DOCUMENT OF INTERNATIONAL MONETARY FUND AND NOT FOR PUBLIC USE

LIMITED DISTRIBUTION ONLY

INTERNATIONAL MONETARY FUND

Minutes of Executive Board Seminar 97/1

10:00 a.m., January 24, 1997

Contents

Executive Board Attendance

S. Fischer, Acting Chairman

Executive Directors	Alternate Executive Directors
	S.M. Al-Turki
M.-A. Autheman	
T.A. Bernes	
	W.-D. Donecker
	J. Shields
E.R. Grilli	N. Coumbis
	L.F.F. Erasmus, Temporary
	D. Gotz-Kozierkiewicz
	A. Calderón
W. Kiekens	
K. Lissakers	
	H. Ono
A. Mirakhor	
	A. Vernikov
	B.M. Lvin, Temporary
	Y.Y. Mohammed
	H.B. Disanayaka
E. Srejber	
J.J. Toribio	
E.L. Waterman	
J. de Beaufort Wijnholds	
	J.-C. Obame, Temporary
Zamani A.G.	
Zhang Z.	Han M.
A.G. Zoccali	J.A. Costa, Temporary

W.S. Tseng, Acting Secretary
M.M. Cuc, Assistant

Also Present

African Department: P. Beaugrand. Asia and Pacific Department: I. Otani. European I Department: M.C. Deppler, Deputy Director; G. Bélanger, A.K. McGuirk. European II Department: D.G. Jones, H. R. Lorie, J. Márquez-Ruarte. External Relations Department: C. Hellemaa. Fiscal Affairs Department: C.A. Klingen. IMF Institute: G. Dahl. Legal Department: T.M.C. Asser, H.M. Schiffman. Middle Eastern Department: V. Sundararajan, Deputy Director; S. Bazzoni. Monetary and Exchange Affairs Department: M. Guitián, Director; T.J.T. Baliño, P.T. Downes, D. Dueñas, C. Enoch, A.M. Gulde, A. Ize, R.B. Johnston, M. Khamis, M.D. Knight, J. Leimone, H. Mehran, I. Otker, C. Ryan, V. Santiprabhob, P. Stella, A.M. Gulde-Wolfe. Policy Development and Review Department: L. Nielsen, S.S. Schadler. Research Department: Z. Chen, M. De Broeck. Secretary's Department: P. Gotur, A. Mountford. Treasurer's Department: L. Aylward. Western Hemisphere Department: P.D. Brenner. Office of the Managing Director: S. Sugisaki, Special Advisor; D. Burton, J.A.P. Clément. Advisors to Executive Directors: M.A. Ahmed, M. Askari-Rankouhi, P.M. Fremann, T.K. Gaspard, A. Giustiniani, C.M. Gonzalez, G.M. Iradian, J. John, J. Jonáš, R. Kannan, O. Sein, M. Sobel, T. Turner-Huggins. Assistants to Executive Directors: W.F. Abdelati, T. Blancher, P.I. Botoucharov, M.A. Cilento, A.L. Coronel, D.A.A. Daco, S. Fukushima, D. Giga, B. Grikinyté, W.K. Gruber, R.J. Heinbuecher, O. Himani, M. Kell, F. Mercusa, D. Merino, M. Nemli, A.R. Palmason, H. Paris, M.W. Ryan, J.N. Santos, Song J., A.G. Yakub, M. Yiu, Zheng H., Zubir bin Abdullah.

1. CURRENCY BOARD ARRANGEMENTS—ISSUES, EXPERIENCES, AND IMPLICATIONS FOR FUND-SUPPORTED PROGRAMS

The Executive Directors considered a staff paper on issues, experiences, and implications for Fund-supported programs with respect to currency board arrangements (SM/96/302, 12/20/96; and Sup. 1, 12/20/96).

Mr. Kiekens and Mr. Jonáš submitted the following statement:

We welcome this opportunity to discuss some of the issues suggested by the informative, well-balanced papers the staff has provided as background for today's seminar.

First, let us consider the advantages and disadvantages of Currency Board Arrangements (CBAs). The main feature of a CBA, its rule-based character, is at once its greatest strength and it greatest drawback. Except for countries wishing to join a broader trade or currency zone, and in some cases countries with poor administrative capacity, the main purpose of CBAs is to lend stronger credibility to a country's policymaking than a more discretionary system would provide. In most cases, then, the establishment of a CBA is a recognition that more discretionary policymaking would not produce sound decisions, or that economic agents would not expect sound decisions.

In our view, this kind of recognition can have serious implications. On the one hand, the CBA limits policy decisions about exchange rate and monetary aggregates, but on the other hand it does not completely eliminate the need for discretion and discipline in other policy decisions, especially those concerning fiscal matters and structural reforms. Thus, CBAs may not represent a complete solution to the credibility problem. When monetary and exchange rate policies are placed on autopilot because no one trusts the pilot's ability to fly the plane manually, does this not raise questions about the quality of decisions freely made in other areas? For example, it is true that a CBA can limit the room for unsound fiscal policies by imposing a harder budget constraint on the public sector. Nonetheless, we have the example of local governments in Argentina during the 1990s to show that such constraints are sometimes not fully binding.

Despite these drawbacks, we recognize that a country may find itself in a situation where the credibility of its policymakers is so low, and its economic position so desperate, that a complete break with its existing policymaking processes is the only feasible option. Bulgaria's recent experience may be a case in point. The question is whether resorting to a CBA for a certain period of time can help the authorities to regaining the essential credibility. In our view it can.

Usually, credibility is lost as a result of policymakers' reluctance to implement difficult measures that are needed to preserve external or internal equilibrium but which are likely to retard growth and increase unemployment. However, experience has shown that maintaining the CBA itself, especially in turbulent times as in the wake of the Mexican crisis, can be quite difficult. It may require making some very unpopular policy decisions and accepting some painful effects of economic shocks that would have been less severe, at least for a while, in the absence of the CBA. However, it is precisely the determination of the authorities to endure these difficulties in order to force the private sector to make the necessary adjustment, by which they earn the much needed credibility. Once earned, their credibility will stand them in good stead in cases where the CBA is intended to be temporary and the time comes for them to contemplate leaving it behind.

We therefore think the CBA can be a useful system for countries where the credibility of policymakers is very low, or where a serious commitment to reform exists but cannot overcome skepticism, so that interest rates will remain higher, the exchange rate more liable to speculative attack, and the real economy more depressed, than would be the case if that seriousness of purpose were recognized. It is most important that the authorities be strongly committed to reform before the CBA is introduced. A CBA cannot make up for weakness in the policymakers' determination to tackle the problems of their economies. It can only be useful as the least costly way of showing the markets that a country's commitment to reform is truly serious.

By entering into a CBA, the authorities are taking on a large responsibility. It is like firing one's last bullet at an attacking tiger. One could debate about which of several bad outcomes will ensue if the bullet does not stop the tiger, but there are few realistic alternatives. By the same token, failure of a CBA for lack of policy commitment and supportive measures (rather than due to serious exogenous shocks, as sometimes happens) would have devastating confidence effects. For this reason, it is essential to obtain broad political support for the CBA and ensure that the public understands the requirements and constraints that the CBA will impose on other policies. This will ensure that the authorities will be able to implement all the supporting policies needed to maintain the credibility of the CBA long enough to reap the benefits of financial stability, lower interest rates, and improved growth prospects.

Let us now comment on the what room exists under a CBA for monetary management and lender of last resort (LLR) operations. Especially since 1990 many countries have seen a rapid increase in capital inflows that could loosen the restrictive effects of CBAs on money growth. Growth of the money supply has also been affected by financial innovations that change households' currency-to-deposit ratio, and also by changes in banks' reserves-to-deposit ratio. To the extent that the CBA contributes to the financial stability and credibility of the currency, it tends to lower the demand for currency and the currency-to-deposit ratio, which increases the money supply. The experience with CBAs in Hong Kong and Singapore, where the money supply expanded rapidly for this very reason, is instructive. But increased capital flows and increasing financial intermediation and innovation are more likely to occur in economies where there is a certain degree of confidence than in economies where the CBA is introduced to head off an imminent confidence crisis.

History does not provide many examples of CBAs where the greater room for discretion provided by stronger foreign reserves has been misused. In our view, larger foreign reserve holdings, reasonably managed, can increase confidence in a CBA. Nor do we think that the LLR function should be suspended under a CBA. We do not believe that removal of the LLR function will promote market discipline effectively enough to eliminate the risk of a systemic crisis. Moral hazard can be minimized by establishing more stringent capital adequacy requirements. The standard 8 percent capital-to-asset ratio was designed for banks in the industrial economies. The risk for banks in many emerging market economies is much greater, and requires higher capital-to-asset ratios for coping with losses and reducing the incentives for imprudent bank management which could trigger a crisis that undermines the credibility of the CBA. For these cases we consider the approach followed by Argentina or Hong Kong to be fully appropriate.

Finally, we have some comments on the Fund's involvement in countries having CBAs. The Fund could provide support at the installation stage of a currency board if there is a risk that its restrictions will have disruptive balance of payments effects. As for Fund financial support to existing CBAs, we would not exclude it as a possibility. But a better way for the Fund to defend CBA credibility is for the Fund to assist the authorities to design and implement measures, especially in the banking sector, that reduce the likelihood that direct assistance to the CBA would ever be needed. It is a matter of judgment whether LLR assistance to a CBA is appropriate. Decisions on such support should consider the credibility of the authorities' policies under the CBA. Needless to say, if the problem arises because of an unfounded loss of confidence, the mere existence of the right to draw on the Fund should suffice to deal with the problem.

Mrs. Gotz-Kozierkiewicz made the following statement:

The two papers under discussion provide a very comprehensive description of the working of currency board arrangements (CBAs), and we thank the staff for that. However, these descriptions do not include a judgment as to which of these CBAs could be considered to have been successes and which of them failures. Such a qualification would have been difficult in the context of conflict between theory and practice contained in the papers. As an example, it wouldn't seem that every CBA satisfied or satisfies the condition concerning the soundness of the banking sector, a condition the staff believes as necessary to ensure the success of a CBA.

In my opinion, the list of CBA's weaknesses is long enough to more than offset their only strength, i.e., the implied increased credibility of the country's stabilization program. This points to the fact that considering implementing a CBA should be limited only to those cases in which lack of credibility would essentially undermine the chances for a successful stabilization.

The essential weakness of a CBA consists in the extreme exposure of the economy to risks of external and domestic developments which may bring about adjustment excessively costly in terms of the real economy performance.

In CBAs, accumulated foreign currency stock, bigger then better in terms of credibility enhancement, cannot be used by the authorities to smooth foreign currency flows. This credibility enhancement, based on a requirement to put a very tight corset on the monetary authorities, appeared to actually be unattainable in most country cases. Thus, the CBAs which we currently face represent a reduced form of "pure" CBAs. They leave some limited ("crippled") room for the monetary authorities' engagement in last-resort support and monetary operations. This may be seen as an admittance that it would be illusive in the contemporary world to depend exclusively on automatic adjustment mechanisms; probably this is even more true now than under the rules of the gold standard, recalled as a model of reference for CBAs. This may also justify a statement that realistic possibilities to implement CBAs point to an inconsistency in their very concept. While operational simplicity based on well-known rules has been recognized as the main merit of "pure" CBAs, in practice their reduced forms imply a trade-off between rules and discretion that is not—according to the staff—"unlike those of a conventional central bank, and, hence, their credibility depends on attitudes as much as on rules and institutions."

A concept of CBA originated from the institutions under the colonial system does not fit the currently existing CBAs well. One of the core differences has been the domestic banking system. In current CBAs cases, banks rely on their sources whereas in colonial systems we had to deal with a foreign banks network relying on their headquarters for liquidity support and interbank settlements. To create a responsive substitute to the institutional solution in the current CBAs, a reasonable margin for liquidity support should be provided. There have been two potential sources of a liquidity reserve available. One, which I would call endogenous, may come from a portion of foreign currencies reserves accumulated and constituting a coverage for the base money. This portion may be let free under the condition that a somewhat less than 100 percent coverage of the base money is acceptable. This has been actually the case for the overwhelming majority of the existing CBAs. Safety of the relatively undisturbed functioning of a CBA would require to strictly predetermine the margin of the so called "free reserves" and the observation of their rules. While this solution may be helpful in smoothing a normal functioning of CBAs, it would have to appear insufficient in cases of significant disturbances. Thus, another supplementary liquidity source would be necessary. I would call it an exogenous source relying on explicit financial arrangements such as a buffer of international reserves or contingent credit arrangements. It may take a form of an automatic support from foreign central banks (Hong Kong) or of a guarantee of lines of credit with foreign banks for local commercial banks (Argentina). It can also be created on the basis of the existing excessive foreign exchange reserves of the CBA's country itself as in the case of Estonia. Such an exogenous liquidity support should significantly increase credibility of relatively smooth functioning CBA. It would also essentially affect confidence of market participants that the adjustment processes would be more effective. Thus, the solution seems to be of critical importance.

In the contemporary world introducing a CBA can be a useful option as a super-credible nominal anchor to fight high inflation. This option would presumably have to be more promising for countries like Argentina (especially after the creation of a supplementary institutional framework lacking in the period preceding the post-Mexican lesson) than for fundamentally and heavily transformed economies. Setting up a currency board in a country emerging from chaos is very controversial and in particular in view of the fact that a number of required preconditions must be treated as compromises to the ideal ones.

I concur with the staff in what they consider to be three essential conditions for a successful introduction of a CBA: a sound fiscal policy, a sufficient level of reserves to honor the conversion commitment, and a fairly sound banking system. I consider them to be particularly important if a CBA is to be established in response to a crisis in confidence in a currency. In such a situation, I regard the third entry condition—the sound banking system—as being the most difficult to meet. Strong fiscal measures are usually at the core of every adjustment program regardless of the exchange rate system (although, in case of a large public debt, fiscal consolidation might not be achieved quickly) and international reserves can be bolstered by external assistance, whereas a sound banking system cannot be established quickly.

According to the staff's paper, a fairly sound banking system, if it is not already in place, should be part of the policy package adopted when a currency board arrangement (CBA) is established. It is not clear to me what kind of policy package would be sufficient to transform a weak banking system into a banking system which is sound enough to sustain a CBA overnight. Strengthening a banking system requires auditing banks, setting up bad loan departments to deal with irretrievable loans (and then dealing with those loans), retraining personnel, and so on. Even if the authorities announce their intention to implement such measures, it would seem that unpleasant surprises along the way could cause a loss in confidence. Should a run on banks begin, lender of last resort operations by the central bank would be limited under a CBA.

On the other hand, in practice, as the staff points out in the supplement paper, banking crises have occurred in almost all CBA countries. While in Argentina the shock to the banking system came from the outside, the problems in Estonia and Lithuania were home-grown. All the same, these last two CBAs, maintained in a context of weakness in the banking system, are presumably considered to be successful. If the Fund is prepared to provide financing for CBAs in two steps—the first time to help back a CBA and the second time to help sustain the CBA in the face of a banking crisis—conceivably, the state of the banking sector, however weak, would never constitute any obstacle to setting up a CBA, provided, of course, that measures to strengthen it were going forward.

Now the staff is working on setting up a CBA in Bulgaria, a country in which weakness in the banking system is a well-known given. This would seem to imply that the staff considers that a significant degree of weakness in the banking system is acceptable. I have reservations about accepting excessive weakness in the banking system, because it seems to me that a CBA launched under such circumstances would be lacking in credibility. I would like the staff to clarify their position on this issue: what is the level of weakness in the banking system which the staff considers to be acceptable in the context of a CBA? Of course this will vary from country to country, according to financial resources and institutional capacity, but maybe we could generate some rules of thumb here, using indicators such as the percentage of bad loans in the system or the level at which the banks are capitalized.

A number of controversial issues which may be raised with regard to CBAs, have also been raised for the less institutionally binding forms of the pegged exchange rate systems. Among these issues of significant importance are the determination of the most appropriate level of the exchange rate and the interest rate adjustment. Both these issues concern in particular economies in transition as potential candidates for introduction of CBAs.

An obvious fundamental difference in approach to both these issues under CBAs and under the regular pegged exchange rate systems consists in the fact that while in the latter reasonable interventions by the authorities are admissible, this is not the case in the former. This rule must be rigorously observed for the exchange rate and also, though somewhat less rigorously, for interest rate adjustment.

The issue of the choice of the most appropriate exchange rate level has been addressed in the paper. Overvaluation of the exchange rate at the first stages after CBAs' introduction, considered as one of the solutions, would enhance reducing inflation. However, it would also endanger competitiveness of exports.

On the side of interest rates adjustment, their rapid convergence toward reserve country levels caused by increased credibility of CBAs should contribute to strong economic recoveries after the first stage of the stabilization period. This is considered as one of the leverages of CBAs. A significant reduction in domestic interest rates under CBAs has actually been observed i.a. in Estonia and Lithuania. Nevertheless, circumstances under which it took place imply a somewhat ambiguous assessment of this phenomenon in its impact both on economic growth and stabilization. This assessment appears to be even more difficult as in the Baltic countries developments in their weakly performing banking sectors have substantially interfered with the monetary phenomena. These facts do additionally confirm a supposition that components of CBAs' potential success in economies under transition have been lacking their essential capacity to smoothly affect the adjustment processes as desired. It is worth to be noted i.a. that real lending rates have become mostly negative in Estonia since mid-1993 and also in Lithuania, though only temporarily, in 1995. This points to the fact that relatively quick reductions in interest rates under the impact of foreign currencies inflow may be inconsistent with the overall macroeconomic environment, still moderately inflationary in the countries under transition. On the other hand, the implied impact of bank credit on the economic growth has been rather very moderate, and in particular in Lithuania where enterprises relied mainly on retained earnings for financing investment.

In the light of the substantial weaknesses of CBAs, which should be approached as second-best solutions, it would be reasonable for countries with CBAs to engage in evolutionary institution-building to increase the flexibility of their monetary arrangement.

It is also clear that it would be better to give up a CBA when in a position of strength than of weakness. In general, I agree with the staff's approach here. If the currency is under pressure to depreciate, it might be better to adopt appropriate fiscal and structural policies than to abandon the CBA since the underlying problems have to be addressed anyway and the exit of the CBA would only result in a loss of credibility. On the other hand, if a currency is undervalued due to large productivity gains, it might be preferable to exit the CBA as the restructuring of the economy was successful and no loss of credibility is necessarily involved.

Ms. Srejber made the following statement:

From countless experiments with different exchange rate arrangements by member countries around the globe, including currency board arrangements (CBAs), at least one consistent lesson has emerged: the policy content matters more than the policy framework. Thus, policy makers in search of credibility ought to keep their focus on the substance and avoid the pitfall of trying to find magic technical solutions. Moreover, if the policy content is credible, the policy framework also becomes credible, but less likely vice versa, although a strict framework of course could help in disciplining financial policies. Thus, currency boards can play an important role in facilitating policy credibility, if backed by the necessary political will and ability to pursue strong financial policies, real wage flexibility, and sound financial systems, whereas they cannot, of course, work any economic miracles by themselves—just like any other exchange rate regimes.

Overall, I subscribe to the staff's broad but balanced views in the paper. I agree that CBAs can serve distinct purposes: (1) as permanent arrangements for small open economies that wish to preserve the benefits of belonging to a broader currency area; (2) as transitional arrangements for countries that wish to delay the introduction of a full-fledged central bank until they build up expertise or develop financial markets; and (3) as stabilization arrangements in high-inflation countries that need to adopt strong stabilization programs. In all three cases, strong public finances, wage flexibility, and sound financial systems must be important pillars of the framework. Moreover, the rationale for Fund-supported adjustment programs for countries with a CBA remains valid: Fund resources must be geared toward balance of payments needs, and the catalyst role must remain intact, although the format and risk may differ from conventional programs. Regarding the issues for discussion, let me focus the rest of my comments on the experience in the transition countries in my constituency.

The CBAs in Estonia and Lithuania have been effective in facilitating the process of economic order and stability. However, I don't think the alternative money-based approach in Latvia has been less effective: inflation in Latvia has generally been lower, while real interest rates have been higher than in the other countries, at lest until very recently when inflation in all three countries has ranged between 13–15 percent. The key to Latvia's success has probably been the political independence of the central bank and its ability to conduct an independent monetary policy, while the solvency-crisis in the banking system delayed the decrease in the comparatively high interest rates. Lithuania and Estonia have until recently struggled with bringing inflation down, which to some extent may have been due to the low level at which the exchange rate was fixed. However, analysis of the causes for inflation in countries in transition are not easy. The adjustments of relative prices, and the adaptation of administered prices to cost recovery, when combined with downward price inflexibility, may also be important factors influencing inflation, as has been discussed in staff reports on the Baltic countries. It deserves to be emphasized though that, in the general context of transition countries, the experience with the stabilization frameworks in the Baltics is too short to provide any definite answers about the sustainability and relative effectiveness of the alternative models. Nevertheless, the experience has added weight to the argument that success requires a sound fiscal policy, wage flexibility, and commitment to deal decisively with banking problems. Orderly fiscal finances, aided by relatively low debt levels, have been major contributors to the successful stabilization effort and a key contributor to confidence in the CBAs in Estonia and Lithuania. Moreover, wage flexibility has been sufficient, as real wages took a dive in the early stages of stabilization, some of which took place before the introduction of the CBAs. In comparison, Latvia chose to share the adjustment burden between lowering real wages and accepting a somewhat higher level of unemployment.

