IMF PAPER ON POLICY ANALYSIS AND ASSESSMENT

PPAA/93/14

Institutional and Operational Aspects of Central Bank Losses

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September 1993

Abstract

This paper deals with the problem of central bank losses that has emerged in several developing countries. At times, they have created problems in the effective design and implementation of IMF programs because of large and unexpected or unexplained movements in "other assets net" in the balance sheet of central banks. The paper shows that these losses have reached significant magnitude in several Latin American countries, explores their causes and consequences for monetary programming and control, discusses ways to identify and measure them, and suggests ways to restore the profitability of central banks incurring losses while increasing the transparency of the public sector accounts.

JEL Classification Numbers:
E58, E59

1/ The opinions expressed in this paper are those of the author and do not necessarily reflect those of the International Monetary Fund (IMF).

2/ This paper has benefitted considerably from discussions and team work maintained during recent years with Mr. C.-J. Lindgren both in the field (during missions of the IMF Monetary and Exchange Affairs Department (MAE) to several Latin American countries) and at headquarters. Comments received from Messrs. V. Sundararajan (MAE) and B. C. Stuart (IMF, Western Hemisphere Department--WHD), and discussions with Mr. D. E. Dueñas (MAE), who participated in several MAE advisory missions dealing with this issue, contributed to clarify many aspects of this work. The paper has also benefitted from discussions with and explanations provided by the authorities and staff of several Latin American central banks during visits of MAE advisory missions. Participants in a seminar organized in San José (Costa Rica) in November 1990 by the Central American Monetary Council to discuss the quantification of the financial situation of the public sector provided helpful comments to an earlier version of this paper. I also would like to thank participants in a MAE internal workshop for their helpful comments; Mr. A. Bathia and C. Piñerúa for research assistance and Mrs. Norma Anamisis for the word processing of this paper.

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I. Introduction

The possibility of central bank losses may look like a "science fiction story" in most developed countries. It is indeed expected that a central bank carrying out traditional central banking functions in a stable macroeconomic environment will make profits. However, in the unstable macroeconomic environment of many developing countries, central bank losses have emerged as a complex "real world drama".

At times, central bank losses have created problems in the effective design and implementation of IMF programs because of large and unexpected or unexplained movements in "other items net" in the balance sheet of central banks. Thus, an explanation of the causes and the steps that may be taken to address this problem become an important task for effective program formulation, monitoring, and implementation.

II. Relevance of the Problem

Table 1 provides figures on central bank losses in a group of Latin American countries. Several inferences from these data deserve attention. First, central bank losses have reached significant magnitude (in terms of GDP) in all countries of the sample. Second, in some of these countries central bank losses are larger than the deficit of the nonfinancial public sector (that is, the central banks of these countries are the major contributors to the consolidated public sector deficit). Third, a complete monetary financing of the losses incurred by central banks in these countries would imply a major expansion of the monetary base. Fourth, in several of these countries significant progress has been made in terms of

Table 1. Relevance of
Central Bank Losses in a Group of Latin American Countries 1/

(In percent of GDP)

