

IMF Working Paper

© 1997 International Monetary Fund

MASTER FILES
ROOM C-525

0441

This is a *Working Paper* and the author(s) would welcome any comments on the present text. Citations should refer to a *Working Paper of the International Monetary Fund*. The views expressed are those of the author(s) and do not necessarily represent those of the Fund.

WP/97/52

INTERNATIONAL MONETARY FUND

Fiscal Affairs Department

Fiscal Aspects of Bank Restructuring

Prepared by James A. Daniel¹

Authorized for distribution by Jeffrey M. Davis

April 1997

Abstract

Governments frequently assist troubled banks. This paper examines the fiscal aspects of such assistance: rationale, design criteria, methods, and macroeconomic implications. It concludes that (1) banks should be assisted only when there is a clear systemic risk; (2) assistance should be tied to a comprehensive restructuring program, minimize fiscal cost, be equitable and transparent, prevent recurrence, and facilitate a sound macroeconomic environment; (3) debt-based assistance will worsen public sector debt sustainability and will probably increase aggregate demand; and (4) assistance may require a substantial fiscal response (especially given the possible need for a looser monetary stance), which should feed iteratively into the choice of restructuring strategy.

JEL Classification Numbers: E62, G28

Keywords: Fiscal, Banks, Expenditure, Rescues, Restructuring

Author's E-Mail Address: jdaniel@imf.org

¹This paper is part of a project (and forthcoming IMF book) on *Systemic Bank Restructuring and Macroeconomic Policy*, supervised by J. Davis, C. Lindgren, and W. Alexander. I thank all those involved, especially J. Davis, Peter S. Heller and M. Saal, for comments and suggestions. S. Bertin-Levecq, G. Anulova, I. Lienert, M. Mered, A. Ramos, B. Weder, and A. Wolfe provided country studies and L. Papi advice and references. I am entirely responsible for any remaining errors and omissions.

Contents

Summary	4
I. Introduction	5
II. Rationale and Design Criteria for Resolution Strategies	5
A. Rationale for Government Intervention in Resolving Banking Problems	5
B. Design Criteria for Bank Assistance Strategies	7
Minimize Cost	7
Ensure an Equitable Distribution of Costs	8
Prevent Recurrence	11
Facilitate a Sound Macroeconomic Environment	12
Ensure Transparency	12
III. Methods of Resolving Banking System Problems	13
A. Direct Methods	13
Recapitalization	13
Short- and Medium-Term Loans	17
B. Indirect Methods	19
IV. Bank Assistance and the Fiscal Stance	19
A. Fiscal Impact	20
Debt Sustainability	20
Aggregate Demand Impact	20
B. Fiscal Response	23
Debt Sustainability	23
Aggregate Demand and the Need for a Comprehensive Macroeconomic Framework	25
Fiscal/Monetary Policy Mix and Coordination	28
V. Conclusions	28
Text Tables	
1. Major Methods of Government Assistance in Resolving Banking Problems	14
2. Modalities of Debt Recapitalization Instruments	16
Text Boxes	
1. Mauritania: Fiscal Response to, and Recording of, Bank Restructuring Operations	18
2. Hungary: Alternative Fiscal Responses to Recapitalization	27

Figures

1.	Some Alternative Fiscal Responses to Recapitalization	26
----	--	----

Appendix

1.	Primary Balance Improvement Required to Maintain Debt Sustainability	30
----	---	----

	References	31
--	-------------------	----

SUMMARY

Governments often financially assist troubled banks. This paper examines the fiscal aspects of such assistance. The economic rationale for government intervention in bank problems is based on the externalities of bank failure, which relate to the myriad links between banks and the economy and their role in the payments systems. But these externalities cannot be assumed to exist, nor do they necessarily justify government intervention. Government intervention in the banking sector is especially complicated given banks' unique attributes—highlighting the importance of the design of bank assistance operations.

The principal objective of any bank assistance operation should be to ensure an open, competitive, and stable banking structure. Although achieving this requires tailoring assistance operations to individual circumstances, certain general guidelines can be delineated. Bank assistance operations should minimize fiscal cost; prevent recurrence; ensure an equitable distribution of costs; facilitate a sound macroeconomic environment; and be transparent.

Governments have used numerous methods to assist banks. Direct methods involve either recapitalization or liquidity support. Recapitalization can be achieved by improving the capital account directly, by issuing public debt to banks, and by assuming a bank's liabilities. Short-term liquidity support, especially from the central bank, is a common form of assistance, especially when the problems first occur. Indirect methods, such as placing government deposits at troubled banks, have also been used.

Debt-based bank assistance operations are likely to have a significant macroeconomic impact and require a substantial fiscal response. The sustainability of public debt will worsen following such assistance. Aggregate demand will also tend to be boosted through the impact on interest spreads, actual or perceived private wealth expectations of recurrent assistance, and the money supply. There is also likely to be a need to tighten fiscal policy as both the attainability and desirability of tightening monetary policy is reduced.

I. INTRODUCTION

Banks play a central role in market economies. By promoting and channeling savings among competing uses, and facilitating payments among agents, banks affect both the composition and level of economic activity. This central role makes the economy particularly vulnerable to developments in the banking system. Thus, concerns about the possible negative externalities of large bank failures have led to substantial and widespread government involvement in resolving banking problems.²

How governments intervene financially in resolving bank problems has implications not only for banks directly but also for the macro economy, the fiscal stance and the equity and efficiency of public policy. The fiscal aspects of resolution strategies for bank problems have been addressed in many different ways by the large number of countries that have faced banking problems. The principal goal of this paper is to analyze these fiscal issues and to put forward recommendations to assist in resolving them.

Whether governments should intervene financially in banking problems, and how any such intervention should be evaluated, is assessed in Section II. A description of the different fiscal instruments that countries have used to resolve bank problems is presented in Section III. The implications of assisting banks for the fiscal stance, from the perspectives of debt sustainability and aggregate demand, are analyzed in Section IV. Section V concludes.

II. RATIONALE AND DESIGN CRITERIA FOR RESOLUTION STRATEGIES

When banks experience severe difficulties, governments often intervene to assist them. This intervention may take the form of changes in banking sector regulations or may involve financial assistance from fiscal, or quasi-fiscal, institutions. This section summarizes the arguments for financial intervention and puts forwards some broad criteria for designing and assessing these operations.

A. Rationale for Government Financial Intervention in Resolving Banking Problems

Governments intervene in bank problems because they fear the effects of letting them fail. While some of the effects may have purely political consequences, the economic rationale for bank rescues is based on the externalities associated with bank failure. These externalities relate to banks' links to the economy (the "domino" effect) and their role in the payments system.

²Since 1980, at least two-thirds of Fund member countries have experienced significant banking sector problems, usually involving government financial assistance in their resolution.

Unlike enterprise failures that usually only involve a handful of related agents, large banks typically have many thousands of depositors, creditors (including other banks) and borrowers which would all be affected. By not repaying creditors and by calling in loans, shock waves could be sent cascading throughout the economy destroying many solvent firms and sound banks. If one bank fails, or is expected to, creditors may remove money from other, sound, banks as they may be unable to distinguish between solvent and insolvent banks. Without liquidity support, such a run would lead banks to attempt "fire sales" of their assets and call in loans. Also, because banks are repositories of information capital (for example, knowledge about individual borrowers), bank failure may significantly disrupt the flow of credit to particular borrowers. These developments may culminate in a credit crunch and a collapse of economic activity.

The second major externality of bank failure is the potential disruption to the payments system—if this system fails, economic activity would be severely affected. Much of the risk derives from the "netting" basis of large scale bank clearance systems used in most countries. If one bank were to fail to pay its settlement commitments to another bank, it may in turn be unable to settle its debts, which may lead to the system collapsing. The sums involved are huge; payments systems as a whole in major industrial countries turn over the equivalent of their annual GDP every few days.

These scenarios could, however, be too pessimistic. Sound banks may benefit from bank failures; provided they are perceived as sound, depositors would tend to redeposit their money in these banks (as happened in Argentina in 1995). Such banks could also buy assets of weak banks, which may result in a stronger banking system. Further, the failure of one insolvent bank is less likely to lead to liquidity crises for solvent banks as modern financial markets, in industrialized countries especially, can provide substantial resources to overcome short-term liquidity problems. The scenario of a payments system collapse is also unlikely, as central banks usually guarantee (either implicitly or explicitly) payments in the case of default. A number of countries, especially industrialized, use a real-time gross settlements system which reduces cascading if a bank fails.

