

PROPERTY, MARKETS, AND MONEY

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Ends to Be Reached

For a country to move from a centrally planned economy that lacks innovative capabilities to a market economy, most rights to make decisions must be transferred to individuals, firms, households, and voluntary associations. Markets must be deregulated, and prices must be free to be agreed on or set by these decentralized agents. No central planning authority and no industry ministries now coordinate the activities of firms and households by enforcing central plans. Thus, markets and prices must coordinate independent decisions of agents. For efficiency, prices have to be formed in competitive markets to express the scarcity of goods. Only then can prices adequately (1) aggregate information about the present and expected scarcity of goods and services, (2) inform everybody about rational use or saving of resources and about unused opportunities, and (3) guide the search for new, valuable information (Hayek 1945). But as Meckling and Jensen (1984) have stressed, it is not just the existence of a price system but, above all, a system of strong private property rights that will secure the full informational advantages of markets. Such property rights allow individuals or groups not only to destroy and use goods in production and consumption (to let, to buy, to sell, and to transfer them to others), but also to capture the full value of the goods when alienating these rights.

The possibility of alienating (selling, bequeathing, transferring) property rights and enjoying the full market value of sold goods has an important bearing on the problem of information. More often than not, knowledge that could be applied, together with a certain

Cato Journal, Vol. 11, No. 3 (Winter 1992). Copyright © Cato Institute. All rights reserved.

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combination of resources to produce new goods or to offer new combinations of goods and services that could be sold at a profit, is not available to owners of the respective resources. Whenever this happens, there are two possible ways to bring knowledge and resources together: either transfer the knowledge to the people who own the rights to use the resources, or vice versa. Obviously, in centrally planned economies, the first possibility is used: a tendency reinforced by the legal nature of publicly owned property. A private property system with markets, on the contrary, has both alternatives available, because the means of production, which can be used together with the respective knowledge, are alienable. That is, resources can be bought by the holders of information. Moreover, holders are able to compensate resource owners, since the holders' knowledge ensures that they can make a more profitable use of the resources than the present owners.

There is no doubt that knowledge is also transferred to owners of resources. But such transfers are sometimes very costly (they may also reveal all or part of the information to outsiders and thereby decrease its value), difficult, or even impossible. Hayek mentions the knowledge of particular circumstances (of time and place). Moreover, particular skills acquired by individuals often cannot easily be transferred (taught) to others. Finally, one would expect that new inventions are generally very difficult to transmit, because new concepts and descriptions must be used and because only a few people (for example, specialized engineers or scientists) may be able to understand the new messages. Another difficulty is a general mistrust of unknown new developments. In all these cases in which it is either impossible or too costly to transfer knowledge, it may well be possible to acquire the rights to the complementary resources at low transfer costs. This fact thus constitutes an obvious informational advantage of a market system with strong property rights.

At the same time, this system implies a rather efficient control of the use made of property rights and of information. Since property owners get the full value of their goods in the market (a value that reflects the discounted expected stream of values stemming from possible future uses), they receive the profits or losses caused, at least partly, by the good or bad use of their resources and of the knowledge they can apply. This system of rewards and punishments is, moreover, strongly information saving and selective according to actual performance.

Thus, the introduction of competitively formed market prices and of strong private property rights is an important ingredient for reforming formerly planned economies. Another condition for well-func-

tioning markets is a sound money and credit system. The monetary regime has to be organized in a way that economic agents can expect money to preserve its value until it is spent on purchasing goods and services. Otherwise, people will restrict their use of money and of assets denominated in money—a behavior that would lead to a shrinking of capital and credit markets, especially for long-term credit instruments—to a fall of investment and to a misallocation of resources hindering economic growth.

In a decentralized economy, credit and capital markets—as well as financial institutions such as banks, investment funds, insurance firms, and stock exchanges—must play an important role in coordinating intertemporal consumption and investment decisions of households, firms, and government agencies. They also provide for pooling of risks and diversification of assets. Stock markets not only play a role in having a multitude of shareholders finance big firms, but also in controlling bad management through the threat of takeovers if bad policies lead to a fall of share prices.

Households as a group are savers; they forgo consumption and directly or indirectly grant credits to firms and governments. Since the latter agents spend the proceeds of these credits on buying investment goods and on extending and renewing their capacities, resources are redirected to produce investments instead of consumers' goods, a fact that allows innovation and higher economic growth. Thus, it is only with the help of financial markets and financial institutions that the problems of the intertemporal allocation of resources can be solved. But since credits are denominated in money, a stable money is a precondition for a well-functioning financial system.

The importance of a well-developed and stable monetary regime for the working of a decentralized market economy was clearly recognized by German neoliberals (Bernholz 1989). For example, Walter Eucken (1952, p. 205) stated: "All efforts to realize a competitive order are in vain as long as a certain stability of money has not been reached." In *Die Grundlagen der Nationalökonomie*, Eucken (1939) had emphasized that the function and importance of money decrease more and more if economies move from a pure market system toward a planned economy (and vice versa). On the other hand, this means that stable money without free prices would be of little help. In a memorandum written for the Office of the Military Government of the United States in postwar Germany (April 1946), more than two years before the West German currency reform, Eucken pointed out the necessity of a currency reform. But in his opinion, such a reform would be useless without the restoration of a free-market economy,

since "in the economy even the existing opportunities to produce and to reconstruct are not used, stocks of goods in industry and in the wholesale and retail trades are withheld, market efficiency in agriculture continues to decrease and finally many people do not even wish to work" (Eucken [1946] 1961, p. 205).

