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CAN "IT" HAPPEN AGAIN? A REPRISE

HYMAN P. MINSKY

The Federal Reserve's role as lender of last resort, plus the size of government deficits, prevent the recurrence of deep depression. But to restore tranquil progress, the government must spend for resource development, rather than for consumption.

The most significant economic event of the era since World War II is something that has not happened: there has not been a deep and long-lasting depression.

As measured by the record of history, to go more than thirty-five years without a severe and protracted depression is a striking success. Before World War II, serious depressions occurred regularly. The Great Depression of the 1930s was just a "bigger and better" example of the hard times that occurred so frequently. This postwar success indicates that something is right about the institutional structure and the policy interventions that were largely created by the reforms of the 1930s.

Can "It"—a Great Depression—happen again? And if "It" can happen, why didn't "It" occur in the years since World War II? These are questions that naturally follow from both the historical record and the comparative success of the past thirty-five years. To answer these questions it is necessary to have an economic theory which makes great depressions one of the possible states in which our type of capitalist economy can find itself. We need a theory which will enable us to identify which of the many differences between

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the economy of 1980 and that of 1930 are responsible for the success of the postwar era.

The Reagan administration has mounted a program to change markedly economic institutions and policies. These programs reflect some well-articulated conservative critiques of the interventionist capitalism that grew up during the New Deal and postwar administrations. These critiques, which come in various brands labeled monetarism, supply-side economics, and fiscal orthodoxy, are alike in that they claim to reflect the results of modern economic theory, usually called the neoclassical synthesis. The abstract foundation of the neoclassical synthesis reached its full development with the flowering of mathematical economics after World War II. (The underlying theory of the orthodox Keynesians, who served as economic advisers to prior administrations, is this same neoclassical synthesis.)

The major theorems of the neoclassical synthesis are that a system of decentralized markets, where units are motivated by self-interest, is capable of yielding a coherent result and, in some very special cases, the result can be characterized as efficient. These main conclusions are true, however, only if very strong assumptions are made. They have never been shown to hold for an economy with privately owned capital assets and complex, ever-evolving financial institutions and practices. Indeed, we live in an economy which is developing through time, whereas the basic theorems on which the conservative critique of intervention rests have been proven only for "models" which abstract from time.