Regarding banking crises, the paper rightly focuses on the many drawbacks that arise from the rigid nature of CBAs. However, I believe CBAs can provide a healthy, although harsh, environment for dealing with such crises as a rule-based CBA brings to the surface a clear distinction between "liquidity crisis" and "solvency crisis." Moreover, a currency board can be modified to ease solutions to liquidity problems, and it deserves to be remembered that no exchange rate arrangement can offer sustainable solutions to a solvency crisis in the banking system. But a currency board can help the public to differentiate between currency credibility and individual bank credibility, which, in turn, could make it easier for the authorities to resist pressure for bailing out insolvent banks.

I subscribe to the idea that, in practice, some monetary and lender of last resort (LLR) functions in a CBA are needed to limit the risks of systemic liquidity crisis. However, in order to preserve the credibility of the CBA, only reserves in excess of the currency backing must be employed. If properly engineered, limited central bank functions can complement a CBA, because a severe liquidity squeeze during a banking crisis could be addressed explicitly. The downside is, however, that if the central bank is not sufficiently insulated from political pressures, funds risk being misused for bailouts, particularly in the early years of transition before the nature of individual bank problems are well understood. How to proceed if a need for fast access to extra resources in case the limited LLR facilities in a CBA should come under pressure is, however, a difficult question. To build in some level of automaticity that would allow a CBA country to draw from the Fund in such a case may have certain positive features, but it also raises difficult questions as comes to conditionality which would have to be analyzed carefully if we were to proceed further with this special feature in a program with a CBA country.

Conditions of entry into CBAs are an important concern in the early stages. Economic conditions were broadly comparable in the three Baltic countries after the collapse of the Soviet Union, but the political conditions and the timing of the introduction of the CBAs varied. Estonia's CBA credibility was facilitated by its fresh and timely start that coincided with the introduction of the new national currency, the kroon, which distanced the new regime from the high inflation ruble that had plagued the country previously. Furthermore, the CBA was viewed as a step toward the longer-term goal of increased integration with and membership of the EU. The new currency united politicians, monetary authorities, and the population at large, who easily identified themselves with a fixed nominal exchange rate, even if the general understanding of market-oriented economic policies was limited. In the case of Lithuania, in comparison, the CBA was introduced in response to large fluctuations in the exchange rate of the litas, which had been put into circulation ten months before the introduction of the CBA. Moreover, while the initiative to introduce the CBA came from the government, the central bank expressed a desire to continue along the road of money-based stabilization. However, the central bank made an extra effort in preparation for the CBA by maintaining a stable nominal exchange rate during the half-year period prior to the introduction of the CBA, while a national debate on the issue was taking place. Undoubtedly the fact that the Litas was not immediately associated with stability at the time of its introduction, and the long national debate about the foreign exchange system, made the life of the CBA in Lithuania somewhat more "bumpy." The situation was not made easier by the strains put on the country by the difficulty in financing energy imports, and later the large problems in some major banks. Thus, the CBA was tested by currency outflows, which strained resources in the economy, but there was never any real threat to the CBA. In retrospect, I think it is fair to say that the CBA has served the country well during these difficult years. As for the future, the authorities in Lithuania have now started to prepare for a full-fledged central bank and an orderly exit from the CBA as a step toward increased integration with the EU.

Regarding the life expectancy of CBAs, I tend to see their duration more as temporary to semi-permanent, as their inflexible nature, to my mind, makes a CBA less well suited for coping with well-developed modern and dynamic financial markets. Regarding exit strategies, one could argue that entry and exit are subject to the same primary risk factor: if the policy content is not sound, credibility suffers—the policy framework should be like a "corset" and help form the economic body into an attractive figure, but, if sound financial policies do not put the economic body into good shape, the corset gets overburdened and risks breaking at the seams. Thus, the primary policy choice is always between good or bad policy contents, while the choice between the "corsets," although a policy matter, is more a technicality. Therefore, good policy content makes both slipping in and out of the "corset" easy. At the exit juncture, however, I have a bias toward changing to pegged systems, because of their anchoring role in the marketplace. In the policy context, and in the public eye, an anchor of stability has a way of inspiring a notion of credibility.

Mr. Mohammed, speaking on behalf of Mr. Shaalan, made the following statement:

I wish to thank the staff for a timely paper that sheds considerable light on the rationale and the necessary conditions for establishing a currency board. The discussion of the experience of countries that have established such arrangements, while limited, was particularly useful in this regard. The identified policy lessons that can be drawn from the papers are noteworthy and are in many important respects, particularly on the issue of exiting from a fixed peg, relevant to countries with a de facto or a de jure nominal anchor.

In their pure form, as defined by the staff, currency board arrangements (CBAs) are too inflexible and cannot be expected to coexist in a lasting manner with economic shocks that are likely to emerge in most countries. The built-in rigidities—particularly the elimination of traditional central bank functions, such as monetary regulation and lender-of-last-resort—could well carry the seeds that ultimately undermine CBAs. However, any built-in flexibility should be transparent, carefully defined and designed, and applied in a manner so as not to discredit the raison d'etre of CBAs.

The necessary conditions that are to be in place before establishing a CBA should not be underestimated, neither are the policies to be pursued following its establishment. These aspects have been well identified by the staff. Here, I would underscore the importance attached to a healthy well-functioning banking system which is adequately supervised and regulated. Additionally, the heavy burden to be shouldered by fiscal policy and the added importance that must be accorded to structural reforms are also crucial. Attention to these areas could reduce the pressure on the exchange rate to appreciate and contain the unfavorable effects of currency appreciation. Indeed, the fiscal and structural aspects must be viewed as substitutes for the constraining aspects of CBAs.

Other than small countries with open economies who may wish to belong to a currency union, the advantages that can be reaped from establishing a CBA derive from the economic and institutional conditions existing prior to its establishment, and the commitment of policy makers to take the appropriate policies to ensure the success of the new monetary/exchange arrangement. The staff is correct in emphasizing that CBAs alone do not generate credibility—it is the appropriate policy stance to support such an arrangement that enhances the credibility of the arrangement. Establishing such an arrangement without supporting policies, like with any other exchange system, could be dangerous.

In situations where a country has just emerged from the ravages of a protracted conflict and where the institutional framework does not permit establishing a central bank, the case for a CBA may be strong provided: (a) it is viewed at the outset as a transitional arrangement; and (b) the transition period is well defined and is deliberately utilized to build up the necessary tools for a monetary institution to function effectively.

In situations where the introduction of a CBA is occasioned by the need to re-establish a much-tarnished policy credibility, which would be needed to restore the effectiveness of monetary policy (e.g., following periods of rapid inflation/exchange rate depreciation), the transition period as well as the exit strategy are more problematic. While it is a virtual truism to say that it is more opportune to exit when there is upward but not sustained pressure on the exchange rate rather than when there are downward pressures, this cannot be viewed as an adequate guide as to when it is appropriate to exit. Additionally, it would appear to be extremely difficult to judge when credibility has been established and it is relatively safe to exit the arrangement. The question is how does a policy maker know when it is appropriate to exit. This aspect of the staff paper could possibly benefit from further investigation. Any additional views at this time would be appreciated.

The staff details a number of weaknesses that characterize CBAs. These weaknesses need to be clearly understood by policy makers before embarking on such an arrangement. Let me highlight the most important ones. First and foremost, policy makers may not be able to shoulder the burden of the needed fiscal policy strengthening or the structural reforms to support such a system. It is one thing to identify the general policy areas that merit attention, it is altogether a different matter to implement the fiscal stringency or much less the structural reforms, particularly in the labor and goods markets, while taking away an important degree of flexibility. These difficulties should not be underestimated. Second, putting aside the problems associated with the exchange rate selected for the entry into the arrangement, in some cases overvaluation of the real exchange rate has emerged (appropriately defined, and here I don't mean indications given by simple measures of the REER calculations on which I have misgivings). This could result in two adverse developments: (a) a condition of tight liquidity and high unemployment could persist for a long period while corrective action is being taken;
(b) competitiveness could be adversely affected; and (c) as the staff point out, when the economy is subjected to shocks or when the reserve currency's relative value changes, there is no mechanism to address these changes. I would have liked to see a fuller analysis of this situation. Staff comments would be appreciated.

The advantages and drawbacks of the CBA, in my view, lead me to be inclined to view these arrangements in most cases as transitional and, where possible, an exit strategy and the conditions attached to that strategy should be clearly enunciated. I am aware that this may reduce the credibility of a CBA, but the needed credibility should emanate from the supporting policies rather than by merely establishing a CBA. The main emphasis of Fund advice should be on the fundamentals of macroeconomic policies and supporting evolutionary institution-building to increase both the flexibility and ability in monetary management.

Ms. Lissakers and Mr. Sobel submitted the following statement:

In the 19th century, currency board arrangements (CBAs) were employed in several highly open and small British colonies to facilitate currency management from the center in an easy and cost-effective manner. As staff notes in its excellent papers, CBAs have witnessed a revival in the 1990s. But this revival is born of a rather different intent than the colonial legacy.

Today, CBAs are seen as a means of imposing a simple, transparent and stringent rules-based approach which eliminates discretion in policymaking so as to build confidence in countries where track records have either not been established or been characterized by de-basement of the currency through extreme monetary mischief. This distinction between the colonial legacy and the present is critical to a consideration of CBAs in the current context.

CBAs are basically a fixed exchange rate regime, with the distinguishing characteristics that there is a legal prohibition on exchange rate changes and no discretion in altering the supply of base money. As such, CBAs face many of the same limitations of exchange-rate based approaches to stabilization.

CBAs may not be well suited on a permanent basis to large countries. The larger the country, the more likely it is to retain the properties of an optimal currency area in which there is greater scope, in comparison with a small open economy, to conduct a more independent monetary policy. Historical evidence suggests that larger countries especially have been unwilling to subordinate domestic objectives to an external discipline.

Real appreciation can become significant over time, resulting in a loss of external competitiveness and serious currency misalignment. Movements in capital flows under fixed-exchange regimes can be influenced by a wealth of factors that do not reflect the domestic needs of the economy.

It goes without saying that no exchange rate regime or system of monetary policy management is a panacea in and of itself. Sound outcomes are the result of sound policy implementation. Without political will to implement sound policies or public faith in those who rule, no monetary regime will produce confidence and sustainable growth. This is especially true of CBAs, and given the generally weakened credibility of the authorities launching CBAs and the extreme disciplines of the arrangement, a decision to establish a CBA should not be taken lightly. The costs of failure, as staff rightly notes, can be especially devastating.

Notwithstanding these caveats, however, we believe that in very limited circumstances, there could be a transitional role for CBAs in the current environment. In particular, we could envisage a role for such arrangements in countries where there is an urgent and clear need to build credibility and economic policy institutions as a means of establishing confidence and where there is a reasonable expectation of significantly improved policy performance. Also, CBAs may be more suitable, in such cases, for countries that are relatively small and undergoing profound political and economic transitions. That having been said, we would appreciate staff's views on criteria it would employ in determining whether a country was a suitable candidate for a CBA and how staff would distinguish between candidates for CBAs and fixed exchange rate regimes.

Fiscal policy is at the heart of the re-definition of the state in emerging economies and the broad array of reforms needed for market-led growth are reflected in public finances. Many such economies, lacking indirect instruments for monetary policy control, have financed budget deficits by printing money. For them, fiscal mischief is the real culprit in failed stabilizations. As successful CBAs prevent recourse to monetary financing of deficits, they can have a critical bearing on improving the conduct of fiscal policy. In our view, this factor is every bit as, if not more, important in the current context than the implications of CBAs for monetary policy.

That having been said, the implications for the institutional environment for monetary policy are, to be sure, significant. Central banks in emerging economies are often overcoming the legacy of being the government's passive financier and often have yet to assert independence from the government and to develop the institutions and human capital for operating a central bank in a market environment. Given failed stabilization efforts and these constraints, confidence is understandably lacking. Accordingly, the simplicity and transparency of CBAs can help in quickly establishing a framework for good policy management and thus restore confidence.

The staff paper does a very good job in cataloguing different modifications countries have adopted to make their CBAs function. But it would be useful for staff to outline its thoughts on what modifications to a pure CBA are essential if a country is to have a viable CBA.

In this regard, we feel that at the outset, CBAs should ensure at a minimum that base money is fully backed by reserves. Over time, as confidence is restored and institutional capacity grows, other features of a central banking system—if they do not yet exist—should be pyramided on top. These features can include lender of last resort support, open market operations, and changes in reserve requirements to regulate liquidity. In this connection, the Estonian case in which excess reserves are used to provide lender of last resort support strikes us a sound approach, as does Argentina's recent establishment of a credit line to create a new financial safety net. We are also skeptical that a sound banking system can be a precondition for the adoption of a CBA. Countries that might wish to adopt a CBA in the current environment often have banking systems in need of restructuring and modernization. Staff rightly highlights these vulnerabilities, however, and the implicit and explicit costs of cleaning up banking systems must be carefully factored into the design of fiscal programs.

Establishing a CBA (or a fixed exchange rate) also raises interesting questions concerning the setting of the initial exchange rate. Our impression is that staff believes the initial rate should be fairly close to a notional "equilibrium" rate. We would take a more relaxed view, however, toward adoption of a lower initial rate in certain cases.

As many emerging economies hold few reserves, a lower initial rate can help provide reserve cover for base money. More importantly, countries should put in place credible and sustained market-oriented policies that will bring inflation down to very low levels over time. During this period, inflation may decline less rapidly than envisaged toward industrial country levels due to administrative price changes, relative price shifts as service sectors grow, and convergence with the world economy. Further, a successful CBA (or fixed rate), versus a successful money-based stabilization cum nominally appreciating flexible rate, may help promote faster remonetization, spur exports and impart greater stimulus to growth at a time when an economy might be overcoming output losses. In the case of a demonetized country, remonetization under a CBA will require the country to run an external surplus. Also, this is a time when shifts in demand for money are likely to be considerable, and rising money demand can be accommodated through a buildup in NIR without creating inflationary pressures.

The current economic environment and the limitations noted above argue strongly for developing exit strategies for CBAs. But exit strategies must be carefully designed, lest they undermine the very confidence which they seek to achieve. A premature exit would undermine confidence-building and not allot sufficient time for institution-building, while an overly slow exit might constrain an economy's potential and development over time. To be sure, it is far better to exit in a position of strength than weakness. At the same time, it also seems to us that citizens may recognize the exceptional circumstances which led to creation of a CBA and thus would likely understand why a government that has successfully restored confidence under a CBA would wish to abandon it at an appropriate juncture. The Bosnian Constitution, which provides for the establishment of a CBA for six years, reflects these conceptual points.

As regards some further implications of CBAs for the Fund, as it has in recent years, the Fund should be prepared to back countries with CBAs with technical and financial support. But CBAs should be considered exceptional as they are extremely onerous and rigid and the costs of failure can be extraordinary. They should be seen as a transitional tool rather than a permanent feature of monetary management.

First and foremost, before recommending a CBA to the Board, staff should be fully confident that the political will exists to rigorously implement the CBA. There is little reason to recommend such a solemn undertaking, when there are doubts that authorities are fully committed to the pursuit of the disciplined macroeconomic and sweeping structural reform policies necessary to underpin the CBA. Staff must also recognize that despite its best program design, unless the public at large is convinced of the authorities' seriousness, lower interest rates associated with heightened confidence will not soon materialize.

Fund support could be used to back the CBA and/or provide lender of last resort support. Indeed, there may be grounds for providing additional Fund support, perhaps as a line of credit, that could be drawn upon in case of proven need. Once the country develops its own reserve cover plus an appropriate cushion for lender of last resort support, consideration could be given to early repurchase expectations. The Fund's previous work on currency stabilization funds may be instructive in this regard. However, such support should be extended only with great caution, given the obvious risk that sustained market pressures on rigid exchange rate regimes could quickly exhaust even large reserves.

Mr. Zoccali and Mr. Costa submitted the following statement:

We hope that this Seminar on Currency Board Arrangements (CBAs) will contribute to a better understanding of the necessary conditions for their success and facilitate more informed decisions regarding both applicability in particular countries and the provision of the Fund technical and financial assistance, once the arrangements are in place. Staff should be commended for the two high quality and comprehensive papers produced. We would support their publication after taking into account today's comments. Since numerous references to Argentina are contained throughout, some specific clarifications will be provided bilaterally to staff.

The basic operational features of CBAs are well explained in the papers, nonetheless, some aspects deserve to be highlighted. First, CBAs are not just a special type of pegged exchange rate arrangement. They represent rather a special type of monetary policy rule that ensures that money supply and demand are always balanced. This feature means that one of the monetary authority's main tasks, that of estimating the demand for money and of deciding the amount to be supplied, has been taken care of from the outset, thus offering greater assurance that monetary conditions will not disrupt the orderly functioning of the financial markets and the real economy. In essence, the difference between a CBA and an alternative monetary arrangement as usually found in developing countries could be seen as the difference between rules and discretion.

The straightforward simplicity embedded in CBAs is sometimes viewed as a disqualifying characteristic given the complexities of a modern economy, leading to the implication that it may not play more than a transitory role and even this, under very special circumstances.

A common criticism of CBAs is the loss of sovereignty in the formulation of monetary policy since the country adopting it follows, in fact, the monetary policy of the country to which its currency is pegged. This assumes, however, that monetary authorities are able to control the level of interest rates, which does not necessarily hold in small open economies. Under conditions of capital mobility, domestic real interest rates are largely determined by foreign interest rates and the country risk premium. As soon as economic agents perceive that the central bank is creating money to stimulate the economy, nominal interest rates tend to rise in anticipation of future inflation and higher risk, quickly making such a policy stance self-defeating. On the other hand, by preventing inflationary currency issue, CBAs help to improve confidence and to reduce country risk. Developing economies often adopt a discretionary monetary policy to be able to collect the inflation tax. This too could become self-defeating to the extent that, to collect a given amount of inflation tax in real terms, increasing domestic credit expansion and accelerating depreciation of the nominal exchange rate become necessary, thereby further weakening the credibility of monetary policy.

Since a CBA requires that monetary liabilities be backed by international reserves, the monetary authority is precluded from extending credit to the banking system. This may indeed be a serious obstacle in the presence of a run on problem banks. However, the 1994 Mexican financial crisis has proved, at least in the case of Argentina, that CBAs have limited but important flexibility in their capacity to generate liquidity in special circumstances. In those cases where the entire monetary base, cash and legal reserve requirements, are backed by official international reserves, a reduction in the level of legal reserve requirements, can provide a considerable amount of liquidity to shore up problem banks and stop a run. The initial specification of the backing rule is also important when it comes to assessing the CBAs built-in flexibility. Argentina adopted a minimum legal backing ratio in liquid international reserves of 67 percent of the monetary base, together with a maximum legal level of holdings by the Central Bank of foreign currency denominated government securities valued at market prices. The actual backing ratio, however, exceeds the level of total monetary liabilities, while the official liquid international reserve component covers around 95 percent. In addition, it introduced a limit on the increase in central bank holdings of foreign currency denominated government securities of up to 10 percent in a given year, to give confidence that the broader backing definition will not abused.

The "ex-ante" availability of contingent foreign lines of credit that could rapidly be tapped is also relevant for assessing the capacity of a given CBA to withstand an unanticipated liquidity crunch affecting the domestic financial system. Argentina has recently signed with a syndicate of international banks a \$6.1 billion medium-term repurchase facility to mobilize the pool of foreign currency denominated government securities held by the financial system in unfavorable circumstances. That line additionally covers some 10 percent of total deposits in the domestic financial system and has served to further strengthen depositor confidence, thereby reducing the probability of its use. Taken together with the liquidity requirements, the lender of last resort capability of Argentina could reach 28 percent of total bank liabilities.

Fund financial support of CBA anchored programs is, in our view, fully consistent with the objectives of this institution. So, too, would be automatic access in the context of such programs in case of particularly strong unanticipated liquidity pressures. In this regard, the advantage of CBAs is that access to LLR facilities is "ab initio" assumed to be limited and exceptional, thereby inducing banks to more rapidly tighten management practices, preserve shareholder equity, and build up own safeguards against different types of risk, i.e., by maintaining both high capital-asset ratios and provisions against credit and trading risk. The CBAs' more limited access to formal LLR facilities also serves to limit the quasi fiscal costs of potential banking crisis.

Fund advice to countries with CBAs should allow for some short run intervention in money markets to counter interest rate volatility associated with day to day liquidity mismatches. The more general, first-best, Fund prescription should remain where feasible, the generation of sufficient fiscal surpluses that would permit accumulation of excess international reserves to ensure that unanticipated short-run lending to the banking system does not raise doubts regarding the CBA's ability to back monetary liabilities. Fund monitoring should ensure that off-balance-sheet transactions, in particular, are not used to inflate actual backing.

A principal objection to CBAs is that by fixing the nominal exchange rate a country loses the possibility of resorting to exchange rate devaluation to correct misalignments due, either to the overvaluation that generally accompanies exchange-rate-based stabilization programs, or to external shocks. Paragraph 27 of the main paper rightly notes, however, that real exchange rate appreciation following the adoption of a CBA in several cases may not have translated into significant losses of competitiveness due to the so called "productivity bias." Where CBAs enhance the credibility of a fixed exchange rate regime, companies and managers are more directly encouraged to adopt cost-reduction strategies, including new technologies, and restructuring techniques that increase the productivity of capital. This modernization drive, which often entails substantial labor-shedding, initiates in the tradable sector but in the end encompasses nontradable activities helped by reductions in domestic real interest rates stemming from lower exchange rate risk. An additional externality would be the lengthening of public and private debt maturity schedules, which in turn helps to reduce vulnerability to changes in interest rates.

