

Quasi-Fiscal Operations of Public Financial Institutions

G. A. Mackenzie and Peter Stella



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The following symbols have been used throughout this paper:

- ... to indicate that data are not available;
- to indicate that the figure is zero or less than half the final digit shown, or that the item does not exist;
- between years or months (for example, 1991–92 or January–June) to indicate the years or months covered, including the beginning and ending years or months;
- / between years (for example, 1991/92) to indicate a crop or fiscal (financial) year.

“Billion” means a thousand million.

Minor discrepancies between constituent figures and totals are due to rounding.

The term “country,” as used in this paper, does not in all cases refer to a territorial entity that is a state as understood by international law and practice; the term also covers some territorial entities that are not states, but for which statistical data are maintained and provided internationally on a separate and independent basis.

Glossary

CD	Certificate of deposit
ECCU	East Caribbean Currency Union
ECU	European currency unit
FIFO	First in, first out (inventory accounting term)
LCU	Local currency unit
LIBOR	London interbank offered rate
MER	Multiple exchange rate
NBP	National Bank of Poland
NBR	National Bank of Romania
NBY	National Bank of [former] Yugoslavia
NFA	Net foreign assets
NFPE	Nonfinancial public sector enterprise
NFPS	Nonfinancial public sector
OIN	Other items net
PFI	Public financial institution
QFA	Quasi-fiscal operation or activity

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Preface

Central banks and other public financial institutions often carry out operations that are fiscal in all but name. Despite their potential macroeconomic and financial significance, these “quasi-fiscal” operations or activities have not received a great deal of attention from economists. This Occasional Paper aims to fill this gap by providing a comprehensive analysis of the macroeconomic and financial aspects of quasi-fiscal activity. It examines problems related to the measurement and allocative impact of such operations, the implications of their exclusion from conventional budgets, and possible policy responses.

The paper is a revised version of a paper prepared for a seminar in the Executive Board of the IMF in May 1995.

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I Overview

Central banks and other public financial institutions (PFIs) play an important role as agents of fiscal policy in many IMF member countries. Their activities in this guise can affect the overall public sector balance (the balance of both the nonfinancial and the financial public sectors), without affecting the budget deficit as conventionally measured. These activities, which are often referred to as quasi-fiscal operations or activities (QFAs), may also have important allocative effects.¹ Moreover, they entail an increase in the effective role and size of the public sector.

Standard measures of the nonfinancial public sector (NFPS) borrowing requirement normally take account of the *explicit* contribution to the budget of the central bank or other PFIs (typically, their profit transfers).² In countries where QFAs have been important, however, a more comprehensive definition of the public sector financial balance may be a superior index of the impact of the government's financial operations on the economy. Thus, the IMF, in its surveillance and program activities, has sometimes relied on a broader measure of the public sector's financial requirements, in which the NFPS balance is *augmented* to include the net income (or net losses) of the central bank and sometimes that of other PFIs.

The principal goal of this paper is to analyze the macroeconomic and financial aspects of QFA. There is an important microeconomic dimension to QFA, however, since it effectively introduces taxes, subsidies, or other expenditures outside the framework of the budget. The many forms that QFA takes make it imperative that the analysis address not only the overall impact of QFA on public sector balances, but also the impact of particular QFAs on resource allocation. The paper addresses these allocative concerns. It also deals with the implications of the exclusion of QFA from normal budgetary procedures. Finally, the paper deals with some of the spe-

cial measurement and accounting issues that QFA entails.³

The rest of the paper presents an analysis of the effects and implications of QFA, and makes recommendations about what should or should not be done about it. Specifically, Section II begins by defining QFAs and explaining why their identification and analysis should be a matter of concern for fiscal policy analysis. It then briefly reviews the factors that give rise to QFAs and some basic problems that arise in quantifying them. Section III provides a more detailed survey of the macroeconomic, financial, and allocative effects of specific QFAs. Section IV then addresses policy toward QFA.

The paper has three appendices. Appendix I analyzes a number of measurement and accounting issues. Appendix II presents some country-specific examples of the practices discussed in Section III of the text, and Appendix III presents five country case studies.

Basic Features of QFAs

The QFAs of central banks and other PFIs are many and varied. In the case of a central bank, most QFAs stem either from its role as regulator of the financial system or from its role as regulator of the exchange system. Subsidized lending, sectoral credit ceilings, and central bank rescue operations fall in the first group; multiple exchange rate (MER) regimes and exchange guarantees fall in the second. Central bank lending to the central government at below-market rates is also a relatively common practice. The QFAs of other PFIs often derive from restrictions on financial markets or from government-mandated special treatment for certain classes of borrowers and lenders. All of these operations may entail implicit or explicit taxation or subsidization of particular groups or activities, but they all fall outside the budget.

¹The acronym QFA will be used both for quasi-fiscal activity in general and for a specific quasi-fiscal activity.

²These revenues are normally included in the nontax revenue of the central government.

³For a more condensed and informal treatment of these issues, see Mackenzie (1994).

QFAs are a matter of concern for several reasons:

- Most important, in many countries, it has become clear that central bank and PFI losses stemming from QFAs may be large and may be an important factor contributing to financial instability.
- The existence of QFAs means that conventional measures of the government's financial balance may give a misleading indication of the extent and role of fiscal activity in the economy and of its macroeconomic impact.
- The taxes and subsidies that result from QFAs can be highly distortionary in their impact on resource allocation.
- QFAs may take the form of unfunded or contingent liabilities, which may be potentially sizable, highly uncertain, and especially difficult to control. Certain forms of contingent liabilities—for example, exchange rate guarantees—may have significant macroeconomic effects that precede their impact on the cash flows of the PFIs that extend them.

Three characteristics of QFAs are important in understanding their macroeconomic and financial effects: the size and timing of their impact on the cash income position of the public sector; the feasibility of their quantification (that is, the measurability of the quasi-fiscal taxes or subsidies that they entail); and the extent to which they entail a contingent liability, for which adequate financial provision needs to be made.

Some QFAs are much more difficult to quantify than others. The implicit taxes and subsidies entailed by an appreciated exchange rate applied to particular classes of traded goods can be measured and extracted from the financial accounts of the central bank. In contrast, such practices as credit ceilings, although they clearly have a fiscal component, are in practice impossible to quantify and cannot be incorporated in an alternative measure of the fiscal deficit. Even when it is not possible to quantify fully the impact of specific QFAs, it is nevertheless important that they are at least qualitatively flagged in any analysis of the fiscal situation.

Exchange rate guarantees provide a good example of a potentially very costly contingent liability. Consider a guarantee that ensures the convertibility of the local-currency counterpart of foreign-currency debt at the exchange rate prevailing when the debt was contracted. In a high-inflation country, this can entail a huge subsidy for foreign borrowing, and the stimulatory effect on aggregate demand is likely to take place well before the losses are realized. The potential impact of such contingent liabilities points to the shortcomings of purely cash-flow measures of

fiscal activity, even where they extend beyond the NFPS to encompass the QFAs of the central bank and other PFIs.

Policy Toward QFAs

QFAs, if not properly monitored and controlled, can obviously undermine the achievement and maintenance of financial stability. If the central bank is used as a conduit to extend what is really a budgetary subsidy, both the deficit of the NFPS and net bank credit to the NFPS will be understated.⁴ The subsidy shows up in the form of a reduction in the central bank's income. The traditional measures of the fiscal stance are thus rendered unreliable by QFA. However, an enlarged measure of the deficit—consisting of the sum of the NFPS and net income of the central bank and any other PFIs engaged in QFA—will capture the aggregate impact of such activity. When QFA is prevalent, it is a superior gauge of the fiscal stance.

To the extent feasible, quasi-fiscal operations should be quantified, extracted from the books of the central bank and PFIs, and included in a measure of the NFPS deficit used for programming or analytical purposes. This procedure will give a truer picture of the size of the public sector and the relative importance of different taxes and expenditures. Even a partial measure of the QFAs of the central bank and other PFIs is superior to concentrating simply on the overall balance. Moreover, such a separate analysis will prove useful even for the purpose of assessing and projecting developments in the accounts of central banks and PFIs for which QFAs are significant.⁵

Structural measures are likely to be necessary to address the root cause of QFAs. Troubled financial institutions may have to be closed, exchange rate systems unified, or the treasury required to pay a market-related rate of interest on its debt. Similarly, the legal authority of the central bank may need to be revised to limit the extent to which QFAs can be carried out. Such reforms can have major implications for the way a country's financial system operates.

⁴Only if the cost were fully and promptly passed on to the treasury—that is, only if a reduction in central bank income entailed an equal and contemporaneous reduction in profit transfers from the central bank to the treasury—would this not be the case.

⁵Such QFAs often figure as important determinants in the movement of the "other items net" (OIN) account in the monetary survey for the country. Extraction of QFAs can reduce the extent to which financial programming relies on highly aggregative projections of OIN movements.

II Basic Issues

In many countries, some of the activities in which central banks and PFIs engage, as well as some of the regulatory requirements of central banks, can be said to take on a fiscal character. These quasi-fiscal actions could, in principle, be duplicated by specific budgetary measures in the form of an explicit tax, subsidy, or other direct expenditure.⁶ Such activities, operations, and regulations are often used by governments to carry out specific budgetary or fiscal objectives *outside* the budget, and often in ways that are not transparent. Table 1 gives a sense of the range of QFAs in which central banks and other PFIs engage.

Apart from strictly quasi-fiscal actions, operations of a less obviously fiscal—and more obviously monetary—character, such as sterilization or open market operations, are commonly referred to as QFAs because the large losses they can entail sooner or later affect the budget. Although a narrower definition that excludes such operations has a conceptual appeal, the paper acknowledges the broader connotation—and more common use—of the term QFA and will include these monetary operations in its definition.

Why QFAs Are a Matter of Concern

QFAs should be a matter of concern for macroeconomic policy and structural adjustment for several reasons. First and foremost, in many countries such operations have given rise to losses (or diminished profits) by the central bank or other PFIs that have been sufficiently large to be an important contributor to monetary expansion. Indeed, there are cases in which the appearance of fiscal discipline in the central government accounts is belied by “indiscipline” in the financial sector that arises from banking institutions carrying out QFAs at the behest of the government. For the purposes of macroeconomic analysis, it is critical to have an accurate estimate of the magnitude of the budget deficit and its financing.

This implies the need to take account of the monetary financing of government policies that may be effectively hidden in the accounts of the central bank or PFIs.

Some sense of the macroeconomic impact of QFAs can be gleaned by reference to the size of central bank losses in some countries in recent years. In Jamaica, central bank losses, which are essentially the legacy of past exchange guarantee operations, exceeded 5 percent of GDP in the early 1990s. Quasi-fiscal losses in the Philippines approached 2 percent of GDP in 1989–92; their elimination was a major objective of the recent reform of the central bank. Uruguay has also experienced sizable quasi-fiscal losses from a variety of QFAs; these have declined from the mid-1980s but in 1990 still exceeded 4 percent of GDP.

Second, in analyzing any economy, it is important to have an accurate idea of the size of government. Although the net operating position of the central bank may take account of the net financial effect of some of the different QFAs, more analysis is likely to be needed to identify clearly and separately the implicit taxes and subsidies that the QFAs entail. Without this analysis, the magnitude of revenues and expenditure of the government is likely to be understated. Sometimes an estimate of the magnitude of such fiscal actions can be readily obtained from the financial accounts of the financial institution; in most cases, however, the tax or subsidy is not at all transparent (for example, as would be the case when a central bank lends at a concessional rate).

Third, quasi-fiscal taxes and subsidies, like some explicit taxes and subsidies, can have seriously distortive effects on resource allocation.

Bringing such measures out into the open and analyzing their allocative impact are obvious prerequisites for determining whether their elimination should receive a high priority in the policy agenda.

Last, QFAs may entail the creation of contingent, often unfunded, liabilities. Such operations are far from uncommon in the central government itself, but when undertaken by the central bank or other PFIs they are arguably less subject to scrutiny and more difficult to monitor and control. A loan or exchange

⁶These definitional issues are explored further in Appendix I.

Table I. A Schematic Typology of Quasi-Fiscal Activities

	Timing of Impact on Cash Position ¹	Ease of Quantifiability
Operations related to the exchange system		
MERs	I	Variable; easiest with single preferential rate
Import deposits	I	Variable
Deposits on foreign asset purchases	I	Variable
Exchange rate guarantees	D	Variable
Subsidized exchange risk insurance	D	Variable
Operations related to the financial system		
Subsidized lending		
Administered lending rates	I	Relatively easy
Preferential rediscounting practices	I	Difficult
Poorly secured and sub-par loans	D	Very difficult
Loan guarantees	D	Very difficult
Reserve requirements	I	Variable
Credit ceilings	I	Very difficult
Rescue operations	I/D	Variable

¹I, immediate; D, delayed.

rate guarantee may have no immediate effects on the cash flow of PFIs, but it is likely to have immediate macroeconomic consequences that may be overlooked. Effective management of macroeconomic policy must ensure that unfunded and implicit liabilities incurred through financial operations are explicitly recognized and funded.

For these reasons, QFAs warrant a close examination. Nevertheless, there are also clear limits to the degree of scrutiny that they can or should receive. First, as the subsequent discussion will explain, monetary operations such as sterilization of capital inflows, which, as already noted, are commonly referred to as QFAs, cannot be treated in the same way as operations that are obviously akin to taxes and subsidies. Second, and perhaps more important, QFAs are often very difficult to quantify. Significant time and effort may be required to estimate the cost of specific QFAs even when the resulting figure remains quite imprecise. The subsequent discussion will also clearly illustrate some of the conceptual and practical issues that arise in quantification.

These considerations argue strongly for a pragmatic approach to the analysis of QFAs, given the limited resources that both countries and international organizations can devote to this pursuit, important though it is. Analytical and empirical work on QFAs should concentrate on those operations that are either suspected of accounting for large financial losses (or reduced profits) in the public financial sector or are thought to be the source of major dis-

tortions in resource allocation. Such a pragmatic focus would also extend to the analysis of the implications that the QFAs pose for economic policy.

General Issues

Institutional and Regulatory Sources of QFAs

As regulator of the monetary system, a central bank has at its disposal a large number of instruments. Among the most basic are reserve requirements, requirements for rediscounting operations, criteria for collateral for various classes of loans, credit allocation criteria, and interest rate ceilings and floors. These instruments can be used to favor or to discourage—to subsidize or to tax—the lending or borrowing of particular economic sectors. Significant opportunities for QFAs are also created by the central bank's role as regulator of the exchange rate regime. In addition to the fiscal role played by MER regimes, exchange rate guarantees on external borrowing can be used to subsidize borrowing, as can exchange risk insurance that is offered at excessively low rates. Similarly, import deposit schemes and the like have effects akin to customs duties.