Establishing the existence of externalities relating to bank failure is only a necessary, not sufficient, condition for government intervention. Just as the dangers of market failure can be overstated, so too can the skills of government. *It has to be shown that the effects of such intervention would be better than not intervening.* In this regard, government financial intervention in the banking system is especially complicated by the unique attributes of banks—the scope for fraud, their high leverage and the speed at which losses can be made. Further, the act of intervening itself can produce incentives for banks to alter their behavior in such a way that intervention is more likely in the future (the "moral hazard" effect). This lends special importance to the careful design of bank resolution strategies and the role of government financial intervention within this overall strategy.

B. Design Criteria for Bank Assistance Strategies

The most important criterion in designing bank assistance strategies is achieving an open, competitive, and stable financial structure. Bank assistance strategies can fail for a number of reasons, many of which are preventable, including: failure to alter bank behavior; an inefficient public enterprise sector; inappropriate macroeconomic policies; underestimation of losses; and insufficient incorporation of market principles. Assistance strategies should thus be tailored to the specific causes of the banking problems and may well involve reforms that go beyond the banking sector. However, certain general criteria to guide governments in designing bank assistance strategies can be delineated.

Minimize Cost

All other things being equal, governments should choose the bank assistance strategy option that entails the lowest fiscal cost. The least costly method is usually to liquidate the bank without protecting depositors or other creditors (as in the case of the Bank of Credit and Commerce International in 1991). By imposing costs on the insolvent bank's stakeholders (depositors, creditors, shareholders, managers, and staff), liquidation also enhances the incentive structure facing participants in the banking system as poor performance is penalized and lenders/investors will be encouraged to be more selective and demanding (see below). This option, however, may be difficult to accomplish given concerns about possible disruption of the financial system and consequent macroeconomic instability. Successful liquidation also requires a legal system that can facilitate speedy settlement of the competing claims and a mature market for bank assets with an adequate supply of able entrepreneurs.

Because of the problems associated with liquidation, banks are often kept operating.³ Merging the insolvent bank with a solvent bank is an option, commonly employed in the USA and Japan (and used recently by the Bank of England in the ING takeover of Barings in March 1995), that may entail the lowest fiscal cost as the solvent bank will often absorb some of the capital loss in return for the bank's franchise value and will likely impose its more efficient operating practices on the insolvent bank. Again, however, this option may not be practical in many developing and transition economies. Merging requires a solvent bank willing and able to take over the insolvent bank. Banking sector competition could well be eroded, and more importantly, if the insolvent bank has substantial capital losses, the solvent bank will not take it over without possibly costly incentives. Privatization, in the case of public banks, would be a comparable solution, but would also be subject to similar obstacles.

If liquidation, merger, and privatization, are ruled out, the bank should be rehabilitated. To do so successfully requires: (1) restructuring the operations of the bank to increase efficiency and to prevent future losses; and (2) building up its capital base.

³For example, in a survey of 120 banks in 24 developed countries mainly between the early 1980s and 1990s, Goodhart (1995) found that two out of three failed banks were bailed out.

(1) *Restructuring bank operations.* It is vital that the insolvent bank be restructured to minimize future costs both to the budget and to the economy as a whole. Recapitalizing banks that cannot become competitive is pointless and expensive. Any government assistance should thus be linked to a credible and comprehensive restructuring plan, which would argue for delaying the disbursement of any financial assistance until a plan is agreed and implementation started. The flow of additional funds to defaulted bank borrowers should also be cut off (as was required in the relatively successful bank rescue operations in Malaysia (1985)) and other lending severely limited before government funds are provided. To guard against fraud, any bank receiving government funds should be subject to detailed annual portfolio reviews by reputable outside auditors (as was instituted in Chile as part of the mid-1980s restructuring program). Care should be taken, however, to ensure that delaying financial assistance will not worsen the eventual losses of the banks. This may occur as weak banks tend to spiral with increasing speed into greater insolvency as their losses weaken their ability, and incentive, to operate efficiently. Another aspect of a multiple-bank restructuring program that will affect the fiscal cost is whether an across-the-board or case-by-case approach is adopted. The former is likely to be more costly, as the extent of financial assistance to individual banks cannot be tailored to the specific needs of each bank, but may have advantages in terms of time and administrative resources.

(2) *Building up capital base.* A necessary, but not sufficient, condition for a successful restructuring operation is that the bank(s) be recapitalized adequately to permit efficient operation in the future and to provide a buffer against unexpected shocks. This entails restoring capital adequacy ratios to at least Basle standard levels. If the government is to provide the capital, it should not seek false economies as this may lead to the bank assistance operation failing and the financial system being imperiled. That said, provided the cause of the insolvency was not due to government intervention (for example, forced lending to public enterprises), governments should minimize their costs and could reasonably aim to recoup their assistance if banks become profitable by requiring them to repay the assistance (e.g., Chile (1983)) or by eventually selling its stake in the bank (e.g., Sweden (1991)). To minimize the fiscal cost, governments should fully explore the feasibility and appropriateness of sharing the burden with non-government sectors. This burden-sharing should still facilitate a successful assistance operation and should be designed in the most equitable manner possible.

Ensure an Equitable Distribution of Costs

Losses associated with assisting insolvent banks can be borne, in general, by a combination of taxpayers (or expenditure recipients) and agents linked to the troubled bank. In allocating the loss among these groups, governments should ensure the most equitable distribution possible within the constraint of ensuring a stable and efficient financial system. This should be done by allocating losses to a combination of those who benefited from, or were responsible for, the bank's earlier losses and those who will benefit from its rescue. For example, if a private bank had made losses through forced, low-interest, credit to public enterprises, it would be fairer for the government to bear a larger share of the costs than if the bank had made the losses in foreign exchange speculation. Possible agents for bearing costs

are borrowers, shareholders, non-deposit creditors, other banks, the government, and depositors.

The main reason banks fail is because too many *borrowers* do not service their debt. Recovering as much as possible from these borrowers would help ensure that those who benefitted from the losses bear the costs of covering them. This would also help transfer resources from inefficient firms to potential profit-making uses and reinforce the incentive for other, both current and future, borrowers to repay. Many bank rescue operations have indeed tried to maximize recovery of bad debts, either through a central asset recovery institution (e.g., the USA's Resolution Trust Corporation) or by a decentralized approach where banks retain possession of the bad debts after recapitalization (e.g., Poland, 1994).

While attempting to maximize recovery of bad debts may have many benefits, it also has problems. Most importantly, the recoverable amount may be very limited—borrowers may well be unable, not just unwilling, to repay. Recovery also requires skilled administrators and a well-functioning legal framework; resources often in short supply, especially in less developed countries. Further, loan losses may have been indirectly caused by government policy, such as inappropriate macroeconomic policies, forced lending to loss-making enterprises, and excessive regulatory taxes and charges.

Good borrowers, as well as bad borrowers, could also bear the costs of bank rescues by paying higher interest rates and by rapid debt amortization. This course is usually pursued by banks before any government assistance is provided, however, this option should be avoided. Not only is this option inequitable as the good borrowers have not typically been a cause of the losses, but also these borrowers may themselves be pushed into default.

Shareholders' capital (and bank reserves) should be written off against losses and their control surrendered before any government assistance is provided both for equity reasons and to improve the incentive structure. Share capital is intended to be at risk, and was explicitly accepted when invested in return for expected future profits. Further, if shareholders are protected, bank shareholders in general, both current and future, will have less incentive to ensure prudent management; this would foster future losses and repeated government rescues.

Non-deposit creditors lie between shareholders and depositors in terms of suitability for bearing the costs of bank rescues. The more a non-deposit creditor shares characteristics of a shareholder (a longer-term investment linked to bank performance) the more cost they should bear. For example, holders of subordinated debt could be treated similarly to shareholders, whereas central bank borrowings should be treated similarly to depositors. Interbank creditors, especially if they knew, or should have known, about the bank's weakness, could also be expected to bear costs. Imposing costs on non-deposit creditors will have the additional benefits of creating incentives for creditors in the future to monitor more carefully banks' performance and to allocate capital efficiently. One method for so doing

would be to convert loans to the bank into equity, thus recapitalizing the bank, imposing some costs on the creditors, and adding an incentive to closely monitor future performance.

As discussed above, a common response to an isolated bank failure in a sound, and developed, banking sector is for *other banks* to mount a rescue, typically involving a merger (e.g., Spain (1978)). To the extent that banks are among the beneficiaries of a bank rescue, and may have been benefiting from the losses made by the failed banks (for example, by lending to weak banks at very high interest rates), this would be a reasonably equitable solution. However, this would not work in a weak, undeveloped, banking system or when the losses of the failed bank are large.

To the extent that losses cannot, or are not, allocated to other sectors, *the government* should bear them. When government action was at the root of the crisis, this would also be equitable. Government assistance, however, has a number of major drawbacks, most importantly, it fosters future assistance by weakening banks' incentives and may require a substantial improvement in the fiscal stance to ensure the sustainability of the public debt and to moderate the aggregate demand effects (see below). It should thus be among the last candidates considered for bearing the costs.