It is important to recall that such ideas, which were developed by German neoliberals from the beginning of the 1930s, proved to be decisive for the reform of the West German economic system in 1948 and afterward, a reform that laid the basis for rapid reconstruction and a marvelous growth performance of the economy during the following one and a half decades.

Financial and Monetary Conditions in Planned Economies before Reforms

In a planned economy steered mainly by prescribing targets for physical production and by centrally allocating inputs for this purpose, prices, money, and financing play only a subordinated role. The targets have to be realized, and it is unimportant whether this realization leads to losses in terms of a monetary calculation (and to financial deficits) or not. This conclusion is true not only for productive plants, but also for government agencies from communities up to the central government. Losses or deficits are more or less automatically compensated through financial allocations. Otherwise, production plans might not be fulfilled. Economic agents thus perform in a world of "soft budget constraints" (Kornai 1971, 1986). Besides fulfilling the task of providing the required finances, the banking system is used only for monitoring economic agents. Other financial institutes and financial markets are virtually absent.

Many prices, especially for essential goods, are set below market-clearing prices. The resulting excess demand is met either by rationing or by queuing. Three reasons probably cause such price policies. First, for consumer goods there is scarcely ever a lack of demand, a fact that seems to demonstrate that planning has been correct in targeting production of the respective goods. Second, in a communist society, ideology requires an allocation of daily necessities, like food and housing, according to need and not depending on income. Perhaps most important is the third reason: Scarcity of goods caused by below-market equilibrium prices bestows power on functionaries and managers to distribute goods at their discretion, to ask for political and other favors, or to ask for other goods in exchange.

Soft budget restraints and below-equilibrium prices often lead, however, to a need for financial support for firms and government

agencies to cover resulting losses, investment programs that were too ambitious, or subsidies caused by supporting low prices. On the other hand, many households and profitable firms are willing to acquire more goods but are unable to find them. These households and firms, therefore, are forced to accumulate savings and surpluses. The surpluses are used for short-term or saving deposits at the state bank as far as they are not used by government as revenue. For firms these deposits "belong" to their investment, social, and wage funds. Savings deposits in the Soviet Union amounted to 220.8 billion rubles in 1985 and 297.5 billion rubles in 1988; deposits of firms reached 250 billion rubles in 1988 (Vanous 1989).

Thus there may be, on one side, a creation of money to cover losses, excess investments, price subsidies, and budget deficits that are not financed by government revenue or by credits extended by state banks out of deposits. On the other side, short-term financial assets are accumulated by households and firms for which no corresponding value of goods exists.

Another weakness of the financial system consists in the underdeveloped tax system (McKinnon 1989). Since firms are state owned, the government can directly appropriate their profits for its own expenditures. Those profits have to be deposited at the state bank if they are not earmarked for the firms' special funds. Moreover, the government can fix prices in a way that firms' revenues are, on the average, sufficiently above expenditures for wages and other inputs. As a consequence, a developed tax system is not needed. In the Soviet Union, for example, only some turnover taxes have to be paid by firms when goods are moving to the retail business. The nature of those taxes is thus not much different from a direct appropriation of profits, and they cover only a small part of government expenditures. In China before reforms began in 1979, direct profit remittances made up a substantial part of total revenues (Blejer and Szapary 1989, p. 9). In the German Democratic Republic (GDR), too, receipts from state-owned Kombinats and firms amounted to 76.34 percent of total government revenues in 1988 (Institut der Deutschen Wirtschaft 1990, p. 5).

It follows from the above analysis that centrally planned economies, which are trying to move toward a decentralized market system, face important problems in the monetary, credit, and financial spheres. Budget deficits, financing of losses, over-ambitious investment projects, subsidies, and excessive money creation have to be ended. The monetary overhang has to be removed. Given this situation, we must ask how these problems can be solved with least resistance, that is, without endangering the reform process. To be

better able to do so, however, we should discuss some political economic problems that typically arise from mistaken, inadequate, or wrongly coordinated reform measures.

Monetary and Budget Problems that May Arise during the Reform Process

The above analysis has shown that reform measures freeing prices and markets; transferring rights to make decisions to households, firms, and communities; and establishing extended and strong private property rights must be coordinated with the development of sound government finances, credit markets, financial institutions, and, above all, a stable monetary system.

Several political-economic obstacles make it difficult to introduce a system of stable money and sound fiscal policies in a formerly centrally planned economy. Reformers are often afraid to remove price regulations at one stroke. They prefer to keep prices of some essential goods fixed at a low level so as not to dissatisfy the population. They also do not want to strengthen the hand of politicians opposed to the reforms. Thus, it is not surprising that (for example, in China) price subsidies still amounted to 20 percent of total expenditures of the central government in 1983, four years after the beginning of reforms (Feltenstein and Farhadian 1987, pp. 142–43). Also, because politicians are afraid of the possible consequences of unemployment, they shy away from stopping the extension of new credits or subsidies to loss-making firms and from allowing them either to reorganize or to go bankrupt, even if bankruptcy laws have been formally reintroduced.

One also has to keep in mind that low prices, still fixed by the government, may be the reason for losses if input prices are left to the free market. In this case, firms are not responsible for losses and should not go bankrupt. Fixing too-low prices and subsidizing losses, however, lead to massive borrowing requirements.

