percent in Germany and 2 percent in the United States and Japan.

One might argue that the solidity of the Hong Kong dollar is underpinned by reserves that are far beyond the means of any “normal” country, such as Argentina or Colombia. And much of the reserves is a consequence of persistent budgetary surpluses (with notably low public spending) of around 2 percent of GDP during the period 1987-1994. The non-politicization of eco-

conomic policy, which enabled these results to be achieved, is not possible with non-colonial governmental systems where the central bank is controlled by politicians anxious to pay for the vote.

Are the reserves overdone? In my view they are, and this was a serious matter when the reserves were held in sterling balances in London or in T-bills in New York. The returns were very low and it was a waste of capital. Recently Hong Kong has been placing the funds under professional management, so the opportunity costs of holding such reserves will be considerably reduced.

## THE FUTURE

The PRC takes control of Hong Kong in 1997, but it has agreed that for the next 50 years Hong Kong should have its own monetary (and legal) system. This seems to mean that the currency link will continue after the PRC gains sovereignty. In the absence of any serious outbreak of hostilities, I suspect this agreement will be honored by the PRC; it is greatly in their interests to

maintain the status quo.

Four years ago, on a visit to China, I argued to the People's Bank (the PRC's central bank) that, politics aside, the best monetary policy for China would be to fix the renminbi to the U.S. dollar. But, of course, politics is never merely an aside in the PRC. Nevertheless, the remarkable stability of the Chinese currency in terms of U.S. dollars over the last two or three years — combined with the accumulation of very large reserves — suggests that there is a similar belief among China's policy-makers.

The transfer of power in 1997 could give a politically acceptable excuse for "unifying" the renminbi and the Hong Kong dollar. The renminbi has been trading at around 8.2 to 8.5 to the U.S. dollar, and many forecasters believe that it will appreciate in the years ahead. There seems to be an opening for the PRC to unify the monetary systems. Instead of one nation, two systems — at least for monetary matters — there would be one system for all of China.



## V. ARGENTINA'S EXPERIENCE AFTER THE MEXICAN CRISIS

BY GUILLERMO CALVO

**B**Y NOW WE HAVE COVERED ALL OF THE MAIN ISSUES INVOLVED IN THIS DISCUSSION. What I think would be useful is to discuss in greater detail the experiences of Argentina and Mexico. First, I want to point out that it is not obvious that Argentina, because of having a currency board, suffered more from the shocks emanating from the so-called tequila effect than it would have with a flexible exchange rate. However, the case of Argentina cannot be fully explained by a purely Keynesian-type shock, so to help explain it I will introduce elements related to the financial sector. Second, I will go over some of the issues that have already been raised, but perhaps with a different twist and with a greater emphasis on Argentina.

I am coming to this question, not from a theoretical point of view, or from the theory of optimum currency areas. I just want to understand what would have been the advantages for Argentina of not having had a currency board.

The first thing I will do is to take Argentina and Mexico and compare them using a very simple Keynesian model. If we look at the numbers, you can see that after the December 1994 devaluation of the Mexican peso, Mexico's current account deficit shrank by about 8 percent of GDP and output fell by more than 7 percent. Argentina's current account deficit shrank by about 2.5 percent and output fell by 4.4 percent. Those numbers are in the same ballpark. Can we rationalize them? Well, a Keynesian attempt at rationalization would be that here you have a shock affecting the capital account. The capital account is to fall by this much; it was an exogenous shock that had to

be translated into a fall in the amount of tradables consumed. For example, suppose that the supply of tradables is exogenous, then you have to contract the demand for tradables. If in the short run tradable and nontradable goods are complementary and are consumed in fixed proportions (just for the sake of argument), then the demand for both types of goods must fall by the same proportion. If we assume that the sale of nontradables is 50 percent of output to begin with, then you can very easily conclude (it is just a simple calculation) that if the output of nontradables is demand-determined, the supply of nontradables will fall by the same proportion as the fall in the current account

deficit. If this theorem were fully validated in practice, I should find that the shrinkage in the current account is equal to the fall in output. Of course, I don't expect to get the same numbers, but it seems that the numbers are large declines for Mexico, and they are relatively small declines for Argentina.

