

THE WORLD BANK

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**The Economics of the Government Budget Constraint**  
*Stanley Fischer and William Easterly*

**Reforming Property Rights in Land and Tenancy**  
*Clive Bell*

**Inflation and the Costs of Stabilization: Historical and Recent  
Experiences and Policy Lessons**  
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**The Role of Groups and Credit Cooperatives in Rural Lending**  
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**Achieving Social Objectives through Private Transfers:  
A Review**  
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*Corrections to Proceedings of the World Bank  
Annual Conference on Development Economics 1989*

Page 29, fourth paragraph, sixth line: The percentages should be -50.1 and -44.

Page 30, table 1: The price change for United States, coarse grains, should be -3; for developing countries, rice, should be -12; and for all, rice, should be -8. The trade volume change for EC, sugar, should be -5; for United States, rice, should be -2; and for OECD, wheat, should be -1.

Page 30, table 2: First column, first row: 11.8 should be -11.8; third row: 11.1 should be -11.1. Second column, second row: 10.2 should be -10.2; third row: 13.1 should be -13.1. Third column, third row: 23.1 should be -23.1.

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# THE ECONOMICS OF THE GOVERNMENT BUDGET CONSTRAINT

*Stanley Fischer*  
*William Easterly*

*This article summarizes the simple analytics of the macroeconomic effects of government budget deficits. The presentation is organized around three key relationships: the national income accounts budget deficit identity, the deficit financing identity, and the dynamic equation for the evolution of the ratio of public debt to gross national product. The national income accounts identity highlights the effect of the deficit on domestic saving and investment and the current account. Examining the financing of the deficit brings to light the different kinds of macroeconomic imbalance the deficit can cause—as a first approximation, printing money excessively shows up as inflation, excessive use of foreign reserves leads to crises in the balance of payments, high foreign borrowing leads to a debt crisis, and too much domestic borrowing leads to high real interest rates and crowding out of private investment. The debt dynamics equation is used to show the long-run constraints on fiscal policy.*

**I**t is increasingly recognized that sustained economic growth is possible only within a sound macroeconomic framework and that in such a framework fiscal policy plays a key role. In this article we draw on recent developments in the analysis of the consequences of deficit finance to show how and why sound fiscal policy is so crucial to the achievement of macroeconomic stability.

We are not here concerned with the effects of fiscal policy on resource allocation, important as these undoubtedly are (see World Bank 1988 for comparative data on government revenues and expenditure and for an authoritative modern account of the role of fiscal policy). Instead, this article focuses on the

macroeconomic effects of government budget deficits—the consequences of different methods of financing the deficit and the links between the budget deficit and inflation. The article is built around three simple relationships: the national income accounts budget deficit identity, the budget deficit financing identity, and the dynamic equation for the evolution of the ratio of debt to gross national product (GNP).

## Macroeconomic Effects of the Deficit: Standard Analysis

The Keynesian revolution brought the budget deficit out of the closet as a macroeconomic variable. Although governments had run budget deficits without the aid of Keynesian theories before, the pre-Keynesian presumption was that in peacetime the budget should generally be balanced or even in surplus to pay off the government debt generated by wartime deficits. The devotion to balanced budgets is evident from the desire of political candidates and governments to balance the budget even during the Great Depression. Though few succeeded in balancing the budget, some governments raised tax rates during that period.

Keynes provided a framework—now recognized to be incomplete—in which it is possible to analyze the question of how the deficit should behave. The earliest emphasis was on fiscal policy and the deficit as components of aggregate demand. From that perspective, Keynesians saw no need to balance the budget during periods of recession. Instead the notion of the cyclically balanced budget, that the budget should be in balance on average over the business cycle—in surplus during booms and in deficit during recessions—was developed as a norm for fiscal behavior.

There were, of course, well-known refinements to this concept. First, the balanced budget multiplier shows that the deficit is not an unambiguous measure of the effect of fiscal policy on aggregate demand; given the deficit, an equal increase in government spending and revenue increases aggregate demand. Second, the budget deficit is itself endogenous, affected by the state of the economy as well as affecting it. The notion of the full-employment deficit, or high-employment deficit, or structural deficit developed from these qualifications of the original concept. The structural deficit estimates the size of the budget deficit as it would be if output were at the full employment level (see appendix).

Once the threat of widespread postwar unemployment had receded, the emphasis shifted from the effect of fiscal policy on aggregate demand to its effect on the components of demand. Here the saving-investment identity, or the resource constraint facing the economy as a whole, is a useful guide to analysis:

$$(1) \quad \text{Budget deficit} = (\text{private saving} - \text{private investment}) \\ + (\text{current account deficit}).$$

Since equation (1) is an identity, there is not much arguing with it (though it is necessary to define terms consistently: the budget deficit in (1) is that of

the consolidated public sector). To illustrate the uses of the equation, suppose the economy is at full employment, and take the rate of saving as given. The saving-investment identity illustrated by the equation then implies the crowding-out problem: an increase in the budget deficit will result in either a reduction in investment or an increase in the current account deficit. Until this decade, textbooks—at least U.S. textbooks—tended to emphasize the possibility of crowding out investment. The clear relation in this decade between the U.S. budget deficit and its trade deficit has reminded us that there are two terms on the right-hand side.

It would be a mistake, though, to overcompensate by assuming an automatic one-to-one link between the budget and trade deficits. Balassa (1988), for instance, finds a high correlation between budget deficits and trade deficits in the industrial but not the developing countries. To take another example, the United Kingdom ran a large trade deficit in 1988–89 while maintaining a strong fiscal position. The effect on the trade deficit of a reduction in the budget deficit depends on the accompanying monetary policy and its effect on the exchange and real interest rates. Fiscal contraction accompanied by monetary easing would reduce the interest rate and lead to a depreciation of the exchange rate, thus tending to increase investment while reducing the trade deficit.

Standard Keynesian analysis of the effects of fiscal policy has been modified by two important theoretical developments. The first is the more sophisticated model of saving behavior that emerges from the life-cycle and permanent income theories of consumption of Franco Modigliani and Milton Friedman. So far in this article we have implicitly taken the rate of saving as determined by the level of disposable income and have not focused on the link between the budget deficit and saving. The life-cycle and permanent income theories both relate current consumption to a measure of permanent or lifetime disposable income. Accordingly, a current change in taxes that does not change the present value of taxes should not, other things being equal, reduce current consumption. Thus a temporary tax change should have a smaller effect on consumption than a permanent tax change. This, of course, implies that the effect on spending of changes in the budget deficit is influenced by expectations about the permanence of the deficit.

Pursuing the argument to its logical conclusion, Barro (1974) shows that under a very specific set of assumptions, lump-sum changes in taxes would have no effect on consumer spending. What is more, a cut in taxes that increases disposable income would automatically be accompanied by an identical increase in saving. This is the so-called Ricardian equivalence result, which states that deficits and taxes are equivalent in their effect on consumption.

The explanation is quite simple: the far-seeing consumer recognizes that the government debt generated through deficit spending will eventually be paid off by increased taxes, the present value of which is exactly equal to the present value of the reduction in taxes. Taking the implied increase in future taxes into account, he or she saves the amount necessary to pay them.

The potential empirical importance of the Ricardian equivalence hypothesis cannot be exaggerated. If the hypothesis holds, budget deficits do not affect national saving, interest rates, or the balance of payments; nor does the method of financing of social security affect the accumulation of capital. With regard to equation (1), the hypothesis implies that an increase in the budget deficit would, under certain circumstances, be accompanied by an increase in private saving—and that both investment and the trade balance would therefore be unaffected.

Despite the sharpness of its predictions, it has not been possible to reject Ricardian equivalence sufficiently decisively to persuade proponents of the theory to change their views. Bernheim (1987) reviews and extends the theory and evidence, arguing strongly against Ricardian equivalence. Haque and Montiel (1987) reject Ricardian equivalence for fifteen out of a sample of sixteen developing countries. Others regard the evidence as sufficient to rule out Ricardian equivalence as anything more than an interesting theoretical possibility. We believe the evidence, including that from the United States in this decade, still supports the view that tax cuts increase aggregate demand, though the effect does depend on expectations of the permanence of the change.

The second theoretical development that has affected the Keynesian analysis of fiscal policy takes off from the extremely short-run nature of the Keynesian model. Because asset stocks are assumed fixed in the model, the consequences of the method by which the budget deficit is financed are not pursued.

## Financing the Budget Deficit

There are four ways of financing the public sector deficit: by printing money, running down foreign exchange reserves, borrowing abroad, and borrowing domestically:<sup>1</sup>

$$(2) \quad \text{Budget deficit} = \text{money printing} + (\text{foreign reserve use} \\ + \text{foreign borrowing}) + \text{domestic borrowing}.$$

The public sector in this case is defined to exclude the central bank, whose profits from the printing of money are treated as a source of financing. In both equations (1) and (2), government revenue from the printing of money is treated as a source of financing. Private saving in equation (1) is defined to include additions to money holding.

The terms on the right-hand side can be grouped in different ways. For instance, the parentheses around the foreign components emphasize the link between the budget deficit and the current account, as in equation (1). Alternatively, parentheses could be placed around (money printing + foreign reserve use), which is equal to creation of credit by the central bank; this emphasizes that domestic credit creation is the alternative to borrowing.

As a useful first approximation, we can associate each of the forms of financing in equation (2) with a major macroeconomic imbalance. Money print-



ing is associated with inflation; foreign reserve use is associated with the onset of exchange crises; foreign borrowing is associated with an external debt crisis; and domestic borrowing is associated with higher real interest rates and, possibly, explosive debt dynamics as borrowing leads to higher interest charges on the debt and a larger deficit. But the first approximation is only the beginning of the story, for there are links between these problems—for instance, between domestic borrowing and inflation (discussed in the next section) and between foreign exchange use and external debt crises (discussed in the section on foreign borrowing).

### *Money Printing*

It is straightforward to relate the creation of base money to inflation in the usual monetarist way. The printing of money at a rate that exceeds the demand for it at the current price level creates excess cash balances in the hands of the public. The public's attempts to reduce excess cash holdings eventually drive up the overall price level, until equilibrium is restored. Of course, cause and effect are not necessarily obvious or immediate: initially, for instance, an increase in the stock of real money may reduce interest rates, particularly in a low-inflation economy.

The amount of revenue that the government can expect to obtain from the printing of money is determined by the demand for base or high-powered money in the economy, the real rate of growth of the economy, and the elasticity of the demand for real balances with respect to inflation and income. Assume for convenience that the income elasticity of the demand for base money is unity. Assume also that the currency to GNP ratio is 13 percent, as it is in Pakistan—this is high by international standards. (We have changed from high-powered money to currency, because rediscounts to the banking system of about 6 percent of GNP effectively reduce the base on which the government earns seignorage—its right to print money.)

Then for every one percentage point that GNP increases, the government can obtain 0.13 percentage points of GNP in revenue through the printing of money that just meets the increased demand for real balances. With an annual economic growth rate of 6.5 percent, the government should be able to obtain nearly 0.9 percent of GNP for financing the budget deficit through the noninflationary printing of money, increasing the high-powered money stock at an annual rate of 6.5 percent.

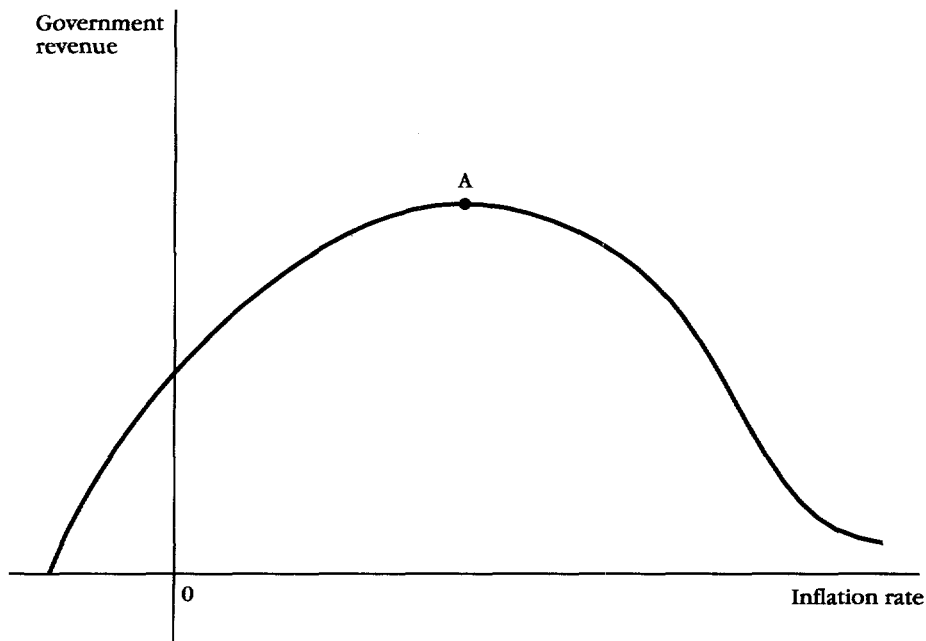
Beyond that rate of growth, and given a stable demand function for currency, inflation will result. If the ratio of base to GNP were invariant to the inflation rate, it would be easy to estimate the amount of revenue collected at different inflation rates. For instance, at a 10 percent inflation rate the government would be able to finance an extra 1.3 percent of GNP of budget deficit through seignorage.

But the demand for high-powered money declines as the inflation rate rises. Eventually the government's revenue from seignorage reaches a maximum (see figure 1). Thereafter, increases in the growth rate of money lead to more inflation and less revenue. In this situation there is a true Laffer curve: beyond point A in the figure, the government can obtain more revenue by printing money less rapidly.

At what rate of inflation is the government's revenue from money printing maximized? The historical record shows average (not maximum) rates of seignorage of about 1 percent of GNP for the industrial countries and less than 2.5 percent of GNP for the developing countries (Fischer 1982). Estimates of the inflation rate at which the maximum rate of seignorage is attained range from 30 percent to more than 100 percent. These estimates, however, are misleading, for there are lags in the process of adaptation of money demand to inflation. In the very short run of a few days or weeks, the government can almost always increase its revenue by printing money more rapidly. But the longer a process of high inflation continues, the more the demand for real balances at any given inflation rate declines. People find other ways of doing business, especially by transacting in foreign currencies. (For treatment of the problem of high inflation see Blejer and Liviatan 1987 and Kiguel and Liviatan 1988.)

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**Figure 1. Revenue from Seignorage**



The dynamic process associated with high inflation, in the high double digits, is inherently unstable. The government may initially obtain large amounts of revenue, perhaps even 7 to 8 percent of GNP, by increasing the money stock rapidly. But as the inflation proceeds and individuals find ways of reducing their holdings of local currency, the government has to print money more rapidly to obtain the same revenue. Thus it is safe to argue that rates of seignorage of much more than 2.5 percent of GNP would not be sustainable and that even that rate would be possible only in a very rapidly growing economy.

In the extreme cases, reliance on seignorage revenue to finance the deficit leads to hyperinflation. A recent example is Bolivia in 1984–85. Inflation in Bolivia soared to over 11,000 percent in 1985, although revenue from currency creation fell to 8 percent of gross domestic product (GDP) in 1985 from 14 percent of GDP in 1984. But Bolivia is not alone: many other governments—including Nicaragua and Peru—have suffered from the same phenomenon in recent years as well as during the great hyperinflations. The instability of the process is reinforced by the decline in the efficiency of the tax system as the inflation rate rises, the so-called Keynes-Olivera-Tanzi effect (Tanzi 1977).

### *Using Foreign Exchange Reserves*

The second means of financing the government budget deficit is to run down foreign exchange reserves. By running down reserves instead of printing money, the government can hope to put off the inflationary effects of a deficit. This policy appreciates the exchange rate. The policy of slowing the rate of exchange depreciation to slow down inflation (carried out not only through reserve use but also through increased foreign borrowing) has been tried time and again; it cannot be maintained unless the essentials—that is, fiscal policy—are made compatible with the lower inflation.

Use of international reserves to finance the deficit has a clear limit. The private sector's expectation that the limit is about to be reached can provoke capital flight and a balance of payments crisis, since exhaustion of reserves will be associated with currency devaluation. The devaluation that takes place in response to a run on the currency might be blamed on speculators but is most likely an entirely rational response by the private sector to unsustainable public policies (see Krugman 1979).

This private sector response is a plausible explanation for the event that precipitated (though it did not, of course, by itself cause) the debt crisis—the exhaustion of reserves in Mexico in August 1982. A loss of fiscal control resulted in deficits of 14 percent of GDP in 1981 and 18 percent in 1982. Capital flight had been proceeding at the rate of \$7 billion<sup>2</sup> a year from 1979 to 1982. Finally, a speculative attack on the remaining reserves in August 1982 led to the suspension of payments and the beginning of the rescheduling process.

### *Foreign Borrowing*

The third method of financing the public sector deficit, direct foreign borrowing, tends, like the use of reserves, to appreciate the exchange rate, damaging exports and encouraging imports. The dangers of excessive reliance on external borrowing to finance the budget deficit, and of large budget deficits, are convincingly illustrated by the debt crisis (see Sachs 1989 for a discussion of the link between the external debt crisis and fiscal behavior, and Ize and Ortiz 1987 for an analysis of the relation between fiscal deficits and capital flight). Most, though not all, of the countries that developed debt servicing difficulties were running huge public deficits. For most highly indebted countries, past overborrowing and the perception that they are not creditworthy have severely limited this source of finance for the present.

We have already noted that budget deficits and trade deficits are not necessarily linked. Budget deficits can be financed by printing money and by domestic borrowing. But when, as in some developing countries, domestic capital markets are thin and domestic borrowing possibilities limited, the connection between the budget deficit and external borrowing is more likely to be close. For example, large fiscal deficits (between 7 and 11 percent of GDP) in Bangladesh during the 1980s have been mirrored in sizable current account deficits. Recent fiscal adjustment through cutbacks in expenditure has substantially improved the current account. If the relation is viewed in the reverse direction, reductions in the availability of external financing, as for some of the debtor countries, force either fiscal contraction or inflation.

### *Domestic Borrowing*

The final form of finance, available to some developing countries, is issuance of domestic debt. This is usually intermediated by the banking system, although in a few cases, such as Brazil and Mexico, government bonds have been sold directly to the private sector. To be considered nonmonetary debt, borrowing from the banking system must not be financed by central bank rediscounts. Although government domestic borrowing is often thought of as a way to avoid both inflation and external crises, it carries its own dangers if used to excess. By definition, government borrowing reduces the credit that would otherwise be available to the private sector, putting pressure on domestic interest rates.

In countries as diverse as Colombia and Turkey, reliance on domestic debt has indeed brought high real domestic interest rates. In Turkey the real domestic lending rate reached 50 percent in 1987. More moderate domestic borrowing in Colombia led to high real interest rates during 1983–86.

Even where interest rates are controlled, domestic borrowing leads to credit rationing and crowding out of private sector investment. If the economy is well integrated with international capital markets, government domestic borrowing will tend to push the private sector into borrowing more abroad. In this case,

the composition of public borrowing between foreign and domestic sources does not have much macroeconomic effect. The link between fiscal and external deficits will also be especially close when the capital account is highly open.

## Debt Dynamics

To examine the long-term consequences of running deficits, we use identity (3), which shows the determinants of the change in government debt. It is most useful to concentrate on the ratio of the debt to a measure of the scale of the economy; accordingly, we focus on the ratio of government debt to GNP, which we denote  $d$ . Debt is now defined to include both the net external and domestic debts. In terms of equation (2), we consolidate foreign and domestic borrowing and treat changes in foreign reserves as equivalent to net external borrowing.

The change in the debt ratio ( $d$ ) is equal to the noninterest (or primary) deficit of the total public sector, minus the part that is financed by printing money, plus the current debt ratio ( $d$ ) times the average real interest rate on the debt minus the growth rate of GNP (this is the last term in (3)):

$$(3) \quad \text{Change in } d = (\text{primary deficit/GNP}) - (\text{seignorage/GNP}) \\ + (\text{real interest rate} - \text{growth rate}) \times d$$

This equation, which is the key to understanding debt dynamics, has a simple intuitive explanation. The noninterest deficit has to be financed with new debt to the extent that this deficit exceeds the amount of money creation by the central bank. In addition, nominal interest expenditures have to be refinanced with new debt. But since the denominator of the debt ratio is nominal GNP, the debt ratio will decline either with inflation or with real GNP growth in the absence of new borrowing.

The dynamics of debt and the sustainability of deficits are particularly affected by the difference between the real interest rate and the growth rate of GNP (see Corbo, Goldstein, and Khan 1987; Anand and van Wijnbergen 1989; Morley and Fishlow 1987; and Buiters 1985). Assume first that the real interest rate on debt exceeds the growth rate. Then debt dynamics are unstable, and it becomes impossible to run a permanent primary deficit that exceeds the amount of revenue the government can obtain through seignorage. The conclusion deserves emphasis: if the government is running a primary deficit larger than the amount of seignorage it can obtain, and if the real interest rate exceeds the economy's growth rate, the debt to GNP ratio will continue rising without limit. At some point it will be impossible for the government to sell its debt, and the process will have to be brought to an end by cutting the budget deficit. The point at which the process has to end depends on the expectations of the public. When the public recognizes the unsustainability of the government's fiscal policy, it will cease buying government debt and thereby force a change in policy.

The debt dynamics equation (3) has an interesting implication, first pointed out by Sargent and Wallace (1981). Suppose that the government tightens monetary policy by reducing the rate of printing of money and increasing borrowing. The debt increases; either deficits will be higher in the future or the government will have to print more money in the future to keep the deficit constant. If future deficits are to be held constant, the increased printing of money in the future will mean more inflation in future. Generally, the expectation of future inflation increases current inflation. And, as Sargent and Wallace show, it is even possible in certain—though not all—circumstances that the effect of the expected increase in future inflation outweighs that of the lower rate of money printing today, so that an apparently contractionary monetary policy today will increase current inflation.

We have already discussed maximum sustainable rates of seignorage. To summarize: governments cannot use seignorage permanently to finance primary deficits much in excess of one percent of GNP without producing inflation—but in a rapidly growing and financially deep economy the government may be able to raise as much as 2.5 percent of GNP through non-inflationary seignorage.

What happens if the real interest rate is less than the growth rate? This is a world in which the painful tradeoffs just discussed do not exist. Debt is eroded over time through growth, so primary deficits in excess of seignorage revenue are sustainable. A so-called Ponzi<sup>3</sup> scheme of borrowing to pay interest is always possible. This certainly seemed to be so in the late 1970s, as high inflation rates produced negative ex post real interest rates. It is also true that real interest rates are very likely to be below the growth rate in economies that are growing rapidly, such as the newly industrialized Asian economies.