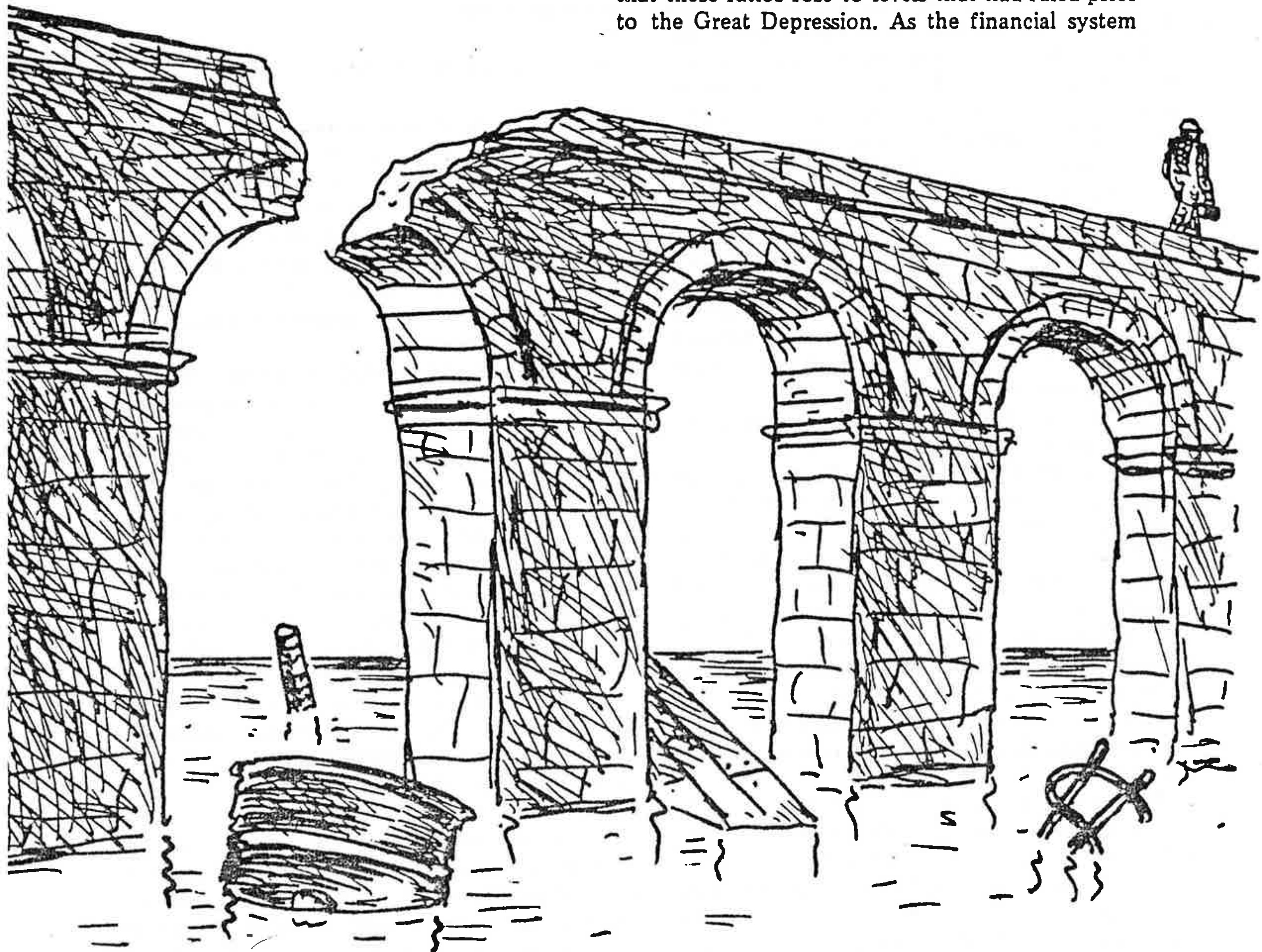
Instability is an observed characteristic of our economy. For a theory to be useful as a guide to policy for the control of instability, the theory must show how instability is generated. The abstract model of the neoclassical synthesis cannot generate instability. When the neoclassical synthesis is constructed, capital assets, financing arrangements that center around banks and money creation, constraints imposed by liabilities, and the problems associated with knowledge about uncertain futures are all assumed away. For economists and policymakers to do better we have to abandon the neoclassical synthesis. We have to examine economic processes that go forward in time, which means that investment, the ownership of capital assets, and the accompanying financial activity become the central concerns of the theorizing. Once this is done, then instability can be shown to be a normal result of the economic process. Once instability is understood as a theoretical possibility, then we are in a position to design appropriate interventions to constrain it.

The economic sources of Reagan's victory

Reagan's political victory in 1980 took place because after the mid-1960s, the performance of the economy deteriorated in terms of inflation, employment, and the rise in material well-being. A close examination of experience since World War II shows that the era quite naturally falls into two parts. The first part, which ran for almost twenty years (1948-1966), was an era of largely tranquil progress. This was followed by an era of increasing turbulence, which has continued until today.

The tranquil era was characterized by modest inflation rates (especially by the standard of the 1970s), low unemployment rates, and seemingly rapid economic growth. These years, which began once the immediate postwar adjustments were complete, may very well have been the most successful period in the history of the American economy. The New Deal era and World War II were years of large-scale resource creation. The postwar era began with a legacy of capital assets, a trained labor force, and in-place research organizations. Furthermore, households, businesses, and financial institutions were both richer and more liquid than they had been before. In addition, the memory of the Great Depression led households, businesses, and financial institutions to prize their liquidity. Because conservatism ruled in finance, the liquidity amassed during the war did not lead to a burst of spending and speculation once peace came. Furthermore, the federal government's budget was an active constraint on an inflationary expansion, for it would go into surplus whenever inflation seemed ready to accelerate.