Another frequent characteristic of reform processes is a decentralization of economic decisionmaking to firms, communities, and provinces that is not accompanied by widespread privatization. Often reformers are not prepared to privatize more than a limited part of the economy. This happens because of ideological reasons; because of resistance from planning bureaucracies afraid of losing their influence; and because of functionaries, managers, and workers of firms believing that their jobs are threatened (Bernholz 1975, chap. 7.4). The reluctance to privatize is enhanced by difficulties in selling

loss-making firms and by an unwillingness "to give them away for nothing."

It follows that inadequate measures are often taken to decentralize. For example, local and provincial authorities are made rather independent and are turned into proprietors of middle-sized and large firms, but the largest firms remain the central government's property. Only for small and/or newly founded firms is private property allowed. Independent farmers can only lease land and must rent equipment from envious farm cooperatives. Or some degree of independence is given to labor-managed firms while other plants are turned over to cooperatives. A corresponding policy could be observed during recent years in the Soviet Union, Hungary, and China.

Such decentralization connected with weak property rights implies, however, a substantial weakening of the motivation to work, to invest efficiently, and to innovate. Moreover, politicians and bureaucrats of local and provincial governments look at "their" firms mainly with an aim to protect employment and to extract profits for their own expenditures, if firms are profitable. It follows that these politicians are interested in preventing loss-making firms from going bankrupt, and they support the extensive investment programs demanded by others. To get the needed financial assistance to cover losses and credit demands, communities and provincial authorities thus tend to support the credit demands of firms and to exert pressure on the banking system to grant these demands. They are not prepared to cover these financial needs out of their own budgets since the reduction of other expenditures would be politically disadvantageous. Moreover, as will be seen below, the underdeveloped tax system leads inevitably to budgetary problems during the reform process.

Similar behavior patterns have to be expected for politicians, bureaucrats, and functionaries of the central government. They must look for finances to cover losses and large investment demands of government-owned firms and must pay for the price subsidies extended. As long as no sanctions threaten for losses and deficits, little fiscal responsibility can be expected.

Decentralization, together with an underdeveloped tax system, also tends to worsen the budget situation, at least during the earlier stages of the reform process (McKinnon 1989). When firms are decentralized, turned into labor-managed firms or cooperatives, or transferred into the ownership of communities or provinces, their profits can no longer be automatically appropriated as revenue by the central state. Moreover, high taxes on profits, even if they could be

introduced immediately, would prevent the increased motivation to work more efficiently and to innovate, which are the very aims of decentralization. Thus profits can be only partly taken away by the state, even if the state still owns the firms.

If new taxes are only gradually introduced because of technical difficulties and, more importantly, because of political reasons, then the budget deficit rises during the reform process. Among the technical difficulties for new taxes are the necessary development of book-keeping; of tax bureaus and controllers; and of reasonable definitions of income, profits, and value added. Some taxes that could probably be introduced more easily than income, wage, or profit taxes are turnover, sales, or value-added taxes. The latter provide high revenue, their base can be easily defined, they are easier to calculate, and they can be applied to all firms independent of the kind of ownership relations. Also, political resistance to them will probably be smaller, since they are not felt by the population as strongly as income tax.

The above considerations concerning the development of government revenue and of a budget deficit during the reform are supported by the experience of China and the Soviet Union. Revenues have fallen in China since 1979 and in the Soviet Union since 1985. Moreover, in the Soviet case, expenditures rose at the same time revenues declined, which caused the deficit to increase rapidly since 1986.

Our analysis has shown that there are several reasons to expect losses of firms; excessive credit demands for investments; and budget deficits of communities, provinces, and the central government during and as a consequence of the reform process. Thus, a strong pressure on the banking system develops to grant credits not covered by savings. But even if such credits were partially or totally financed by savings, their use to cover losses or budget deficits would not lead to a corresponding increase of production. Therefore, the overhang of monetary assets, which existed before the reform, would be further increased.

If savings are not sufficient to finance credits that are granted for investment or to cover losses and deficits, the pressures on banks will spread to the central bank through the banks' need to refinance themselves. If the central bank submits to these demands, the monetary base increases and inflationary tendencies are strengthened.

It is probable that banks will not resist the pressure stemming from influential local and provincial politicians, bureaucrats, and managers, who can argue that at stake are employment, the survival of firms, and the functioning of communities and provincial govern-

ments. Moreover, the banks' power to resist pressures is weakened by the fact that members of local and provincial governments, as well as of important firms, are sitting on their boards. Empirical evidence supports our hypothesis (for China, see Bernholz 1990b). Note also that resistance is diminished if banks are not forced by the threat of bankruptcy, because they can always hope to be refinanced by the central bank.

The central bank finds itself in a similar situation. How can it resist the demands of banks to be refinanced if bankruptcy is threatening those banks? How can it deny fulfilling the credit demands of the central government, which is represented along with major banks on its board—especially when the central government has the power to remove the bank's directors if the budget deficit is not covered? Obviously, the central bank will not resist such demands if it is not independent from the government and if no sanctions threaten its directors when it surpasses certain monetary targets tied to real growth of GDP.

In summary, before reforms, a budget deficit usually exists and a substantial monetary overhang, that is, repressed inflation has accumulated. The reforms do not remove, but rather increase, the budget deficit and money creation. This increase is caused by decentralization without adequate privatization, by an underdeveloped tax system, by maintenance of loss-making firms and below-equilibrium prices for essential goods, and by financing investment projects that are too ambitious.

