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Making a Currency Board Operational

Prepared by Charles Enoch and Anne-Marie Gulde[1]

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Abstract

The past years have witnessed a revival of interest in the adoption of currency board arrangements (CBAs). This paper argues that the successful establishment of a CBA requires that, in addition to adopting appropriate macroeconomic policies, the authorities make careful preparations on the technical aspects of the transition. The range of necessary preparations will vary from country to country, but will generally involve changing the central bank law, reorganizing the central bank, devising appropriate guidelines for reserve management, and adapting the government's cash and debt management activities. Additional measures are required for countries that recently experienced banking sector problems.

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Author's e-mail Address: CEnoch@imf.org, AGuldewolf@imf.org

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I. Introduction

In the last few years there has been a revival of interest in the adoption of Currency Board Arrangements (CBAs), with such arrangements introduced in, for instance, Argentina, Bulgaria, Estonia, and Lithuania, and under consideration in a number of countries elsewhere. There has been a growing literature on the advantages and disadvantages of such arrangements, and on the principal considerations as to whether a country should adopt a CBA.[2] This paper leaves to one side the broad policy aspects of this subject: whether to establish a CBA; what should be the appropriate stance of macroeconomic policy to support the CBA; what should be the degree of foreign exchange cover, and how it should be defined; and what should be the scope for monetary operations. It assumes that these questions, have been addressed, and that the authorities are now facing the next set of tasks: how to make a CBA operational.

In general the establishment of a CBA will involve close coordination among the authorities, including the highest level of government, the Ministry of Finance, and the central bank. The Ministry of Justice and other agencies may also need to be involved. The process is facilitated if the authorities establish a formal high-level committee, possibly backed by a secretariat to conduct day-to-day technical preparations, which will meet on a regular basis, probably several times a week.

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[2]See, for instance, Bennett (1994), Williamson (1995) and Baliño and Enoch (1997). The last paper also contains a comprehensive set of references to the currency board literature.

II. Designation of the Currency and Level of the Peg

The decision on the peg currency should be guided by three principles.[3] First, to allow the CBA to benefit from the strength and financial depth of the peg currency, it should be selected among stable currencies with reasonably deep financial markets, offering a range of financial instruments, underwritten by domestic and foreign issuers.[4] These considerations suggest that the benefits will be larger if the selection is made from among the currencies of G7 countries or the small set of other widely-held international reserve currencies.

To decide between possible international reserve currencies, a country should take into account the direction of trade flows, the denomination of imports and exports, the denomination of international debt, and the correlation among cyclical movements between its economy and that of the proposed designated currency. Choosing the currency of the predominant trading partner is in most cases advisable, as it reduces exposure to swings in the import value of reserves. In this regard the authorities should be forward looking. It is more

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[3]In theory a country might wish to peg to a currency basket, such as the SDR. Such an approach, however, would undermine the simplicity and public comprehensibility of the CBA, and might make certain aspects of the operation of the CBA—for example reserve management—more difficult.

[4]Some currency boards—mostly for historical reasons—have pegged to currencies of neighboring countries; e.g., Brunei is pegged to the Singapore dollar. Most modern currency boards however are pegged one of the large international reserve currencies.

important to analyze prospective trade patterns than to assume that existing patterns reflecting the legacy of the past will necessarily continue to dominate in the future.[5]

Finally, the domestic acceptance of a currency may also have to be taken into account in the ultimate selection process. Widespread "dollarization" could, for example, be an argument in favor of the U.S. dollar, even in a country whose trade is not predominately with the United States or U.S. dollar-denominated. The benefits of choosing the dollar in such a case, however, might well be offset through the variability likely to derive from receipts and expenditures denominated in non-dollar foreign currencies, although it might be possible to hedge such variability, using the U.S. financial markets.

In addition to the designation of the peg currency, the level at which to peg is one of the initial and crucial decisions that need to be taken[6]. The most appreciated level for the exchange rate that would be feasible would be the rate at which the available foreign exchange reserves would be just covering the specified domestic monetary liabilities. To calculate this rate requires a definition of available foreign exchange reserves and of the specified domestic

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[5]For instance, a country in Central or Eastern Europe with aspirations to integrate into the European Union might expect increasing trade with its European partners over time.