The bottom line is that in a first approximation the shock that these countries suffered after the tequila effect was to a large extent independent of the exchange rate — it would have been difficult to avoid it. The way to avoid it would have been for the structure of demand to change very sharply in the short run, and you have to be prepared to make that assumption. I believe that there are such instances (for example, when the current account deficit is financed by foreign direct investment) when there is little relation between domestic consumption and the service (nontradable) sector. In these situations you can cut domestic consumption without affecting the demand for nontradables. But for countries like Argentina and Mexico, where the current account deficit was associated with consumption booms, then the reduction in aggregate demand had to have a negative effect on both, since I would expect that tradables and nontradables tend to be more complementary on the consumption side. This reasoning indicates that you cannot rule out the hypothesis that Argentina would have suffered a substantial fall in output even if it had devalued or had a different exchange rate system.

What can you buy from devaluation? This is an aspect we have discussed with respect to Mexico, but there are financial aspects that one tends to forget when we focus exclusively on the effect on the real exchange rate. Let me mention some straightforward points. If there is no explicit or implicit currency denomination mismatch, then the devaluation improves banks' balance sheets. That is an advantage of devaluation. It can improve balance sheets if you have an external shock and a certain loss becomes non-performing, so devaluation can (in a way) liquidate the debt. It also helps to stimulate the demand for deposits, and it prevents a run on banks. You saw it very clearly in the case of Mexico, where the nominal level of deposits did not fall. In contrast, in Argentina, where a devaluation did not occur, deposits fell by about 18 percent. So, there is a very different experience between the two countries in this regard.

However, if bank liabilities are dollarized, as they were in Argentina, then a devaluation that affects the real exchange rate may have a negative effect on the health of the financial system. When the liabilities are in dollars, even if assets are in dollars, at the moment of truth the assets are loans to the domestic economy and are affected by the real exchange rate. So, if you were to devalue, the value of those assets would be likely to deteriorate.

Devaluations affect the real economy as well. Output may fall, which has been the experience in Latin America as documented by Sebastian Edwards and others.<sup>9</sup> It may fall as the con-

sequence of a surge in bankruptcies, perhaps related to the financial consequences discussed above, and for other reasons. However, the basic thing you can say about devaluation is that it may speed up real exchange-rate realignment. That is something that a country subject to a currency board, as Argentina is not, does not have. It is not obvious to me that a devaluation for a country like that will be expansionary. On the contrary, because of this it could be a financial disaster. But one has to admit that if you think that there is a misalignment of the real exchange rate, devaluation appears to be simpler than letting the price level go down.

What are the policies or issues that have come up regarding real exchange rate misalignment? As Alan and Max have reminded us, wage flexibility becomes central all of a sudden. You need wage flexibility, and as Max admitted, very few of us know how to make it effective and to make it function quickly enough to be a substitute for devaluation. I suppose that we have a lot to learn from this. As a mental note, Marty Weitzman has an interesting book — *The Share Economy* — that deals with the issue of flexibility. Flexibility is unlikely to be sufficient; I think you need flexibility *and* coordination. And that is the issue that Marty deals with in *The Share Economy*.<sup>10</sup>

In the case of Argentina, where the tax on labor is about 50 percent of the wage paid by the firm, one possible way of coordinating, if you believe that you have a misalignment, is to lower the tax on labor, which must be offset by a higher income tax. In general, this restructuring of the composition of tax revenues does not make a difference in principle. But if wages have to fall, what you are doing is coordinating the fall in wages — cutting the wage paid by the firm and financing that by charging the cost of this to the worker. So the worker ends up receiving less, and the firm ends up paying less. That is exactly what you would get in relative terms after a devaluation. The political problem, of course, is that it is a non-starter because it is not transparent. There is some discussion in Argentina about this, and we are going to see whether that is possible or not.

Given the few options available, there is another approach that has been mentioned (and I am responsible for bringing it up frequently in discussions — and it is not something I like): If the other alternatives fail, then you can always resort to a *temporary* real devaluation through a uniform tariff on imports that goes to finance a uniform subsidy on exports. That will give you the same advantages of a nominal devaluation. Of course, administratively it is very complicated. Nevertheless, there are several advantages:

First, it has a limit. You cannot raise tariffs in real terms more than 30 percent, because beyond that nobody pays a tax — there is tax evasion. So, there is some discipline to it; it is not like a nominal devaluation, where you devalue 30 percent and



you can devalue by another 30 percent later. Here you cannot do that; higher trade taxes become ineffective.