The impact of external shocks, on the other hand, will depend on the nature of the shock. It is true that a terms-of-trade deterioration, for example, will affect the trade balance and contract the monetary aggregates. However, the rule-based environment of the CBA could also serve to attract foreign capital and more than compensate for any initial negative shock on aggregate output originating in the tradable sector.

Paragraph 28 of the staff paper highlights the risks of poor credit quality associated with the rapid expansion of credit. The vulnerability of banking systems in the context of large capital inflows should not be ascribed exclusively to CBAs or fixed exchange rate regimes in general. A very relevant aspect not raised in the paper, precisely for situations of large inflows of capital, is that CBAs avoid altogether pressure for nominal appreciations of the exchange rate under more flexible exchange rate mechanisms, which can have more deleterious effects on competitiveness than the initial real appreciations pointed to in exchange rate-based stabilization programs.

Many of the presumed weaknesses of CBAs could be construed also as strengths, i.e., the built-in anti inflationary bias against monetization of fiscal deficits, the inducement to responsible banking behavior, the reduced fiscal costs of financial crisis from limited LLR capabilities, the incentives for productivity gains associated with more credible fixed exchange rates regimes and the usefulness of nominal exchange rate fixity for competitiveness and growth in the presence of large capital inflows.

As importantly, CBAs serve not only to unleash the full potential of the private sector but also to force radical streamlining of the public sector left without easy recourse to central bank credit or to the inflation tax. The rigidity of the exchange rate serves to shift the focus from macro to microeconomic policy formulation. Increased flexibility in goods and labor markets substitutes for exchange rate changes that often have only a temporary and delusive impact, particularly if real wages are sticky. In this last scenario, the only way of reducing structural unemployment would be through policies that shift labor demand upwards, either by raising productivity or lowering nonwage labor costs. Even if nominal exchange rate corrections were capable of reducing real wages, this would most likely occur at the expense of further increases in productivity and labor market deregulation.

Clearly one of the main strengths of CBAs is the credibility it affords to the formulation of sound monetary and fiscal policies. In an age of rational expectations and time inconsistencies, credible macroeconomic policies constitute an invaluable asset that free economic agents from the burden of having to anticipate the impact of discretional government policies. It also frees the monetary authorities from having to fine tune their policy to strike the right balance between money supply and demand. Thus, CBAs can increase the overall efficiency of the economy while making more apparent the real constraints, i.e., outmoded productive structures, artificial comparative advantages, overly rigid markets and structural fiscal deficits, all of which need to be addressed.

Finally, CBAs not only have a dramatic impact in lowering inflation, thus reducing the distortionary and regressive impact of the inflation tax, but also in enhancing fiscal revenue by way of the reestablished seigniorage on holdings of foreign assets.

Staff rightly points out that CBAs are less vulnerable to destabilizing capital outflows and self-fulfilling currency crises than conventional fixed pegs and that their convergence to international interest rates is also superior. The radical distinction between these two systems, that may account for their different performance, is that while conventional fixed pegs promise a monetary policy consistent with a fixed exchange rate they are not bound to deliver it at all times. This is particularly relevant in times of sluggishness or shocks when monetary policy tends to be loosened, thereby accelerating the demise of the conventional peg. The so-called "exit problem" is consequently more pertinent to fixed pegs than to CBAs. As noted in paragraph 24 of the main paper, while there are no contemporary examples of CBAs abandoned under stress, many pegged exchange rate systems suffered that fate.

Having said this, section V of the paper, on the duration of CBAs is less convincing in several respects. Paragraph 67, for example, stresses that over time "the weaknesses derived from a CBA's inflexibility may become more relevant and apparent" and that "its eventual abandonment may be viewed as the natural conclusion of a transitional process," particularly for countries where "full monetary and exchange rate flexibility is seen as an important long-term goal." It is difficult to understand the meaning of such assertions in an environment of increasing capital mobility. On the other hand, paragraph 83 relates the concept of "graduation" to the cases of Ireland in the 1970s and Luxembourg in the 1980s, despite the fact that both of these countries considered it desirable to participate in the fixed exchange rate mechanism of the EMS. Will they "graduate" again when EMU enters into effect and their domestic currencies disappear altogether? the same paragraph also implies that the needs arising from increasing monetization can best be satisfied by a conventional central banking arrangement. Separating out the demand for money from the quality of its backing, particularly in countries that were exposed to hyperinflationary experiences before adopting a CBA is not a straightforward proposition. Moreover, the implication that increased monetization needs may not be met ignores the tenet that in a financially open economy, persistent money demand pressures give rise to balance of payments surpluses, either through reduced absorption or net capital inflows, which provide the necessary backing for the CBA.

The operational simplicity of the currency board mechanism should not lead to the conclusion that it can successfully be introduced in countries where central banking expertise is limited or in those emerging from chaos. If anything has been learnt, it is that it must be accompanied by a sound fiscal policy predicated on improvements in the functioning of the tax system and its administration, by an incentive structure based on strong prudential regulations and a sophisticated supervisory framework to foster banking soundness and, last but not least, by a firm commitment to advance flexibility in the factor and goods markets.

As noted by staff in Section IV, the importance of a relatively high level of banking expertise and institutional infrastructure should not be underplayed if the scope for monetary management and LLR support is to be fully exploited under a currency board arrangement.

Although not usually listed as an entry condition, the degree of dollarization in a given economy may also indicate the appropriateness of recommending adoption of a CBA. In the first place, a high degree of dollarization already implies a serious limitation to the exercise of monetary or exchange rate policy independence. Secondly, by allowing for dollarization CBAs can reduce the vulnerability to speculative attacks on the currency. The fact is that dollarization normally precedes adoption of a CBA. The Argentine Convertibility scheme specifically recognizes this by allowing complete bimonetarism whereby foreign currency along with the peso can be used as legal tender and exchange rate risk can easily be hedged by redenominating financial assets from domestic currency to the foreign currency of choice without abandoning the financial system. This was indeed the first reaction of investors to the Mexican financial crisis. It was only its protracted character that led them to subsequently transfer some 18 percent of their deposits out of the domestic financial system.

Before concluding, a few specific comments would be in order regarding the effectiveness of the CBA in the Argentine context. The fact that almost six years have passed since its introduction and its resounding success both in reducing inflation, to 0.3 percent in consumer price index terms for 1996, and in turning around total factor productivity growth, to some 6 percent per annum, are by themselves no small feats in a country, where per capita GDP in 1989 was 10 percent lower than in 1980, where the fiscal and quasi fiscal deficit of the national government was 15.8 percent of GDP and where gross investment stood at only 14 percent of GDP. The three key elements of the Argentine CBA arrangement are that it was established by law, it abolished price indexation and it allows contracts to be denominated in foreign currencies while affording foreign currencies the status of legal tender. In view of the lingering and widespread dollarization, bimonetarism allowed for the consolidation of maturities in the financial system and the elimination of the short term debt overhang. The success of the CBA in stopping hyperinflation quickly (by the end of 1991 inflation was already below 20 percent), without generating a recession or regressiveness in income redistribution produced the widespread support needed in a democratic system of government to sustain good economic policies. However, the most unprecedented characteristic of the Argentine turnaround under convertibility was the extent and depth of microeconomic reforms, in a democratic setting and when the external terms of trade were at historically low levels. Although some tradable activities were hurt by the initial real appreciation and trade liberalization, convertibility forced entrepreneurs to rapidly improve management and incorporate new technology which, given Argentina's history, most probably would not have occurred had the devaluation option existed. Instead, the government considered the most effective strategy for assisting export and import competing industries to be trade liberalization, and extensive privatization cum deregulation in energy, telecommunications, mining, ports and transportation, thereby reducing the relative prices of key inputs and increasing their supply both quantitatively and qualitatively. The policy sequencing also helped to mitigate the relative price squeeze on tradable activities through implementation of measures aimed at generating expansionary supplyside shocks, i.e., by reducing or eliminating distortionary taxes. Finally, to avoid unmanageable current account deficits the authorities addressed relatively early on the problem of relatively low national savings by reforming the pay-as-you-go social security system and by changing the focus of tax policy by taxing consumption rather than savings. The resulting cost reductions and productivity increases explain why, despite the fixed nominal exchange rate and the appreciation of the real exchange rate between 1991/3, exports increased by about 75 percent in the three-year period through 1994. Despite the reversal of fortune in 1995, Argentina's reaffirmation of its commitment to clear and simple rules, macroeconomic discipline and a proactive stance to improve microeconomic management, produced the return of growth in 1996 with price stability and a monetary and financial system that looks more solid and credible than before. The major remaining problem, that of unemployment, no doubt aggravated by the slower progress in dealing with labor market rigidities in a country with a history of strong labor unions, is nevertheless also being confronted. Here, too, the approach has been to shy away from ephemeral measures and to attempt the full revamping of outmoded labor codes and afford labor markets the greater flexibility needed to enhance competitiveness.

We view CBAs as efficacious instruments for advancing macroeconomic stability and for creating the proper incentives for fuller and more efficient use of a country's resources. The operational simplicity of CBAs may lead, however, to misguided conclusions regarding the scope of their application. The Fund should be well advised in exerting prudence when recommending the adoption of CBAs to member countries, particularly if these lack firm political commitment and their institutional frameworks in the fiscal and banking areas are not well established. Finally, we would welcome additional research on the dynamics of dollarization, particularly in the aftermath of stabilization, before unambiguous conclusions are reached regarding the transitory nature of CBAs and eventual exit recommendations.

Mr. Autheman made the following statement:

First of all, I would like to commend the staff for the two excellent and comprehensive papers on currency boards. On the design of the paper, I would have only a minor remark. I think that the paper would have benefited from a more general comparative study of different nominal anchor schemes to highlight the differences between CBA and other kind of exchange rates arrangements. As Mr. Zoccali pointed out, some problems, such as vulnerability of banking systems, are shared by other fixed exchange rates regimes in developing and emerging countries.

As pointed out by several speakers, it is difficult to draw general lessons from past and current experiences of CBA's as they fall under different categories. This makes it difficult to identify the conditions where CBA could be recommended as an exchange and monetary regime. But, overall, in view of the strong conditions to make a successful CBA and the inflexibility of its rules, we feel reluctant to recommend a CBA as an ordinary instrument to organize the monetary and exchange framework of countries. Nevertheless, in case of very specific features, a CBA could be an appropriate tool:

First, in the case of small open economies, which rely heavily on other economies, a CBA may be set up as a permanent framework; nevertheless, the stability of such a framework could be undermined following a reorientation of capital and commercial flows;

Second, in the case of countries where a noncredible local currency is being widely substituted by a foreign currency which serves as a store of value and in most cases performs a transaction function. The CBA may be an orderly way to organize a dual-money economy and in some cases a preliminary step before restoring confidence in the domestic currency.

Turning now to the conditions of the setting up of a CBA, I think that ex-ante conditions on banking, fiscal soundness or flexibility of the economy are unrealistic. The fulfillment by a country of these prerequisites would probably make the CBA unnecessary. However, the CBA implies a strong commitment to irreversible fiscal policy adjustment as CBA prevents the monetary financing of fiscal deficits. In addition, fiscal consolidation is a necessary way to build up reserves in the future. The consolidation of the financial system is also necessary as the central bank may have a only very limited LLR function.

This last point emphasizes the need for some flexibility of the monetary framework along the lines designed in Argentina in order to reduce the tensions and uncertainties created by the backup of the monetary base by foreign reserves.

Concerning exit strategies, I think that there are common features to fixed exchange rate regimes that the authorities wish to relax in order to regain monetary autonomy. An obvious case is when special pressures could trigger an exit from the CBA: this could happen when the local currency is clearly under, or overvalued. However, when a CBA has proved to be successful, the need for exit is less obvious and the decision is not an easy one. On one hand, there is not a clear need to exit the CBA, particularly if the economy remains a dual-currency economy; on the other hand, the stabilization of the economy provides the opportunity to exit the CBA smoothly. The question here—and there is no definitive answer to it—is to what extent a CBA reduces the potential growth of the economy on the long run.

My last point is on the use of fund resources. It must be clear that it is not the role of the Fund to create incentives for the adoption of a specific exchange rate regime. Nevertheless, it could be relevant, in a limited number of cases, to contemplate the setting up of a CBA in the framework of a Fund's program. Concerning the practical modalities of the Fund's intervention, the staff report does not provide evidence on the inadequacy of current schemes to the financial support of a CBA. When the banking system is under stress, flexible use of reserve requirements and, ultimately, fiscal resources, are appropriate responses: to this extent, one may argue that the LLR function is de facto performed by the budget.

Mr. Disanayaka, speaking on behalf of Mr. Sivaraman and Mr. Kannan, submitted the following statement:

We take this opportunity to thank staff for providing us with a balanced set of papers. There is no doubt that Currency Board Arrangements (CBAs) are attractive to small open economies with limited central bank expertise and incipient financial markets and in particular to countries where lack of credibility severely constrains the effectiveness of monetary policy. However, as well argued by the staff, a CBA cannot by itself create credibility unless accompanied by strong policies. The experience of many stabilization programmes clearly support the view that in the absence of such strong policies, credibility will remain low which would undermine the sustainability of the CBA itself.

A Currency Board is a rule based monetary system, which serves to establish credibility and avoids losses. There is no doubt regarding the transparency and simplicity of CBA. The operating rules of CBA are easily understood by the general public. Pegging exchange rate simplifies the operation. However, we do not believe that CBAs weaknesses are the flip side of their strengths. While the commitment to preserve the parity is an asset in times of instability, it could become a liability in the presence of large exchange rate misalignments. This risk can be particularly serious in cases where it is difficult to have any firm idea as to what would be the appropriate exchange rate. As rightly observed by Ms. Lissakers and Mr. Sobel, the initial exchange rate should be fairly close to a notional "equilibrium" rate. But the moot question is how to identify this notional rate. Hence, pegging the exchange rate just prior to the introduction of CBA would be a very difficult task. Correction of real exchange rate misalignment in a CBA would require a prolonged period of tight liquidity and high unemployment that could risk CBA's sustainability itself.

Secondly, a rigid currency backing rule can increase the financial sectors' vulnerability to crises. Operational simplicity which is claimed to be the major strength of CBA appears to be a cost in that it may rule out the possibility of what would be viewed in other countries as important central banking functions.

Thirdly, as observed in exchange rate based stabilization, capital inflows initially delayed the lowering of inflation in most of the recently established CBAs. Such inflows contribute to rapid credit expansion and a consequent decline in credit quality, which leads to banking sector problems.

Experience clearly points out that capital flows on interest rate arbitrage may not be a perfect substitute for central bank liquidity management. Hence CBAs abstention from performing monetary operations and reliance instead totally on capital flows to regulate liquidity may subject the economy to unnecessary fluctuations. Interest rate arbitrage is having limited scope in the short run owing to transaction cost, credit risk, and market imperfections. By increasing interest rate volatility and consequent failure to absorb day to day liquidity, mismatches can increase intermediation spreads and penalize financial transactions.

On a careful balancing of the strengths and weaknesses of CBA, the weaknesses clearly overweigh the strengths. Over time, the weaknesses derived from a CBA's inflexibility may become more relevant and apparent and the arrangements' usefulness may become less important. Hence, while rigid rules may be desirable during a transition phase, these rules become unduly constraining in the medium and long term. This strongly supports the view that CBAs could only be a transitory arrangement till sufficient policy ingredients are in place. It cannot substitute for a regular and normal central banking functions. Having said this, let me turn now to a few specific points.

It is argued that in CBA, interest rate converges rapidly toward international levels which enhances the credibility. It is our general perception that interest rate levels should exhibit domestic supply and demand conditions for funds rather than international situation. Hence, to what extent this type of convergence could coexist with other domestic policies which are tuned to domestic conditions is not clear. Staff comments are welcome.

We fully agree with the staff that colonial CBAs are not comparable to the current CBAs. However, we strongly feel that the proponents of CBA have overplayed the resilience of CBA as compared with the conventional fixed peg. In this context, the earlier Argentinean experience is worth examining further. What are the opportunities deprived as a result of CBA is the only way to assess the real cost of CBA. Although it is true that Hong Kong has been exposed to only two short-lived attacks on its currency since the introduction of CBA in 1983 this does not lend credible support to this resilience feature as substantial amount of foreign exchange reserves of Hong Kong must be the principal factor.

The settlement risk posed by CBA, as it is unable to provide the lender of last resort (LLR), has to be duly recognized. While the case against having a LLR facility is often made by proponents of CBA, its absence raises serious concerns. It is argued that absence of LLR should enhance the soundness of banking system by promoting market discipline, limiting moral hazard and inducing banks to reduce their exposure. However, banks may fail to take sufficient timely measures to avoid liquidity crises, which pose serious threat to the payment system itself. Hence some form of LLR facility is an important component of the institutional set up. In this context, the recent experience of Argentina is encouraging.

In cases where CBAs do not provide banks the opportunity to settle in the books of the central bank, some problems can emerge. In particular, it raises the risk of settlement failures, especially if the CBA is unable to provide LLR services. Not settling in the books of the central bank may complicate monetary management.

The staff has argued that while large foreign exchange reserve holdings could strengthen a CBA, the active use of these reserves for LLR or monetary operations could be seen as conflicting with CBA's basic principle. Most of the countries embarking on CBA do not have sufficient amount of foreign exchange reserves. Institutional arrangements, operational procedures and monetary and prudential instruments could be designed to reduce risk of a systemic liquidity crisis and in this respect, the use of reserve requirements as suggested by the staff is an acceptable solution.

To limit interest rate risk and promote flexibility, prudential regulations could be actively used. Furthermore, to increase the liquidity of the conventional system and reduce the vulnerability of deposits to loss, banks may be subject to reserve requirements in excess of amounts strictly needed by banks as settlement balances. But we are not in favor of remunerating these reserve requirements as such practices conflict with the efficiency of monetary policy instruments. Hence, on the basis of experience of many developing countries, including India, we suggest that this markup in reserve requirements may be kept to the minimum so that the profitability of banks is not affected and at the same time, the efficiency of the instrument is not hampered.

Finally, with reference to exiting from CBA, it would be difficult to judge when credibility has been established and it is relatively safe to exit the arrangement. As rightly observed by Mr. Shaalan, the question is how does a policy maker know when it is appropriate to exit.

We, however, believe that CBA is still the feasible option in the short term to have a break with the existing policy making process. Hence the Fund should be prepared to assist the countries with technical and financial support.

Mr. Bernes made the following statement:

Let me begin by commending the staff for preparing a comprehensive review of the issues related to currency board arrangements. I believe it is a timely paper—as we have witnessed in the past couple of years a growing fascination with currency boards among transition economies and developing countries that have had difficulties stabilizing their economies. Moreover, the staff appears to have been more supportive of currency board arrangements as a key part of adjustment programs in some countries. I think it is important that the Board, to the extent possible, forms a clear position on this issue in order to help the staff in its policy discussions with member countries that have a CBA or contemplating to establish one.

The two staff papers cover a number of policy and technical issues and raise some interesting questions. I will focus my remarks on three issues: whether or not currency boards are useful; implications for the Fund and Fund programs; and the need for an exit strategy.

Currency board arrangements are designed to help provide monetary stability and instill confidence in the convertibility of domestic currency when the monetary authorities lack the expertise or the necessary credibility to manage the monetary system. A CBA achieves these goals by removing the element of discretion in monetary policy through a legislated convertibility rule and by limiting the possibility of creating fiat money. However, I agree with Ms. Srejber that "the policy content matters more than the policy framework." Policy credibility and confidence in the value of a currency are direct consequences of pursuing sound macroeconomic policies and minimizing deviations from the stated policy objectives. A currency board cannot by itself create credibility.

This chair has always advocated more flexible exchange rate regimes and argued against systems that distort the functioning of a market economy. I realize, however, that in certain circumstances, legislated constraints on monetary policy may be required as a transitional measure to help the economy achieve stabilization. Small open economies that suffer from high inflation and a loss of investors' confidence in their monetary system can benefit from the external discipline of a currency board arrangement. One can also think of a situation where reform minded authorities in a country are subject to substantial political and public pressure to undertake policies that are inconsistent with their objectives. In such a case, a currency board arrangement would allow the authorities to depoliticize monetary policy and focus on other aspects of economic reform. Also, newly independent countries and those in a post-conflict situation, which lack the necessary monetary institutions and expertise may be good candidates for a currency board.

I would emphasize, however, that in all these cases a currency board should not be used as a substitute for sensible policies. The authorities should be firmly committed to improving the underlying economic fundamentals. In fact, if there is a firm commitment to stabilize the economy and the "policy content" is right there may not even be any need for a currency board. For example, as Figure 3 in the staff's background document shows, Latvia with a flexible monetary system has had a better inflation performance than Estonia and Lithuania who have adopted a CBA.

The staff has raised a question about the degree of flexibility that might be introduced in a currency board arrangement. Given that the main purpose of a CBA is to enhance policy credibility in countries that are experiencing high inflation and currency instability, it would be preferable, in my view, to maintain full convertibility and have little flexibility in terms of the ability to create fiat money. Any flexibility introduced into a currency board arrangement comes at the cost of lost credibility.

I do not believe that the nature of the Fund programs should be changed for countries that choose a CBA. However, given that in our view currency boards should be adopted only as a transitional measure, we believe that the Fund, in the context of its adjustment program, should urge the authorities, and assist them if needed, to create new institutions and strengthen the existing ones to prepare their economy for an orderly exit from the currency board. Otherwise, the economy would remain dependent on the currency board, which could have negative consequences. I will get back to this point later.