The central bank's special relationship as banker to the government is another source of QFAs. The treasury often enjoys a below-market rate of interest on its overdrafts with the central bank, with the re-

sult that the true level of the NFPS's interest expenditure is understated.⁷

Although other PFIs are not presented with the same potential opportunities for QFAs as central banks, they are public sector entities and may be used for fiscal policy ends. Common practices include the extension of credit on subsidized terms or the provision of credit to borrowers who would not normally qualify in competitive credit markets. One crucial difference between the QFAs of these PFIs and those of a central bank is that the former, unless they enjoy a monopoly or monopsony position as lenders or borrowers, are typically not in a position to levy quasi-fiscal taxes. Their QFAs, on balance, tend to reduce their potential profits if not to entail outright losses.

Central banks and other PFIs are not the only public sector entities engaged in quasi-fiscal activity. *Nonfinancial* public enterprises are also often required to undertake QFAs, particularly commodity subsidies. Even though activities of this sort do not affect the overall balance of the NFPS, they do mean that the standard presentation of the public sector balance may understate the role of subsidies and certain other expenditures in the economy.⁸ In eastern Europe, for example, state-owned enterprises have been expected to provide an array of social services that elsewhere would be provided by the government. A more accurate characterization of the role played by such quasi-fiscal expenditure would be gained by including it, at least for analytical purposes, in the accounts of the central government. It is not always clear how such activities are financed. Presumably, implicit taxes on the production and sales of the enterprises concerned must play a major role.

Motives and Rationale for QFAs

Various aspects of a country's financial history and institutional fabric might be cited to explain the existence of QFAs. One essential consequence of their use is that QFAs hide what are essentially budgetary activities in the accounts of PFIs. For example, obliging mineral exporters to surrender their for-

eign exchange at an artificially overvalued exchange rate is tantamount to an export tax. It reduces recorded royalties and profit tax collections, but it effectively increases the real tax burden of the mining sector. An exchange rate guarantee on foreign debt is similar to an interest subsidy, but initially it affects neither the cash flow of the central bank nor that of the government. The hidden nature of these operations may also make them more acceptable politically in many countries.⁹ Contingent QFAs are in a sense doubly hidden—their cash-flow impact is delayed, and because they are granted by financial institutions they do not necessarily receive legislative or parliamentary scrutiny.

One possible rationale for some QFAs is that they are seen as more convenient to administer than conventional budgetary operations. For example, if a central bank is used to operating an MER system, it may seem easier to rely on it than on the budget to extend a new subsidy to an imported good.

Some of the QFAs of central banks—notably rescue operations for troubled financial institutions—may also reflect an assumption that such support for the financial sector is properly in the domain of the central bank. In some countries, the central bank may be able to act more quickly than the treasury in this regard. In consequence, these operations, despite their fiscal character, may be seen as an integral part of a central bank's responsibility for sustaining the financial system during a crisis.

Problems of Quantification

All of the basic reasons for concern over QFAs point to the importance of quantifying them, or at least of quantifying the most significant ones. Although reliable information on the net income or net losses of the central bank and any other PFIs engaging in QFAs is clearly valuable in its own right, the losses of a central bank or other PFI may be the result of the combined effect of the institution's regular operations and several QFAs. To have an idea of the true role and magnitude of the taxes levied and the subsidies provided by the central government in the economy, it is necessary to be able to break down the aggregate net loss figure into its quasi-fiscal components. Moreover, *predicting* the evolution of such losses is clearly easier when it is possible to identify and measure the impact of the separate activities that give rise to them. But this is much easier said than done.

⁹Tanzi (1995, page 5) made a similar point when he wrote that "... often, governments that cannot raise a desired level of tax revenue do not scale down their role in the economy, but, rather, they attempt to pursue that role through nonfiscal instruments ... largely, but not exclusively, quasi-fiscal activities and quasi-fiscal regulations."

⁷An overdraft with a below-market rate of interest has no effect on the treasury's deficit when the marginal rate of transfer of central bank net income is 100 percent. In this case, the decline in the treasury's interest bill will be exactly offset by a decline in transfers from the central bank (a part of nontax income) or an increase in transfers from the treasury to cover a loss. The treasury's overall balance is affected when the marginal rate of transfer is less than 100 percent. But even in the first case, the practice of interest-free overdrafts results in an understatement of the opportunity costs of central bank lending.

⁸Tanzi (1993) has discussed the QFAs of state-owned enterprises of economies in transition.

In some cases, estimation of the financial impact of a QFA is relatively straightforward. For example, with MERs, as Section III discusses, ready quantification is feasible in certain cases.¹⁰ Similarly, the subsidy element in a loan extended at a preferential interest rate can be readily quantified, although an assumption has to be made about the evolution of

the market rate of interest on loans of equivalent quality, and such assumptions are obviously subject to some judgmental element. In contrast, the estimation of the subsidy or tax that results from credit allocation ceilings poses formidable problems that stem mainly from the difficulty of determining whether, and to what extent, the ceiling “bites.” Similarly, it may be very difficult to assign a hard value to the financial cost of contingent liabilities, owing to the difficulty of predicting the likelihood of their being incurred.

¹⁰Appendix I discusses a variety of measurement issues in more detail.

III Varieties and Economic Effects of Quasi-Fiscal Activities

The quasi-fiscal activities of a central bank stem from its roles as regulator of the exchange system and regulator of the financial system. The QFA of other PFIs takes the form of interventions in the financial markets.

QFAs Associated with the Exchange System

QFAs associated with the exchange system can be divided into two groups: those that result from the use of MERs, and those that result from the assumption of exchange risk by the central bank (see Table I). Operations such as required import deposits can be assimilated to the first group because they effectively establish a special exchange rate for certain classes of imports. Similarly, regulations that require zero-yield deposits at the central bank as a condition for purchasing foreign assets effectively establish a separate exchange rate for the transactions to which they apply.

MER Practices

MER practices, or practices with similar effects, are very common. As of December 31, 1994, some 40 IMF member countries had at least two exchange rates or an advance import deposit requirement. Nearly all of these required the surrender or repatriation of export proceeds, a practice tantamount to a tax when the surrender rate differs from the market rate.¹¹ The fiscal character of MERs is apparent in the case of an exchange rate regime where a special rate applies to particular categories of exports and imports. As an example, consider a regime in which certain mineral exports and imports of medicines are both subject to appreciated rates, all other trade being carried out at the standard rate.¹²

It is clear that recourse to this form of MER practice is tantamount to imposing a tax on the mineral exports and a subsidy on imports of medicine, and that the value of the taxes and subsidies imposed can be accurately estimated.¹³ These estimates can then be used to produce an adjusted measure of the net income of the central bank, and an adjusted measure (on a gross basis) of the financial operations of the NFPS. These revised estimates of public sector activity may then be used for purposes of analysis or programming.

The net effect on the budget of such an MER system can be calculated relatively straightforwardly. When the amount of foreign exchange purchased from the taxed mining sector does not equal the amount sold for subsidized imports, the impact on the central bank's accounts will depend on the valuation procedures used for foreign exchange (see Appendix I).¹⁴

The calculation of the fiscal impact of MER regimes is less straightforward when the special rates affect a number of the major sectors of the economy. It should still, in principle, be possible to eliminate the special rates and replace them by explicit ad valorem taxes or subsidies, but it may not always be clear which rate is the central rate.¹⁵

Another set of problems arises when the exchange rate, whether a single rate or the central rate in an MER system, is so grossly overvalued that foreign exchange sales are rationed by the central bank. In this case, every transaction involves a

¹¹The fiscal character of MERs was analyzed in two early contributions to the IMF's economic journal, *Staff Papers*; see Bernstein (1950) and Sherwood (1956).

¹²If the central rate is 10 local currency units (LCUs) per U.S. dollar, the mining sector rate is LCU 6 per dollar, and the special import rate is LCU 7 per dollar, then the central bank has net income from the purchase and resale of \$1 million of $(7 - 6) \times \$1$ million, or LCU 1 million. Alternatively, with reference to the central rate, the bank makes a profit of LCU 4 on each purchase of foreign currency from the mining sector, and a loss of LCU 3 on each sale to the privileged import sector.

¹³The fiscal costs entailed by the unification of the exchange rate regime (that is, devaluation of the official rate to eliminate a parallel exchange market) are very carefully analyzed in Agénor and Uçer (1995).

¹¹See International Monetary Fund (1995). This figure comes from the table entitled "Summary Features of Exchange and Trade Systems in Member Countries." These statistics reflect the existence of multiple *official* exchange rates, not necessarily parallel exchange rates.

¹²A regime like this applied in Egypt before the exchange system reforms of 1991 (see Appendix II).

simultaneous tax (of the exporter, who is forced to surrender earnings at an unrealistically appreciated rate) and subsidy (for the importer, who benefits from the same unrealistically appreciated rate). Quantification in such cases is problematic because it requires the estimation of a shadow exchange rate.

MERs, like tariff systems, can be highly distortionary in their allocative effects. They can entail wide variations in effective rates of protection—which can be positive or negative—for different industries. Even when a system with more than one rate might conceivably serve some useful purpose—for example, a special exchange rate on agricultural exports, which might serve as a proxy for a tax on agricultural income in an economy where it is not feasible to administer an income tax—their lack of transparency makes them a distinctly inferior substitute for explicit budgetary levies.

One potentially serious consequence of MERs is their distortive impact on conventional measures of the relative importance of different sectors and different revenue sources in the economy. For example, in Venezuela in the mid-1980s the appreciated rate applying to oil exports meant that the conventional revenue measures understated the role of the state oil company in the generation of revenue. The appreciated rate applying to coffee exports in Uganda in the late 1980s had a similar effect on the conventional measure of revenues from coffee taxation. In addition, because it applied to imports of materials used by the local excisable goods producers, it led to an overstatement of the role of excise taxation.¹⁶

Exchange Rate Guarantees and Assumption of Exchange Rate Risk

The second major avenue for QFAs associated with the exchange system is the assumption by the central bank and other PFIs of exchange rate risk. This typically takes the form of an exchange rate guarantee, but it also may arise when the central bank subsidizes exchange risk insurance.

Unlike the operations of MER systems, the issue of exchange rate guarantees and the like establishes a contingent liability, although the rate at which losses are realized can vary greatly. When domestic inflation is significantly above international levels, and the domestic currency is expected to depreciate at a significant rate, a guarantee at the current exchange rate can create a strong incentive for foreign borrowing. It allows the domestic borrower to pay an international rate of interest on an obligation de-

nominated in local currency. This can create a very large subsidy in high-inflation countries. A similar subsidy is created when a central bank or other PFI guarantees the rate applying to foreign currency deposits of the banking system. Public enterprises often benefit from the adoption of a policy of exchange rate guarantees, as has been the case in Ghana and the Philippines.

If the guarantee extended by the central bank or PFIs on foreign-currency-denominated debt extends to both interest payments and principal repayments, then a loss is realized with every payment every time the exchange rate depreciates. It should be possible to calculate *ex post* the value of such realized losses as they occur. Calculating *ex ante* the expected value of the subsidy that is extended by this practice is considerably more complicated, of course, and depends inevitably on somewhat arbitrary assumptions.¹⁷

Although the difficulties involved in such calculations should not be downplayed, developing a measure of the subsidy nevertheless could play a very important role in supplementing or qualifying the conventional measure of the budget deficit. Even information on the stock of outstanding guarantees would permit a more accurate picture of the size and impact of the public sector's fiscal operations. It must be recognized, nonetheless, that quasi-fiscal contingent liabilities are a part of a much larger, and oft-neglected, problem—namely, the inadequate accounting of contingent liabilities entailed by *both* budgetary and extrabudgetary programs of the government and other public sector entities.¹⁸

A fundamental point to be made about exchange rate guarantees and similar operations is that, regardless of the pace at which losses are realized, their macroeconomic effects are likely to materialize from the start of the operation. The subsidy created by borrowing has its effect on expenditure immediately, not when the losses are realized. Only

¹⁷In the case of a guarantee that fixes the exchange rate at the rate prevailing at the time the loan was contracted, an estimate of the total value of the subsidy could be made by discounting the stream of loan repayments by a rate of interest on a long-term local-currency-denominated security, and subtracting the result from the initial value of the loan. If the local rate equals the interest rate on the loan, there is no subsidy element (because the initial value of the loan will by definition be equal to the present discounted value of the repayments stream using the rate of interest at which the loan was contracted). The higher the local rate, the greater is the subsidy element.

¹⁸The Federal Credit Reform Act of 1990 now requires that the U.S. budget include allocations to cover the present value of expected net cash outflows from loan and loan guarantee programs (see U.S. Office of Management and Budget, 1995). In New Zealand, there is a requirement that all fiscal risks facing the overall government be disclosed in the budget and quantified where possible.

¹⁶These and most of the other country examples mentioned in this section are discussed at greater length in Appendix II.

the monetary effect coincides with the realization of the loss. Concentrating on the cash-flow impact of these operations can, therefore, be seriously misleading.

QFAs Associated with the Financial System

Subsidized Lending

Subsidized lending can take a variety of forms, ranging from the relatively direct practice of lending at administered rates set below market, to the more indirect subsidies entailed by preferential discount procedures, lending to poor credit risks, and lending without adequate collateral.

Administered Lending Rates

Perhaps the easiest operation to analyze is lending at administered rates. When PFIs are obliged to lend at below-market interest rates, there is an obvious fiscal subsidy in their operations. An estimate of the subsidy can be made, if data on market rates of interest are available, and can be taken into account in assessing the financial operations of the NFPS.

When PFIs are obliged to make loans at below-market rates, and are not compensated directly or indirectly by the government, their profits are lower than they otherwise would be. It is not uncommon, however, for such practices to be effectively financed by other entities in the public sector. For example, nonfinancial public sector enterprises (NFPEs) can be obliged to maintain deposits with PFIs at unremunerative rates. Until recently, part of the operations of the agricultural bank in Turkey were financed in this manner.

The central government, in the end, may pay for the subsidy through transfers to the NFPE involved, although the burden of the operation can fall on the NFPE for a time. Central banks can also finance directly the subsidized lending operations of specialized banks, as was the case with the National Mortgage Bank in Argentina. When the financial system is controlled by the government and repressed as well, below-market lending rates can be financed by artificially reduced deposit rates.¹⁹ The

lower lending rates can reduce a government's interest payments below what the payments would be in a liberalized financial system. In effect, a tax on holders of deposits with the financial system is used to extend an interest subsidy to the central government.