Second — and I do not think this advantage has been sufficiently emphasized — you do not touch the financial system. If you are concerned about the effect that a devaluation can have in a country like Argentina by affecting the viability of banks and loans, this approach does not touch the system at all. So, in principle, loans are more likely to continue to be paid.

The disadvantage of this temporary devaluation is very familiar: You put this in place, but nobody believes it, and for it to be effective the adjustment has to be credibly temporary. More than likely, it is not going to be credible, and if it is not credible, then there is not going to be adjustment. Therefore, at the end of the road, you may find yourself with the same problems still there in spite of the imposition of trade taxes and subsidies. But you do have some breathing space. I mention this as the last resort, not the first — as something you could do if the only alternative were a nominal devaluation.

Finally, let me say something about the credit squeeze in Argentina. You hear a lot about that, partly as a result of the fall in the demand for deposits, which dropped by about 18 percent in the first half of 1995. Argentina cushioned that by lowering the banks' reserve requirements. So when you look at loans to the private sector, they hardly budged — maybe a 3 percent fall. However, everybody talks about the credit effect. I propose the following explanation for why you could have gotten a big credit effect from the current account shrinkage: The cut in the current account deficit could have had strong effects on the domestic credit market if local borrowers do not have access to international capital markets and depend very heavily on domestic banks. For the sake of argument, let's assume that the current account deficit was going to finance new loans to prime borrowers. The deficit was cut by 2.5 percent of GDP. Suppose those prime borrowers turn around and find funding for this 2.5 percent. Loans to the private sector in Argentina correspond to about 10 percent of GDP, and the 2.5 percent cut in international credit implies that demand for domestically financed loans rose by 25 percent of the total supply of domestic credit. That is a large amount. So even though the total is fixed (this is only an example; unfortunately we do not have the numbers, which supposedly are now being collected), there could have been a very large change in composition in favor of prime borrowers and against small- and medium-sized firms — those not having access to international markets.

That is the bad news. The good news is that a small recovery in the current account deficit can turn things around very quickly. You don't need a large current account deficit to have a big effect on the domestic credit market. So my bottom line in his respect for the case of Argentina is that if you put together

the Keynesian argument with this financial argument, you could possibly explain a great deal of the falling out.

I will end with a discussion of how to avoid the credit squeeze. The first policy alternative is the one implemented by Argentina, which is a tricky one — lowering the banks' reserve requirements during the run. If depositors believe you and stop running, then you are fine, because you are able to keep the level of loans relatively constant.

My conclusion from the previous analysis is that that was not enough because there was a composition effect. That is where the current account deficit must be taken into account, even when dealing with what is the ideal optimal level for bank reserve ratios. In any case, for Argentina the reserve ratio prior to the crisis was 20 percent, which was not enough. In this type of situation, you may want to have enough reserves not only to stimulate but also to expand the level of loans, assuming that big firms are going to come in and crowd out small and medium firms.

Another point concerns the linkages between domestic and international banks — the idea that it would provide automatic liquidity. In this case it did not work properly. Connected with this fact is that large state-owned banks may make the presence of international banks problematic. Argentina, I understand, has free entry for banks; anyone who has a reputation as a banker can have a subsidiary in Argentina. However, we have not seen a wave of banks coming into that market, even though Argentina reputedly has one of the most inefficient banking systems in Latin America, and so in theory there must be a lot of room for making profit. A possible interpretation is that when you have very large public banks, as is the case there, and those banks are always going to be protected by the fiscal authority, directly or through international official loans, banks may find that competition is too difficult and makes entry into the market too risky.

To summarize, I think that there are likely to be shocks out there that have similar effects on both flexible and fixed exchange rate systems. If the economy is dollarized, devaluation is especially risky. A currency board will always face the problem of realigning the real exchange rate. The solutions available have not been sufficiently tried or they are not very transparent, like the real devaluation via trade interventions that I mentioned. But I believe that in some countries, and Argentina is an example, the existence of a straitjacket like this is focusing the politicians' attention on perfecting the labor market as they never have before. There is so much room to conquer there — and there is so much room for improvement — that in the end the process may be painful, but it may help push basic and fundamental structural adjustment.