Country	1987			1988			1989			1990			1991			1992 2/		
	Central Bank Losses	Non-financial Public Sector Balance	Reserve Money	Central Bank Losses	Non-financial Public Sector Balance	Reserve Money	Central Bank Losses	Non-financial Public Sector Balance	Reserve Money	Central Bank Losses	Non-financial Public Sector Balance	Reserve Money	Central Bank Losses	Non-financial Public Sector Balance	Reserve Money	Central Bank Losses	Non-financial Public Sector Balance	Reserve Money
Argentina	-0.7	-4.1	4.0	-0.5	-4.3	2.5	-4.5	-12.1	2.4	-0.7	-1.7	2.7	-0.4	-0.9	3.1	-0.1	0.6	4.2
Bolivia	...	-7.7	4.5	-0.2	-6.5	4.1	-0.4	-5.5	4.5	-0.7	-4.2	4.2	-0.7	-3.6	4.8	-0.2	-4.3	4.6
Chile	-3.1	-0.4	4.5	-3.2	2.5	4.0	-1.8	5.3	4.1	-2.2	3.8	4.0	-1.1	2.3	4.4	-1.2	3.2	4.4
Costa Rica	-3.5	-0.3	10.0	-3.3	-0.3	11.0	-2.8	-2.9	10.0	-2.0	-3.0	8.9	-1.9	-0.2	9.5	-2.0	0.5	11.0
Dominican R.	-1.5	-3.4	10.1	-2.7	-4.2	10.3	-0.2	-5.7	9.5	--	-5.0	8.4	--	0.1	7.9	--	1.6	9.8
Ecuador	...	--	6.3	-2.2	-5.8	5.7	-2.5	-3.5	5.0	-2.9	0.6	4.9	-2.3	-1.5	4.9	-1.0	-1.4	4.9
El Salvador	...	-2.8	11.2	...	-2.6	11.0	...	-4.2	10.3	-1.0	-0.4	10.5	-0.9	-2.4	11.1	-0.7	-4.2	11.7
Guatemala	-2.2	-1.4	9.1	-1.6	-1.9	8.6	-1.3	-3.5	9.0	-2.1	-2.7	7.8	-1.6	0.4	7.5	-1.2	0.2	7.7
Honduras	...	-6.3	7.2	...	-7.1	7.2	...	-8.5	7.9	...	-8.2	8.5	...	-3.4	7.2	2.7 3/	-4.8	9.1
Jamaica	-5.7	0.1	14.2	-5.4	-0.1	15.6	-5.4	-7.3	15.2	-5.0	-1.3	13.4	-4.3	1.3	12.8	-5.6	5.1	15.0
Nicaragua	-5.0	-18.1	0.2	-8.0	-27.5	0.4	-13.8	-7.7	0.1	-2.8	-29.9	2.2	-0.7	-7.6	4.2	-1.1	-8.7 4/	6.5
Peru	-5.4	-7.9	8.8	-3.2	-9.2	3.4	-0.4	-7.9	4.3	-1.1	-5.4	4.2	-0.4	-2.6	4.3	-0.2	-2.7	4.1
Uruguay	-2.8	-1.5	4.4	-3.1	-1.9	4.5	-3.4	-3.5	4.2	-3.6	0.5	4.3	-2.2	1.3	4.3	-1.6	2.1	4.1
Venezuela	-1.4	-5.4	13.0	-2.9	-9.4	6.2	-1.8	-1.4	5.2	-2.0	1.0	5.7	-1.7	-3.4	8.0	--	-6.2	8.3

Sources: Recent Economic Developments and Staff Reports

1/ Data presented on central bank losses are measured on an "accrual" basis as defined in the text. Data on Reserve Money in terms of GDP was calculated as the ratio between the average of the stocks of currency issue plus banks reserves deposits with the central bank at the end of the previous and current years and the nominal GDP in the current year.
2/ Preliminary.
3/ Estimation of a recent MAE mission.
4/ Excludes unpaid foreign interest.

the reduction of the nonfinancial public sector deficit, while central bank losses have remained stubbornly high.

III. Measuring Central Bank Losses

Central bank results (profit or loss), occurring during a given period of time, can be defined in three basic ways: (a) as the net cash-flow taking place during that period, (b) as the change observed in the net worth during that same period, or (c) as the difference between income and expenses accrued (but not necessarily realized) during the period. In practice and during a given period of time, there may be major differences between these various ways of measuring profits or losses of central banks.

The net cash-flow concept captures the possible short-term effects on monetary conditions, and the consequent impact on inflation and the level of international reserves. For example, the concept of cash-flow losses would help to assess the impact that would take place should the losses be financed through reserve money expansion. 1/

The "change in net worth" concept captures the possible improvement or deterioration in the overall financial position of a central bank. This

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1/ For the purposes of short-term analysis, it is convenient to distinguish operations carried out in domestic currency from those carried out in foreign currency when measuring the net cash-flow of a central bank. For example, a deficit arising from interest payments abroad may be reflected in a loss of international reserves without having an expansionary monetary effect (as long as the central bank does not buy foreign exchange in the market to honor these interest payments). Also, interest income from investments in foreign assets will help increasing the stock of international reserves (as any purchase of foreign exchange does) but will not have any monetary effect (as long as these reserves are not sold in the market with a contractive monetary effect). Ultimately, however, the distinction is less relevant since a central bank deficit arising from domestic or foreign exchange operations should eventually be reflected in monetary expansion (and inflation) or reserve loss.