[6]We discuss here only the technical issues of choosing the exchange rate. Macroeconomic issues, such as those deriving from the competitiveness of the country, may of course well be critical, but are outside the remit of this paper. While generally macroeconomic and technical factors will both have to be taken into account, in an extreme case—for instance where a country has emerged from hyper-inflation and where its domestic markets are relatively flexible—the authorities may set the exchange rate solely on the basis of the factors discussed here, and then set macroeconomic policy so as to validate that rate.

monetary liabilities. Foreign exchange reserves can be specified net or gross, and can include or exclude borrowings from the IMF and other long term debt items.[7] The specified domestic monetary liabilities can comprise reserve money, or domestic liabilities of the central bank. Although this can be defined, at a minimum, to include currency in circulation plus banks' deposits at the central bank, generally other short-term liabilities of the central bank are also included. The appropriate definition of reserves needs to be decided on a case-by-case basis, with the final choice also depending on the liquidity of the liability and whether or not the government or the central bank will ultimately be responsible for servicing it. There is in general a trade-off for the authorities to consider, since on the one hand greater restrictiveness—in the sense that a narrower set of foreign reserves has to cover a broader set of domestic liabilities—should ensure strong discipline on the system and improve the credibility of the system, while on the other hand it would put increased strains on the system and thus instead jeopardize its credibility. It should also be kept in mind that a net reserve concept, while in some ways the most straightforward definition, might, in some cases, require an exchange rate that would involve a large devaluation from the pre-CBA level.

In most modern CBAs, the authorities are likely to see a need for excess coverage, which would imply a somewhat more depreciated rate from the one calculated according to the above criteria. As will be discussed in the later part of this paper, excess coverage could provide some room for future open market operations or a safety margin for banking sector

[7]On the issue of the appropriate definition of reserves, see also section VII.

support.[8] In deciding on the issue, the authorities should review whether there are factors in the economy that could lead to the need for significant central bank intervention. If such factors are present, the approximate magnitude of such intervention, and a safety margin, should be calculated in order to estimate the necessary amount of excess cover, and the level of the exchange rate set roughly to achieve such cover. Finally, taking account of the large psychological component attached to the level of the peg, the authorities should aim to arrive at a "round number" of domestic currency to peg currency—for example, 50 or 100 units of domestic currency for one unit of the peg currency.

III. Legal Issues

One critical characteristic of a CBA is that the fixed exchange rate is established in law. This means that it will take time to establish the CBA,[9] and will involve bringing parliamentarians—and thus probably the media and the public—into the process. The authorities therefore have to make efforts to explain the purposes of a CBA and to establish a consensus for its introduction.

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[8]Again, there is a trade-off. If the degree of excess cover is insufficient, this may lead to questions as to the robustness of the CBA in the face of likely strains. On the other hand, if coverage is excessive, this may be perceived as permitting the authorities to operate without the necessary degree of discipline.

[9]However, the authorities might announce that they are operating as a quasi-CBA during the period until the legal requirements have been put in place.

The authorities will need to identify a team of lawyers to undertake the necessary drafting of the CBA law. The composition of this team will vary from country to country, depending in part upon where the specialized legal skills can best be found. Because of the technical nature of the work, it is likely that the central bank lawyers will play a key role. Lawyers from the Ministry of Justice are also likely to be involved, and they will need to liaise closely with the government and the parliamentary legal experts.

At a minimum the law needs to specify the fixed exchange rate, and that the foreign exchange reserves of the country will be sufficient to cover the domestic liabilities. It will be necessary for the law to define both the reserves and the domestic liabilities that will cover them. Some countries also specify some of the additional constraints on the operation of the CBA in the law, including a prohibition on central bank lending to government, and restrictions on central bank monetary operations. In the final decision on the legal limitations, the authorities should be fully aware of the nature of the trade-off: the more that these additional elements are specified in the law, the more transparent become the operations of the CBA and hence, in some cases, its credibility. On the other hand, excessive legal prescription reduces the ability of the authorities to manage the CBA flexibly, and this may in some circumstances reduce confidence in the sustainability of the arrangement and hence adversely affect its credibility.

There would seem little reason to specify explicitly conditions under which the exchange rate peg can be changed. A CBA is intended to create a fixed arrangement for the foreseeable future; if one specifies an "exit mechanism" at the outset, this may indicate that the authorities are not fully committed to maintaining the arrangement, and may thus undermine credibility in the arrangement.[10] Indeed, the authorities might go in the other direction and tie their hands even more firmly, in the extreme for instance by establishing the CBA law as part of the constitution, or devising some other mechanism that would require a parliamentary super-majority to reverse, to maximize public confidence that the arrangement will be maintained.