---

---



## VI. CLOSING REMARKS: WHAT HAVE WE LEARNED?

BY STANLEY FISCHER

I WILL TALK ABOUT GENERAL CONSIDERATIONS, MOST OF WHICH HAVE COME UP IN THE four preceding presentations, and then I will ask a question: If the World Bank had had a conference four years ago on currency substitution and currency boards, and we had started from what we knew four years ago, what have we learned in the last four years? What events have intervened, and what conclusions could one draw from them? There is an excellent publication that you all should look at on precisely this topic; it narrates the discussions of a conference held in January 1992, sponsored by the Latin American Region of the World Bank, which featured, among others, Guillermo Calvo and Alan Walters.<sup>11</sup>

Let me begin with the general considerations. There is no exchange-rate system that works best in all circumstances. Whatever exchange-rate system you have, you will at some point wish you had a different system. That is to say that whatever we are talking about, we are not going to design a system that operates best in the face of all different shocks.

The currency board is a commitment to a fixed exchange rate, and we have a standard analysis of when it is optimal to fix the exchange rate in a very simple generalization of the Poole analysis: Fixing the exchange rate works best in response to money-demand shocks. But that analysis assumes away capital account shocks. Looking a little further, we have the optimal currency area analysis of when it is optimal to fix the exchange rate, and it says that when there is factor mobility — that means both labor and capital, and includes the assumption of goods-market flexibility — it is probably optimal to have a fixed exchange rate.

Incidentally, it is an interesting fact that the small-large country consideration cannot be right; we very rarely recommend multiple currencies for a single country. If the size of the economy is one of the key issues, we would be a lot more interested in recommending multiple exchange rates within countries. Why don't we? Probably because of the labor market flexibility that is assumed, because of capital market flexibility that is assumed, and perhaps because of the assumption of fiscal policy flexibility. Underlying all of these analyses, by the way, is some sort of wage and price inflexibility. That is the basic starting point. If you were to conclude, based on your assessments

regarding factor market flexibility, that at the best of times you do not want a fixed exchange rate for your country, you would not go into a currency board except to put constraints on the central bank.

A currency board is far more than a fixed exchange rate. It also constrains the central bank in two ways — two features that were emphasized by John Williamson. The first is that it constrains monetary policies to operate according to gold principle standards, which says that in response to a deficit in the balance of payments, you should contract the money supply, and a deficit could arise from either the current account or the capital account. So it says that in response to all such shocks (and maybe they are the shocks that you should respond to), let the money supply adjust. The second constraint is that a currency board also precludes the operation of the central bank as a lender of last resort, at least in the pure form of the currency board.

Now, these are a lot of constraints to impose on monetary policy. I do not think that if you had a central bank you knew would act optimally in all circumstances, you would go for a currency board, but it is precisely because you know that that does not always happen, that you impose those constraints. That is why we have had the emphasis from John and Max that you typically do it after a period of very high inflation, when the credibility of monetary policy has been destroyed, and you need to put very tight constraints on what is going to be done.

Those constraints on monetary policy may be very expensive, and I am going to come to the Argentine case in a while, but first I want to mention a very interesting question about the lender-of-last-resort function. Until a week ago I was pretty sure that imposing constraints on that role was quite ambiguous, but then I listened to the governor of the Estonian Central Bank, and he said something we need to reflect on. He said that having a currency board was very useful in dealing with banking problems. Why did he say that? Because he could not bail out banks that should not be bailed out. The conclusion I draw in the shocks analysis is that not having the lender-of-last-resort function is a real loss if you are dealing with macroeconomic shocks that come from outside the system. But if you are dealing with a shock that comes from inside the banking system as a result of poor bank management and supervision, it is probably a gain not to have a lender of last resort. We will have to think a little more once we are in the world of the second best, where a central bank does not always do what it should be doing according to an unconstrained optimum. The question of whether losing the lender-of-last-resort function is unambiguously a bad thing has to be reconsidered in a second-best world where a central bank faces pressures to bail out banks inappropriately, and where the banks' troubles in the first place were not the result of

macroeconomic shocks.

There is another strand that I have not quite integrate into my thinking but that I would like to put on the table. Domingo Cavallo has spoken about the benefits of a currency board. He says there is one thing that a currency board makes clear: It makes clear the fiscal consequences of monetary policy. When you do not have the right to create liquidity, you really understand what the central bank is doing when it engages in those activities. We somehow think that the central bank is creating money that has no consequences — at least that is my natural mode of thinking. Actually, there is a transfer involved from somebody to somebody. Domingo's argument, which I think has considerable validity, is that a currency board makes you understand what the transfer is. So when you ask what the costs are of loosening the lender of last resort, you may want to ask how often are there shifts in the demand for the monetary base that you should stop — for example, those resulting from bank runs arising out of a clear blue sky, rather than induced by inappropriate bank behavior. Those of us brought up on the stories of the Great Depression think that that is what happens most often. If we look at banking problems in a lot of countries during the past few years, we may not agree with what the central banks should be doing most of the time. It may well be that you want to look at what is being done and think about the transfers of resources that are being made.