concept involves capital gains or losses, accrued income and expenditures, and valuation changes. A "net worth" measurement of a central bank's results helps to assess immediate effects on its overall net indebtedness, and possible impacts on the credit market and hence the long-term effects on inflation and the balance of payments. 1/

Central banks' profits and losses can also be measured on an "accrual" basis. This is an intermediate concept which: (a) differs from the "net cash flow" basis in that accrued income and expenses are taken into consideration instead of effective income and expenses, and (b) differs from the "change in net worth" basis in that valuation changes and capital gains or losses are not included. For example, due to the emergence of interest arrears associated to the central bank's assets or liabilities, accrued income or expenses may differ from realized income or expenses. The operational result measured on an "accrual basis" captures the net cash-flow effect plus possible variations in central bank net credit resulting from accrued income or expenses that are not realized.

Indeed, today's accrued flows (both realized and not realized) affect today's change in net worth while the structure of today's net worth will affect tomorrow's accrued flows. Thus, for the purposes of estimating and monitoring central bank losses properly these alternative ways of measuring a central bank's profits or losses are useful and complementary.

1/ A central bank's "net worth deficit" may also have an immediate impact on current inflation even if not reflected in the bank's cash-flow, if people perceive a future increase in the rate of money creation and reduce their money demand.

Both on a cash-flow and an accrual basis, the main sources of income in connection with the operations of a typical central bank include: (a) the holdings of international reserves and other foreign assets, (b) lending to the public sector, (c) lending to financial institutions, and (d) net gains from foreign exchange transactions (purchases and sales of foreign exchange in the market). The costs associated with its outstanding liabilities (both foreign and domestic) and administrative and operating expenses usually represent the most common outlays.

The "change in a central bank's net worth" includes the period's net cash-flow and accrued income and expenses that have not yet been made effective. In addition, it includes the central bank's capital gains or losses occurring as a consequence of changes in the market prices of its assets and liabilities and valuation adjustments resulting from changes in exchange rates of currencies included in its holdings of foreign assets and in its outstanding foreign liabilities.

IV. Causes of Losses

A typical central bank operating in a relatively stable macroeconomic environment usually has relatively wide scope to issue non-interest bearing debt (currency and unremunerated bank reserves) and use the proceeds (seignorage) to make profitable investments. As a consequence, income usually exceeds expenditure and changes in net worth are usually positive.

However, in several developing countries central banks have been involved in quasi-fiscal activities. 1/ They have become a "hidden

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1/ Defined as budgetary operations that have been assumed by central banks for a variety of reasons.

treasury" performing a variety of nontypical functions and operations. When these quasi-fiscal activities demand financial resources in amounts that exceed a central bank's capacity to collect seignorage at acceptable inflation rates, they need to appeal to costly indebtedness. As a result, an unfavorable structure of assets and liabilities may develop over time. The main features of this structure usually are: (a) a negative net foreign asset position, (b) a large proportion of nonperforming and low-yielding domestic assets in their portfolio, and (c) relatively expensive domestic and foreign debt. Structures of this kind in conjunction with generally poorly managed foreign investments and high administrative and operating expenses can generate large losses.

Most important quasi-fiscal activities of certain central banks are listed in Table 2. Losses resulting from these quasi-fiscal operations may occur unexpectedly, but generally are present from the outset of the operation (for example, when a central bank grants subsidized credits). Among these activities, some deserve close analysis because they have created losses of substantial magnitude in several central banks.

Firstly, central banks that have assumed foreign debt on behalf of the government and the private sector have usually incurred a capital loss when these foreign debts were transferred to them at a more appreciated exchange rate than the market rate. In addition, these arrangements usually imply cash-flow losses for central banks over time, as the conditions (terms, interest rates, commissions) on domestic central bank credits to the government and the private sector granted to finance the acquisition of

Table 2. Sources of Central Banks' Losses: Main Quasi-fiscal Activities

1. Capital and valuation losses

   a. Transfer of government and private sector foreign debt to the central bank at a more appreciated exchange rate than the market rate.

   b. Purchase of assets (physical and financial) of troubled financial institutions at prices above market prices.

   c. Emergence of nonperforming and uncollectible loans in the portfolio of the central bank generally related to the financing of privileged sectors and activities.

   d. Devaluation of the domestic currency when foreign liabilities exceed foreign assets.

   e. Unfavorable fluctuations in the parity of various foreign currencies in the portfolio of the central bank.

   f. Unfavorable price changes of domestic securities held by central banks (such as treasury bills or government bonds).

   g. Inadequate pricing of contingent assets and liabilities (including foreign exchange guarantees).