Governments are cautious about imposing costs on *depositors* for fear of provoking panic and disruption to the payments system. But to the extent depositors had been benefiting from the insolvent banks' behavior, equity considerations would argue for them to bear some losses. This is likely to the extent that loss-making banks tend to become desperate for liquidity and insensitive to prudent operational guidelines, and may offer very attractive deposit rates. While some depositors may not have known about the bank's behavior, others should have been monitoring the situation (especially other financial institutions). By imposing some losses on this latter group, equity and incentives would be enhanced. Further, many depositors (for example, those with deposits above the guaranteed amount) should have known that not all their deposit was likely to be repaid in the event of a crisis and so implicitly accepted some degree of risk. Depositors have borne losses indirectly in some countries (e.g., Yugoslavia in the 1980s) as a result of high inflation and negative real interest rates, but a number of governments explicitly imposed costs on depositors in support of a comprehensive bank assistance strategy.⁴

⁴In Argentina (1989), all domestic, commercial bank, time deposits were involuntarily converted into a combination of cash (up to a small amount) and ten-year, dollar-denominated, treasury bonds that initially traded at a 67 percent discount (a technique that Brazil also adopted in 1990). While foreign deposits were fully covered in the liquidation of two banks during the Chilean crisis of 1982-84, domestic deposits were only covered up to 70 percent. In the Thai banking crises in the early 1980s, depositors were repaid only their principle over 10 years resulting in real losses of about 50 percent. Deposits at two insolvent banks in Estonia (1992) were moved to the Central Bank and placed in a fund, with depositors
(continued...)

Prevent recurrence

For a bank assistance strategy to be successful it must be accompanied by a bank restructuring program. An important element in such a restructuring program is designing a financial assistance package that does not, of itself, damage banks' behavior. Such a deterioration is likely if the underlying incentive framework is not addressed because the financial assistance would reward, and thus exacerbate, inappropriate bank behavior leading to future re-emergence of banking problems and government bailouts. In Hungary, for example, the incentives for commercial banks to maximize future government assistance created by four recapitalizations since 1991 have been suggested as a possible cause for their continued imprudent lending. In formulating an assistance package, governments should consider two basic principles to avoid this moral hazard effect.

(1) *To the extent possible, those that were responsible for the bank's behavior should bear the resulting costs and should not benefit from any government assistance program.* The spectrum of agents that fit this category is wide as is their degree of culpability. At one extreme are shareholders and managers who were, or should have been, closely involved in the operations of the bank and who chose to put their capital or position at risk. Shareholders should be required to write down their capital and management should be changed. For public banks, such a changing of the guard could be facilitated by privatization. At the other extreme are small depositors who probably did not have the opportunity to monitor the bank's behavior. However, the assistance operations should also be seen in a longer-term perspective. If costs are imposed on depositors this time, they will have more incentive to be selective where they deposit in the future and will foster greater provision of information on bank behavior. New Zealand, for example, has no deposit insurance and relies partly on twice yearly, audited, bank statements posted in all bank branches and unlimited liability of directors.

(2) *Bank assistance should be accompanied by measures to reduce expectations of future assistance.* If assistance is seen as a singular event, and that the government will not assist banks in the future, moral hazard will be reduced. The problem is making this credible. Merely announcing such a policy, though desirable, will not suffice as the government may still be seen as having to prop up the financial system in a crisis. This requires measures to make government involvement less necessary. A strong bank restructuring program will be central to this objective, but other steps can also be taken. Recapitalized banks could be privatized, regulation (for example, increasing minimum capital adequacy ratios) and supervision can be enhanced, and competition can be increased in the banking system (for

⁴(...continued)

receiving tradeable certificates on this fund. Only household deposits at the Latvian Bank Baltija (liquidated in 1995) received cash compensation up to a maximum of US\$930 with US\$370 in cash immediately with the remainder paid in three equal annual instalments.

example, by allowing foreign banks to compete freely).⁵ Government debt-based assistance can be non-negotiable to cap an unstructured bank management's scope for incurring future losses by limiting its discretion over liquidity. Debt workouts (bank-led restructuring of non-performing enterprise loans) and rapid provisioning for impaired debt should be encouraged. Credibility would also be enhanced by establishing greater financial discipline throughout the economy. A prerequisite for such financial discipline is a restrained fiscal stance and a competitive public enterprise sector.

Facilitate a Sound Macroeconomic Environment

One of the main reasons why governments assist banks is to prevent, or resolve, macroeconomic problems. By the same token, the assistance itself should not contribute to such problems in the future. This may be the case if assistance programs are unaccompanied by a successful bank restructuring program and if the modalities of the financial assistance entail excessive debt levels or liquidity expansion. A sustainable improvement in banking solvency and profitability is also linked to the performance of the real sector. Unless the macroeconomic environment fosters such an improvement, the bank restructuring will likely fail. This may in itself require strengthening the fiscal stance and implementing structural fiscal reform if government policies are at the root of real sector and banking problems (for example, through loss-making public enterprises). Further, bank assistance operations themselves may necessitate offsetting fiscal policy (see below).

Ensure Transparency.⁶

Whatever form the assistance strategy takes, the full financial implications should be transparently recorded in the budget (when known with certainty) to promote fiscal discipline and accountability, more forward-looking policies, and effective governance. Without such transparency, compliance with the budget cannot be assessed, and the efficiency and effectiveness of resource allocation will be damaged. From a macroeconomic perspective, the impact of government operations on the economy cannot be effectively gauged if some operations are hidden.

Often measures used in bank rescues are non-transparent. Examples of non-transparent measures include placing government deposits with troubled banks (Lithuania, 1996) and granting tax breaks to troubled banks (for example, through accelerated loan loss provisions), loosening regulations, and preventing competition or imposing wide interest rate spreads (and thus allowing artificially high bank profits).

⁵At the same time, entry criteria for new banks may need to be tightened.

⁶A forthcoming paper "Fiscal Accounting of Bank Restructuring" (Daniel, Davis, and Wolfe), will cover the fiscal accounting issues involved in more detail.

III. METHODS OF RESOLVING BANKING SYSTEM PROBLEMS

There are numerous ways in which governments have financially assisted troubled banks. Methods used in a range of countries are categorized in Table 1. A useful primary distinction among them is between direct and indirect methods. Direct methods involve an explicit financial transfer from the government (including public institutions) to troubled banks. Such methods would include government purchase of bank shares or central bank lending to an insolvent bank. Indirect methods are fiscal operations that either involve government outlays that do not directly benefit the troubled bank (e.g., government servicing of non-performing enterprise debt) or do not lead to higher explicit government outlays (e.g., tax breaks or lower regulatory requirements).

A. Direct Methods

Among direct methods, an important distinction is between operations that are aimed at recapitalizing the troubled bank(s) and those that provide it with liquidity.

Recapitalization

In many cases, governments react to problems of troubled banks by increasing their net worth. There are three main ways governments have recapitalized banks: (1) improving the capital account directly; (2) issuing public debt to the bank(s); and (3) assuming the bank's (net) liabilities.

(1) Governments can *directly improve the capital account* by purchasing new shares or by extending long-term loans to the troubled bank. Cash purchase of shares has been used in the Philippines (1986), Mauritania (1993), Finland (1991-94), and Egypt (1991). In Mauritania, government equity injections were accompanied by private purchases. Except in Finland, the equity purchase was classified in the budget as expenditure, either as net lending or capital outlays. For Finland, the purchase by the Central Bank was not included in the budget, though the purchase by the Government Guarantee Fund was recorded as "non-budgetary financial investment."⁷

⁷The Government Guarantee Fund was created in 1992 in the aftermath of the banking crisis to be the central agency dealing with bank assistance operations.