Because many prices have been freed by now, open inflation begins. It amounted to about 8 percent in the Soviet Union in 1989 and reached about 20 percent in Hungary and China. The overhang of short-term financial assets in the Soviet Union is estimated to have reached 250 billion rubles for firms and 339.5 billion rubles for households in 1988 and 1989, respectively. The budget deficit amounted to 13.1 percent of GNP in 1989, and it is estimated that 3.5 percent of the deficit was financed by money creation in 1988.

The population understandably attributes open inflation to reforms, especially because inflation follows the freeing of prices. Opponents of reform can use this reaction to ask for a postponement of further reforms or even for a return to the old system. As a consequence, the independence of firms, communities, and provinces may be curtailed again, and prices may be fixed once more. It seems possible that the political unrest and the demand for democratic reforms in China's major cities in 1989 were caused by inflation, which especially reduced the real incomes of city intellectuals.

The factors responsible for open inflation during the reform process may, however, lead to a quite different political reaction. Politicians, who have observed events in other countries that are trying to reform, may be so afraid of political consequences from a possible reform that they will not risk freeing prices, will prefer a very slow pace, or will try to adapt relative prices to more adequate levels by bureaucratically administered price changes. Such policies obviously endanger the reform process.

Our analysis shows that political-economic relationships connected to monetary and fiscal problems do not allow an optimistic prognosis for reforms in formerly centrally planned economies. Even in such a situation, a new government may, if driven by an acute crisis, decide to take drastic reforms. This seems to have happened in Poland, where the Council of Ministers of the new government, dominated by Solidarnoc, decided in October 1989 to eliminate the budget deficit, free prices and exchange rates, abolish subsidies, stabilize the money supply, and privatize industry. These decisions, part of which have already been enacted, were taken in the face of a desperate economic situation and a monthly inflation of 40 percent in August 1989.

Even such radical reforms may, however, lead to severe problems. First, with rising inflationary expectations, the velocity of money may be multiplied up to a factor of 20 (Bernholz 1990a), which implies a vast inflation potential even at a constant money supply. Second, it is well known that the budget deficit grows with high rates of inflation because of the so-called Tanzi effect (see Bruno et al. 1988 and Bernholz 1988). But this effect may lead again to strong pressures to finance the deficit by money creation. It is not known whether the Polish government has taken these dangers into account.

Measures to Ease the Transition from Plan to Market

The analysis in the previous section suggests how the dangers of the reform process may be overcome or limited by adequate measures correctly timed. To prevent unfavorable economic developments following an uncoordinated stepwise approach and to minimize political resistance, all reform measures must be introduced in a consistent time sequence. Also, as many measures as possible should be taken at one stroke. Above all, the deregulation of prices and of monetary and fiscal reforms should be taken together. The West German reforms of June 1948, leading to the "economic miracle" (Möller 1976, Pfeleiderer 1979, Sauermann 1979, Domes and

Wolfsohn 1979), are an example of an impressive success story. The currency reform of June 20 reduced all financial assets and debts dominated in Reichmarks (RM) by a factor of 20:1 into Deutsche-marks (DM) assets and debts. Another 5 percent were blocked, but only 1.5 percent of them were freed later on. Moreover, on Sunday, June 20, 40 DM in banknotes per capita were issued everywhere. On Monday, June 21, all public offices that had to make payments (including the military government, the railway system, and the post offices) and all other firms received a "first installment" in the form of checking deposits at their bank. These installments were prescribed by law in an amount that could be simply calculated. Thus, firms received 60 DM per employee. Moreover, the law determined that all recurrent obligations in RM, such as wages, rents, and payments for leases, had now to be paid in DM (the conversion factor was 1:1). The changes implied for banks and banking deposits were somewhat more complicated and need not be described here.

More important most prices were freed and price regulations removed at one stroke together with the currency reform. Ludwig Erhard, then Director of the Economic Administration, took those courageous steps against strong political opposition, especially in the Social Democratic Party and against the warning voices of many "experts." A corresponding decision had been recommended by the historic *First Report of the Advisory Board at the Economic Administration of the United Economic Area of April 18, 1948* (translated in Richter 1979, pp. 449–53; for the participation of German neoliberals in shaping this report, see Bernholz 1989, p. 193).

It has to be mentioned, on the other hand, that the prices of some basic foods and of most raw materials remained controlled and that rationing remained in force for a limited time. For some textiles and shoes, price controls but not rationing were abolished for several months. As it turned out, free prices made rationing obsolete very soon. Finally, imports were governed by a quota system even longer. After the fact, it is clear that almost all domestic price controls and rationing, except perhaps for housing, could have been removed at one stroke.

Turning back to the present Soviet situation, one has to agree that although conditions are certainly no less favorable than in postwar Germany, the necessary reforms may be more complicated because of several factors. First, private property still predominated legally in West Germany after the war, though there were allied controls, a blocking of property owned by the Reich and former Nazis, and a control on the production and sale of coal and steel. Also limitations still existed on industrial production. The problem of reparations and

of how to pay for the expenses of occupying forces had not been settled. But fundamentally, the motivation to work efficiently and innovatively that is inherent in private property could be brought to work again just by abolishing government regulations and interference. This condition is not true for the Soviet Union, where private ownership of the means of production has been totally abolished and where, ideally, such ownership should be restored before, or together with, reforms as a precondition for success. I will return to this problem later.