2. Subsidies

   a. Loans to the government at very low interest rates (including interest free loans).

   b. Loans to priority sectors (such as agriculture, housing, strategic industries, and nontraditional exports) at subsidized interest rates.

   c. Loans to official financial institutions at subsidized interest rates.

   d. Loans to troubled financial institutions facing liquidity and solvency problems at subsidized interest rates.

   e. On-lending of foreign financial resources to the government, the financial institutions or the private sector with the central bank assuming the foreign exchange risk.

   f. Direct subsidies to exporters.

   g. Net interest costs related to government and private sector foreign debt transferred to the central bank.

   h. Purchases (sales) of foreign exchange at a more depreciated (appreciated) exchange rate than the market rate.

3. Operational expenses

   a. Excessive administrative outlays.

   b. Transfers granted by the central bank.

their foreign liabilities do not match the conditions the central bank has to face vis-a-vis foreign creditors.

Secondly, financial restructuring emerging after financial crises or when state-owned financial institutions or systems are prepared for privatization (or reprivatization) has also usually resulted in substantial central bank losses. These processes have traditionally implied immediate capital losses to central banks when nonperforming or low quality portfolios are transferred to them from financial institutions at above market prices. In addition, acquisition of these portfolios by central banks usually embody the issuance of interest bearing central bank bonds. Thus, the combination of low yielding assets and costly liabilities result in substantial cash-flow losses over time for central banks involved in these restructurings.

Thirdly, central banks in a number of countries have accumulated considerable losses as a consequence of exchange rate subsidies and exchange risk guarantees or insurance on import and foreign debt payments granted to both the government and the private sector. In particular, under a forward exchange rate arrangement, central banks promised to deliver foreign exchange on a future date at a given exchange rate charging an agreed premium. Such guarantees have neither an immediate cash-flow effect (except possibly for the income generated by the premium) nor a net-wealth effect on the current financial position of the central bank. However, when the rate of devaluation exceeded the value of the premium, these exchange rate guarantees resulted in losses for central banks which were realized at the time when the arrangement becomes due.

Fourthly, the financing of priority sectors or activities have also resulted in cash-flow and capital losses for central banks. Cash-flow losses linked to these operations have usually been higher when central banks have borrowed abroad to grant loans domestically. This outcome resulted from the inability of central banks to transfer to the domestic borrowers the conditions prevailing on the foreign loans. Consequently, central banks end up assuming the foreign exchange risk on top of the interest rate and credit risks. In addition, when foreign loans to central banks (as is the case of loans granted by most international financial organizations) are denominated in a basket of currencies, exchange rate fluctuations among these currencies become an important component in the exchange risk faced by central banks. Finally, when monetary programming considerations impede the rollover of domestic credits (generally granted with shorter maturities than the long-term foreign loans) central banks lose a source of income that would have contributed to serve the foreign financial expenses. 1/ The high credit risk generally involved in lending to these privileged sectors or activities has resulted also in significant capital losses for central banks.

1/ This means that, given certain conditions, the rolling over of these loans would imply excessive credit expansion that would exceed the central bank's capacity to collect seignorage at acceptable inflation rates. Under these conditions, when other expansionary factors cannot be controlled and other contractive instruments would involve high costs, the central bank may choose to stop the rolling over of these loans to avoid further inflation or reserve loss. In doing so, the central bank will keep a larger stock of international reserves and a smaller portfolio of domestic loans than otherwise. This may have implications for the central bank's flow of income because the international interest rate adjusted by actual devaluation may differ from the domestic interest rate.

V. Consequences of Losses

Cash-flow losses in domestic currency have an expansionary monetary effect which central banks may postpone by incurring in debt (issuing debt that is voluntarily demanded or incurring in arrears). These actions, however, imply interest costs at a future date. Cash-flow losses together with other accrued (though not realized), capital and valuation losses lead to the deterioration of the financial position of central banks. In turn, weak financial positions contribute to future cash-flow losses. Thus, sooner or later central bank losses will contribute to money creation (and inflation) and the loss of international reserves.

