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HOW TO MANAGE A REPRESSED ECONOMY

RONALD I. McKINNON

AND

DONALD J. MATHIESON

INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

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Ronald I. McKinnon, one of the authors of this Essay, is a Professor of Economics at Stanford University and has served as a consultant to various international agencies and to central banks in several countries. He has contributed to leading professional journals and is the author of MONEY AND CAPITAL IN ECONOMIC DEVELOPMENT *(1973) and* MONEY IN INTERNATIONAL EXCHANGE: THE CONVERTIBLE CURRENCY SYSTEM *(1979). This is his sixth contribution to the publications of the Section. His coauthor, Donald J. Mathieson, is Assistant Chief of the Financial Studies Division of the Research Department of the International Monetary Fund and has had wide experience with financial programs in many countries, particularly in Latin America. He has contributed to professional journals and taught at Columbia University. This is his first contribution to the publications of the Section.*

PETER B. KENEN, *Director*
International Finance Section

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CONTENTS

How to Manage a Repressed Economy

In 1974, Chile embarked on one of the few recent examples of a sustained economic liberalization. Fiscal, exchange-rate, and monetary policies were manipulated more or less correctly (with the possible exception of wage indexing) to secure free trade, an unrestricted domestic capital market, rapid real growth, and a stable currency. In 1976, Argentina began to follow foreign trade and financial policies similar to those being carried out in Chile, with some initial success. By 1980, however, its program of economic liberalization was in severe difficulty. A loss of financial control resulted in price inflation, serious overvaluation of the peso, and massive bankruptcies. These were followed in 1981 by forced devaluations, a sharp escalation of price inflation, and a negative rate of growth. Regression back to more import restrictions and more direct controls on domestic commerce and finance—in the mode of most countries in Latin America—seems likely.

This Essay does not analyze the whole liberalization process—the complex transition to a "liberalized" economy from one that is "repressed," a term used to describe the set of monetary, fiscal, and foreign-trade policies found commonly (but not exclusively) in developing countries. The aim here is more modest. After identifying certain economic conditions that are essential if full liberalization is to be feasible, it addresses the problem facing a country when these conditions are not met: How can the government deal efficiently with economic repression while avoiding premature moves toward full liberalization like some, but not all, of the recent policies in Argentina?

The most fundamental difference between Chile and Argentina seems to lie in the degree of control each had over fiscal policy. Relatively early in its liberalization process, Chile curbed government expenditures and increased tax collections to the point where the Treasury accounts began to show large cash surpluses—anywhere from 1 to 4 per cent of GNP between 1976 and 1980. Equally important, the large credit subsidies to industry and agriculture that had been funneled mainly through the discount window of the central bank and through the state-owned commercial bank were virtually eliminated by 1979. Thus the swing from deficit to surplus in the "true" government accounts, where the monetary system is appro-

We would like to thank Philip Brock of Stanford University for making available his seminal work in this area. In his forthcoming Stanford Ph.D. dissertation, Brock has worked out a more general and complete model of monetary control for a repressed economy than the one presented here.

priately consolidated with the Treasury accounts, is all the more remarkable and was a necessary condition for fully liberalizing the Chilean economy.

In Argentina, the situation was different. The military takeover in March of 1976 led to a modest fiscal improvement (the combined public-sector deficit, including state governments and nationalized enterprises, fell from about 10 to 5 per cent of GNP by 1979). But this formal deficit in the public-sector accounts remained large relative to the real size of the domestic financial system. More important, the Argentineans were much less successful than the Chileans in phasing out credit subsidies to favored claimants in the nationalized and private sectors, which are channeled through the monetary system and are not formally captured in the public-sector accounts. Indeed, the great strain on Argentinean industry in late 1979 and throughout 1980 resulting from the overvaluation of the peso led to a series of actual and threatened bankruptcies that forced the central bank to extend these explicit and implicit subsidies. The result has been a large increase in effective government expenditure, much of which must be financed domestically. This lack of fiscal control should have discouraged the Argentinean authorities from proceeding with a full-scale financial liberalization similar to the one undertaken in Chile and from prematurely slowing the rate of devaluation of the peso.