Second, West Germany had a developed tax system at its disposal. This system could be used to get sufficient revenues to cover expenses. Also the currency reform ended Soviet capabilities to create German money in their occupation zone so they could cover the army's expenses. We know already that no comparable tax system exists in the Soviet Union. Thus, it is indispensable to introduce simple and strong revenue-generating taxes such as turnover, sales, or, even better, value-added taxes before enacting reform measures to deregulate prices and to create a stable money. On the other hand, removing subsidies to support loss-making enterprises and below-equilibrium prices should occur in conjunction with abolishing price regulations, ending rationing, and removing the monetary overhang.

We now turn to the problem of monetary overhang, which consists mainly of financial assets that are convertible into money at short-term notice and possibly of more limited excessive cash holdings. This monetary overhang can be removed in several ways, though one way seems preferable. The first way is to allow prices to rise, after decontrol, until the real value of money and short-term financial assets have been reduced to amounts corresponding to normal demand. Then no inflationary potential would remain. By referring to the example of Poland, we have already argued that this once-and-for-all increase of the price level, implies serious dangers. The velocity of money may increase significantly, and the Tanzi effect may increase the budget deficit, thus providing new food for ongoing inflation. This process also endangers the necessary development of credit and capital markets. It is well known that in high-inflation countries these markets shrink in volume and in the duration of credits and of financial assets. In the end only very short-term credits with highly fluctuating nominal interest rates are left. Moreover, banking crises are recurrent under these conditions (compare, for example, Machinea and Fanelli 1988 for Argentina). Yugoslavia in 1989 provides an example of a decentralized, more or less socialist market economy with labor-managed firms, where inflation has run out of control (Velimir and Gaspari 1990).

The second way to remove the monetary overhang is to convert short-term financial assets and the existing excess supply of money into long-term interest-bearing government bonds. This solution can be recommended only if the additional burden of payments for interest and redemption can be financed out of ordinary revenues. Given the situation of the Soviet budget, this solution, like the first, does not seem to be feasible.

A third way to remove the money overhang is to privatize state-owned firms, houses, and apartments by selling them to the public. There are, however, several problems with this solution. First, consumers are interested in buying durable goods after years of scarcity, not shares of firms. Second, even though the chances of selling houses or apartments may be somewhat better, the occupants should have the first choice to buy. But why should they prefer buying an apartment in which they already live at a very low rent instead of buying durable consumer goods? Third, selling loss-making firms or firms with an uncertain future may even be impossible. Moreover, it is not very helpful for the success of reforms to make privatization of firms depend on a difficult and long-lasting selling effort. Finally, the receipts from selling firms and apartments would have to be destroyed or sterilized to get rid of the monetary overhang. Even their use to cover the budget deficit would not be satisfying. True, this use would remove a source for the creation of new money, but the inflationary pressure from the money overhang would persist since the receipts from selling firms, houses, and apartments would now finance government demand.

A fourth way to remove the money overhang would be a currency reform like in the 1948 reform in West Germany. Since the exact magnitude of the overhang is usually not known, a somewhat excessive reduction of the overhang may be preferable, with the possibility of freeing an additional part of the old financial assets later on.

Objections sometimes arise to this fourth alternative. It is argued that a currency reform implies an unjust confiscation of wealth not in conformity with the rule of law. One must, however, realize that there are no consumer goods corresponding to short-term financial assets. But given this objection and the task of privatizing industries and housing, it seems to be advisable to combine a currency reform with the third alternative. This combination of reforms could be done by blocking, say, 90–95 percent of short-term financial assets while, at the same time, allowing them to be used for a limited period to buy shares of firms to be privatized and shares of government-owned flats or houses, preferably by their present occupants. First, a majority of the shares of each firm should be distributed to the workers of

the respective plants. As compensation, the 250 billion rubles of enterprise deposits, minus the 5–10 percent of those financial assets not blocked, should be canceled. Similarly, households could use the greater part of their blocked savings deposits to buy a flat or a house, along with using any remaining amount to acquire shares not already given to employees. Shares should, after some time, be freely salcable, for example, in the newly founded stock exchanges.

A new money should be introduced together with currency reform. This change would help to convince people that the reform will be a once-and-for-all measure leading to a new era of stability. Finally, as already mentioned, the receipts from the sales of firms, houses, and apartments should be destroyed so as to remove the overhang of money and of short-term financial assets.

Freeing prices; abolishing market controls; and balancing the budget by cutting price subsidies, transfers to loss-making firms, and credits for excessive investments are best initiated together with currency reform. Since a better tax system would have been created before this reform and because price subsidies, as well as many transfers to formerly loss-making firms, would no longer be needed because of price reforms, it would be much easier to balance the budget at the time of reform and thus to stop money creation if all these steps were taken together.

The best moves for controlling the creation of money would be both to confine the central bank by law so that it could buy only gold and foreign exchange, and to grant credit only at positive real interest rates. Such credit would be granted by discounting safe drafts of firms with several signatures, including that of a bank, or by giving loans on securities deposited. A definite money growth rule related to the growth rate of real GNP should be prescribed.

If they were institutionally safeguarded, the reforms would win trustworthiness and long-term durability (Bernholz 1990a). Historical experience proves that monetary regimes based on paper money always show an inflationary bias—if the government has the right to decide on the money supply (Bernholz 1986). If the reform is to counter this tendency, the independence of the central bank and its obligation to secure a stable value of money should be fixed in the constitution. It would also be helpful if the constitution outlawed budget deficits not financed in capital markets and not serving profitable public investments.