The government is not the only beneficiary of below-market interest rates. Any borrower who can gain access to this privileged form of borrowing also benefits. Although these kinds of implicit subsidies and taxes cannot be quantified as rigorously as those emanating from an MER regime, rough estimates can still be made. A recent comparative study estimated that the tax entailed by financial repression of this sort exceeded 4 percent of GDP in a number of countries during the 1980s (Giovannini and De Melo, 1993). The estimates of the cost of implicit taxation in an earlier study are even higher (Chamley, 1991).

Direct central bank lending to the government can take place through the use of overdrafts, by means of fixed-term loans and advances, or by the direct purchase of government securities. In an effort to promote central bank independence, many countries have restricted or prohibited such lending; nonetheless, direct lending, albeit not necessarily at below-market rates, is still common. Of a sample of 57 countries compiled for a recent study, only 4 prohibited all three forms of lending (Cottarelli, 1993).

Even when direct lending to the government by the central bank is formally prohibited, there are means of circumventing the prohibition when other financial intermediaries are owned or controlled by the public sector. For example, the central bank can lend to these intermediaries, who then can onlend to the government. Indeed, loans from the central bank can finance directly QFAs by other public sector entities.

The impact on the central bank's net income of subsidized lending to the government, like the impact of other QFAs, can in some circumstances be neutralized if the bank does not pay interest on required reserves. However, the scope for this tactic narrows as the share of credit going to the government increases; it narrows further when inflation is high, because the central bank must then start paying interest on the reserves that commercial banks hold with it. Indeed, paying significantly less than the market rate will weaken the profitability of commercial banks and encourage financial disintermediation and capital flight, thereby diminishing the base of the inflation tax. Consequently, a large deficit, high inflation, and interest-free lending to the government can result in large central bank losses. Another consequence may well be controls on capital.

¹⁹In this case, it may be private financial institutions, rather than PFIs, that are effectively obliged to act as fiscal agents. Moreover, there may be no direct effect on the financial operations of PFIs. Even for the private financial institutions in the case just described, the implicit tax imposed on their depositors is offset by the subsidy the private institutions are obliged to grant to their borrowers. That said, their profitability may be affected by the impact of the interest rate regulations on the volume of their business.

Preferential Rediscounting Practices

Whereas administered lending rates are a subsidy to consumers (that is, borrowers), typically paid for in the first instance by the producer, preferential discounts are effectively producer subsidies that might or might not be passed on to the consumer. For example, if a sectoral development bank is allowed to sell its own paper at a subsidized rate to the central bank or other PFIs, that rate could be passed on to the final borrower; however, it might also simply result in greater profits for the development bank. In the latter case, it merely subsidizes lending that would have taken place anyway. Thus, it may not be obvious who the ultimate beneficiary of preferential rediscounting would be. As is the case with administered lending, however, it should be possible to make an estimate of the size of the subsidy involved if it is possible to measure market-related interest rates.

Poorly Secured and Below-Par Loans

In many countries, public sector banks have had extensive problems with loan recovery. Loans by PFIs that are either extended at standard market-related interest rates without adequate collateral, or made to borrowers who are not creditworthy, clearly have a subsidy element. Indeed, at times such loans are actually implicit grants to favored client groups. As a practical matter, however, it is very difficult to establish *ex ante* the value of the subsidy such loans entail.²⁰

These operations only affect the cash flow—and possibly the financial viability of the PFI that makes them—if and when the loan is not serviced. Ultimately, and as noted below, the effects of such poor credits entail quasi or direct fiscal outlays associated with rescue efforts. Like exchange rate guarantees, the macroeconomic effects of such activities, in terms of the expenditures to which they give rise, really precede their impact on a PFI's cash flow and the emergence of a possible need for recapitalization. Although the extension of high-risk loans by PFIs may have quite serious macroeconomic consequences, their effects are thus both hidden and delayed.²¹

²⁰If loans of a similar degree of risk are extended by the private financial system, a measure of the subsidy element of loans from PFIs can be derived from the relationship between the interest rate charged by the private sector and that charged by the government. Appendix I discusses a way of calculating the subsidy element entailed by a loan guarantee that also can be applied to poorly secured and below-par loans.

²¹See Watanagase (1990) for a description of how poor credit practices associated with directed lending created a "latent" banking crisis in Bangladesh. This case is also discussed briefly in Appendix II.

The Fund's framework for government financial statistics (International Monetary Fund, 1986) classifies net lending *for policy purposes*—as opposed to net lending to earn a return—as a deficit-determining item and places it "above the line." The same treatment could be accorded noncommercial net lending by PFIs, thus ensuring that these operations, which undoubtedly have a fiscal element, are treated comparably with similar operations carried out by the government. Nonetheless, the isolation of the subsidy element of poorly secured and below-par loans, and its inclusion in the standard presentation of the financial operations of the NFPS, is in general not feasible.

Loan Guarantees

This practice is typically associated more with governments than central banks and other PFIs. Nonetheless, PFIs do guarantee loans. The practice entails a subsidy because, absent the element of risk, the lender is willing to charge a lower rate of interest. If one can measure the market rate of interest on regular loans to borrowers in the same risk category, it is possible to measure the value of the subsidy entailed by the provision of loan guarantees.²²

Reserve Requirements and Credit Ceilings

If QFAs can be characterized on a continuum running from indirect to direct, selective reserve requirements and credit ceilings would be at the indirect end of the scale. Both credit ceilings and adjustments to required reserve ratios can be engineered to encourage banks to allocate their loan portfolios in one direction or another.

The fiscal impact of reserve requirements is more amenable to quantification than that of credit ceilings. The fiscal element in reserve ratios arises when the assets that comprise them do not earn a market-related rate of return. Provided that an assumption can be made about the rate of return that these assets would enjoy if they could be invested freely, it is possible to estimate the revenue the central bank earns by virtue of the requirement. What is very difficult is determining who ultimately bears the burden of this quasi-fiscal tax.²³

The fiscal element of reserve requirements can at least be made transparent, even if it cannot be elimi-

²²Appendix I describes one method of calculation.

²³That burden should be shared by the banks (that is, their shareholders), their depositors, and their borrowers. By making certain assumptions about the loan and deposit markets it is possible to estimate each group's share. But these assumptions will inevitably be somewhat arbitrary. Molho (1992) presented an illuminating discussion of this issue; see also Appendix I.

nated, by making an explicit transfer of the value of the implicit tax involved to the treasury, and by labeling it as tax revenue in the government's accounts. A more fundamental reform would be to ensure that banks obliged to hold reserves with the central bank can earn a market-related rate of interest.²⁴

In contrast, credit ceilings, to have an effect, have to "bite," and it is not possible to know just from the dimensions of the ceilings whether they do. This complicates the task of estimating the size of the QFA. The determination of the impact of credit ceilings on the income statements of PFIs and their importance as subsidies or taxes can be understood only if it is possible to determine how credit and saving would have been allocated in their absence. This will not generally be feasible.

The use of reserve requirements as a fiscal policy instrument can have profound effects on the economy. Artificially high requirements can be used to crowd out the private sector, by channeling all the commercial banks' assets into the central bank, which then lends them to the government. A less extreme measure might take the form of a requirement for the banks to hold a minimum part of their liquid assets in government paper, as has been the case in Kenya. Such a policy can also artificially reduce the cost of government borrowing. A policy that controls bank lending to the private sector can have a similar effect.²⁵

Credit ceilings can result in a distribution of credit totally different from the distribution that would emerge if lending were governed by market criteria. The role of credit in a centrally planned economy, where credit norms are set simply to ensure the fulfillment of the plan, is perhaps the most extreme example of this phenomenon.

Rescue Operations

Central bank rescue operations of troubled financial institutions have at times been the most visible and also the most expensive of QFAs. They can take a variety of forms—from a simple infusion of capital, to an assumption of nonperforming loans, to an after-the-fact exchange rate guarantee. A fairly common form is the purchase of all or part of the nonperforming loan portfolio of the institutions in difficulty. Operations of this sort took place in Uruguay and Chile in the early 1980s, and more recently in some eastern European countries.

Sometimes, rescue operations are the inevitable sequel of the burden governments impose on PFIs

to perform functions that properly fall to the budget. The obligation to make substandard or low-interest loans pushes a PFI to insolvency, and the government—typically via the central bank—has to step in.

A straightforward infusion of capital to a troubled financial institution by the central bank is no different in principle from a budgetary capital transfer. The treatment of the latter in the IMF's government finance statistics is to include it in government expenditure and net lending, so that parallel treatment of a transfer from the central bank would lead to an increase in the financial deficit of the NFPS.

Nonetheless, the macroeconomic impact of such transfers depends on the circumstances in which they take place. If the government has already been paying compensation for the interest not paid to a PFI on its portfolio of nonperforming loans, the transfer of capital and the write-off of the loans are simply bookkeeping operations.²⁶ Similarly, if a lender was tacitly encouraged by the government to offer an exchange rate guarantee, the infusion of capital that takes place when the exchange rate collapses occurs *after* the policy has had its effects on the economy, at least to the extent that the lender expected to be fully bailed out if pushed to the wall.

A complete understanding of the impact of a financial rescue operation thus depends on what would have happened in its absence. In the first example, the infusion simply formalizes an already existing arrangement—in effect, a subsidy is capitalized. In the second case, a decision not to offer the guarantee would certainly affect the economy. Even if the financial system as a whole were not affected by the collapse of certain institutions, there would clearly be a depressing influence on the economy as a result of their bankruptcy and the losses suffered by their depositors and creditors. That said, the extra expenditure of the bailout operation is essentially a transfer payment from the taxpayer at large to the creditors and depositors of the troubled institutions. It takes place after the informal exchange rate guarantee has had its impact on the economy.

Bank rescue operations can be likened to a form of implicit deposit insurance system.²⁷ Formal, or explicit, deposit insurance systems come in many varieties and are far more common in industrial than in developing countries (Kyei, 1995). There are two basic similarities between bank rescue operations and a deposit insurance system: both can protect de-

²⁴The treatment of the implicit tax revenue generated by reserve requirements is discussed in Appendix I.

²⁵Bruni, Penati, and Porta (1989) have discussed the role of administrative controls in sustaining demand for public sector bonds in Italy at various times.

²⁶These operations would, nonetheless, give the PFI more assurance that its operations would not be wound up in the near future.

²⁷This analogy was drawn by Talley and Mas (1990).

positors from the risk of loss; and both lessen incentives for depositors to exercise oversight over banks, and thereby increase the banks' opportunity to engage in risky lending practices. Explicit deposit insurance institutions have been seen as a basic social institution because of their potential role as sustainer of the financial system during crises. Recently, the moral hazard problem they can create has received more emphasis.²⁸

Does a deposit insurance system entail QFA? If the insurance premiums are set at an adequate level, there will presumably be no need for the government (through the central bank) to intervene. The insurance system would be self-financing, and the implicit tax or subsidy element is not obvious.

In practice, it is very difficult to know what the appropriate level for premiums should be, and very few countries base premiums on the perceived riskiness of different banks. The introduction of deposit insurance systems can also change the rate—and cost—of bank failures in an unpredictable way, making it difficult to set premiums *ex ante*. Consequently, a situation can easily arise of a deposit insurance system exhausting its reserves and being unable to meet its obligations. The quasi-fiscal element in a deposit insurance system, if there is one, results from the government's intervention when the reserves of the scheme are insufficient to compensate depositors. Explicit deposit insurance may also have a quasi-fiscal element to it to the extent that the insurance fund is subsidized by the government, or when the system is used to promote a particular class or classes of financial institution.²⁹

Sterilization Operations

As already noted, operations to sterilize capital inflows by using open market operations and other market-based monetary instruments have recently entailed sizable losses for the central banks of some countries. The role of these kinds of operations has been enhanced by an increase in international capital mobility and by the growing attractiveness of investment in emerging financial markets. Central bank losses from this source also reflect the trend to indirect rather than direct methods of monetary policy. The conduct of monetary policy through open market operations and the like can increase the explicit

costs of monetary control even as it does away with more distortive and direct methods of control.

Capital inflows must be sterilized if a government is unwilling to permit either an exchange rate appreciation or an induced and possibly inflationary increase in base money. If the exchange rate is allowed to float freely, capital inflows have no impact on the domestic monetary base, and hence there is no supply disturbance to sterilize. Similarly, if the central bank is willing to accept an endogenously determined supply of base money, then it need not sterilize.

Sterilization through such market-based means as the sale of a government or central bank security has a fiscal cost if the interest on the security sold by the central bank provides a higher rate of return than the foreign security purchased by the central bank with the foreign exchange obtained through the sale of the security. In most cases, the motivation for the capital inflow is that rates of return in the domestic currency exceed those available abroad, and thus the rate of return that must be offered in domestic currency by the central bank exceeds the rate that it can obtain abroad. Even if the central bank chooses to sell foreign-currency-denominated securities, in order to eliminate the inflationary component of the interest differential between domestic and foreign securities, the risk premium most central banks would have to pay would exceed that offered by the intervention currency's "home country" authorities. Consequently, sterilization through market-based means is usually a losing proposition.

Sterilization can be seen as altering directly market prices both in the foreign exchange market and the money market. The exchange rate will be less appreciated than otherwise, domestic interest rates will be higher, and the quantity of the monetary base will be unchanged (assuming that no exchange rate appreciation is permitted and all inflows are sterilized). The direct fiscal cost of the policy choice is clear—the difference between the interest cost paid by the central bank or treasury and the interest earned on the foreign assets acquired with the foreign exchange purchased. The indirect aspects are also worthy of note, although they are less transparent. Earners of foreign exchange obtain more local currency for their income than otherwise is the case, and spenders of foreign exchange need to pay more local currency than they would otherwise. Holders of domestic debt are rewarded with a higher interest rate than they otherwise would obtain, although they are denied the capital gain, measured in foreign currency terms, that would accrue to them were the exchange rate to appreciate. Holders of foreign assets find that they are spared the capital loss, measured in local currency terms, that would occur were the domestic currency allowed to appreciate.

²⁸See, for example, Merton and Bodie (1993) for a discussion of possible reforms of deposit insurance schemes in the United States.

²⁹The use of a deposit insurance system to promote a particular class of institution (for instance, savings banks) has been discussed by Kyei (1995).