In some cases the passage of a CBA law can be taken as an opportunity to review other aspects of the central bank law, for instance to improve the governance of the central bank or to give it greater autonomy. This may help establish the credibility of the CBA at the outset, especially if the CBA is being established as a reaction to past failings of the central bank. On the other hand, broadening the scope of the CBA law may delay the process of establishing the CBA, and may make the possibility of maintaining consensus more difficult.

IV. Organization of a CBA

The primary objective of a CBA is to maintain the foreign exchange cover of the designated domestic liabilities, and to demonstrate frequently that it is doing so. The balance sheet of the central bank—ideally as confirmed by an external audit—must therefore be re-specified so that assets and liabilities of the "currency board" can be separately identified.[11]

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[10]A CBA that specifies an exit strategy would in fact be close to a fixed exchange rate regime; it would be unlikely to benefit from the additional credibility accorded to a policy that eliminates policy discretion in the entire foreseeable future.

[11]It will be important that the central bank embark on the process of establishing the balance
(continued...)

The authorities have the choice to leave the "currency board" as merely an accounting element within the central bank (such as, for instance, in Argentina); of identifying these assets and liabilities in a separate Department within the central bank (such as in Estonia and Bulgaria); or indeed taking the currency board functions out of the central bank into a separate institution. There seem to be advantages in the second of these routes: it maintains the synergies arising from the various central bank functions being conducted within a single institution; and yet it makes clearly visible the functions related to the currency board operations.

If the authorities follow this second route, there needs to be a clear separation of the accounts of the two parts of the central bank, the so-called Issue Department and the Banking Department. The Issue Department would represent the "currency board proper", its main tasks consisting of the management of the country's reserves and issuing domestic currency. The Banking Department would have as its assets the reserves that are in excess of those needed for the full currency board coverage provided by the Issue Department and others as permitted under the CBA law, including possibly domestic paper that can be used for OMOs. Staff should be allocated between the two departments, with service departments—such as administrative and accounting—covering both areas.

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[11](...continued)
sheet of the currency board early in the process. Given differences in country's previous central bank functions it is not possible to develop a generic balance sheet; instead the balance sheet will have to reflect a number of case-by-case decisions described elsewhere in this paper.

The authorities need to decide to what extent the non-core functions of the central bank should be retained within the same institution. Among these the most important are probably the banking supervision and the fiscal agency functions. Again, the main argument for retention is the synergy of skills and back-room resources; the argument for separation is the need to improve transparency and avoid conflict of interest. One solution is to retain the functions within the central bank, but to establish clear "fire walls" in staffing and accounting between these functions and the core functions of the central bank.[12]

V. Banking Sector Rehabilitation and Supervision

Reviewing the state of the banking sector, undertaking any necessary rehabilitation measures and strengthening banking supervision have to be crucial ingredients of the move to a CBA. A CBA differs from a standard central bank in that it is generally far more restricted in the extent to which it can provide "lender-of-last resort" support to domestic banks. In fact, the CBA will not have any possibility to lend to banks unless it has accumulated excess coverage, i.e., a higher level of reserves in the peg currency than that required to cover the specified domestic monetary liabilities. If such excess coverage exists, the CBA can gain credibility by announcing the possibility of limited support to banks in distress, albeit clearly restricted and within well defined limits.

[12]In the final decision on the assignment of auxiliary tasks, the authorities will also have to be mindful about the operating costs of the currency board. Given that the abolition of domestic credit greatly reduces the CBA's income potential, care needs to be taken not to assign it more tasks than can be financed from its income flow.

Given the limitations on the CBA's support to banks, the credibility of the currency board will be higher if, from the outset, the banking system is seen to be sound, with no perception of any looming systemic problems.[13] In addition, interbank markets take on a crucial role for the functioning of the banking system once the possibility of permanent central bank intervention through standing lending and deposit windows has been eliminated. Such markets are likely to function effectively only if the banking system is sound. Also, while the impetus for interbank trading has to be market driven, it will be important that an adequate legal and institutional framework is put in place prior to the move to a CBA. Examples of supporting measures include a well-functioning payments system and a securities register that allows the effective pledging, transfer of payments for, and ownership of, securities in the secondary market. The process may also be assisted, at least initially when markets can be expected to be relatively thin, by the treasury issuing securities in a range of maturities that are interesting to both primary and secondary market participants.