The staff also raises the issue of financial assistance by the Fund under a CBA. In this regard, there is nothing inherent in a CBA to reduce the need for financial assistance. On the contrary, given the need for a large stock of foreign reserve to back the monetary base, the up-front demand for Fund financing might be larger. Moreover, if the authorities were not successful in implementing the appropriate fiscal and structural policies, the CBA might come under pressure and the authorities might ask for even more financial assistance to maintain the CBA. Let me underline two points here: First, maintaining a CBA should not become the final policy objective of a country. If the conditions are such that a CBA can only be maintained at substantial cost in terms of real economic activity, then it would not be appropriate for the Fund to play the role of the lender of last resort to save the CBA. Secondly, conditionality of Fund assistance should not be compromised under any circumstances. This is necessary to prevent moral hazard and ensure the country's ability to repay the Fund at the appropriate time. Thus, it is not advisable, in my view, to introduce any level of automaticity in the provision of financial assistance unless it is clearly conditional on well specified performance criteria.

I would argue that the very restrictive nature of currency boards renders them inappropriate as a permanent arrangement. I don't believe under any circumstances, except in those cases where a country is preparing to join a common currency area, it is justifiable to keep the currency board as a permanent feature of the system. Currency boards are typically established at a time when economic conditions are weak, and as everybody agrees the overarching rationale for a CBA is to gain policy credibility. Over time, as the economic situation improves and confidence in the economy takes root, more policy flexibility would be needed to strengthen growth prospects. Argentina is a case in point. It has made significant progress in reducing inflation and stabilizing its economy since the Convertibility Plan went into effect. One would have thought that with improved economic conditions the authorities would be more confident and seek to establish a more flexible monetary system that would be more conducive to long-term growth and prosperity. However, it seems that maintaining the Convertibility Plan has become the main objective of the Argentine authorities. To use Ms. Srejber's analogy: the "corset" seems to have become more important than the "the shape of the economic body."

It is also very likely that in any CBA the initial exchange rate chosen would become misaligned over time as economic conditions change. If for example, a CBA succeeded in reducing inflation and stabilizing the economy, the currency would likely be undervalued (assuming that the initial exchange rate was close to the equilibrium level). However, as the staff notes, it is extremely difficult to change the exchange rate in a CBA without dismantling the whole arrangement. Thus, it is essential that countries who adopt a CBA be prepared to exit from it when the conditions are right.

The key question is how to make an orderly exit to a more flexible monetary system. The main risk is that the loss of the external discipline on monetary policy and the exchange rate as a nominal anchor might impair investors' confidence and lead to a speculative attack on the currency. I therefore agree that the dismantling of a CBA should only be considered when the economy is in a strong position.

In this regard, I believe the Fund has a very important role. It should help the authorities to design an exit strategy before establishing a CBA. One possibility would be to include a termination date as part of the legislation establishing the currency board arrangement. The termination date should be made conditional on achieving specific economic and financial targets. One could also envisage gradual loosening of the constraints of a CBA and replacing the exchange rate as a nominal anchor with other nominal anchors, like an inflation target.

The Director of the Monetary and Exchange Affairs Department made the following statement:

I have been very impressed by the number of statements, which I interpret as meaning that Directors have found these papers interesting reading. The statements raise a number of questions which I will now attempt to answer briefly.

Mrs. Gotz-Kozierkiewicz inquired about the degree of weakness in the banking system that would be acceptable under a currency board arrangement. My immediate answer would probably be none. It would be much better to have a sound banking system so as to make the operations of the currency board smoother. Yet, reality is rarely in line with what would be desirable, and currency board arrangements may be needed even with a vulnerable banking sector. The question is whether an acceptable level of vulnerability can be defined. I doubt that there is a single answer to that question. The importance of the currency board arrangements in many respects has been captured by Ms. Srejber in saying that the relevant issue is the policy content and not just the framework. The degree of vulnerability of the banks could influence the modality—the particular form in which the CBA is designed—and the strength of the policies. The weaker the banking sector, the firmer the policies will have to be, particularly on the fiscal side. To the extent that public resources may be involved in the restructuring of the banking sector, the fiscal position must be sufficiently strong to provide the necessary support; otherwise the CBA will come under strain. This is a question that can only be answered within the specific characteristics of the country in question, because not only vulnerabilities but also policy determination will vary across countries. Any program should involve a number of measures to deal with the banking sector weakness, and if the currency board is to operate properly, the weaknesses will have to be addressed firmly from the beginning.

Mr. Shaalan wondered when it is appropriate to exit from a CBA. That is a difficult question to answer. The optimal time would be when the CBA becomes redundant, that is, when credibility has been established to the point where there is no need for a framework to stress that credibility. But then one could argue, it is precisely under those conditions that no need exists to exit from it. In most cases, exit is envisaged when suddenly the policy implications of the CBA become too tight and the country is under severe resource pressure. In our paper we have argued that countries like Singapore that have exited have either done it in the context of a broader change of the regime—moving from the Bretton Woods par value system to a system of more flexible arrangements—or have done so in situations where the market pressure is toward appreciation rather than depreciation of the currency. In sum, there are no easy exits for policy regimes like the CBA, because such an exit would imply that the market has been convinced that policies will not be softened and therefore that the framework has become redundant.

Ms. Lissakers and Mr. Sobel wondered about the criteria for determining suitable CBA candidates. The paper characterizes suitable candidates on pages 21 and 22 as: small open economies that form part of a large trading area which would derive benefits from fixing their exchange rate to a larger reserve currency country; countries that need to establish credibility in policy; and countries that are setting up their central bank, and therefore need the time to develop expertise in monetary operations. In the process of transition it may be useful to have such a transparent and simple framework as that of a currency board in place. In some respects, other criteria are difficult to ascertain ex ante, because a CBA implies a certain choice of the policy package, that is, the degree of strictness that this policy package is to have.

Ms. Lissakers and Mr. Sobel also raised the question of essential modifications to the pure CBA that might be necessary to render it viable. The pure CBA has the merits of simplicity and transparency; and it has the demerits of rigidity. CBAs fit very well under the colonial regimes under which they were established, but they do not fit as well in the present world. Therefore, it is reasonable to consider modifications that could be made to a CBA to make it better suited to today's economic environment. Can this be done? Clearly, the framework of a currency board arrangement requires that the resources to undertake these other functions are clearly available so that doubts regarding the convertibility requirement of the currency board arrangement do not arise. This means that foreign currency backing must exceed that which would be necessary as a counterpart of the monetary liabilities of the currency board. Alternatively, those resources could be placed elsewhere within the government, in which case there would be some other official agency dealing with lender of last resort functions. In short, the additions to the currency board responsibilities must not endanger its fundamental commitment—the convertibility of the domestic liabilities in foreign currency. Even with available resources, there is some risk that the credibility may be impaired if the markets perceive that excessive concern with these other functions could lead to less firm commitment to the maintenance of the rules of the currency board. But in principle, with appropriate resources, it is possible to have a more complex arrangement that would allow functions in the monetary policy area, as well as systemic functions. The staff papers also discuss options and alternatives that were used in some of the countries that operate a currency board, e.g., the Argentinean case of finding ways for commercial banks to keep resources available in case of difficulty.

Mr. Zoccali wondered, quite appropriately, about the meaning of a goal of monetary and exchange rate flexibility in an environment of capital mobility.

His point is quite relevant, because it indicates that some of the constraints that currency boards place on monetary and exchange policy are not altogether absent in countries where no currency boards are in place. As the world becomes more unified, as capital flows more freely, as financial sectors become more deregulated, policy constraints are set on countries that have their own independent central banks. The currency board only makes those constraints tighter and more transparent. Hence, the relevant comparison is not between constrained policies under a CBA and unconstrained policies without a CBA. The trend in the international economy, in its process of integration and capital flow liberalization, imposes constraints on policies in all countries. These constraints differ in degree from those under a currency board commitment, but certainly not in essence. The larger the degree of integration, the closer those constraints will become across countries.

Mr. Bernes suggests that a currency board arrangement should have an up-front termination date. I see the reason that leads him to that statement, but I am somewhat uncomfortable with the inclusion in a framework the main purpose of which is to establish credibility in the pursuit of rules, of a termination date indicating when the observance of the rules will be lifted. There is a tension between these two features that can make it inadvisable to combine them. At the same time, I am very much for transparency. In some sense, currency board arrangements can be introduced on a transitional basis. In those cases, one could argue in favor of making this very transparent. Perhaps the answer lies in what I said at the beginning: These frameworks are best exited when they become unnecessary, when there is a sufficient track record of policy credibility. Therefore, it is always difficult to state a termination date, that is, to establish a particular date when a reasonable degree of policy credibility would have been attained; from this standpoint, ex ante termination dates are inadvisable.

Mr. Bernes also wonders about the tension between flexibility and credibility under a CBA. It is quite true that when more and more functions are put on a currency board, there is a risk in terms of perceptions about commitment to the main purpose and to the main rule. Still, it is not impossible to have a certain margin of flexibility, if the resources are adequate. I would put it this way: the merits of flexibility are the demerits of discretion and vice versa. Rules are necessary if one is to exercise discretion. In the absence of rules, there is no discretion, only anarchy. The rules of a currency board are clear, simple, transparent, and strict. But there is also danger in rules that are followed so strictly that they become brittle. So, in some respect, I interpret following a rules-based system as being able to exercise discretion properly, that is, judging well when the rule can and should be allowed to bend. Designing a currency board in a way that makes it clear that additional functions require additional resources, and in a way that makes it clear that those resources will be soundly managed, can add to the credibility of the currency board. Thus, it is possible for the merits of having a more complicated currency board to more than offset the risks in credibility. But this will require those in charge of the currency board to be quite adept at judging systemic problems, and adept at managing the resources required for these other functions.

Mr. Sivaraman and Mr. Kannan asked a question on interest rate convergence and domestic supply and demand conditions. I agree that domestic interest rates usually reflect domestic supply and demand conditions of resources. But, in a progressively open economy, and certainly an economy operating under a currency board arrangement, it is not just domestic supply and demand conditions that would determine domestic interest rates. Domestic conditions will influence the rate at which foreign resources will be flowing in or out, and bring together the domestic interest rates with international interest rates.

The question of the relationship between the currency board arrangement and economic growth cannot be easily answered. If a currency board arrangement is in place, and the country's policies are consistent with it, the performance of the economy will, to a large extent, reflect the policies of that country and the policies of the country to which the CBA is pegged. If the country to which the currency board is pegged follows proper policies, then the prospects for growth in the currency board country should be positive as well. There should be no reason why the currency board itself would constrain growth on a sustained basis.

Sometimes it is posited that periods of tight liquidity and high unemployment are likely to accompany the operation of the currency board. If there is downward wage and cost rigidity, such prospects do exist, but one of the necessary conditions for the proper operation of the currency board is flexible wages and costs. If these are flexible, then in principle growth prospects need not be adversely affected. Perhaps more broadly, this is a question concerning the extent to which monetary policy in general impacts on economic growth. Even if it does in the short run, it is not clear to me that the effect can be sustained.

Mr. Bernes stated that the proposition in his statement was that by setting at the initial stage a termination date conditional upon certain economic and financial targets having been met, the authorities would improve their policy transparency in terms of the policy goals. Thus, meeting the goals during the course of the CBA should add to the credibility and thereby facilitate an exit from a currency board arrangement. He wondered whether a termination date combined with financial and economic targets facilitated the exit process.

The Director of the Monetary and Exchange Affairs Department replied that the ultimate appropriateness of an exit strategy hinged on whether the market would be sufficiently confident that a change in regime would not be accompanied by weaker and less consistent policies. In all likelihood, a judgment would be hard to make ex ante on the length of the period over which sufficient policy credibility would be built. Instead of setting a termination date, one could say that a CBA would last as long as necessary, and would be abandoned when it became redundant—namely, when sufficient credibility was built. Even though the adage about the relevance of policy content applied, one should not forget the interaction between the framework and the policy content. Because of the difficulty of separating them, the point at which credibility was satisfactorily established could not be readily defined ex ante.

Mr. Zoccali observed that, if Argentina had set the termination date ex ante and specified a duration of reasonable extent to ensure reform of the institutional framework—perhaps five years from the time of the CBA establishment—the exit would have coincided with the Mexican financial crisis. That underscored the importance of not being tied to fixed dates.

Mr. Waterman remarked that, in a world of generalized capital flows, all countries were subject to much tighter constraints than before, but a CBA was not, in general, an attractive arrangement. Although Argentina had done reasonably well under a CBA, the country had effectively run out of options given the extensive dollarization and other problems. It was not clear whether Argentina's experience offered many relevant lessons for other countries.

Mr. Wijnholds made the following statement:

> This is indeed a topical subject as is illustrated by two items from last Friday's Morning Press: "Bulgarian central bank set for currency board," and "Lithuania to seek scrapping of currency board." On the one hand there are a number of countries that are presently preparing or contemplating the establishment of a currency board: Bosnia and Herzegovina, Bulgaria and Ecuador come to mind. At the same time strategies for exiting from currency boards are also under discussion. The staff's lucid paper provides an excellent basis for discussing these issues. What makes this study particularly useful is that it combines theoretical analysis with empirical knowledge. Thus we can observe, for instance, that there are no 'pure' Currency Board Arrangements (CBA) nowadays, and that there is considerable variety in their rules and practices.
>
> A CBA is not simply or an 'improved' or 'strict' form of a pegged exchange rate arrangement. One must step back, as staff rightly does, and start with the notion that a system based on rules rather than discretion can substantially improve the inflation outcome in certain cases. The academic literature supports this notion as well with, for instance, Barro and Gordon's conclusion in their article "Rules, Discretion and Reputation in a Model of Monetary Policy" that ". . . The equilibrium rates of inflation and monetary growth can be lowered by shifts from monetary institutions that allow discretion to ones that enforce rules." To this end, it can be argued that a CBA as a monetary regime based on an explicit legislative commitment to exchange domestic currency for a foreign currency at a fixed exchange rate, enhances confidence in financial stability by symbolizing a break with the past and strengthening the credibility of conventional fixed exchange rates.
>
> It is also important to stress that the macroeconomic rationale for introduction of a CBA should not be seen in isolation from a wider package of stabilization policies. Indeed, establishment of a CBA should be seen as a part of an overall policy package, which is ultimately crucial for the arrangement's sustainability. Since domestic policies are constrained once a CBA is established, it is also highly important that overall economic conditions and policies are consistent with the constraints imposed by the CBA. While it is sometimes suggested that strong financial stabilization policies would make a

pegged exchange rate arrangement unnecessary, and indeed in some cases strong policies suffice, it will not always be true. Here, I concur with staff that CBAs can play a very useful role in restoring credibility of sound macroeconomic policies in countries which suffer from repeated failed attempts at stabilization by orthodox measures, in countries that wish to belong to a broader trade or currency area and in some post-chaos countries. Perhaps the single most important argument for a CBA is that it ensures monetary independence from the government in a political environment where this is manifestly lacking.

The main conditions for maintaining a successful CBA are a prudent fiscal policy, a sufficiently sound banking system, and an adequate level of reserves. Indeed, CBA's promote, but do not guarantee fiscal discipline, as the staff observes. Since monetary policy can only play a quite limited role in CBA's, a larger flexibility of fiscal policy than would normally be needed is desirable.

As regards the soundness of the banking system, there may be a tendency to interpret this too strictly. Indeed, I fully agree with Ms. Lissakers and Mr. Sobel skepticism with regard to a sound banking system as a precondition for adoption of a CBA. In fact, Mr. Autheman makes the same point in his statement. What counts is that systemic failures are avoided, but not that every bank has to remain solvent. Bank failures may be compared to limited forest fires, where some damage is done but where afterwards a healthier forest emerges. However, in countries with a history of banking problems, it seems wise to allow some scope under a CBA for lender of last resort facilities. Clearly also strong banking supervision is called for. Mrs. Gotz-Kozierkiewicz has in her statement devoted considerable attention to the banking system as a weak link in the functioning of CBA's. While acknowledging that banking crises have been weathered in Argentina, Estonia and Lithuania, she wonders about banking weakness in Bulgaria, where a CBA is being prepared. First of all, it should be realized that while a banking crisis has an important element in Bulgaria's troubles this year, a very considerable cleaning-up operation has been going on. A large number of banks have recently been closed, while banking supervision is being strengthened. Also, the plans for a CBA are most likely to include some possibilities for lender of last resort support.

In some cases, CBA makes sense as a permanent arrangement, especially for small open economies with well-developed financial markets and flexible goods and labor markets. Here Hong Kong comes to mind. As to the question of how to bring down further inflation in the case of Hong Kong, without having the possibility to let the currency appreciate, a somewhat provocative suggestion could be that in the past the Yen could perhaps have been anchor currency.

For others, a CBA could be viewed as more transitory, to be ultimately replaced by a less rigid exchange rate regime if and when the country's financial markets have matured, or the risk of political interference with central banking has strongly diminished. It would, however, be clearly unwise to suggest at the start of a CBA that the arrangement might not last long, in view of the importance of the need to maintain confidence.

As countries with a CBA function as if under the gold standard, the disadvantages of that automatic pilot can become hard to bear over time. Indeed there could especially be a problem with overvaluation of the currency which would not be easy to solve. It underlines the importance of the decision against which currency to peg and at what level. As the history of the gold standard illustrates, wrong decisions in this area can cause serious problems later, and a desire to exit from the situation.

This is an example of exiting from weakness, with the attendant dangers of strong depreciation and inflation. But countries can also graduate to a situation where they feel sufficiently confident that they can manage their monetary affairs sufficiently well to take off the corset of the CBA. It is not clear to me in what category Lithuania, which wants to abolish its CBA, should be placed. The question of a possible exit is of course also raised from time to time for Argentina, as Mr. Bernes does explicitly in his statement, and one or two other Directors more implicitly. At the same time, Mr. Zoccali has provided a spirited defense of the maintenance of a CBA in Argentine, and I am left with an inability to make up my mind. Luckily, I don't have to come to a firm view on this matter. I was, however, very interested in the notion of the 'productivity bias' put forward by Mr. Zoccali. Rationalization and cost-reductions strategies are indeed promoted in pegged currency countries and can compensate for loss of competitiveness due to exchange rate inflexibility. The degree to which this can happen will importantly depend on flexibility within the economy. Can the staff say something about the experience of countries with this type of adjustment under a CBA?

The Fund can play a very important role in identifying situations where a CBA can be appropriate, in helping countries design and implement such an arrangement, and in providing financial support. Where Fund financing is involved, staff work will obviously go beyond advising on the technical functioning of a CBA, but encompasses matters such as the scope for lender of last resort facilities, the viability of the banking system and the adequacy of banking supervision. The efforts being made by the staff in all these areas in the countries that I represent who are preparing CBA's are very much appreciated.

Mr. Waterman made the following statement:

The staff papers, the excellent statements and Mr. Guitián's oral comments have covered well the advantages and disadvantages of currency board arrangements and the limited circumstances in which they might be used. Allow me now to add a few comments. I would like to join others in recognizing that a currency board arrangement by itself does not impart credibility. That must come from the much needed policy commitments of the authorities if such a policy is to have a chance of success. The stronger the policy setting, particularly the prior actions, the less rigid the framework can probably be. But, in situations where the performance of the authorities has been such as to completely undermine credibility, and Bulgaria may be a case in point, a legislated currency board arrangement may be the only option. But it is a high-risk option that warrants consideration only where it is believed that a currency board arrangement, with all its risks, is the best way of trying to impose discipline and restore credibility. This is a point that has been made in the statement by Mr. Kiekens and Mr. Jonáš, as well as by others. An argument can be made for introducing a currency board arrangement as part of a transitional process in countries which lack central bank expertise. However, the costs of introducing a currency board arrangement needs to be clearly identified, including the potential costs associated with a misaligned exchange rate. In addition, under these circumstances, it would clearly be beneficial to give early consideration to the steps involved in implementing the central banking structure required to enable graduation from a currency board arrangement, and the Lithuanian experience would seem to be relevant here.

Access to Fund financial assistance could well boost the credibility of a currency board arrangement early on and during times of pressure on the exchange rate or the banking system. However, as acknowledged to a large degree by others, using Fund financial assistance would be a sign that the currency board arrangement is not really achieving what it has set out to do.

On exit strategies, they are obviously important and need to be determined on a case-by-case basis. It is not surprising, however, that experience suggests—and I am referring, particularly, to Malaysia and Singapore—that it is likely to be successfully made from a strong position, achieved as a result of sustained period of solid economic performance and the demonstration of sustained policy credibility on the part of the authorities. Perhaps that is saying no more than if you are successful, more options open up to you. Exiting from a weak position, however necessary, is obviously problematic. Whatever choice of system is made subsequently, it would make sense to at least start with an exchange rate that is seen as being reasonably competitive, and attempt to put in place policies to support that rate.

To conclude, I remain of the view that we should not rule out currency board arrangements, but they should be used very sparingly, and we certainly should not encourage their use unless there is a very strong policy commitment. That is, they may be a useful option in a limited range of circumstances.

Mr. Toribio made the following statement:

I want to thank the staff for their very comprehensive paper on Currency Board Arrangements, a topic which deserves a great deal of attention, and about which little had been published so far. I agree with most of the points of view held by the authors of the paper.

Let me add, however, a few remarks which may qualify some aspects of the matter or that may, at least, serve to widen the battlefield for our discussion today.