An important aspect of a sterilization operation is that all of the transactions it involves are voluntary, and thus the key aspect of a tax—that a payment is exacted without compensation—is absent. Unlike the case with a dual exchange system, where importers and exporters have an incentive to evade the system and deal directly with each other, there is no element of coercion. There is, however, a myriad of implicit transfers of income that take place at the government-influenced constellation of relative

prices. In this respect, the activity can be seen as similar to that of a government policy to stabilize the price of a commodity through purchases and sales at market prices. The direct government cost of the policy is the cost of carrying an inventory of the commodity that is the object of intervention. The indirect aspects are again less transparent because consumers and producers of the product will, at varying times, receive implicit transfers and pay implicit taxes.

IV Implications for Policy

When quasi-fiscal activity is prevalent, the conventional measures of fiscal activity, such as the NFPS borrowing requirement or the deficit of the central government, are misleading indicators of the stance of fiscal policy and of the demands the government makes on credit availability.

Traditional Approaches

For example, if the central bank is used as a conduit for subsidies to PFIs or NFPEs, both the true budget deficit and credit to the government are understated by the budgetary accounts. In these cases, it is preferable to rely on an enlarged measure of the financial operations of the NFPS, one that is extended to incorporate the net income of the central bank and other PFIs that engage in QFA.³⁰ Central bank losses are often included in the definition of the public sector used in IMF-supported programs (see Bennett, Carkovic, and Dicks-Mireaux, 1995). Since the operations of the NFPS will be measured generally on a modified cash basis, while central banks normally would use an accruals-based measure, the amalgamation of the results for the central bank and the NFPS normally requires that adjustments be made to the central bank's income statement.³¹

³⁰The true budget deficit is *not* understated if the cost of QFA is borne by the budget, as it is if transfers from the central bank to the budget are automatically adjusted to reflect quasi-fiscal losses. Put another way, the budget deficit will not be misrepresented by the conventional measure when the central bank engages in QFA if the marginal rate of transfer of profits (and losses) is 100 percent. Typically, the marginal rate of transfer is *not* 100 percent.

³¹One of the exceptions to the cash-based measurement of the financial operations of the NFPS is interest payments, which for the NFPS are normally measured on an accrual basis. To avoid artificial increases in a central bank's cash income and to ensure consistency with the accounting of interest payments in the NFPS, the central bank's interest earnings would have to be measured on an accrual basis as well. In addition to the adjustments noted above, adjustments may also be necessary to compensate for deficiencies in the accruals-based accounting of central bank operations. That said, the accounts of the central bank are normally in better shape than those of the central government and, a fortiori, those of the NFPS. These issues are explored at greater length in Appendix I. On general issues in amalgamating central bank and fiscal deficits, see Robinson and Stella (1993).

This approach makes no attempt to distinguish between the fiscal and the financial operations of the central bank or PFIs. Instead, it assumes that QFAs will be fully reflected in the profit and loss accounts of the PFIs that engage in them. Given the difficulty of disentangling the fiscal from the monetary and financial operations of the public financial sector, this treatment of QFAs has the considerable merit of being relatively simple.

More Sophisticated Approaches

When QFAs are recognized as a problem, the calculation of an enlarged measure of the NFPS balance that incorporates the net income (or losses) of the central bank and other PFIs will provide a better measure of the true fiscal stance than the conventional measure. That said, more ambitious approaches should be considered in cases where QFAs are deemed to have a significant macroeconomic impact and are readily quantifiable.

A range of analytic options may be considered, all of which would supplement reliance on the enlarged measure of the financial balance of the public sector. Least ambitious, and most appropriate where quantification is difficult or subject to significant imprecision, would be to make a qualitative analysis of those QFAs that give rise to significant distortions in resource allocation or whose macroeconomic impact would appear significant (and for which only a rough order of magnitude can be estimated). For some of the QFAs cited above, the number of assumptions required to quantify them may simply make quantification unfeasible. Among others, unfunded or contingent liabilities may require a qualitative rather than a quantitative approach.

In other cases, the implicit taxes or subsidies entailed by QFAs may be more readily quantifiable. To make these estimates, those QFAs that can be measured relatively easily would effectively be extracted from the accounts of the central bank or other PFIs (see Box 1). The estimates could be included in an analysis of the fiscal stance—albeit shown separately—and used to calculate alternative

Box 1. Calculating the Value of Quasi-Fiscal Activities: Two Examples

1. A country has a central exchange rate of LCU 3 to the dollar. A special, appreciated exchange rate of LCU 2.5/dollar applies to exports of mineral products; the same exchange rate applies to imports of medicines and certain foodstuffs. Mineral exports in 1995 were \$1,200 million; imports at the special rate amounted to \$400 million.

The quasi-fiscal tax on exports is calculated as:

$$(3.0 - 2.5) \text{LCU}/\$ \times (\$1,200 \text{ million}) = \text{LCU } 600 \text{ million.}$$

The quasi-fiscal subsidy to imports is calculated as:

$$(3.0 - 2.5) \text{LCU}/\$ \times (\$400 \text{ million}) = \text{LCU } 200 \text{ million.}$$

The central bank was thus a net gainer from this particular QFA in 1995, to the extent of LCU 400 million. Under the procedure proposed in the text for financial programming and analytical purposes, export taxes of the central government would be increased by LCU 600 million, and commodity subsidies by LCU 200 million. Central bank credit to the government could be adjusted downward by the amount of the net tax (LCU 400). The net income of the central bank after adjustment for the QFA would be reduced by LCU 400 million, so that the combined public sector deficit would not change.

2. A central bank extends a loan at an interest rate of 10 percent a year to the agricultural development bank; the current annual rate of inflation is 15 percent; loans of comparable maturities have rates of interest ranging from 20 to 25 percent. If the outstanding balance of the loan is LCU 200 million, a reasonable estimate of the range of the annual subsidy extended to the agricultural development bank would be:

Lower bound:

$$(20 - 10)/100 \times (\text{LCU } 200 \text{ million}) = \text{LCU } 20 \text{ million.}$$

Upper bound:

$$(25 - 10)/100 \times (\text{LCU } 200 \text{ million}) = \text{LCU } 30 \text{ million.}$$

The degree of uncertainty surrounding the size of the subsidy may make it inappropriate to enter an estimate in the accounts of the central government even for programming or analytical purposes. Nonetheless, this information could enter the standard presentation of the public finances as a memorandum item. When the estimate has a lower variance, however, it could be entered as a subsidy in the accounts of the central government and financed by additional credit from the central bank. The central bank's net income would be correspondingly adjusted.

measures of the fiscal contribution to monetary expansion.³² This analysis would highlight the impact of QFAs and the dangers they pose to macroeconomic policy. The quantification of QFA in common currency areas poses other problems (see Box 2).

Where feasible, the most desirable option would be to classify such QFAs as any other conventional NFPS operation. This treatment would then allow them to be incorporated on a gross basis—that is, quasi-fiscal taxes with budgetary revenue and quasi-fiscal subsidies with expenditure—in the conventional presentation of public sector operations; a corresponding adjustment of the estimated net income of the affected PFIs would be made.

The adoption of these alternative approaches would simply mean that QFAs, instead of being buried in the accounts of the central bank and other PFIs, would, to the maximum extent possible, be brought out into the open and included as part of the analysis of fiscal policy. This procedure would not require a change in established procedures for statistical compilation, since the proposed estimates of quasi-fiscal taxes and subsidies would be used only for analytical and financial programming purposes.

³²This approach changes the distribution of the financial balance of the overall public sector between the NFPS and the public financial sector, although not its total.

Proposals to consolidate central bank budgets with the government's budget have been opposed by some on the grounds that consolidation would pre-commit monetary policy to an unacceptable degree; that it would circumscribe the central bank's flexibility to act as provider of liquidity and lender of last resort. Even if this view is accepted, there is little reason not to isolate those central bank activities that are obviously fiscal in character. Thus, the central bank could produce a budget that would differentiate between items for which a specific expenditure allocation is made, and those for which the outcome is neither predetermined nor publicly predicted.³³

Structural Reform

Beyond the exercise of accurately measuring and illuminating the scope and magnitude of QFAs, the

³³As an example, a budget consisting of those items for which specific allocations will be made could be constructed, including the central bank's own operating expenditures as well as expenditures for subsidized lending and any other QFAs. Separate projections could be made for monetary operations, which would not need to be published. Nonetheless, it would be expected that the results of such operations would be reflected in the transfer of central bank profits or budgetary provision for losses.

Box 2. The Treatment of Quasi-Fiscal Activity in a Common Currency Area

The issue arises whether the proposed treatment of QFA might pose problems for a common currency area such as the CFA franc zone of West and Central Africa, or the East Caribbean Currency Union (ECCU). In the CFA franc zone, monetary policy is largely conducted on a regional basis, with the national central banks in the two regions acting essentially as agents for the two regional central banks. In such a setting, it is not obvious how to allocate the cost of any QFA across governments.

However, a rule for the division of the losses from QFA has to be worked out if the procedures advocated in this paper for incorporation of QFA in the budget can be applied. If QFA can be quantified and has not already been reflected in reduced transfers from the central bank, one criterion consistent with that used in the paper would be to divide its cost among the member countries according to their stipulated share in the profits (that is, their share of the capital) of the regional bank. Consequently, any transfer made by the central bank to a member country would, for analytical purposes, be reduced by the amount of the prorated loss incurred from QFA.

issue then remains whether such activities should be more *formally* recognized as fiscal activities (thus reducing their impact on the net income and balance sheets of PFIs). One possibility would be for governments to include QFAs explicitly in the budget, to execute them through the normal budgetary channels, and to subject them to the same scrutiny as other budgetary operations. A second and less radical alternative would be to require the budget to make explicit compensation to PFIs for the losses entailed by any QFAs they are obliged to perform. The latter approach has been used by Ghana and Bolivia in recent IMF-supported programs, but for particular QFAs.

The first of these alternatives, if it could be implemented, would make QFAs more transparent and would subject them to greater scrutiny than would the second. Both alternatives, however, have drawbacks. First, some types of QFAs would normally *have* to remain within the accounts of the central bank, simply because they would defy efforts to estimate them. As a consequence, it will not generally be possible to apply either of the two approaches—at least not in a thoroughgoing way.

Second, and more fundamental, neither approach deals with the problem of QFAs with distortive effects on the allocation of resources. For example, converting an MER system into a set of explicit

taxes on trade, or converting a complex scheme of differentiated reserve requirements into budgetary taxes, only makes the practices more transparent. Their distortive effects on production and consumption decisions remain, although their presence in the budget may make it more likely that the political will to eliminate them can be mustered.³⁴

The ultimate solution to the truly harmful quasi-fiscal practices will often lie in measures outside the budgetary realm. With reference to the two examples just given, the solution to the distortive effects of an MER system that on balance is a net tax on the economy may be the adoption of a unified exchange rate system and a broadening of the base of a relatively neutral levy such as the value-added tax. A permanent solution to distortive QFAs in PFIs will require basic reform of the banking system, rather than the inclusion in the budget of any subsidies or taxes to compensate for those losses or gains resulting from such quasi-fiscal instruments as selective credit controls and reserve requirements.

The importance of structural reform may be especially great for economies in transition, where the financial system has long been expected, as a matter of course, to bail out loss-making establishments. In such conditions, it is particularly difficult to draw a line between the functions of the NFPS and PFIs. Here, reform has to extend beyond even the financial system, so that the systemic pressure on banks to facilitate the violation of the hard budget constraint is eliminated at its source. Indeed, QFAs in the setting of a formerly centrally planned economy are, in a sense, only a symptom of a far greater problem: the lack of incentives in the public enterprise sector for financial discipline.

The measures taken by Uruguay in mid-1992 in its IMF-supported adjustment program illustrate how these various approaches can be combined to address the problem of QFAs. To deal with the short-run macroeconomic and financial consequences of QFAs, the central bank's net losses, the losses of banks that had received assistance from it, and the losses of the state-owned mortgage bank were included in the measure of the overall public sector deficit. At the same time, the authorities made a commitment to privatize the commercial banks that remained in the public sector and to transfer part of the central bank's external debt to the treasury. Clearly, the solution to the problems posed by quasi-fiscal measures requires both a modification of traditional definitions of public sector activity and structural reforms.

³⁴The implicit taxes and subsidies entailed by QFAs are not necessarily undesirable—as taxes and subsidies. The subsidy created by an appreciated exchange rate could conceivably play a role in a social safety net, for example.

Appendix I Measurement and Accounting Issues

Various problems that arise in defining QFA, and in measuring the quasi-fiscal component of the operations of central banks and other PFIs, were briefly discussed in the text, as were the difficulties that can arise in consolidating the financial operations of central banks with those of the NFPS. This appendix will address these issues at greater length.

Definitional Issues

A good starting point for the discussion is a modified version of the narrow definition of QFA set out in Section II: an operation or measure carried out by a central bank or other PFI with an effect that can, in principle, be duplicated by budgetary measures in the form of an explicit tax, subsidy, or direct expenditure and that has or may have an impact on the financial operations of the central bank or other PFIs.

This definition merits a number of observations:

- It excludes certain activities that in some countries have entailed large losses for the central bank. One topical and important example is the losses that have been incurred by policies to sterilize capital inflows; another is the impact on a central bank's income statement generated by a restrictive open market operation.³⁵ There is a sense in which these losses—or any central bank loss—are fiscal, inasmuch as they ultimately have to be covered by the government. Although they do not have to entail a tax or subsidy element, they are commonly referred to as QFAs.
- Consistent application of the definition may require that certain activities normally considered monetary in character be recognized as having a fiscal element. For example, most central banks impose a reserve requirement, and many of these do not pay a market-related rate of interest on their re-

serves. If a reserve requirement results in banks holding a greater share of their assets in reserves than they would in the absence of that requirement, it imposes a tax, as discussed in Section II.³⁶ Yet this practice may be seen by some as an integral part of monetary policy.

- The definition would also exclude some government regulations and other acts of public policy that have little or nothing to do with either the budget or monetary policy but that can have effects akin to those of taxes and subsidies. For example, a regulation restricting the use of property can inflict a capital loss on the owner, and in this respect it is similar to a tax on wealth. The definition excludes these practices from the ambit of QFA, because they do not directly affect the financial operations of PFIs.³⁷

• It would not include tax expenditures, which are already covered by the budget and in principle are subject to budgetary scrutiny. This exclusion does not mean that a government should not be concerned about the fiscal cost of special deductions from taxable income and the like. These are clearly important, but they are rather different from the quasi-fiscal activity pursued by PFIs. Similarly, the definition excludes the estimated cost of loan guarantee programs created by the government and other programs entailing contingent liabilities. As the paper stresses, these operations are potentially very costly, whether conducted by the government or by a PFI. See Towe (1993) for further discussion.