For countries that have recently undergone severe banking crises, doubts about the soundness of the banking sector are arguably the most difficult obstacle towards making a CBA credible. The problem can best be addressed by the authorities undertaking a broad-based restructuring prior to the start of the CBA. The supervisory authorities will need to assess each bank in the light of established prudential standards, and in the event of non-compliance should agree with

[13]Credibility will also benefit if banks have pre-agreed access to foreign credit lines, as is the case in Argentina (Zarazaga, 1995). It is likely though that, in the case of smaller and less internationally integrated countries, and especially at the outset of a CBA, such arrangements would be expensive and difficult to negotiate.

the banks' owners and management a timetable for bringing the bank into compliance. In the event that there is no realistic prospect of bringing a bank into compliance in the near future, the authorities should be prepared to resolve the bank's problem, including perhaps through closure. It could be highly damaging to the credibility of a CBA if a banking crisis were to emerge soon after the CBA began.[14] Also vestiges of past crises should be brought to a close—for instance, if a bank closure process is proceeding slowly through the courts, the authorities should make efforts to have the process resolved expeditiously. The soundness of the reformed system should be confirmed by external audits by international firms, and, possibly, by progress towards privatization and international involvement in the sector.

At the end of the banking sector reform process banking supervision should be—and should be perceived to be—strong. A well designed policy to deal with any further potential problem banks (including possible closures) needs to be in place. This will require that the supervisory authorities have adopted a full set of appropriate prudential regulations, including on capital adequacy, domestic and foreign currency liquidity, loan loss classification and provisioning, open foreign exchange positions, insider and large exposure and maturity mismatch limits. Capital adequacy requirements are likely to need to be substantially above the 8 percent recommended by the Basle Committee for banks in the G10 countries, probably even beyond

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[14]This is particularly the case if the origins of the banking crisis are seen to derive from before the time when the CBA was established. On the other side, if a crisis emerges due to exogenous factors after the establishment of the CBA, and if the CBA is able to handle it successfully, as was the case in Argentina when the "tequila effect" led to withdrawals of 18 percent of total deposits in 1995, this could even serve to increase the credibility of the CBA.

the 12 percent discussed for banks in emerging markets generally, in view of the greater riskiness of banking outside the G10 and the need for greater self-reliance in countries with CBAs. Banks should be required to report their positions on the basis of internationally-accepted accounting standards.

Once the CBA is established, it will be essential to maintain high-quality supervision staff, with autonomy to undertake supervision on a professional basis, and to enforce fully all prudential requirements.

VI. PUBLIC SECTOR FINANCING ISSUES

A CBA will have important and far-reaching implications for the government's financial operations. Apart from the macroeconomic constraints that rule out any systematic borrowing from the central bank, the CBA in more practical terms also affects both the management of the government's day to day liquidity as well as its longer term debt management.

Concerning day-to-day liquidity management, establishment of a CBA requires changes in the usual "banker-client" relationship between the central bank and the government. In most countries the central bank holds and manages government deposits, and often provides some overdraft provisions. However, movements into and out of government deposits are associated with changes in reserve money, so such practices could lead to complications for monetary management under a CBA. For this reason, some currency boards have gone as far as no longer to allow domestic currency government deposits with the central bank, and instead pass this function to the market. Other currency boards, for example Bulgaria, have opted to continue to allow government deposits with the central bank.[15] However, for the latter approach to be sustainable, three conditions need to be fulfilled. First, all government deposits will have to be covered by foreign reserve currency holdings, thus avoiding a situation where deposit withdrawals violate the requirement that reserve money be covered by the appropriate amount of the peg currency at all times. In addition, government deposits can no longer carry any overdraft provisions, since such provisions would amount to money creation. Finally, interest on such deposits can only be paid if the central bank could finance such payments out of its own foreign exchange interest income.[16]

Many central banks are deeply involved in the markets for government debt, often in operations that include the issuance and marketing of treasury bills, as well as the provision of various debt management services to the government.[17] Under a CBA the role of the central bank in this area is curtailed by the fact that it will no longer be able to acquire government paper for its own portfolio, nor to influence monetary conditions through large scale OMOs

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[15]The decision in Bulgaria was mainly motivated by the inability of the commercial banking sector to take over and manage the entire government deposit base in the short run.