There are some who believe that the real interest rate should normally be below the growth rate, and that this eventual return to normality will provide an escape from the debt crisis. But an economist's instincts, rightly, are that such a free lunch is not possible. Real interest rates can be temporarily below the growth rate and could be below the growth rate for a long time in a rapidly growing economy—this is part of the virtuous circle of growth. But market forces tend to prevent the real interest rate from remaining below the real growth rate permanently. As more debt piles up, the pressure on bond markets drives up the interest rate and growth declines. If a rapidly growing economy attempts to exploit the apparently favorable debt dynamics by borrowing excessively, the growth rate will eventually fall below the real interest rate. At the level of the world economy, the normal situation should be thought of as one in which the real interest rate exceeds the growth rate.

It might seem that the government could make a Ponzi scheme possible by controlling domestic interest rates. But this is a tax on domestic bondholders in the amount by which the controlled rate is below the long-run equilibrium rate. Savers respond by taking their savings elsewhere, and the government faces a limit on how much it can borrow. The experiences of countries such as Argentina, Mexico, and Venezuela with interest rate controls and capital flight

confirm this limitation (see Cuddington 1986). We are back again in the world of tough choices and unforgiving tradeoffs.

### *Sustainable Deficits*

Whether the deficit is sustainable depends on its size and on how fast the economy is growing. It can be seen from equation (3) that a higher growth rate allows the government to obtain more revenue by printing money and reduces the last term in the equation. Rapid growth permits a larger deficit.

This argument helps explain why countries such as India, Malaysia, Pakistan, and Thailand, where growth was at or above 5 percent over 1980–86, have been able to run sizable domestic deficits while inflation has been in the single digits, whereas Argentina and Brazil—with virtually no growth but with comparable inflation-adjusted deficits—have been plagued with quadruple-digit inflation. This is not to say that public deficits do not matter in high-growth economies, only that they can be bigger, so long as the growth continues.

Whether a given fiscal policy is sustainable can be determined by doing detailed projections of the future course of the debt to GNP ratio. Equation (3) provides the essential analytic tool; the analysis requires subsidiary assumptions about the demand function for money, the desired inflation rate, the real interest rate, and the growth rate of the economy. If the analysis shows the debt to GNP ratio to be rising continually, the fiscal policy has to be changed.

It is sometimes argued that a deficit that results from high public investment will be sustainable. But this argument can easily be overdone. In the first instance, although spending on public infrastructure often has a very high return, many low-return or no-return items may also be included in the category of investment (the role of inefficient public investment in the economic crisis of oil-exporting countries is trenchantly analyzed in Gelb 1988). More important, even if public investment has a high return, the government must capture the additional returns from the investment if it is to be self-sustaining. For example, suppose that a project yields the remarkably high real return of 15 percent, that the marginal tax rate is 20 percent, and that the government borrows at 7 percent to finance the project. The government will be receiving only 3 percent of the cost of the project in tax revenue, even though its social yield is 15 percent (assuming that the entire social yield is pecuniary). (The higher level of output generated by the project, as indicated by the social yield, would also make possible more noninflationary money and debt finance, but this is a relatively minor effect.) Thus the investment project still adds to future deficits, despite its high yield—though, to be sure, its effect on future deficits is smaller than that of current government spending financed through deficits.

Economies can proceed for long periods with large deficits, as the Italian economy has. It helps in these cases if the domestic saving rate is high, so that individuals are willing to absorb relatively large amounts of government debt in their portfolios. But the relentless increase in the debt to GNP ratio means that even in the Italian case, fiscal policy will eventually have to change.

## Deficits and Inflation

Our analysis has made it clear that there is no automatic link between budget deficits and inflation. The visitor to high-deficit economies with high inflation is often told that the deficit cannot be the cause of inflation because the correlation between them is low. In particular, it often happens that a contractionary policy that starts by raising the controlled prices of public enterprises and subsidized goods and by devaluing will both raise the price level—and thereby for some time the inflation rate—and reduce the deficit. And, in the United States, as in Italy, the high deficits of this decade have been accompanied by a decline in inflation.

Nonetheless, budget deficits do sooner or later tend to create inflation, and countries with very high budget deficits are likely to find themselves at some point confronted with extremely high rates of inflation. There have been massive budget deficits in all of the great hyperinflations, with the inflationary process and the deficit feeding on each other through the Keynes-Olivera-Tanzi effect, as higher inflation reduces tax revenue, and through declines in seigniorage revenue, as higher inflation causes a flight from money.

The correlation between the deficit and inflation is low in the early stages of inflation partly for the reason already explained, that programs to reduce deficits are often inflationary. It is low also because the economy adjusts slowly to inflationary pressures. And the correlation may be low for a third reason, that the public in an economy with a high deficit may at different times have different expectations about how the deficit will eventually be closed. For instance, if the public believes at one point that the government will attempt to deal with its fiscal problem through an inflation that erodes the value of the public debt, current inflation—reflecting the expectation of future inflation—will rise. If, at a later time, the public believes that the government will introduce an effective fiscal package to reduce the deficit, the expected inflation rate may be reduced and current inflation—again reflecting the expectation of future inflation—may fall (this argument is developed by Drazen and Helpman 1986).

Milton Friedman's famous statement that inflation is always and everywhere a monetary phenomenon is correct. However, governments do not print money at a rapid rate out of a clear blue sky. They generally print money to cover their budget deficit. Rapid money growth is conceivable without an underlying



fiscal imbalance, but it is unlikely. Thus rapid inflation is almost always a fiscal phenomenon.

## Conclusion

The macroeconomic analysis that we have outlined is a useful starting point for examining the economics of budget deficits. But it takes more than a single indicator to judge fiscal policy. The microeconomics of fiscal deficits both is crucial in its own right and has an impact on the macroeconomics of deficits. The more efficient are taxes and spending, the higher is the public deficit that can be sustained, since growth will be higher.

Consideration of the macroeconomics of the government budget constraint points to the dangers that arise from excessive budget deficits: inflation, exchange crises, external debt crises, and high real interest rates, with implications for the real exchange rate and the trade account and for investment. None of the links is automatic, for there are choices in the sources of financing, and lags in the effect of money printing and borrowing on inflation and interest rates.

Nor are moderate budget deficits to be avoided at all costs: small deficits can be financed without creating excessive inflation, exchange crises, or building up debt excessively. If the real interest rate exceeds the growth rate of GNP, any primary deficit smaller than the maximum amount of seignorage revenue the government can obtain is sustainable. Whether any particular path of fiscal policy is sustainable has to be checked through projections of the debt to GNP ratio; a given deficit is more likely to be sustainable the higher the growth rate of output.

The fact that a fiscal policy is sustainable does not mean that it is optimal. A fiscal deficit may crowd out private investment, and it might well be desirable to reduce the debt to GNP ratio to crowd in private investment. Similarly, it may not be optimal to collect the maximum possible amount of revenue from seignorage but rather a smaller amount corresponding to a lower inflation rate.

Both theory and evidence tell us—and warn us—that large budget deficits pose real threats to macroeconomic stability and, therefore, to economic growth and development.

## Appendix: Problems of Measurement

International comparisons of fiscal data are plagued by the variations in methodology and the lack of comprehensive coverage of the public sector. Definitions of deficit change from country to country and even over time in the same country. One country may include aid receipts as revenue, whereas another treats them as deficit finance. Some countries have data only on the

national government, whereas others cover to varying degrees local governments, state enterprises, and decentralized agencies. In some countries, activities of the central bank or other public financial intermediaries create significant losses, but including their deficits in the overall public sector is difficult because of conceptual problems and lack of reliable data. Social security is consolidated with the public accounts in some countries but not in others. Many examples can be given of such accounting difficulties. (The most comprehensive collection of fiscal data is IMF various years. World Bank 1988, p. 45, describes data sources. Blejer and Chu 1988 analyze many of the methodological issues.)

Even aside from technical accounting problems, there are broader issues of how to define deficits in an economically meaningful way. Many different definitions (for a discussion of these, see World Bank 1988, pp. 56–57) have been proposed to attempt to remove short-term distortions from deficit measures. The most important single correction is to adjust the deficit for the inflation component of interest payments, yielding the inflation-corrected, or operational, deficit. The correction removes from the deficit the product (inflation rate times stock of debt), including in the operational deficit only the real component of interest. The correction can be substantial. For instance, estimates of the fiscal deficit in Mexico for 1987 imply a deficit of over 15 percent of GDP, but the operational balance shows a surplus of 3 percent.

Some economists disagree with the use of the operational deficit on the grounds that the government has in fact to find a way of meeting the interest payments, even if they only reflect compensation for inflation. A useful way of thinking of the operational deficit is that it provides an approximate measure of the size of the deficit the government would have to deal with if it succeeded in getting rid of inflation. Thus the fact that there was an operational surplus in Mexico in 1987 meant that there was no underlying fiscal problem that was inconsistent with the government attaining a zero or low inflation equilibrium. (The operational deficit ideally should be evaluated using the expected inflation rate. The actual inflation rate may include an unexpected component that would temporarily lower the operational deficit, but the lower deficit would not be sustainable.)

In addition to correcting the deficit for inflation, influences from commodity price fluctuations or domestic output above or below trend are sometimes removed to give the structural deficit.

Deficits can also be underestimated because of controls on interest rates or key prices. For example, negative real interest rates paid on government debt will make the deficit appear lower than if the interest bill were evaluated at the true opportunity cost of capital. An artificially low exchange rate applied to the government's external debt in a system of multiple exchange rates would similarly suppress the size of the true deficit. To correct for such distortions, public deficits can be evaluated at the long-run equilibrium values of the interest rate, exchange rate, and other key relative prices.

## Notes

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1. Buiter (1988) and Anand and van Wijnbergen (1989) provide a good summary of the macroeconomics of the financing of government deficits; Tanzi's earlier treatment (1984, 1985) is also very useful. Empirical analysis of deficit financing is provided in Easterly (1989).

2. One billion equals 1,000 million.

3. Charles Ponzi was a Boston resident who in the 1920s made a fortune through a pyramiding scheme but who then ended up in jail and was later penniless.

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# REFORMING PROPERTY RIGHTS IN LAND AND TENANCY

*Clive Bell*

*This article examines the nature and distribution of property rights in land and how they are changing under economic and demographic pressures. It also analyzes the practical chances of success of several alternative forms of policy intervention to redistribute property rights and regulate tenancy. This analysis begins with the political economy of land reform in the twentieth century. It draws a distinction between reforms precipitated by social upheaval (defeat in war, social revolution, or national liberation) and those that occur in "normal" times, when the social and political order is more secure. It is argued that the former have been much more important and, drawing on examples, that the latter face formidable obstacles. In this connection, it is proposed that a tax reform which does away with the highly selective subsidies and exemptions that benefit the rich and inflate the price of land should be undertaken first. Then, when land prices have fallen, compulsory purchase of land for redistribution, at close to fair market value to ensure its political acceptability, would not entail an intolerable fiscal burden. Where tenancy is concerned, it is argued that this institution is commonly a socially useful market response, which provides opportunities for the fuller employment of family resources and, over the long run, for individual mobility. Thus interventions designed to inhibit tenancy directly or to transfer ownership-like rights to existing tenants may result in heavy costs, especially for future cohorts of would-be tenants.*

**L**and is the central factor of production in agrarian economies. The entire rural population makes its livelihood from it, both directly, as landlords, farmers, and laborers, and indirectly, as producers of the local nonfarm goods and services sold to the farming community. In poor countries, agriculture usually accounts for 40 to 70 percent of gross national product and 50 to

80 percent of total employment. Moreover, actual and imputed land rents account for at least one third and sometimes over one half of value added in agriculture. Hence, the incomes of the rural poor depend heavily not only on the efficiency with which land is used, but also on the distribution of the rents generated by its use.

The distribution of rents depends on the nature and allocation of property rights in land, which specify who can make claims on each particular use and output. Thus, direct access to land can come about either through individual ownership or, at the other extreme, through membership in a community that holds land in common. When land is individually owned, usufructuary rights can be transferred to other parties under tenancy contracts; when it is collectively held, usufructuary rights may not be individual, and even if individual, they may not be transferable.

The arrangements under which land is used will normally affect the demand for and use of labor and other inputs, such as draft animals and managerial skills. This is especially important if those markets are imperfect, since larger opportunities to cultivate will then create opportunities for the fuller use of the resources owned by the families that undertake cultivation. Conversely, access to these opportunities should encourage the accumulation of complementary assets and skills. Of course, for any given set of opportunities to gain direct access to land through cultivation, there will be many households that make their living mainly by selling their labor, whether by choice or out of failure to gain such access. For them, the demand for labor is vital.

The objectives of this article are to examine first, the nature and distribution of property rights in land, and how they are changing under economic and demographic pressures; and second, what forms of policy intervention are desirable, and their practical chances of success. The article begins with a discussion of the nature of property rights in land. This is followed by a sketch of alternative forms of tenure and intervention aimed at redistributing property rights. The third section deals with the political economy of redistributive reforms, drawing on examples from contemporary history. The fourth section assesses the prospects for redistributive reforms in normal times, when the social and political order is fairly secure, and the fifth analyzes the potential roles for tenancy, both as a market response and as an avenue of opportunity for individual mobility. The principal themes and findings are summarized in the concluding section.

## Property Rights in Land

Property rights involve issues of exclusivity (who can use the asset and how much of the output he or she can claim); transferability (whether such uses and claims can be transferred to another, temporarily or permanently); and alienability (if transfers are permitted in principle, whether there are restrictions on

how or to whom they may be made). These rights are inherently complex. For example, an owner may enjoy an exclusive claim to the standing crops on the plots he or she cultivates, but everyone in the community may have the right to graze their cattle on the stubble that is left after harvest. Customary grazing rights of this sort are widespread in India, where individual property rights in land are normally thought of as being strong.

Clearly, therefore, purely individual and purely collective forms of property rights are simply polar cases. Where the rights are purely individual, the owner has complete and exclusive claims to all uses and outputs and may dispose of the land as and to whom he or she sees fit. Land is then a purely commercial commodity. Where the rights are purely collective, all members of a community have claims on the output of land held in common (usually to the exclusion of outsiders), but they have no rights of transfer, except (perhaps) to bequeath membership to their children. Many intermediate forms are found between these extremes, sometimes as a result of local initiatives in the face of changing circumstances and an indifferent central state, sometimes as a result of central initiatives over local opposition.

In Africa, for example, usufructuary rights to farmland were normally acquired by initial clearing and maintained by cultivation (with suitable fallowing practices). When it is not under crops, such land is open to secondary use by members of the owner's social group. Once cultivation is resumed, however, it ceases to be a common property resource (Blarel and others 1989). Where transferability and alienation are concerned, in certain regions of Ghana and Rwanda, for example, a recent survey revealed that 59 and 62 percent, respectively, of all parcels can be alienated outside the lineage of their holders (Blarel and others 1989). For all parcels that can be alienated in some form, the proportions that can be alienated outside the lineage are higher, at 75 and 83 percent, respectively. This evidence appears to support the hypothesis that commercialization and population pressure encourage the emergence of individual rights, Rwanda being much more densely settled. Be that as it may, this traditional form of tenure is evidently more open, to insiders at least, than that based on pure individual rights.

Statistics on the average size of holding and the distribution of holdings by size and tenorial status for selected countries in Africa, Asia, and Latin America (tables 1 and 2) reveal great variations across countries and regions, which reflect profound differences in demographic, social, and economic history. Average holdings are small in Africa and Asia, with a somewhat more egalitarian pattern in Africa (notwithstanding a certain dualism in Kenya and Zambia, where there are a few very large holdings owned by Europeans). Average holdings are much larger in Latin America, with a decidedly inegalitarian pattern. Owner-operated holdings are the largest category in both number and area, except in Cameroon and Mexico, where tribal and communal forms are dominant. In all cases the average owner-operated holding is larger than the average pure tenancy. Holdings comprising more than one form of

**Table 1. Distribution of Landholdings by Size, for Selected Countries, about 1970**  
(percent)

Region and country	Average size of holding (hectares)	Distribution of holdings by number of hectares								
		0-1	1-2	2-5	5-10	10-20	20-50	50-100	100-500	500+
<i>Africa</i>										
Cameroon	1.6	42.7	30.5	23.3	3.2	0.3	...	—	—	—
Ghana	3.2	37.7	24.2	24.0	8.8	3.5	1.8	...	—	—
Kenya	4.1	31.8	26.9	31.1	9.9	...	—	—	0.1	...
Malawi	1.5	39.1	34.6	26.3	...	—	—	—	—	—
Sierra Leone	1.8	37.8	26.9	29.7	5.6	—	—	—	—	—
Zambia	3.1	50.4	28.6	17.2	3.8	1.4	0.5	—	0.1	—
<i>Asia</i>										
India	2.3	50.6	19.1	19.0	7.4	3.0	0.8	0.1	...	—
Indonesia	1.1	70.4	18.1	9.4	1.5	0.6	—	—	—	—
Iraq	9.7	20.1	11.2	18.1	21.5	18.6	9.0	1.0	0.5	...
Korea, Rep. of	0.9	66.9	26.4	6.7	...	—	—	—	—	—
Pakistan	5.3	13.8	14.3	39.9	21.1	7.7	2.5	0.6	...	—
Philippines	3.6	13.6	27.4	43.8	10.4	3.6	1.0	0.2	...	—
Sri Lanka	1.2	71.2	16.9	9.9	1.3	0.4	0.2	...	—	—
<i>Latin America</i>										
Brazil	59.7	8.1	10.0	18.7	14.7	15.7	16.7	7.0	7.5	1.8
Colombia	26.3	22.9	15.1	21.6	13.6	10.0	8.5	4.1	3.6	0.7
Costa Rica	38.1	23.2	9.8	15.9	11.0	11.0	14.6	7.3	6.2	1.0
El Salvador	4.6	56.6	18.6	13.5	5.0	2.8	2.2	0.6	0.5	0.1
Mexico	137.1	33.5	11.1	15.1	10.0	7.8	8.1	4.8	6.0	3.6
Peru	16.9	34.8	18.8	24.4	11.0	5.7	3.3	0.9	0.8	0.2

— = not available.

... = less than 0.1 percent.

Source: FAO 1981.



**Table 2.** Distribution of Landholdings by Form of Tenure, for Selected Countries, about 1970  
(percent)

Region and country	Holdings under one form of tenure								Holdings under mixed tenure		Proportion of area rented	Proportion of rented area under share tenancy
	Owned		Rented		Squatter		Communal and other		Number	Area		
	Number	Area	Number	Area	Number	Area	Number	Area				
<i>Africa</i>												
Cameroon	2.4	2.5	5.2	2.7	7.5	6.1	59.5	58.4	25.4	30.2	7.5	0
Ghana	—	—	—	—	—	—	—	—	—	—	—	—
Kenya	—	—	—	—	—	—	—	—	—	—	—	—
Malawi	—	—	—	—	—	—	—	—	—	—	—	—
Sierra Leone	—	85.6 <sup>a</sup>	—	6.3 <sup>a</sup>	—	0.5 <sup>a</sup>	—	7.6 <sup>a</sup>	(b)	(b)	6.3	0
<i>Asia</i>												
India	92.0	91.5	4.0	2.4	...	...	...	...	4.0	6.1	—	—
Indonesia	74.8	76.2	3.2	2.1	...	...	...	0.2	22.0	21.5	—	—
Iraq	—	52.4 <sup>a</sup>	—	40.9 <sup>a</sup>	—	4.8 <sup>a</sup>	—	1.9 <sup>a</sup>	(b)	(b)	40.9	—
Korea, Rep. of	65.9	66.1	9.5	6.7	...	...	...	...	23.8	27.2	17.2	—
Pakistan	41.7	39.5	34.5	29.6	...	...	...	...	23.8	30.9	46.1	83.4
Philippines	58.0	65.6	29.0	21.4	...	...	1.5	1.5	11.4	11.4	—	—
Sri Lanka	—	64.9 <sup>a</sup>	—	22.4 <sup>a</sup>	—	4.0 <sup>a</sup>	—	8.7 <sup>a</sup>	(b)	(b)	22.4	—
<i>Latin America</i>												
Brazil	60.4	82.6	20.4	6.1	16.5	7.2	0	0	2.7	4.1	7.1	24.6
Colombia	68.7	74.6	14.1	5.3	4.0	9.5	6.0	4.5	7.1	6.2	6.5	48.0
Costa Rica	85.4	90.8	4.7	1.2	...	...	0.2	0.2	9.7	7.8	3.0	—
El Salvador	35.3	77.1	24.0	7.2	...	...	12.0	5.8	13.9	9.9	11.3	1.5
Mexico	—	44.5 <sup>a</sup>	—	2.6 <sup>a</sup>	—	1.2 <sup>a</sup>	—	51.7 <sup>a</sup>	(b)	(b)	2.6	17.0
Peru	62.2	82.1	8.6	4.5	5.5	2.6	5.8	1.7	18.0	9.1	6.0	—

— = not available.

... = less than 0.1 percent.

a. Includes holdings under mixed tenure (not reported separately).

b. Included under communal and other tenure.

Source: FAO 1981.

tenure are relatively numerous, especially in Asia, where peasants frequently lease in land to augment their own holdings. In Asia, such holdings are at least as large, on average, as owner-operated holdings. The proportion of the entire area under tenancy is rather small, except in some countries of Asia, notably Iraq and Pakistan. But the extent of tenancy is surely underreported in most national censuses, because legislation prohibiting or regulating tenancy discourages truthful reporting. Evidence on the form of contract is available for only a few countries. The dominant form is sharecropping in most of South Asia and fixed rent (in cash or kind) elsewhere.

## Forms of Tenure and Reform

Discussions of land reform usually begin—and often end—with proposals under which individual property rights in land, and associated rents, are transferred from the relatively affluent to the poor. The emphasis on individual rights is frequently implicit, but it is nevertheless limiting. First, it presumes that a particular form of social and economic organization is always and everywhere superior to others. Second, it fails to recognize the subtlety and complexity of property rights in land; so that the question of what, precisely, is being transferred is often obscured.