- The definition would exclude the inflation tax, in view of the following considerations:
 - The inflation tax is not really an “operation” or a measure, but the end result of a particular

³⁵The central bank's income declines when it engages in open market operations selling bonds because it exchanges interest-bearing assets (bonds) for non-interest-bearing liabilities (money).

³⁶It can be argued that to the extent that a depository institution has access to central bank borrowing at more favorable terms than it could obtain from the market, the institution receives a subsidy that compensates it in some measure for the reserve requirement.

³⁷Regulations can, in principle, have macroeconomic consequences that public policy should take into account; a significant wealth effect, for example, could depress consumption.

combination of monetary and fiscal policies. The term “tax” is, consequently, somewhat misleading.

- The replacement of an explicit tax on money balances by the inflation tax entails a wholesale change in the macroeconomic environment (that is, an increase in the rate of inflation). Replacing an export tax by an MER practice has, by contrast, no such effect.
- The rate of the inflation tax will not typically equal any given rate of an explicit tax on money balances.

Another implication of the definition is that its strict application would exclude certain types of operations that entail the creation of taxes and subsidies through the financial system when these have no direct impact on the net income of the central bank or other PFIs. As discussed in Section II, the central bank may establish regulations setting maximum lending rates and deposit rates for commercial banks, both privately and publicly owned. Artificially low deposit rates are like a tax on savers, and low interest rates are a subsidy to borrowers. Yet the net income of PFIs may be entirely unaffected by the regulations (that is, if there are no publicly owned commercial banks). These kinds of regulations bear a certain resemblance to employer-mandated benefit plans. Nonetheless, these operations *do* affect the financial operations of the government, as previously discussed, because they artificially lower the cost of borrowing.

Since the spirit of these regulations is the same as preferential interest rates and other QFAs, and since they impose a tax that ultimately benefits the government, the definition could be expanded to include them. The modified definition would be as follows: an operation or measure carried out by a central bank or other PFI with an effect that can, in principle, be duplicated by budgetary measures in the form of an explicit tax, subsidy, or direct expenditure and that has or may have an impact on the financial operations of the central bank, other PFIs, or government.

In practice, QFA is defined even more broadly, since it can refer to any operation that has a significant impact on the net income of a PFI. That said, there is some merit to distinguishing between such practices as MERs or subsidized interest rates, which clearly entail taxes and subsidies, and practices such as open market operations, which have fiscal implications but cannot be so obviously duplicated by explicitly budgetary operations. The paper has relied on a definition of QFAs broad enough to encompass these kinds of operations, while paying special attention to those operations of a more obviously fiscal character.

Problems Resulting from the Use of Cash Versus Accrual Accounting

Most Fund member countries measure the financial operations of the NFPS or central government on what might be called a modified cash basis—taxes and other revenues are recorded as collected, and expenditures when they are paid, with interest recorded when due, and sometimes with an adjustment for changes in arrears. Financial institutions, and central banks in particular, will typically use accruals-based accounting. To take a few examples: interest on loans is recorded when it is due, not when it is paid; provisions for doubtful loans, loss write-offs, or loss reserves will be made that have no counterpart in a cash transaction; depreciation of physical assets is recorded as an expense; expenditure on capital assets is recorded in the capital account and does not affect the net income position. For all these reasons, it cannot be assumed that the cash transfer made by the central bank to the budget in a given period will equal its cash income for that period, measured in the same way as the operations of the NFPS, even if it transfers 100 percent of its accrued income to the central government.

To derive the enlarged public sector balance described earlier—to amalgamate central bank or other PFI income (losses) with the balance of the NFPS in a consistent way—requires that some fairly major adjustments be made. However, since the operations of the NFPS or the central government are not measured entirely on a cash basis, neither should the operations of the PFIs. For example, if interest paid to the central bank by the central government is measured on an accrual basis the bank’s receipts should be measured in the same way to avoid inconsistency. There is also a potential problem with a cash-based measure of central bank income: it has happened that borrowers in arrears on their interest obligations to public sector banks have obtained fresh loans to pay off their arrears. This kind of operation can be used to reduce artificially the overall public sector deficit. To avoid this kind of manipulation, appropriate bank supervisory regulations prohibiting such recapitalization of interest should be put in place.

The accounting treatment of net lending by the central bank for policy purposes deserves particular attention. Such operations, if conducted through the budget, are recorded as above-the-line transactions in the framework of the IMF’s government finance statistics (International Monetary Fund, 1986). Hence, they increase the deficit. Typically, they would not be treated this way in the accounts of the central bank.

Particular Problems Resulting from Foreign Exchange Transactions and MER Systems

This section begins with a brief discussion of accounting procedures for spot foreign exchange transactions without the added complication of the quasi-fiscal taxes and subsidies entailed by MERs.³⁸ It then takes up the special problems posed by MERs.

In its role as custodian of a country's foreign exchange reserves, a central bank is constantly accruing or realizing losses or gains in its foreign exchange transactions. Considering first losses or gains that are not realized—those that result from a change in the value of the stock of foreign exchange—the standard treatment, whatever the precise rule used to value foreign exchange, is to make a counterpart entry in the revaluation account. If central banks make a daily valuation of their reserves based on the average daily rate, then the revaluation account is also changed on a daily basis. These accrued gains or losses, however, are not reflected in the central bank's income and loss statement.³⁹ This treatment of accrued losses or gains is consistent with the standard presentation of the financial operations of the NFPS. The same conclusion holds true when valuations are less frequent, provided that a counterpart entry is made in the revaluation account.

This use of the revaluation account makes no distinction between nominal and real gains and losses. Thus, for example, the central bank's foreign exchange reserves can actually increase or decrease in real terms without there being any effect on the income and loss statement. Such accrued losses or gains, however, do affect the strength of a country's reserve position and cannot be entirely ignored.

In general, recommended accounting practice calls for only realized gains on foreign exchange transactions to be brought to the profit and loss account. A number of central banks (perhaps most prominently the U.S. Federal Reserve System), however, include both realized and unrealized gains and losses in the profit and loss statement; that is, they include the valuation change on the stock of net foreign assets (NFA). In such cases it is clear that, in order to ensure consistency with government accounts, the central bank operating result would need to be adjusted before amalgamating it with NFPS operations.

Given the way realized gains are frequently measured, their inclusion could be problematic. To take a concrete example, suppose a central bank had acquired its target level of foreign exchange reserves at an average rate of LCU 1 per U.S. dollar, and that the exchange rate had subsequently been devalued to LCU 2 per dollar. At the time of the devaluation, a revaluation gain of LCU 1 million for each \$1 million of reserves would have been recorded. Without any sales of foreign exchange, this gain would not have affected the profit and loss account.

If the bank now sells \$1 million at LCU 2 per U.S. dollar, the monetary base and NFA each decline by LCU 2 million. If it subsequently repurchases the foreign exchange with monetary base at the same rate—LCU 2 per dollar—the earlier transaction is reversed. In determining profits and losses for the year, however, the bank's accountant would debit the revaluation account by the amount of profit deemed to be realized from the sale of foreign exchange. If the foreign exchange sold was valued at LCU 1 per dollar, the sale is recorded as generating a profit of LCU 1 million, which is added to the profit and loss account and subtracted from the revaluation account.

The economic justification for distinguishing this as realized "profit" is rather dubious, however. In the example given, the balance sheet would have been identical had the central bank undertaken no intervention (presuming the final exchange rate was unaffected by the intervention). The only difference would be that in the latter case the accountant would not have debited the revaluation account and added the amount to the profit and loss statement, since no transactions had taken place.

An analogy could be made with the use of first in, first out (FIFO) accounting by any enterprise with inventories in an inflationary period. Historic cost pricing means that accounting profits are artificially overstated; the cost to the enterprise of replacing its inventories has risen, and once it has replaced them it is in the same position as before with the exception that the value of its inventory has risen. The profit is "locked up" in the inventory, however, and the enterprise does not realize this gain unless it reduces its stock of inventory. The same is true of the central bank. If it maintains an unchanged target for NFA, it will not effectively realize a gain on its foreign exchange holdings despite gross sales and purchases in the market.

We now consider the valuation and classification problems posed by MERs. Two cases should be distinguished: when the central bank's NFA do not change, and when they do. As a simple example, take a three-rate MER system in which the officially designated central rate is LCU 2 per dollar, with a special appreciated rate of LCU 1 per dollar apply-

³⁸The issues this section discusses are also addressed by Leone (1994).

³⁹The preferred accounting treatment requires that if the balance of the revaluation account becomes negative (if accumulated losses exceed accumulated gains), the loss should be charged against the profit and loss account.

Table 2. Impact of an MER System on the Central Bank's Balance Sheet: With No Change in Reserves

A. Foreign Exchange Transactions and Their Monetary Impact				
	Exchange Rates (LCUs per dollar)			At All Rates
	1	2	3	
Net sales (net purchases –) (in millions of dollars)	–1,000	—	1,000	—
Monetary impact (in millions of LCUs)	1,000	—	–3,000	–2,000
B. Impact on the Central Bank's Balance Sheet (in millions of LCUs)				
Monetary impact	–2,000			
Change in NFA	—			
Change OIN (central bank profits)	2,000			

Note: LCUs, local currency units; NFA, net foreign assets; OIN, other items net.

ing to certain exports, and a depreciated rate of LCU 3 per dollar applying to certain imports.

In the first case, where net sales at the central rate are zero, the sale of \$1,000 million to importers at the special rate and the purchase of \$1,000 million from exporters at their special rate entail no change in NFA, a reduction in the monetary base (or negative monetary impact) of LCU 2,000 million, and an increase in OIN (other items net) of LCU 2,000 million, reflecting the central bank's profits from the operation (Table 2). These calculations are not affected by the choice of the central rate, even if that choice is to some extent arbitrary, because there is no change in NFA.

What would be affected by the choice of the central rate, however, is the classification of the quasi-taxes or subsidies entailed by the MER system. If, in the example just presented, the officially designated central exchange rate applies to most transactions, then this may not be an issue. However, the structure of a multiple rate system might be such that there were at least two plausible candidates for the central rate. In this case, any measure of the tax or subsidy equivalent of special exchange rates will inevitably be arbitrary.

When the level of international reserves changes, the choice of the central exchange rate does matter for the calculation of central bank income. To return to the earlier example, now augmented by a fourth exchange rate of LCU 2.5 to the dollar, let us suppose that net sales of foreign exchange at the rates of LCU 2 and LCU 2.5 are zero, but that sales of for-

eign exchange to importers at the rate of LCU 3 to the dollar are now \$500 million, not \$1,000 million.

The monetary base is reduced by LCU 500 million, but the measured impact on OIN clearly varies depending on which exchange rate is used to value the change in reserves (Table 3). This result is a simple illustration of the inventory valuation problem, but it does illustrate how different accounting conventions will affect the measure of central bank income.

The conventional approach to the valuation of reserve gains and losses—the use of the rate at which most *official* transactions take place—becomes even more problematic when none of the official exchange rates is close to the free-market rate. In such a case, the use of *any* official exchange rate for valuation purposes can be quite misleading. To take an extreme example, suppose that the free-market rate in the example above is LCU 10 to the dollar. If this rate, rather than an official rate, is used to value the reserve gain, the calculated impact on central bank income is substantially different. Even when there is no change in NFA, the use of official exchange rates in such a situation to measure the relative size of the implicit taxes and subsidies created by the exchange system will be seriously misleading.

Reserve Requirements

Section III discussed the role of reserve requirements as quasi-fiscal taxes. When banks are obliged

Table 3. Impact of an MER System on the Central Bank's Balance Sheet: With Change in Reserves

A. Foreign Exchange Transactions and Their Monetary Impact					
	Exchange Rates (LCUs per dollar)				At
	1	2	2.5	3	All Rates
Net sales (net purchases –) (in millions of dollars)	–1,000	—	—	500	–500
Monetary impact (in millions of LCUs)	1,000	—	—	–1,500	–500
B. Impact on the Central Bank's Balance Sheet (in millions of LCUs)					
	With Exchange Rate of LCU 2 = \$1		With Exchange Rate of LCU 2.5 = \$1		
Monetary impact	–500		–500		
Change in NFA	1,000		1,250		
Change in OIN (central bank profits)	1,500		1,750		

Note: OIN, other items net.

to hold reserves and are paid a lower rate of interest than they would earn on an alternative and equally attractive investment, they are in effect being subject to a tax. If banks' reserves are lent to the government, and if this lending is a substitute for sales of government securities to the private sector, then the government is in effect given an interest subsidy that equals the difference between the rate of interest on government bonds (ib) and the rate of interest paid to banks on their reserves (ir) times the stock of reserves (R). The amount of the subsidy (S) is thus given by

$$S = (ib - ir)R.$$

If reserves are a certain fraction (k) of deposits (D), the subsidy may be re-expressed as:

$$S = (ib - ir)(kD).$$

This subsidy can affect the financial operations of the government in one or a combination of two ways. If the central bank does not charge interest on its loans to the government, its net income is reduced by the imposition of—or increase in—a reserve requirement, since it may pay interest on the bank reserves. This means that transfers of central bank profits to the government will be lower than otherwise.⁴⁰ However, this negative impact on the gov-

ernment's accounts will be more than offset by lower explicit interest payments by the government, since ib exceeds ir . Although government borrowing is subsidized, the explicit rate of interest on government securities is not reduced; instead, the amount of borrowing by this means is reduced.

If the central bank does charge a market rate of interest on its loans to the government, the government's interest expenditures will not be affected. The central bank's net income will be affected, however, and the increase in its transfer to the government will reduce the budget deficit. Despite the fact that interest expenditure is not affected, the imposition of a reserve requirement where reserves are compensated at a rate below the market effectively lowers the government's cost of borrowing.

The reserves tax does not have to be used to subsidize lending to the government; it can be used to finance any expenditure. Nonetheless, the use of artificially high reserve requirements to channel credit to the government is certainly not uncommon.

The quasi-fiscal tax on reserves can be made transparent by including it—for analytical purposes at least—in government tax revenue, which will then increase by the value S . If the central bank has not been charging the government interest on the loans that are financed by the increase in reserves, this should be offset by an increase in interest payments of the same amount. When the central bank has been charging interest, the increase in tax revenue should be offset by a decline in central bank

⁴⁰This will be the case if the marginal rate of transfer of central bank profits is positive.

income—if a marginal rate of transfer of central bank profits of 100 percent is assumed, then the government's property income is reduced by the amount of the tax.