[16]In practice these interest receipts are usually needed largely to cover administrative expenditures of the CBA, and the decline in seignorage associated with the lower level of inflation might well put pressure on the central bank's profitability. In such cases, it would be advisable for the CBA to be cautious in setting the rate of interest it pays on government accounts.

[17]These services can include organizing auctions, announcing auction results, maintaining the securities register, and acting as depository for securities or other collateral.

or primary auction issues.[18] To avoid any potential conflict between debt management and the operations of the CBA it may be best for the fiscal authorities to take over both debt management and the organization of the primary treasury auctions. Such a separation, if combined with a move of the government's operations account to a commercial bank, would ensure that treasury bill auctions and repayments do not change the outstanding stock of reserve money and, hence, do not affect the CBA. However, where such a clear separation of tasks causes organizational difficulties—for instance, with the transfer of central bank staff to the treasury—an organizational structure in which the CBA undertakes such activities strictly on a "fee for service" basis for the government can be implemented.[19]

VII. Debt Stock Issues

In simple form, the identify M0=NFA(CB)+NDA(CB) describes the composition of a country's monetary base, where NFA(CB) stands for the central bank's net foreign assets, and NDA(CB) for the central bank's net domestic assets. Under a CBA, foreign assets of the central bank have to at least cover a defined part of the monetary base. In the narrowest definition of a currency board, where NFA (CB) is to cover M0, therefore, net domestic

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[18]In case of excess coverage, there is room for limited OMOs on the basis of treasury bills. These have been an important feature, in particular, of the operation of the Argentine CBA. Theoretically the CBA could conduct unlimited OMOs based on, i.e., central bank bills, since this would involve the exchange of one form of its own liability (currency) for another (central bank bill). In practice this would be limited by the amount of interest the CBA is able to offer on such instruments.

[19]For example, in Bulgaria a Fiscal Services Department (FSD) was created within the BNB to take advantage of staff resources as well as existing computer hardware and software. Auction volumes, however, are decided by the Ministry of Finance.

assets (in the form of outstanding stock of credit to the government and to banks) can no longer be held on the books of the central bank.[20] [21]

A number of countries that have established a CBA have had significant stocks of outstanding government debt held by the central bank. A possible solution to the problem, especially where the currency board consists of a separate Issue and Banking Department, is to book these net domestic assets in the Banking Department. The counterpart entry would be the capital of the central bank. Other solutions, where practical, could include the central bank disposing of excess treasury bill holdings in the market, thereby reducing its outstanding monetary liabilities.

While it appears feasible to resolve the issue of an outstanding stock of government debt at the time of change to a CBA, it is not generally consistent with the provisions of a CBA for new debt to be purchased by the central bank. In countries with an IMF program a complication—which has occurred in at least two countries—relates to the use of IMF credit. As IMF credit is generally channeled through the central bank, its use by the government—for

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[20]As discussed above, in most cases there is some excess coverage. Some countries, most notably Argentina, have also achieved greater coverage by using a relatively broad definition of international reserves. In Argentina, for example, long term lending by the World Bank would increase coverage. Furthermore, one third of coverage can be provided by U.S. dollar denominated Argentine Government bonds.

[21]Some central banks do hold part or all of a country's long term external debt on their books. While the definition of net international reserves in this case should probably exclude these liabilities, a CBA might book these liabilities in the banking department, offset by a matching claim on the government. A more transparent solution would be to transfer these claims back to the government.

example for external debt payment—appears impossible as the central bank cannot on-lend the funds in exchange for new NDA.[22] A solution to this problem has to be found on a case-by-case basis. One solution may be for the government, through sales of its securities in the market, to raise the domestic currency counterpart funds for its external debt payments. Alternatively, there may be a renegotiation of the flow payments on the outstanding debt stock, which, in turn, could allow the government to use some of the funds to purchase the necessary foreign exchange. Finally, as in the case of Bulgaria, the on-lending of Fund credit can explicitly be exempted from the rules regarding Government borrowing from the Central Bank.