We begin by considering a classic setting in which property rights in land are individually held and concentrated in the hands of a few, as would be the case where economic organization takes the form of plantations, estates, or a strongly differentiated peasant system. A redistribution of existing property rights in favor of erstwhile workers, tenants, and marginal farmers will make them independent peasant landholders. The first-order economic effect of such a reallocation of rights will be to redistribute rents to the beneficiaries, provided they do not have to compensate the losers in full. Its effect on output and the welfare of those who do not receive any land is less clear. In a world in which output is produced under constant returns to scale (that is, conditions under which an equiproportional increase in all inputs will result in the same proportionate increase in output) by means of land and labor alone, Gersovitz (1976) has shown that these effects depend on the initial configuration of property rights and on the reasons why ratios of output and labor to land vary across farms of different types—if, indeed, they do vary.

In one case analyzed by Gersovitz to illustrate his thesis, there are initially landowners (who do not work), landless agricultural laborers, and a very small group of peasant farmers (to serve as a benchmark). If there is perfect competition and the only source of differences in the technique of cultivation is differences in soil fertility, a complete and egalitarian reform in favor of the landless will result in a reduction in output if leisure is a normal good—that is, if at the same set of prices an increase in income will result in an increase in leisure. The same result will also hold if, instead, the reason for differences

in cultivation technique on large and family farms is a segmented labor market for hired and family labor. If, however, large landowners are simply inefficient, in the sense that they fail to operate on the production possibility frontier, or they are monopsonists (each, presumably, in his own village), then such a redistribution may cause output to rise or fall.

Another case, in which all land is distributed to existing small farmers and tenants, with agricultural workers left to fend for themselves in the labor market, is perhaps more common in contemporary history. Here, the effect of the reform on output is unclear, except when differences in technique arise solely from differences in soil fertility, in which case output will fall. The wage rate (and hence the welfare of the landless) will, however, rise, except if there is initial labor market segmentation and the reform brings a reduction in output, when the wage rate may rise or fall. One limitation of Gersovitz's analysis is that it ignores the problem of motivating hired workers to work hard enough, a problem that pure family farms do not face. In addition, for other factors of production, such as draft animals, rental markets are thin or even absent. The allocation of land is crucial to the efficiency with which these specific factors are used. Thus, if a reallocation of property rights permits a more efficient use of such factors or improves the system of incentives, net output is more likely to rise following a reform, both in aggregate and on the plots now farmed by the beneficiaries, than Gersovitz's analysis suggests.

The empirical evidence in favor of this happy combination of effects on equity and efficiency is largely indirect. Most earlier studies of the status quo revealed an inverse relation between farm size and productivity, stemming largely from an inverse relation between farm size and inputs of labor per hectare (see, for example, Bhagwati and Chakravarty 1969, Berry and Cline 1979). This finding is consistent with an imperfect labor market, which would result in an intensification of labor inputs on small family farms. Or it might be that small farms have better soil, which produces higher yields both directly and indirectly, by rewarding inputs and efforts more handsomely. In a study of India, Bhalla (1988) provides evidence that this competing explanation must be taken very seriously. He estimates that although the bottom 40 percent of farms have only 7 percent of land without an adjustment for quality, that share rises to 15 percent or more when quality is taken into account. This is not quite the end of the story, however, for large farmers' superior access to credit and non-labor inputs pulls in the other direction. Thus the earlier findings appear to remain broadly valid, although the inverse relationship is less sharp than most earlier studies would suggest.

Consider next the situation in which all individual rights are vested in the community. In a pure collective, all members have equal claims on the net revenue of the enterprise, which generates two potentially severe problems. First, sheer numbers blunt individual incentives. The classic remedies are to instill the "right" attitudes (creating the new socialist man and woman) and to reward individuals for observable effort. The second problem arises from the fact that,

since only members can exercise such claims, there are strong disincentives to expanding employment in the enterprise. For if output is to be expanded, the existing membership will vote for capital-intensive methods. The behavior of agricultural cooperatives in Salvador Allende's Chile furnished a striking illustration of this well-known finding of the theoretical literature on labor-managed enterprises.

Intermediate cases—land allocated to households as private plots, whereas assets, such as machinery, storage facilities, and irrigation structures, remain collectively owned—are also possible. Any land reserved for collective use may be cultivated or left open as a common property resource. As common property, its use will normally have to be regulated in some way by the community. How much land is set aside for this purpose is an important question, which arises in communities with extensive individual rights as well as in those of a strongly collective character. Thus the protection or enlargement of common property resources in the face of collective abuse and private encroachment ought to be a matter of concern in any prospective land reform.

A consideration of individual tenancy, as opposed to individual ownership, as a form of access to land brings out some rather different issues. Here, it is essential to distinguish between the reallocation of land rents associated with ownership and the function played by tenancy in allocating resources. Any ceiling on market rents entails a redistribution of income in favor of incumbent tenants; if, however, it induces landlords to resume some of their tenancies for direct cultivation, the tenants affected will suffer (unless they were receiving the same utility as they would have received in alternative employment). Thus, to be fully effective in redistributing income, a ceiling on rents must be accompanied by the granting of security—tantamount to ownership rights—to existing tenants. If such rights are also inheritable, the landlord's original rights will be further eroded, and the regulation of contracts between landlords and tenants will more closely approach the ideal of an equitable redistribution of pure individual rights in land.

The problem with a great deal of tenancy legislation is precisely that it has sought to transfer ownership-like rights to tenants by the back door, without heed to its potentially harmful effects on the functioning of tenancy markets. Thus, since tenancy is a potentially useful institution, any discussion of its role should be kept quite separate from the question of redistributing individual rights to land.

## **The Political Economy of Land Reform**

The preceding discussion savors of the deliberations of the Platonic “guardians of the state.” In fact, land reform is an intensely political matter, involving substantial conflicts of interest. Indeed, the ownership of land reflects and underpins social power and structure in agrarian economies, so that changes in

the pattern of ownership necessarily involve changes in society itself. The very notion of public intervention is deeply problematic.

Most important land reforms in the twentieth century occurred in rather special and often catastrophic circumstances. In the Soviet Union and China foreign invasion preceded and paved the way for social revolution and the destruction of the old agrarian order. For a short time the peasant mode of production intensified. The central authorities imposed wholesale collectivization only when power had been completely secured. In Eastern Europe social revolution and a remaking of the agrarian structure were imposed by an army of occupation. In most of these countries, however, wholesale collectivization was not imposed. Instead, a substantial sector of private holdings, distributed in an egalitarian pattern, emerged to create a dual structure of private and collective forms. Defeat in war or occupation also led to land reforms in some notable capitalist countries. In Japan, the Republic of Korea, and Taiwan a redistribution of individual rights was imposed on a landed class rendered impotent by the collapse of a state that had reflected its power and interests. In these societies, foreign armies created the initial conditions favorable to fast growth with equity.

The remaining instances of social revolution in smaller countries—Cuba, Egypt, Ethiopia, Nicaragua, and Viet Nam—are interesting in that revolution was brought about by indigenous forces. Except for Viet Nam, the regimes overthrown were also indigenous and reflected societies marked by great inequality in the holdings of land and wealth. With the exception of Egypt, all followed the initial example of the Soviet Union and China in collectivizing land substantially or completely, sometimes in the form of state farms, whose workers received a regulated wage. The revolution that overthrew the Egyptian monarchy in 1952 was more nationalist than socialist; more than half of the land expropriated was formerly in the possession of the monarchy (Warriner 1969, p. 413), all of it in the form of large estates. Although individual rights were assigned to the beneficiaries, some collective features were retained in the interest of efficiency.

Elsewhere, nationalist movements began their successful struggles to throw off colonial rule in much of Asia and Africa in the aftermath of World War II. These successes created opportunities to remake the agrarian order, particularly in countries in which there were significant European settlements (Kenya and Zimbabwe) or foreign plantations (Indonesia, Malaysia, and Sri Lanka) or in which some domestic landed classes were perceived to be allied with colonial rulers (India). Sometimes these opportunities were transient—the products of turmoil and a temporary loss of confidence and power on the part of landed interests—and were not always fully seized. In India, for example, the abolition of *zamindari* (tax intermediary) interests worked to the advantage of the upper and middle sections of the peasantry, which had provided the base of support for the nationalist movement. One result was a strongly differentiated

peasantry, the upper strata of which have been able to block most subsequent efforts at more radical reform.

More recently, the overthrow of Ferdinand Marcos's regime in the Philippines created precisely the conditions of fluidity and turmoil that would have made a bold stroke politically possible. In the event, the opportunity was squandered, and landed interests soon began to reassert themselves in the new government. In any case, whether these opportunities to redistribute property rights in land were seized or not, they arose from social upheavals that are not normally thought of as policy interventions by an autonomous and stable central authority.

What sort of thing happens in normal times, when the social and political order is fairly secure? The following experiences illustrate some important aspects of the political economy of agrarian reformism,<sup>1</sup> the diverse forms intervention may take, and the responses to such intervention of those directly affected.

### *Colombia*

The history of the failure of such reform in Colombia over the past half century is described and analyzed by de Janvry and Sadoulet (1989). Law 200, under which potentially productive but poorly cultivated or abandoned land on large holdings was to be expropriated after a grace period of ten to fifteen years, was passed in 1936. Under the goad of this threat, land productivity rose for a time, to the satisfaction of the urban interests that had pressed for the law, and little land was expropriated. Shortly after World War II, there began a period of strife and virtual civil war known as "La Violencia." This hastened the destruction of traditional social relations on the haciendas and greatly weakened the old agrarian oligarchy.

La Violencia came to an end with the signing of a pact under which the liberals and conservatives agreed to share power under alternating administrations. The pact ushered in a new phase of land reform, marked by the passage of Law 135 of 1961, which envisaged the creation of a family farm sector, with payment of full compensation to existing landholders in the event of expropriation. Implementation of Law 135 turned out to be very limited. Political pressure from landed interests—and from urban groups who profited from this kind of modernization of agriculture—diverted inputs to large-scale farms, often with big subsidies. As a result, land values on favored farms increased so much that large-scale expropriation with full compensation became impossible. Whether landed interests anticipated this consequence of selective subsidies is unclear. In any event, by 1972, only 1.5 percent of all land in large farms had been redistributed.

The third phase, from 1973 to the present, began with a substantial shift in development strategy away from agriculture toward urban activities. In particular, Law 4 of 1973 declared the end of universal redistributive reform and

returned to the principles of Law 200 of 1936. The complementary, and perhaps more important, policy was an ambitious rural development program, which was intended to serve family farms (whose numbers had grown somewhat) as well as the large-scale sector. Thus rural development had become the basis for a coalition of urban, landlord, and family farming interests. Meanwhile, the landless and marginal farmers remained excluded, both politically and economically. Continued guerrilla warfare and land invasions by these groups was a predictable outcome.

This shifting pattern of class conflict and alliance suggests that in Colombia the political economy leaves very little room for policy intervention. De Janvry and Sadoulet (1989) do, however, identify a crisis of another sort that may create a favorable opportunity. The condition of the economy as a whole demands fiscal austerity. Ending the massive, distortionary subsidies to large farms would be a good place to start and would also surely please international agencies. Its further incidental effect of lowering land values might ease the passage of redistributive reforms with compensation of the kind envisaged under Law 135 of 1961 and so satisfy some of the land hunger of the rural poor. The vital and unanswered question, however, is whether an alliance of urban interests, family farms, and even sections of the rural poor will form with such a goal in mind. I shall return to this question later.

### *The Philippines*

The second case involves a transfer of property rights through tenancy legislation. Under the proclamation (and partial enforcement) of Presidential Decree 27 in the Philippines in 1972, share tenants were converted into leaseholders or owners. The land rent or amortization payment was fixed at 25 percent of annual rice yields, averaged over three normal years preceding the year in which the program went into effect. In itself, the limitation of rents below market level transferred ownership-like rights and economic rents to those tenants who managed to get their claims registered. As it turned out, the redistributive force of the decree was greatly increased by a more or less simultaneous development. Public investment in irrigation in central Luzon had induced a shift from single-cropping to double-cropping in the 1970s. The shift was accompanied by the diffusion of new varieties and a more intensive use of farm chemicals, both promoted by public policies. As a result paddy yields more than doubled, from less than two tons per hectare in the early 1970s to about four tons in the mid-1980s (Hayami and Otsuka 1989). Such an improvement in land productivity would almost certainly have led to a considerable increase in market rents. For registered tenants, therefore, public investment and the particular timing of decree 27 coincided to produce a large extra windfall, though it seems doubtful that this was part of the government's design.

The landlords' failure to get the terms of the decree changed as these additional and, for them, adverse consequences became clear is puzzling: the

difference between 25 percent of two tons per hectare and 12.5 percent of four tons per hectare seems too large for the outcome to be assigned to inertia. Whatever the reason, the sharp redistribution did prompt landlords to take defensive action. Specifically, they began to substitute permanent laborers for share tenants to protect their ownership rights in the lands that remained to them (Hayami and Otsuka 1989). Thus an important repercussion of this particular legislation and technical change in property rights was to inhibit tenancy, which, as will be argued later, was probably damaging to the rest of the poor.

### *Peru*

The third case is notable for a sequence of reforms that first collectivized individual property rights, which had been concentrated in very few hands, and then, a decade later, distributed all collective land to members in the form of individual properties. This happened in Peru between 1969 and the present (see Carter 1989).

The first reform was initiated by a revolutionary government, which came to power through a coup. In coastal Peru, which is well developed and productive, nearly every private holding of more than 150 hectares was eliminated and replaced by labor-managed agricultural production cooperatives. The typical cooperative had 200 members and close to 1,000 hectares.

There were reasons besides mere ideology for maintaining the original scale of the enterprises. The beneficiaries of the reform were workers, whose managerial and husbandry skills were probably too limited at the outset for them to farm individual holdings well. Carter also hints at, but does not decisively establish, the existence of technical economies of scale. As it turned out, however, most of the enterprises found it too hard to provide sufficient incentives to stimulate effort by their own members, and they resorted so heavily to hiring permanent workers that by 1981 the ratio of land to (permanent) labor had fallen by a quarter. Carter argues that the problem of securing sufficient effort was not so much the difficulty of monitoring the length and intensity of individuals' efforts, as that there was insufficient authority to enforce the rules of payment. In any event, although some enterprises did elicit adequate real effort from their members, most did not, with dismal effects on productivity. *Parcelación*, or the breaking up of larger holdings into smaller parcels, was apparently their members' collective response to this problem of collective organization, and the move went unchallenged by the central state.

This rapid disintegration of a collective form of organization is not without parallels. Putterman (1985), like Carter, argues that the best form of organization will usually involve a mix of individual and collective property rights. His analysis of the troubles that beset Tanzania's Ujamaa villages and China's communes leads him to the conclusion that cooperative farms are often the victims



of those who dogmatically maintain that an ideological commitment to cooperation can wholly substitute for material incentives over the long haul.

Carter and Putterman may be right in their assertion that “corner” solutions are not optimal forms of organization; but the current tide seems to be running strongly in favor of the polar case of individual rights. In China peasants are becoming individual leaseholders from the state on terms close to outright ownership, and subleasing is also beginning to appear. In Tanzania, following the failure of Ujamaa villages, and in Viet Nam, the governments are making efforts to grant long-term leases to individual farmers. Similar proposals are now openly debated in the Soviet Union, and limited steps have been taken to implement them. But three generations have passed since Stalin’s collectivization; so whether the specific human capital and skills exist that are needed to make individual family farming an initial success is very much an open question. The security offered by the old system may be preferred to the risky prospect of earning a higher expected income as a tenant of the state.

Arguably, the path from concentrated individual property rights to collective farms and thence to a fairly egalitarian distribution of individual rights may have entailed an unnecessary, or unnecessarily protracted, detour into collectivism. But even so, the fact remains that many of those who had little or no land at the outset are now actual or virtual owners, with an exclusive claim on the economic rents yielded by their new holdings.

### **The Prospects for Reformism**

If reform—or the failure to reform—is an endogenous outcome within a political economy, what scope is left for reformism? This question arises in connection with reformist programs of any sort but appears to be especially nettlesome in the case of land reform. That some kind of social upheaval preceded a remaking of the agrarian order in virtually all of the examples just discussed is scarcely encouraging for the chances of reformism being successful in normal times. We begin, therefore, by examining the political economy of the status quo and what sustains it and then turn to how it might be undone to the advantage of the poor.

The market for land, where one exists, provides a mechanism for redistributing property rights in land. It can therefore be argued that those who want more land can buy it at the going rate from those who want to sell. The poor, in particular, with their advantage of cheap family labor, should be eager bidders, especially where the distribution of per capita ownership holdings is very unequal.

This facile argument runs into two strong objections. First, the poor will not be able to finance the purchase of land unless capital markets function fairly well, which they do not. Second, if such means of financing were available, so that all who desired to hold land as an asset could acquire it, the notional

demand for land as an asset would be fully realized and the price of land would almost certainly rise, to the advantage of those who held it at the outset. Any benefits that the ensuing general equilibrium realignment<sup>2</sup> of wages, rents, and commodity prices might bring to the poor as a group would almost certainly be small. If the prime objective is to secure significant gains for the poor, they must be able to acquire land on favorable terms, which implies that some other group must lose thereby.

As usually conceived, redistributive land reforms do not provide for payment of full compensation at current market value to the original owners, who therefore understandably oppose them. If this group is numerically small, its power to resist must derive from its control over the apparatus of the state, including the legislature, the army, the police, and the judiciary. Such cases are not unknown. Some claim, however, that it is more common for the dominant landed class to form an uneasy alliance with certain urban interests (Lipton 1977). Urban capitalists and organized workers have a common interest in cheap and assured supplies of food and raw materials. So does the government, to whom the urban populace can present an immediate threat. Since the marketed surplus (in the form of food and commercial crops) per hectare is usually higher on large farms than on small ones, these groups benefit in some measure from an unequal distribution of landholdings. Thus the basis for a coalition of the rural well-to-do with a fairly wide sector of urban society is there. The practical details usually involve relatively low agricultural prices coupled with highly selective subsidies to large farms, the main fiscal burden of which falls on the groups outside the coalition. In this situation, the opposition to redistributive reform is much broader than a rural oligarchy, although it has several potential lines of fissure. Colombia, as de Janvry and Sadoulet (1989) describe it, is a good exemplar.

In Asia and parts of Africa the problem appears even less tractable because the dominant landed class is not a rural oligarchy but a large group of relatively rich peasants who are politically active and who "secure" the countryside for the parties they support. They, too, would appear to have considerable power to resist expropriation without full compensation. For Binswanger and Elgin (1988), this constitutes by itself an almost insuperable obstacle to any reform that has an element of confiscation. As a final nail in the coffin of reformism, they point to the effects selective subsidies to large farms (and other factors) have on the price of land, which allegedly exceeds the capitalized value of the services the land would produce in the hands of the poor. This, they argue, makes its purchase at current values either unattractive to the poor or, if the purchase is sufficiently subsidized, intolerably burdensome to the exchequer. Taken together, these considerations make a strong case for the view that little will happen to disturb the status quo.

The contrary view points to the overwhelming pressures on land arising from population growth, particularly in those densely settled regions where technical change in agriculture is sluggish and not especially labor intensive.

Within the next decade, Michael Lipton (private communication) argues, this will generate acute political pressures and reinstate redistributive reform to a prominent place in discussions of how to augment the incomes and assets of the poor.

Both positions are persuasive but neither is unassailable. Binswanger and Elgin (1988) argue, correctly, that the price of land will include a premium that reflects both the expectation of capital gains and the usefulness of land as a form of collateral when access to capital markets would otherwise be extremely limited. Now although discount rates certainly vary across households, it is unclear why these returns to land are not valued by the poor, as Binswanger and Elgin seem to imply. They are on much firmer ground, however, in pointing to the influence of selective subsidies and other provisions of tax codes, including tax shelters, in making land an especially attractive asset for the rich. In this, they are in close company with de Janvry and Sadoulet (1989), although they do not join them in calling for an end to such subsidies. The obvious conclusion is that this entire system of provisions should be dismantled before any program of redistributive land reform is attempted, for the price of land would be much reduced thereby.

The argument that population pressure on the land will restore land reform to its former prominence in debates about policy is also open to dispute. First, there is no conclusive evidence that population growth concentrates the ownership of land in fewer hands even as the size of the average holding contracts. In India, for example, the distribution of ownership holdings became somewhat more equal over the period 1955–72, and absolute landlessness fell strikingly, from 23 to 10 percent, while the proportion of households owning less than one acre increased from 24 to 35 percent (Sanyal 1988, p. 150). And if inequality is unchanged, it is not clear why political and social unrest should intensify. Second, population growth may be fully offset by technical progress, as has happened in many countries. Indeed, if technical progress in agriculture has a sufficiently land-augmenting character and urbanization proceeds fairly rapidly, the effective supply of land may increase more rapidly than the rural population. Although it is certainly true that technical progress may be labor-saving, which would be damaging to the poor, such a bias is not inevitable and may be influenced by public policy. These objections are supported by the fact that population has been swarming for at least forty years, in densely and sparsely settled regions alike. Yet the agrarian structures and economies of most countries have managed to accommodate the pressures thus generated.

If, therefore, land reform is not inevitable, are any reformist policies feasible? To the extent that the price of land is influenced by tax policy, there is a parallel between the political economy of so-called structural adjustment programs and that of land reform. For both, the trick is to find a way of distributing the burden in a manner acceptable to the contending parties.

It has been argued in the foregoing that dismantling systems of selective subsidies to the rural rich is an essential first step, which would make land less attractive to the rich but not to the poor. This tax reform could be advocated on the grounds that the loss of general welfare resulting from these distortionary policies is large and the need for additional (net) public revenue is pressing. A program of land reform would be announced and launched only after the effects of the tax reform were largely realized.

A rather conservative program might stipulate the following. All land in excess of a certain ceiling, adjusted for quality, would be subject to compulsory purchase at fair market value, that is, at the relatively depressed prices prevailing after the tax reform. To finance the purchase, the beneficiaries of the land reform would make annual payments to the government, which would, in turn, issue bonds to those whose land was subject to compulsory purchase. To mollify the landowners further, the bonds could also be indexed. At the same time, the payments by the beneficiaries need not equal the payments to the former landholders; for the tax reform will have generated additional net public revenues. Unfortunately, however, this is not quite the end of the story; for removal of subsidies on inputs may increase the price of food and so arouse the opposition of many sections of the urban population. In view of the losses sustained by the rural rich, this outcome may be barely acceptable politically. If it is not acceptable, some or all of the savings from dismantling the system of selective subsidies to the rural rich will have to be used to placate the urban interests in question. To that extent, the transfer of land to the beneficiaries of the land reform would be on somewhat less favorable terms.