This discussion has focused on how the tax entailed by reserve requirements is determined, and on the way it shows up in the public sector's financial accounts. The incidence of the tax is another matter. To the extent that reserve requirements lower deposit rates, for example, then depositors bear part of the cost; higher lending rates mean that borrowers pay part of it as well. These issues have been discussed at some length in Molho (1992).

Contingent Liabilities

The problems posed for the contingent liabilities entailed by a central bank's quasi-fiscal operations are essentially the same as those posed by similar operations of the central government. Both central banks and central governments can guarantee loans, for example. In both cases the size of the operations can be very large, but it will have no impact on a cash-based measure of the financial operations of the government until money is actually paid out for a loss. The inadequacies of a cash measure of the public sector's operations, when contingent liabilities are important, have been the subject of some commentary (see Towe, 1993, for example). At a minimum, cash-based measures of the deficit should be supplemented with a measure of the outstanding value of contingent liabilities.

Substantial valuation problems may arise with contingent liabilities; these problems are not unique to the operations of central banks and other financial public institutions. To take the case of loan guarantees, should one seek data on the total stock of loans that are guaranteed or just that part of the stock that is deemed to be at risk of nonperforming? Often the information that would permit the calculation of the expected value of realized losses entailed by a contingent liability program may not be available.⁴¹

Towe (1993) has described one method for calculating the capitalized subsidy element created by a loan guarantee. This is the present value of the reduction in interest payments that results from the guarantee and is given by the following formula, where L is the loan principal, i^w is the interest rate that would have been obtained without the guarantee, and i^g is the guaranteed rate:

$$S = \sum_{t=1}^n \frac{(i^w - i^g) L}{(1 + i^w)^t} = \frac{(i^w - i^g) L \left[1 - \frac{1}{(1 + i^w)^n} \right]}{i^w}.$$

Inflation Adjustment

The adjustment of the conventional measure of the financial balance of the NFPS to take account of the impact of inflation on the real value of net public debt is a controversial issue.⁴² Nevertheless, inflation-adjusted deficits can play a useful complementary analytical role to traditional indicators of the fiscal stance. The basic rationale for the adjustment is that the inflationary component of the government's interest expenditure is really a form of amortization. It compensates the holders of public sector debt for the decline in the real value of their assets; therefore it should not be classified as a current expense of the government or as income in the hands of the recipient.⁴³

The income statements of central banks are also affected by inflation, and the issue arises whether the conventional results need to be adjusted for inflation. This section briefly discusses some of the consequences of using the standard inflation adjustment, with the aid of this highly simplified central bank balance sheet:

Assets	Liabilities
Net foreign assets (NFA)	Monetary base (MB)
Net credit to government (DCG)	
Net credit to private sector (DCP)	Net worth (NW)

It is assumed, for simplicity, that the bank has no operating costs and no physical assets. Also for simplicity, net worth includes the valuation adjustment for changes in the nominal value of foreign exchange; hence, it reflects not only nominal increases in the bank's net credit position, other things being equal, but also increases in the nominal (local currency) value of foreign exchange.⁴⁴

If the real rate of interest, r , on domestic and foreign assets is the same, the real exchange rate is constant, and no interest is paid on the monetary base (MB) then nominal profits can be expressed as

⁴²Interesting discussions of this subject can be found in Teijeiro (1989) and Fry (1993).

⁴³On the general issue of the impact of inflation on the fiscal deficit, see Tanzi, Blejer, and Teijeiro (1993).

⁴⁴Conventional accounting would place nominal revaluation gains in a revaluation account. This is, in effect, an inflation adjustment for foreign assets. Here the adjustment applies to the whole of the bank's operations, and it is therefore acceptable to include nominal revaluation gains in the rest of the bank's nominal income.

⁴¹The valuation of the cost of a loan guarantee was discussed by Fries (1992). The issue of the treatment of loan guarantees and other contingent liabilities in the budgetary accounts was also discussed in U.S. Congress (1990).

$$NFA(r + pw + d) + (DCP + DCG)(r + pd),$$

where r is the real rate of interest, d is the rate of depreciation of the local currency, and pw and pd are the international and domestic inflation rates.⁴⁵ This can be reexpressed as

$$NFA(r + pd) + (DCP + DCG)(r + pd).$$

Adjusted for inflation in the usual way, central bank income would then become

$$NFA(r + pd) + (DCP + DCG)(r + pd) - pdNW$$

or

$$r(NFA + DCP + DCG) + pdMB.$$

But this would include a measure of the inflation tax, $pdMB$, in the real income of the central bank. Thus, if the “real” component of the central bank’s income were transferred to the government, revenue from the inflation tax would be counted above the

line. This suggests that the standard approach to adjusting deficits for inflation is not appropriate in the case of the central bank. Eliminating the inflation tax term from the preceding equation would simply leave:

$$r(NFA + DCP + DCG).$$

If, for the sake of argument, it is assumed that the central bank were paying the market rate of interest on the entire monetary base, then the conventional adjustment would result in the following statement of real income:

$$r(NFA + DCP + DCG - MB).$$

In this case, however, the central bank would be compensating holders of the MB by paying a market-related rate of interest on its liabilities. The central bank is—by assumption—not exploiting its monopoly over money creation, and it is earning simply the market-related return on its net worth (the expression in parentheses equals NW). In this case, the conventional adjustment would be appropriate.

⁴⁵A constant real exchange rate requires that $pw + d = pd$.

Appendix II Varieties of Country Experience

This appendix describes a variety of QFAs that have been practiced in IMF member countries. Its intent is to give a flavor of the many forms that such practices can take; the countries whose experience is cited here are not the only ones where such practices may be found. The experience of quasi-fiscal practices in IMF member countries is very rich, and an exhaustive treatment would require many pages.

MER Practices

An example of the subsidy entailed by a preferential exchange rate can be drawn from the experience of *Costa Rica*, where the central bank, during the period 1979–82, sold foreign exchange at lower rates in domestic currency than those at which the foreign exchange had been purchased. These subsidies were mainly for imports of certain medicines, medical equipment, and petroleum products, and for public external debt service. In 1981, the subsidies amounted to 4½ percent of GDP (United Nations, 1991a).

A second subsidy arrangement in *Costa Rica* involved a broader set of beneficiaries. In 1981, during a foreign exchange crisis, a large backlog of requests for foreign exchange accumulated at the central bank. Unable to satisfy the demand, the central bank compensated importers who purchased foreign exchange in the parallel market by issuing foreign-exchange-denominated bonds paying the six-month London interbank offered rate (LIBOR) and equivalent to the difference between the official exchange rate and the rate importers had to pay in the parallel market.⁴⁶ The face value of these bonds issued amounted to 12.7 percent of GDP and accrued an annual interest cost of 2 percent of GDP (United Nations, 1991a).

A good example of a simultaneous implicit tax and subsidy scheme operated through the foreign exchange market is provided by *Egypt*, where, before the exchange system reforms of 1991, a separate foreign exchange pool was established for certain transactions. Implicit taxes were imposed on exports of petroleum and cotton and Suez Canal dues. Foreign exchange was provided at a *subsidized* rate for certain foodstuffs and external public sector debt-service payments. Net foreign exchange purchases by the central bank at the more appreciated rate—and, consequently, net profits or losses obtained from the operation of the system—varied over time, reflecting, among other influences, movements in international oil prices and the impact of arrears, rescheduling, and forgiveness on actual payments of external public debt service.

In *Venezuela*, in the period from 1983 up to the adoption of a unified freely floating exchange rate system in March 1989, the most important quasi-fiscal operation of the central bank related to the operation of an MER system. In December 1986, the central bank rate applying to most imports was Bs 14.5 per U.S. dollar, compared with a free market rate of about Bs 22 per dollar. Imports of foodstuffs and certain other items were permitted a rate of Bs 7.5 per dollar, and certain debt-service payments were transacted at Bs 4.3 per dollar. Petroleum export receipts, which accounted for approximately 90 percent of *Venezuela's* foreign currency earnings, were converted at Bs 7.5 dollar until mid-1987, when the rate was changed to Bs 14.5 per dollar.

The net outcome of the system was to generate profits for the central bank until the devaluation of the rate applied to oil exports, whereupon the balance shifted to a deficit. The resulting decline in profitability of the central bank was exactly offset by the increased profitability of the state oil company, so that the combined balance of the central bank and the NFPS was not affected by the change to the exchange rate. The recourse to the overvalued rate for petroleum transactions did, however, obscure the important role played by the state oil company in the generation of public sector revenues.

⁴⁶For the purposes of the subsidy, a maximum of C 15 per U.S. dollar was set on the parallel market rate deemed to have been paid by importers without access to foreign exchange at the official rate, which was C 8.60 per U.S. dollar.

A further example of the way in which the lack of transparency that results from the implicit taxes and subsidies of an MER regime can extend beyond the impact on the central bank's accounts is furnished by the experience of *Uganda* in 1987–88. The official rate of U Sh 60 per U.S. dollar was in sharp contrast to the parallel market rate of U Sh 200–400 per dollar. The Coffee Marketing Board was surrendering its foreign exchange earnings at the official rate to the Bank of Uganda, which was selling, in part, to parastatal enterprises at approximately the same rate.

Because the revenue from the coffee export tax was determined by the difference between the average export price expressed in local currency at the official rate and the price paid to farmers plus processing, transportation, and marketing margins—which were also subject to strong inflationary pressures—budgetary revenue from the coffee export tax was declining sharply. Certain parastatals, however, including the state-owned breweries and the tobacco companies, were allocated foreign exchange at the official rate, which artificially reduced their costs, allowing the government to impose excise taxes at high rates on tobacco and liquor.

Casual observation of the official statistics showed a decline in coffee revenue and a quite spectacular increase in excise collections. Had these transactions been valued at a more appropriate shadow exchange rate, they would have revealed the continued crucial role of coffee taxation and the overstatement by the conventional revenue measure of the role of excise taxation on beer and cigarettes.

Exchange Rate Guarantees and Assumption of Exchange Rate Risk

The experience of *Chile* in the debt crisis that began in 1982 provides examples of quasi-fiscal operations involving the exchange system, including recourse to both subsidized exchange rates and exchange guarantees. Following the devaluation in June of 1982, the central bank undertook to provide foreign exchange at a subsidized rate to private sector entities with large external debt obligations. IMF staff estimates suggest that the cost of this operation averaged about 2 percent of GDP a year during 1983–85.

As part of a second policy initiative that began in 1983, the central bank offered foreign exchange guarantees to help obtain scarce foreign exchange reserves. The central bank purchased foreign exchange and entered into a commitment to resell it at the same real exchange rate (that is, the initial rate adjusted for domestic inflation minus foreign inflation) after one year. An interest premium was also

paid on these “swaps.” Its costs were estimated at about 0.5 percent of GDP a year during 1984–86.

As part of a third operation related to the scheme to restructure private debt, the central bank assumed certain external liabilities of the private sector. Again, as the result of a substantial real currency devaluation, the central bank incurred losses averaging 1 percent of GDP in 1983–84.

In the former *Yugoslavia*, the primary factors behind the sizable quasi-fiscal deficit of the National Bank of Yugoslavia (NBY) in the late 1980s were the exchange rate guarantee extended for foreign currency deposits and the policy of maintaining persistently negative real interest rates. The exchange rate guarantee worked as a redeposit scheme. Banks redeposited their foreign currency with the NBY. In return, they could obtain a dinar credit from the NBY up to the value of the redeposited foreign currency at the current exchange rate. The valuation losses accrued to the NBY and were realized upon withdrawal of the foreign exchange by the banks. The rules of withdrawal, however, were not always clear and were often changed. Although the banks soon discovered that it was profitable for them to withdraw deposits, and then to redeposit them again, the central bank sought to prevent this from occurring.⁴⁷

At first, banks were not paid interest on their deposits, nor did they pay interest on the loans from the NBY. Banks profited because they paid international interest rates on the deposits but were able to lend out the domestic currency counterpart of these deposits at much higher nominal rates in the domestic market. Because of exchange rate devaluations, however, their liabilities grew more rapidly than their credits, and the interest costs of servicing the stock of foreign currency deposits increased correspondingly. In response to this, the NBY consented to pay an interest rate on the foreign currency deposits that was equivalent to international market levels; in turn, it charged the discount rate on the dinar credits. In the meantime, however, these dinar credits became only a fraction of the amount of foreign currency deposits. Under these revised arrangements, the operations continued to be very profitable to the banks. The arrangements were canceled in October 1988, so that net increases in the stock of redeposits after that date no longer benefited from the guarantee. The consolidated banking system—the NBY and commercial banks taken together—realized huge losses as a result of its foreign-exchange-

⁴⁷By withdrawing and redepositing, the banks were able to increase the value of their interest-bearing assets while continuing to benefit from the difference between the interest rates on their domestic-currency-denominated assets and the rates on their foreign-currency-denominated liabilities.

denominated liabilities. The counterpart of these losses was subsidized credits to the state corporate sector.

Subsidized Lending

In *Turkey*, the agricultural bank used to extend credits to the agricultural sector at subsidized rates, financing them in part through rediscounts from the central bank, as well as deposits from other public sector entities, on which it paid below-market rates. This practice ended in April 1994. In the former *Yugoslavia*, the NBY refinanced commercial bank credits to agriculture at subsidized rates.

In *Argentina* before 1990, the central bank borrowed from private banks and typically on-lent these resources to official banks at both the national and provincial levels at subsidized interest rates. These institutions in turn financed the budgets of the provincial governments, as well as the operations of certain loss-making public enterprises. The National Mortgage Bank, relying on central bank financing, granted subsidized credits that became largely non-performing assets. In *Uruguay*, the Bank of the Republic of Uruguay has extended a significant amount of subsidized credit, and the mortgage bank has acted similarly to finance housing and construction activity.⁴⁸

In *Bangladesh* during the 1980s, state-owned commercial banks were directed to grant sizable quantities of credit to preferred sectors, most prominently agriculture, often at interest rates below their cost of funds. The directed nature of credit reduced the banks' autonomy and undermined incentives for proper credit evaluation. Consequently, subsequent loan recovery from priority sectors was poor, and asset quality suffered. Even though the banks became insolvent de facto, lax accounting and supervision permitted them to continue to show profits on their books and to pay taxes and dividends to the government. In light of the revenue implications, the government tended to turn a blind eye to these practices, which effectively entailed financing transfers to the government out of new deposit growth.

In China and India, countries with a legacy of central planning, the public banking systems are heavily involved in directed lending. In *China*, "policy loans" are broadly defined as loans for long-gestation, low-return, high-risk projects considered essential for national economic development (generally at preferential interest rates and according to priorities determined by the central government).