Thus, central bank losses, generally prompted by quasi-fiscal operations, limit central banks capabilities for effective monetary control and, because of related information and identification problems mentioned below (Section VI), makes monetary programming and operations more complicated. In other words, central banks embarking in quasi-fiscal activities are distracted from their main responsibilities of promoting the internal and external stability of the domestic currency.

The limitations for monetary policy, in the presence of central banks with weak financial positions and significant cash-flow losses, become evident when monetary sterilization is required to ensure monetary and exchange rate stability. This is the case, for example, when costly monetary operations are needed to affect the reserve impact of fiscal deficits or significant capital inflows.

Sterilization of monetary expansion resulting from deficit financing will increase central bank losses and this, in turn, will create monetary

expansion (weakening the effectiveness of sterilization). At the same time, it will increase the overall deficit of the public sector defined to include central bank losses.

Capital inflows tend to appreciate the local currency and, in order to avoid excessive appreciation and volatility of the exchange rate, central banks may resort to sterilize (at least partially) the expansionary effects of necessary foreign exchange purchases. Again, greater central bank losses will result, with negative effects on monetary control and the overall public sector deficit.

VI. Identification and Measurement Problems

It is frequent to find that central banks facing the kinds of problems just described actually show significant profits in their profit and loss statements. In fact, many central banks registering these "accounting" profits have proceeded to distribute them in cash to the government. This mismatch between "accounting" and reality needs attention. In general, these divergences emerge as a consequence of shortcomings in central banks or monetary regime laws, inadequacies of traditionally accepted accounting practices, and lack of adequate information systems.

In general, the profit and loss statements of central banks register income and expenses on an "accrual" basis. 1/ However, it has been found that several central banks register (in accordance with specific accounting laws, regulations and practices) the accrued expenses associated with their

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1/ This means that to properly calculate cash-flow profits or losses (generally more relevant to the purposes of the short-term monetary programming) an effort should be made to distinguish the proportion of accrued income and expenses that has been effectively realized during the period of analysis.

most important foreign and domestic liabilities in "assets" accounts while they register accrued income in "profit" accounts. Thus, expenses are underestimated leading to the emergence of fictional profits.

Practices associated with the valuation of foreign assets and liabilities also produce distortions in the true financial position of central banks as well as in the proper calculation of "cash-flow" profits and losses associated with foreign exchange transactions. For example, many central banks use (usually forced by regulations) for accounting purposes a historical exchange rate to value foreign assets and liabilities. In such cases, if foreign asset/liability positions are not revalued periodically at market exchange rates, the true financial position of central banks may differ considerably from the one shown in the accounting statements, because the losses or gains arising from changes in market exchange rates are not being acknowledged. This is particularly serious in countries with foreign liabilities exceeding the value of their holdings of foreign assets.

Also, when periodic revaluations are made, the counterpart of these changes in the value of foreign assets and liabilities is posted to a revaluation account which over time becomes a non-interest-bearing asset of significant magnitude. Similar problems arise in connection with the inadequate valuation of other foreign assets (for example, valuation of the holdings of gold at historical prices which differ from international market prices). While these revaluations have no monetary impact, they do represent capital gains or losses for central banks of sometimes quite large proportions. Therefore, to have a proper picture of a central bank's

financial position and the "change in its net worth", it is necessary to take into account these valuation changes.

Cash-flow profits or losses resulting from everyday transactions in foreign currencies are not identified correctly in the financial statements of many central banks of developing countries. This is so because the accounting systems in these central banks are not able to distinguish the profits or losses resulting from flow transactions from those originated in the revaluation of foreign assets and liabilities. In general, profits or losses incurred on a given day depend upon the spread between the buying and selling rates of foreign currencies applying to the central banks transactions as well as upon the magnitude of sales and purchases taking place. Central banks operating under regimes of multiple and subsidized exchange rates can incur substantial transaction losses. Contrary to the case of revaluation losses, these foreign exchange transactions' losses have an immediate monetary impact.

There are other factors affecting the appropriate identification of central bank losses. On a cash-flow basis, it is usually difficult to identify the effective flow of financial income and expenses. Also, the estimation of possible losses linked to contingent liabilities (such as foreign exchange guarantees) is often not made correctly. Complications in measuring changes in the net wealth of central banks include the inadequate valuation of loan portfolios. In addition, some central banks do not record interest arrears emerging on their foreign liabilities.