VIII. Foreign Exchange Reserves Management Issues

Under a CBA the central bank stands ready to exchange unlimited amounts of domestic liabilities for the designated peg currency; it is legally required to have sufficient coverage of foreign exchange reserves, measured in terms of the designated peg currency to meet the designated domestic liabilities. Clearly, these obligations are most easily met by maintaining the country's foreign exchange reserves in the designated peg currency.[23] Conversely, the CBA will be more difficult to operate, the greater the proportion of the coverage of domestic

[22]Even in cases where the central bank is not a country's fiscal agent, the central bank is the depository, i.e. the institution into which the money is being paid.

[23]An exception to this rule should apply in cases where the banking system holds a significant share of foreign currency deposits in non-peg currencies. In this case it would be appropriate for the CBA to match these liabilities with an equivalent amount of non-peg currencies in its reserves.

liabilities that is held in assets that have significant fluctuations against the designated peg currency.

This implies that in many countries the desired composition of reserves under a CBA will differ from that existing at the time when the country decides to adopt a CBA. For instance, a country deciding to peg to a European currency may at the outset have a high share of its reserves in dollars. Even more importantly, it may have significant gold holdings in its reserves. The more that a country is constrained by the full coverage requirement (i.e., the lower the level of excess foreign reserves over the coverage requirement) the more carefully in this regard its reserves will have to be managed.

Immediately after a decision as to the peg currency is made, the central bank should provide an up-to-date listing of the composition of the reserves, as well as the degree to which the reserves are needed to meet the coverage commitment, and the maturity profile of foreign reserves investments as well as any forthcoming foreign exchange liabilities. The central bank may wish to divide the reserves into those needed to provide cover, and the remaining reserves. For the former, it will be important that the major part (say 80 percent) be in the designated peg currency by the time of the start of the CBA. Assuming that the initial share is lower than this, the foreign exchange department of the central bank should use every opportunity as an investment matures to convert the asset into the designated peg currency. If necessary, the reserve managers should also undertake market sales of assets not in the designated peg currency. In particular, if the country holds sizeable amounts of gold, it may well be appropriate to sell these before the CBA begins.

Especially if a country intends to peg its currency in a CBA to a currency other than the dollar,[24] it will be useful for the central bank to contact its counterpart in the peg currency country at an early stage, and to keep it fully informed. Generally, one would expect that the economy of a country adopting a CBA will be so much smaller than that of the peg currency that there will be no discernible impact on monetary conditions in the peg currency country, but there may be some concerns in this regard which need to be addressed. More positively, the central bank in the peg currency country may be able to give assistance to the CBA central bank in, for instance, the conversion of the latter country's foreign reserves into its currency, and the investing of assets in that currency.

IX. Cash Management Issues

An integral element of the establishment of a CBA is the commitment of the central bank to supply unlimited amounts of the designated peg currency against domestic liabilities. Clearly the credibility of the arrangement would be seriously jeopardized if a shortage of banknotes prevented the authorities from being able to honor this commitment. The size of the initial demand for peg currency banknotes is very hard to determine; quite probably, the larger the (visible) supply, the less the amount that will actually be demanded. Indeed, if the launching of

[24]For instance, Bosnia-Herzegovina, Bulgaria and Estonia have pegged to the Deutsche Mark, and Brunei has pegged to the Singapore dollar.

the CBA is successful there may well be rapid remonetization leading to excess supply of peg currency by the public seeking to acquire domestic currency and deposits. In this case securing an adequate supply of domestic currency is also of crucial importance.

Concerning the supply of peg currency the central bank should contract with the central bank of the designated peg currency, or conceivably an alternative source, for the supply of adequate quantities of banknotes by the time that the CBA begins. It should ensure delivery of the currency, and storage in its vaults. It should also make contingent arrangements for immediate acquisition of additional amounts of currency in the event that this is demanded. On the other hand, it should also arrange for the rapid transmittal of peg currency notes abroad, if indeed there are excess receipts, so that the amounts can be invested as quickly as possible.

X. Modalities of the Exchange Window

The credibility of a CBA is enhanced if it operates an exchange window at the central bank itself, where the public at large can undertake cash exchanges.[25] The operation of this window requires a decision whether or not there should be a trading spread, i.e., higher exchange rate for buying foreign exchange than for selling the same amount. The arguments for a small spread are straight forward: if the central bank buys local currency at slightly below the par and sells peg currency at slightly above par, it allows private traders to enter (or remain) in the exchange business, by offering an even narrower spread. In addition, insofar as transactions do

[25]Banks generally would deal with the CBA by exchanging free reserves on their accounts against foreign exchange.

come to the central bank, it will be able to cover its operating costs and, possibly, gain some profits from the exchange. The establishment of a narrow trading spread is not unusual; it is consistent with the arrangements pertaining in conventional fixed exchange rate systems.