⁴⁸The experience of Uruguay is discussed further in Appendix III.

Such loans were in the past provided by specialized banks, but in 1994 this responsibility was transferred to specially created policy banks, paving the way for the gradual commercialization of the specialized banks.

The three policy banks that were created—the Agricultural Development Bank, the State Development Bank, and the Export-Import Bank—have been granted different mandates. For the Agricultural Development Bank, policy lending will entail loans for building grain reserves, poverty alleviation, agricultural development, small-scale farming, animal husbandry, water conservation, and technical innovation. The State Development Bank is expected to finance infrastructure and the "pillar" industries. The Export-Import Bank will provide finance for imports as well as buyers' and suppliers' credits for exports of capital goods (such as ships, aircraft, communications satellites, and production facilities).

Selective Reserve Requirements and Credit Ceilings

In *Egypt*, under the system in effect before the end of 1990, all commercial banks were required to hold 30 percent of specified foreign- and domestic-currency-denominated liabilities in the form of liquid assets, the most important of which were government bonds. This tended to create a captive market for government securities, which were sold at negative real interest rates. In *Kenya*, commercial banks and nonbank financial institutions are required to maintain a minimum liquid assets ratio; liquid assets are defined as notes and coins, balances held at the central bank, balances with other domestic commercial banks and banks outside Kenya, and treasury bills. Until December 1995, at least 50 percent of liquid assets had to be in treasury bills.⁴⁹ Instances of similar practices in other countries could readily be given. Typically, they lower the costs of public debt service at the expense of the financial institutions—or their customers—on whom the minimum ratios are imposed.

India provides an example of the use of selective credit ceilings. The Reserve Bank of India requires banks (the major commercial banks are government owned) to allocate 40 percent of total credit to prior-

⁴⁹The Central Bank of Kenya has also designated certain other instruments as constituting part of a bank's liquid assets. The minimum assets ratio for commercial banks and other nonbank financial institutions is currently fixed at 25 percent, except in the case of mortgage finance companies, where the ratio is set at 20 percent. The requirement regarding treasury bill holdings was eliminated for nonbank financial institutions at the end of 1995, and that for commercial banks in early 1996.

ity sectors such as agriculture, small-scale farmers, and small borrowers, with subtargets for each. For example, credit to small farmers should not fall below 9 percent of the total. Interest rates on loans to priority sectors are set by the Reserve Bank and entail a subsidy element.

In *Greece*, although the state-owned banks are run on a commercial basis, at times some of them have been pressed to extend credit to nonviable or loss-making firms, a practice that was reflected in a deterioration of the banks' loan portfolios as well as their profitability.

Rescue Operations

In *Chile*, in December 1981, the central bank intervened in four banks and four finance houses that were in liquidation and granted emergency credit amounting to approximately 8½ percent of GDP to these institutions. During the following four years, the central bank continued to grant emergency credits to commercial banks and also purchased a portion of their nonperforming loans. This latter operation was in the form of a repurchase agreement wherein the banks were committed to repurchase the loans out of future profits. The central bank purchased 60 percent of the nonperforming loans with securities that paid a real rate of return of 7 percent and matured in four years, while the commercial banks were given an indefinite period during which they would repurchase the loans, to which a real interest cost of 5 percent a year was applied. The flows related to these operations amounted to 3.2 percent of GDP in 1982 and 12.5 percent of GDP in 1983 but, by 1987, had turned negative as repurchases exceeded loans (United Nations, 1991b).

The Central Bank of Chile also financed a debt rescheduling between domestic banks and domestic debtors. Commercial banks were granted subsidized credits to finance an exchange by their debtors of short-term liabilities at market interest rates for long-term debt at subsidized rates. This had the effect of improving the quality of the commercial bank loan portfolio, given the enhanced likelihood that the debtors would be able to service the subsidized debt. The program was most active in the period 1984–85, with average annual reschedulings of 4 percentage points of GDP.

In 1990, state banks in *Brazil* were experiencing serious financial difficulty because they were unable

to roll over the debts of their state treasuries. In their efforts to deal with this difficulty, the state banks raised overdrafts on their legal reserves, obtained large rediscount loans from the central bank, and sold certificates of deposit at rates well above those offered by private banks. In early 1991, the central bank and the governments of the four largest states reached an agreement for the temporary financing of these banks' debt through a swap of central bank securities for state securities amounting to approximately 2 percent of GDP.

In *Uruguay*, the collapse of the system of preannounced devaluations in late 1982 prompted a financial crisis, which resulted in the deterioration of a substantial portion of the banking system's loan portfolio. In response, the central bank instituted several programs, of which the most important involved the central bank's purchasing the nonperforming loan portfolios of commercial banks with its own foreign-currency-denominated bonds and promissory notes paying market-related interest rates. Because the central bank issued liabilities amounting to approximately \$965 million and received in exchange largely nonperforming assets, a large part of its quasi-fiscal losses are accounted for by this operation. In the *Philippines*, a rescue operation of troubled financial institutions by the central bank in the mid-1980s also entailed the acquisition of nonperforming assets and contributed to substantial quasi-fiscal losses.

In *Greece*, where there exists no deposit insurance scheme and the central bank's statutes do not explicitly provide for a lender-of-last-resort function, an illustrative case of central bank intervention occurred. In 1988 the Bank of Crete, the ninth-largest commercial bank, faced a severe crisis owing to mismanagement and fraud. The management of the bank was removed and replaced by a Bank of Greece commissioner. The bank was provided liquidity through overdrafts at the Bank of Greece and by blocking deposits that public enterprises had maintained at the bank. The overdrafts were subsequently converted into a loan with a concessional rate of interest. The capital of the bank was extinguished, and Dr 10 billion (about 0.1 percent of GDP) of the public enterprises' deposits were converted into preferred nonvoting shares, while the remaining deposits were converted into a five-year loan with an interest-free grace period. The directed use of public enterprise deposits (quite similar to the directed use of central bank rediscount facilities) is by no means unique to Greece.

Appendix III Five Country Case Studies

Uruguay

The history of QFA in the central bank and certain other PFIs since the early 1970s⁵⁰ can be divided roughly into three periods: the first, which ended with the foreign exchange crisis of late 1982; the following decade; and the period since 1992.

The most important QFA in the years just preceding the foreign exchange crisis was the support the central bank was required to extend to the mortgage bank to finance its lending program for low-cost housing. In 1982, the quasi-fiscal losses on this single operation exceeded 7 percent of GDP. Another source of losses was the preferential rates on loans for nontraditional exports and meat packing charged by the Bank of the Republic. These loans were rediscounted at preferential rates by the central bank—which thus absorbed the loss—until late 1976.

The collapse of the system of preannounced devaluations (the *tablita*) in November 1982 resulted in a substantial unexpected depreciation of the peso and led to a financial crisis that severely damaged the quality of the loan portfolios of the commercial banks. Many of their customers had borrowed heavily in U.S. dollars and suffered a substantial loss as a result of the abandonment of the *tablita* and the general worsening of financial conditions.

In response to the crisis, the central bank introduced a portfolio purchase scheme to acquire the nonperforming loans of the foreign-owned banks. Medium-term financing for this scheme was provided by the parent banking companies. In 1983, some local banks were included in the scheme; the weakest of them were subsequently taken over by foreign banks under an arrangement worked out with the central bank. As part of the arrangement, the central bank acquired the weakest part of these banks' loan portfolios—on which it would earn no interest—in exchange for foreign-currency-denominated bonds and promissory notes.

The losses from these quasi-fiscal operations accounted for a large part of the losses of the central

bank until 1992, when the government assumed most of this debt (Table 4). Local currency expenditures on operations, remuneration of reserve requirements, and open market operations, as well as other foreign currency outlays—interest on foreign debt and on foreign currency deposits—also contributed to the quasi-fiscal deficit and have become its principal component in recent years.

Until recently, the Bank of the Republic and the mortgage bank made losses because of a weak loan portfolio resulting from past operations. These banks' losses were not compensated by the central bank or the budget. New loans no longer contain a subsidy element, and the subsidy element on outstanding loans is being reduced to the extent possible. The authorities continue to improve the administration and operation of both the Bank of the Republic and the mortgage bank.

The four local banks that were the object of central bank intervention were officially taken over by the public sector in the mid-1980s. Two were merged, and one of the three remaining was privatized; their losses were partially covered by transfers from the budget. The remaining two commercial banks have now been recapitalized, and one was privatized in March 1994. The last is expected to be privatized in 1996. As noted above, in 1992 the government assumed most of the debt incurred by the central bank as a result of the portfolio purchase scheme.

The losses of the central bank began a quite steep decline in the early 1990s as a result of these operations, the decline in the stock of external debt entailed by the 1991 Brady operation, the lower level of international interest rates, and the decline in the stock of central bank bills. In mid-1993, the replacement of the central bank's own bills (whose outstanding stock in June 1993 was \$110 million) by treasury bills for the conduct of open market operations caused a further decline.

Jamaica

The Bank of Jamaica experienced large losses since the mid-1980s, averaging 5.3 percent of GDP

⁵⁰See Pérez-Campañero and Leone (1991) for further discussion.

Table 4. Uruguay: Operating Losses of the Public Financial Sector¹

(In percent of GDP)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Operating losses of the financial public sector (–)	...	...	...	–4.3	–4.5	–2.9	–2.0	–1.0	–0.7	–0.6
Central Bank	–3.9	–2.8	–3.1	–3.4	–3.6	–2.3	–1.6	–0.8	–0.6	–0.6
Interest on foreign-currency-denominated debt	–2.9	–1.7	–1.7	–1.4	–1.3	–1.6	–0.9	–0.7	–0.6	–0.6
Interest on bills for monetary regulation	–0.9	–0.8	–0.9	–1.1	–1.4	–0.4	–0.3	–0.1	—	—
Mortgage bank	...	...	...	–0.4	–0.6	–0.5	–0.3	–0.1	–0.1	—
Intervened banks	...	...	...	–0.5	–0.3	–0.2	–0.1	—	—	—

Sources: Central Bank of Uruguay; and IMF staff estimates.

¹Excludes the Bank of the Republic.

in 1985/86–1992/93 (Table 5). Foreign exchange operations were the major source of losses in the mid-1980s, but their relative importance has since declined. Subsequently, but before the recent reforms, the interest paid on certificates of deposits (CDs) issued by the central bank for the purposes of monetary control became the major contributor to the central bank's losses.

The origin of the central bank's losses on foreign exchange operations lies in the combined effects of a heavily negative NFA position and the role of various forms of exchange guarantees, which contributed to the central bank's large net foreign liabilities. The exchange rate guarantees or subsidies have taken different forms, such as trading losses under the dual exchange rate regime in the mid-1980s, auction losses, external debt operations on behalf of public enterprises, deposits associated with foreign assistance for development projects, contingency guarantees under an International Finance Corporation loan, and outright exchange rate guarantees. The central bank's large net foreign exposure meant that the sharp devaluation that took place in the mid-1980s caused the bank's interest expenditures to substantially exceed its interest income, resulting in large net losses.

The relative importance of foreign exchange operations has declined since the mid-1980s. Beginning in November 1985, the central bank started issuing its own CDs for the conduct of open market operations, since it had no portfolio of interest-bearing government securities that it could use for this purpose. The interest cost of the CDs rose from 1 percent of GDP in 1986/87 to 2.6 percent of GDP in 1992/93. The incremental effect on the income statement of the issue of CDs by the central bank would have been no different from the effect of a

conventional open market operation, but because the bank's balance sheet was weak to begin with, the losses began to mount.⁵¹ Reflecting these developments, the nonearning assets of the central bank—which include non-interest-bearing government securities it has received to cover losses—have risen substantially.

Since 1992, the Jamaican authorities have taken a number of actions to put the central bank's finances on a sounder footing. Losses from the issue of CDs by the Bank have now been eliminated, because all CDs have been retired. The central bank has also stopped providing financing for the external debt service of the rest of the public sector and making exchange rate guarantees. These policies have essentially eliminated the central bank's losses. The government does, however, cover any losses that may occur in a given fiscal year by transferring early in the following year marketable securities in the amount of the losses. In a reflection of these policies, the central bank achieved a small profit in 1995/96. The government is also considering recapitalizing the central bank to offset the non-interest-bearing government securities on its books.

The case of Jamaica is in some respects a good example of the difficulties involved in separating the quasi-fiscal element of a central bank's operations from the financial and monetary element. A large share of the losses entailed by the depreciation of the Jamaican dollar are undoubtedly quasi-fiscal in na-

⁵¹The conventional open market operation would have exchanged an interest-bearing asset for a non-interest-bearing liability (reserves at the central bank), while the issue of CDs results in a replacement of a non-interest-bearing liability by an interest-bearing one.

Table 5. Jamaica: Operating Balance of the Bank of Jamaica

(In percent of GDP)

	Fiscal Years Ended March 31										
	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96
Operating balance (loss -)	-6.9	-5.7	-5.1	-5.4	-4.9	-4.3	-5.2	-5.2	-2.0	-2.3	0.7
Expenditure	9.0	6.7	6.4	6.2	6.6	5.6	6.0	6.5	3.2	5.3	3.0
Foreign interest	5.6	3.8	3.0	2.0	1.6	1.7	2.1	1.8	1.4	0.8	0.6
Exchange subsidies	1.0	...	...	...	...	...	...	...	...	...	...
Certificates of deposit (CDs)	...	1.0	1.0	1.8	2.2	1.8	1.6	2.6	0.9	1.5	—
Revenue	2.1	1.0	1.0	0.8	1.6	1.3	0.7	1.3	1.2	3.0	3.7

Sources: Bank of Jamaica; and IMF staff estimates.

ture, however, and the use of CDs by the Bank artificially reduced the cost of public debt service.

Ghana

The major source of quasi-fiscal losses of the Bank of Ghana dates from the period before the implementation of the economic recovery program in 1983. Until then, the central bank had assumed the foreign exchange risk on certain foreign loans incurred by some government-owned development banks and some state enterprises. As the debt-service obligations on these loans became due, the central bank recorded the losses stemming from its guarantee in its revaluation account (given the sizable depreciation of the Ghanaian cedi that had taken place in the meantime, the cost of foreign exchange to the entities who had benefited from the guarantee was much less than the current exchange rate). Despite the discontinuation in 1983 of the subsidization of foreign exchange risk, the realized losses stemming from this practice have been substantial in recent years.