Instead of an inflationary explosion at the war's end, there was a gradual and often tentative expansion of debt-financed spending by households and business firms. The newfound liquidity was gradually absorbed, and the regulations and standards that determined permissible contracts were gradually relaxed. Only as the successful performance of the economy attenuated the fear of another great depression did households, businesses, and financial institutions increase the ratios of debts to income and of debts to liquid assets so that these ratios rose to levels that had ruled prior to the Great Depression. As the financial system



became more heavily weighted with layered private debts, the susceptibility of the financial structure to disturbances increased. With these disturbances, the economy moved to the turbulent regime that still rules.

The first serious break in the apparently tranquil progress was the credit crunch of 1966. Then, for the first time in the postwar era, the Federal Reserve intervened as a lender of last resort to refinance institutions—in this case banks—which were experiencing losses in an effort to meet liquidity requirements. The credit crunch was followed by a "growth" recession, but the expansion of the Vietnam war promptly led to a large federal deficit which facilitated a recovery from the growth recession.

The 1966 episode was characterized by four elements: (1) a disturbance in financial markets that led to lender-of-last-resort intervention by the monetary authorities; (2) a recession (a growth recession in 1966); (3) a sizable increase in the federal deficit; and (4) a recovery followed by an acceleration of inflation that set the stage for the next disturbance. The same four elements can be found in the turbulence of 1969-70, 1974-75, 1980, and 1981. The details of the lender-of-last-resort intervention differed in each case because the particular financial markets and institutions under the gun of illiquidity or insolvency differed. The recessions—aside from that of 1980—seem to have gotten progressively worse. The deficits, which became chronic after 1975, continued to rise in response to recessions.

Each of these financial disturbances occurred after a period of rapid expansion in short-term financing; indeed each was part of the reaction to efforts by the Federal Reserve to slow down the growth of such financing (because the rapid increase in short term-financing was associated with price increases). The "rationale" for the Federal Reserve's action was that inflation had to be fought. Each of the financial disturbances was followed by a recession, and during the recession unemployment increased and the rate of inflation declined.

The various crunches (financial disturbances), recessions, and recoveries in the years since 1966 delineate what are commonly referred to as business "cycles." Over these cycles the minimum rate of unemployment increased monotonically. There was a clear trend of worsening inflation and unemployment: the maximum rate of inflation and the minimum rate of unemployment were higher between 1966 and 1969 than before 1966, higher between 1970 and 1974 than before 1969, and higher between 1975 and 1979 than before 1974. Furthermore, over this period there was a similiar upward trend in interest rates, fluctuations of the dollar on the foreign exchanges, and a significant decline in the growth of consumption. In spite of this turbulence, the economy remained successful in that there was no serious depression. The failure was with respect to price-level stability, unemployment rates, and the perceived "improvement" in the material standard of living. These were the failures that opened the way for the Reagan rejection of the ruling system of institutions and interventions.

The roots of instability

The policy challenge is to recapture the tranquil progress of the first part of the postwar period without going through a serious depression. To design such a policy we need to understand why the many-faceted success of the years between 1948 and 1966 gave way to the combination of continuing success in avoiding depression and the progressive failures in so many other dimensions of economic life.

In "Central Banking and Money Market Changes," I argued that over an extended period of prosperity "... velocity-increasing and liquidity-decreasing money-market innovations will take place. As a result, the decrease in liquidity is compounded. In time, these compounded changes will result in an inherently unstable money market so that a slight reversal of prosperity can trigger a financial crisis." Even then it was understood that a crisis-prone financial structure did not make a deep depression inevitable, for "the central bank's function is to act as a lender of last resort and therefore to limit the losses due to the financial crisis which follows from the instability induced by the innovations during the boom. A combination of rapid central bank action to stabilize financial markets and rapid fiscal policy action to increase community liquidity will minimize the repercussion of the crisis upon consumption and investment expenditures. Thus a deep depression can be avoided. The function of central banks therefore is not to stabilize the economy so much as to act as a lender

of last resort."