In the program described, with compensation paid in the form of indexed bonds, the real losses sustained by the rural rich would be limited to the capital losses on landholdings induced by the tax reform. Again, this is not quite the end of the story; for any changes in taxes and subsidies will have an effect on the real net earnings of factors whose supply will increase only if there is an increase in their prices (that is, the supply is less than perfectly elastic). Hence, although the first-round effects of the sequence of tax-cum-land reform are fairly clear, it is not so clear who will bear the ultimate burden of the tax.

Similar considerations would arise if the sequence were supported by a structural adjustment loan from an international agency. In the case in question, part of the loan could be used to cover certain hidden costs of the land reform, for example, those arising from the need to carry out surveys, register new titles, and build new infrastructure. If the beneficiaries were not charged for these services, they would receive a covert subsidy. On the other side, payments of debt service would be made out of general tax revenues, again with a pattern of economic incidence which is unclear a priori. Indeed, the fact that it is unclear and that it may depart strongly from the statutory incidence of the tax system is something of a virtue. For it may be possible to find an outcome that is acceptable as presented to the contending parties, yet in reality favors those who are comparatively poor.

To close this section, we address the old question of how much reconcentration of individual property rights will occur when the system is released from the comparatively egalitarian configuration that is established by the reform, and how quickly it will reach a stochastic steady state. Carter (1989) addresses this question and concludes that extensive and fairly rapid differentiation is rather likely. Given that individuals differ in abilities, aptitudes, and tastes for the hard work of farming, this is hardly a startling conclusion. It is worth adding, however, that such heterogeneity lies at the root of most of the difficulties confronting attempts to combine efficiency with distributive justice.

In this connection, the circumstances under which land changes hands matter a great deal to the welfare of less able farmers. If the land market works well and sales do not occur under distress conditions, those who sell off the individual rights they acquired through reform will not do so on unfavorable terms. With sufficiently rapid growth in the nonfarm sectors of the economy, the more able individuals will remain behind to farm, while the rest will get nonfarm jobs and so avoid the fate of winding up as rural landless laborers who have exchanged their rights in land for a mess of pottage. If, on the other hand, sales do occur under distress conditions, as happens frequently in South Asia, the outcome will be painful for the individuals who are forced to sell up and socially distressing inasmuch as landlessness will emerge anew.

## Tenancy

Most legislation affecting the terms and conditions of tenancy contracts has sought to transfer a measure of ownership-like rights to tenants. Occasionally, as in the Philippines, or more recently in West Bengal (Subbarao forthcoming), there has been some success. More often than not, however, such legislation has been honored mainly in the breach, for reasons that should now be clear. Unfortunately, evasion and avoidance of these provisions of the law have also affected the market for tenancies, usually for the worse.

To establish how, if at all, tenancy should be regulated, it is necessary to understand what function tenancy performs and how well it does so in the various circumstances in which it is found. My contention is that tenancy is a response to particular economic conditions and that its existence may provide important opportunities for the poor to improve their lot, not only statically (in a situation in which the endowments and skills are given) but also dynamically (over time, as opportunities to enhance those endowments and skills arise), in the form of the "agricultural ladder" (Spillman 1919).

### *The Static Argument*

Consider, as a benchmark case, a competitive economy with a complete set of contingent markets. Then, loosely speaking, it does not matter whether land

hires labor (wage employment) or labor hires land (fixed rent tenancy). In each realized state of nature, there will be a particular distribution of income, which is independent of the arrangements under which production is organized. In practice, of course, many markets are incomplete or absent—notably those for insurance, but also sometimes the markets for husbandry and managerial skills and even the services of draft animals, for reasons arising from moral hazard. If the market for land as an asset were well developed, which would surely require that capital markets function well, sales and purchases would move land to the complementary factors that are very imperfectly, if at all, tradable. In reality, however, the market for land as an asset is usually thin (Binswanger and Rosenzweig 1986), to which the emergence of tenancy is a natural response.

The absence of insurance and other markets encourages tenancy (in various forms). By itself, an active spot market in the sale of land will not be fully equivalent to a system of fixed rent tenancies if there is risk. For such an equivalence to hold, there must also be a set of futures markets in the sale of land. In that case, renting a hectare of land will be effectively the same as purchasing a hectare of land for cultivation in the spot market and selling it forward for delivery after the harvest at a known price. Furthermore, given the absence of insurance markets, fixed rent tenancies will not always permit the exploitation of all opportunities for spreading the risks arising from production. If, for example, wages are risky (Newbery 1977), or the markets for farming skills or the services of draft animals are absent (Bell 1989), sharecropping will emerge alongside fixed rent tenancy. Thus contractual diversity is a response to risk aversion when arrangements for the direct provision of insurance are not available.

This line of reasoning implicitly emphasizes the possibility that tenancy may promote (constrained) efficiency in second-best environments—that is, the efficiency with which resources are allocated even when one or more markets do not exist. Note, however, that there is no direct redistribution of economic rents in this story. Nor can there be any general presumption that the poor, who usually have little land, will rent land from the rich, who usually have a lot. In particular, tastes for risk bearing may be distributed in such a way as to induce small farmers to rent out their land to large farmers. Thus if poorer households benefit from the existence of tenancy in such settings, they will do so because there are more extensive and remunerative opportunities for risk spreading and a fuller utilization of family resources than under wage employment alone.

A notable empirical study is that of Palanpur village in northwest India by Bliss and Stern (1981) in 1974–75, with a follow-up by Dreze and Mukherjee (1989) in 1983–84. First, the studies found no significant differences in yields and input intensities between land under owner-cultivation and land under tenancy, a result consistent with resource allocation being constrained efficient. Moreover, the form of tenancy was sharecropping (with cost sharing on some

inputs), which is inherently susceptible to incentive problems where the use of variable inputs is concerned. The choice of sharecropping suggests that tenancy in Palampur is a response to the lack of both insurance and other markets, since fixed rent tenancy would avoid incentive problems altogether. Second, tenancy had an equalizing effect on the distribution of operational landholdings in 1974–75 but a concentrating effect in 1983–84, since some smaller owners rented out their land to more efficient and often larger landholders (Lanjouw and Stern 1989). In the face of changing conditions, fifty-fifty sharecropping (with provisions for cost sharing) was flexible enough for mutually profitable trade.

The evidence from South Asia as a whole concerning the efficiency of resource allocation under share tenancy is mixed. Many studies have found no significant differences between yields and input intensities on share tenancies and owner-operated farms (Singh 1988), but some formulations and methods of testing this hypothesis are unsatisfactory. The best way of controlling for other factors affecting farming technique and performance, such as access to credit, willingness to bear risk, and farming and husbandry skills, is to compare input intensities and yields on owned and leased plots farmed by the same individual. Among such studies, Bell (1977) for Bihar, Hossain (1977) for Bangladesh, and Shaban (1987) for the Deccan plateau found significant differences, whereas Chakravarty and Rudra (1973) found none in the case of West Bengal. Another survey of more recent studies of Asian economies (Otsuka and Hayami 1988) also reveals rather mixed findings. It seems fair to conclude, therefore, that the performance of share tenancy is often quite (constrained) efficient, but occasionally a bit dismal, when landlords cannot find a cheap solution to the incentive problem. Whether there is constrained efficiency or not, however, the role of share tenancy in a static system of incomplete markets appears to be useful, because it provides an inducement to risk-averse individuals to supply family resources and skills to cultivation, as opposed to unskilled wage employment, in which some skills and resources are of no account, and which is usually less remunerative.

### *The Dynamic Argument*

The dynamic role that tenancy can play is to serve as a vehicle for the accumulation of assets and skills by those who start out with little of either. In principle, therefore, tenancy provides opportunities for individual mobility. Tenancy contracts are sometimes between the aged (as landlords) and mature, successful owner-cultivators, who wish to take on additional land. Earlier in their careers, the latter may have worked on the family's farm as unpaid laborers and taken on small tenancies from relatives. These patterns point, therefore, not only to a potential concentration of operational holdings, but also to a life-cycle process of a Chayanovian sort (Chayanov 1966).

The life-cycle process, in turn, brings to mind the "agricultural ladder" hypothesis suggested by studies of U.S. agriculture in the nineteenth century

(Spillman 1919, Reid 1974). Young, relatively poor individuals begin as laborers and acquire sufficient skills and capital through experience, work, and saving to progress through the succeeding stages of share tenancy, fixed rent tenancy, and, with good fortune, outright ownership. Although it cannot be claimed that full mobility on this scale is open to all individuals in all agrarian systems, this dynamic theory points up the opportunities created by tenancy not only for the employment of existing family factors but also for the accumulation of human and physical capital by those individuals who begin with little but labor power and some promise as farmers.

These arguments support the conclusion that tenancy, as a market response, is neither inherently nor inevitably damaging to the interests of the poor. Indeed, for some, it may offer the best avenue out of poverty. That avenue can, however, be blocked if, as in the Philippines and West Bengal, one cohort of tenants is granted ownership-like rights; for owners will then resume land to cultivate themselves, thereby excluding later cohorts of would-be tenants. In West Bengal, the reform has further exacerbated this problem by specifically prohibiting subleasing of registered tenancies. Tenancy legislation in some other countries has arguably had similar effects for similar reasons.

In India the proportion of all holdings under pure tenancy fell from 17 percent in 1954 to 4 percent in 1972, though much of this decline is surely attributable to the abolition of *zamindari* interests. The proportion of mixed (owner-tenant) holdings stayed constant, however, at about 22 percent. In Pakistan holdings under pure tenancy also declined over the period 1960–72, while mixed holdings increased. Overall, the incidence of tenancy declined somewhat, perhaps in response to tenancy legislation (Singh 1988, p. 22). The data for Bangladesh are less reliable, but tenancy appears to have increased between 1960 and 1978, with pure tenancies a very small proportion of all holdings. Thus the general thrust of public policy in South Asia has been to restrict tenancy in various ways. The arguments just advanced suggest that this policy has been misguided and would be misguided even if there were redistributive reform of individual rights in land that brought a fairly egalitarian pattern of owned holdings.

What scope does this conclusion leave for public intervention in tenancy markets? The impulse to regulate stems in part from the perception that individual landlords possess market power, which they use to exploit their tenants. This raises a second question: What can and should be done to improve the bargain struck by tenants? Taking these questions in turn, it should now be clear that attempts to redistribute property rights through the back door by regulating the terms of tenancy are often doomed to failure. They are also harmful to the extent that they impede tenancy in the performance of its proper functions.

That much said, it should be noted that in the nature of things, the market for tenancies is local, in the sense that the actual and potential participants are drawn from a limited area, usually the village in which the land is located and



perhaps its neighbors. If, as in Palanpur, the ownership of land is not very heavily concentrated, the market for tenancies may work rather well, and no intervention seems called for. If, however, village life is dominated by one or a few rural tyrants, who ruthlessly exploit both their market power and the opportunities for extraeconomic coercion, something should be done to curb their powers, to the extent feasible.

The earlier discussion suggests that getting rid of rural tyrants by an assault on their property rights is usually possible only in rather special circumstances. But an indirect approach may favor tenants at their expense, and perhaps improve efficiency into the bargain. Suppose tenants (and laborers) are pushed down to their reservation levels of utility by landlords who make astute use of the instruments available to them. These reservation levels may be set by employment opportunities outside the village or the needs of mere subsistence. In either case, guaranteed public employment at remunerative wages in, say, rural works programs would improve tenants' bargaining power and hence the terms of their tenancy contracts. Landlords might respond by resuming some of their land for self-cultivation, although since wage rates will rise, this is not certain. At any rate, they would have no particular incentive to refuse to offer tenancy contracts at all, as they would in the case in which threatening but incompletely enforceable legislation promising "rights to the tiller" is enacted. They might also attempt to subvert rural works programs to their own advantage by capturing the mechanisms of job recruitment and using recruitment as a source of patronage. That possibility cannot be dismissed, but neither is it a certainty, as the example of the Maharashtra scheme demonstrates. Under the right circumstances, therefore, intervention in the labor market may weaken the power of rural tyrants while leaving substantially intact the improvements in resource allocation and individual mobility that the existence of a market in tenancies makes possible.

## Concluding Remarks

What conclusions can be drawn about public policy? First, history suggests that a substantial redistribution of individual property rights is most likely to occur in the wake of a social upheaval. Such opportunities should, therefore, be seized at once, or the chance will be lost. In normal times the prospects for redistributive reform look far less promising, and bringing them off will require luck as well as skill in finding an acceptable distribution of burdens among the contending parties. A specific proposal is to link land reform to an appropriate tax reform that dismantles certain distortionary features of current tax systems—provided the tax reform is announced and implemented first to bring about a fall in the price of land.

Second, tenancy is socially useful even if no such redistribution occurs. The widespread attempts to use tenancy legislation as a camouflaged means of

redistributing individual ownership rights have generally failed for the very reasons that direct redistribution has generally failed. Moreover, these attempts have been positively harmful, in discouraging tenancy and otherwise distorting the way in which tenancy markets function. If landlords possess market power, other forms of intervention to curb it, such as the provision of improved employment opportunities, are probably superior to most current tenancy legislation.

Two other aspects of property rights in land are very important but have been touched on only in passing in this article: the welfare of landless agricultural laborers and the appropriate boundaries between individual and collective rights. There is no space to go into these matters in any detail, but some brief comments are in order.

In densely settled regions, even a radical redistributive reform of individual rights and a permissive attitude toward tenancy will not ensure that all rural families will have viable holdings. Thus many of them will continue to depend mostly on wage employment for their livelihood. Some theory suggests that the wage rate may fall following a land reform if the labor market was segmented beforehand. This conclusion is disturbing and lends further force to the familiar conclusion that policies designed to promote labor-intensive agricultural growth are strongly desirable, whatever the distribution of individual property rights or the efficacy with which tenancy markets work. Here, there is an important role for public spending, by central authorities and local communities alike, on infrastructure, new technologies and extension services, and certain local public goods. Employment in rural works should be an integral part of such schemes.

Finally, there is the problem of achieving a satisfactory balance between individual and collective rights in land. This involves protection of customary collective rights when these benefit the poor and, especially in Africa, acceptance of indigenous forms of tenure when these have proved to be flexible in the face of changing circumstance. It also requires a careful balancing of individual rights to common property resources against the threat of environmental degradation stemming from free entry when there is little or no cooperation among individuals or local communities.

## Notes

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1. Reformism is the doctrine advocating social change that stops short of revolution (defined by Hirschman 1963).

2. The realignment of wages, rents, and commodity prices that are mutually and simultaneously determined.

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# INFLATION AND THE COSTS OF STABILIZATION

## *Historical and Recent Experiences and Policy Lessons*

*Andrés Solimano*

*This article reviews various experiences with stabilization. It first examines stabilization programs in the context of hyperinflation—looking at the experiences of Austria and Germany in the early 1920s and Bolivia in 1985—and then reviews and interprets the results of orthodox stabilization plans (applied in Argentina, Chile, and Uruguay during the mid-1970s and early 1980s) and those of heterodox programs (the austral plan in Argentina and the cruzado plan in Brazil, with a glance at the Mexican and Israeli experiences). The paper concludes with a discussion of conceptual issues and implications for the design of stabilization policies.*

The aim of stabilization policies is to bring inflation down on a permanent basis and, if possible, at a low economic cost. This article examines several anti-inflationary programs, both historical and recent, giving attention to the response of inflation to different stabilization measures and the real costs—in output losses and cuts in real wages—of bringing inflation down in the course of economic stabilization. The purpose is to shed light on the difficulties several economies are experiencing with stabilization and to draw lessons for policy from experience in the field.

In the three cases examined—stabilization undertaken in conditions of hyperinflation, orthodox programs, and heterodox plans (defined in the relevant sections that follow)—we examine the role played in the success or failure of each program by fiscal adjustment, incomes policies, stabilization of the exchange rate, the availability of foreign resources, and conflicts over income

distribution. In addition, the experiences discussed are put in the perspective of the literature on the causes and cures of inflation.

## Hyperinflation and Stabilization

Defining hyperinflation is a matter of convention: the best-known definition is Cagan's (1956), which characterizes a hyperinflation as beginning when inflation exceeds 50 percent a month and ending when it is less than 50 percent in every month during at least one year. The twentieth century has seen hyperinflation in Austria, Germany, Hungary, and Poland in the 1920s and in China and Greece in the 1940s. More recent instances are Bolivia in 1984–85, Nicaragua in 1988–89, and Yugoslavia and Poland in 1989.

### *Germany, 1923*

The European hyperinflations of the 1920s were, to borrow from Keynes (1919), to a great extent the "economic consequences of the peace" that followed World War I. In particular, the war reparations exacted by the Treaty of Versailles from Germany and the former Austro-Hungarian empire imposed a heavy burden on the balance of payments of these economies. Germany had to transfer nearly 6 percent of its income abroad (although this effect was somewhat ameliorated by an inflow of foreign capital). The scarcity of foreign exchange, in turn, led to devaluations followed by monetary accommodation and domestic inflation. In addition, the war reparations, together with the takeover of the Ruhr province and the passive resistance policy financed by the government, led to a strong deterioration of the fiscal budget, which was financed through loans from the central banks.

The effect of these shocks combined with domestic policies to produce extreme macroeconomic instability (see Solimano 1989, table 1). In 1922 the annual inflation rate was near 4,000 percent, and the exchange rate was devalued by more than 5,000 percent. Almost 40 percent of fiscal expenditure was financed by money creation. In 1923 the situation became even worse, especially after an unsuccessful stabilization attempt in February to April of that year: by August, inflation exceeded 7,500 percent monthly, reaching 30,000 percent in October.

All the characteristic elements of a hyperinflation were present: (1) a complete domestic demonetization and a shift of portfolios toward foreign currency; (2) an increase in the fiscal deficit (mostly because of the decreased real tax revenue arising from the fiscal lag), which in turn accelerated the expansion of domestic credit, fueling inflation and generating an unstable inflationary process; (3) the destruction of the existing structure of wage contracts (the duration of contracts was drastically curtailed as a result of de facto pegging to the exchange rate); (4) a very rapid depreciation of the exchange rate; and

(5) a decrease in the indices of physical production and in real wages, and an increase in unemployment.

The need for stabilization was clear. It was finally achieved in early November 1923 and was even followed by a price deflation at the beginning of 1924. The three basic elements of the stabilization (see Dornbusch and Fischer 1986, Sargent 1982) were (1) a fiscal reform, which included an increase in taxes and a reduction in public expenditure; (2) a monetary reform forbidding the Reichsbank to discount government bonds as an inflationary form of financing the deficit; and (3) the depreciation of the Rentenmark followed by freezing of the exchange rate.

It is interesting that the stabilization took place along with the arrangement of an external loan under the supervision of the League of Nations, finally received by Germany in 1924 and conditional on the implementation of legislative reform in the fiscal and monetary areas.

As is shown in table 1, in the worst year of the hyperinflation—1923—the index of per capita production fell substantially (from 86 to 54) but rose quickly to 77 in 1924, the first year of price stability after the program. When October 1923 is compared with December 1923 and the year 1924, it is apparent that real wages rose when the inflation rate fell and that unemployment increased at the outset of stabilization but decreased in 1924.

**Table 1. Labor Market and Production Indexes During German Hyperinflation and Stabilization, 1920–27**  
(1913=100)

Year	Physical production per capita	Real wages			Unemployment rate	
		Period	Skilled workers	Unskilled workers	Period	Percent
1920	61.0		—	—		—
1921	77.0		—	—		—
1922	86.0	August	72.0	93.4		—
1923	54.0	October	53.0	64.6	September	9.9
		December	70.0	—	November	23.4
1924	77.0	June	89.2	98.4	January	26.5
					April	10.4
					October	8.4
1925	90.0		—	—		—
1926	86.0		—	—		—
1927	111.0		—	—		—

— = not available.

Source: Sargent 1982, Dornbusch and Fischer 1986.

The experience of Germany was paralleled in many respects by that of Austria—which was going through a hyperinflation followed by a stabilization at much the same time (1922) for much the same reasons. In Austria a loan from the League of Nations had also played an important role in the stabilization. The Austrian stabilization plan comprised real tax increases, reduction of fiscal expenditure, and restrictions on the government's power to borrow from the national bank. The loan helped to stabilize the (floating) exchange rate and contributed decisively to the checking of price increases. Another similarity with the German experience was that in Austria the cost of stabilization with respect to employment (Wicker 1986) was significant: 10,000 jobs lost in the financial sector and 85,000 in public employment (reflecting also the shrinking of the bureaucracy left over from the Austro-Hungarian empire).

### *Bolivia, 1984–85*

Like the European experiences of the 1920s, the Bolivian hyperinflation of 1984–85 arose in the context of difficulties in the external sector, deterioration of public finances, and sociopolitical conflicts. In the early 1980s, Bolivia lost access to private and multilateral international lending sources; it responded by suspending the servicing of its foreign debt. On the fiscal side, the government replaced the foreign loans to the public sector with loans from the central bank (in other words, there was an inflation-tax replacement in public finances), a principal element in triggering the hyperinflation in Bolivia.

The ensuing process of accelerating price increases in Bolivia followed the common pattern of hyperinflation: inflation rates of more than 50 percent a month (on average) between April 1984 and September 1985, a drastic decrease in real money balances despite a rapid expansion of nominal money supply (implying an increased velocity of circulation), portfolio shifts toward the dollar, shortening of wage and other contracts, pegging them to the dollar (especially the parallel exchange rate), and increases in the fiscal deficit following erosion of the real value of tax revenue (see Solimano 1989, table 3).

Because wages, prices of domestic and imported inputs, and most contracts were de facto pegged to the exchange rate, the stabilization of the exchange rate by the government in August 1985 brought inflation to a sudden halt (see Sachs 1986, 1987). The stabilization also comprised a drastic fiscal reform (including a sharp increase in taxes on fuel and a wage freeze and job cutbacks in the public sector), an agreement with the International Monetary Fund (IMF), and a continued moratorium on the repayment of the external debt, both principal and interest. After the initial halt, there was some acceleration of inflation in December 1985 and January 1986, but by the end of 1986, the stabilization had been consolidated.

The restoration of confidence, however, was slow. Real balances remained low, real wages fell sharply (nearly 80 percent) in the second quarter of 1985, starting to recover only when inflation slowed down, and the already declining



gross domestic product (GDP) fell further in 1985 and in 1986, owing partly to the stabilization plan and partly to a deterioration of the terms of trade. Although there was considerable unemployment in Bolivia at the time—nearly 20 percent in 1986—Morales (1988) attributes only three percentage points of this 20 percent to the stabilization policy.

### **Orthodox Stabilization Programs: The Southern Cone in the Mid-1970s and Early 1980s**

Orthodox stabilization combines the correction of fiscal deficits to reduce (or eliminate) inflation with real depreciation of the exchange rate to correct deficits in the current account of the balance of payments.