Although the central bank has at times engaged in certain other QFAs, these are believed not to have had a significant effect on its balance sheet. Since 1983, its financing of the operations of the central government and the Cocoa Board (a major state enterprise) has been provided at market-related terms, with the yields on government paper and cocoa bills having been determined since late 1987 at weekly auctions. The central bank also engages in a very modest amount of subsidized lending to its own employees. The government's sizable demand deposits with the central bank have traditionally earned no interest.

Only one small government-owned financial institution, the Cooperative Bank, has been given a loan

by the Bank of Ghana on concessional terms (at a rate lower than the normal rediscounting rate). This loan was needed to ensure that the Cooperative Bank, which has been financially troubled, could meet the minimum reserve requirements. The Cooperative Bank has now been restructured.

Since February 1987, all transactions in foreign exchange by the central bank have been conducted at a unified exchange rate, determined at its weekly auction. MERs were briefly maintained during the periods April–October 1983 and September 1986–February 1987. Since April 1990, the official auction market and the foreign exchange bureau market (legalized parallel foreign exchange market) have been unified in the context of an interbank foreign exchange market.

The central bank made net profits in its profit and loss account in the mid-to-late 1980s, and a sizable portion of these profits were passed on to the government (Table 6). However, the derivation of the profit and loss account did not take into account the changes in the revaluation account of the central bank that reflected the losses from the exchange guarantees extended before 1983. In the audited accounts of the central bank, however, the accumulated revaluation losses were shown as a claim on the government, and the government acknowledged this liability to the external auditors of the central bank.

To resolve once and for all the problems created by the foreign exchange guarantees, the accumulated revaluation losses as of end-September 1990 (Q311.8 billion or the equivalent of 16.4 percent of GDP) were replaced in late 1990 with long-term government bonds, offering a yield currently set at 4 percent. The takeover of the revaluation account was designed to restore solvency to the accounts of the central bank and to strengthen its income position, so as to help ensure that in its liquidity management operations the central bank would not be

Table 6. Ghana: Quasi-Fiscal Operations of the Bank of Ghana

(In percent of GDP)

	Fiscal Years Ended June						June-Dec. 1990	Fiscal Year Ending Dec.	
	1985	1986	1987	1988	1989	1990		1991	1992
Net profits on the profits and loss account of the Bank of Ghana	0.6	0.3	0.4	0.3	—	0.8	0.1	—	—
Transferred to the Government	0.3	0.2	0.1	—	—	0.6	—	—	—
Change in the revaluation account ¹	...	...	...	3.7	4.8	2.9	0.9	0.7	2.3

Source: Data provided by the Bank of Ghana.

¹Revaluation losses outstanding as of end-September 1990, amounting to C311,769.5 million, were taken over by the government in December 1990.

unduly influenced by considerations about its own profitability.

Poland

Before the transition to a market economy, there were no clear lines of demarcation between the budget and the financial sector in Poland. This made it difficult to untangle purely fiscal operations executed through the budget from quasi-fiscal operations undertaken elsewhere in the financial system. The government sector included a number of extra-budgetary funds (or "special purpose" funds) and some specialized financial institutions. As an example, the Foreign Debt Service Fund was established in 1986 to disburse subsidies to a specialized bank, which was created to be the government's intermediary in foreign borrowing by state enterprises. Determining the true obligor of such foreign debt was thus quite complicated.

The operations of the National Bank of Poland (NBP)—formally autonomous from the Ministry of Finance but factually an operating agent for the ministry—were closely linked to the economic plan. The NBP operated as a "monobank" in the sense that it had a monopoly of both central and commercial banking functions. It was responsible for formulating an annual credit plan and regulating interest rates. In addition, there were a number of specialized state-owned banks. Financial institutions were required to transfer 80 percent of "profits" to the budget (Table 7).

As a part of the structural reform measures that marked the transition to a market economy, a new law on the NBP and a new banking law came into force at the beginning of February 1989. A central feature of these two laws was the devolution of most of the commercial banking functions of the NBP to

nine state-owned commercial banks. At the same time, the main financial subsidy operations were incorporated in the budget.

Promulgation of these laws significantly reduced the scope of QFAs. The NBP has scaled back quasi-fiscal operations in three areas discussed below; quasi-fiscal operations in other PFIs have remained negligible. However, the recapitalization operations undertaken in 1990–94, to deal with the nonperforming assets in the portfolio of the banking system can be seen as a form of partial compensation to the banks for lending to public sector enterprises on preferential terms.

The exchange system during 1989 was basically a dual regime, with both an official rate and an inter-bank auction of zlotys for convertible currencies. These auctions are estimated to have resulted in profits of around 1 percent of GDP in 1989, which were transferred to the state budget. Since the 1990 exchange reform, all banking system transactions take place at the official rate. The elimination of this profitable quasi-fiscal operation on the income statements of financial institutions was offset by the reforms discussed above.

The refinance rate of the NBP had a differentiated structure until end-1989. This was replaced with a unified refinance rate in 1990; this rate has since been adjusted periodically to keep it positive in real terms. In 1990, interest rate subsidies, mainly for housing and agriculture, were moved to the budget; the use of preferential interest rates for other lending operations was substantially scaled back. Directed and preferential credit programs for housing, certain public sector investment projects, and agricultural procurement remain in place. The interest rate on most of these activities is linked to the NBP refinance rate; to the extent that the interest rate falls short of the refinance rate, these operations entail a subsidy that is covered directly by the budget. The

Table 7. Poland: Transfer of Profits by PFIs to the State Budget
(In percent of GDP)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Transfer of profits by financial institutions to the state budget ¹	...	...	...	3.0	3.6	1.8	1.7	1.6	1.6	...
National Bank of Poland	1.3	1.0	1.2	...	1.7	0.8	0.7	0.9	1.1	1.0
Enterprise income tax from banks	...	...	...	...	1.9	1.0	1.0	0.7	0.5	...

Sources: Data provided by the Polish authorities; and IMF staff estimates.

¹After 1988, this figure includes payments of enterprise income tax by the banks, as well as transfers from the NBP. A breakdown is not available for 1989. The 1989 figure also includes revenues from foreign currency auctions.

stock of outstanding directed credit is estimated to have declined from about 7 percent of GDP at end-1992 to about 4 percent at end-1994.

No *guarantees* are provided by the NBP to cover exchange rate or interest rate losses. There is a guarantee on deposits up to the equivalent of about ECU 3,000 in the commercial banking system through a deposit insurance scheme that was mostly financed by transfers from the NBP and the finance ministry.

Efforts to deal with the problem of bad loans experienced by the commercial banks have entailed a series of recapitalization operations. Two such operations took place in the early stages of reform to clean out nonperforming assets acquired in the period before reform. In 1990, foreign liabilities of specialized financial institutions were explicitly accepted as a government liability. In 1991, the government issued treasury bonds to compensate the banking system for foreign currency losses during the pre-reform period; the interest on these bonds was incorporated into the budget.

Notwithstanding these operations, nonperforming assets continued to accumulate, mainly in the form of bank loans to domestic loss-making state enterprises. Consequently, additional recapitalization operations took place in 1993 and 1994. Unlike similar operations in many other countries, these did not entail a swap of government paper for nonperforming loans. Instead, banks received government bonds in an amount determined by an earlier audit of their financial condition, and the banks were left to collect what they could of the money owed them by the state enterprise sector.⁵²

The interest actually paid on these bonds is incorporated in the budget, although 10 percentage points of the 15 percent interest rate on the bonds is capital-

ized. Since the operation is included in the budget, it is not quasi-fiscal in nature; nor is it evident that the earlier recapitalization operations were quasi-fiscal operations. However, recapitalization could be said to be compensating the commercial banks, which were publicly owned, for loans made to keep key public enterprises afloat. To the extent that these loans—as distinct from the recapitalization bonds—had a subsidy element, they entailed a quasi-fiscal operation by the banks.

An additional QFA was introduced with the passage of the banking law in April 1992. The law stipulated that the NBP should remunerate banks for the reserves they are required to hold with the NBP. However, it also stipulated that the income thus generated should be used for agricultural restructuring through the establishment of a Fund for Farm Restructuring and Debt Relief. The fund received an amount equal to 0.1 percent of GDP in 1994.

Romania

The Romanian experience with quasi-fiscal operations illustrates some of the difficulties that reform in this area must confront. Despite some initial successes in reducing the scope and importance of QFAs, pressures to perpetuate them remain strong.

Before 1990, the financial system in Romania was subordinated to the requirements of the system of centralized planning, with the flows of funds through the banking system designed to accommodate the requirement of enterprises implementing the targets of the physical plan. There were five state banks, four of which fulfilled specialized functions (in the areas of foreign trade, agriculture, and household lending), but in effect the banking system operated as a monobank system.

Reform of the banking system commenced in December 1990, with the transfer of commercial bank-

⁵²This operation came in conjunction with a World Bank enterprise and financial sector adjustment loan.

ing operations of the National Bank of Romania (NBR) to the newly established Romanian Commercial Bank. A legislative framework for a market-based two-tier banking system was put in place in April 1991, with the passage of a banking law and a central bank law. Further institutional reforms, culminating in the transfer of the management of foreign exchange reserves and the foreign exchange system to the NBR, occurred in November 1991. A number of new private and joint venture banks have been established since the legal reforms of 1991, but the five large state banks continue to play a dominant role in the banking system.

The reforms instituted in 1991 provided the basis for the development of a market-based banking system in which credit is allocated on the basis of commercial criteria. However, there have been recurrent pressures on both the NBR and the state-owned banks to revert to their traditional role of supplying credit to state enterprises that need funds to meet their production and employment goals. Accommodation of these pressures has resulted in a series of quasi-fiscal operations by both the NBR and the state-owned banks and has also led the NBR, until late 1993, to favor an accommodative monetary policy and low administered interest rates. This policy stance was reflected in market interest rates that were strongly negative in real terms, thereby generating an effective transfer of income from holders of financial assets to borrowers that provided at least temporary support to ailing enterprises.

Quasi-fiscal operations of the NBR have included the use of refinancing credits to finance the clearance of state enterprises' payments arrears, subsidized credit programs, the operation of a de facto dual exchange rate system, and the use of NBR profits to finance selected extrabudgetary expenditures. The NBR does not extend guarantees on domestic or foreign loans; such guarantees are provided by the Ministry of Finance.

At end-1991, the NBR implemented a *comprehensive bailout* for enterprises with payments arrears, extending to banks low interest credits for onlending to enterprises, to allow them to clear their arrears to other enterprises. While successful in generating a one-off clearance of arrears, the program resulted in a 62 percent increase in aggregate domestic credit during the month of December 1991 and validated state sector managers' belief that budget constraints could be violated without penalty. A more modest credit scheme to allow selected enterprises to clear payments arrears again was introduced in the first months of 1993. Since 1993, the government has avoided further arrears-clearance arrangements, although there was considerable pressure for such an operation in late 1994. In late 1995 a debt-conciliation process involving multilateral negotiations be-

tween a large group of enterprises, banks, and the Ministry of Finance was initiated. This was intended to demonstrate that the days of government bailouts were over and to reinforce the message that creditors would also suffer from unpaid debts.

Subsidized credits were introduced by the NBR in August 1992, following a period in which monetary policy had been temporarily tightened. These credits carried an annual interest rate of 13 percent, compared with the NBR reference rate of 80 percent, and were for onlending primarily to agriculture. By early 1993, some 90 percent of NBR credits were extended at subsidized interest rates.⁵³ Nearly all credit lines with interest rates less than the NBR reference rate had been phased out by end-1993. However, a large part of NBR refinancing is channeled to agriculture. The ratio reached some 70 percent of all NBR refinancing credits by end-1994, but it declined to 64 percent by end-1995. The NBR charges the reference rate on the loans, but a subsidy from the budget provides for 60 percent of the cost of interest payments.

The *exchange rate system* was formally unified in November 1991, but the mechanics of price determination in the fixing session (November 1991–May 1992) and the foreign exchange auction that replaced it failed to clear the market. This led to the emergence of a "gray market" in which foreign exchange sold at a premium that varied over time from 5 percent to 30 percent. The mechanisms used to ration the supply of foreign exchange made available by the banking system at the official rate were not transparent, but importers of "strategic" products (oil, foodstuffs) appeared to have received priority treatment and hence a de facto subsidy in the allocation process.

The reform of the exchange rate system in April 1994 effectively unified the system for a time. However, a significant spread between the official and bureau rates emerged in late 1994 and again in late 1995 and early 1996.

The use of *central bank profits* has been another area in which the NBR has undertaken what are essentially budgetary operations. Until 1995, the central bank law required that the NBR pay profits tax (averaging 45 percent) to the state budget on its reported profits, but allowed the NBR board discretion as to how it allocated the after-tax profit. Uses to which these funds have been put include a variety of public expenditure programs. Through mid-1993, these parafiscal activities were conducted outside the budgetary framework; in 1994, some of these operations were included as line items in the budget,

⁵³Interest forgone through subsidization of credits was close to 1 percent of GDP during the 12 months from August 1992.

albeit financed from extrabudgetary revenues (the NBR). The scope for such activity has been substantially reduced by the new profit tax law, which was enacted at the beginning of 1995. It stipulates that 80 percent of the NBR profits are to be transferred to the state budget.

The state-owned banks are mandated to operate along commercial lines, subject to the formal control of the State Ownership Fund, which in turn is charged with the task of privatizing all state-owned commercial companies by 1998.⁵⁴ In practice, managers of state-owned banks are subject to pressures to allocate credit on the basis of noncommercial considerations. The impact of such pressures on credit allocation is difficult to quantify, but it is clear that the large credit needs of selected state enterprises, such as the state agricultural processing and distribution enterprises (Romcereal), have received priority treatment from the state banks. Large quasi-fiscal deficits in the state enterprise and

agriculture sectors persist, with the result that a significant share of the state-owned banks' portfolio is accounted for by credits to enterprises that are potentially unviable.

Banks have appeared reluctant to initiate workout proceedings with large problem clients because the State Ownership Fund, which owns both the clients and the banks, has proceeded slowly with the restructuring of financially troubled state enterprises. Taken together, these factors have contributed to an allocation of credit that is probably quite different from what would prevail in a market-driven banking system.

The government has made a commitment, supported by a World Bank financial and enterprise sector adjustment loan, to accelerate the privatization or liquidation of state enterprises, and to strengthen and privatize the state-owned banks. Measures to strengthen the banks include limiting the access of problematic state enterprises to bank credit, strengthening the NBR's bank supervision capabilities, and reducing adverse selection by requiring collateral for NBR refinancing. These measures should also help to alleviate distortions in credit allocation.

⁵⁴State enterprises not destined for eventual privatization were converted into public enterprises (*régies autonomes*) that report directly to line ministries.

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