I still have not integrated my thinking fully on this issue and I am still conscious of the fact that the International Monetary Fund's Exchange Affairs Department requires that subsidies to be registered in the fiscal accounts. When you recapitalize the banks via the central bank, the Fund says: Put that into the budget, and preferably keep the central bank whole in its balance sheet, and recognize that there is a fiscal resource involved. I think that this practice is probably right, but I think once you start thinking that way, you wonder whether the lender-of-last-resort function is worthwhile. Yet in our traditional way of thinking about it, the role of lender of last resort comes very naturally when thinking about bank runs; it is actually straightforward and something that ought to be part of the role of the central bank.

Now, the question is: Can you have it both ways? Can you have the currency board with its credible commitment to a fixed exchange rate *and* have the flexibility that you want on banking policy and on monetary policy? The answer is yes; by building up excess reserves or by getting access to credit, you can have both ways. If the central bank has the ability to increase its reserves through loans, or if the central bank has built up a pool of excess reserves, then it can do all these things as well. So you are not totally lost in the things we now call currency boards if you want to preserve some flexibility, but then you better recognize

...e that you are not operating under the theory of the gold standard or under the theory of the pure currency board, but you've designed yourself an intermediate system that is halfway between discretionary monetary policy and the automatic policies that we conventionally analyze when we are looking at the operation of currency boards.

Let me make my last general remark about the question of exchange flexibility and labor market flexibility before I go to a number of specific cases. A lot of what concerns us and a lot of where the leverage of monetary policy comes from is from wage and exchange inflexibility. The question is: Just how ingrained is that? Is something that might change over time? How important is the ability to adjust the money supply or the exchange rate? I fear that you have all heard me quote one of Bob Mundell's best lines, which is that everybody thinks that what Adam and Eve discovered in the Garden of Eden was the secret of sex, but he says that it is not what they really discovered. They discovered the secret of central banking — mainly, that by writing down a few numbers on a piece of paper, you could move the entire real economy. It is quite likely that if we were to lose that knowledge, we would move toward a system in which wages and prices became more flexible. Now, it will take a long time for this to happen, but it's something that could eventually develop.

Let me now turn from those general considerations to answer the question I posed at the beginning: What have we learned in the last four years?

I think that the first important lesson is that banking systems and financial systems are extremely important, which was evident in Guillermo Calvo's statement. We now understand better that where the currency-board constraint really bites is in the pressure it puts on the banks. I must say that I thought Guillermo's claim regarding the proportional equivalence between the extent of external and internal adjustment in Mexico and Argentina was a little much. I did the numbers for the Mexican and Argentine crises; the response in Argentina, relative to the domestic contraction given the external adjustment in Mexico, was twice the size of the one experienced by Mexico. That is pretty large even within the rounding area for economists. So I think that the emphasis on the pressure exerted on the banking system in a circumstance like that is indeed important. It leads you in the direction of thinking about how we get more international banks into the domestic market. Can we improve the quality of our banking systems? Can we make them less vulnerable to shocks of that sort? Well, to be invulnerable to shocks of the magnitude of the tequila effect on Argentina via the banking system, you have to build a lot of excess capacity into that system and almost certainly impair its efficiency as a financial intermediary. So the emphasis on banking systems and the World Bank's understanding of the role they play in the trans-

mission of financial crises is much greater than it was four years ago. I do not doubt that in the Mexican situation the authorities were able to keep the banking system afloat — via a range of measures that we hold our noses at but secretly admire — and did not have masses of banks close down, which was actually an important element contributing to the fact that an 8 percent adjustment in the external sector was accompanied by less than an 8 percent decline in GDP. Of course, a large part of that came from the switching that resulted from the change in the real exchange rate, but I think some of it also came out of the freedom that Mexico had for safeguarding the banking system.