In the formal theoretical model developed in this Essay, it is assumed that government authorities make a *realistic* estimate of the consolidated fiscal deficit for which the country's central bank must provide domestic finance by issuing base money. It is further assumed that monetary technicians at the central bank choose the combination of exchange controls, interest ceilings, and reserve requirements that will minimize the use of the "inflation tax" as an instrument of public finance without undue crowding out of private capital formation. The equations are set up as if the economy remained in the steady state of financial repression associated with the fiscal deficit. No attempt is made to analyze the transition to a more liberalized state that could take place if fiscal policy were improved in the Chilean mode. (That important subject is addressed in Mathieson, 1979, and in McKinnon, forthcoming.) In any case, a steady-state analysis of financial repression seems applicable at present to most developing countries, where continuing domestic fiscal deficits are more common than surpluses.

After one has specified an appropriate financial strategy for imposing the inflation tax and/or extracting seigniorage from the domestic financial system, a complementary and rather passive foreign-exchange policy follows naturally. Both capital inflows and outflows must be restricted, and the exchange rate should be indexed against domestic price inflation. It is as-

sumed that the flow of foreign commodity trade is also significantly repressed, by quotas, licenses, and high tariffs, although that would not be necessary for extracting the inflation tax efficiently. As in most countries in Latin America and Asia, this repression of foreign trade is biased against exporting and leads to general resource misallocation and reduced per capita real income. In the face of a domestic inflation tax, however, these trade restrictions have the incidental advantage of making exchange-rate indexing somewhat easier. Correspondingly, the repression of foreign trade, or merely an incomplete and uncertain trade liberalization, rules out an actively pegged exchange rate as an instrument by which to reduce domestic price inflation (see McKinnon, 1981b). The Argentinean overvaluation of the peso in 1979-80 was an unfortunate result of actively pegging the exchange rate at some predetermined level rather than passively indexing it against ongoing domestic price inflation.

Before spelling out the formal model of optimal financial control, however, let us examine in more detail the main characteristics of a repressed economy.

Characteristics of the Repressed Economy

Economists are generally aware of the highly protectionist foreign-trade policies that have been followed by most developing countries since World War II. The ten-country study by the National Bureau of Economic Research under the editorship of Jagdish Bhagwati (1978) and Anne Krueger (1978) has established that protectionism commonly takes the form of direct quantitative restrictions on imports and on some exports. Besides imposing a wide variety of direct quotas and prohibitions on the importation of specific goods, these regimes often impose exchange controls on purchases of foreign currency, making it difficult to import even goods and services that are not otherwise specifically restricted. Although protective tariffs are sometimes important in limiting imports in otherwise unrestricted categories, quantitative restrictions may well dominate.

In order to placate politically powerful urban groups, governments sometimes restrict exports of domestically produced foodstuffs and industrial raw materials, such as natural textile fibers that are used in urban industry. Generally, the domestic terms of trade are turned against agricultural and other exporters in order to protect urban consumers and urban industry.

When foreign trade is broadly repressed by quantitative restrictions (or high tariffs) on both the import and export sides, the prices of most goods produced and consumed are determined mainly by domestic supply and demand considerations and are insulated from any immediate impact of

exchange-rate changes. Similarly, the domestic financial system is usually insulated by exchange controls on the capital account of the balance of payments. In contrast to the very different situation facing a small open economy, therefore, we may reasonably begin analyzing fiscal and financial policy in a prototypical repressed economy *as if* it were isolated from the world economy.

Economists are less familiar with the syndrome of financial repression (McKinnon, 1973; Shaw, 1973), although it is just as common and just as important in developing countries as the repression of foreign trade. The same firms, individuals, and industries—whether private or nationalized—that are protected from potential imports of the goods they produce and granted import licenses for the goods they use often receive officially designated bank credits at what turn out to be negative real rates of interest once domestic price inflation or anticipated exchange depreciation is taken into account. Official interventions in the allocation of credit may be as pervasive, detailed, and bewildering as the proliferation of quantitative restrictions on foreign trade. Private borrowing and lending at equilibrium rates of interest are often completely preempted. There may be no open organized capital market where borrowers and lenders can freely contract at market-clearing interest rates.

How does such financial repression arise institutionally?

In developing countries, open markets for primary securities are usually insignificant. This situation does not itself constitute a distortion but merely reflects the low level of per capita income and the resulting small scale of individual acts of saving and investment. Information is insufficient for small farmers or merchants to be able to issue their own notes or publicly traded shares that can easily attract resources from small savers.

Thus the monetary system in developing countries plays a relatively more important role as an intermediary between savers and investors than it plays in industrial countries. Private financial savings consist largely of currency and deposits—claims on central banks, commercial banks, savings and loan associations, financieras (development banks), postal-savings depositories, and so on—which are attractive to small savers. Control over the flow of loanable funds that arises out of the issue of currency and of such deposits, money in the broad sense of M_2, therefore assumes critical importance in the development process. What is purely a supervisory and monetary-control role for governments in most industrial countries becomes a highly activist credit-allocating role for governments in developing countries.