In a later work, "Can 'It' Happen Again?" I argued that cumulative changes in financial relations were taking place so that the susceptibility of the economy to a financial crisis was increasing, but that as of the date of the paper (1963), the changes had not gone far enough for a full-blown debt deflation to take place. In 1966 the first "credit crunch" occurred.

The Federal Reserve promptly intervened as a lender of last resort to refinance banks that were faced with portfolio losses. The escalation of the war in Vietnam in the mid-1960s meant that fiscal policy was necessarily stimulative. During the financial turbulences and recessions that took place in the aftermath of the Penn-Central debacle (1969-70), the Franklin-National bankruptcy (1974-75), and the Hunt-Bache silver speculation (1980), a combination of lender-of-last-resort intervention by the Federal Reserve and a stimulative fiscal policy prevented a plunge into a cumulative debt-deflation. Thus, over the past decade and a half, monetary interventions and fiscal policy have succeeded in containing financial crises and preventing a deep depression—even though they failed to sustain employment, growth, and price stability. This simultaneous success and failure are but two sides of the same process. What the Federal Reserve and the Treasury do to contain crises and abort deep depressions leads to inflation, and what the Federal Reserve and the Treasury do to constrain inflation leads to financial crises and threats of deep depressions.

The success in dampening and offsetting the depression-inducing repercussions of financial disturbances after 1965 stands in sharp contrast to the failure after 1929. What has followed financial disturbances since 1965 differs from what followed the disturbance of 1929 because of differences in the structure of the economy. The post-World War II economy is qualitatively different from the economy that collapsed after 1929 in three respects.

1. The relative size of the government is immensely larger. This implies a much greater deficit once a downturn occurs.

2. There is a large outstanding government debt which increases rapidly when there are deficits. This both sets a floor to liquidity and weakens the link between the money supply and business borrowing.

3. The Federal Reserve is primed to intervene quickly as a lender-of-last-resort whenever a financial crisis threatens—or at least has been so primed up to now. This prevents a collapse of asset values, because asset holders are able to refinance rather than being forced to sell out their position.

The actual past behavior of the economy is the only evidence economists have available to them when they build and test theories. The observed instability of capitalist economies is due to (1) the complex set of market relations that enter into the investment process; and (2) the way the liability structure commits the cash flows that result from producing and distributing output. To understand investment by a capitalist enterprise it is necessary to model the intertemporal relations involved in investment behavior.

The financial nature of our economy

We live in an economy in which borrowing and lending, as well as changes in equity interests, determine investment. Financing arrangements enter into the investment process at a number of points: two of these are the determination of prices for both financial and capital assets, and the furnishing of cash for investment spending. A financial innovation which increases the funds available to finance asset holdings and current activity will have two effects that tend to increase investment. The first is that the market price of existing assets will rise. This raises the demand price for outputs that serve as assets (investment). The second is that by lowering the cost of financing for production, financial innovations lower the supply price of investment output. If financing relations are examined within a framework which permits excess demand for financing at existing interest rates to lead to both higher interest rates and financial innovations, then theoretical constructions which determine important economic variables by ignoring monetary and financial relations are not tenable. For a theory to be useful for our economy, the accumulation process must be the primary concern, and money must be introduced into the argument at the beginning.

Cash flows to business at any time have three functions: they signal whether past investment decisions were apt; they provide the funds by which business can or cannot fulfill payment commitments as they come due; and they help determine investment and financing conditions. In a

cash-flow analysis of the economy, the critical relation that determines system performance is that between cash payment commitments on business debts and current business cash receipts due to present operations and contract fulfillment. This is so because the relation between cash receipts and payment commitments determines the course of investment and thus of employment, output, and profits.