Argentina, Chile, and Uruguay suffered from severe macroeconomic imbalances in the mid-1970s. In Chile in 1973 the annual inflation rate reached 813 percent, with a fiscal deficit of almost 25 percent of GDP; Argentina in 1976 had an inflation rate of more than 400 percent; and in Uruguay in 1974 the inflation rate was lower but still a substantial 77.2 percent.

The first phase of stabilization—comprising the reduction of the fiscal deficit, devaluation, and wage controls (see table 2)—did not result initially in a significant reduction of inflation in these three economies (see Corbo and Solimano 1990 for an econometric and simulation analysis of the slow reduction in inflation in Chile in the mid-1970s). In fact, in 1976 annual inflation in Chile was still more than 200 percent, in spite of a drastic reduction of the fiscal deficit from 24.7 percent of GDP in 1973 to 2.3 percent in 1976. In 1978 Argentina's inflation continued at more than 150 percent and Uruguay's at almost 43 percent, despite significant fiscal adjustment.

The orthodox packages proved costly (table 3). Real wages fell nearly 18 percent in Chile (1973–76) and Uruguay (1974–78); nevertheless, in 1975 both countries also faced a deterioration in their terms of trade. The fall in real wages in Argentina was smaller (2.5 percent between 1976 and 1978).

Meanwhile, unemployment rose in Chile from 4.6 percent to 19.4 percent, and in Uruguay by two percentage points, although in the relevant period in Argentina, there was actually a fall in unemployment. Labor's share in national income (see Solimano 1989, table 6) fell significantly in all three countries between 1973 and 1978 during the first phase of the stabilization plan, with some recovery in the early 1980s. (See Foxley 1983 and Ramos 1986 for further examination of the distributive implications of stabilization cum structural reform packages in the Southern Cone.)

By the late 1970s and into the early 1980s governments in the Southern Cone shifted to an anti-inflationary strategy based on exchange rate management (see phase II in table 2). The exchange rate-based approach to stabilization assumed that domestic inflation would be equalized to the sum of foreign inflation and the rate of devaluation. Therefore, the exchange rate policy was

**Table 2. Inflation and Orthodox Stabilization in the Southern Cone, for Selected Years, 1973–83**  
(percent)

Phase	Chile				Uruguay				Argentina			
	Year	Fiscal deficit as share of GDP	Inflation rate	Money growth rate <sup>a</sup>	Year	Fiscal deficit as share of GDP	Inflation rate	Money growth rate <sup>a</sup>	Year	Fiscal deficit as share of GDP	Inflation rate	Money growth rate <sup>a</sup>
I												
Beginning	1973	24.7	813.7	259.1	1974	3.8	77.2	80.0	1976	7.2	443.2	399.4
End	1976	2.3	232.8	216.0	1978	0.9	44.5	53.0	1978	3.2	175.5	142.8
II												
Beginning	1976	2.3	232.8	216.0	1978	0.9	44.5	53.0	1978	3.2	175.5	142.8
End	1981	-3.1	19.7	62.6	1980	0.3	63.5	34.9	1980	3.6	100.8	115.8
III												
Beginning	1981	-3.1	19.7	62.6	1980	0.3	63.5	34.9	1980	3.6	100.8	115.8
End	1983	3.8	27.3	26.6	1983	3.9	51.5	11.1	1983	11.0	343.8	361.7

GDP = gross domestic product.

Source: Ramos 1986, data base of Economic Commission for Latin America and the Caribbean, and IMF various years.

a. Refers to the growth rate of M1 (currency and demand deposits).

**Table 3.** Adjustment in the Labor Market and Real Exchange Rate in the Southern Cone, for Selected Years, 1973–83  
(1970=100)

Phase	Chile				Uruguay				Argentina			
	Year	Real wage index	Unemployment rate (percent) <sup>a</sup>	Real exchange rate index <sup>b</sup>	Year	Real wage index	Unemployment rate (percent)	Real exchange rate index	Year	Real wage index	Unemployment rate (percent)	Real exchange rate index
I												
Beginning	1973	80.0	4.6	123.6	1974	85.0	8.1	127.8	1976	74.7	4.6	140.8
End	1976	63.0	19.4	224.8	1978	66.9	10.1	191.6	1978	72.3	2.9	136.7
II												
Beginning	1976	63.0	19.4	224.8	1978	66.9	10.1	191.6	1978	72.3	2.9	136.7
End	1981	97.5	15.6	94.5	1980	65.1	7.4	152.0	1980	92.8	2.2	60.0
III												
Beginning	1981	97.5	15.6	94.5	1980	65.1	7.4	152.0	1980	92.8	2.2	60.0
End	1983	86.8	24.5	143.6	1983	55.3	15.5	261.5	1983	90.8	4.0	131.1

a. Includes emergency employment programs.

b. Deflated by the average nominal wage index.

Source: Ramos 1986.

viewed as a key to reducing inflation. The correction of the fiscal deficit became more of a prerequisite to the guarantee of a level of international reserves consistent with the predetermined path of the exchange rate.

In Chile the exchange rate was fixed from June 1979 to June 1982; in Argentina and Uruguay a system of preannounced exchange rate devaluations at progressively decreasing rates was used until 1981 and late 1982, respectively. In these three economies inflation thereupon decreased, real wages increased (or recovered), and unemployment fell. Moreover, the rate of growth of GDP accelerated in these three countries—but at the cost of unsustainable disequilibrium in the balance of payments.

The underlying disequilibrium in the external sector may be recognized by looking at the real exchange rate. Measured in wage units, it appreciated more than 50 percent in Chile between 1976 and 1981 and by a similar percentage in Argentina between 1978 and 1980 (table 3). The drop (appreciation) in the real exchange rate in Uruguay was about 20 percent between 1976 and 1981. The increase in foreign borrowing associated with the misalignment of the real exchange rate produced an enormous increase in financial liabilities of the banking system backed by assets of dubious quality. These developments finally led to very severe financial crises (Diaz-Alejandro 1985). For example, in Chile as late as 1987 the central bank held a stock of nonperforming loans amounting to 26 percent of its total assets as a result of the government's engagement in a massive rescue operation for troubled financial institutions (Arellano 1988).

The phenomenon of exchange rate overvaluation indicated the slowness of domestic inflation in coming down to the international inflation rate (allowing for the rate of devaluation). In fact, the observed price behavior showed that the law of one price holds only weakly in the aggregate. Among the factors that conspired against meeting the targets on inflation were, in Chile, an excessive level of domestic spending on nontradable goods combined with clauses of 100 percent lagged wage indexation in a context of declining inflation. In Argentina, by contrast, a large fiscal deficit was one of the main factors behind the failure to meet the anti-inflationary targets.

In the early 1980s the conjunction of excessive foreign debt, adverse external shocks, and real overvaluation of the exchange rate led the governments of the Southern Cone to abandon their exchange rate-based stabilization plans and to resort to stepwise devaluation, followed by a crawling peg (devaluing the nominal exchange rate by the difference between domestic and foreign inflation). In addition, domestic absorption was cut, and measures to prevent a large-scale financial collapse were taken. The final outcome of the experiments with exchange rate-based stabilization in all three countries was accelerated inflation, reduced economic activity, and lower real wages (table 3).

Beyond the immediate failure of these plans, Chile made a particularly strong recovery after 1984 (without an acceleration of inflation), whereas

Argentina was trapped in a vicious circle of slow growth, high inflation, and instability that persisted until the late 1980s. Uruguay restored growth (less fast than in Chile) with an inflation rate of about 70 percent a year after 1984.

### **Heterodox Stabilization Programs in Latin America: Argentina, 1985–87, and Brazil, 1986–87**

The central innovation of the heterodox plans was the use of generalized controls over prices, wages, and the exchange rate to reduce inflation. The use of several nominal “anchors” was intended to counteract inertial inflation (that is, the slow response of inflation to policies that reduce nominal spending) while avoiding some of the recessionary (and distributive) costs often associated with orthodox programs.

Argentina and Brazil launched heterodox stabilization programs in the mid-1980s in a context of accelerating inflation rates approaching hyperinflation. (Israel, in mid-1985, and Mexico, in December 1987, also adopted heterodox programs with satisfactory results. These programs, however, were more successful in reducing inflation than those of Argentina and Brazil.)<sup>1</sup>

The basic elements of the Argentine stabilization plan of June 1985 featured the freezing of wages, the exchange rate, and tariffs for an unspecified length of time (see Frenkel, Fanelli, and Winograd 1986; Machinea and Fanelli 1988). The austral plan initially adjusted the exchange rate and tariffs for public sector goods and services, and some reduction of the fiscal budget was attempted. In addition, a new currency, the austral, was introduced. This program was accepted by the IMF, and Argentina received additional foreign financing, with active participation by the U.S. government.

During its first nine months, the plan was quite successful. Inflation fell from a monthly average of 26 percent between January and June of 1985 to an average of 3 percent between July 1985 and March 1986. But after a “price flexibilization” in April 1986, inflation began to rise again, reaching a monthly average between April and December 1986 of 5.8 percent. Inflation accelerated further in 1987 (to 178 percent); moreover, in 1988–89 the economy was on the way to outright hyperinflation.

As to the economic costs of the plan, between May 1985 (the month preceding the appearance of the austral) and November 1988, the purchasing power of industrial wages fell by about 12 percent—although it had increased, by 7.2 percent, until June of 1987. Essentially, it was the more rapid acceleration of inflation beginning in the second half of 1987 that depressed real wages. The plan proved moderately expansionary: on average, industrial output increased by 3.4 percent during the years 1986–87. This was consistent with the heterodox intention of avoiding severe recession following stabilization. The principal question, however, becomes whether a permanent reduction in inflation can be achieved without incurring large real costs. The Argentine experience with

heterodox stabilization suggests that the costs of stabilization were postponed over time, since the anti-inflationary gains brought by the austral were merely temporary.

The Brazilian cruzado plan (1986), like the austral plan, consisted of a general freeze of prices, wages, the exchange rate, and tariffs for public services. Wages were initially converted to their average level of the preceding semester and then increased by 8 percent across the board, plus a 15 percent increase in the minimum wage. There was, however, no preliminary adjustment of the exchange rate and public tariffs as in Argentina. In addition, the government removed indexation and instituted an automatic adjustment of wages to be triggered when accumulated inflation exceeded 20 percent.

The first months of the plan were highly successful. Monthly inflation rates were between 1 and 2 percent, industrial output increased by 40 percent between February and October of 1986, and in November 1986 real wages were 9 percent higher than the average attained in 1985. But by August 1986 the plan was becoming unsustainable. The trade surplus fell from more than \$1 billion<sup>2</sup> a month (the level at the beginning of the cruzado plan), to \$544 million in September 1986, and turned into a deficit between October and December of that year. The deterioration in the balance of payments was even more striking if we consider that Brazil lost \$3.5 billion of international reserves between the beginning of the plan (February 1986) and December of the same year.

Toward the end of 1986, then, Brazil was experiencing repressed inflation, generalized excess demand, and depleted international reserves. When the price controls were abandoned, inflation rose to monthly rates of between 10 and 15 percent (December 1986–March 1987) and accelerated still more from April 1987 to reach a monthly rate of 26 percent in May and June. The acceleration of inflation led the government to adopt a new stabilization plan, known as the Bresser plan (named after the finance minister, Luis Bresser Pereira, who replaced Dilson Funaro, initiator of the cruzado plan).

The Bresser plan tried to correct some of the errors of the cruzado plan, adjusting public tariffs and the exchange rates at the beginning of the price freeze. This time the freeze was to be temporary, and (partial) wage indexation mechanisms were restored. This program too was ultimately a failure: inflation rose rapidly in the last quarter of 1987 (more than 10 percent a month), and by 1988 the annual inflation rate was approaching hyperinflation, at about 1,000 percent. The control of inflation became, once again, the first economic priority for Brazil.

## Lessons from the Stabilization Experiences

Let us turn to the lessons that can be learned from the experiences with stabilization just examined.

## *Hyperinflation*

There are four approaches to discussing the origins and cures of hyperinflation. The first approach (Cagan 1956) lays emphasis on money creation compounded by increases in the velocity of money as the driving force behind episodes of very high inflation. In this view, a large effect of expected inflation on the demand for money can generate explosive dynamics of prices approaching a hyperinflationary situation. The second approach (Sargent 1982) focuses on the role played by the fiscal regime (as distinct from specific fiscal actions) and monetary institutions in generating and then stopping hyperinflation. Radical changes in the rules governing fiscal and monetary policy were, according to Sargent, sufficient by themselves to arrest the hyperinflation experienced in central Europe in the 1920s. Furthermore, the perception by the public of these reforms as a decisive correction of the main causes, or fundamentals, of inflation, is an important element in successful stabilization.

The third approach, the balance of payments view of inflation, emphasizes external imbalances in the balance of payments—for instance, war reparations in the early 1920s and debt servicing in the 1980s—as triggers of hyperinflation (see Bresciani-Turroni 1937 and Robinson 1938). According to this approach, the money supply reacts in a rather passive way to changes in the exchange rate and prices. In turn, the fiscal deficit is considered to be largely endogenous and adversely affected by inflation because of lags in tax collection (the Keynes-Olivera-Tanzi effect). Moreover, another ingredient of this approach is that adjustments of relative prices (for instance, a real depreciation of the exchange rate) may come along with an acceleration in inflation because of real wage resistance (see Solimano 1989 for a formal model of inflation along these lines).

This view of the European hyperinflations of the 1920s underlines the need to maintain an undervalued real exchange rate—and depressed real wages—to generate a trade surplus equivalent to the transfers abroad called for by war reparations. In the presence of distributive conflicts, expressed as a rigid desired real wage, the fall of real wages following a real devaluation would be resisted through increases in nominal wages and accommodated with price increases in the context of accommodative monetary policies. Therefore, this approach suggests that stabilization was successful when Germany and the other countries in the 1920s received their war reparations recycled through foreign loans granted by the League of Nations. Clearly, the availability of external resources—coupled with domestic adjustment—played a key role in ensuring stabilization.

A fourth approach, represented by Sachs (1986) and Dornbusch (1987), emphasizes the role of exchange rate stabilization in checking hyperinflation in economies in which the prices of goods and services were formally or informally pegged to the dollar. In the Bolivian hyperinflation of 1985, for instance, the stabilization of the exchange rate brought domestic inflation in line with international inflation much faster than if the economy had relied only on fiscal

reform (Sachs 1986). Moreover, Dornbusch (1987) describes stabilization of the exchange rate as a certificate of credibility in the stabilization plan because of its immediate effect on prices and the fiscal budget. For this exchange rate-led stabilization to be durable, however, fiscal measures beyond a cyclical improvement in the fiscal budget must also be adopted—in other words, structural fiscal deficits must be corrected.

The literature on the cost of stabilizing a hyperinflation has been greatly influenced by Sargent (1982). Looking at the hyperinflation stabilizations of central Europe in the 1920s, he makes the case of costless stabilization in economies that have drastically changed the rules that guide fiscal and monetary policies. He suggests that the decisive change in policy rules that made the stabilization effort credible and immediate at the same time forestalled a period of unemployment and output losses during stabilization such as would have been predicted by models based on the Phillips curve relationship between inflation and unemployment.

At least two remarks can be made about Sargent's approach. First, on an analytical level, the nominal rigidities imposed by the wage and price contract structure, a main source of real (for example, output and employment) fluctuations in the presence of monetary shocks, seemed to disappear during (and because of) the hyperinflation before fiscal and monetary reforms were taken up. This obviously helped reduce the cost of the stabilization plan. The situation is different in chronic and high inflations (but not hyperinflation), in which the existing wage contract structure shortens its terms but does not disappear. In these situations it would be more difficult to reduce the costs of stabilization even if the anti-inflationary plan were completely credible. This suggests that the cost of the stabilization is related to the degree of stickiness in the contract structure, a feature closely linked to the level of inflation (hyperinflation as opposed to intermediate inflation) and not only to the credibility of the stabilization plan.

Second, recent empirical evidence (Wicker 1986) for the economies analyzed by Sargent (1982) shows that the employment losses engendered by stabilization were not trivial. Wicker points to three channels of a decline in employment after the stabilization of the hyperinflation in the 1920s: (1) in the banking sector, which had overexpanded during the hyperinflation; (2) in the public sector, connected with the fiscal reform; and (3) per unit of output in private sector firms that were forced to be more efficient after the stabilization. Clearly, those mechanisms are also seen in other stabilization efforts throughout history.

### *Orthodox Stabilization*

PERSISTENT INFLATION. A principal lesson derived from the experience with traditional orthodox programs in the Southern Cone (as well as from some other orthodox experiences; see Kiguel and Liviatan 1988) relates to the sluggishness with which inflation reacts to a reduction in the rate of growth of



nominal spending. This inflationary inertia is illustrated by the persistence of high inflation levels even in economies that adopted drastic fiscal adjustment. Chile in the mid-1970s is the standard example of an economy in which three-digit inflation continued for extended periods in spite of sharp fiscal correction. Moreover, this problem of inflationary stickiness also contributed, in the Southern Cone, to the failure of exchange rate-based stabilization programs because the associated currency overvaluation (compounded by adverse external shocks) led to a crisis in the balance of payments in these economies.

**THE COSTS OF STABILIZATION.** The traditional orthodox plans in the Southern Cone in the 1970s reduced real wages and increased unemployment in the short run (table 3). In general, the effects of the programs on employment and income distribution depend on the degree of slack or recession entailed by the stabilization in the short run; how much real wages or employment are cut; the redistribution of assets that may take place with the stabilization (as, for instance, privatization is implemented); those costs, in turn, will be reversed if the supply response in the medium term, when the economy is stabilized, leads to a resumption of growth and the recovery of real wages. Chile in the mid-1970s is a case in which labor market and distributive indicators deteriorated in the initial phase of stabilization (see Ramos 1986 and Foxley 1983). In the late 1980s, however, Chile exhibited high growth in the context of moderately low inflation (see Solimano 1990).

Experiences with orthodox stabilization based on the management of the exchange rate showed that the conflicts between reducing inflation and maintaining a stable and competitive real exchange rate can be decisive for the success of the program. As mentioned earlier, an overvalued exchange rate often leads to a balance of payments crisis, bringing in its wake a recession or a resumption of inflation, or both. The Southern Cone in the early 1980s provided clear examples of this conflict with far-reaching adverse macroeconomic consequences.

**INTERTEMPORAL DISTRIBUTION OF THE COSTS OF ADJUSTMENT.** The distribution of costs over time differs between traditional and exchange rate-based stabilization programs. The basic notion here is that the costs of the traditional program are faced at the beginning of the program, when the economy is hit by the fiscal shock, whereas in the exchange rate-based stabilization plan the costs occur at the end, when the need to correct unsustainable current account deficits generated by currency overvaluation leads to cuts in output, employment, and real wages.

### *The Experience with Heterodox Programs*

The heterodox plans in Argentina and Brazil ultimately failed quite dramatically, although in the short run they succeeded in reducing inflation without

inducing a recession—even, in the case of Brazil (1986), with (unsustainable) high growth. In the aftermath, however, inflation in both economies accelerated sharply—to reach virtually hyperinflationary levels—and growth decelerated.

**GROWTH IN SPENDING AND THE INFLATION TARGET.** The cruzado plan of 1986 vividly illustrates that excessive growth in aggregate demand is incompatible with a target of low inflation for the stabilization program.<sup>3</sup> The Brazilian attempt to sustain high growth (8 percent in 1986) simultaneously with zero (or very low) inflation during the cruzado plan was clearly overambitious. In Argentina, by the second half of 1985, after the launching of the austral, the growth in spending was certainly more moderate than in Brazil. Nevertheless, some Argentine economists, such as Canavese and di Tella (1988) and Rodriguez (1988), have questioned how far monetary and fiscal policy was consistent with the objective of reducing inflation, especially after April 1986. Moreover, the slide into hyperinflation in the late 1980s in Argentina suggests that growth in nominal spending was inconsistent with a low-inflation equilibrium.

**PRICE FREEZING AND RELATIVE PRICES.** Any scheme of price freezing risks distorting relative prices. In Brazil during the cruzado plan the real exchange rate fell, and relative prices became misaligned, generating an outburst of demand for basic and durable goods in anticipation of a reversal in the path of the real exchange rate and in other relative prices. This in turn put great pressure on the controlled prices and eventually led to an explosion in controlled prices. In addition, the trade surplus vanished six months after the launching of the plan, mainly as a consequence of a sharp rise in imports. Hence the combination of excess demand with misaligned relative prices led to unsustainable macroeconomic imbalances that finally undermined the stabilization effort.

**CONTROLLING THE FISCAL DEFICIT.** The failure of the heterodox plans in Argentina and Brazil to attain a more permanent stabilization is frequently blamed on their inability to reduce the fiscal deficit. Kiguel and Liviatan (1990) review this issue and do not find the size of the fiscal deficits and the levels of seigniorage sufficient to account for the sharp acceleration in inflation following the failures of the austral and the cruzado plans. However, the repetitive use of price controls—an indication of the failure to stabilize—clearly did lack supporting fiscal policies. In that sense, the lack of fiscal adjustment in these two economies hampered the stabilization effort.

A related issue concerning fiscal adjustment in a program involving price freezing is the potential for fiscal effort to be too lax. This could occur because the improvement in the budget generated by the price freeze (the reversal of the Keynes-Olivera-Tanzi effect) may induce policymakers to substitute a cyclical improvement in the government budget for a structural fiscal reform.

A structural adjustment of the fiscal deficit, however, entails economic and political costs that may deter governments from pursuing it more forcefully. In particular, fiscal adjustment is more difficult to undertake in the kind of economic crisis that has accompanied the implementation of the heterodox programs in Latin America during the 1980s. The natural tendency is to postpone the fiscal adjustment until the macroeconomic and political environments are more favorable. Of course, this practice simply shifts the costs of the stabilization to the future; moreover, postponing adjustment is likely to increase its associated costs.

**DEINDEXATION.** Indexation was viewed as the main cause of inertial inflation in Argentina and Brazil. During heterodox programs, then, the removal of indexation was thought to be a key element of the stabilization. The outcome was not encouraging for two reasons: first, deindexation is certainly not a substitute for fiscal adjustment, and second, indexation serves also as a guideline for price setting by firms and acts as an anchor that may help to prevent a price explosion in a phase of price decontrol. An additional complication for stabilization coming from the side of wage formation is the issue of hysteresis: in fact, it is a common observation in the practice of stabilization that the length of the contracts shortens during inflationary accelerations but fails to lengthen correspondingly in periods of greater price stability—an asymmetrical response of wages that undoubtedly makes stabilization more difficult.