VII. Remedies

1. A "zero-sum" game

The road from a "loss producing" to a "profitable" central bank requires taking care of many of the causes of losses by implementing a set of measures aimed at improving the cash-flow of the bank and restoring its financial position. Most important of these measures are: (a) elimination of quasi-fiscal activities, (b) restructuring of the central bank functions and activities and reduction of its operating expenses, (c) cleaning-up of accumulated losses and nonperforming assets from their portfolios, and (d) transfer of foreign liabilities to the government. These measures can have significant budgetary implications.

The elimination of quasi-fiscal activities will certainly reduce the need to resort to costly indebtedness and promote the streamlining of central bank operations and the reduction of operating expenses. In this way the cash-flow of central banks will improve. The cleaning up of accumulated past losses and nonperforming assets in the portfolios of central banks (usually through their recapitalization) will require their replacement with interest-bearing assets (usually government bonds); this together with the transference of foreign liabilities to the government are intended to restore the overall financial position of the central bank. 1/ In this way, further deterioration of the financial position of central banks is avoided and, at the same time, their cash-flow is improved.

1/ Provided, of course, that the government can serve these compromises without appealing to subsidized credit from the central bank.

It should be noticed, however, that in terms of the combined deficit of the public sector (the deficit of the nonfinancial public sector plus the central bank losses) improving the financial position of central banks and reducing their losses is generally a "zero-sum" game. This is so because it may not be possible to eliminate quasi-fiscal activities (at least in the short-term) but only to transfer them to other government agencies. Also, the governments would need to assume the costs of restoring the financial position of central banks when accumulated losses, nonperforming assets, and foreign liabilities are transferred from central banks to governments. Thus, the "mirror image" of an improved cash-flow and financial position of a central bank may be a deterioration in the fiscal stance of the nonfinancial public sector. Of course, whenever some of the quasi-fiscal activities are eliminated or the costs of these activities and of the restoration of the financial position of central banks can be transferred to the private or external sectors (for example, by eliminating domestic interest rate subsidies or obtaining foreign debt forgiveness, respectively) savings for the overall public sector may result.

2. Restoring the financial soundness of a central bank: difficulties and opportunities

The implementation of measures aimed at reducing losses and restoring the financial position of central banks has usually proved to be complicated and time consuming. In many countries, central banks have been carrying out quasi-fiscal activities for many years following legal, regulatory, and customary mandates. Thus, eliminating these activities or taking them out of central banks usually requires not only a change in legislation and

regulations but also a change in the way of thinking about the typical functions and responsibilities that central banks should pursue.

In these countries, the transition from what central banks have traditionally been doing to what central banks should be doing implies that central banks are to be assigned a limited number of typical central banking functions subordinated to their primary responsibility of maintaining price stability. Most importantly, all noncentral banking functions which they were performing need to be discontinued or assigned to other governmental agencies. It is not surprising to find that such reforms generally involve significant political battles to bring about the needed legal and regulatory changes. Hopefully, once the legal and regulatory reforms are completed, central banks will find themselves with: (a) a clear definition of their primary responsibility and subordinate functions, (b) a proper composition and functions of their governing body, (c) proper prudential and managerial rules, (d) adequate norms for their accountability and auditing, and (e) proper accounting rules including norms for the distribution of their profits and for the covering of their losses. 1/

These legal and regulatory reforms have implications for the functional and administrative organization of central banks. Once the new legal and

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1/ These arrangements are basic requirements for the effective and efficient performance of a central bank. In general, they will make possible the exercise of responsible autonomy including: (a) an effective accomplishment of the central bank's responsibilities at minimum possible operating expenses, (b) the observance of proper prudential principles to preserve the solvency of the institution, and (c) well defined arrangements governing the relationship between the central bank and the government. Various dimensions of central bank independence are discussed in Cukierman (1992). In particular, the role and consequences of arrangements governing the relationship between central banks and governments are discussed in Swinburne and Castello-Branco (1991), and Leone (1991).

regulatory framework is in place, central banks which have been carrying out various quasi-fiscal activities will need to initiate a profound process of restructuring including: (a) a functional and administrative reorganization, (b) a revision and reform of their accounting and information systems, and (c) the strengthening of their capabilities for monetary programming and control. This process can have substantial effects on personnel policies including the separation and reallocation of staff. At the same time, training usually needs to be refocused in order to build up capabilities for the proper accomplishment of the redefined functions and responsibilities. It is not surprising to find out that these reforms may be difficult to implement and take time.