Much investment activity depends on financing relations in which total short-term debt outstanding increases because the interest that is due on earlier borrowings exceeds the income earned by assets. I call this "Ponzi financing." Rapidly rising and high interest rates increase Ponzi-like financing activity. A rapid run-up of such financing almost guarantees that a financial crisis will emerge or that concessionary refinancing will be necessary to hold off a crisis. The trend over the postwar period is for the proportion of speculative (or rollover) financing, as well as Ponzi arrangements that involve the capitalizing of interest, to increase as the period without a serious depression is extended.

However, in spite of the deterioration of balance sheets, the near breakdowns of the financial system in a variety of crunches, and the extraordinarily high nominal and price-deflated interest rates, no serious depression has occurred in the years since 1966. This is due to two phenomena: the willingness and ability of the Federal Reserve to act as a lender of last resort; and the deficits incurred by the government.

As the ratio of short-term debt and debt that leads to a capitalization of interest increases relative to the gross capital income of business, there is an increase in the demand for short-term financing because of the need to refinance debt. Investment activity is usually financed by short-term debt. Thus when an investment boom takes place in the context of an enlarged need to refinance maturing debt, the demand "curve" for short-term debt increases (shifts to the right) and becomes steeper (less elastic). Under these circumstances, unless the supply of finance is very elastic, the short-term interest rate can increase very rapidly. In a world where part of the demand for short-term financing reflects the capitalization of interest, a rise in short-term interest rates may increase the demand for short-term financing, and this can lead to further increases in short-term interest rates. The rise in short-term interest rates produces higher long-term interest rates, which lowers the value of capital assets.

Lender-of-last-resort interventions

Rising short-term interest rates combined with rising long-term interest rates increase the cost of production of investment output with significant gestation periods, even as they lower the demand price for the capital assets that result from investment. This tends to decrease investment. The same interest rate changes affect the liquidity, profitability, and solvency of financial institutions. This process of falling asset values, rising carrying costs for asset holdings, and decreasing profits will compromise the liquidity and solvency of business units and financial institutions. A break comes when the net worth and the liquidity of some significant set of units are such that market participants will not, or may not, roll over or refinance maturing debt. In these circumstances the Federal Reserve and the government's deposit insurance organizations, along with private banks, are faced with the choice of either forcing "bankruptcy" on the units in question or acceding to concessionary, extra-market refinancing.

When concessionary, extra-market refinancing is undertaken by the Federal Reserve or by an agency acting with the "protection" of the Federal Reserve, then a lender-of-last-resort operation can be said to have taken place. Inasmuch as the Federal Reserve's participation can be interpreted as an exchange of "questionable assets" for Federal Reserve liabilities, this type of rescue action leads to an infusion of reserve money into the financial system.

Whereas the Federal Reserve stood aside through most of the banking crises of the 1929-33 epoch, in the sense that it did not engage in the wholesale refinancing of failing institutions, the Federal Reserve has intervened quite aggressively both on its own account and as an "organizer and guarantor" of intervention by others in the various crises since 1966. As a result, asset values did not fall as far as they would have under free market conditions, and the reserve position of banks improved in the aftermath of each refinancing "crisis." The maintenance of asset values and the infusion of liquidity by such lender-of-last-resort interventions is one set of factors that has brought about the

speedy halt to the downturn and the prompt recovery that has characterized cycles after 1966.

Profits in our economy

Only as history made available data on the behavior of income by type, investment, government deficits, and the balance of trade over the years since 1966 did it become clear that the formation and allocation of profits, in the sense of gross capital income, are central to an understanding of our economy. Gross capital income is the cash flow due to income production that is available to business to fulfill commitments on outstanding financial instruments. The ability of a unit to put out additional debt or to use debt to gather funds to pay debt depends upon the level and expected path of profits as here defined. In the conventional view, government spending is an ingredient in a Kuznets-Keynes definition of demand. As evidence accumulated on how crises are aborted and thrusts to deep depressions are contained, it became clear that a Kalecki-Keynes view, one that builds on a theory of how the composition of demand determines profits is more appropriate for our economy. In the Kalecki-Keynes view profits are not the result of the technical productivity of capital but are due to the types and sources of financed demand.