There is a fiscal root to this apparently philosophical difference in approaches to the conduct of monetary policy. Most developing-country gov-

ernments feel constrained in the amount of revenue they can raise from conventional sources, such as income, sales, and property taxes, to support desired levels of expenditure on both current and capital accounts. The absence of open markets in primary securities means that the Treasury cannot directly market nonmonetary debt outside the banking system, unless it relies on capital inflows from abroad. However, forced sales of government debt to the banking system—accomplished by imposing an elaborate system of reserve requirements—give the government direct access to bank credit. In developing countries, reserve requirements of 50 per cent or more on deposits in commercial and savings banks are not uncommon. Less directly, comprehensive usury restrictions on both lending and deposit rates of interest allow the regulatory authorities to give credit subsidies to preferred claimants without having such subsidies appear in the official Treasury accounts. If sufficient resources cannot be mobilized at a stable price level to cover these explicit and implicit deficits in the public finances, inflation develops and interacts with the reserve requirements and usury restrictions to provide even more revenue to the government. This is the "inflation tax."

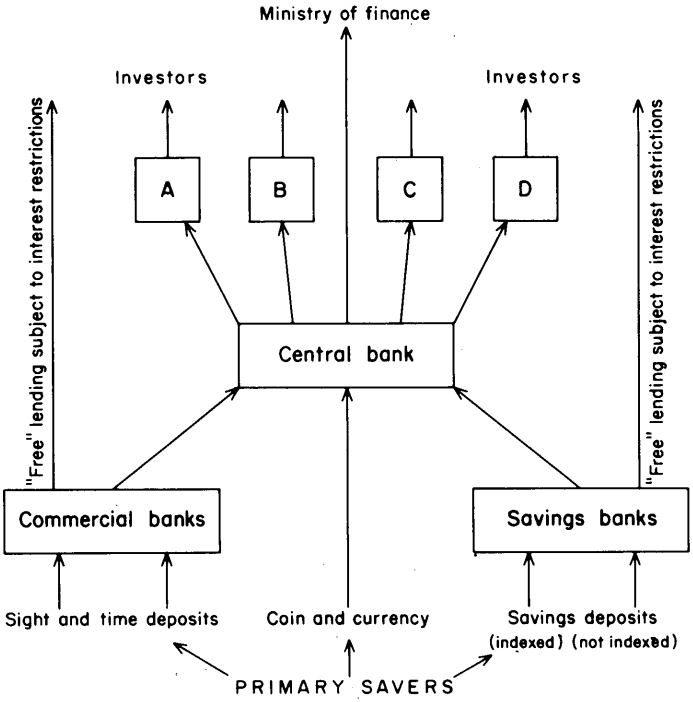
The whole process of extracting revenue from the banking system is much too complicated to be captured in a single diagram, but the use of reserve requirements to divert bank credit to the government (the central bank) can be portrayed as in Figure 1. With this very substantial resource flow at its disposal, the central bank channels cheap credits to various specialized banking agencies (*A*, *B*, *C*, *D*, etc., in Figure 1), who lend in turn at low, disequilibrium rates of interest to promote exports, extend credit to small farmers, subsidize certain industrial projects, and so forth. When the government has very detailed credit allocations in mind, these agencies decentralize the potentially huge administrative burden. Other central-bank credits can flow directly to the ministry of finance to cover explicit current-account deficits in the government's budget.

One consequence of taxing the monetary system in this way is to reduce the monetary tax base *and* the flow of loanable funds in the economy: the size of M_2 is truncated in relation to GNP. In typical economies in Latin America, where such policies are commonplace, the ratio of M_2 to GNP is about 0.20, and in Asia about 0.24, whereas the same ratio for industrial economies is closer to 0.6, and they also have significant markets in primary securities. Taiwan, one of the few developing countries with a long history of maintaining a liberalized financial structure, has a remarkably high ratio of M_2 to GNP of over 0.7, and Japan's is even higher (McKinnon, 1981a).

A second consequence is that the trickle of bank lending that does occur is badly distorted by the fragmented structure of interest rates. Investors

FIGURE 1

BANK INTERMEDIATION IN A TYPICAL SEMI-INDUSTRIAL DEVELOPING COUNTRY



NOTE: *A*, *B*, *C*, *D*, *E*, and so on are specialized credit agencies (banks) that get cheap finance from the central bank. *A* could be the export-promotion fund, *B* the agricultural bank, *C* the central mortgage bank, and *D* the industrial-development bank.