On the other hand, while most central banks do have a trading spread, such an arrangement may, in the case of a CBA, have some costs in terms of credibility as the market exchange rate for customers will differ from the announced peg rate. While largely a psychological issue, the power of a clearly-fixed relationship should not be underestimated, especially in cases where the CBA is intended to end a long period of exchange rate instability. Against the psychological advantage of such a system, its economic costs, especially for the private sector, have to be recognized. If the central bank operates an exchange window where it buys and sells foreign exchange without any spread, it will drive many private exchange participants out of this market segment. Since the central bank will generally have, at most, a few branches, and will be open only during core banking hours, there is a still likely to be some role for exchange bureaus, since customers can be expected to pay some spread for the convenience of changing through the bureaus. Indeed, it may well be that the central bank becomes supplier for "wholesale" market transitions, and the exchange bureaus suppliers for retail transactions.

To combine the psychological benefits of a peg directly at the peg rate with the benefits of maintaining a spread, an asymmetric peg might be maintained. For example, if a CBA is to be established at the official rate of 100 units of domestic currency (DC) equaling 1 unit of peg currency (PC), the central bank could sell 1 unit of PC at 100 DC but only pay 98 if it buys

PC. While the psychological effect of obtaining exactly the official quantity of the designated peg currency in exchange for a given quantity of domestic currency should help confidence, maintaining a spread for the reverse of the transaction means that private traders still would have a sufficient margin for business.[26]

XI. ADDITIONAL MEASURES FOR CREDIBILITY

Mere establishment of a CBA, and even its establishment in law, will not of itself necessarily generate credibility in the arrangement, especially if it is being established at a time of loss of credibility in the earlier arrangements. Credibility should therefore be buttressed by additional measures first to ensure that the arrangements work smoothly and second that they are transparent.

As regards the first, this is achieved by careful attention to the logistics of operating the CBA, as discussed above, for instance through having sufficient volumes of cash on hand at all times. As regards transparency, this can be greatly assisted by a requirement for frequent publication of the accounts of the relevant parts of the central bank; for instance the Bulgarian National Bank has to publish the accounts of its Issue Department on a weekly basis. It can be assisted also by enhancing the independence of the central bank, so that the public has assurances that the operation of the CBA will not be subverted by political forces. Measures

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[26]An asymmetric spread has been introduced in Bulgaria, where the central bank sells 1 Deutsche Mark, for leva 1000, but buys 1 DM for leva 995.

to increase central bank independence may therefore well be part of the legal preparations for establishing a CBA, as discussed in section 3 above.

XII. TIMING AND ANNOUNCEMENT OF THE EXCHANGE RATE LEVEL AND MANAGING THE FOREIGN EXCHANGE MARKET IN THE TRANSITION TO THE CBA

Once the decision to opt for a CBA has been taken, issues of timing and transition will come to the forefront. Regarding timing, the desired macroeconomic benefits of the new system are likely to call for early action. Nevertheless, realism should guide any timetable. Estimates for a feasible time-frame should, in particular, take into account the minimum period necessary to change the central bank law and other administrative regulations that have to be in place. Once a schedule has been set out, the announcement of the time frame should be considered binding, given that any delays will cause uncertainty, speculation against the currency, and undermine confidence in the arrangement.

The announcement of the level of the peg will be a second key issue, and one that is likely to generate great deal of public interest. The public is likely to form a view on the rate that is to be chosen, and the exchange rate—if it is floating at that point, and if the move to a CBA is credible—is likely to move toward this level.

If the public considers that the authorities are seeking a depreciated rate—to allow for additional excess coverage or gains in competitiveness—there is likely to be depreciation toward this level. As such speculation in the run-up to a CBA could be destabilising and lead to self-fulfilling prophecies, the authorities may opt to announce the exchange rate at an early date.[27] Such an announcement would place constraints on the management of the rate during the period until the CBA was established, but markets would assist in this process by moving the rate toward the announced rate as long as the establishment of the CBA and level of the peg were credible. Hence, an advance announcement should set a rate that could be maintained with a reasonable degree of certainty; a devaluation prior to the introduction of the CBA, while still feasible, might have significant costs in terms of credibility.