Social problems may be caused by reforming the currency, by restructuring the economy, and by the resulting unemployment. To limit these hardships and political resistance against the reforms, some preventive measures are necessary. Before the currency and

price reforms are undertaken, an obligatory unemployment insurance should be created. Also reformers should ensure in advance that retired persons will receive their retirement benefits after the reforms and that those benefits will be sufficient to provide retirees with an adequate standard of living.

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STRATEGIES FOR RESTORING FINANCIAL STABILITY DURING THE TRANSITION FROM PLAN TO MARKET

Edwin G. Dolan

Peter Bernholz points out that two preconditions must be established to move from a centrally planned economy to one in which decentralized decisions are guided by market prices. These preconditions are (a) the creation of strong, transferable private property rights and (b) the establishment of a sound monetary and financial system. The less-than-complete success of Soviet economic reform to date is arguably due to the absence of these preconditions. Like Bernholz, I will focus my remarks on the second precondition for the transition to a market economy: measures to establish monetary and financial stability. His paper touches on most of the main points that need to be made. I will simply bring certain aspects of the problem of financial reform even more sharply into focus.

Nature and Origins of Repressed Inflation

Equation of Exchange

The problem of financial reform can be restated in terms of the classical equation of exchange. This equation is commonly written in the following form:

$$MV = Py,$$

in which M is the stock of money, V is the income velocity of money (the number of times per year each unit of the money stock is spent for income producing purposes), P is an index of the average price

Cato Journal, Vol. 11, No. 3 (Winter 1992). Copyright © Cato Institute. All rights reserved.

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level of all goods entering into national product, and y is national product stated in real terms.¹

Repressed Inflation

To highlight the condition of repressed inflation that has prevailed in the Soviet economy, I will rewrite the equation of exchange to isolate the price level on the left-hand side, as follows:

$$P = \frac{MV}{y}$$

For any given money stock, there is an equilibrium price level P^* that would emerge given (a) free price formation, (b) a "full employment" or "natural" level of real national product, y^* , and (c) an equilibrium value of velocity, V^* . To say that the Soviet economy is in a state of repressed inflation means that the price level is constrained at a level P_c that is below its equilibrium level P^* . For the equation to balance, velocity must thus be constrained at a level V_c below its equilibrium value V^* . (Velocity will be all the more below its equilibrium value if national product is understood to be below its natural level—a possibility that will be considered later.) To say that velocity is below its equilibrium value, in turn, means that members of the public are holding money balances that, given the current official price level, they would like to exchange for goods and services. But they are unable to spend them because goods and services are not being produced at a sufficient rate.

The situation that I have described in terms of an artificially low value of velocity is more commonly described as one of "monetary overhang." This term, as I understand it, refers to an amount by which the money stock would have to be reduced to permit macroeconomic equilibrium at the prevailing price level. Unfortunately, discussions of the monetary overhang are often flawed in that they fail to specify what assumption is made about the equilibrium level of velocity. For example, some formulations of the problem calculate the overhang

¹It is far from clear how these items are best defined in the Soviet context. One problem is that the Soviet economy is still to some degree segmented into a household sector and a state enterprise sector between which neither goods nor money flow freely. To the extent that is the case, it is sometimes useful, when discussing the problem of inflation, to apply the equation of exchange to the household sector alone, with M understood as currency plus savings balances owned by households and y understood as real output of consumer goods and services. However, if we look forward to later stages of the reform process in which financial and goods markets are progressively normalized, it makes more sense to think of M as household plus enterprise liquid balances and y as real national product. The present comments are sufficiently general, I think, that these matters can simply be left ambiguous.

by subtracting the rate of output of goods and services (an annual flow) from the quantity of money in circulation (a stock), thereby making the implicit assumption that the equilibrium value of velocity is unity. The experience of market economies suggests that an equilibrium velocity of unity is unreasonably low. For example, the velocity of M2 in the U.S. economy is about 1.6 and that of the narrower aggregate M1 is about 6. Looking at Soviet experience, I understand that in the early days following the post-World War II currency reform, a velocity of 10 was considered normal for household currency holdings.

To the extent that they implicitly underestimate the equilibrium value of velocity, discussions based on the monetary overhang concept may understate the extent of repressed inflation in the Soviet economy. A numerical example may help. Suppose that the money stock in the hands of consumers is 600 billion rubles, the annual output of consumer goods is 300 billion rubles, and the prevailing price level is given the base value 1. Assuming equilibrium velocity to be 1 would imply a currency overhang of \$300 billion and an equilibrium price level of 2. These values further imply that a 100 percent increase in the price level would bring the system into equilibrium. But suppose equilibrium velocity is instead 5. The 600-billion-ruble money stock would then be capable of supporting nominal expenditures of 3,000 billion rubles, implying an equilibrium price level of 10. The degree of repressed inflation would then be ten times greater. I stress this elementary arithmetic simply because it is so often neglected in discussions of the Soviet situation.

Impacts of Economic Reform

So much for what repressed inflation is. The next question is why the problem has been aggravated by perestroika. Bernholz's paper sheds considerable light on this matter. Here, too, I find it helpful to use the equation of exchange to consider how money growth, velocity, and real output may be affected by economic reform.