Second, we have also had more currency-board experiences since 1992 — namely, Estonia and Lithuania. Both have withstood very large banking crises, and the exchange rate has held. And as I mentioned earlier, at least the Estonians believe the constraint helped in that case, although it does not help in the case where the shock is external. So that is an interesting new experience. We have an enormous concern about the lender-of-last-resort function, and I want to come back to the question of how you build up some flexibility. If you now assume that you have a reasonably well behaved central bank, as the central bank of Argentina has now become, can you give it more flexibility? Well, you have the Hong Kong solution: If you acquire sufficient reserves to the point of being five times the money base, then you are basically free to conduct monetary policy as you please, and the constraint is not binding while the exchange rate constraint is totally credible. That would be very nice if you could do it. It is not going to help Argentina right now because it is not going to be able to generate that sort of current account surpluses in the short run.

Third, we have the emerging Argentine experience with pre-established lines of credit. Doing that with the private sector is very interesting; we will have to see how strong those lines are in the face of a serious international crisis. But given that the amounts are not massive, they probably are very strong. So you can get access to foreign lines of credit as a way of giving yourself a lender of last resort. There is another possibility that we in the Fund have been asked about very often: Can we create a lender-of-last-resort function for countries in trouble? Well, I say that is just what we are. When you get into trouble, as you did in 1995, we lend to you, and you can use resources for the banking system or whatever. They say that they needed assistance earlier, that in the future they will need lines of credit that are unconditional. Well, I don't think that the Fund would be in that position, but there is in the international system some ability for banks that get into severe trouble when private credit dries up to at least offset some of it.

The fourth new experience that we have had since early 1992 is the debate over European Monetary Union (EMU),

which has sharpened our understanding of how to operate in a presumably irreversible fixed exchange rate system. This is one important element of the currency board, and the analysis of what it takes to operate in that environment has emphasized all the things that Max has been talking about — fiscal flexibility, labor market flexibility, capital market flexibility. I think there is a heightened awareness in the profession, and certainly among policy-makers, of what it takes, and there is an emerging view that provided that you make progress in those areas, it may be quite helpful for large countries — not only for economic reasons in the case of EMU — to operate with a single currency. Achieving progress in these areas requires a lot in the direction of legislation as well as labor market institutions like unions. But I don't think — and this is the part I find interesting — that any rigidities that are going to be removed in order to make the EMU look better are inflexibilities that we do not think should be removed. The pressures that the EMU puts on the system are

pressures that move, on the whole, in a healthy direction.

So, those are a few considerations that perhaps tell something different now from what we would have said four years ago. Where do they move you? They move you to see Banking systems aside, I am more favorably inclined toward fixed exchange rate systems than I used to be. There is a cost giving up the flexibility of the exchange rate. There is no question about that, but it is so frequently misused that it is not entirely clear how large the cost is on average. But if you move that way, the emphasis should be on getting your banking system in shape and doing all those things to make markets work better, which you need to do in any case. For how many countries would you recommend currency boards as opposed to a potentially fixed exchange rate with a domestic currency? In the end, I think that you would come back to the small countries but with a bit less certainty than four years ago.



## CONTRIBUTORS

**Guillermo Calvo** is Distinguished University Professor and Director of the Center for International Economics at the University of Maryland, College Park, Maryland. He was a Senior Adviser in the Research Department of the International Monetary Fund. He has also taught economics at Columbia University and the University of Pennsylvania. For a brief period during 1996 he was also an economic adviser to the government of Argentina.

**Max Corden** is Professor of International Economics at the Paul H. Nitze School of Advanced International Studies of the Johns Hopkins University, Washington, D.C. He was Nuffield Professor in International Economics at Oxford University, a Senior Adviser in the Research Department of the International Monetary Fund, and has taught international economics at the Australian National University, the University of Chicago, Harvard University, and other prestigious academic institutions.

**Stanley Fischer** is First Deputy Managing Director of the International Monetary Fund. He was Vice President for Development Economics and Chief Economist of the World Bank. He was also the Killian Professor and head of the Department of Economics at the Massachusetts Institute of Technology. He has taught at the University of Chicago and Stanford University.

**Guillermo E. Perry** is the Chief Economist of the Latin American and Caribbean Region of the World Bank. He has served as Minister of Finance and Public Credit and also as Minister of Mining and Energy for his native Colombia. He was the Director of two leading Colombian think tanks on economic issues, FEDESARROLLO and the Center for Economic Development Studies (CEDE).