XIII. Capital Flows and Article VIII

A CBA can only work if a sufficient degree of integration in the international economy is assured. Current account convertibility is a necessary ingredient in the international adjustment process, but ideally—for fast interest rate equalization—a country should have full, or at least a high degree of, capital mobility.

Most countries, including some CBA countries, do maintain some forms of capital controls which impede the operation of the well-known interest equalization mechanism.[28] In these cases, if free payments for imports of goods and services are permitted (in more IMF related technical terms, the country accept the obligations of Article VIII, Sections 2, 3, and 4 of the

[27]The central bank could also initially announce a band that would have to be narrowed progressively as the date of the CBA approaches.

[28]In these countries interest rates will differ from these in the peg country not only by the country risk premium but also by a wedge accounted for by the capital controls.

Fund's Articles of Agreement) the adjustment process following a monetary disequilibrium works through a chain of effects involving trade volumes leading to balance of payments surpluses and deficits, which will eventually restore monetary equilibrium, albeit within a time-frame dictated by the slower speed of trade flows.

Given that a CBA is usually introduced, among other reasons, to allow countries to benefit from the lower interest rates of the peg country, it obviously works better if the level of capital controls is reasonably low, i.e., capital is allowed to move relatively unrestricted into and out of the country. In such cases, the initially higher interest rates in a currency board country will rapidly attract foreign (portfolio) investors and deter domestic investors, during the remonetization process, from taking their funds abroad. The increase in available funds, in turn, will put downward pressures on interest rates, thus dampening the net capital inflows.

XIV. Technical Assistance

This paper has argued that a wide variety of issues need to be addressed before a country can safely establish a CBA. This is somewhat ironic, since one of the purposes of a CBA may be to create a simple monetary structure that can be operated without requiring great sophistication from the central bank. However, even if the operation of a CBA is relatively simple, it is clear that the authorities may first have to clear up the legacy of monetary, fiscal and financial failings of the past, and this may be rather complicated.

Some central banks may have adequate in-house expertise to address the various identified issues on their own; Argentina is a clear recent example. Also countries starting from a *tabula rasa* should be able to establish a CBA with fewer difficulties.[29] However, the usual preparations for establishing a CBA should not be underestimated, and many countries considering adopting such arrangements may well need to look for outside help to ensure that these preparations are completed properly.[30] Areas in which assistance may be needed include: legal issues, including drafting of the necessary legal texts; banking supervision, including advice on appropriate prudential standards and on monitoring and enforcing compliance with these standards; accounting, including improving the transparency of central bank accounts, and—where relevant—separating the accounts of the Issue Department from the Banking Department; and market management, including the adaptation of the fiscal agency function to the new environment. Such assistance may come from the IMF, but could also be arranged through the World Bank, the regional development banks, or through bilateral assistance. A comprehensive program of technical assistance, usually involving several sources of support, should generally be an integral part of preparing for the adoption of a CBA.

XV. Conclusions

Notwithstanding the fact that currency boards are considered simple monetary arrangements, their introduction requires preparatory work on a number of legal and institutional issues.

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[29]However, in such cases the level of in-house technical skills may be commensurately low.

[30]See Benett (1993) for details of establishing the CBA in Estonia.

Unless these preparations are made in time and a coherent system is put in place, the credibility of the CBA itself—and with it the entire range of economic benefits desired from the adoption of the arrangement—will be at stake.

Countries that have decided to move to a CBA are therefore well-advised to plan and prepare carefully for its introduction. Given the wide range of issues and institutions involved, this can best be achieved if a committee of all the concerned institutions—including the central bank, Ministry of Finance, and Ministry of Justice—is formed early in the process. Focussing on the various issues discussed in this paper, the committee should develop a task list along with a detailed (possibly even day-by-day) plan towards the fulfillment of these requirements by the target date for the introduction of the CBA. To ensure, and signal, commitment of all parties involved the committee should be chaired by a high level official, in many cases most appropriately the central bank Governor or the Minister of Finance. Given institutional differences across countries, there is not likely to be a single blueprint of an adjustment plan. However all countries planning to introduce a CBA should review the need for preparations in all the various areas outlined in this paper.

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