The restoration of the financial position of central banks brings difficulties but also opportunities. In the first place, the true financial position of a central bank should be properly determined before proceeding with its recapitalization. This involves a process of revaluation, reassessment, and reconciliation.

First, foreign assets and liabilities have to be revalued at market exchange rates and prices and valuation gains or losses should be posted in a revaluation account. This should be followed by the assumption by the government of the servicing of the central bank foreign liabilities. In this connection, the government should issue bonds with technical features (regarding maturity, adjustability of interest rates, currency of denomination, and other terms and conditions) that match those prevailing on

the outstanding central bank foreign liabilities. 1/ These bonds should substitute for: (a) outstanding low yielding and nonperforming government debt in the portfolio of the central bank, associated with payments made the central bank in the past for the servicing of foreign debt without the provision of counterpart funds by the government; (b) the revaluation account (after proper revaluation is made of the central bank holdings of foreign assets and its outstanding foreign liabilities); and (c) other low yielding and nonperforming government debt with the central bank. In order for these arrangements to contribute to the proper recapitalization of the central bank, the government would have to timely provide the central bank with the necessary funds for the servicing of the foreign debt. These arrangements should be complemented by the adoption of appropriate insurance or hedging mechanisms to protect the central bank's net worth against future changes in: (a) the parity of foreign currencies in which the central bank's foreign assets are denominated, and (b) the market value of foreign assets in the portfolio of the central bank.

Second, the central bank loan portfolio should be reassessed. In reassessing the portfolio of loans to the government, agencies, and other institutions, and enterprises of the nonfinancial public sector, divergences usually arise in the amounts involved, requiring efforts to reconcile the accounts between the nonfinancial public sector and the central bank. The appropriate treatment of nonperforming loans to private financial and nonfinancial institutions and to the private sector in general in the

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1/ The government should also issue bonds matching the technical features of domestic liabilities issued by the central bank in connection with foreign debt conversion arrangements.

portfolio of central banks usually lead also to major discussions between the central bank and the government.

When a loan falls into arrears, the flow of interest income on that loan is immediately affected and such loan also call for building up reserves. However, central banks in many countries do not regularly constitute reserves against bad debts large enough to cover possible difficulties in recovering their portfolio. Consequently, the portfolio of domestic loans needs to be properly assessed, in order to determine the amount of the capital losses (the value of the nonperforming portfolio net of existing reserves, if any).

Once an agreement is reached regarding the magnitude of the capital losses associated with the central bank loan portfolio, the authorities would be in a position to decide the amount of government bonds to be issued in order to restore the capital position of the central bank. Here, again, discussions frequently arise on the terms and conditions of these bonds and, in particular, on the interest rate to be paid by the government. However, this arrangement brings the opportunity to endow the central bank with market based instruments of monetary policy. By using government bonds in its portfolio, the central bank would be able to rely on various types of open market operations for monetary control purposes, acting at its own initiative and in accordance with its monetary program. It seems convenient, then, that these government bonds have market related terms. This will make them attractive for market participants.

The interest payments to be made by the government in connection to these recapitalization arrangements should not be an issue provided that an

appropriate and symmetric arrangement is adopted regarding the distribution of profits and covering of losses of the central bank. This is another aspect of the "zero-sum" game referred to above. The arrangement should state that profits generated by the central bank--after appropriate reserves--are to be transferred to the government while possible central bank losses are to be covered by the government. Under this arrangement, if interest payments made by the government to the central bank are not sufficient to avoid losses it will need to make additional transfers to avoid the consequent deterioration of the financial position of the central bank. On the other hand, if interest payments made by the government were excessive it would be compensated (at least partially) through the transfer of profits from the central bank back to the government.