**THE FOREIGN EXCHANGE CONSTRAINT.** The existence of a foreign exchange constraint during the episodes of high inflation in central Europe in the 1920s has an evident parallel in the effect of foreign debt servicing problems in Latin America in the 1980s. The burden of servicing large external debt has made the balance of payments of countries that pursued heterodox (as well as orthodox) programs very vulnerable. In Argentina and Brazil the weak external position undermined the stabilization efforts. In Mexico debt servicing problems were reflected more in slow growth than in higher inflation after the launching of the “Pacto de Solidaridad” plan.

A reference to one of the more successful of the heterodox programs so far, the Israeli stabilization plan, is instructive in this connection. The program’s success in eliminating the fiscal deficit accounts, to a large extent, for Israel’s outstanding performance. But we should also note that during the stabilization plan, Israel received a net transfer of resources from abroad (through foreign assistance and other means). Thus Israel has been able to run trade deficits. In Argentina, Brazil, and Mexico, in contrast, the resource transfer has been made to foreign countries, forcing these economies to run trade surpluses over the stabilization period.

**DISTRIBUTIVE CONFLICT AND THE POLITICAL CYCLE.** Although income redistribution was not an explicit objective of the heterodox programs, distributive

considerations have been present in the implementation of stabilization policies. The combination of a foreign exchange constraint with undervalued real exchange rates may produce an acceleration in inflation as labor tries to protect real wages and its share of national income, through rising nominal wages. The response of firms is to increase prices in order to keep the markups more or less constant. The result of this distributive game will be a sustained increase in inflation, if monetary policy is accommodating.

The political cycle in some respects helped, and in others hindered, stabilization. Dornbusch and Simonsen (1987) noted that the heterodox plans in both Argentina and Brazil had strong initial popular support. This political base of support, however, began to dissipate once the initial success was replaced by a resumption of inflation.

The political cycle also hampered the stabilization effort by encouraging overexpansionary policies intended to increase public support for the government at times of upcoming elections. A clear example of this was the expansionary cycle experienced by the Brazilian economy before the parliamentary elections in November 1986, at a time when the cruzado plan was under way.

## Conclusion

The notion that the stabilization of a hyperinflation could be an almost costless process is not fully endorsed either by the European experiences of the 1920s or by the Bolivian experience in the mid-1980s. Although the speed with which inflation came to an end in those programs was indeed impressive, the short-run costs in both cases and the very slow recovery of growth in the aftermath of stabilization, as is neatly portrayed in the Bolivian case, suggest that stopping hyperinflation is not a simple and costless task.

The orthodox experiences in the Southern Cone in the 1970s show that traditional stabilization programs confined to tightening monetary and fiscal policy can be slow to reduce inflation. They may also entail high costs in output losses and cuts in real wages during the initial phase of the stabilization. Orthodox programs based on exchange rate management were able to reduce inflation more rapidly than traditional programs, but they led to overvalued real exchange rates and the accumulation of foreign debt. The costs of stabilization under exchange rate-based programs were thus simply postponed to the later stages of the anti-inflationary programs, when unsustainable current account deficits had to be corrected. It is interesting to note that the intertemporal distribution of the costs of stabilization, related to programs that rely mainly on one nominal anchor (for example, exchange rate-based stabilization), is also present in heterodox plans that use several nominal anchors to stabilize; both tend to defer the costs of stabilization until later in the stabilization process.

Heterodox stabilization led to sustained disinflation in Israel and Mexico, but the stabilization was relatively short-lived in Argentina and Brazil. The growth record during stabilization in those countries was not impressive, although severe recession was, in general, avoided.

Some implications relevant to the issue of designing policies to use in different inflationary situations do emerge from the diverse experiences examined. First, a stabilization plan that relies solely on reducing money growth and fiscal adjustment will produce more rapid results in reducing inflation in the short run in situations of temporary inflation. But in countries with a long inflationary history, where credibility problems are serious and well-developed indexation mechanisms exist, an exclusive reliance on restrictive monetary and fiscal policies may be costly and slow in producing disinflation in the short to medium run.

Second, the use of income policies—to supplement fiscal restraint—may help to reduce inflation, in the short run, without forcing the economy to go through a protracted recessionary period to break inflationary expectations (although some slack may still be required). To reduce inflation permanently requires nominal spending to grow at rates compatible with price stability in the medium and long run. To attain that, fiscal adjustment becomes a key component of stabilization.

Third, the experiences of stopping hyperinflation provide examples of both rapid disinflation achieved through restrictive monetary and fiscal policies and the key role played by stabilization of the exchange rate in successful stabilization. Last, but not least, the history of economic stabilization has amply shown that the availability of adequate foreign financing, as a support to the stabilization effort, is a crucial ingredient in the success of stabilization plans.

## Notes

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1. Programs seeking to disinflate (through price controls) and expand the economy at the same time (through expansionary fiscal, monetary, and wage policies) have been labeled populist economic policies (see Dornbusch and Edwards 1989). Examples of such policies, which ultimately failed, are the economic policies followed by Peru under Alan Garcia in 1985, by Chile under Allende in 1970–73, and by Argentina under a Peronist administration in 1973–76.

2. One billion is 1,000 million.

3. Analytically, a decrease in the inflation rate has an ambiguous effect on aggregate demand. There are at least three effects that can operate in opposite directions: (1) real interest rates may rise if inflation slows down unexpectedly; (2) the purchasing power of wages and other income will rise when the inflation rate falls; and (3) real fiscal revenue increases when the inflation rate decreases because of the Keynes-Olivera-Tanzi effect. Effects 1 and 3 are contractionary and 2 is expansionary (see Taylor 1987).

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# THE ROLE OF GROUPS AND CREDIT COOPERATIVES IN RURAL LENDING

Monika Huppi  
Gershon Feder

*Lending groups and credit cooperatives have the potential to provide affordable credit to small-scale farmers because they can reduce transaction costs and lower the risk of default. In developing countries these two kinds of lending arrangements have a mixed record, although their difficulties reflect shortcomings in implementation rather than in the lending arrangements themselves.*

*The article indicates that successful group lending schemes work well with groups that are homogeneous and jointly liable for defaults. The practice of denying credit to all group members in case of default is the most effective and least costly way of enforcing joint liability. Another way to encourage members to repay is to require mandatory deposits that are reimbursed only when all borrowers repay their loans.*

*The article points out that credit cooperatives that mobilize savings deposits are less dependent on external sources and increase the borrowers' incentive to repay. The success of credit cooperatives requires training of members as well as management. Experience suggests that credit cooperatives should not expand their activities beyond financial intermediation until they develop strong institutional and managerial capabilities.*

The design of traditional agricultural credit projects reflects the concern of policymakers that a shortage of affordable credit constrains growth in this sector and prevents the small farmer's integration into the market economy. This has encouraged governments—often supported by international donors—to establish specialized credit institutions to channel cheap credit to rural areas. But expectations that these institutions would provide

small farmers with easier access to credit have often proved to be unfounded. Funds from government-owned or -sponsored rural financial institutions have frequently been skewed in favor of wealthier and more influential farmers (see Adams, Graham, and Von Pischke 1984; Von Pischke and Rouse 1983). Not only are large farmers perceived as lower risk because they can offer more collateral, but administrative costs per unit on large loans are significantly lower than those on the modest sums lent to small farmers. Formal rural lenders have thus been encouraged to lend their limited funds to larger borrowers, especially when regulated interest rates barely cover the handling costs of the loan.

The failure of agricultural development banks and other rural lenders to reach low-income producers with affordable credit has led to a search for other arrangements (Braverman and Guasch 1989a, 1989b). Lending groups and credit cooperatives are popular alternatives. Both entities have the potential to reach small farmers with affordable credit because processing one large loan rather than numerous small loans cuts administrative costs. Since credit cooperatives and group lending arrangements entail some form of joint liability, they are also expected to reduce the risk of default. For these reasons it is frequently argued that agricultural development banks and commercial banks could continue to serve medium-sized and large farmers directly, while serving small farmers indirectly through lending groups or credit cooperatives. Credit cooperatives and lending groups also have the potential to reach groups that do not otherwise have access to the formal financial system.

Despite their apparent advantages, credit cooperatives and lending groups have had mixed results. For example, Deschamps (1989) describes successful credit union projects in Cameroon and Malawi and unsuccessful results in Kenya and Lesotho. Rochin and Solomon (1983) and Rochin and Nyborg (1989) discuss problems with credit and other cooperatives in Egypt, India, and Venezuela but point to success in Bangladesh, the Republic of Korea, Taiwan, and other economies. Yongjohns (1980) highlights the potential of credit cooperatives but questions their suitability for agricultural credit.

This article reviews group lending and credit cooperatives in rural areas of developing countries to determine whether these arrangements have unrealized potential. The evaluation is based on a review of the literature and assesses those factors that affect the success of rural lending groups and credit cooperatives.

## Characteristics of Group Lending and Credit Cooperatives

Two main categories of cooperatives support financial activities: financial cooperatives and agricultural cooperatives. The former primarily handle funds intermediation, and the latter concentrate on agricultural services or joint production but may also offer credit. This discussion covers all cooperatives

providing financial services to farmers, including relatively small, savings-funded credit unions, government-sponsored credit cooperatives, and cooperative banks, but it highlights the differences when these are pertinent.

Credit cooperatives as formal financial institutions originated in nineteenth-century Germany. These associations operate democratically; each member has one vote. Leadership is voluntary and unpaid, although professionals may be hired for day-to-day operations. Members contribute equity in the form of an initiation fee and regular capital contributions. The amount a member can borrow is based on his or her capital contributions. Profits are distributed to members in the form of dividends based on their equity contribution or retained to increase the organization's capital. This ensures that benefits go to members rather than to external intermediaries and their shareholders.

Although credit cooperatives typically derive much of their funding from capital contributions, they may also take deposits. Most pure credit unions are very active in this area, and the lion's share of their funds comes from members' deposits and share capital. Self-financing is a source of strength because it reinforces the perception that members have a stake in the institution and thus contributes to good repayment performance. Other cooperatives also frequently depend on external funds. These can come from such commercial sources as private banks, but more often they are supplied by apex institutions (that is, national or regional umbrella organizations) or development banks, which in turn obtain them from the government or from international donor agencies.

Lending groups are less rigorously organized than credit cooperatives and are usually created to receive a loan from an outside source. A lender may provide funds to the group as a whole, which then disburses the loan to individual members according to agreed criteria. In such a case the group is jointly liable for the entire amount of the loan. Alternatively, funds may be lent to members individually, in which case the group jointly guarantees all loans or simply furnishes information about individual participants.

The principal advantages and disadvantages of lending groups and credit cooperatives are summarized in the following.

*Economies of scale.* Both group lending and credit cooperatives have the potential to produce significant, albeit different, economies of scale. Group loans save the lender transaction costs, although these may to some extent be reallocated to the group, which has to distribute, monitor, and collect the loan. Economies of scale are most significant for lenders that are not responsible for the formation of the group. Similarly, the lender's costs of mobilizing funds may be reduced by focusing on the cooperative as a whole rather than on its individual members. In the case of credit cooperatives a significant share of the economies of scale accrue to borrowing members, who would otherwise have to travel to bank branches in urban or regional centers.

*Enhanced information about borrowers.* The bulk of a lender's transaction cost is related to the assessment of creditworthiness and the viability of loan recovery. Farmers who have some social and economic ties can enhance their

prospects as borrowers by forming a group that can provide external lenders with valuable information about its members. Social and economic links also give group or cooperative members the option of applying sanctions to pressure their peers to perform. In the case of cooperatives, close ties among members improve the incentive to repay debts, because potential delinquents feel responsible toward their neighbors whose funds are at stake. Generally, familiarity and links among group members are negatively correlated with group size. Large groups are too diluted to take advantage of the informational or kinship advantages that make such arrangements worthwhile for lenders and borrowers. From this point of view, lending groups are more advantageous than credit cooperatives. Nonetheless, cooperatives benefit from the familiarity that binds management, staff, and potential members. Management is able to base lending decisions on more accurate information than is available to other institutional lenders.

*Risk pooling through joint liability.* Joint liability can improve repayment in two ways. First, group or cooperative members can put pressure on potential defaulters when their own interests are at stake. Second, the risk that the whole group will default diminishes with increased membership, unless all of the members' activities are highly correlated. The forms of joint liability are discussed in the next section, but the key issue is always the extent to which an outside lender is willing to bear the cost of loan collection. This willingness depends on the penalties that can be imposed on delinquent borrowers and on whether legal and social practice makes enforcement possible. Experience suggests that the use of legal procedures to obtain repayment is in most instances as difficult and costly when dealing with a group as with an individual. Thus a lender's ability to deny credit to groups or cooperatives if any members default is often the most effective and least costly way to encourage loan repayment. This may not be as simple as it seems, however, especially if lenders are dependent on external sources of funds that mandate lending to particular target groups.

*Improved bargaining.* Reduced transaction costs and a lower risk of default increase the attraction of lending to groups and cooperatives. Participating members improve their access to credit and obtain better terms than they would qualify for as individuals. In many cases group or cooperative arrangements provide financial services to individuals who would otherwise have no access to credit.

Credit cooperatives and lending groups also have potential weaknesses. The two most common are moral hazard and concentration of the loan portfolio.

*Moral hazard.* Under a system of joint liability, all members are liable for the costs of default by any member. This implies that the risk is borne by the group, whereas the benefit is reaped by the individual. Since the social cost of individual default exceeds its private cost, joint liability may increase the risk if group cohesiveness is limited and mechanisms for enforcement and penalization fail to operate effectively. Group members have little incentive to repay if

the majority of their peers default. This behavior may be eliminated if group cohesiveness is strong and members feel responsible for the effect of their actions on others. In smaller cooperatives in which management and borrowers may also be linked through kinship or political affiliation, management's reluctance to penalize defaulters can constitute another source of moral hazard.

*Concentration of the loan portfolio.* The liquidity and income of individuals who live near each other and engage in similar economic activities are often highly correlated. Thus if the members of a rural credit cooperative are engaged in similar agricultural activities, their loan portfolio is likely to suffer from inadequate diversification. In addition, deposits and demands for cash are synchronized, which may lead to liquidity bottlenecks at the beginning of the agricultural production cycle. These arguments would suggest establishing larger, community-based credit cooperatives with a mix of membership.

Homogeneity is not necessarily a desirable attribute for rural credit cooperatives. This distinguishes them quite clearly from lending groups, in which homogeneity is essential for success because it reinforces peer pressure and a sense of joint responsibility. Group lending arrangements are less subject to the dangers of portfolio concentration because the institutions that lend to groups can diversify by serving a varied clientele in different areas. An institutional solution to the cooperatives' problem of synchronized cash flows and limited diversification of risk is to establish a national or regional apex organization that can diversify risk and act as a lender of last resort.

## Experience with Group Lending

The most important elements of group lending are the precise form of joint liability and the extent to which the ultimate lender interacts with the group as a whole or with individual members. Such factors as who formed the group and what activities other than credit the group pursues also affect performance.

### *Formation of the Group*

In many countries government organizations such as extension agencies have borne the cost of group formation and technical assistance. This has freed lenders from the expense of creating groups. In Bangladesh, the Dominican Republic, Ghana, and Thailand, group formation—and the related costs—has been left to the borrowers (Desai 1983b, Tohtong 1988, Hossain 1988). Only rarely have lenders themselves assumed the administrative cost of forming borrowing groups. Where this has been the case (in Nepal, for example), an attempt has been made to keep costs low by making loans through village organizations or other traditional groups. These same channels have been used in Malawi, where extension agents have helped establish borrowing groups.

Malawi's low default rates are also believed to reflect the communal and kinship makeup of the groups (Schaefer-Kehnert 1983).

The size of the group is a crucial feature for adequate performance. Small groups foster closer ties among members and can reduce the cost of information. Loan supervision is easier, and the group is better able to impose accountability on its members. Practice has shown that group size is directly related to delinquency rates. In Ghana, the performance of large groups with close to 100 members was markedly worse than that of groups with ten to twenty members (Owusu and Tetteh 1982). Similarly, in the Dominican Republic, loan recovery rates dropped significantly as group size increased (Desai 1983b). In Zimbabwe, groups with more than twenty members proved more susceptible to default than smaller groups (Bratton 1986). A successful program of the Thai Bank for Agriculture and Agricultural Cooperatives (BAAC) limited group membership to thirty, but typically groups had twelve to fifteen members (Tohtong 1988). The Bangladesh Grameen Bank, with a loan recovery rate of more than 98 percent, found that even groups of ten were too large to guarantee cohesiveness and joint accountability; its customers are organized into five-person groups (Hossain 1988). It is obviously questionable whether very small groups allow for effective economies of scale and cut down transaction costs. Still, joint liability is more easily imposed on small groups, and with higher repayment rates, overall lending costs are significantly reduced.

Increasing group size is often a result of deteriorating credit services. If the intermediary's financial situation does not allow it to serve a large number of groups, and the demand for credit is strong, the size of the group inevitably increases. This in turn affects rates of loan repayment and worsens the intermediary's situation. This vicious circle must be prevented by allowing the financial intermediary to maintain a sound financial situation through full cost recovery (that is, charging interest rates high enough to cover all costs and providing effective loan collection procedures).

Homogeneity is also important for effective group guarantees and loan supervision. In Malawi and some areas of Bangladesh, where group lending has performed exceptionally well, loans are made only to relatively homogeneous groups. In Malawi groups are always from the same village and often affiliated through kinship (Schaefer-Kehnert 1983). The Grameen Bank lends only to groups from the same village whose members are of the same sex and have a similar economic background (Hossain 1988). In Thailand the BAAC lends only to homogeneous groups producing the same crops (Tohtong 1988). The small-holder lending program in Madagascar is an example of how loans to large groups based on administrative definition rather than social cohesion have failed. In this program loans were channeled through the *fokontany* (the lowest level of local government), and access to new funds was denied to the whole entity if the repayment rate fell below 95 percent. It was soon found that the guarantee was meaningless and unenforceable. Loan delinquencies exceeded

the allowed quota, and after a few years the bulk of the program had to be abandoned (World Bank internal report).

Well-functioning group lending schemes require effective management. Self-managed groups usually perform better than groups whose activities are managed by outsiders such as extension agents or employees of the financial intermediary. Self-management encourages group cohesiveness and may thus make it easier to exert pressure on potential defaulters. To the extent that groups have qualified members, they can recruit volunteers to gather information, supervise and collect loans, and handle treasury functions. This also reduces the lenders' processing costs, although it adds to the borrowers' transaction costs. Adequate training is important if a borrowing group is expected to assume managerial responsibilities. The Grameen Bank provides each new group with seven days of continuous training by the bank's staff. Weekly meetings are held in a local center to process loan applications and handle other administrative duties. Bank staff supervise the groups until all loans are recovered. As a result transaction costs are relatively high, but such measures seem to be essential for the bank's success.<sup>1</sup> If the same group borrows repeatedly, transaction costs should decline. Although no quantitative information on the borrowers' transaction costs is available, the Grameen Bank's administrative costs (including provision for bad debt) amounted to 18.1 percent of outstanding loans in 1986, with total operating costs (administrative costs plus borrowing costs) recorded at 21.7 percent (Hossain 1988).<sup>2</sup>

Previous experience with group activities in general and with group lending in particular also has a positive effect on the group's performance. To the extent that groups are formed by members, it is likely that previous experience allows the group to identify members with good repayment records and exclude others. In Zimbabwe, for example, groups that had been formed for purposes other than credit and borrowing groups that had already been operating for a time performed better than newly formed credit groups (Bratton 1986). In Malawi, where credit groups are newly formed every year, farmers had experience with another form of group activity—obtaining agricultural inputs—before the credit program was launched (Von Pischke and Rouse 1983).

### *Liability and Loan Recovery*

If a loan is made to individual members rather than to the group as a whole, liability can take one of three forms: individual liability, joint voluntary liability, and mandatory joint liability. Individual liability schemes require each member to repay his or her own loan. The group acts as a conduit to provide the lender with information about its members or to assist borrowers with loan applications. In the case of joint voluntary liability, individuals are responsible for their own loans, but all members are denied access to future loans if a member fails to repay. In the case of mandatory joint liability, each member is responsible for the repayment of all loans made to the group, and no new loans

are provided until all outstanding loans have been repaid. Mandatory joint liability normally prevails if the loan is made to the group as a whole. The literature does not indicate whether lending to a group or to individual members yields better results. Practice, however, has shown that joint liability has a positive effect on loan repayments under certain conditions. In Bangladesh and Malawi, where loan recovery rates are 98.6 percent and 97.4 percent, loans are made to and repaid by the individual (Hossain 1988, Schaefer-Kehnert 1983). The group is jointly liable, however, if any member defaults, and all members are denied future access to credit until the loan is repaid. The same scheme has recorded repayment rates of 82 percent for the BAAC program in Thailand (in contrast to an average rate of 66 percent for comparable loans with individual liability). The BAAC's experience has shown that lending to groups collectively results in higher default rates because no one accepts responsibility (Tohtong 1988). In Zimbabwe recovery rates on loans made to groups as a whole were as much as 40 percent higher than those on individual loans (92 percent as opposed to 53 percent) in normal years, and as much as 20 percent higher than those on individual loans based on joint liability (Bratton 1986). This trend was completely reversed, however, after a failed harvest. This suggests that where liability is unlimited, borrowers are likely to repay only if they believe that other members will also repay.

The threat of losing access to credit works only as long as the lender is in a position to continue to provide favorable and timely credit services. In Bolivia, the Dominican Republic, and the Philippines, for example, loan delinquencies increased rapidly as lenders' services deteriorated (Desai 1983b). In contrast, when access to future credit has been assured, groups have often put significant pressure on members who are in default. In some cases intragroup lending has been used to assure timely repayment. This has often been the case in the Grameen Bank program, in which funds are disbursed in stages. The first borrowers in a group must have begun repaying before other members of the group can borrow. Phased disbursement thus allows loan officers to assess the group's cohesiveness, and at the same time motivates group members who have not yet received their loans to pressure their peers to repay.