From an economic point of view, it seems to me there is not much difference between establishing a pure currency board or, directly, adopting a foreign currency as legal tender in the country, renouncing to issue any national currency. The latter (i.e., adopting another country's money) is, practically, the case of Andorra, Panama, Liechtenstein, Luxembourg, Monaco, etc., countries which do not seem to be experiencing major monetary difficulties or financial imbalances.

In the last analysis, the only function of a pure CBA is to convert foreign currency into a domestic one, at a fixed rate and at the speed imposed by external capital flows (in any direction), and the question is why would any country choose to do so, instead of directly using the converted foreign currency.

On page 12, the paper explains that a CBA is particularly attractive for post-chaos countries—such as Bosnia and Herzegovina—or for small countries that have recently attained independence and that wish to have their own currency, for "motives of seigniorage as well as national identity."

I do not understand what kind of a seigniorage can be derived from a CBA (the Board will never register profits) so that the only remaining motive for having a national currency with a CBA must be the political reason the paper refers to as "national identity." In fact, that country will be paying the cost of running a CBA and taking a credibility risk for the dubious privilege of having a national currency.

I do not mean to trivialize national feelings nor to underestimate the importance of the political aspects, but economic rationality seems to be in favor of small economies which have adopted one or several foreign currencies, more than behind the creation of a currency board arrangement. Therefore, the question is whether the Fund should not try to advise some small economies to renounce to any national currency right from the beginning. After all, that is what not-so-small economies in Western Europe are trying to do in the EMU, without necessarily loosing their national identity.

Going to the other aspects of today's topic, the paper assigns to CBA's a number of advantages which, from my point of view, are far from clear. In fact, the paper seems to suggest that CBA's promote wage discipline (page 12), contribute to enforce fiscal adjustments (pages 13 and 20) and enhances economic growth through convergence of interest rates to international levels (pages 13 and 15). I am not convinced by any of those assertions.

In fact, wage moderation depends more on the attitude of trade unions and the legal structure of the labor markets than on any monetary arrangements we may devise.

Fiscal discipline may actually be discouraged by the existence of a CBA, as it is often the case with other fixed-exchange rates arrangements which, far from building an anchor for fiscal responsibility, turn out to be an opportunity and an excuse for higher government deficits. In fact, under a CBA (or any other fixed rate scheme) the excess of domestic demand derived from fiscal deficits is less reflected in the internal rate of inflation than in external disequilibrium. Citizens do not feel much burden on the part of the general price level and they usually care very little about external imbalance, which governments claim to be easy to finance. That permits the public sector to go on with their spending far beyond what they could allow themselves to do, had the citizens experience on due time the social costs—in terms of inflation—associated to government deficits. This has been, once and again, the single most important cause of systemic crises, like those on 1982, 1992, and so forth. As the paper states, CBA's constitute a particular subset of fixed exchange arrangements and those not always lead to more fiscal discipline.

Does a CBA lead to higher economic growth as a result of the expected convergence of interest rates to international levels? There may be some legitimate doubts about it. In fact, under a CBA, domestic interest rates to converge, sooner or later, in nominal terms to the level prevailing in the foreign countries whose currencies have been taken as a reference. But experience also shows a certain volatility of the general level of prices, with frequent overshooting and overshooting in the inflation rate. Thus, real interest rates have a less clear tendency to uniform convergence. As a result, the rate of growth is very often impaired and recessions last longer than expected.

The bottom line of these arguments leads to the conclusion that perhaps the only (although very important) advantage of CBA's lies in the credibility they are able to transmit to international financial markets and, in general, to all the parties involved in economic transactions.

It follows that one should be very careful to introduce in the program any element which may hinder or affect the credibility of the arrangement, because that would mean an attack to the core of the system.

Thus, the possibility for the currency board to get involved in open-market operations or to act as a lender of last resort, even when limited to the existence of excess reserves, should not usually be an initial feature of the arrangement to avoid an a priori suspicion of monetary indiscipline. If, later on, circumstances make it indispensable, those facilities should be only used after making sure there is no other appropriate answer to the problems they intend to solve. In the trade-off between credibility and flexibility our bias should always be in favor of the first, and if we are not ready to accept that, we better think about a full central bank with limits to its domestic assets.

Other questions are raised by the staff at the end of their paper. Many of the answers are implicit in the previous text of the same document. Thus, I entirely agree with the conditions and policy measures the staff suggest as fundamental for a successful introduction of a CBA, among them the existence of a sound banking system and a flexible market for wage fixing.

Finally, I also believe, as the staff does, that the appropriate condition for a country to exit from a CBA are the existence of certain market pressures for appreciation—never depreciation—of the domestic currency and a clear reestablishment of financial credibility.

The Director of the Monetary and Exchange Affairs Department explained that seigniorage could continue to be collected under a CBA. The currency board issued domestic currency in exchange for foreign exchange. Domestic currency would be used to satisfy domestic agents' demand for cash balances, while the currency board would be free to invest the foreign exchange. Investment income received from such investment represented seigniorage.

Mr. Toribio agreed that seigniorage did exist under CBAs.

Mr. Zoccali remarked that Argentina's liquid international reserves in May of 1989 had been $30 million in May of 1989. Liquid international reserves, excluding bank reserves held in international commercial banks abroad, were presently in excess of $18 billion. If something could be said about the currency board in the case of Argentina, it was its resounding success in reducing the rate of inflation and producing convergence to international interest rate levels, although it had been as successful in furthering rapid remonetization of the economy. While the shift to peso-denominated deposits had been gaining strength, over 50 percent of deposits in the banking system remained dollar-denominated. Notwithstanding the relatively less resounding success in the area of remonetization, the ability of the economy to bring in capital and to accumulate reserves, and the benefit to the public sector derived from placement of those reserves abroad had been significant.

Ms. Srejber asked for additional clarification of the concept of seigniorage—in particular, whether differences existed between the way seigniorage was generated in a closed and in an open economy.

The Acting Chairman replied that there were different ways of measuring seigniorage, of which one way was to calculate central bank profits. In a closed economy, one could envisage the central bank buying treasury bills from the government. In that case, the seigniorage equaled the interest income generated by the treasury bills. Sometimes seigniorage was defined literally as the printing of money. In the steady state, those two alternative ways of measuring seigniorage would yield equivalent results.

Under a CBA, the authorities issued local currency in exchange for foreign currency, the Acting Chairman continued. Hence, if residents were prepared to surrender foreign currency—U.S. dollars, for example—and hold domestic currency instead, the CBA could then be free to reinvest the dollars at the U.S. treasury bill rate, and thus collect seigniorage.

Ms. Lissakers inquired what, if anything, the continued high level of dollarization in Argentina indicated about the usefulness of the CBA.

Mr. Zoccali noted that CBAs provided the institutional framework capable of sustaining good policy formulation and implementation. For a country with Argentina's history, which only six years earlier had suffered from hyperinflation, perhaps six years under a CBA was not a sufficient period of time in people's minds to assure them that the institutional framework was such that it would be able to sustain good policy formulation and implementation. Certainly, the rate of monetization was still below that of internationally comparable countries, and even below Argentina's historical levels. Consequently, much more remained to be done in that regard.

Mr. Donecker made the following statement:

We very much welcome this discussion on currency board arrangements for two reasons:

First, the papers provided by staff are of excellent quality. They discuss comprehensively as well as in sufficient detail the important issues of this special exchange rate regime. The papers may also help authorities interested in establishing a CBA to get a more complete picture of the advantages and the disadvantages of this system.

Secondly, this discussion is directly related to the core business of the Fund, namely surveillance over members' exchange rate policies. We would like to suggest a continuation of this discussion, focusing on other exchange rate systems, in the not too distant future. Such an update of earlier discussions—including a check as to whether earlier answers and recommendations are still appropriate—seems warranted in the light of recent developments in the international monetary system which might be summarized by the term "globalization."

We fully share staff's résumé that "a careful case-by-case approach must be utilized to weigh potential costs and benefits" when deciding whether or not to install a currency board. A CBA is not a panacea. The extreme limitations on discretionary policy measures may not only be beneficial in some areas, but also a big liability in others. Furthermore, as staff has outlined, an initial balance in favor of the benefits tends to diminish over time. For this reason, countries employing a CBA should undertake a careful cost-benefit analysis from time to time to allow for a timely exit from their CBA.

In our view, CBA's in general must be seen as an exceptionally strong cure for an economy in exceptional circumstances. Such an instrument, however, can only be beneficial, first, if there is a very strong and broadly based commitment on the respective authorities' side to accept the inevitable consequences of a CBA system for their fiscal, structural and social policies in particular for their labor markets, and secondly, if sufficient reserves are available or can be made available from friendly sources at the outset to support the credibility of a CBA. I side here with Mr. Zoccali, who based on his country's rich experience with a CBA, comes to the conclusion that the Fund would be well advised to exert prudence when recommending the adoption of CBAs to member countries, particularly if these lack firm political commitment and their institutional frameworks in the fiscal and banking areas are not well established. There are, of course, also the crucial questions as to which anchor currency or currency basket should be used, how the proper level of the exchange rate peg should be determined and what the minimum size of the reserve backing should be to provide enough credibility to this regime under the individual circumstances.

With the exception of very small economies, where the establishment of a full-fledged central bank might involve significant opportunity costs, a currency board arrangement in most other countries in our view should be seen as a transitory measure only until the underlying exceptional problems are solved or the costs clearly outweigh the benefits.

Countries with the very specific features described in Mr. Autheman's statement whose authorities are willing to commit themselves to a fairly radical, comprehensive and credible adjustment program that has broadly based political support within the country seem to be the most likely candidates for a CBA.

We are somewhat cautious, however, about whether an envisaged entry into a currency union in general should be seen as a motive to adopt a CBA, for two reasons: first, the entry into a currency union might be subject to a certain set of conditions which can be incompatible with a CBA. Secondly, countries may be confronted with a dilemma: if the CBA was adopted only a short time ago, the underlying exceptional problems might not have been sufficiently solved yet to allow for a smooth entry into a currency union. On the other hand, if the CBA was adopted a long time ago, the fixed nominal exchange rate may have become—as staff has argued—too much out of line with fundamentals. In such a situation it might be helpful to have an interim period with a more flexible exchange rate to get a market indication of the currently appropriate exchange rate level.

Let me turn now to the other issues for discussion:

On the question of whether the Fund should advise countries with CBA's to maintain "bare-bone"-institutions or to engage in evolutionary institution building such as developing a lender of last resort facility and some complementary monetary operations, one has to keep in mind that the strength of a CBA and its chances of success are essentially based on the limitations for discretionary policy measures as well as on the mandatory comprehensive coverage of the money base by reserves. Making compromises on these fundamental elements tends to undermine the credibility provided by the CBA.

The issue of a lender-of-last-resort facility (LLR) might be particularly contentious and problematic. On the one hand, the idea of such a facility seems incompatible with the likely fact that only a very limited volume of the reserves of the CBA could be set aside for such emergency situations without deflationary effects. On the other hand we share staff's view that the existence of a lender-of-last-resort facility of sufficient size can contribute to stabilizing domestic and foreign investors' confidence in the viability of an often fairly fragile looking domestic banking system. A solution might be seen in encouraging domestic commercial banks to establish and finance their own joint LLR facility by arranging special credit lines for this purpose with their foreign partners, as happened in Argentina recently, if I remember rightly.

Additionally, deposit insurance schemes fully funded by banks, as in Argentina, can play a useful role. We do not see, however, a role for the Fund to step in as an auxiliary or principal provider of lender-of-last-resort support to CBA countries or to establish some new lines of credit for that purpose, as suggested by Ms. Lissakers and Mr. Sobel in their statements.

The introduction of reserve requirements, however, might be a better suited "add on" to a CBA for three reasons: first, reserve requirements can automatically sterilize a part of the impact of capital flows. Secondly, if appropriately designed, reserve requirements can provide banks with an automatic liquidity buffer, thereby limiting the need for lender-of-last-resort support. Thirdly, reserve requirements allow for some discretionary room for monetary policy without unduly interfering with the principal functioning of the CBA.

On the issues six and seven, that deal with the question of the Fund's potential direct financial involvement in one way or another in the establishment or running of CBAs, we are very hesitant to support an active role for the Fund in the financing of CBA's or elements thereof. The decision on a certain exchange rate system has to be made by the authorities and should not be influenced by the Fund's offering of financial assistance for only one of the remaining options, i.e., a CBA. I fully agree with Mr. Autheman that it is not the Fund's role to create incentives for the adoption of a specific exchange regime. Furthermore, the provision of low cost support for a reserve buffer by the Fund could weaken the authorities' resolve to adhere to the strict rules of a CBA and thus may undermine the credibility of their stabilization policies.

If a country is not in a position to provide a contemplated CBA with sufficient reserves, it may be well advised to take recourse to a flexible exchange rate regime based on similarly restrictive financial policies and structural reforms instead. As the example of the Baltic countries has demonstrated, if broadly similar policies are pursued in two countries where one of them uses a CBA, whereas the other one pursues a flexible exchange rate policy, the outcome of economic developments might also be broadly similar. In this context we fully subscribe to Ms. Srejber's view that "the policy content matters more that the policy framework." the same is true for Ms. Lissakers's statement (I quote from her statement) "Sound outcomes are the result of sound policy implementation. Without political will to implement sound policies or public faith in those who rule, no monetary regime will produce confidence and sustainable growth. This is especially true of CBAs . . . "

However, after having said this, under certain conditions a Fund supported comprehensive and bold adjustment program that includes a CBA can assist to strengthen the commitment of the authorities for the necessary policy corrections and thus provide additional credibility. The Fund's surveillance and catalytic roles are here—as elsewhere—more important for the success of the adjustment strategy than its financing role. What the Fund surely must avoid is to agree to help finance a stabilization program whose success relies heavily on a CBA with an unsustainable exchange rate peg or where the necessary political will to obey the rules of such a regime is clearly lacking; because this is a recipe for a costly failure. Mr. Kiekens is right. With a

CBA you have only got one shot at an attacking tiger—you better take good aim or the tiger will flatten you.

On exit strategies I have commented already to some extent. We basically share Mr. Bernes's view on this issue and the additional comments provided by Mr. Guitián on the risks of a preannounced exit date. Let me just add that a lack of success in reducing inflation might indicate that the CBA in its function as nominal anchor has lost its power. In these circumstances a CBA may work rather as an "inflation stabilizing tool." We therefore agree with staff that continued strong capital inflows indicate the need for a nominal appreciation. Such a step could be taken within the context of the CBA or used to exit from it. In our view, such a situation calls more for a decision to exit, since such persistent inflows indicate that the credibility problems which initially gave rise to the establishment of the CBA, have likely been overcome.

In conclusion, I should like to repeat that a CBA is not a panacea. It is only suitable for very special patients, and it is very strong medicine indeed. The patient must obey strictly doctor's instructions on how to apply this medicine. And the good doctor should not loose sight of the fact that there are also alternative remedies for this patient that may suit him better, for instance full exchange rate flexibility—or in a particularly severe case a comprehensive monetary reform and a fresh start with a credible stabilization policy.

For most of these patients with the same disease a move to a prolonged period of full exchange rate flexibility combined with appropriately restrictive financial policies and structural reforms will be a much better cure.

Mr. Shields made the following statement:

Like others, I very much enjoyed these staff papers, and also the very stimulating and informative statements. I hope that the staff papers are going to be published soon; it seems to me very useful material for the public arena. I agree with the general message of the staff papers that there is some limited role for CBAs, particularly for small, open and flexible economies, and after crises.

On the question of credibility and using CBAs to restore credibility, the paper talks about problems of economic policies. There also may be cases where there are political issues and worries about the effects of external shocks; I am thinking of the circumstances surrounding the introduction of a CBA in Hong Kong, where it had more to do with external political realities than with serious doubts about the way that Hong Kong was conducting its economic policy, and that may be useful to acknowledge.

On the questions of general strengths and weaknesses of CBAs, I was happy with much of what the staff paper said, with just a few points to make. First, the question Mr. Wijnholds raised about inflation deserved a more complete treatment; namely, that at a time when you have got a much higher relative productivity growth in the tradable sector of a CBA economy compared with the anchor currency, there would obviously have to be higher domestic inflation to get the required appreciation of the real exchange rate. The Baltics certainly present examples of where this will occur on for some time.

In Hong Kong, there has also been a higher relative inflation rate. But because inflation has been remained in single figures and because the whole framework is now well established, I do not think this is a problem. But in economies which are still undergoing structural changes, high inflation rates could both have bad effects on the economy, and sometimes put the credibility of the CBA itself in doubt.

Secondly, I wonder whether we should make more of the sort of high risk nature of a CBA. If a CBA does fail, as has been said, it is very difficult then to go on to another policy, and a long time before a country can perhaps re-establish a CBA. There is the problem of contagion; failure of a CBA in one country may have negative spillover effects on the confidence in other CBAs. It also probably applies to Fund support for CBAs as well, particularly evident in the case of Bulgaria, where there has been much publicity about the role of the Fund, both in the decision to move toward a CBA and the ultimate implementation of it. A failure of a CBA in that circumstance could have implications for the Fund itself and credibility of the Fund and the Fund's backing for CBAs.

Third, there is a question about determining the right level for the exchange rate, as in all fixed-peg arrangements. We have seen examples—in the Baltics, in particular—where a very competitive level was chosen initially which has implications for inflation in the short run. That is an element of judgment about which countries need to be very careful.

Fourth, seigniorage remains a relevant consideration for economies making a choice between a completely dollarized economy and moving to a CBA. I also wondered about the potential impact of CBAs on the economy of the reserve currency. Does the staff have any thoughts on the subject?

Fifth, the advantage of a CBA, because it increases the costs of rigidities in the economy, is that it does provide a particular incentive to speed up microeconomic reforms. So there is both the pressure for structural reform, as well as the pressures for strong fiscal policy. But it may be, as Mr. Kiekens says, that currency boards may be the least costly way of demonstrating the government's resolve than as a substitute for it, that the demonstration effect and then the constraining effect that it has on policies later may well justify its use. Lastly, I agree with Ms. Srejber and others that the experience of the Baltics does show that one can get to the same result by very different routes.

On how to introduce a CBA, I wondered really whether we needed more on what the choice of reserve currency should be. Presumably, we are looking for a currency with which there is reasonably close integration, and that would mean that there was less of a risk of differential shocks or differences in cycles and economic policies creating tensions. I do not know what this implies for whether Hong Kong should have chosen the yen rather than the dollar, but we will leave that to historians. I suspect over this period the dollar was definitely the right choice for it.

Regarding the question about the implications of the conditions of the banking sector, I take Mr. Guitián's point that it needs to be looked at on a case-by-case basis. It clearly needs a good structure for the banking system at least, but it may well be the case, if there are simply large numbers of unsound banks, that it actually may accelerate their closure and perhaps at less cost than would otherwise have happened. The structure is reasonable but, nevertheless, the banking system itself is vulnerable. That is not an argument necessarily against a CBA.

But the structure is, on the other hand, very important, and that is one of the reasons I still have doubts about Bulgaria actually being ready to move to a currency board arrangement. The other country which is considering a currency board at the moment is Ecuador which has announced one for July 1. The banking system does not pose a major problem, but other preconditions of a CBA do not seem to be established there. I would hope that the Fund staff would make it as clear as they possibly can to the authorities that without those essential preconditions, this is not a route to take.

On the question of lender of last resort facilities and monetary operations, these issues obviously fudge the dividing line between a CBA and conventional central bank policies with a fixed exchange rate. If there are to be lender of last resort facilities, then the authorities need to be very clear that these are for very limited use and just to avert a run on the banking system; they are not in any sense an alternative to structural and banking reform. Banks must be allowed to fail.

It might mean that in countries—and Bulgaria may be an example—where there is still a lot of banking system reform necessary, maybe the priority is not to go for lender of last resort facilities and the backing for them, but actually to concentrate on ways of strengthening the banks' balance sheets and the supervisory arrangements. If there are to be lender of last resort facilities in monetary operations, explicit financial arrangements are needed for them, such as a buffer of international reserves or contingent credit arrangements. I do not think, except in very exceptional circumstances, that the right answer would be to adjust reserve requirements.

But on this question of where these resources would come from, there is a very interesting recent example of Argentina, which Mr. Zoccali and Mr. Costa referred to, of an emergency stand-by credit from international banks. It would be interesting whether the staff has anything more to say on this, whether it thinks that in the Argentine case this provides as substantial support as alternative arrangements, and whether this is in fact a line which other countries should be persuaded to follow.

A question on the Fund. As I said before, in many cases this is a very high risk strategy. I think the Fund does need to make sure of the extraordinarily high commitment to the measures necessary to back up the currency board, that is, in the fiscal area and the structural area. There obviously needs to be widespread public support within the country itself and in the markets.

On the question of whether there should be separate and supplementary finance for special circumstances for lender of last resort, it does seem a reasonable issue and I can see the advantages of that. But, again, there are perhaps other ways of obtaining those sources of finance. If the Fund is itself to be prepared to provide them, then I do not think automaticity is the way to go. There could well be a problem of credibility. If the markets see the potential laxity in policies, then automatically a cover will come through. I do not think that is the way to build credibility. It is better to build credibility by demonstrating that the Fund would need to be fully satisfied with the policies being carried out before issuing more support.

On this question of exit strategies, it does seem to be a serious problem. I agree that it must be clear that policies really are making the CBA work, that the pressure, if anything, on the exchange rate is upwards at that time. There is obviously a problem about determining the credibility of the currency board. The fact that there are strong inflows, does not necessarily suggest full credibility as far as the country's ability to manage policies concerned. Inflows may be there just because the currency board itself is providing that discipline.