**Sir Alan Walters** is Vice Chairman and Director of the AIG Trading Group. He was Chief Economic Adviser to the government of the United Kingdom between 1980 and 1989. He was a professor of economics at the University of Birmingham, the London School of Economics, and the Johns Hopkins University.

**John Williamson** is currently the Chief Economist for the South Asia Region of the World Bank. He is on leave from his post of Senior Fellow at the Institute for International Economics, Washington, D.C. He has been professor of economics in universities worldwide, and was an adviser to the International Monetary Fund.

---

---





# NOTES

See Nissan Liviatan, editor, *Proceedings of a Conference on Currency Substitution and Currency Boards*. World Bank Discussion Papers No. 207, World Bank, Washington, DC, 1993.

Gerard Caprio, Michael Dooley, Danny Leipziger, and Carl Walsh, "The Lender of Last Resort Function Under a Currency Board: The Case of Argentina." Policy Research Working Paper No. 1648, September 1996, World Bank. pp. 7-9.

*ibid.*, p. 12.

High international reserves (as high as broad money) to guarantee financial stability (at the associated costs) seems to be a distinctive feature of fixed exchange rate regimes.

Alan Little, et al., *Boom, Crisis and Adjustment: The Macroeconomic Experience of Developing Countries*. New York: Oxford University Press, for the World Bank, 1993.

John Williamson, *What Role for Currency Boards?* Washington, DC: Institute for International Economics, September 1995.

<sup>7</sup> See Sebastian Edwards, "Comments." *Brookings Papers on Economic Activity* 2, 1995, p. 282.

<sup>8</sup> Text is published here as prepared for presentation. My debt to Andrew Sheng, Deputy Chief Executive of the Hong Kong Monetary Authority, is enormous. Much of this note is taken from his writings.

<sup>9</sup> Sebastian Edwards, "Devaluations, Aggregate Output, and Income Distribution," *Real Exchange Rates, Devaluation, and Adjustment*. MIT Press, 1989.

<sup>10</sup> Martin L. Weitzman, *The Share Economy: Conquering Stagflation*. Harvard University Press, 1984.

<sup>11</sup> Nissan Liviatan, editor, *Proceedings of a Conference on Currency Substitution and Currency Boards*. World Bank Discussion Papers No. 207, World Bank, Washington, DC, 1993.

---

# WORLD BANK LATIN AMERICAN AND CARIBBEAN STUDIES

## VIEWPOINTS SERIES

*Latin America after Mexico: Quickening the Pace*  
by Shahid Javed Burki and Sebastian Edwards

*Poverty, Inequality, and Human Capital Development in Latin America, 1950-2025*  
by Juan Luis Londoño  
Available in English and Spanish

*Dismantling the Populist State: the Unfinished Revolution in Latin America and the Caribbean*  
by Shahid Javed Burki and Sebastian Edwards

*Decentralization in Latin America: Learning through Experience*  
by George E. Peterson

*Urban Poverty and Violence in Jamaica*  
by Caroline Moser and Jeremy Holland

## PROCEEDINGS SERIES

*Currency Boards and External Shocks: How Much Pain, How Much Gain?*  
Edited by Guillermo E. Perry

*Annual World Bank Conference on Development in Latin America and the Caribbean: Rio de Janeiro, 1995*  
Edited by Shahid Javed Burki and Sri-Ram Aiyer

---





**THE WORLD BANK**

A partner in strengthening economies and expanding  
markets to improve the quality of life for people  
everywhere, especially the poorest

**HEADQUARTERS**

1818 H Street, N.W.  
Washington, D.C. 20433 USA

Telephone: 202.477.1234

Facsimile: 202.477.6391

Telex: MCI 64145 WORLDBANK  
MCI 248423 WORLDBANK

Cable Address: INTBAFRAD  
WASHINGTONDC

World Wide Web: <http://www.worldbank.org/>

E-mail: [books@worldbank.org](mailto:books@worldbank.org)

**EUROPEAN OFFICE**

66, avenue d'Iéna  
75116 Paris, France

Telephone: 1. 40.69.30.00

Facsimile: 1. 40.69.30.66

Telex: 640651



**TOKYO OFFICE**

Fukoku Seimei Bldg., 10F  
2-2-2, Uchisaiwai-cho  
Chiyoda-ku, Tokyo 100, Japan

Telephone: 3. 3597.6650

Facsimile: 3. 3597.6695

Telex: 26838



ISBN 0-8213-3864