The great insight into the determination of profits in our economy that is associated with Kalecki is that profits arise out of the impact of the accumulation process on prices. The money value of investment over a period is the basic determinant of money profits over that same period. Profits arise in consumption goods production because of the need to ration that which is produced by part of the labor force—the part that produces consumption goods—among all who consume. Rationing by price implies that the mark-up on unit labor costs in the realized prices of consumer goods reflects demands that are financed by sources other than wage incomes earned in the production of consumer goods. The sum of these mark-ups equals profits in consumer goods production. Under assumptions which, though heroic, nevertheless reveal the processes that determine income distribution, profits in consumer goods production equals the wage bill in investment goods production and total profits equals investment.

Whereas in the small government economy of the 1920s profits were well-nigh exclusively dependent on the pace of investment, the increase in direct and indirect state employment along with the explosion of transfer payments since World War II means that the dependence of profits on investment has been greatly reduced. With the rise of big government, the sensitivity of tax receipts and transfer payments to income implies that any decline in income will lead to an explosion of the government deficit. Since it can be shown that profits are equal to investment plus the government's deficit, profit flows are sustained whenever a fall in investment leads to a rise in the government's deficit. A cumulative debt deflation process that depends on a fall of profits for its realization is quickly halted when government is so big that the deficit explodes when income falls. The combination of refinancing by lender-of-last-resort interventions and the stabilizing effect of deficits upon profits explain why we have not had a deep depression since World War II. The downside vulnerability of the economy is significantly reduced by the combination of these types of "interventions."

If stabilization policy is to be successful, it must stabilize profits. Expansion can take place only as expected profits are sufficient to induce increasing expenditures on investments, and current profits provide the cash flows that enable business to meet financial commitments that are embodied in debt even as expected profits determine the ability of business to issue debt to both finance expenditures and roll over maturing debt.

The monetary system is at the center of the debt creation and repayment mechanism. Money is created as banks lend—mainly to business—and money is destroyed as borrowers fulfill their payment commitments to banks. Money is created in response to businessmen's and bankers' views about prospective profits, and money is destroyed as profits are realized. Monetary changes are the result, not the cause, of the behavior of the economy, and the monetary system is "stable" only as profit flows enable businesses that borrow from banks to fulfill their commitments.

Central Bank interventions and the stabilization of profits by government deficits mean that liability structures that derive from innovations in finance during periods of expansion are validated during crises and recessions. Because interventions by the Central Bank to refinance exposed financial

positions lead to an increase of Central Bank deposits, currency or guarantees, lender-of-last-resort interventions provide a base of reserve money for a rapid expansion of credit after the recession is halted. The progressively higher rates of inflation that followed the resolution of the financial crises of 1966, 1969-70, 1974-75, and 1980 reflect the way profits and liquidity were improved by the interventions that overcame the crises.

Policy options

A simple two-by-two "truth table" of policy options in the aftermath of a financial crisis helps explain why our recent experience was unlike that of 1929-33. Managing a financial crisis and a recession involves two distinct steps: one is refinancing the markets or institutions whose perilous position defines the crisis; and the other is assuring that the aggregate of business profits does not decline. (Because a financial crisis reveals that some particular financing techniques are "dangerous," one consequence of a crisis is that debt financing of private demand decreases. Inasmuch as debt-financed demand is largely investment, and investment yields profits, a crisis leads to a reduction in profits.) Thus the two "parameters" to crisis management are the lender-of-last-resort intervention and the behavior of the government deficit when the economy is in recession.