Markets will be right also to be skeptical about whether a country which had been operating a currency board would be as proficient in managing domestic money markets and international markets as, for instance, a country which has been operating a fixed peg with success for a time. So, it seems to me that it is more difficult to exit from a CBA, and we have to be very careful that there really is credibility that the policies themselves will be continued beyond the life of the CBA. I do not think that, even when it is considered to be a transition arrangement, it is actually helpful to have a termination date. That brings even more doubts about the consistency of both policy and results.

Mr. Ono made the following statement:

The staff reports before us, which clearly define the currency board arrangement, are excellent. As there was no earlier comprehensive report on this subject, this will greatly contribute to the understanding of the staff and of member country authorities, of course including me. I would therefore like to commend those who contributed to these useful studies.

Let me begin with the characteristics of the CBA. The CBA's attractiveness and effectiveness are the improvement in the credibility of a domestic currency and the authorities' economic policy backing the reserve currency. The CBA is, however, a system with some costs. The limited scope of fiscal and monetary policy implementation and the requirement to establish steadier fiscal positions and sound banking systems are among these costs or, in other words, the preconditions for the success of the CBA.

One can expect the above-mentioned effects to result in the short run. However, in the process of economic development, significant amounts of foreign currency—to import capital goods, for example—as well as domestic monetary growth are required. So, on the question regarding the relation between growth and a CBA, I think that a CBA slow the development of the economy. I am rather skeptical about whether a CBA can facilitate a relatively high growth of the economy, especially for developing countries.

As the staff correctly mentions, a strong fiscal position and a sound banking system are minimum requirements for the introduction of a CBA. However, these conditions might be a relatively high hurdle to post-chaos countries and small newly independent countries, for which the CBA is particularly attractive.

As the CBA is not a cost-free system, it should be noted that the authorities introducing the CBA are required to have a clear understanding of these costs, together with a strong political will, which is the most important thing in order to maintain the system.

Next, I would like to touch on the lender of last resort function. Under a pure CBA, central banking functions, as a lender of last resort, will be significantly strained. This implies that the authorities complying with the CBA will require many things, for example stronger banking supervision, higher risk management of financial institutions, and stronger market discipline, than the authorities not complying with the CBA.

The Fund's member countries' access to capital markets is increasing, and the banking system is, therefore, more exposed to external factor influences. As a precaution to vulnerabilities, the authorities with a CBA have taken measures to cushion external shocks through so-called free reserves. These measures, however, would not totally substitute for the lender of last resort function. The authorities should understand that a sound banking system is a crucial element in maintaining the CBA. When the negative effects in the financial system are more significant than the benefit attributed to the CBA, this should be a good chance to consider exiting the CBA.

On the Fund's role, in the past the Fund has assisted authorities with a CBA by helping to eliminate adverse conditions due to it. This is encouraging. I would like to emphasize that the expected role of the Fund would be to complement the CBA's inflexibility.

Given that the CBA is a useful tool for a temporary and transitional phase, the Fund's support for the system should be accompanied by a CBA exit strategy. I believe that the purpose of the Fund's support should not be to always maintain the CBA, but to minimize its weak points.

As the fiscal and monetary policy scope is limited under the CBA, the authorities tend to have limited tools to enforce it. Accordingly, the lack of tools might hinder graduation from the CBA and the effective policy implementation. In this sense, the Fund should provide technical assistance to improve the skills of those approaching an exit from the CBA.

Finally, I would like to ask the staff to comment on two points. One, I am interested in the comparison with fixed exchange rate systems. At the beginning of this meeting, Mr. Guitián had very useful information. But while the CBA has many similarities with a fixed exchange rate system, it would be interesting to understand how the pros and cons of a CBA compare with fixed exchange rate systems, and we had enough answers about that. But, more specifically, if a country is required to choose either of them, what are the elements forming the Fund staff's advice?

The second question is related to Hong Kong case. I understand that a CBA is considered useful for the early stage of small economies, in other words, rather transitional prescriptions. What would justify maintaining the CBA in Hong Kong, or other potential emerging countries with a well-developed international financial market?

Ms. Srejber said that she supported Mr. Shields's suggestion to publish the staff's papers, although they would need to be brought up to date in some areas. For example, concerning the Baltic states, the conclusions in the paper had been overtaken by the developments of the past two years. In particular, inflation rates in all the three countries were approximately the same, and the interest rates in Latvia were low, at least in the context of a transition economy.

The question of selecting an appropriate exchange rate level under a CBA applied also to fixed exchange rate regimes, Ms. Srejber noted. In transition countries the problem was further compounded by ongoing structural changes. For that reason, the discussion would benefit from making a distinction between a CBA as a general anchor, and a CBA as an anchor in a transition economy.

Mr. Shields's concern about the risk to the Fund's reputation posed by unsuccessful CBAs should be heeded, Ms. Srejber concluded. Such failures could also impact negatively on those countries that had implemented successful CBAs.

Mr. Al-Turki made the following statement:

I welcome today's discussion, which would help us arrive at a better understanding of currency boards and Fund policy with respect to countries electing such an arrangement. Currency board arrangements have a clear advantage under certain circumstances. A few arrangements offer the possibility of credibility gains as rapidly as currency boards. Certainly, the cost in terms of lack of flexibility are high, but it is doubtful that instituting elements of such flexibility will facilitate the task of policymakers. This is particularly true in cases where the reserve cover under the arrangement is less than 100 percent. The benefit of currency boards depend on its rigid, rule-based character.

An important consideration for the success of a currency board is the implementation of measures to promote the openness of the economy. While, in principle, currency board arrangements should ensure full convertibility, in some instances restriction on certain capital account transactions have been used. In the absence of a clear timetable for their elimination, such restrictions could defeat the purpose of currency board arrangements. It is also important to bear in mind that countries instituting a currency board are effectively making their economies part of a larger currency zone. In these circumstances, the greater the participation of foreign banks in the domestic economy, the less are the risks emanating from the lack of flexibility.

The conditions under which a currency board could be deemed an appropriate policy choice vary considerably. It is difficult to draw up a set of criteria for this purpose. A currency board may be appropriate for countries undergoing transition attempting to arrest high inflation, or a number of other factors. What is of critical importance are the policies that need to be in place to ensure the currency board's viability. Here, the flexibility of the domestic economy is important. Strict adherence to an ambitious and accelerated agenda of reform is crucial. While this does not mean a big [bang?/band?] of reform must accompany the introduction of a currency board arrangement, a clear and credible reform agenda is key to success.

The staff papers rightly point out the importance of a sound banking system to minimize risks to currency board arrangements. In this connection, it is an open question whether a lending of last resort facility is desirable. It comes as no surprise that the strongest proponent of currency boards argue against the institution of such facilities. At the same time, the need for such a facility may be critical, depending on the circumstances of a particular country: the health of its banking system, the vulnerability of the economy to shocks, and a host of other factors. It is therefore best to come to a judgment on this issue on a case-by-case basis.

More important than instituting a mechanism for some monetary operation is to ensure that a country has a sufficient buffer of reserves or contingent credit arrangement. However, I do not see a role for the Fund in this area beyond what are the current practices. In particular, I would hesitate to support the idea of introducing automaticity in Fund arrangements that would enable countries to draw in case their lending of last resort facilities come under pressure. Such situations are best handled on a case-by-case basis.

The question of the appropriate time for a country to exit from a currency board arrangement is particularly vexing. The costs of exit can be substantially greater than those of a simple change of parity under a fixed exchange rate regime. The answer will depend, in part, on the reason for instituting the currency board in the first place. If a country has successfully achieved the initial objective of curbing inflation and instituting a degree of discipline, and their credibility gains are viewed as durable, then an exit could be contemplated. Like the staff, I feel that an exit at a time of upward pressure on the exchange rate is far less costly. For other countries, including some small open economies, a currency board could well be a preferable permanent arrangement.

Mr. Erasmus made the following statement:

I would also like to thank the staff for a well-written set of papers on an interesting subject, and I welcome this opportunity to review the role of the Fund in CBAs, the conditions for its establishment, and its main strengths and weaknesses. A CBA does appear to offer some advantages to those countries that are emerging from a period of instability, or where the monetary authority is weak or does not exist. Its administrative arrangements are relatively simple, and it provides policy credibility for those authorities who have a weak track record or who lack an established one.

In this case, a CBA should facilitate an adjustment of expectations and reduce the inflation bias in the economy. The faster convergence of domestic interest rates to international rates would then imply a lower adjustment cost than that associated with conventional policy. The strict rules inherent in a CBA also depoliticizes monetary policy, as credit can only be extended to the government and the banking system, if allowed, by foreign reserves. However, it is not clear that a CBA should be the preferred option. It is essentially an exchange-rate-based system, whose credibility and chances for success depend on conventional policies of macroeconomic management. The absence of such policies will, as the staff acknowledges, undermine the credibility and sustainability of the CBA.

As these conditions are also not satisfied at all, or only partially, in a number of countries that would seem to be candidates for such an arrangement, what purpose would be served by introducing such an arrangement? Alternatively, as Mr. Autheman also asked in his statement, if these conditions are met, would a CBA still be required? Would conventional monetary policy then not be equally efficient in achieving macroeconomic stability? Perhaps a CBA should only be considered as a transitional arrangement, which should focus on establishing credibility and stabilizing the economy, while allowing the authorities to gain the experience that will enable them to develop a credible framework of sustainable economic policies. A major risk of the CBA relates to the level at which the exchange rate should be fixed, as both an overvalued and an undervalued rate will have important consequences on the domestic economy. Even if the exchange rate is determined correctly, it may become overvalued, given the mixed success of CBAs in keeping inflation low. Secondly, for countries with a large fiscal deficit, the inability to finance part of that deficit with credit from the central bank might require a fiscal consolidation that could be too difficult to obtain. Finally, for countries with a significant imbalance between foreign reserves and money supply, the introduction of a CBA would require a substantial depreciation of the exchange rate.

With regard to the duration of a currency board, I believe that the achievement of credibility and the disadvantages inherent in its inflexibility could well lead to pressure to exit the arrangement. In fact, I agree with the staff that the development of such pressure should be seen as the natural conclusion of the process to establish credibility and financial stability. However, as every exit alternative has important consequences, the timing of the exit and the alternative selected should be carefully selected. In this regard, I agree that these risks will be reduced when the exit is effected from a position of strength or is phased in over time.

As the mere fact of a CBA will not necessarily be sufficient to ensure a sustainable balance of payments position, supporting policy measures will have to be implemented to achieve the objective of stability. The Fund can therefore play a role in providing support and in assisting the authorities in the development of policy proposals. In this regard, I agree that the design of a Fund-supported program should focus on fiscal and structural reforms in order to ensure a sustainable macroeconomic position.

Past experiences with CBAs seem to suggest that the performance with regard to stabilization and higher growth has been no better in countries with these arrangements than in countries where the authorities were committed to the reform process. However, there would seem to be some scope for such an arrangement in a number of specific cases. It must, however, be clear that any CBA will have to be complemented by a framework of supportive policy measures, including a provision for some degree of monetary operations and lender of last resort support. In addition, it will also be necessary to support the development of a well-functioning independent monetary authority to enable the authorities to exit the arrangement at some point in time.

Some authorities were, in any case, led to develop the capacity to execute certain central bank functions, as it had been helpful in limiting the impact of capital flows and because of the inability of these flows to fully arbitrage interest rates.

Mr. Zhang made the following statement:

I welcome this opportunity to discuss the experience with currency board arrangements (CBAs). I commend the staff for the comprehensive and helpful papers they have prepared for our discussion. Generally speaking, I agree that the main advantages of the currency board system lie in its simplicity, transparency, and ease of operation. Most of the cases evidenced that the introduction of a CBA during exchange rate fluctuation or hyperinflation can usually dampen inflation and restore credibility. As I broadly agree with the staff paper analysis, with the main thrusts in the statements, and the statements of previous speakers, I will focus on three issues.

First I go along with staff's view that CBAs are attractive to small open economies. Hong Kong's case provides a good example in this context while being unique as well. The volume of Hong Kong's foreign trade is 2.4 times its GDP. And the foreign currency deposits constitute more than 50 percent of the total deposits of the Hong Kong banking system. Therefore it is of primary importance to stabilize the exchange rate in Hong Kong's macroeconomic management. Mr. Joseph Yam, Chief Executive of Hong Kong Monetary Authority, made a brief review of CBAs in his speech at the American Chamber of Commerce in Hong Kong last December 12th. He said that Hong Kong has experienced a fire fighting and fire prevention periods since its adoption of the CBA in 1983. The pegging exchange system had indeed helped stabilize the Hong Kong economy. Now the Hong Kong Monetary Authority with help of the CBA is doing its best to develop and promote Hong Kong as an international financial center.

Second, I would like to emphasize that the economies adopting CBAs need a sound and favorable external environment. The choice of the pegged reserve currency is important and the pegged currency countries are usually those with dominant trade and economic relations with CBA economies. Furthermore, the monetary base in CBA economies is fully backed by its foreign exchange reserves. The economies adopting CBAs therefore are vulnerable to changes in the exchange rate and economic developments of the reserve currency countries. Enhanced policy coordination of the reserve currency countries and avoidance of sharp exchange rate fluctuations are important for international economic development, particularly so for the smooth operation and success of CBAs.

Third, due to the limited monetary instruments available to CBAs, a balanced macroeconomic policy mix is clearly crucial for these economies in order to preserve their domestic economic stability. I fully agree with the staff that a CBA should not be burdened with fiscal deficit and therefore fiscal soundness is an essential element for a good CBA. CBA economies are usually required to have stronger fiscal discipline. Ideally, fiscal soundness is desirable before the introduction of a CBA. This is evidenced from Hong Kong's experience with a record long fiscal surplus before and after entry into a CBA. However, I have also observed that quick restoration of fiscal balance after entry can also contribute to the decline in inflation. It is worth noting that the introduction of a CBA precludes central bank lending to the government and encourages the government to undertake comprehensive fiscal reform. This can be evidenced from Argentina's experience where the fiscal deficit declined from 7.3 percent of GDP before entry to 0.4 percent of GDP after introduction of the CBA as a result of strong and wide-ranging reform measures. Therefore, countries trying to adopt the CBA practice should achieve fiscal balance soon after entry, if not feasible beforehand.

Beside the fiscal element, other structural policies can also serve as complementary measures to underpin the economic fundamentals. Among other things, I have noted that labor market flexibility is an important contributing factor to some well-performing CBAs. In Hong Kong, the flexible labor market has been maintained since adoption of the CBA. The capacity of China's mainland to absorb the labor intensive manufacturing sector is another important factor in the smooth industrial restructuring and thus the rise in productivity in Hong Kong. Other structural policies, such as enterprise reform and banking supervision, are also important. Among these elements, I appreciate the staff's attention to the importance of the prudential and supervisory exercise in the banking sector. Since a CBA is less equipped with monetary policy, more stringent supervision is required to avoid the misbehavior of financial institutions which would otherwise complicate the monetary situation. Therefore, I am glad to note that almost all CBA economies impose the internationally accepted banking supervision standards, some even more stringently.

Finally, I wish to note that there is no dogmatic principle to determine which kind of economies are suitable for a CBA system and we should avoid an impression that a currency board can solve any problem from instability to stabilization. Moreover, whatever exchange rate system is adopted, the achievement of strong economic fundamentals is crucial.

Mr. Grilli made the following statement:

We, like all other speakers that have expressed judgment on this subject, welcome this discussion on currency board arrangements, in view of their utilization by several Fund members, but also in view of what appears to be an increasing demand for them. I will try as much as possible not to repeat what other Directors have said or written, although a certain amount of repetition is unavoidable.

It seems to me that currency board arrangements go very much to the core and our vision of what are the central bank's main functions. In a nutshell, one can say that the main objective of central bank action is to control nominal variables and to produce a stable framework within which market signals permit an efficient allocation of resources and a suitable pace of resource accumulation and growth. One possibility to achieve these objectives is the adoption of a formal set of rules of behavior. Then, when you get into the question of what set of rules of behavior, you now choose: you may have a rigorous form of commitment to a set of rules in the adoption of a currency board. You go to the right-hand side of the rigor range.

CBAs provide a strong element of discipline, as fixed exchange rates do, but in addition provide also a rigidity of rules for the conduct of monetary policy, which is reduced drastically in its discretionary elements. The monetary authorities, essentially, lose their capacity to manage the money supply. A currency board arrangement may thus represent a powerful instrument to foster monetary authorities' credibility when such credibility is absent and to reestablish such a credibility when reestablishment is strongly required, but it also does take away a very important and a very critical function from the discretion of the authorities. Of course, currency board arrangements have risks. The costs are those associated with the limitation of discretion where discretion would be useful. If one considered that the practice of central banking is essentially a matter of judgment, even when a specific definition of objectives to be pursued is there, and not a mechanical implementation of rules, the reduction of the area of judgment, of the domain of flexibility, of the boundaries of virtuosity, if central banking is considered an art, so to speak—all these are considered painful losses.

There are also risks connected with CBAs: the risks associated with the absence or the limited extent of certain functions—the lender of last resort function, for example—but also the risks of failures. The CBAs are, sort of, a last resort remedy. Thus there is an understandable tendency to view CBAs as exceptions to be adopted in exceptional cases by small open economies with limited central bank expertise and young capital markets, by countries at the final stage of monetary unification, by countries that have a poor track record with stabilization policies, or where an exchange rate peg is not considered credible by international financial markets, or in situations where political commitments to sound monetary and fiscal management are shaky.

A question, in my view, is to what extent one can obviate these shortcomings by resorting to a set of strong rules. I would argue that the experience so far shows that, as the paper indicates, the adoption of currency boards cannot restore by itself a sound and credible economic and financial environment unless it is complemented and sustained by coherent macroeconomic and microeconomic policies and reforms aiming at improving permanently the fiscal stance—the key word being "permanently"—and by efforts aimed at remedying financial sector fragilities, which exist in different degrees everywhere.

These are mutually reinforcing elements of stabilization strategies, as the experience of Argentina, for instance, clearly shows. So the question becomes whether or not CBAs create the incentives for such a complement of good policies to materialize, as they have done in Argentina. Without such a complement, without such added value, the costs associated with the inflexibility of the arrangements and the risks that they seem to generate may outweigh the benefits coming from improved credibility of institutions and monetary policies, and generate, aside from unfavorable cost benefit balances, difficult exit problems. One can go through a list of these possible tradeoffs depending on the direction one takes.

Unsustainable pressure on currency board arrangements may arise, for example, if the economies of a reserve currency country and of a currency board country are not integrated and if they are affected by asymmetric shocks or in the presence of asynchrony in their respective business cycles. For instance, wide and persistent fluctuations in the exchange rates of the reserve currency country may give arise to misalignments of the effective exchange rate of the currency board country, with adverse consequences for its economy.

Another example is that the development of financial markets has important bearings on the success or possibility of success of currency board arrangements. On the one hand, financial liberalization and innovation make the domestic economic system more liquid, and monetary aggregates become less relevant to the conduct of monetary policy. This in turn reduces the significance and perhaps the sustainability of linking the creation of a monetary base to the changes in the stock of international reserves. On the other, the function of lender of last resort becomes more pervasive with the development of financial markets. The demand for that function increases, in a way. The impact on economic activity of financial market disturbances may come not only from the traditional banking panics but from stock markets and futures markets disturbances as well. This tendency obviously comes into conflict with the limits imposed to lender of last resort functions by the operations of CBA.

To conclude, I believe that the adoption of CBAs should mostly be seen as a specific solution appropriate in those cases where central bank expertise is lacking—thus the preference for automatic rules; or where credibility of policies and institutions are weak and need to be reestablished quickly—thus the preference for a very strong regime. I also believe that, on balance, CBAs should be seen as temporary arrangements, as many others, but keeping in mind that their redundancy may take considerable time to materialize. They may be temporary but not such short-time arrangements. They should, in any case, be considered as useful and in some cases as an important component of the range of instruments available to deal with situations that indeed arise among the membership. Transition circumstances are the ones that most clearly come to mind.

Similarly, I believe that Fund resources can be used to support CBAs when we find them useful. In backing CBAs with Fund resources, the key judgment will have to be, aside from the need for such a backing, the strong likelihood that appropriate policies to complement the CBA regimes will be put in place and maintained in place. So strong complementarity between policies and regimes should be a key element for the decisions about the use of bank resources. As for specific forms of support, one should examine very clearly the usefulness of contingent forms as well as traditional forms.

Ms. Lissakers commented that the assumption did not appear to be correct that the choice of the foreign currency to which the local currency was pegged depended on trade patterns. The examples in the staff paper included countries like Djibouti and Lithuania that used the U.S. dollar, but where it was unlikely that most of their trade was with the United States. Presumably, the choice of the peg had to do with the foreign exchange counterpart that provided the greatest confidence to local savers and investors. In Argentina, the dollar happened to be the currency of choice, and was used as a unit of account, store of value, and as a medium of exchange.

Ms. Srejber remarked that Lithuania's choice of the U.S. dollar as the peg was guided by the consideration that the U.S. dollar was used in payment for the country's energy imports.

Mr. Kiekens, turning to the question of the extent to which Fund resources could be used in supporting a CBA, emphasized that, in light of the complementarity between the rules, the framework, and the policies, strong policies had to be in place for the Fund to consider extending its support. However, it was less clear whether the Fund should wait for strong, widespread public and financial market support for a CBA. If the Fund were to wait for the market support, it would be evading its responsibilities. The Fund's responsibility was to assess the credibility of the program and the likelihood of its implementation. In some cases the Fund might require prior actions, but it should never delay its decision until the markets had reacted positively. The opposite situation was more likely: markets often waited for the Fund's judgment.