For this arrangement to work properly while, at the same time, permitting an adequate consolidation of the profit or losses of the central bank with the budgetary outcome, three conditions are necessary: (a) a timely and reliable measurement of the central bank's profits or losses, (b) the mentioned symmetry feature when dealing with the distribution of the central bank's profits or losses, (c) proper accountability and responsible autonomy of the central bank to avoid excessive administrative and operating expenses that, under this scheme, would end up being financed by government transfers. Under these conditions, the profits of the central bank will form part of the nontax revenue of the government and will help improve the results of the nonfinancial public sector. On the other hand, the losses of the central bank would generate a transfer from the government, thereby increasing its outlays and worsening the results of the nonfinancial public

sector. In this way, the results of the central bank operations will always be included in the budgetary outcome of the nonfinancial public sector. Also, under the mentioned conditions, the possibility of transferring fictitious central bank's earnings to the government (thereby artificially reducing the Government's deficit or artificially increasing its surplus) would be minimized.

VIII. Summary and Conclusions

Traditionally, the determinants of profits and losses of central banks in industrial countries have not been a relevant subject of discussion. This is probably because in these countries central banks carrying out strictly monetary functions and operating under stable macroeconomic conditions are basically financially sound institutions. However, in many developing countries, the central banks have traditionally performed certain functions extraneous to typical central bank functions, that have had a significant impact on their financial position. These "quasi-fiscal" functions have usually included the intermediation of domestic and foreign financial resources to finance priority sectors or activities, the administration of preferential exchange rates, the granting of exchange insurance, and the absorption of official and private sector foreign debts.

These functions have a number of implications: (a) they generally involve transfers, subsidies, taxes or other fiscal operations which usually are not included in the general national budget; (b) they usually imply a misallocation of resources and involve excessive risk taking for the central bank; (c) they increase the probability of a negative cash-flow from these central banks' operations and of a deterioration of their financial

position; and (d) they complicate monetary management and control and weaken the independence of the central banks involved in these activities.

Although ideally central banks ought to discontinue "quasi-fiscal" activities and transfer them to the government, this often proves difficult in practice, at least in the short term. This is so because the discontinuation of these functions, that have been carried out by the central bank for many years, requires changes in the way of thinking and in the legal and regulatory framework. In addition, substantial administrative and functional restructuring of central banks may be needed together with the restoration of their financial position.

It is therefore vital to identify the quasi-fiscal functions performed by central banks and to measure their effects on the cash-flow and financial position of central banks. It is also important to evaluate and consolidate the central bank accounts with those of the nonfinancial public sector with a view to measuring accurately the deficit (or surplus) of the consolidated public sector. 1/

There are various complementary ways of measuring the results of central banks operations. Measurement on a "cash-flow" basis is useful to assess the possible short-term effects on monetary conditions, and the

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1/ To the extent that some fiscal activities are performed by the central bank, fiscal accounts may underestimate the actual level of current expenditures by the government. As a result, national accounts data on public savings are likely to be distorted. This may lead to an erroneous interpretation of the macroeconomic effects of government policies as explained by Hamann (1993). Notice that including central bank losses in a broad concept of the public sector deficit will not solve this problem; for this, a proper identification of the current account result of the central bank and a correction of the public component of domestic savings are necessary.

consequent impact on the inflation rate and the level of international reserves. Measurement on an "accrual" basis provides a picture of accrued income and expenses and help assess possible variations in net credit of the central bank resulting from accrued income or expenses that are not realized. Measurement on a "change in net-worth" basis is designed to determine the overall financing needs resulting from a central bank's operations, and so it is useful in evaluating the impact on the credit market, and the long-term effects on the rate of inflation and the balance of payments.

Remedies for central bank losses usually require the restoration of their financial position. These will typically involve the removal of nonperforming assets from the portfolio of central banks and their replacement by interest-bearing government bonds. It will also involve the transfer of the central bank's foreign debt to the government. A proper restoration of a central bank's financial position will have positive effects on its cash-flow. Improvement of the cash-flow will be complemented by the discontinuation of quasi-fiscal activities which will promote the streamlining of central bank's functions and operations leading to lower operating expenses.

In terms of the combined deficit (or surplus) of the public sector, the elimination of a central bank's losses and the restoration of its financial position is a kind of "zero-sum" game. This is so because improving the central bank net-worth position and eliminating its losses will generally result in a deterioration of the fiscal stance of the nonfinancial public sector.

Although shifting the quasi-fiscal deficit from the central bank to the government budget is a "zero-sum" game, it contributes to increase transparency of the public sector accounts and helps strengthen the autonomy of the central bank. In addition, if reforms improving central bank profitability involve gains in efficiency, a "positive-sum" game would result from reversing central bank losses.

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