The primary source of money growth in the Soviet economy has been the central government's budget deficit. The central budget deficit is monetized because of an absence of financial markets through which the necessary funds can be borrowed from the public. The deficit is instead funded by the central bank, which means through additions to the stock of money in circulation. Bernholz gives several reasons why economic reform tends to increase the budget deficit and, hence, the rate of increase of the money stock. One reason is a tax system that relies excessively on appropriation of enterprise profits. Another is political resistance to raising the prices of essential

goods and services whose production demands increasing subsidies as reforms free the prices of inputs used in their production. Still another is the need to provide an expanding social safety net to protect the elderly and the unemployed against disruptions inherent in economic reform.

Beyond these sources of money growth considered by Bernholz, I would call attention to the additional inflationary potential inherent in reform and in decentralization of the banking system. As the network of independent commercial banks expands and the payments system is monetized, the central bank loses its monopoly both on the issue of credit and the creation of liquid monetary and near-monetary bank deposits. At some point in this process the money stock as presently conceived, which consists of currency and deposit liabilities of the central bank, may become "high-powered money," that is, a monetary base of reserve assets on the strength of which the commercial banking system can issue liquid liabilities of its own. Even before the point is reached at which commercial bank liabilities become a direct means of payment (in the form of accounts that can be transferred from one party to another by check or electronic transfer), easy access to commercial bank credit and the availability of liquid near-monetary assets could enable firms and households to economize on their holdings of conventional central bank money. Such a situation would add to inflationary pressure.

Economic reform can affect the velocity of money. A more efficient payments system is one potential source of an increase in velocity. Moreover, there is the problem that the uncertainties and inflationary expectations that accompany economic reform will increase the perceived opportunity cost of holding money, thus further adding to velocity. Even if reform were carried out in an environment of overall macroeconomic stability, anticipation of an end to subsidies as a necessary component of reform would cause people to attempt to exchange money for goods whose relative prices can be expected to rise as subsidies are eliminated. That tendency alone would boost velocity during the transition period. If, in addition, reform is accompanied by fears of generalized inflation or confiscatory currency reform, the flight from money to goods will be intensified, and velocity will rise still more sharply.

The ultimate goal of reform is to raise the growth rate of real output. But even if no mistakes were made in implementation, it is widely acceptable as inevitable that real output will fall during a transition period as industrial capacity is converted to new uses and as a large percentage of the labor force is retrained and relocated to take new jobs. Any mistakes in the implementation of reform will only increase

the transitional decline in real output. And, as the equation of exchange makes clear, any decline in real output increases upward pressure on the price level.

Putting these factors together, we see that the reform process increases inflationary pressure in three ways: (a) through an increased rate of money creation, (b) through an increase in velocity, and (c) through a transitional decline in real output.

Strategies for Financial Stabilization

Having used the equation of exchange to illuminate the nature and origins of repressed inflation, we can next use it as a framework for discussing four groups of strategies for restoring financial stability.

The "Fly-Up" Strategy

This strategy treats the money stock and real output as given, frees prices from constraints, and allows velocity and the price level to rise to their equilibrium levels. If successful, the outcome is a brief burst of inflation during which prices "fly up" to their new equilibrium levels and then stabilize.

Strategies for Reducing the Monetary Overhang

The aim of this group of strategies is to reduce the money stock by enough to permit equilibrium at the existing price level, given the current rate of real output and the unconstrained equilibrium value of velocity. One proposed method of absorbing the excess money stock is sale by the government of nonliquid assets—either financial assets like long-term bonds or real assets like housing, land, and shares in industrial firms. An alternative method of absorbing the monetary overhang is confiscatory monetary reform in which a new currency is substituted for the old one at less than a one-for-one ratio for at least some categories of balances.

Strategies for Reducing Equilibrium Velocity

A third approach to stabilization suggested by the equation of exchange would be to reduce the equilibrium value of velocity to its current low, constrained value while holding the price level, the money stock, and real output constant. To do this, one must reduce the perceived opportunity cost of holding money balances. A proposed approach is to exchange current monetary assets (currency and savings account balances) for some sort of "hard ruble" linked to gold or a major world currency. The public would be willing to hold greater nominal quantities of these hard rubles than of the present soft rubles because their future purchasing power would be

guaranteed. An alternative approach would be to increase the real rate of return on savings balances by indexing their nominal return to the inflation rate.

Supply-Side Strategies

Finally, in principle, the economy could be stabilized on the basis of the existing price level and money stock if real output could be increased in the ratio V^*/V_0 . This ratio can be termed a supply-side strategy inasmuch as it aims to stabilize the price level by increasing aggregate supply rather than by reducing aggregate demand. Unfortunately, no one seems to know how to bring about a rapid rise in real output while holding prices and the money stock constant. If it were possible to do so, we would not need to treat financial stabilization as a precondition for other aspects of reform, such as decentralization and decontrol of the pricing mechanism. Financial stabilization would instead be the result of such reform.

Implementation of Strategies

Setting this last group of strategies aside, then, let us examine the prospects for implementing the first three strategies for financial stabilization, individually or in combination.

The fly-up strategy is a tempting one, if only because it would be easy to initiate. It requires no positive action on the government's part; the government need only step aside by relinquishing its current control over price formation. Unfortunately, as Bernholz points out, a once-and-for-all jump to an equilibrium price level that is implicit in the current money stock, the equilibrium value of velocity, and the natural level of real output may prove impossible because of certain positive feedback mechanisms that come into play during the transition.² As a result of these positive feedback mechanisms, each increment to inflation generates new inflationary pressures so that the process becomes explosive.