Group members have a further incentive to repay if a common interest other than credit is also at stake. Evidence to substantiate this claim is scant, because groups are generally formed for the sole purpose of gaining access to credit. In Bangladesh, Malawi, and Nepal the lender establishes a common interest among group members by retaining between 5 percent and 10 percent of the group's loan as a deposit. Although this capitalization increases effective interest rates on the loan, the deposits earn interest and can be used to cover shortfalls in repayment. In Malawi and Nepal the entire deposit plus accrued interest is returned to the group when the debt is repaid. In the case of Bangladesh's Grameen Bank only part of these funds is returned. In times of need, members can borrow up to 50 percent of this deposit as an interest-free loan for specific purposes. This can protect the quality of the loan by pre-



venting members from liquidating their capital or going to informal lenders. Holding back some part of the loans thus lowers the probability of default. To judge from the relatively high repayment rates in these countries, the common interest created by this forced savings practice effectively induces repayment discipline. A group lending program for grain farmers in the Philippines requires members to pledge their crop against the group's loan. Although the program is still new, its repayment rates to date have been outstanding (World Bank internal memorandum).

Finally, the performance of the Grameen Bank's loans suggests that small and regular—even weekly—repayments are best suited to the circumstances of the rural poor. This approach may have to be adapted to the constraints imposed by production cycles. It is also likely to increase transaction costs, but the advantages of significantly higher recovery rates are considerable.

### *Reducing Transaction Costs*

Although improved rates of loan recovery are the crucial factor in cutting down lenders' costs and risks, reduced administrative costs arising from economies of scale are also important. A review of the transaction costs of fifteen group lending projects concludes that lenders in Bolivia, the Dominican Republic, India, Nepal, and the Philippines benefited from economies of scale when making loans to groups. In most cases this was so only because lenders were not required to carry the cost of forming groups (Desai 1983b). In the Dominican Republic this cost was borne by the refinancing agency; in Bangladesh, Bolivia, Ghana, Malawi, Nepal, and Thailand the government provided technical services. In Zimbabwe the Agricultural Finance Corporation (AFC) lends only to established groups that were formerly involved in another group lending program based on limited liability. Thus its administrative costs are a minuscule 1 percent of loan capital, compared with the 12 percent recorded by groups that are newly formed and the 11 percent of loans to individuals. In fact, the administrative costs of lending to groups of small farmers compare favorably with the costs of loans to large-scale commercial farmers (Bratton 1986). AFC's record suggests that once the startup costs associated with group formation have been met, group lending programs become much more advantageous because of decreased administrative costs.

Studies of group lending report that, except in India and the Philippines, the cost of borrowing is lower when funds are lent to the group rather than to the individual. In the Dominican Republic, for example, the effective rate of the cost of borrowing was 15 percent a year for groups and 18 percent a year for individuals (Adams and Romero 1981). Generally, group borrowers saved on fees for registration of collateral, expenses on loan applications, and the time and transportation costs of visits to lenders. Still, group leaders may incur administrative costs that are not accounted for in monetary terms. In addition, the cost to individual members may outweigh the cost of individual borrowing

if any members default and the others are held liable for their share. None of the studies provide data on these costs.

## Experience with Credit Cooperatives in Developing Countries

Like group lending schemes, credit cooperatives are expected to increase repayment rates and lower the transaction costs of borrowers and lenders. Unfortunately, the literature provides scant information on these topics. Overall, credit cooperatives have a mixed record in the supply of rural finance. High delinquency rates have been the primary reason for failure, but they should be viewed as a symptom rather than as the underlying cause.<sup>3</sup> Areas of particular importance for successful credit cooperatives include planning adequately and educating members; resolving organizational and structural problems; ensuring adequate infrastructure, management, and oversight; and avoiding government interference. Each of these points is examined in light of the experience of various countries.

### *Planning and Education*

Participation is a cornerstone of self-help organizations. The active involvement of members is required to build institutions at the local level and to promote members' economic self-sufficiency. If members are to understand the principle of self-help and the rationale behind credit cooperatives, they must comprehend that they can benefit from organization and collective action. Cohesion is easier to achieve with limited membership, a restricted field of action, and the active involvement of the members.

In many developing countries farmers' cooperatives have been organized at the government's initiative. But rather than starting out with a single-purpose cooperative, such as a credit union, officials have frequently launched a multi-purpose cooperative, which provides inputs as well as marketing and financial services. These ambitious arrangements frequently involve a top-down approach, with top-down decisionmaking and little participation by members. Often, in fact, these large enterprises were managed with minimal direct contact between the staff and the members, although good staff-member relations are crucial for the smooth functioning of a credit cooperative. The members' confidence is reflected in the cooperative's ability to mobilize savings and encourage loan repayment, and management's knowledge of the members is essential in appraising creditworthiness. Furthermore, if credit is provided in conjunction with other benefits, such as subsidized agricultural inputs, farmers often fail to understand that they are beneficiaries of a loan rather than a grant. This has a detrimental effect on repayment rates and can undermine the financial viability of the cooperative. Many government-established cooperatives have been able to survive only with the help of outside funds. Because the mem-

bers' own capital was not at stake, this subsidy in turn has often precluded the sense of joint ownership that could serve as a driving force behind loan repayments.

Reports of malfunctioning cooperatives that were undercut by top-down organization are numerous. A study by the Food and Agriculture Organization of cooperatives in Southeast Asia, for example, claims that insufficient preparation of the members, especially in the absence of a sense of ownership, has been one of the main reasons cooperatives have failed in India, the Philippines, and Thailand (cited by Yun 1987). In Jordan and Pakistan, cooperative members have little sense of ownership and responsibility because government officials appraise and collect loans (World Bank internal memorandum).

This does not imply that government support for the development of the cooperative movement is unnecessary. Most of the failures of government-promoted cooperatives have occurred because governments were not prepared to accept the long gestation period necessary for the cooperative to develop. In the Republic of Korea, top-down organization and effective government support have produced excellent results, but Korea has a long tradition of group organization for savings, credit, and other purposes. Furthermore, war and land reform had eliminated significant differences in wealth in the rural population. To promote the cooperative movement, the government launched a campaign to educate members as well as managers. At the same time a parallel bottom-up credit union movement developed independently. As these bottom-up organizations grew and began to lend and mobilize savings, the government-launched cooperatives eventually adopted similar methods (personal communication with World Council of Credit Unions).

Confusion about the principles of the cooperative system is not limited to members; even governments and international donors often fail to understand that credit cooperatives must be profitable to be viable. Although the profits of the cooperative are redistributed to members rather than to outside stockholders, the institution should nonetheless aim for adequate profitability. The confusion is compounded when the rhetoric promoting the cooperative movement ignores the effect of individual self-interest that motivates membership in a credit cooperative. Thus it has been widely believed that a sense of community responsibility would prompt members to work for the cooperative voluntarily—without pay or compensation. On occasion the desire to keep costs low has also made it difficult for cooperatives to pay adequate salaries to secure and retain skilled managers.

In some countries this rhetoric may have discouraged cooperatives from charging adequate interest rates. In Peru and Togo, interest rates on loans from cooperatives were at least 10 percent below the levels required to cover operating costs and pay competitive rates on members' savings deposits (Vogel 1988). As a result, credit schemes in Peru which could not obtain enough savings to satisfy the demand for cheap credit had to ration loans to members. This led to a decline in membership and an increase in defaults, since

members saw no point in repaying old loans when the prospects for new credit were bleak. The high rate of inflation at the time was another factor in these delinquency rates.

### *Organizational and Structural Issues*

Most credit cooperatives are organized in a two- or three-tier system, with a federation of national or regional cooperatives at the top and the local (primary) organization serving members at the bottom. Regional or national umbrella organizations have good potential because they can benefit from larger economies of scale and reduce risk by diversifying their portfolios. In many countries apex institutions have successfully assisted primary organizations with managerial, auditing, and educational tasks. In numerous countries the apex institution also acts as financial intermediary, providing liquidity management and intermediary services to members. In Korea the national association assists primary organizations with investments outside the agricultural sector and also provides excellent auditing services. In some cases, however, when the umbrella organization has provided direct financial services to customers, problems have surfaced because the roles of the primary and secondary organization were not clear. In Bolivia, for example, the national organization, FENACRE, made loans to individuals with funds from an international agency. It also mobilized deposits in direct competition with its primary associations (Gadway 1988). In Honduras and Niger blurred responsibilities between local associations and umbrella organizations affected repayments because it was unclear which organization was responsible for loan allocation and collection (Cuevas and Graham 1988, Vogel 1988).

Heavy financial dependence between these two tiers can also exacerbate moral hazard when lower-level associations overborrow and take bigger risks than they would if they could not count on outside funds. This was the case in Israel, where loans from regional organizations were the single most important liability of numerous primary cooperatives. Because many local organizations had overborrowed, the financial health of the regional organizations mirrored the economic performance of their members. This became clear when funds became scarce at the macro level and real interest rates skyrocketed in 1985 in response to the government's anti-inflationary policies. As outside funds became scarce, the regional organizations collapsed one by one, leaving their member associations without credit (Kislev, Lerman, and Zusman 1988).

The fact that credit cooperatives are owned and operated by their own clients subjects them to an inherent conflict of interest between depositors and borrowers. Since each party wants to enhance its interest, policies on loan collection, moral hazard, and interest rates are likely to reflect the interest of the dominant group. Although credit cooperatives were designed to serve as comprehensive financial intermediaries offering credit and deposit services, they

have often pursued cheap credit policies at the expense of the depositors. Such policies, which reflect low interest rates based on access to subsidized external credit, have prompted members to join to gain access to cheap loans rather than to use the organization's savings services. This strategy has stunted the mobilization of savings, increased the cooperatives' financial dependence on (sometimes uncertain) external sources, and led to organizations dominated by borrowers and open to problems of moral hazard and risk exposure in their administration (Poyo 1988). The pressure to transfer profits to members can also lead to inadequate allocation of retained reserves.

**MOBILIZING SAVINGS.** Members' savings and capital contributions are an important element in successful credit cooperatives, as shown by studies on Bangladesh, Cameroon, Guatemala, the Republic of Korea, Rwanda, Taiwan, Togo, and other economies (World Council of Credit Unions 1986, Yun 1987, Almeyda de Stemper 1987, Cuevas 1988, Vogel 1988, Wieland 1988). Savings mobilization campaigns and innovative offers for deposits adapted to local conditions have helped credit unions increase their funds and attain near self-sufficiency in many countries. In Rwanda, where credit unions were created specifically to mobilize rural savings, membership grew 47 percent between 1977 and 1986, with real savings deposits rising an average annual 34.8 percent and outstanding loans growing 54.4 percent. In Cameroon and Togo savings grew by 25 percent and 14.5 percent annually, whereas loans made by credit unions grew by more than 30 percent. In all three countries loans and savings at credit unions grew at significantly higher rates than the national average (Cuevas 1988).<sup>4</sup>

Credit cooperatives that rely heavily on share capital and members' savings deposits to fund their loans usually achieve higher repayment rates because members realize that their own funds are at stake. This has been confirmed by experience in Cameroon, the Dominican Republic, Honduras, Korea, and Taiwan (Vogel 1988; Poyo 1983; Yun 1987; Adera 1987; Lee, Kim, and Adams 1983). In Honduras, a survey of eighteen credit cooperatives showed that the financial health of these organizations was directly related to policies on interest rates. Credit cooperatives with higher rates attracted higher deposits and had lower rates of loan delinquencies (Poyo 1983). In the mid-1960s, a campaign to reform interest rates and mobilize voluntary savings boosted the level of savings deposits in Korea. The proportion of total savings deposits held by rural cooperatives rose from 9 percent to 16 percent within a year. Korea's rural cooperative credit system has expanded enormously over the past fifteen years and now satisfies about 80 percent of short-term requirements for rural credit (Yun 1987). Local cooperatives have grown vigorously, thanks to extensive campaigns to mobilize savings and a range of deposits tailored to the needs of the local farming population. The agricultural cooperatives' mutual credit system carries higher interest rates than other banking institutions, and this is believed to have been an important factor in the cooperative's success

(Yun 1987). Although repayment rates in Korea are generally high, low-interest loans accounted for more than 98 percent of the National Agricultural Cooperative Federation's (NACF's) overdue loans in 1979 (Lee 1984).

**COOPERATIVE STRUCTURE.** A further question is whether credit cooperatives fare better as single-purpose or multipurpose organizations. In rural areas, multipurpose cooperatives theoretically have several advantages: customers can satisfy diverse needs at the same place; the lender has more complete information about loan applicants; savings deposits and loan repayments can be linked to revenues from crop sales; and production credit can be granted at the same time as inputs are delivered. For example, under Kenya's Cooperative Savings Scheme, receipts from the coffee crop are credited directly to the members' interest-bearing accounts. This system has successfully increased the funds available for rural credit (Von Pischke 1983). Some of this success, however, is because coffee is an export crop and the cooperative is virtually the farmers' only outlet. Whether the scheme would have worked as successfully for crops that can be marketed domestically is questionable.

Incorporating credit facilities into multipurpose associations also entails problems. Promoting numerous services at the same time strains the organization's financial and managerial resources. Multipurpose cooperatives are also more likely to be subject to government interference because they can be used to promote a number of policies. Carrying out government policies, however, implies an increased need for external funds, which affects the cooperatives' autonomy and self-sustainability. Multipurpose activities can also endanger credit operations if the surpluses are used to finance other programs. In Taiwan, for example, the Farmers' Associations were undermined when other activities drained resources from profitable credit operations (Sheu 1980).

Across developing countries, the most successful credit cooperatives have been single-purpose organizations that rely on internally generated funds. It seems fair to conclude that credit cooperatives should not be expanded or linked to other activities unless particularly conducive circumstances and adequate management exist. In Korea, for example, credit was not linked to other services at the local level until a sound managerial network had been established. Extensive training at the local and national level preceded the step-by-step development of a national cooperative finance system. Local associations did not get involved in lending until they had extensive experience in other cooperative activities and the NACF's credit and banking business was financially and organizationally strong (Yun 1987).

### *Infrastructure, Management, and Oversight*

Credit cooperatives have often suffered from incompetent leadership, ill-defined managerial responsibilities, and insufficient accounting and controlling. The ability to track financial performance is a prerequisite in the sound man-

agement of any credit institution. Yet instances of inaccurate or nonexistent records of loan collection are not uncommon. In Niger, less than half of the managers of local credit cooperatives had records showing who was eligible for a loan, and less than a quarter kept accounts to show the amounts received by each farmer. It is believed that such information was kept in memorized form by most lenders (Cuevas and Graham 1988).

Ineffective management of cooperatives may reflect a lack of adequate training or a focus on the national rather than the local level—especially when the cooperative is directed from the top down. Thus in Nigeria, when training was provided only to officials of government cooperatives, conflicts among management, local staff, and members seriously affected the cooperative's performance (Rochin and Nyborg 1989). This is not to say that training and strong management at the regional or national level are not essential if the organization is to assist member associations with auditing, training, and financial management. Accounting systems and external supervision are essential if the local population does not have the necessary skills to check on the performance of local managers. The Korean agricultural cooperatives and the Comilla Projects in Bangladesh both drew initial strength from sound planning and management at the top. In both cases, however, the umbrella organization played a vital role in training local leaders and individual members.

Although efficiency and organization are undoubtedly important, social development at the grass-roots level should also be emphasized. In Nigeria credit cooperatives that built on preexisting informal groups fared significantly better than newly formed groups (Seibel and Marx 1984). Excellent results were recorded in a project in Cameroon that trained farmers and local managers and encouraged borrowers to participate in the cooperative's activities. Members' savings grew two to three times faster than those of members of other cooperatives, and rates of loan delinquency fell from 10 percent to 0.5 percent (Von Pischke and Rouse 1983).

### *Government Interference*

Governments and international donor agencies have used credit cooperatives to promote social objectives. In some cases these organizations were used because they were the only well-functioning and effective structures that served rural areas. Often, cooperatives were required to lend at artificially low interest rates and provide financing for activities that would otherwise have been considered too risky. In many countries low prices on loans and other services attracted excess demand for the cooperatives' programs and resulted in low profits and capitalization. Thus weakened, these cooperatives were highly vulnerable to external shocks or poor internal management. Continued reliance on government resources creates the impression that the government will bail out indebted farmers and their cooperative if the need arises. If group lending and credit cooperatives are to make a contribution to development,

governments and sponsors should focus on institution building, training, and management at all levels of the cooperative system rather than on supplying cheap credit.

## Conclusion

Despite their mixed performance, lending groups and credit cooperatives have the potential to provide credit to small farmers while allowing financial intermediaries to function as viable institutions. Most unfavorable experiences with group lending and credit cooperatives arise from shortcomings in implementation rather than defects in the concepts.

The success of group lending ventures depends on:

- Participation by homogeneous borrowing groups that are jointly liable and that assume some managerial and supervisory responsibilities. But mandatory joint liability is effective only if borrowers have strong reason to believe that their peers will also repay.
- Ability to deny access to future credit to all group members in case of default by any member. (But this threat works only as long as the lender is able to provide favorable and timely credit services in the future.)
- Previous experience with group activities and a common bond other than credit. Group lending arrangements requiring group deposits that are reimbursed only when the group loan is repaid are particularly successful.

Important factors in the success of credit cooperatives include:

- Bottom-up institutional development and training at the grass-roots and management levels.
- Reliance on members' deposits rather than on outside sources for funds.
- The limiting of activities to financial intermediation (unless strong institutional and management capabilities exist).

## Notes

Monika Huppi is a consultant to the Agriculture and Rural Development Department of the World Bank, and Gershon Feder is a principal economist in the same department.

1. In comparison, the administrative costs of loans to small-scale farmers in the Philippines were between 3 percent and 10 percent of the loan. The same costs were estimated at 11.5 percent for the Jamaican Development Bank and 26.8 percent for the National Agricultural Development Bank in Honduras (Cuevas and Graham 1984). It is not clear whether these comparative figures include depreciation costs and provision for bad debts. Operating costs as a share of total funds (total liabilities) of the Grameen Bank were 6.5 percent in 1985 and 6.7 percent in 1986, or 6.2 percent and 6.4 percent when depreciation and provision for bad debts are netted out. A study of other Bangladesh banks making loans to small farmers showed between 0.9 percent and 3.9 percent in 1985 (net of depreciation and provision for bad debts). All of these banks, however, faced severe problems with recovery of loans; total recovery five years after due date



was only 60 percent on average, compared with 98.6 percent after two years for the Grameen Bank (Srinivasan and Meyer 1987).

2. The costs are relatively high in part because of the rapid expansion of the Grameen Bank during this time. Hossain (1988) estimates that nearly half of the existing administrative costs may have arisen from start-up costs.

3. In Thailand, more than 50 percent of the loans from credit cooperatives were in arrears between 1981 and 1986, whereas the rate on loans to individual farmers in arrears has been from 10 percent to 30 percent (BAAC 1986). Similarly, in India, the recovery rates of credit cooperatives have been around 50 percent (World Bank 1986).

4. Although these figures are a national average of all credit unions, it can be concluded that savings and loans grew significantly in rural areas because rural credit unions outnumber urban credit unions.

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# ACHIEVING SOCIAL OBJECTIVES THROUGH PRIVATE TRANSFERS

## *A Review*

Donald Cox  
Emmanuel Jimenez

*Private interhousehold cash transfers are an important source of income in many developing countries. Among the countries whose experience is reviewed in the article, the proportion of all households receiving private transfers ranges from a fifth to a half. The amounts received are large, particularly when compared with the incomes of the poorest households.*

*Understanding more about these transfers is important for designing policy because, among other things, these remittances provide social and economic benefits similar to those of public programs, such as unemployment insurance, pension support, educational credit, and health assistance. As such, private transfers may supplement or overlap with public transfers, and, if private donors give less as public transfers increase, the effect of public programs on beneficiaries would be less than originally intended. Or the transfers may alter the distributional effects of public programs: for again, if private donors give less as public transfers increase, they share in some of the benefits of public programs.*

Private interhousehold transfers are a sizable element of household income and spending in developing countries. Understanding how they work is important for designing policy because the transfers serve a variety of social and economic functions that impinge on the objectives and functions of public programs. Among other things, these remittances provide insurance against shortfalls in income, support for the elderly in retirement, loans for education, help during illness, and the funds for rural-urban migration. As such,

they may supplement or overlap with public transfers, particularly those programs aimed at people who have retired or experienced a decline in earning power.

There are at least two reasons policymakers should be informed about the size and determinants of private transfers. One is that if private donors cut back their transfers as public transfers increase, the effect of public programs on beneficiaries would be less than originally intended. The other is that some of the benefits of public programs would be shared with givers of private transfers.

But private transfers have as yet been little studied, primarily because data have only recently become available. Empirical work is in its early stages, and researchers are finally beginning to analyze motivations for private-transfer behavior.

This article explores fundamental questions about private transfers with a focus on developing countries. How large are private transfers? How important are they for policymakers? Why do they occur? What are the empirical patterns of private transfers? Can we anticipate how such patterns will react to public policy?

## **The Size of Private Transfers**

Table 1 lists information on private transfers for several countries. The definitions of transfers, derived from a variety of sources, are not strictly comparable, but the table does illustrate the importance of private transfers in many countries. For example, among a sample of urban poor in El Salvador, 33 percent reported having received private transfers, and income from private transfers accounted for 39 percent of total income among recipients. Ninety-three percent of a rural south Indian sample received transfers from other households. In Malaysia, private transfers accounted for almost half the income of the poorest fifth of households. Nearly three quarters of rural households in Java, Indonesia, gave private transfers to other households. About half of a sample of Filipino households received private cash transfers.

Rempel and Lobdell (1978) surveyed economic and anthropological studies of urban-to-rural remittances covering countries in Asia, Africa, and Latin America and found significant private transfers in virtually all instances. Remittances accounted for notable fractions of income in Ghana, Liberia, Nigeria, Pakistan, and Tanzania. Furthermore, private transfers are not simply a reflection of rural-urban migration. Knowles and Anker (1981), for example, found that over half of all transfers for a sample of Kenyan households did not cross urban-rural boundaries.