The choice of an exchange rate regime under the Articles of Agreement belonged to the national authorities, Mr. Kiekens said. But the Fund should recognize that one exchange rate regime implied a need for larger foreign exchange reserves than an alternative regime.

Hence, if the authorities opted for a fixed exchange rate regime or a CBA, the Fund should provide more financing than under a flexible exchange rate regime.

Mr. Shields suggested that, in general, the Fund should be concerned about the degree of market support for a CBA. In Bulgaria, for example, the Fund was engaged in promoting the idea of a CBA. If markets were skeptical, the Fund should not proceed unless some attempt were made to explain the policies and win public and market support. Some initial doubts should not deter the Fund from favoring a particular policy, but they could be a source of concern if they persisted.

Mr. Donecker indicated that, among conditions that needed to be met for the Fund to support a particular regime, broad national political support would be critical. Without such support, the Fund would not have the satisfactory assurance that the stabilization program would be implemented. That was especially the case in Bulgaria. Market perceptions were also important—unless the markets became convinced of the viability of the program, the arrangement could come under attack. The soundness of the banking system was important in that context as well, although individual banks should be allowed to fail.

Mr. Toribio asked about the staff's experience regarding the question of choice of an exchange rate regime in individual instances, whether the Fund should remain strictly neutral as to the exchange rate regime, or recommend a particular regime.

Ms. Srejber said that public support should extend to the requisite policies, not only the policy framework. It was important for the Fund, and also for the authorities, to be certain that they would be able to proceed with the implementation of the necessary policies.

Ms. Lissakers considered it somewhat contradictory to claim, on the one hand, that the currency board was a mechanism for instilling confidence and to say, on the other hand, that public confidence was a precondition for this confidence-instilling instrument to be successfully implemented. In her view, full popular support and full legislative backing was not essential. In practice, the Fund would have to make a judgment about whether a reasonable prospect existed that a government would be able to carry out the necessary supportive policies.

The extent of financing needed to support a currency board, at least in the early stages, required close attention, Ms. Lissakers remarked. The speed with which public confidence was gained and interest rates, consequently, came down, would be partly a function of the initial level of confidence. That was going to vary from country to country. In Bulgaria, for example, the high interest rates were undermining the fiscal situation—without sufficient public confidence and without the belief that the foreign exchange reserves were adequate to support the policies and the CBA itself, the interest rate convergence might not occur quickly enough to produce the desired fiscal results.

Mr. Vernikov made the following statement:

> Above all, I strongly welcome this discussion. Experience with currency boards is indeed a topical issue for a number of reasons, including, if I may use Mr. Bernes' expression, a growing fascination with currency boards in many developing countries and economies in transition.

On the nature of CBAs and eligibility of countries, I have to disagree with those Directors who have argued that CBAs represent just a version of fixed exchange rate regimes. On the surface, it seems to be the case, because a CBA implies that a domestic currency can be exchanged for a foreign currency at a fixed exchange rate. In essence, however, these regimes are very different, if not opposite.

Milton Friedman observed in 1993 that the traditional opinion of currency boards as only a modification of a fixed exchange rate regime is incorrect, and that these regimes, quote, "are as different as they can be." The fact that the state voluntarily denies itself almost any discretion in the monetary area seems to be the critical aspect of the CBA. It is not the case in the standard fixed exchange rate regimes, where monetary policy has to be quite strong.

Let me take advantage of the fact that we are having a seminar and not an ordinary Board meeting. I would try to challenge a widespread cliché, namely that currency boards are indicated only for small and open countries. Firstly, it is unclear what is the criterion of size—GDP, the population, the territory, or maybe some combination of these factors. It is hard to draw a watershed between a "small" and "not small" economy. For example, if something worked for a nation of 33 million people, why shouldn't it work for, say, 50 million. When I ask myself whether Argentina was a "small open economy" at the time when the Convertibility Plan was adopted, my answer is negative. The working of transmission mechanisms does not depend on the size of the economy.

The statement by Ms. Lissakers and Mr. Sobel contains two explanations for why CBAs fit only small open economies. The reference to the "optimal currency areas" theory does not really convince me, because there does not seem to be much theory beneath it. If it is true that "the larger the country, the more likely it is to retain the properties of an optimal currency area...," then I wonder why the "optimal currency areas" theory was used several years ago to justify the breaking up of the Soviet Union into several smaller currency areas, on the grounds that the U.S.S.R. was presumably too big to form an "optimal currency area."

The second argument—namely that larger countries have been unwilling to subordinate domestic objectives to an external discipline—is of a noneconomic nature, but appears to better explain empirical evidence.

I agree with Mr. Zoccali and several other Directors who pointed out that CBAs are indicated for countries already facing a strong spontaneous dollarization. In this regard, I was fascinated by Mr. Toribio's point that in certain cases it might be preferable to make one more step forward and renounce the use of a domestic currency altogether. Hopefully, the short exchange between Mr. Toribio and Mr. Guitián has not exhausted all the staff has to say on that matter. Another situation that warrants the adoption of CBAs is that of post-conflict or post-chaos countries, such as

Bosnia and Herzegovina. Altogether, the list of potential candidates turns out to be quite long.

May I also join a question by Ms. Lissakers on the criteria for eligibility, namely how do we distinguish between candidates for CBAs and fixed exchange rate regimes, given that the considerations leading to the adoption of either regime are rather similar?

As to the advantages and weaknesses, while a currency board is a rule-based system, there at least two crucial matters left at the discretion of decision-makers—the initial level of the exchange rate, and the timing of an exit from a CBA. According to Ms. Srejber's statement, initial undervaluation of domestic currencies has fueled inflation in Lithuania and Estonia.

Messrs. Kiekens and Jonáš have posed a very difficult question in their statement: if the authorities lack credibility to such an extent that they see no alternative to a rule-based system which ties their hands in the area of monetary policy, where would sufficient credibility and confidence come from to deal with the no less formidable challenges in the other areas, especially fiscal and structural?

Messrs. Zoccali and Costa provided an interesting analysis of the empirical evidence from CBAs. Even if I was not entirely convinced by the argument that downplays the negative effect from the rigidity of a nominal exchange rate, I would nevertheless agree on the broader point that many of the widely discussed drawbacks of CBAs are actually exaggerated, or imagined altogether. For example, I find it difficult to identify direct evidence that CBAs themselves impede economic growth in the medium and longer run. Other things being equal, the countries that adopted CBAs have so far grown quite successfully and sustainably. It is not entirely clear why greater discretion in monetary policy would be needed in this case.

The discussion of preconditions for a successful CBA goes back to the "chicken and egg" problem. Indeed, if we overload the preconditions, then we may never get there. Certainly, it is desirable to have a healthy and properly functioning banking system (as it is under any kind of monetary arrangement), however this criterion must be applied flexibly. It is hard to determine an "acceptable level of weakness" of the banking sector, if I may use Mrs. Gotz-Kozierkiewicz's words. For instance, what is the degree of soundness of the banking system in Bosnia and Herzegovina? Still, a currency board appears to be the most suitable arrangement for the time being. What matters here is the authorities' firm commitment to improve the health of banks, as is the case in Bulgaria.

It is impossible to disagree with Ms. Srejber that the policy content is crucial and has priority before the form of the exchange rate regime. I would also add that, when the right policies are in place, a CBA may not yield better results than another arrangement. The Czech Republic and Slovenia have shown results no less impressive than those in countries with CBAs.

I enjoyed the discussion of the authorities' possible actions under a CBA in the case of a banking crisis, in particular with regard to the kind of resources to draw on (if at all). Argentina's experience with a combination of a reduction in the legal reserve requirement with the establishment of lines of credit with a consortium of international banks is instructive.

To add a word on this issue, the difference between the two Barings crises—one in 1890, and the other one recently—has been that in the first case, the lending-of-last-resort action was performed as a global arrangement of the major central banks, while in the second case precisely the absence of such an act was hailed worldwide. Transition from being shielded by the state to naked business exposure can be difficult for many banks, but there seems to be no alternative.

Turning to exit strategies, practically everyone considers CBAs to be a transitional tool rather than a permanent monetary arrangement. However, it is pertinent to ask if the respective authorities view them the same way. The more I weigh Messrs. Zoccali and Costa's statement, the stronger is the impression that the Argentine authorities do not contemplate any exit strategy for the foreseeable future. Or maybe I am wrong?

On Fund involvement, in principle, I would join those Directors who found the Fund's existing mechanisms to be broadly adequate, and who believe that Fund support of programs based on CBAs is fully consistent with the objectives of the Institution. The role of the Fund may be additionally nuanced to reflect not only the upfront support with Fund resources at the time of adoption of a CBA in order to boost foreign exchange reserves, but also some potential role of a last-resort lender in an eventual case of a banking crisis.

My answer to the question of whether the Fund should itself advise the introduction of a currency board, would be, "Yes, in certain cases."

In one of the statements, I found this expression: ". . . before recommending a CBA to the Board . . . etc." As a matter of fact, the staff may recommend to the Board a Stand-By Arrangement or an EFF to support a program including a currency board, but not the currency board itself. The word "arrangement" causes confusion, because in Fundese, it implies the existence of two parties, while a currency board is a unilateral commitment by the authorities that may or may not require Fund support. Terminologically, I would avoid the confusion by referring to a currency board as a "mechanism" or a "system," rather than an "arrangement."

Finally, I believe that in view of the informative and analytical value of the papers, their publication would be fully appropriate.

Mr. Zoccali said that he did not wish to leave the impression that his authorities were not acting in a way consistent with the maintenance of the currency board in the foreseeable future. In fact, there was only one preferred alternative to the present arrangement, envisaged in the Convertibility Law. Article II did not require the central bank to sell foreign exchange at the established 1 to 1 ratio, while Article III authorized the central bank to purchase foreign exchange at that rate. In that way, the authorities had fully taken on board the possible exit mechanisms used in the earlier experiences of successful currency board arrangements.

Mr. Calderón made the following statement:

Like other speakers I would like to congratulate the staff for an excellent set of papers. The CBAs are useful under precise circumstances which we should tend to see less in the future: That is, we should hopefully see fewer high-inflation countries adopting strong stabilization programs to enhance the credibility of monetary policy or transition economies that wish to delay the introduction of a full-fledged central bank until they build up central banking expertise.

Neither the CBA, nor any other regime, can by itself create credibility. The CBA helps to buy some time and, by having more binding rules, advances the first steps in establishing such credibility. But in the end, old fashioned, orthodox macroeconomic and structural policies are what generate that credibility. And when they do, the CBA may have well served its purpose.

Fiscal policy plays a very important role in CBAs. This is good in the sense that it gives an additional incentive to obtain fiscal equilibrium or small surpluses. Nevertheless, fiscal policy is a medium-to-long-term, relatively inflexible instrument. This is one of the main reasons why CBAs are left with little room to deal with exogenous, temporary shocks. In other words it is less difficult to use monetary and exchange rate policy to deal with such crisis.

The Mexican aftermath is a good example of this point. Latin American countries that had more flexible monetary and exchange rate policies coped much better with the "tequila effect." Aspe arguing that the Mexican appreciation had been more than compensated by the increases in domestic productivity.

One of the ways that CBAs can better handle exogenous shocks is by having an adequate "lender of last resort." This should be complemented by strong bank supervision, proper accounting standards, and other usual banking standards. However, one important difference with other regimes is the need for more stringent capital adequacy rules than those called for under the Basle standard. This implies that, even in the best of scenarios, a CBA will have, ceteris paribus, an additional efficiency cost, a higher interest spread than other arrangements.

On exit strategies, the experiences of Malaysia and Singapore are interesting. However, if the tendency to appreciate comes, for example, more from higher domestic interest rates than from improved investment opportunities, the eventual success of the exit process would be more questionable. In this regard, I agree with Mr. Shaalan that the question of how does a policy maker know when it is appropriate to exit merits further investigation.

In sum, a CBA can be a useful instrument in certain relatively specific cases. Furthermore, such an arrangement may help gather support for the needed macroeconomic and structural policies. When all the necessary policies are in place—and CBAs are more demanding in this regard than other arrangements—the Fund can well provide financial assistance to such a program. But in most cases such an arrangement should be transitional. And the question of how to exit the CBA while managing to consolidate credibility and economic gains is still open.

Mr. Obame made the following statement:

At this stage of our discussion, let me just emphasize some of the main points raised in my statement for which I would request that the full text be included in the minutes of this meeting.

Let me first commend the staff for the comprehensive and well-balanced papers prepared in connection with this seminar. These papers provide an excellent overview of the experiences with CBAs and highlight the main issues relevant for Fund Surveillance and conditionality.

As experience has shown, and as noted by previous speakers, for small open economies, even if that notion could be questionable as Mr. Vernikov reminded us, the choice of entering into a CBA could be based on various motivations and rests on two main circumstances: First, when a country is experiencing high inflation and when the credibility of its policymakers is very low, both factors that could affect the stability of the country's currency; Second, when a country, while enjoying a low level of inflation, is eager to maintain the stability of its currency. In both cases, it has been demonstrated in the papers that Fund support can be helpful not only at the inception of a CBA, but also, when the country is faced with difficulties similar to those experienced by Argentina in the mid-80s and the early 90s.

While CBA could be, through its main feature, a useful tool to enhance credibility, I agree with the staff that to play effectively that role, it should be backed by supporting policies. In this context, I note the critical importance of sound financial policies, and in particular fiscal discipline. I also note the need to implement structural reforms so as to enhance the competitiveness of the economy and ultimately ensure the stability of the currency.

Among the lessons that could be drawn from the various experiences with CBAs, it could be retained that a country embarking on that type of arrangement should be prepared to accept its constraining rules so as to reap the benefits of financial stability in the long term. Another lesson is the need for a strong commitment from the authorities and public confidence in their macroeconomic policies to achieve economic stabilization and sustained growth. Finally, one could consider that for a country with a limited central banking expertise, embarking on a CBA could be regarded as a transitional process during which efforts will be made to restore credibility and perhaps move to a more complex monetary management framework such as a full-fledged central bank.

Turning now to some of the issues for considerations before us, my comments will be brief and organized as follows:

First, on the main advantages and drawbacks of currency board arrangements, based on the experience of one country (Djibouti) in my constituency, I consider that one of the strengthens of this type of arrangement is its managerial simplicity and transparency. I concur with the view that a CBA is relatively easy to operate and is particularly relevant for countries with low internal technical and management capacity. However, as stated above, the success and failure of CBAs depends on the extent to which policymakers are implementing supportive policies. In this regard, as rightly observed by Mr. Zoccali, the sign of success could be seen when the authorities are implementing sound financial policies which are resulting in a lessening of inflationary pressures. On the weakness side, I share the view of those Directors who consider that the extreme exposure of the economy to exogenous factors and developments in the trading partners' economies, constitute a major challenge. The root causes of this challenge being the fixed parity which limits the authorities' room for maneuver to deal with real exchange rate misalignment or to manage destabilizing capital flows. Another area of concern is the stringent rule imposed by the absence of monetary financing of the fiscal deficit; CBA requiring immediate fiscal consolidation which is, as well recognized by the staff, not easy to achieve.

Second, on the conditions to be considered for introducing Currency Board arrangements, it is my view that a country could envisage to embark on this process when its credibility has been eroded, when domestic inflation is high and when the country is therefore willing to use CBA as a nominal anchor to fight inflation. Under these circumstances, the authorities should be ready to implement, in the context of an adjustment program, a restrictive fiscal stance and adopt measures that could enhance the soundness of the banking system. Moreover, the level of reserves to satisfy the conversion commitment should be sufficient. We see here an area where Fund involvement in the country could be useful through its technical and financial assistance, namely if that country's international reserves are relatively low.

Third, on the exchange rate and interest rate adjustment, under the strict rules governing CBAs, the choice of the most appropriate exchange rate, namely at their inception, is very critical. I agree with the staff that two main considerations, in this respect, are relevant: the need to reduce inflation while preserving, to the extent possible, the competitiveness of the economy. The authorities would, therefore, need to strike a balance between the two. At the initial stage, I can share the view that a lower rate reflecting the market forces will be advisable.

Regarding interest rates adjustment, this is an area where the authorities should also be cautious. On theoretical grounds, at the initial stage of the CBA, it would be advisable to maintain domestic interest rates at the level consistent with the need to mop-up excess liquidity and stabilize the economy. Depending upon the degree of openness of the country's economy and its capital accounts regime, I agree with the staff that capital flows could help to reduce monetary disequilibria and facilitate the approximation of interest rates to those in the reserve currency country. Lower-interest rates down in the process, would therefore be instrumental in promoting economic recovery and growth as we have seen in some of the transition economies.

Fourth, on conditions to exit from CBA, one could expect that this timing will be determined by the special circumstances of the country. The banking expertise gained during the CBA process and the restoration of credibility in the economy could be the main factors to exit from a CBA. However, while credibility is basically a fundamental issue, I agree with the staff that the exit should only be envisaged when the economic fundamentals are quite sound and when, with a degree of confidence, the authorities do not expect the local currency to be under pressure to depreciate, thus compromising the results achieved so far.

Fifth, regarding some further implications of CBAs for the Fund, as stated earlier, I am of the view that in this globalized world economy era, CBAs have to be viewed as transitional mechanisms through which the authorities are making efforts to stabilize the economy and laying the foundations for sustainable growth. In this context, the Fund should be prepared to back the authorities efforts with the needed technical and financial assistance. However, I will agree that for such undertaking, Fund conditionality should be applied with special emphasis made on fiscal measures and structural reforms so that CBAs can achieve their ultimate goals.

Finally, like Mr. Toribio and others, I would favor the publication of the staff papers in their updated version, which should take into account the views expressed by Directors. Especially, I would like to see, like Mr. Autheman, a comparative study of different nominal anchor schemes highlighting the differences between CBAs and other kind of exchange rates arrangements. Such a study would be useful for enhancing some debates at this juncture in countries of our constituency. On this, I have also in mind the different views expressed by Mr. Kiekens and Mr. Donecker on the role that the Fund could play in helping the countries to make their mind on the choice of an exchange rate regime.

The Director of the Monetary and Exchange Affairs Department stated that a CBA did not allow for any discretion in monetary policy. It could be argued that a fixed exchange rate regime was also a rule-based monetary policy, but the degree of discretion that could be exercised under a fixed exchange rate regime exceeded that available under a CBA, which did not leave any scope for lending. In essence, the currency was fully backed by foreign exchange, which prevented domestic credit generation in the domestic currency. In other words, the considerations behind the choice related to the advantages and disadvantages of having no discretion or having some discretion. No discretion, if believed by the markets, could provide more credibility than some discretion, yet the actual outcome would depend on how well the absence of discretion was handled by the country under a CBA and how well the availability of discretion was handled by the country under the fixed exchange rate. Therefore, the choice was not between a CBA and a fixed exchange rate, but rather between the ability of a government to pursue the policies consistent with a CBA, on the one hand, and to pursue the policies required by a fixed exchange rate regime, on the other hand.

It should be noted that policy frameworks other than CBAs were not entirely free of constraints, the Director continued. For example, there was not much more policy scope under flexible rates if one defined policy scope as the right policies. It would be wrong to claim that by relaxing rules, policy scope expanded, because the alternative to well-established rules in a world in which market forces prevailed was market discipline.

While it would be misleading to conclude that outcomes depended exclusively on a specific framework, as noted earlier, it would be equally erroneous to claim that policy content and the policy framework were entirely independent, the Director remarked. The strengths of a specific framework were the counterpart of its weaknesses. The more one would do to strengthen the weaknesses, the more one would weaken the strengths. The relevant question was where the line should be drawn.

It was likely that the market might be skeptical at the beginning of a CBA, the Director said. The likely outcome would be for the market to wait and see whether the CBA was accompanied by a substantial fiscal adjustment program, by measures to enhance labor and goods market flexibility and to strengthen the banking sector. As these policies were implemented, the market's perceptions would likely improve and, as such, act in support of the framework. If the policies were not implemented, the presence of the framework would not help.

In discussing relative merits of different exchange rate regimes with authorities, the staff generally maintained a neutral position, the Director of the Monetary and Exchange Affairs Department indicated. In most countries there was a certain tradition or a certain preference—moreover, countries already had a certain exchange arrangement. The staff would discuss the constraints of such an arrangement with them, and the implications for policy. If asked about different exchange rate regimes, the staff often drew upon the experience of different members, all of which had experimented with different types of systems.

Mr. Donecker stressed that it was important not to sell aggressively a CBA as the only solution for countries facing a difficult economic situation. Other policy frameworks might also be suitable. If the authorities were genuinely willing to persevere with the right policies, a flexible exchange rate system, for example, might be equally as suitable as a CBA or a fixed exchange rate system.

Mr. Zoccali suggested that some of the comments made by the Director of the Monetary and Exchange Affairs Department should be included in the paper if it were to be published—the paper should not leave the impression that in turbulent times greater discretion would help authorities avoid unpopular decisions. Under CBAs, fixed exchange rate regimes, and even flexible exchange rate regimes, strong policies remained the common denominator. That needed to be stressed more in the paper. The Argentine experience showed that credibility was something that could not be bought, put away and kept until one needed to use it—rather, it required ongoing attention.