Table 1. Major Methods of Government Assistance in Resolving Banking Problems

Method	Country and date	Budgetary classification
<i>Direct methods</i>		
1. Recapitalization		
A. Equity injection		
Cash	1. Egypt (1991) 2. Finland (1991-94) 3. Mauritania (1993) 4. Philippines (1986) 5. Tanzania (1995)	1. Expenditure, capital. 2. Bank of Finland purchases not recorded. 3. Expenditure, "restructuring and net lending." 4. Expenditure, "equity and net lending." 5. Expenditure, "development expenditure and net lending."
Long-term loan	1. Argentina (1994-95) 2. Azerbaijan (1995) 3. Finland (1991)	1. Not recorded in expenditure. 2. Expenditure, net lending. 3. Expenditure, "financial investment."
B. Bond transfer		
Exchange for bad loans	1. Ghana (1990) 2. Hungary (1992-93) 3. Lao P.D.R. (1993) 4. Sri Lanka (1993) 5. Kuwait (1992) 6. Tanzania (1992-95)	Principal excluded from expenditure, interest included.
Unrequited	1. Chile (1984) 2. Ghana (1990) 3. Hungary (1992-94) 4. Latvia (1994) 5. Poland (1993-1994)	1. Neither interest nor principal recorded in expenditure. 2. Principal excluded from expenditure, interest included. 3. Principal excluded from expenditure, interest included. 4. Principal excluded from expenditure, interest included. 5. Principal excluded from expenditure, interest included.
C. Assumption of (net) liabilities	1. Argentina (1994-95) 2. Chile (1983) 3. Finland (1991) 4. Latvia (1995) 5. Mauritania (1986) 6. Philippines (1986)	1. Loan repayment operations excluded from expenditure. 2. Not included in expenditure. 3. Takeover of bank not recorded in budget, nor later Bank of Finland capital injections. 4. Compensation to depositors classified as expenditure. 5. All cash and debt components included in expenditure, "Restructuring and net lending." Write off of Treasury claims (uncashed checks) recorded as negative revenue. 6. Only interest on debt recorded in expenditure.
2. Short/medium-term loans		
Standard loan	1. Argentina (1994-95) 2. Chile (1982-83) 3. Latvia (1993) 4. Mauritania (1993) 5. Philippines (1986)	1. Quasi-fiscal lending by central bank included in expenditure. 2. Excluded from expenditure. 3. Excluded from expenditure. 4. Bank debt to central bank assumed by government in expenditure. 5. Operating position of central bank included in fiscal accounts.
Placement of deposits	Lithuania (1995)	Excluded from expenditure.
<i>Indirect methods</i>		
Tax breaks and lowering regulatory requirements	Argentina (1994-95)	Not included in the budget.
Assumption of enterprise debt	1. Azerbaijan (1995) 2. Moldova (1994)	1. Expenditure, net lending. 2. Expenditure, net lending.
Equity conversion of non-budget public deposits/claims	Kenya (1986-89)	Excluded from expenditure.
Loans or transfers to enterprises to allow servicing/repayment of bank debt	1. Hungary (1987) 2. Philippines (1986)	1. Excluded from expenditure. 2. Expenditure, lending or subsidy expenditure.

Source: IMF documents.

Long-term loans were extended to banks in Argentina (1994-95), Azerbaijan (1995), Finland (1991) and Hungary (1994). Except for Argentina, the loan was extended directly through the budget. For Argentina, the loan was extended by a fund established by the World Bank and the Ministry of Finance. Loans in all cases carried a market-based interest rate. In an interesting variation, the Finnish loans had an increasing interest rate to encourage early repayment. Where the classification could be determined, the loans were usually classified as expenditure though, in the Argentine case, the interest on the bonds issued to establish the fund was included in the budget, but not the loans themselves.

(2) *By issuing public debt to banks*, governments recapitalize banks by increasing the asset side of the balance sheet. Sometimes this issuance is unrequited, but more often, the bonds are swapped for bad bank debt. Such non-performing assets-public debt swaps are probably the most common form of recapitalization, occurring, for example, in Hungary (1992-93), Ghana (1990), Sri Lanka (1993), and Lao P.D.R. (1993). Usually, non-performing assets are purchased at face value.⁸ In all these cases, the principal of the recapitalization debt instruments was excluded from the budget, though the interest payments were included. Unrequited debt issues occurred in Poland (1993-94), Latvia (1994), Hungary (1993-94), and Ghana (1990).

The modalities of the debt instruments issued to banks have varied considerably (see Table 2). To spread out the liquidity and financing implications for the government, maturity has tended to be long term (usually more than 10 years), though Mauritania (1993) issued renewable Treasury bills and the bonds used in the Algerian recapitalization (1984) had a four year maturity. Interest on the bonds has tended to be a market rate or at least positive in real terms. While most of the debt instruments issued were non-negotiable, a few were negotiable (Poland (1993-94), Hungary (1992-93), and Algeria (1995)).

(3) The government's *assumption of a bank's (net) liabilities* typically involves the government redeeming or assuming depositors' (not necessarily all), and possibly other creditors', claims on the bank for government debt or cash.⁹ In restructuring two large banks in the Philippines (1986), the government assumed deposit liabilities equal to 17 percent of GDP. Liquidating a large bank in Mauritania (1986) involved reimbursing small domestic deposits fully in cash. To privatize distressed public banks in Argentina (1994-95), the Provincial Bank Trust Fund paid off their liabilities to the central bank and other banks.

A method that may reduce future fiscal costs is to recapitalize via reducing the liability side of the balance sheet (assumption of net liabilities) rather than by propping up the asset side (e.g., a bond transfer). Most recapitalization schemes involve swapping bad debt for government bonds, thus maintaining the size, and potential future losses of the bank. For the same amount of government bonds, however, deposits could be removed from the insolvent bank and moved to a

⁸Although in Hungary (1993) bank debt was purchased at below face value.

⁹Section II provides examples of governments less than fully compensating depositors of insolvent banks.

Table 2. Modalities of Debt Recapitalization Instruments

Country	Amount issued (percent of GDP)	Maturity	Interest	Negotiability
Algeria				
-1996	1	20 years	Money market rate	Negotiable
-1992	24	Long term	5 percent fixed	n/a
Bangladesh (1991)	2	15 years	n/a	Non-negotiable
Chile				
-1982	n/a	10 years	No interest	Non- negotiable
-1984	n/a	4 years	7 percent real	n/a
Côte d'Ivoire (1991)	5.6	15 years	3 percent (well below market rate)	n/a
Egypt (1991) ¹	4.9	10 years	LIBOR (foreign-currency denominated)	Negotiable
Hungary (1992-93)	9.1	20 years	Market rate	Negotiable
Kuwait (1992)	n/a	10 and 20 years	Market-related	Non-negotiable
Lao P.D.R. (1993)	1.2	n/a	n/a	Non-negotiable
Latvia (1993)	2.3	7 years	20 percent for the first year, thereafter, a real rate of 1.5 percent.	Non- negotiable
Mauritania (1993)	5.6	6-month and 1-year renewable bills.	11.0 percent per year (equal to central bank rediscount rate).	Non- negotiable
Poland (1993-94)	2.2	15 years	National Bank of Poland rediscount rate, but only 5 percent fixed is paid, the rest is capitalized.	Partly negotiable: first 3 years, only with National Bank of Poland consent. Thereafter negotiable for domestic financial institutions.
Spain (1985)	1.5	12 years	13.5 percent fixed	n/a
Tanzania (1992)	10	20 years	11 percent fixed	n/a

Source: IMF documents.

¹Bonds were not issued to the banks but floated to finance capital injection.

solvent bank which would receive the bonds, thus reducing the size of insolvent bank while achieving the same increase in capital adequacy. This option was used in the restructuring of three Venezuelan banks in 1995 where deposits equivalent to 3 percent of GDP were shifted to nationalized banks which also received, although with some delay, interest-bearing bonds in partial (80 percent) compensation.

The classification of these assumption of liabilities operations varied. In some cases, the budget was almost unaffected. For the Philippines, only the interest on the bonds issued to finance the assumed liabilities affected the budget, all operations of the Trust Fund were off-budget in Argentina as was the deposit compensation in Chile. In other cases, the operations were fully recorded in the budget. The fiscal recording of the bank assistance measures undertaken by the Mauritanian government in 1993 is a good example of such comprehensive recording (see Box 1). A variety of financial restructuring measures were used in this case, ranging from cash compensation for depositors to issuance of public debt. All these measures, including the principal component of the debt issue, were incorporated into a separate category, "restructuring and net lending" of expenditure.

While the commonest, and most straightforward, recapitalization is between the central government and the weak bank, this need not always be the case. On the "giving" side, the central bank, or a public agency (such as a deposit insurance fund) can be the government's agent, buying equity, issuing its own bonds, or assuming liabilities. Other public banks (and non-financial public enterprises) could also buy, or convert claims into, equity. For example, it was the Bank of Finland and the Finnish Guarantee Fund that purchased equity in distressed banks and in Kenya, it was public enterprise deposits that were converted into bank equity.

Short- and Medium-Term Loans

One of the most common immediate reactions to bank problems is for the government (or more usually the central bank) to extend short- or medium-term loans to the troubled bank. There is an important distinction, however, between lending for the purposes of relieving temporary liquidity constraints in a solvent bank, and lending to an insolvent bank. The former is a monetary operation that does not affect the net worth of the government, the latter is an implicit transfer of resources from the government to the recipient bank for the purposes of alleviating the short-term consequences of the bank's impaired solvency which weakens the government's net worth.¹⁰ Just like subsidies to other sectors of the economy, any such transfer should be provided by the budget. In practice, however, it is difficult to assess, ex-ante, the recipient bank's solvency and thus whether the loan is to support liquidity or solvency. It is even more difficult to assess the exact amount of the transfer element in a loan even if it is known that the recipient bank is insolvent.