SOURCE: McKinnon (1981a), p. 374.

favored by the official agencies may borrow at negative real rates that often reflect all too accurately the poor quality of their investment projects, whereas other potential borrowers with high-yield projects are severely rationed.

In spite of these negative consequences, the repression of both foreign trade and domestic finance often persists in the same economies for long periods of time. It is politically feasible neither to eliminate trade restrictions nor to raise taxes and cut government expenditures so as to liberalize domestic financial processes. A certain consistency in repression of both sectors makes it difficult to liberalize one without the other. Given this common political constraint, let us sketch an "optimal" program of financial and exchange-rate management for a typical repressed economy as if it

were in a steady state. Besides being intrinsically interesting, such a program provides a natural starting point, a consistent set of initial conditions, from which to examine the liberalization problem if and when the underlying political constraints on fiscal and foreign-trade policies are altered.

Fiscal Deficits, Domestic Bank Finance, and the Wedge Effect

Consider the financing problem facing the government of a repressed economy. Let us consolidate the official uncovered Treasury deficit and the unofficial subsidy element in the flow of low-cost credits to preferred borrowers through government controls over the banking system. Let Z be the resulting total *flow* of revenue (seigniorage) to be extracted from the domestic banking system, so that the nominal fiscal deficit is

$$Z = G - T, \tag{1}$$

where G is our inclusive measure of government expenditures and T is the flow of ordinary taxes collected. Z is stated in purely nominal terms and will of course vary with the price level. In order to avoid specifying a complete macroeconomic model of domestic income determination and the way in which the public finances are embedded in it, let the government's need for real finance from the domestic monetary system be given exogenously. Its real seigniorage is

$$Z/P = \alpha Y + v, \tag{2}$$

where P is a general price deflator, Y is exogenously given real income (GNP) used here as a scale factor, and v is a random stochastic disturbance reflecting some lack of official control over the fiscal system. In principle, α could be treated as a policy parameter. A reduction in α could signal, say, an increase in ordinary tax collections or a decrease in official credit subsidies to preferred borrowers. However, to reflect *steady-state* financial repression, we assume that α is a positive constant and that v has significant variance. In effect, an ongoing and somewhat variable fiscal deficit is predetermined and simply dumped into the laps of the monetary technicians at the central bank; they must design an overall financial policy to make the best of the situation.

What objective function should be imposed on the technicians? To simplify the analytics, suppose that the government instructs the technicians to minimize the rate of expected price inflation in the steady state—subject to the constraint that the fiscal deficit is fully financed. Apart from maintaining the interest-rate subsidies on credits to officially designated borrowers that are part of the government deficit in equation (2), the technicians

are not otherwise constrained to maintain general interest-rate controls (usury laws) unless they prove useful in reducing the rate of price inflation. Moreover, the technicians remain free to manipulate reserve requirements on all classes of deposits without any direct concern for the "crowding out" of private borrowers. (Somewhat surprisingly, it turns out that no conflict necessarily exists between minimizing inflation and limiting crowding out. To be sure, the fiscal deficit ensures that there will be some crowding out and some inflation. But as long as the monetary technicians allow the banking system to issue term deposits that are subject to reserve requirements but free of interest ceilings, minimizing the inflation rate need not lead to undue crowding out—as will become clearer later on.)

In the context of this repressed economy, how can the instruments of financial policy best be manipulated in order to minimize the inflation rate?

The government effectively taxes the financial system through its control over the supply of non-interest-bearing base money. (To avoid unnecessary complications, required bank purchases of government bonds at preferential rates of interest are ignored here, although they are not unusual in practice.) Suppose that the technicians decide that demand deposits will not bear interest because they compete directly with currency as a means of payment, and currency is part of non-interest-bearing base money. Official reserve requirements against demand deposits are set at a very high level, close to 100 per cent, that is roughly tailored to absorb abnormal bank profits after the costs of servicing checking accounts are deducted. Although somewhat repressive, this "suboptimization" strategy has the advantage of maintaining the margin of substitution between currency and demand deposits in the portfolios of money holders despite possible variability in the rate of price inflation or in rates of interest on other financial assets.