The contribution of CBAs to transparency also deserved mentioning, Mr. Zoccali remarked. A CBA involved a responsibility on the part of the member in the area of provision of information. In the case of Argentina, the CBA meant that the public expected the release of official information on a timely basis. Financial indicators, changes in monetary liabilities and changes in international reserves, inter alia, had been made available on a daily basis for almost six years. Furthermore, the public had come to demand improvements in the quality and timeliness of official data. That was both a contribution and a requirement of an effective CBA.

The dynamics of dollarization, particularly in Argentina, deserved closer attention, Mr. Zoccali suggested. The bimonetary character of the Argentine mechanism—and the benefits of dollarization, in particular—should be brought out more in the papers. Dollarization provided an exchange rate hedge, allowed for redenomination of deposits in the aftermath of the Mexican financial crisis without exacerbating foreign exchange market conditions, provided greater stability in the monetary aggregates, and cushioned against the impact of shocks to economic activity. The positive aspects of dollarization should also be considered in a debate on the question of eventual exit.

Mr. Toribio noted that there was an important difference between a CBA and a fixed exchange rate regime. While a CBA could be characterized as a regime with a fixed exchange rate, it did not allow the central bank to hold domestic assets.

The Acting Chairman turned to the issue of the relationship between policy content and the policy framework, noting that they were closely linked. A CBA had strong implications for the fiscal policy. Monetary financing was ruled out; poor policy discipline also limited recourse to foreign financing. Hence, under the CBA rules, the government was forced to operate under a much tighter constraint. There was reason to think that a CBA might lead to a change in government behavior, when access to the most convenient last resort of any government in trouble—the printing of money—was lost.

Although it was appropriate to emphasize sound policies, the interaction between the framework and the policies should not be overlooked, the Acting Chairman continued. The policies were shaped by the institutional environment. By putting a particular set of institutions in place, the authorities accepted that some policies—namely inflationary policies—would be much more difficult to implement, which would have an impact on the government's behavior and the expectations by others regarding its behavior.

Regarding the question of how far the staff should go in recommending a particular regime, it was important to view the staff's consultations with authorities as a dynamic process, the Acting Chairman said. Experience and track record had to be considered. If the staff reached the conclusion that a drastic change in fiscal policy was needed, and if years of continued access to the printing press had made it apparent that fiscal policy was not likely to change, the staff might conclude that a change to an institutional environment more conducive to appropriate policies was called for. The circumstances under which the Argentine convertibility plan had been implemented served as an example. Other approaches had been tried—the authorities had tried fixed exchange rates and floating exchange rates; they had tried freezing bank deposits; they had tried confiscating bank deposits—and none of the measures had worked. Then they had decided to change the institutional environment in a way that prevented the government from resorting to such courses of action. It had not made life easier, but it had put important constraints on policy. The advice offered by the staff in each individual case thus could not ignore the actual experience. The staff should be able to conclude that, indeed, several policy alternatives existed, but that, in its professional judgment, some were less likely to succeed than others.

Mr. Autheman, noting the Acting Chairman's emphasis on the lack of the government's ability to print money under a CBA, wondered whether that or the fixed exchange rate was the more fundamental aspect of a CBA.

The Director of the Monetary and Exchange Affairs Department replied that both rules were inherent in a CBA. Without any scope for credit expansion, the generation of domestic currency was clearly demand-determined—domestic currency was issued only to the extent to which the economy was willing to part with foreign exchange in order to hold the domestic currency.

Ms. Srejber noted that it was not surprising that many Directors emphasized the importance of policy content. Often, in domestic policy discussions, countries seemed to subscribe to a popular belief that if one would only get rid of a monetary aggregate anchor, or if one would only change the exchange rate, one could improve the economic situation. The framework without the policy did not work. While it was true that a CBA prevented the government from seeking monetary financing, it was possible to have such a rule without a CBA. That was the case in many countries that also achieved good results.

Ms. Lissakers observed that Mr. Autheman raised an important question. What was the primary objective of a CBA: to stabilize the exchange rate or to stabilize monetary policy? The Acting Chairman had emphasized the goal of stabilizing monetary policy, i.e., to prevent the debasing of the currency in terms of the real purchasing power. Fixing the exchange rate appeared to serve as a transparent measure of progress in monetary stabilization. But the exchange rate, in some ways, was a secondary objective; it was an indicator, not a goal. Furthermore, without the ability to print money freely, the government was denied the ability to run an irresponsible fiscal policy. In that way, the CBA also enforced sound fiscal policy.

The staff representative from the Monetary and Exchange Affairs Department indicated that the data on the relationship between a CBA and productivity growth was not conclusive. In the cases studied by the staff, the investigation was complicated by the presence of a number of reforms taking place at the same time. Estonia and Lithuania, for example, had introduced changes in their labor laws and adjusted regulated prices. In Argentina, large segments of the economy had been restructured and privatized. Hence, it was difficult to attribute the doubling in Argentina's gross domestic investment between 1990 and 1995 solely to the presence of the CBA. Nevertheless, the positive influence of the CBA could not be ruled out. It was apparent that the CBA in Argentina acted as a spur for reforms in several important areas. For example, in the current debate on exchange rate and competitiveness the CBA was viewed as the linchpin of the stabilization plan, and there was consensus that competitiveness needed to be addressed by further reforms in labor markets.

Finding an appropriate arrangement between the central bank and commercial banks to deal with banking problems was particularly important under a CBA, because a CBA limited the central bank's ability to assist commercial banks, the staff representative remarked. Central banks in many countries were usually asked to address two types of problems in the banking system: liquidity and solvency. The arrangement that Argentina's central bank had made with the commercial banks was designed to deal with liquidity problems. There appeared to be broad consensus that dealing with such problems should be the sole aim of central banks' lender of last resort function in any case—in contrast, any government assistance to address bank solvency problems should come from the state budget. The staff considered the arrangement between the central bank and commercial banks in Argentina—in combination with other measures designed to increase the liquidity requirements of banks—useful in addressing the liquidity problems of sound banks. In addition, Argentina and other countries had been taking other important measures to deal with bank solvency problems. Such measures included, for example, measures to increase capital adequacy ratios and to strengthen banking supervision. In discussing the requirements for a successful operation of a CBA, the staff also emphasized that a reserve buffer needed to be built into the CBA if banking sector liquidity problems were expected to emerge. If the policy envisaged the provision of assistance to troubled banks in the future, then a cushion should also be built into the state budget. The idea of a buffer was not exclusive to a CBA. In other arrangements, in particular under a pegged exchange rate regime, an adequate stock of foreign exchange reserves at the central bank would be necessary to deal with a banking crisis or an outflow of capital.

Given the limitation of a lender of last resort function under a CBA, the need for settlement balances was likely to be higher under such a regime, the staff representative continued. At the same time, authorities should also be mindful that, if the level of unremunerated required reserves were set too high, domestic intermediation would decline. Hence, it was important to allow banks to hold a substantial level of liquidity in the form of interest-bearing assets that were easy to sell in case of a crisis, rather than setting high levels of unremunerated reserve requirements

Argentina's experience showed that the importance of the CBA derived from both its attributes—the fixed exchange rate and a legal constraint on the creation of money, the staff representative continued. The convergence in interest rates had occurred more quickly than under a previous arrangement implemented in 1978–81 involving a preannounced schedule of devaluation. That seemed to suggest that at least the markets appeared to trust a system more in which the hands of the central bank were tied, even if the other system had also provided a guarantee in terms of the future course of the exchange rate.

Another staff representative from the Monetary and Exchange Affairs Department said that the impact of a CBA on the reserve currency country was likely to be small in most cases, as the countries with a CBA tended to be small relative to the reserve currency countries. For example, economic developments in Lithuania were not going to have a great impact on the management of monetary policy in the United States. Some of the larger countries, such as Argentina, for example, had been experiencing a high degree of dollarization. So, moving to a CBA had an ambiguous effect on the demand of dollars, with the overall effect likely to be small. Indeed, the presence or absence of a CBA might not be particularly relevant: holdings of U.S. dollars in Russia—which did not have a CBA—were larger than in Lithuania—which did.

The situation became more complicated in the cases with a greater symmetry between the CBA country and the reserve currency country, the staff representative continued. In Belgium and Luxembourg, which had an arrangement similar to a CBA, the need for greater cooperation and coordination existed. That might help explain why not many large countries adopted CBAs. One might recall the sterling area, which, toward its end in the early 1970s, had acted as a definite constraint on U.K. monetary policy. The arrangement necessitated many bilateral discussions between the United Kingdom and the other countries in the sterling area. Many of the countries had felt unduly constrained, and the regime had possibly led to a suboptimal outcome for each of the members in the region. There might be advantages to a reserve currency country in some cases under a regional CBA. For example, Singapore might benefit from Brunei pegging its currency to the Singapore dollar, as the Singapore financial sector gained access to Brunei's markets.

A CBA per se did not affect payments and settlements systems, the staff representative indicated. Those could remain on the books of the central bank. A CBA might, however, put the payments and settlements system under greater stress, because less discretion was available to the monetary authorities. In fact, that was one of the main reasons that a minimum level of banking system soundness was necessary at the time of a CBA introduction. It was important to identify and weed out those banks that might cause stress to the payments system. Cleaning up the banking sector was one way of mitigating potential stress to the payments system—the other one was enhancing the interbank market in a way that would allow individual banks seeking higher liquidity to access the market instead of approaching the central bank. Foreign bank ownership was also effective as an insurance policy, because the parent bank ultimately provided support. Effective banking supervision allowing early identification of incipient problems and providing for an orderly exit of problem banks was critical as well. So was the existence of some form of lender of last resort facilities to alleviate a systemic threat to the payments system.

As with some of its other aspects, a CBA tended to put pressure on the authorities to develop best practices across the range of their responsibilities, including in the payments and settlements system, the staff representative from the Monetary and Exchange Affairs Department concluded. In that way, a CBA contributed to reducing the risks within the payments and settlements system and to accelerating a transition to a real-time gross settlement system.

Ms. Lissakers asked the staff to comment on the dollarization phenomenon in Argentina; in particular it would help to know whether a high degree of dollarization indicated that it was time to exit from the CBA, or whether, on the contrary, it meant that it was premature to exit.

The Director of the Monetary and Exchange Affairs Department replied that a large degree of dollarization implied, in principle, incomplete credibility. It suggested a continued need for a safe store of value. The coexistence of the high level of dollarization and the CBA in Argentina would contribute to credibility. The extent to which the CBA eventually tended to reduce dollarization was an indication of the CBA's having done its job.

Ms. Lissakers wondered whether a CBA provided any incentives that would lead to a decline in dollarization. Given Argentina's history and the dollar's standing as an international reserve currency, it would be natural to expect a slight bias toward keeping one's savings in dollars and using dollars in transactions as long as there was no prospect of an appreciation of the peso vis-à-vis the dollar. It would appear that a CBA would have to be abolished before dollarization would decline.

The Director of the Monetary and Exchange Affairs Department said that he would respond to the points raised by Ms. Lissakers bilaterally, once he had had the opportunity to reflect on them.

Mr. Donecker suggested that, at least in theory, it should be easier to introduce a CBA in a country experiencing a large degree of dollarization because the population and the banking system were likely to have sufficient stocks of the foreign currency that would serve to underpin the new local currency.

The Director of the Monetary and Exchange Affairs Department remarked that the degree of dollarization per se was not relevant. Rather, dollarization was a symptom of lack of credibility. The establishment of a CBA with the accompanying strong policies could enhance policy credibility, increase demand for the local currency, and thus reduce the level of dollarization over time.

Mr. Waterman commented that tremendous growth in dollarization was a sign of lack of confidence in the currency of the country. If, following the CBA implementation, the dollarization did not change or actually increased, that would seem to raise questions about the policy.

The Director of the Monetary and Exchange Affairs Department said that market reactions to a change in regime and in policy were difficult, if not impossible, to forecast. It was therefore difficult to say how fast credibility would be reestablished or whether such a process would be free of setbacks. For example, dollarization could increase initially, because the degree of adjustment effort implicit in the policy package was so large and policy credibility so low that the market might remain skeptical, at least initially. After all, there was a saying that investors tended to have the memory of elephants and the legs of hares.

Ms. Lissakers noted that Argentina's CBA had been in place for some time and an array of desirable policy measures seemed to have been implemented by the authorities. Yet, at the same time, there had been an increase in the dollar composition of bank assets and liabilities in Argentina.

Mr. Lvin considered it appropriate to link the issues of CBAs and currency substitution because it was impossible to understand the CBA without regard to the phenomenon of dollarization. A research paper at a past World Bank conference devoted to currency boards and currency substitution had made a very important finding: once currency substitution took hold and foreign-currency-denominated accounts for residents became legal, currency substitution had never been reversed. In modern history, since the late 1970s, there had been no cases of dedollarization.

Mr. Donecker pointed out that one incentive for holding the domestic currency would be its function as the legal tender in the country. The pursuit of sound policies could serve as an additional incentive whose impact would tend to increase over time. In Argentina, lapses in policy might have hindered and slowed down the process of return to the peso.

The Acting Chairman noted that, in theoretical models, it was almost impossible to conclude without additional assumptions that a particular currency would be used in a particular place. For example, a model would typically employ legal tender provisions as the critical assumption. Once a small benefit existed for using a particular currency, then that currency would be chosen.

Mr. Costa remarked that the degree of dollarization in Argentina had increased despite supporting policies and despite the five years of the CBA, as households and businesses converted some of their peso holdings into dollars in response to increased political uncertainty brought about by the resignation of the Minister of Economy, who was one of the pillars of the program in the third quarter of 1996.

In Argentina, both dollars and pesos were legal tender, which meant that there was no legal constraint on the use of dollars, Mr. Costa said. Peso-denominated deposits offered higher remuneration, which explained why households and businesses were willing to hold part of their money in pesos despite the associated risk. A prospect of peso appreciation could be a solution to the exit issue in Argentina, as well as to the dollarization problem. The Argentine authorities had always maintained that the CBA would come to an end in the environment of an appreciating peso.

The Acting Chairman made the following concluding remarks:

> Directors welcomed the opportunity to discuss currency board arrangements (CBAs) in an Executive Board Seminar, and commended the staff for producing a set of comprehensive and well-balanced papers. They broadly endorsed the conclusions of the papers. Directors observed that CBAs entailed advantages and disadvantages that needed to be carefully weighed. They agreed that CBAs could be useful for certain purposes: to bolster the credibility of a stabilization program—especially in countries emerging from high inflation where there was an urgent need for a complete break with an existing policymaking process, or where the authorities had not had the time to establish a strong policy record; to serve as a transitional arrangement in newly-independent countries or those in a post-conflict situation until the expertise could be developed to operate a conventional central bank; and to facilitate the integration of a small open economy with a currency area or broader trade zone. It was also suggested that widespread dollarization might ease the introduction of a currency board arrangement.
>
> In discussing the strengths of CBAs, Directors emphasized the usefulness of such rule-based arrangements in enhancing transparency and in encouraging financial discipline. Those were key elements in providing an institutional framework for good policy management, thereby bolstering credibility and facilitating the success of stabilization policies. At the same time, noting that policy content mattered more than the policy framework, Directors stressed that a CBA by itself could not create credibility. The advantages of a CBA could obtain only if it was backed by the necessary strong macroeconomic and structural policies and the will and ability to minimize deviations from stated policy objectives.
>
> Directors noted that the drawbacks of CBAs were closely related to the rigidity of the arrangement. That was most evident in instances where the fixed conversion rate resulted in exchange rate misalignment—a fact which underscored the importance of carefully selecting the peg currency and the initial level of the exchange rate, as well as the encouragement of flexibility in labor and goods markets. It was also observed that CBAs limited the range of tools that authorities had for dealing with shocks and with situations such as financial fragility. Some Directors stated that CBAs were less well suited for coping with a global environment of increasing capital flows and modern and dynamic financial markets.

Directors emphasized that all policy options must be weighed carefully before the entry of a country into a CBA, as the costs of failure could be severe. In particular, the introduction of a CBA should proceed in the context of a comprehensive policy package of macroeconomic and structural reforms and where there existed the political will and public support to implement the necessary policy adjustments. Directors noted that strong fiscal policy, flexibility in labor and goods markets, and a sound banking system helped reduce the likelihood of exchange rate misalignment or a banking crisis that could jeopardize the arrangement's credibility. In that context, a few Directors observed that, as countries wishing to adopt CBAs might well have banking systems in need of restructuring and modernization, the implicit and explicit costs of cleaning up banking systems and measures to strengthen them must be carefully factored into the design of stabilization programs with CBAs. Some Directors observed, however, that the absence of a sound banking system need not unduly constrain the adoption of a CBA, provided that early reforms were initiated in that area.

Directors discussed whether CBAs should allow for typical central bank functions, including money market operations and the lender of last resort (LLR) function. Some Directors argued that a "pure CBA" limited solely to the exchange of domestic currency for foreign exchange at a fixed rate would be preferable because any flexibility introduced into a CBA would come at the cost of lost credibility. However, many other Directors agreed that allowing limited central bank functions with appropriate safeguards would, in many cases, make a CBA more resilient and thereby more credible and viable.

Those Directors considered that a limited role for monetary operations could be justified under a currency board in order to avoid excessive volatility in interest rates. Directors also thought that, given the fragility of the banking systems in many countries, it would generally be useful to have some limited LLR facility available, partly to accommodate interbank settlement needs and thereby limit potential systemic liquidity crises. In discussing possible reactions of a CBA to systemic banking distress, Directors drew attention to the successful actions of the Argentine authorities in protecting their CBA in the aftermath of the Mexican crisis during 1995, which had included, inter alia, setting up specific funds outside the central bank to restructure the banking system. Directors stressed the importance of such actions to safeguard banking sector soundness and preserve the credibility of the CBA.

In order to preserve the credibility of a CBA, any built-in flexibility to carry out central bank functions should be transparent and carefully designed, and only reserves in excess of the currency backing should be used. In particular, such functions should be limited and be accompanied by explicit financial arrangements, such as the creation of a buffer of international reserves, as in Estonia, or contingent credit arrangements, as in Argentina. Such separate financial facilities would give markets confidence in the authorities' ability to undertake the required operations without infringing upon the legal constraints imposed by the CBA.

Directors generally considered that in most cases CBAs should be regarded as a transitional arrangement. Thus, it would be important to consider orderly exit strategies. A suggestion was made to establish at the start of the CBA a target date for exiting the arrangement, with the exit date conditional on achieving specific economic and financial targets. However, some other Directors were concerned that establishing a termination date risked undermining the very credibility that the CBA was intended to strengthen. It was also difficult to establish, a priori, and even ex post, when the necessary credibility would be achieved. In terms of timing, it would, of course, be better for a country to exit from a position of strength rather than weakness. Some Directors thought it was appropriate for a country to exit from a CBA if the economy—and the credibility of the authorities—had strengthened sufficiently to persuade markets that tight discipline would be maintained in the absence of a CBA. One indication of such circumstances might be when there were prospects for the country's currency to appreciate relative to the peg currency. Directors stressed that attempts to exit a CBA under conditions of currency weakness could engender an adverse market response, leading to capital outflows, downward pressure on the exchange rate, and reversal of many of the gains achieved by the CBA. Where a country found the constraints of a CBA excessive, that might well indicate that the underpinning policies had not been sufficient. In those circumstances, it would be preferable to strengthen policies rather than abandon the arrangement. Some Directors considered that a CBA could be a superior permanent arrangement for a few, particularly very small economies. In the case of Hong Kong, it was noted that the CBA was introduced to strengthen credibility in response to the political situation and had proven effective over a sustained period.

Directors believed that the Fund should be prepared to provide technical and financial assistance to member countries with, or wishing to establish, CBAs on the same basis as that for member countries with other monetary–exchange rate arrangements. It was stressed that the Fund should not provide incentives to adopt any particular monetary–exchange rate arrangement. Some Directors considered that the Fund should exercise prudence when recommending CBAs, as the conditions for success were onerous and the costs of failure could be exceptionally high; including for the credibility of the Fund, to the extent that the Fund was seen as having recommended a CBA. In discussing the design of Fund-supported programs under a CBA, Directors noted that rigid policy constraints under a CBA implied that there might be a need for both particularly tight macroeconomic and structural policies, as well as the very strong commitment of the authorities and support of the public to implement those policies. Some Directors also thought that the Fund should assist member countries, if needed, to create new institutions and strengthen existing ones to prepare their economy for an orderly exit in due course from a CBA.

Regarding Fund financial support of CBA-anchored programs, Directors generally considered existing facilities and policies on the use of Fund resources to be adequate. A few Directors thought that there might be grounds for providing additional and/or automatic access in the context of such programs in cases of particularly strong unanticipated liquidity pressures, with an early repurchase expectation once a member had developed an adequate reserve cover, although they also stressed that such support should be extended with great caution. Some other Directors, however, did not believe it was appropriate for the Fund to play the role of lender of last resort to save a CBA, or to introduce any automaticity in the provision of financial assistance, unless it was clearly conditional on well-specified performance criteria: more analysis would be needed before consideration could be given to proceeding further with any such feature in a CBA-anchored program. Directors emphasized that conditionality of Fund assistance should not be compromised under any circumstances, in order to prevent moral hazard and to ensure the member's ability to repay the Fund.

It has been an interesting and rich discussion on a topic that is at the core of the Fund's business. As requested by several Executive Directors, we will continue to think more deeply and discuss the costs and benefits of alternative monetary and exchange rate arrangements. As suggested by several Executive Directors, we will request the staff to prepare a version of the study for publication, which would take into account the views expressed during this seminar.

REINHARD H. MUNZBERG
Secretary