¹⁰Using the central bank to make subsidies can also complicate monetary management and contribute to inflation. Central bank holding in other banks may also create conflicts with its responsibilities for supervision, monetary management, and lender of last resort lending.

Box 1. Mauritania: Fiscal Response to, and Recording of, Bank Restructuring Operations

Following macroeconomic instability, poor central bank supervision, and weak portfolio management by banks, the insolvency of the banking system (four commercial banks and one development bank), erupted into a liquidity crisis in 1993. In response, the Central Bank increased rediscount lending and extended unsecured loans while the Treasury accumulated substantial claims on the banks (mainly uncashed tax payments). As the liquidity crisis mounted and deposit withdrawals increased, the authorities instituted a comprehensive bank restructuring program.

The financial restructuring program involved liquidation, recapitalization, and privatization. The insolvent development bank (UBD) was assessed to be non-viable and was liquidated. In this process, full cash compensation was provided for small depositors, foreign embassies, and expatriate workers. Treasury debt was issued to the central bank for claims on the UBD and to public enterprises in partial compensation for their deposits. Of the four commercial banks (BALM, BAMIS, BNM, and BMCI), BALM was recapitalized by equal capital injections of Treasury debt and of capital from the Libyan partner. BAMIS was recapitalized by an equity injection from private investors and the government sold its 10 percent share. For BNM, the government relinquished its share (46 percent), canceled Treasury claims on the bank, assumed the bank's non-performing claims on public enterprises, and swapped central bank claims for Treasury debt. In return, private owners injected capital and assumed full ownership. The government's share of BMCI was also sold.

These bank assistance operations were fully recorded in the budget. Revenue fell (0.6 percent of GDP) as a result of losses from canceled Treasury claims outweighing privatization proceeds. Cash outlays associated with deposit reimbursement (1.2 percent of GDP) and the principal component of the Treasury debt issuance (5.6 percent of GDP) were recorded as expenditure under the category "restructuring and net lending." Interest on the debt issue was recorded with other interest payments. In total, the restructuring outlays increased the deficit by 7½ percent of GDP in 1993.

To offset these costs, and to moderate aggregate demand, the underlying fiscal stance was improved. Revenue measures included increased petroleum taxes, reductions in exemptions, and higher transfers of public enterprise profits. Certain capital and enterprise restructuring expenditures were also postponed. As a result, the deficit excluding bank restructuring outlays fell from 5.4 percent of GDP in 1992 to 4.2 percent of GDP in 1993. Fiscal consolidation was continued thereafter with the deficit falling to 0.9 percent of GDP by 1995.

But once the recipient bank's insolvency becomes apparent, responsibility for any support, both past and future, should be shifted to the government budget.

As in the case of recapitalization, loans can be made and received by a number of different agents. Most commonly, loans to troubled banks are extended by the central bank, at least in the first instance. Government can also lend directly, and so too can public financial institutions. Loans could also be received by an intermediary in the process, such as the central bank or public financial institution involved in bank assistance.

B. Indirect Methods

As stated earlier, there are two distinguishing characteristics of indirect methods to assist banks. First, assistance does not appear to directly benefit the troubled bank. Examples of this type involve the use of non-financial public enterprises to ease the conditions of the troubled bank. This could be done by the government servicing the defaulted enterprises' debt or by lending/transferring the funds to the enterprise to enable it to service its own debt. Second, the financial benefit to the bank is not directly reflected in higher government outlays and thus tends to be nontransparent. Such methods revolve around government's control over the legal and regulatory processes or the extension of public guarantees, for example, changes in reserve requirements or tax laws, ceilings on deposit rates, laws limiting entry into the banking sector, and extending deposit insurance. On the tax system, ad hoc tax changes designed to provide special assistance to banks should be avoided, but the restructuring offers and opportunity to reassess the taxation of banks and to institute a rational and efficient system.¹¹

Public enterprise debts were assumed by the government in Moldova (1994) and Azerbaijan (1995), and public enterprise deposits were converted into bank equity in the context of the Kenyan banking crises (1986-89). Defaulting enterprises received special loans to help service their debt from the government in the Philippines (1986) and from the central bank in Hungary (1987). Changes in regulatory requirements were used in the Argentine banking crises of 1994-95 and 1980-82. In Finland (1991), sound banks were obliged to inject capital into a distressed bank.

IV. BANK ASSISTANCE AND THE FISCAL STANCE

The foregoing discussion makes clear that bank restructuring usually entails significant government financial assistance. This assistance has more general macroeconomic effects which are likely to have implications for the appropriate fiscal stance. Assistance that involve only cash, such as loans or depositor compensation, have effects on aggregate demand and the fiscal

¹¹In particular, where tax rates for banks exceed those of other businesses, a more neutral approach would be desirable; this should include permitting the tax deductibility of loan loss provisions.

stance that are similar to those of other increases in government spending. The implications of debt-based assistance strategies requires more particular analysis. This issue is addressed first from the implications for the sustainability of government debt and then in terms of the impact on aggregate demand.

A. Fiscal Impact

Debt Sustainability

As discussed above, one of the most common bank assistance methods involves the issuance of government debt, either in return, or to compensate, for nonperforming loans. As for any other debt instrument, the cost to the issuer is the present value of the associated cash flow, which has to be met through future income.¹² Thus the sustainability of the government debt will, in the absence of countervailing measures, worsen.¹³

It can be argued, however, that government indebtedness does not change following such a financial restructuring because: (1) implicit government liabilities (e.g., the negative net worth of public banks) are merely made explicit; and (2) the growth of explicit debt (interest on government securities) is equal to the growth of the implicit debt (capitalized interest on bad loans).¹⁴ While point (1) does have merit when governments entirely own insolvent banks, it does not imply that there are no implications for the fiscal stance. Not only are there other important aggregate demand effects from the debt issuance (see below), but also the implicit debt should have been taken into account in assessing sustainability before the financial restructuring. Point (2) is unlikely to hold because insolvent banks operate under perverse incentives (e.g., shareholders' equity is no longer at stake), leading them to lose money faster than the growth of explicit debt. Delaying restructuring thus usually increases costs and eventually requires a stronger response.

Aggregate Demand Impact

Aggregate demand for goods and services will be increased—relative to what would happen without assistance—by debt-based bank assistance to the extent that wealth and incomes rise and the money supply expands. These in turn will be determined by the response of the banking system and the public to the financial assistance. There are various channels through which demand can be affected, discussed below, but it is important first to understand the counterfactual.

¹²Provided the debt bears a market rate of interest, this cost is the face value of the debt issued.

¹³See Appendix for a more formal description of the associated debt dynamics.

¹⁴See Lane (1996) for an analysis of this position.

Counterfactual

In the medium to longer term, the results of not recapitalizing weak banks are fairly clear—demand will weaken. If banks cannot earn their way out of their solvency problems, they will eventually become illiquid and bankrupt. As the public's confidence in the banking system declines, their demand for deposits will fall. Shifts of deposits into currency or other financial instruments, will reduce the availability of credit and contribute to demonetization and disintermediation.¹⁵ For banks that do earn their way out of their solvency problem, this will be largely achieved by charging higher spreads. These impose costs on borrowers and lenders, lead to disintermediation, and will tend to lower investment and growth. Successful restructuring that not only restores banks' solvency, but that also improves their operations to ensure that solvency is maintained, will prevent, or at least moderate, these repercussions.

Examining how banks would have behaved without financial restructuring sets the stage for the question of what impact systemic restructuring is likely to have on aggregate demand. There are four main channels through which debt-based financial restructuring can affect aggregate demand: interest rate spreads; actual, or perceived, private wealth; future recapitalization; and the money supply.¹⁶

Interest spreads

The behavior of bank interest spreads has important demand implications. If interest spreads fall as a result of recapitalization, it is equivalent to removing a tax on the bank's depositors and borrowers and would boost demand. Whether spreads fall or not depends on the market structure and price-setting behavior of the banking system. Interest spreads will tend to be linked to the extent of nonperforming loans if banks set interest rates by mark-up rules rather than to maximize profits, and they will have more leeway to charge higher spreads the greater their market power. Spreads will also fall following a successful operational restructuring of banks as efficiency rises.

The available empirical evidence suggests that spreads are very likely to be lowered following a recapitalization (both successful and unsuccessful).¹⁷ For example, Begg (1996)

¹⁵There will also be an impact on the exchange rate and/or foreign reserves, but the external sector aspects are not considered in this paper.

¹⁶Bank restructuring often takes place in the context of substantial structural reforms of the financial system and macroeconomic stabilization efforts. The consideration of the impact of bank assistance operations on macroeconomic variables in this section abstracts from the effects of these other factors.