²A negative feedback mechanism is one in which an increase in variable x causes an increase in variable y ; an increase in y , in turn, slows the rate of increase of x . A standard example is a household heating system in which an increase in the rate at which fuel is burned in the furnace increases the temperature of the house, and temperature increase, acting through a thermostat, cuts the rate at which fuel is burned. A positive feedback mechanism is one in which an increase in variable x causes an increase in variable y , and an increase in variable y in turn increases the rate of increase of x . An example is an atomic bomb, in which emission of particles from fission of a uranium atom causes fission of other atoms, thereby increasing the rate of emission of particles. Systems characterized by negative feedback are self-stabilizing. Those characterized by positive feedback are potentially explosive.

Bernholz identifies three positive feedback mechanisms. The first is that inflation tends to increase the central budget deficit, not just in nominal terms but in real terms as well. In part, this happens because the tax system relies excessively on taxation of profits, which, in turn, are likely to be squeezed as workers try to protect themselves from inflation through wage increases. In part, it happens because inflation raises the costs of maintaining a social safety net for vulnerable strata of the population. And, in part, inflation increases the budget deficit because of the lag between tax assessment and the collection of tax revenues—the Olivera-Tanzi effect that is familiar to students of the Latin American experience. This positive feedback mechanism is completed when the growing deficit is monetized, thus adding to further inflationary pressure.

A second positive feedback mechanism is found in the tendency of inflation to increase velocity at the same time it increases the rate of money growth. This happens because inflation raises the opportunity cost of holding monetary assets. In theory, this feedback mechanism could be broken by full indexation of nominal returns on monetary assets. In practice, however, full indexation is impossible, in part because of the zero nominal return on currency, and in part because of lags in adjusting the nominal returns on savings balances. It is worth noting that these effects have been more severe in the Soviet Union than elsewhere because of the degree to which the payments system has relied on currency and because of the low fixed nominal interest rates paid on savings balances.

A third positive feedback mechanism through which inflation fuels further inflation is the fact that financial instability is likely to disrupt the reform process on the supply side. This instability aggravates the inevitable transitional decline in real output. Consequently, the rate of inflation associated with given rates of change of velocity and with the money stock is further increased.

When these positive feedback mechanisms are taken into account, the fly-up strategy begins to look more like a recipe for hyperinflation than for macroeconomic stabilization. Without prior radical reform of fiscal and monetary institutions, it is simply too dangerous to attempt.

Let us turn, then, to strategies that focus on soaking up the monetary overhang through sales of assets or through confiscatory monetary reform. Their attractiveness lies in the hope of stabilizing the price level at or near its present level, so that the positive feedback mechanisms just discussed do not come into play. These strategies have a serious limitation of their own, however. By their nature, they can be used only once. After the state sells off its assets, it cannot sell

them off again. And confiscatory monetary reform, if attempted, must be accompanied by assurances that it will not soon be attempted again. Otherwise, the public will lose all confidence in government money as legal tender, and velocity will explode at the first sign of danger.

In short, there is no point in undertaking measures to soak up the monetary overhang until the rate of growth of the money stock can itself be brought under control. Otherwise, the monetary overhang will quickly reappear and policies that could be used to absorb it will no longer be available. Like the fly-up strategy, then, stabilization strategies based on absorption of the monetary overhang can be used only after thoroughgoing reform of fiscal and monetary institutions.

Much the same can be said for strategies that aim to reduce velocity by decreasing the perceived opportunity cost of holding money. Take, for example, the idea of a gold ruble. It is at least imaginable that the public would be willing to hold a stock of gold-backed rubles equal in nominal value to the existing stock of soft rubles, in which case the new currency could be introduced on a one-for-one basis without confiscation. But the effects of even such a radical policy would be short-lived unless it were accompanied by fiscal reforms bringing the government budget deficit under control and by financial reforms including the creation of an independent central bank (or some other mechanism) to constrain the rate of issue of the new currency.

Necessary Institutional Reforms

None of the proposed strategies for monetary stabilization can be successfully implemented without prior institutional reforms. The necessary reforms include the following:

- Pare the expenditure side of the central budget but maintain a social safety net. Military expenditures, foreign aid, and investment projects with long payoffs are among the obvious targets, as are subsidies to all consumer goods that are not on a very short list of absolute essentials.
- Shift the tax system toward consumption or value-added type taxes and away from appropriation of profits, as Bernholz suggests.
- Develop financial institutions of all kinds, including an independent central bank, commercial banks, and securities markets.
- Introduce liquid assets with positive real rates of return. These assets could include savings instruments with indexed nominal

rates, legalized ownership of foreign currencies and bank deposits, and possibly even a gold-backed ruble.

Only when such reforms have been implemented will it be possible to decontrol wholesale and retail prices (including wages and natural resource prices) without touching off hyperinflation. It will never be possible to predict the exact equilibrium price level until actual decontrol of prices takes place. Some degree of fly-up with a possible overshoot of the new equilibrium is always possible. However, the fly-up will not break through into sustained hyperinflation if institutional reforms have broken the currently existing positive feedback mechanisms and if the new equilibrium price level is not too far above the level prevailing at the moment of decontrol.

Of course, at the same time the indicated monetary and financial reforms are being enacted, equally rapid legal and institutional reforms must be implemented in the area of property rights. Until both of these preconditions have been established, there is no realistic hope for further progress in other areas of economic reform.