Next, suppose that the technicians allow banks of all classes to issue one other type of liability, thirty-day term deposits that are unrestricted as to the interest rate that may be paid to depositors. Moreover, the net proceeds from attracting such deposits may be lent out in the free part of the capital market, with no restrictions on the interest rate charged to various borrowers. However, a non-interest-bearing reserve requirement of k per cent is imposed on all such thirty-day deposits, whether they are in commercial banks, savings banks, or various classes of nonbank intermediaries such as money-market mutual funds. The idea is to make this a k per cent tax on all capital-market transactions. Thus k becomes the key monetary-control variable for responding to different levels of the fiscal deficit. We ignore the additional financial complexity associated with low-interest savings deposits, which are hardly different from demand deposits under high

inflation. We likewise omit deposits maturing in more than thirty days, because financing is very short-term in an inflationary environment anyway. Simplicity is a virtue both analytically and institutionally, and this two-asset strategy roughly corresponds to Chilean financial policy in the mid-1970s, when inflation was still severe. (A more differentiated structure of officially set interest rates at various terms to maturity is examined by Fry, 1981).

On the central bank's balance sheet, all narrow money usable for making payments to third parties is aggregated into the variable C, and all reserves against term deposits are denoted by R. The accumulated sum of past government deficits, ΣZ_t, is the central bank's only asset in this, as yet, closed economy.

Central Bank

Government debt ΣZ_t	Currency and reserves against demand deposits	C
	Reserves against time deposits	R
	Monetary base	M

The real revenue flow accruing to the government from the issue of base money must be

$$Z/P = \dot{M}/P = (\dot{M}/M)(M/P) = \mu(M/P)\,, \tag{3}$$

where $\dot{M}$ is the absolute rate of change in base money, and μ is its proportional rate of change. Equation (3) yields the conventional result that real revenue from the banking system is the percentage change in nominal money times the real monetary base, whose scale in the steady state roughly depends on the level of real income, Y. We assume initially an exogenously given steady growth in real income to which there corresponds a steady-state inflation:

$$\pi = \mu - \gamma\,, \tag{4}$$

where π is the rate of price inflation, $\dot{P}/P$, and γ is income growth. In the steady state, minimizing π corresponds to minimizing μ, the percentage rate of issue of base money.

What is unconventional is to partition the demand for base money into two components: currency (plus demand deposits) and k per cent of term deposits, D. Disaggregation is necessary because the demand for currency is negatively related to the interest rate on term deposits, i_d, whereas the derived demand for reserves held against term deposits is positively related to i_d. (Remember that in a repressed economy there is no open-market interest rate on "bonds" that is the opportunity cost of holding "money", in the conventional sense of Keynesian liquidity-preference analysis.) The demand function for currency is

$$C/P = f(\underset{-}{\pi}, \underset{-}{i_d})Y \,. \tag{5}$$

The demand function for term deposits is

$$D/P = \underset{-\,+}{q(\pi, i_d)}Y \,. \tag{6}$$

These yield a demand function for base money:

$$M/P = kD/P + C/P \,. \tag{7}$$

Note that the demand for term deposits is *not* homogeneous of degree 0 in π and i_d. One cannot specify this demand purely in terms of the real deposit rate, $r_d = i_d - \pi$, because equal percentage-point increases in π and i_d will still attract depositors away from currency—which has no interest rate that can adjust in response.

An additional distinguishing feature of this analysis is the importance of the demand for unsubsidized loans in the free part of the capital market. Based on resources attracted through the issue of term deposits, commercial banks may lend at whatever interest rate—denoted by i_l —they can get. The demand function for real loans is

$$L/P = \underset{+\,-}{h(\pi, i_l)} \,, \tag{8}$$

where L is the nominal quantity of loans. The deposit rate of interest has been left out of the function describing the demand for loans, and the loan rate of interest has been left out of the function describing the demand for deposits, because the qualitative direction of each effect is unclear.

However, the non-interest-bearing reserve requirement on term deposits drives a wedge between the open-market interest rate on deposits and that on loans. If we assume that the commercial-banking system is competitive and ignore the returns to factors of production employed in banking, the term-deposit intermediaries are constrained to making zero profits:

$$i_l\,(1 - k) - i_d = 0 \,. \tag{9}$$

The inflation tax on reserves is shared between depositors, whose yields are driven down, and borrowers, whose costs are driven up. The way in which price inflation interacts with the reserve requirement to make the wedge bigger can be illustrated by rewriting equation (9) in terms of the real rates of interest, r_d and r_l (McKinnon, 1981a). Substitute $r_d + \pi$ for i_d, and $r_l + \pi$ for i_l, to get the real loan rate:

$$r_l = \frac{k\pi}{1-k} + \frac{r_d}{1-k} \,. \tag{9'}$$