¹⁷Citing evidence from Eastern Europe, Thorne (1993), for example, states that "it is common for banks ... [with a large proportion of non-performing debt] ... to increase the average bank

(continued...)

attributes 4.4 percentage points of the Czech banking system spread of 6.1 percentage points in 1994 to provisioning—a cost estimated at 3.3 percent of GDP.¹⁸

Wealth effects

Debt-based government financial restructuring will transfer net assets from the government to the recipients of the assistance (some, or all, of the bank's stakeholders). Recipients' perceived wealth will change as a result, provided that lower government wealth (or higher government debt) is not fully internalized (i.e., offset by higher saving) by the private sector and that the financial restructuring is not fully anticipated.¹⁹

Theoretical and empirical evidence suggests that the first requirement is likely to apply, especially for less-developed economies.²⁰ However, the second requirement is met in practice to varying degrees. For short-term depositors, provided they always had the chance to remove their deposits, the fact that they did not do so implies they almost fully anticipated government intervention or did not perceive any problems. For longer-term stakeholders in the banks—shareholders, managers, and longer-term creditors—the extent of government assistance is more uncertain, and thus less anticipated, especially when any guarantee is implicit. This effect will be lower in the case of financial restructuring of state-owned banks with explicit deposit guarantees, and higher for small, private banks with no deposit guarantee; but in neither case is the assistance likely to be fully anticipated. Debtors' perceived wealth will rise if repayment becomes less likely as a result of government financial restructuring. In many cases, government assistance has led to repayment being less enforced as government agencies and restructured banks have often had little incentive and ability to recover loans.²¹ However, as discussed earlier, good asset recovery can, and should, be a vital component of bank restructuring.

¹⁷(...continued)

lending rate and average bank spread." For models linking nonperforming loans and interest spreads, see Montes-Negret and Papi (1996) and Buch (1995).

¹⁸Whether the spread will be reduced via lower lending rates or higher deposit rates depends on the elasticity of the demand for credit and money. For example, when profitable lending opportunities are limited, as in many transition economies, competition for deposits is likely to be limited and the spread reduction will tend to occur through lower lending rates.

¹⁹To the extent that the level of assistance is less than anticipated, the wealth effect will be negative.

²⁰More specifically, the assumption of strict Ricardian neutrality is unlikely to hold. See Hayashi (1982) and Haque and Montiel (1987).

²¹See Sheng (1991).

Recurrent recapitalization

The discussion so far has treated recapitalization as a one-time operation. But recapitalization, and the problems it is designed to alleviate, may well recur. This is especially likely if it is not accompanied by measures to address the source of bank weakness, such as poor bank management, forced subsidized credit to loss-making public enterprises, and macroeconomic instability. Indeed, if no accompanying measures are taken, recapitalization could be viewed as merely rewarding, and thus exacerbating, inappropriate lending behavior leading to future reemergence of the stock problem. In the short term, aggregate demand will be boosted by the assistance as the increase in the bank's ability to attract deposits and make loans based on its improved capital position allows a continuation of lax lending policies.

Monetary impact

The money supply will tend to increase through changes the reserve money and the money multiplier. Reserve money will tend to increase when financial restructuring increases the central bank's net domestic assets. This will occur when restructuring is financed by recourse to the central bank or to external borrowing. Unless any consequent increase in bank reserves is held as excess reserves or otherwise sterilized, broad money will expand.

Even if outside money is not injected into the system, for example if payments on government debt are financed by borrowing from domestic banks, the change in the distribution of reserves within the system may result in an increase in the reserve money multiplier. When a banking system is weak, the greater volatility of deposits and increased riskiness of lending often prompts sound banks to hold high levels of precautionary excess reserves. Conversely, weak banks tend to minimize reserves, owing to the strain on their liquidity and their preference for high-return assets. If financial restructuring draws on resources from within the banking system, the total level of reserves may remain unchanged but the amount effectively sterilized as excess reserve holdings diminishes; a lower reserve ratio results in an increase in the money multiplier. Changes in the patterns of intermediation and in the demand for domestic money as the banking system weakens and is then restructured will also result in shifts in velocity (possibly reducing the demand impact of higher money supply during restructuring).

B. FISCAL RESPONSE

Debt sustainability

Unless the fiscal stance is tightened in response to debt-based government assistance, the public debt/GDP ratio will grow faster, or fall more slowly, over the medium term than was envisaged before the bank assistance. Consider an economy with an initial position of a substantial stock of government debt, a real interest rate that exceeds the real growth rate and a

primary surplus equal to the sustainable level.²² The sustainable level is that which keeps the debt stock as a ratio to GDP constant.²³ Any difference between the actual and sustainable levels of the primary balance constitutes a “sustainability gap” (see Appendix). When a bank is then recapitalized by issuing debt, the sustainable balance will rise which, if the primary balance is not increased, will lead to a sustainability gap emerging.²⁴

The government could just passively accept, and maintain, the sustainability gap resulting from debt recapitalization. But as this will lead to a continually increasing debt/GDP ratio, more prudent responses should be considered. Two alternative such responses are based on re-establishing the status quo. The first method aims at restoring the status quo from a flow perspective and the second from a stock perspective. These two methods are illustrated in Chart 1, which compares their impact on the primary balance and debt ratio with the situation without recapitalization (Scenario A) and with passive acceptance of the resulting sustainability gap (Scenario B).

Fiscal response I—restoring the sustainability gap

One possible fiscal response would be to restore the pre-recapitalization sustainability gap, zero in this case. This would entail increasing the primary balance to the extent the sustainability gap had risen following the debt issuance (Scenario C). For countries with high growth rates and low real interest rates the required degree of fiscal adjustment in this scenario would be minor, but for others the adjustment could be substantial.

A serious weakness with this fiscal response is that it entails a higher debt stock as a result of the recapitalization. A higher debt stock entails, inter alia, increased real interest rates, more crowding out, lower growth, and greater vulnerability to shocks. Thus, a more prudent fiscal response would be to reduce the debt/GDP ratio back to the level that would have prevailed without recapitalization.

Fiscal response II—restoring the debt stock

Given the objective of restoring the debt ratio after recapitalization to that prevailing in its absence, two parameters are vital: how long should it take to restore the debt ratio, and should this restoration be done gradually or in one step. Both examples in Chart 1 take 10 years

²²The analysis of this section is equally valid when the initial primary balance is assumed to be other than the sustainable level.

²³As the change in debt/GDP ratio (ignoring seignorage) is equal to $(r-g)d-s$, where, d , is initial debt stock, r , the real interest rate, g , the real growth rate, and, s , the actual primary balance, the sustainable level of the primary balance is $(r-g)d$.

²⁴The increase in the sustainable balance and sustainability gap is $(r-g)b$, where b is the recapitalization bond issue.

to restore the debt stock, but achieve this with different primary balance paths. The first scenario (D) achieves the desired debt reduction by adjusting the primary balance immediately to that which when maintained over 10 years would restore the debt ratio to the level that would have prevailed without recapitalization. The second scenario (E) portrays a more gradual response, where the desired debt reduction is achieved by equal annual increments in the primary balance. Clearly, the first scenario implies a much stronger adjustment in the early years, while the second has the adjustment back-loaded. Both cases, however, entail a much stronger adjustment than the previous alternative of restoring the sustainability gap.

These alternative fiscal responses are illustrated using data for Hungary following the large-scale bank recapitalization between 1992 and 1993 (Box 2). Faced with a large increase in debt, and real interest rates likely to significantly exceed growth rates, failure to consolidate the primary balance would have resulted in a sharp increase in debt. This consolidation would have to be substantial—one scenario aimed at restoring the debt/GDP ratio required an immediate improvement of 1.7 percent of GDP in the primary balance.