## **Why Private Transfers Are Important**

The evidence in table 1 attests to the magnitude of private transfers, but size or frequency is not sufficient reason to pay attention to them. Transfers are not

Table 1. *Private Transfers in Selected Countries*

Country and segment of population	Year	GNP per capita (1986 U.S. dollars)	Percentage of households		Average transfer amount as percentage of average income <sup>a</sup>		Source
			Receiving	Giving	Receiving	Giving	
El Salvador (urban poor)	1976	820	33	—	11	—	Kaufmann and Lindauer 1986
India (rural)	1975–83	290	93	—	8	—	Behrman and Deolalikar 1987
Indonesia (Java)	1982	490					Ravallion and Dearden 1988
Rural			31	72	10	8	
Urban			44	45	20	3	
Kenya		300					
Urban (sample of recent migrants)	1968		—	59	—	13	Rempell and Lobdell 1978
Nairobi (urban poor)	1971		—	89	—	21	Johnson and Whitelaw 1974
Nationwide	1974		—	27	3	4	Knowles and Anker 1981
Rural			—	19	2	3	
Urban			—	62	4	6	
Malaysia	1977–78	1,830	19–30 <sup>b</sup>	33–47 <sup>b</sup>	11 (46) <sup>c</sup>	—	Butz and Stan 1982
Mexico (two villages)	1982	1,860	—	—	16–21 <sup>b</sup>	—	Stark, Taylor, and Yitzhaki 1988
Peru <sup>a</sup>	1985	1,090	22	23	2	1	Cox and Jimenez 1989
Philippines <sup>d</sup>	1978	560	47	—	9	—	Kaufmann 1982
United States	1979	17,480	15	—	1	—	Cox 1987

— = not available.

a. Average income includes the incomes of those who did not receive or give transfers. The average transfer received as a percentage of recipients' income is much larger: 39 percent in El Salvador and 9 percent in Peru. Similarly, the average transfer given as a percentage of givers' income was large: 21 percent in the 1968 Kenya urban sample and 6 percent in Peru. For Peru, the average transfer amount is computed as a proportion of total consumption expenditures.

b. Averages not available; figures denote upper and lower bounds.

c. Number in parentheses denotes percentage for households in lowest income quintile.

d. Cash gifts in a large informal housing area.

determined simply by custom. There are many reasons to expect private transfers to respond to social, economic, and policy influences. And private transfers pose a problem for policymakers: they could affect the outcome of public policy in unexpected ways.

Consider a hypothetical pair of households, one young and the other old, which pool and share their resources, so that the consumption of individual members is based on the aggregate income of the two. Introducing a social security program that taxes the younger household and subsidizes the older one but leaves aggregate income unchanged may leave the consumption of the individual household members unchanged as well. The policy might have no effect on the distribution of well-being. If the program involves administrative costs, both households could be made worse off.

Consider a related problem: evaluating how effective a program of public health insurance may be in distributing well-being. A simple method is to subtract appropriately valued health benefits from household income and compare income distribution before and after the subtraction. But in failing to take private transfers into account that method might miss the mark: if the program were genuinely removed, private interhousehold transfers might fill the gap. A web of private safety nets could offset changes in public transfers. Put another way, public transfers might simply be crowding out private ones; hence they might be less effective as an instrument of income redistribution than measurement of their initial, direct effect suggests. It is possible that private transfers, without drawing on the public purse, may alleviate poverty more efficiently than the government can. We return to this point later.

Private transfers can affect calculations of the distribution of income. If a data set does not include income from private transfers, assessments of disparity in income calculated from the data would be biased. Inequality would be exaggerated, for example, if the omitted private transfers flowed from high-income to low-income households.

Private transfers could also figure prominently in credit markets. These markets do not work well in many developing countries, partly because of the high cost of obtaining information and trustworthy collateral, but also because of government regulation. Private interhousehold transfers may act as an informal credit market designed to overcome barriers to borrowing. If this is so, policies designed to increase household access to formal credit markets might prompt reductions in private transfers. If, for example, parents reduce their lending to children in school when government educational loans become available, their private transfers will dilute the effect of the policy.

Finally, private transfers could facilitate labor mobility and household migration. Again, the presence of private transfers has implications for policy: a program designed to help workers to respond better to economic incentives, say, by making rural-urban migration easier, might achieve nothing more than to reduce or divert private transfers.

## Motives for Private Transfers

The motives for private transfers matter because they determine the effect of the transfers on public policy.

Why do people make transfers? Two principal motives exist. The first is altruism. Adults, for example, might give to their parents because they care about them and get vicarious satisfaction from giving. Becker (1974) was one of the first to develop a rigorous economic model of altruism's implications; many researchers (for example, Adams 1980, Tomes 1981, Menchik and David 1983) have used Becker's model to analyze bequests in the United States. But the altruism model has received less attention in the literature on developing countries.

The second main impetus for private transfers is self-interested exchange. For example, family members might help with home production or provide other forms of in-kind support in exchange for financial transfers. Such exchange could be contemporaneous or part of a long-term contract. Cash transfers given today might be repaid, in cash or in kind, in future years. Economists have recently begun to apply the exchange idea in a variety of settings, including household production (McElroy and Horney 1981), private annuity insurance (Kotlikoff and Spivak 1981), and the exchange of cash for in-kind services (Bernheim, Shleifer, and Summers 1985; Cox 1987).

Exchange is implicit in many analyses of family behavior in developing countries. In their survey of the literature on migrants' remittances, Rempel and Lobdell (1978) conclude, "Remittances should be seen as reflecting primarily the self-interest of the migrant" (p. 336). They suggest that remittances might aptly be interpreted as repayments for assistance with migration or as insurance premiums against shortfalls in income. Rosenzweig and Wolpin (1985) explain family-farm dynasties as the outcome of intergenerational contracts that maximize gains from knowledge about farm characteristics. Kaufmann and Lindauer (1986) view private transfers as the outcome of an implicit social insurance contract among a network of related households, with transfers to temporarily disadvantaged households acting as insurance payments.

Lucas and Stark (1985) eschew the strict dichotomy between altruism and exchange in favor of an eclectic framework that recognizes each motive as "tempered altruism or enlightened self-interest" (p. 901). Family members enter into insurance contracts to protect against individual shortfalls in income, and mutual altruism helps enforce the contracts. But Cox and Jakubson (1989) show that often, even if transfers are influenced by both motives, only one predominates in any given instance.

Motivation matters because it determines the outcome of redistribution of public income. The altruism model predicts that public transfer programs have little effect on the distribution of economic well-being; exchange-motivated transfers interact with public transfers in an entirely different way.

When altruism is at work, changes in public transfers are simply offset by corresponding changes in private ones. To see why this occurs, consider the main premise of the altruism model. The donor gives in order to experience indirectly the increased well-being of the recipient. The donor calculates total pretransfer income and, based on his or her feelings of altruism toward the dependent, determines how much they both will consume by making a private transfer.

Now suppose that a public transfer program taxes the donor and gives the proceeds to the dependent. The combined income of the spending unit (defined as donor plus dependent) has not changed, and neither, presumably, has the donor's attitude toward the dependent. So the donor's calculation of optimal consumption for both donor and dependent will not change. All that has changed are the individuals' incomes before the private transfer. The donor need not make as large a private transfer to attain the desired consumption for the dependent. The effect of the public transfer program is completely offset by changes in private transfers.

Of course, not all public transfer programs leave the aggregate income of the spending unit unchanged. Furthermore, such a program might give the dependent more than he or she would have received privately. Also, many households neither give nor receive private transfers, and in these instances there are no private transfers to be displaced by public ones. Each of these considerations moderates the crowding out of private transfers. Still, the altruism model predicts that if altruistic private transfers occur, they diminish the effect of redistribution of public income.

In an extremely influential article, Barro (1974) uses an altruistic framework to show how private transfers can undo the forced intergenerational transfers associated with deficit spending and social security. His analysis predicts that, with operative private transfers, the national debt will not hurt future generations because older ones will leave higher bequests, so that deficits matter little for either generation. A similar argument applies to social security: public transfers from young to old merely reduce private ones. Again, altruism is necessary for these results.

Exchange-motivated transfers, by contrast, can actually amplify, rather than offset, the effect of redistributive policies, such as social security payments, on the well-being of recipients of private transfers. Consider the following contrived but illuminating example. Suppose a donor makes private transfers in exchange for in-kind services (for example, home production). The donor happens to transfer to the recipient an amount equal to what the latter would have received at the hourly market wage rate. Now consider the effect of taxing the donor and subsidizing the recipient's wage. The first-order effect of this scheme is the same as if there were two unrelated individuals: that is, the donor is made worse off and the recipient better off. But a second-round effect occurs: the donor must pay higher compensation for the recipient's services. This detracts



further from the donor's well-being and adds more to that of the recipient. This amplification is exactly the opposite of that predicted by the altruism model.

Knowing the motives behind a private transfer is essential for understanding the connection between public and private transfers. The connection is important since nearly all public policies, including those that focus on the economy's general performance, redistribute income from one group to another. A large fiscal deficit, for example, shifts income from future generations to the present one. The motives for private transfers determine the effect of deficits on the relative well-being of generations.

## Evidence on Private Transfers

Empirical evidence on patterns of private transfers indicates a variety of functions and effects: they narrow income inequality; function as social insurance; ease constraints on borrowing; contribute to investment in human capital (such as schooling and migration); and interact with public transfers. As for motives, the evidence is mixed. Some functions and effects can be explained by altruism alone, others by exchange. Some could be generated by either motive or a combination of the two.

### *Transfers and Inequality*

Private transfers tend to even out income inequality. In particular, they tend to boost the incomes of the poorest households: for example, private transfers increase incomes of urban households in the lowest quintile in Kenya by 90 percent (Knowles and Anker 1981); they raise the lowest quintile's share of aggregate consumption by 14 percent in Peru (Cox and Jimenez 1989); and they have a substantial equalizing effect on incomes in the two Mexican villages analyzed by Stark, Taylor, and Yitzhaki (1986). Private transfers also narrow the range of incomes in the United States (Cox and Raines 1985). And the evidence is strong that higher-income households do give more transfers (Johnson and Whitelaw 1974 and Knowles and Anker 1981 for Kenya, Ravallion and Dearden 1988 for rural households in Java, Cox and Jimenez 1989 for Peru, and Cox and Raines 1985 for the United States), whereas lower-income households are more likely to receive transfers (Cox and Jimenez 1989 for Peru, Cox 1987 for the United States).

An effect that contributes to equity would, on the face of it, suggest altruism as the impetus, and the pattern of rich giving to poor is certainly consistent with this motive. But a closer look at patterns of transfers indicates that altruism may not, in fact, be the dominant motive.

First, the pattern of rich giving to poor could be stimulated equally by an exchange motive. Suppose, for example, that financial transfers purchase in-kind services. If the demand for services is income elastic and the supply price

of services is inversely related to income, a pattern of rich giving to poor emerges (Cox 1987).

Second, the simple direction of transfer, from rich to poor, is not a discriminating test for motivation. A better test comes from the relation between the recipient's pretransfer income and the transfer amounts received. The two hypotheses, altruism and exchange, can part company when it comes to this relation. The altruism model predicts that it is always negative. A shortfall in the recipient's resources, for example, always prompts more generous transfers. But the exchange model admits a positive relation between the two variables. Higher income strengthens the bargaining position of recipients in exchange, so that when their income increases, they can get higher transfers.

The empirical evidence on this crucial relation is mixed. Some studies find an inverse relation between recipients' resources and transfer amounts received (for instance, Kaufmann and Lindauer 1986 for El Salvador, Kaufmann 1982 for the Philippines, Ravallion and Dearden 1988 for rural households in Java, and Tomes 1981 for bequests in the United States). But others (Lucas and Stark 1985 for Botswana, Cox 1987 for the United States, Ravallion and Dearden 1988 for urban households in Java, and Cox and Jimenez 1989 for Peru) find a positive relation, which contradicts the altruism hypothesis. In casting doubt on altruism, the latter findings also call into question the Barro-Becker hypothesis that public transfers merely crowd out private ones.

### *Transfers as Social Insurance*

Private transfers can insure against reductions in earning potential related to illness, disability, unemployment, and old age. This insurance function may be particularly important when publicly provided social security programs are inaccessible, as is often the case in many developing countries. What is the evidence?

OLD AGE SUPPORT. Although many developing countries have public pensions, most of these apply only to urban workers in the formal sector. So, except in some urbanized countries (mostly in Latin America), coverage is limited. The problem is compounded by underdeveloped financial markets, which lower the returns from saving for retirement (World Bank 1989). Older generations have to rely on the young for supplements to their income.

Patterns of transfers are consistent with the notion that transfers provide support in old age. More than a quarter of private transfers in Kenyan and Peruvian samples were given to parents by children; in Peru, more than a third of the elderly (age sixty-one and over) received transfers—more than twice the comparable figure for those age forty-one to fifty (Knowles and Anker 1981, Cox and Jimenez 1989). Butz and Stan (1982) and Ravallion and Dearden (1988) found significant transfers from young to old in Malaysia and Java,

respectively. As earnings decline late in life, the probability of receiving a private transfer dramatically increases (see figures 1 and 2).

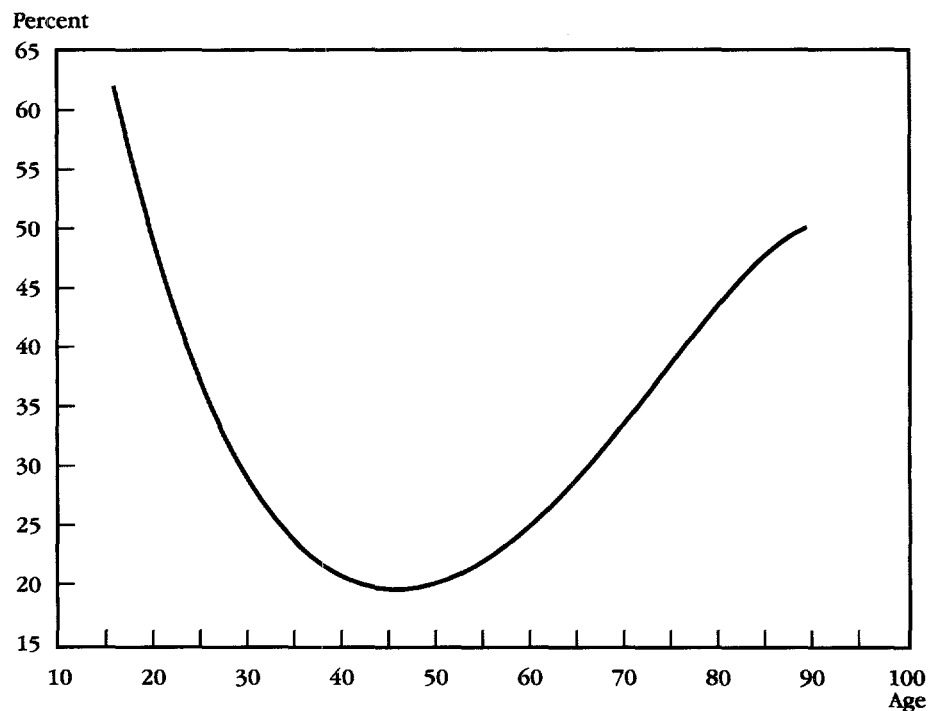
Indeed, some argue that, in developing countries, support in old age is the main reason for having children. Nugent's (1985) review of the literature on support in old age and fertility documents much controversy, but most evidence indicates that decisions on having children are motivated at least partly by the desire to insure against the uncertainties associated with old age. Support from children in old age includes time-intensive care in addition to money (see Butz and Stan 1982).

These findings support the observation that the desire to provide for support in old age is a strong motive for private transfers. They are not conclusive, however, because the same patterns could be generated solely by inadequacy of capital markets: that is, if financial markets were adequate, people would rely on investing in them, rather than in private transfers, to provide for their old age.

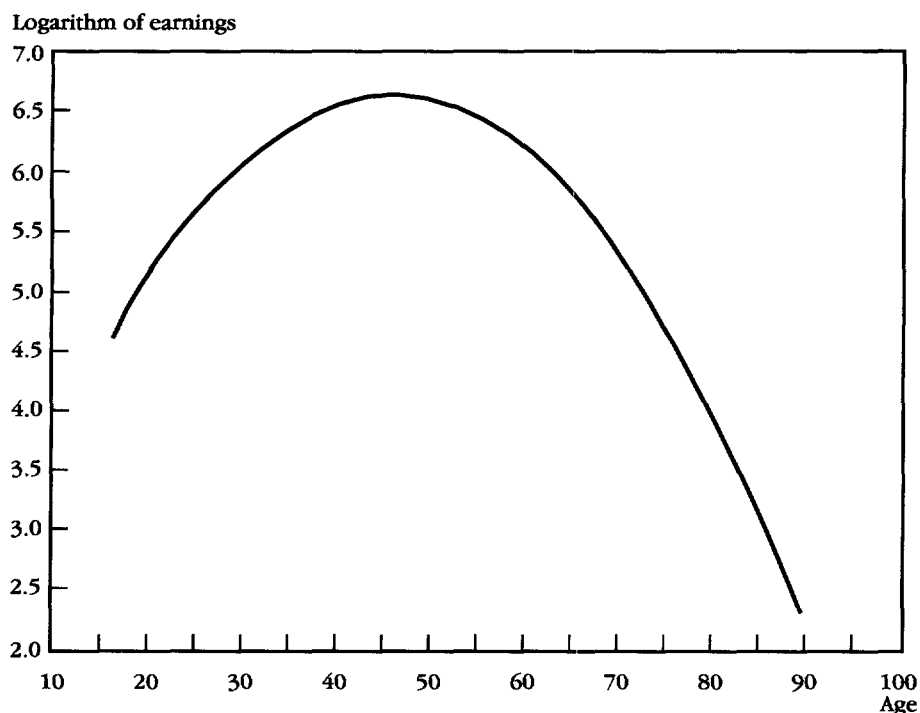
DISABILITY, ILLNESS, AND UNEMPLOYMENT. Some empirical evidence suggests that private transfers ameliorate the effects of being disabled, ill, or

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**Figure 1. Probability of Receiving Transfers over the Life Cycle**



**Figure 2. Relation of Earnings to Age**



Source: Cox and Jimenez 1989.

unemployed. In Peru, households reporting illness four weeks before the survey were more likely to have received private transfers. Transfers apparently respond to the availability of publicly subsidized medical care. In Indonesia, donors assist the sick and those with newborns in rural but not in urban areas, where public health clinics are more accessible (Ravallion and Dearden 1988). High-quality public health coverage also weakens the connection between private transfers and illness in Peru (Cox and Jimenez 1989).

In Peru, being ill raises the chances of getting a transfer, but the amounts are lower than those received by healthy counterparts. Exchange is a possible explanation. Illness would limit the quality of in-kind services heads of households provide for others, which would reduce exchange-related transfers. Households with unemployed members are more likely to receive transfers and receive them in greater amounts. In Peru and in Indonesia, being unemployed significantly increases the probability of receiving a transfer, as well as the amount of the transfer (Cox and Jimenez 1989, Ravallion and Dearden 1988).

FEMALE-HEADED HOUSEHOLDS. A consistent pattern across countries is that females or female-headed households are more likely to receive transfers, and in larger amounts than their male counterparts (Salvadoran households in Kaufmann and Lindauer 1986, Botswana individuals in Lucas and Stark 1985, Peruvian households in Cox and Jimenez 1989, U.S. households in Cox 1987). This result is due not merely to the fact that female-headed households are poorer: even after holding constant for current income—comparing transfer amounts across households with similar income levels—the effect persists. Why?

One reason is simply that females tend to live longer than males and may get more of the old-age transfers. Another reason may be that private transfers compensate females for discrimination in the formal labor market. Although the female effect is strong even with current income held constant, the transfers may compensate for past discrimination. Also, if discrimination holds females back from the formal labor market, they may engage in other activities that entail transfers but are, in reality, payment for services rendered—such as child rearing or fosterage (Ainsworth 1989).

### *Migration and Education*

Another connection between private transfers and risk, analyzed extensively by Lucas and Stark (1985), is migration. Households can minimize risk by diversifying their portfolio of jobs. A rural family, for example, might send a family member to the urban formal sector to insure against shortfalls in income arising from poor harvests. Lucas and Stark find migrant remittances are targeted to farms with riskier (for example, drought-sensitive) assets. Rosenzweig (1988) finds that Indian households insure against shortfalls in income arising from bad weather by being linked to geographically distant kin.

Migration, however, does more than lessen risk. Like education and training, it is an investment in human capital. Such investment is most profitable when done early, so that improved skills can be used over a long time span. But constraints on borrowing are likely to be most severe in the early stages of life. Private transfers can facilitate investment in skills by helping to overcome such constraints.

Observed patterns of transfers support the idea that private transfers are connected to investment in human capital. In Peru, for example, the incidence of transfer receipts among the young (age fifteen to thirty) is twice that among the middle-aged (age forty-one to fifty)—28 as opposed to 15 percent (Cox and Jimenez 1989). Moreover, those with more advanced schooling receive much higher amounts than those with a primary education.

Furthermore, private transfers appear strongly responsive to constraints on borrowing. In Peru, the incidence of transfers mirrors exactly the profile of

earnings at various ages: the chances of receiving a transfer are lowest when earnings peak (see figures 1 and 2). Evidence from the United States supports the idea that transfers are targeted to people who face constraints on borrowing (Cox 1990, Cox and Jappelli forthcoming).

## Public Policy and Private Transfers

The few available studies suggest a strong connection between private and public transfers. Cox and Jimenez (1989) find that private transfers from young to old in Peru would have been 20 percent higher without social security pension benefits. Peruvian social security health benefits dampen private transfers as well. Cox and Jakubson (1989) find that private transfers would have been 14 percent higher in the United States without public income transfer programs.

These estimates are lower than the complete crowding out predicted by Barro and Becker but seem large enough to warrant interest among policymakers. They are particularly important for developing countries in which tight budgetary constraints and adverse macroeconomic conditions have forced governments to look for more efficient means of undertaking social programs. Unfortunately, the relation between public and private transfers in developing countries has received very little attention. It is an important area for future research.

Private transfers in developing countries are widespread and responsive to social and economic conditions, but evidence on the motives for them is mixed. Economic theory suggests that private transfers should also respond to public policy, and initial empirical work shows that they do.

The direction, functions, and effects of private transfers, such as the following, indicate that they could be an important element of social and economic policy design:

- Private transfers equalize income.
- Private transfers are directed toward the poor, the young, the old, women, the disabled, and the unemployed.
- Public tax and subsidy programs can affect private-transfer behavior.

What lessons can be learned from this research? First, policymakers should realize that many social objectives are already being met through private means without reliance on the public purse. Second, government subsidies may have less effect than originally intended if they displace public transfers. Although the empirical evidence does not support the view that private transfers could completely offset public transfers, the dampening effect is not trivial. Third, the benefits of a public transfer program may be shared by private donors if they feel they can give less than before.

The implications for policy are important; when private behavior adjusts, there may be unforeseen or unintended implications for public transfer programs with respect to who benefits and by how much. Additional research is needed to complement and substantiate the few available studies if these private adjustments are to be used to make public policy more effective and efficient.

## Note

Donald Cox is an associate professor of economics at Boston College. Emmanuel Jimenez is a senior economist in the Country Economics Department of the World Bank. Fiona Mackintosh provided editorial assistance.

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