Which of the illustrative fiscal responses outlined above is appropriate in a specific case will depend on a number of factors. For countries with very low initial debt stocks and strong primary balances, the need to restore sustainability, either in a flow or stock sense, is likely to be limited. On the other hand, for a country that started off with a very high debt stock and a weak primary balance, not only is the need to restore sustainability stronger, so too will financial market's willingness to finance a higher debt stock be reduced. Further borrowing in this case will likely lead to higher real interest rates and lower growth compounding the sustainability problem and requiring a more immediate, and substantial, fiscal response.²⁵

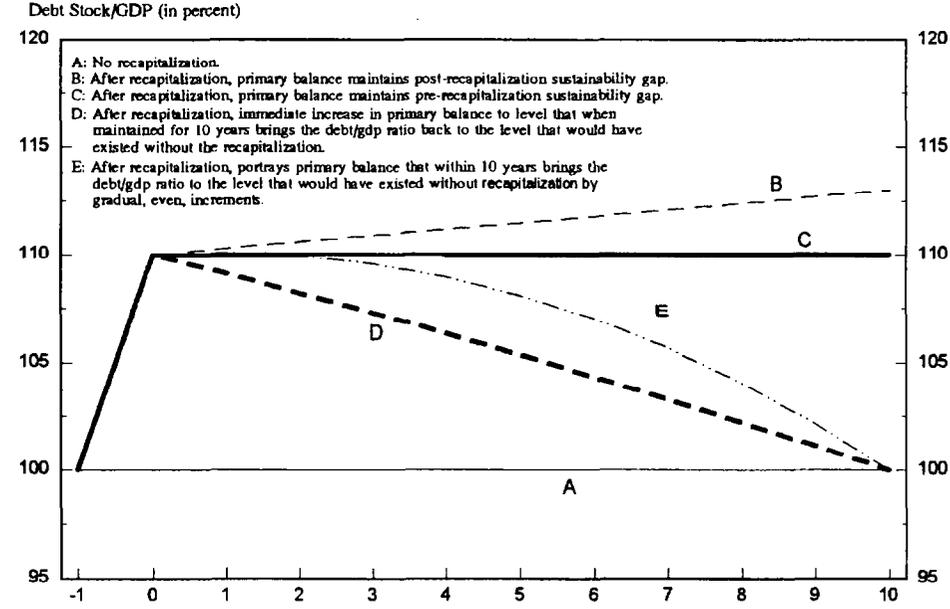
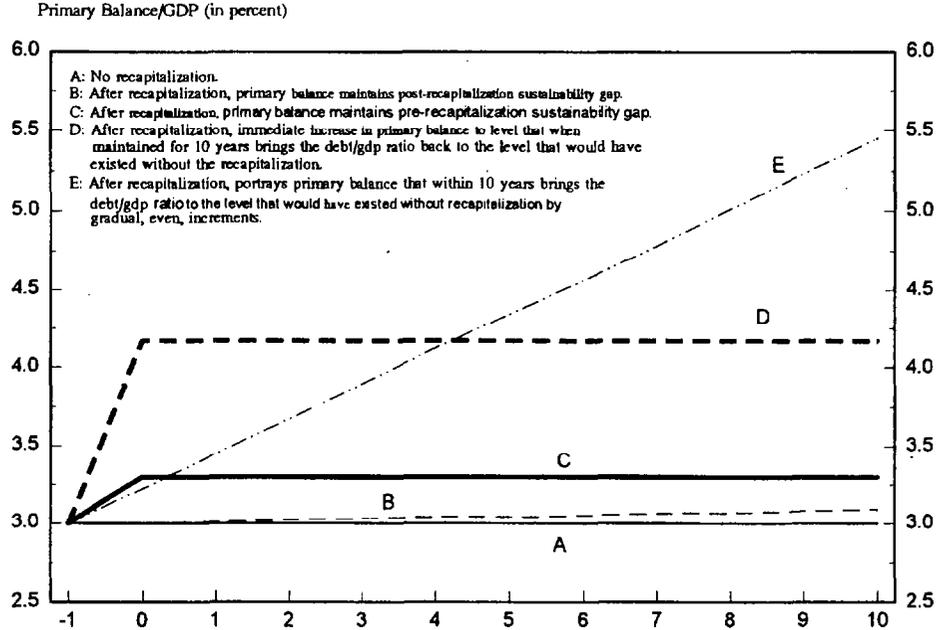
Aggregate Demand and the Need for a Comprehensive Macroeconomic Framework

While debt sustainability may in some cases be immediately binding, there can be scope for different primary balance paths. The short-term evolution of the fiscal stance should reflect the impact of bank restructuring on aggregate demand which, as discussed above, can be substantial. To determine the appropriate fiscal response, all types of assistance should be quantified and assessed in the context of a comprehensive medium-term macroeconomic framework.

²⁵Although a successful recapitalization would tend, *ceteris paribus*, to lower real interest rates and increase growth. This highlights the need to analyze such operations in the context of a medium-term framework.

Chart 1

Some Alternative Fiscal Responses to Recapitalization



Note: All scenarios assume initial ($t = -1$) debt stock of 100 percent of GDP, a primary balance of 3.0 percent of GDP, and a real interest rate for the entire period that exceeds the growth rate by 3 percentage points.

Box 2. Hungary: Alternative Fiscal Responses to Recapitalization

The Hungarian government issued debt equivalent to about 9.1 percent of GDP to recapitalize the state banking system between 1992 and 1993, increasing general government debt to 90.2 percent of GDP. Assuming the real interest rate would exceed the growth rate by about 2.8 percentage points in the medium term, as proved to be the case over the following three years, this implied that the 1993 primary deficit, 3.3 percent of GDP, was substantially below (5.8 percent of GDP) that required to prevent the debt/GDP ratio from increasing (i.e., a large "sustainability gap"). What were the alternative fiscal responses to this increase in public debt?

Maintain the new sustainability gap. The primary deficit could gradually increase maintaining the new sustainability gap of 5.8 percent of GDP. While this would have the benefit of not requiring much adjustment, it would imply a growing debt/GDP ratio (debt would reach 148 percent of GDP in 10 years).

Maintain the previous sustainability gap. Without the recapitalization, the sustainability gap would have been 5.6 percent of GDP. To bring the sustainability gap back to this level would have implied improving the primary balance by 0.26 percent of GDP. However, the debt/GDP ratio would still be (9.1 percentage points of GDP) higher than if the recapitalization had not occurred.

Achieve the debt/GDP ratio that would have occurred without recapitalization
Assuming this was to be achieved over 10 years, and that without recapitalization the sustainability gap would have been constant, this objective could be achieved in various ways. One method would be to increase the primary balance by an equal amount each year over the next 10 years. This would imply improving the primary balance by 0.33 percent of GDP each year. Another method would be to increase the primary balance to a level that would be maintained over the next 10 years. This level would be a primary deficit of 1.6 percent of GDP, an increase of 1.7 percent of GDP compared to the 1993 primary deficit.

These implications for macroeconomic stability should feed iteratively into the formulation of the restructuring strategy. A restructuring strategy that is inconsistent with macroeconomic stability is likely to be self-defeating. If the amount of fiscal consolidation required to attain a minimum level of macroeconomic stability is unacceptable or impractical, other options need to be examined. First, the financing of government financial assistance operations could be adjusted to allow a more gradual fiscal adjustment while ensuring macroeconomic stability, for example, through concessionary external financing. Second, the public sector's share of total restructuring costs could be reduced, for example, by imposing greater costs on depositors. Third, the scope of the restructuring strategy could be narrowed, for example, by liquidating rather than recapitalizing some banks.

This process should be completed to arrive at a consistent restructuring strategy *before* any announcement is made; if it is not, a public “U-turn,” such as reneging on a commitment to guarantee all deposits, might prove necessary. Such a prior examination would also highlight and clarify the economic implications of the politically-appealing decision to provide government assistance, in particular, that it will be paid for by future administrations and generations.

Fiscal/Monetary Policy Mix and Coordination

When banks are weak, monetary policy instruments tend to become less effective and unreliable. For example, interbank markets may be distorted as sound banks become unwilling to lend to weak banks. Basic relationships, such as money multipliers, the currency/deposit ratio, money demand functions and the ratio of broad money to GDP, also become unstable. Further, tightening monetary policy, even if possible, may worsen the fragility of the banking system. A looser monetary/tighter fiscal policy mix would help meet the macroeconomic objectives given the constraints on monetary policy. Fiscal policy would also need to play a more active role in responding to shocks. Thus, fiscal and monetary policy should be even more closely coordinated during bank restructuring than when banks are sound.

V. CONCLUSIONS

- When the stability of the entire banking system is threatened, and government assistance is likely to lead to a better situation than allowing banks to fail, government financial assistance to banks is probably necessary. But individual banks should not be assisted unless there is a clear and present threat to the banking system as a whole. Bad banks should, in general, be allowed to fail.
- If government financial assistance is to be provided, it should: (1) be tied to a comprehensive and credible restructuring program; (2) minimize the fiscal cost; (3) ensure an equitable distribution of costs; (4) prevent recurrence; (5) facilitate a sound macroeconomic environment; and (6) ensure transparency.
- Minimizing the government’s costs means that other economic agents should bear them. For a start, owners and large creditors should be heavily penalized. This also provides the right incentives. Depositors should also be considered, certainly large depositors. And every effort should be made to recover as much as possible from the bank’s defaulted debtors. In any event, government financial support should only be provided if a credible and comprehensive plan to restructure the troubled bank(s) is being implemented. Otherwise, it is just throwing good money after bad.
- That said, given the government should bear costs, these costs should be entirely borne by the budget and not by other institutions such as central banks. Subsidizing the banking sector, just like any other sector of the economy, is a function of the budget.

- The macroeconomic implications of government bailouts are likely to be substantial. Bailing out banks with cash has obvious implications, but most bailouts involve issuing debt to banks. These debt-based bailouts will likely increase aggregate demand by narrowing interest spreads, increasing wealth, leading to expectations for further bailouts, and expanding the money supply. Also, the sustainability of the public debt burden will worsen. To counter these effects, a substantial fiscal tightening may be required. All these implications should be analyzed in a medium-term macroeconomic framework and should feed iteratively into the choice of the restructuring strategy. Tighter fiscal policy may also be needed to compensate for the inability to achieve, and undesirability of, tight monetary policy.

PRIMARY BALANCE IMPROVEMENT REQUIRED TO MAINTAIN DEBT SUSTAINABILITY

The expected change over time in the debt-to-GDP ratio follows the simple dynamic equation:

$$\dot{d} = (r-g)d - s,$$

where: d = ratio of debt to GDP;
 r = average expected real rate of interest on public debt;
 g = average expected real growth rate; and,
 s = average expected primary balance ratio to GDP.²⁷

If r is greater than g , the system is unstable unless there is a compensatory primary surplus. Let s^* be the primary surplus required to stabilize the debt-to-GDP ratio at its current level:

$$s^* = (r-g)d .$$

After the recapitalization, the debt-to-GDP ratio increases by b . The new required primary balance is s' ,

$$s' = (r-g)(d+b).$$

The increase in the required primary balance to stabilize the debt-to-GDP ratio is then:

$$s'-s^* = (r-g)b.$$

Thus, for the gap between the average expected primary balance and the debt-stabilizing primary balance not to increase after recapitalization, the average expected primary balance must be higher by $(r-g)b$ in each period.

²⁶Based on Alain Ize (1993), in "How to Measure the Fiscal Deficit," eds. M. Blejer and A. Cheasty.

²⁷Assuming no seignorage.

References

- Akerlof, George A., and Paul M. Romer, 1993, "Looting: The Economic Underworld of Bankruptcy for Profit," *Brookings Papers on Economic Activity*: # 2, Brookings Institution, pp. 1-73.
- Alexander, William E., Tomás J. Baliño, and Charles Enoch, 1995, "The Adoption of Indirect Instruments of Policy," *IMF Occasional Paper 126*, (Washington: International Monetary Fund).
- Baer, Herbert, and Gerard Caprio, Jr., 1995, "Bank Recapitalization: If and When," DEC Policy Review Note #2 (Washington: World Bank).
- Baer, Herbert, and D. Klingebiel, 1995, "Systemic Risk When Depositors Bear Losses: Five Case Studies," *Research in Financial Services, Private and Public Policy, Volume 7*, (Greenwich, Connecticut: JAI Press Inc).
- Bank for International Settlements, 1996, *Annual Report*, (Basle: Bank for International Settlement).
- Barth, J. R., P.F. Bartholomew, and M. G. Bradley 1990, "Determinants of Thrift Institution Resolution Costs," *Journal of Finance*, Vol. 45: pp.731-34.
- Basle Committee on Banking Supervision, July 1988, "International Convergence of Capital Measurement and Capital Standard," (Basle: Bank for International Settlements).
- Begg, David and Richard Portes, 1993, "Enterprise Debt and Economic Transformation: Financial Restructuring in Central and Eastern Europe," in *Capital Markets and Financial Intermediation*, ed. by Colin Mayer and Xavier Vives, pp. 230-61 (Cambridge, England: Cambridge University Press).
- Begg, David, 1996, "Monetary Policy in Central and Eastern Europe: Lessons After Half a Decade of Transition," IMF Working Paper WP/96/108.
- Benston, George, J., 1995, "Safety Nets and Moral Hazard in Banking," in *Financial Stability in a Changing Environment*, ed. by Kuniho Sawamoto (London and New York: Macmillan and St. Martin's Press).
- Borish, Michael S., Millard F. Long, and Michel Noël, September 1995, "Banking Reform in Transition Economies," in *Finance and Development*, pp. 23-26.
- Buch, Claudia M., 1995, "Bank Behavior and Bad Loans—Implications for Reforms in Eastern Europe," *Kiel Institute of World Economics Working Paper*, No. 679.
- Calvo, Guillermo A, and Manmohan S. Kumar, 1993, "Financial Sector Reforms and Exchange Rate Arrangements in Eastern Europe," *IMF Occasional Paper 102* (Washington: International Monetary Fund).
- Calvo (1995), "Varieties of Capital Market Crises," University of Maryland Center for International Studies Working Paper.
- de Juan, Aristóbulo J., 1991, "Does Bank Insolvency Matter? And What to Do About It," EDI Working Paper (Washington: World Bank).
- , 1995, "Linkages Between Bank Restructuring, Bank Privatization and Enterprise Restructuring," CEEPN Workshop Series, No. 6.
- Dziobek, Claudia, 1995, "Policy Instruments for Bank Restructuring", IMF Mimeo (Washington: International Monetary Fund).
- Economist, The, 1996, "A Survey of International Banking."

- Fries, Stephen M., and Timothy D. Lane, 1994, "Financial and Enterprise Restructuring in Emerging Market Economies," *Building Sound Finance in Emerging Market Economies*, ed. by David Folkerts-Landau, Gerard Caprio and Timothy D. Lane, pp. 21-46 (Washington: International Monetary Fund).
- Garcia, Gillian, 1996, "Deposit Insurance: Obtaining the Benefits and Avoiding the Pitfalls," IMF Working Paper 96/83 (Washington: International Monetary Fund).
- Goodhart, Charles A.E., 1995, *The Central Bank and the Financial System* (London, MacMillan).
- Haque, Nadeem U., and Peter Montiel, 1987, "Ricardian Equivalence, Liquidity Constraints, and the Yaari-Blanchard Effect: Tests for Developing Countries," IMF Working Paper 87/85.
- Hayashi, Fumio, 1982, "The Permanent Income Hypothesis: Estimation and Testing by Instrumental Variables," *Journal of Political Economy*, Vol. 90 (October), pp. 895-916.
- Hinds, Manuel, 1988, "Economic Effects of Financial Crises," PPR Working Paper Series (Washington: World Bank).
- IMF, 1995a (Fiscal Affairs Department), "Guidelines for Fiscal Adjustment," Pamphlet Series Number 49 (Washington: International Monetary Fund)
- , 1995b (Statistics Department), "Government Finance Statistics Manual: Annotated Outline" (Washington: IMF).
- Ize, Alain, 1993, *How to Measure the Fiscal Deficit*, ed. by M. Blejer and A. Cheasty, (Washington: International Monetary Fund).
- Kouwenaar, Arendt, 1995, "Uganda—Budgetary Costs of Financial Sector Reform," internal IMF memorandum (Washington: International Monetary Fund).
- Kyei, Alexander, 1995, "Deposit Protection Arrangements: A Survey," IMF Working Paper 95/134 (Washington: International Monetary Fund).
- Lane, Timothy D., 1996, "The First Round Monetary and Fiscal Impact of Bank Recapitalization in Transition Economies," IMF Paper on Policy Analysis and Assessment 96/8 (Washington: International Monetary Fund).
- Leone, Alfredo M., 1993, "International and Operational Aspects of Central Bank Losses," IMF Paper on Policy Analysis and Assessment 93/12 (Washington: International Monetary Fund).
- Lindgren, Carl-Johan, and Gillian Garcia, 1996, "Deposit Insurance and Crisis Management," MAE Operational Paper No. 96-3 (Washington: International Monetary Fund).
- Lindgren, Carl-Johan, Gillian Garcia, and Matthew I. Saal, 1996, *Bank Soundness and Macroeconomic Policy* (Washington: International Monetary Fund).
- Mackenzie, George A., and Peter Stella, 1996, "Quasi-Fiscal Operations of Public Financial Institutions," *IMF Occasional Paper 142* (Washington: International Monetary Fund).
- Montes-Negret, Fernando, and Luca Papi, 1996, "Are Bank Interest Rates Spreads Too High?," *Viewpoint*, Note No. 67 (Washington: World Bank).
- Nyberg, Peter, 1996, "Authorities Roles and Organizational Issues in Systemic Bank Restructuring" (unpublished; Washington: International Monetary Fund).
- Sheng, Andrew, 1996, *Bank Restructuring: Lessons from the 1980s* (Washington: World Bank).

- , 1991, "The Art of Bank Restructuring—Issues and Techniques," EDI Working Paper (Washington: World Bank).
- Stiglitz, Joseph E., 1993, "The Role of the State in Financial Markets," *Proceedings of the World Bank Annual Conference on Development Economics* (Washington: World Bank).
- Thorne, Alfredo, 1993, "Eastern Europe's Experience with Banking Reform: Is There a Role for Banks in the Transition?," *Journal of Banking and Finance*, Vol. 17, pp. 959 -1000.