"Truth Table" of Policy Options

Government deficit	Lender-of-last-resort intervention: Yes	Lender-of-last-resort intervention: No
Yes	Yes-Yes	Yes-No
No	No-Yes	No-No

When a crisis threatens, the Federal Reserve can intervene strongly to refinance organizations, which is "Yes" for central bank intervention, or it can hold off, which is a "No." When income declines, the federal government can run a deficit (because of automatic budget reactions or discretionary policy), which is "Yes," or it can try to maintain a balanced budget, which is "No." The active Federal Reserve intervention in the Franklin National Bank crisis of 1974-75 along with the discretionary tax rebates and unemployment insurance measures taken by Congress meant that the policy mix in 1974-75 was "Yes-Yes." This led to both a quick recovery and, with a lag, an increased rate of inflation. The Federal Reserve's abdication of responsibility in 1929-32, along with the small size of government and the commitment to a balanced budget, places the 1929-32 reactions in the "No-No" cell. The Great Depression was not "necessary," but it was inevitable in the ideological and institutional framework of that period.

In addition to the pure policy mixes of "Yes-Yes" and "No-No," there are mixed policies of "Yes-No" (a large government deficit without Central Bank intervention) and "No-Yes" (in which the government tries to run a balanced budget even as the Federal Reserve intervenes as a lender of last resort). The "No-Yes" policy mix was a possible policy option in 1930 and 1931. Government was so small that the government deficit could not make a large contribution to profits unless new large-scale spending programs were undertaken. The Federal Reserve could have been daring in 1930 and 1931 and refinanced a broad spectrum of institutions, sustaining a wide array of asset prices and thereby flooding member banks with reserves. Such a policy can succeed in halting a depression if the flooding of the system with reserves occurs before a collapse in investment, and therefore profits, takes place. While there would have been significantly greater recession with a "No-Yes" strategy than with a "Yes-Yes" strategy, the full disaster of the Great Depression would have been avoided if lender-of-last-resort interventions had come early enough in the contraction. Because of today's big government, a "No-Yes" policy mix is no longer possible.

In the 1980s, a "Yes-No" policy mix will be available. No matter how much taxes and government spending are cut, it is difficult, especially in light of the proposed military programs, to envisage government spending falling below 20 percent of the Gross National Product. The Reagan fiscal reforms significantly decrease the income elasticity of the government's budget posture. The government deficit will be smaller for any given downside deviation from a balanced budget level of GNP than was true for the tax and spending regime

that ruled in 1980. This means that the gap between actual income and the balanced-budget level will have to be greater in order to achieve any given profit-sustaining deficit. But a greater gap implies that the excess capacity constraint upon investment will be greater. This will, in turn, decrease the effectiveness of a deficit-induced improvement in business income and balance sheets in triggering an expansion. The "Yes" part of a "Yes-No" strategy will be less effective with Reagan-style tax and spending programs than with programs that are more responsive to income changes.

The "No" part of a possible "Yes-No" mix is always conditional. It is to be hoped that the Federal Reserve will never again stand aside as the liquidity and solvency of financial institutions are thoroughly compromised. A "No" lender-of-last-resort strategy can only mean that the Federal Reserve will not intervene as quickly as it has since the mid-1960s. In particular it means that the Federal Reserve will not engage in preemptive strikes as it did in the spring of 1980 when a speculation by the Hunts and Bache & Co. went bad. A "Yes-No" strategy means that that the Federal Reserve will intervene only when it believes that a financial collapse is imminent.

A "No" lender-of-last-resort strategy will lead to bankruptcies and declines in asset values, which will induce financially conservative behavior by business, households, and financial institutions. The transition to a conservative liability structure by business, households, and financial institutions requires a protracted period in which income and profits are sustained by deficits while units restructure their liabilities. A "Yes-No" strategy should eventually lead to a period of tranquil growth, but the time interval may be so great that once tranquil progress has been achieved, the financial experimentation that led to the current turbulence will be resumed.

Big government prevents the collapse of profits which is a necessary condition for a deep and long depression, but with big government as it is now structured the near-term alternatives are either: the continuation of the inflation-recession inflation scenario under a "Yes-Yes" strategy; or a long recession deepening while inflation is "squeezed" out of the economy even as private liabilities are restructured in the aftermath of bankruptcies, under a "Yes-No" strategy. However, even if a "Yes-No" strategy is followed, the propensity for financial innovation will mean that the tranquil expansion that follows the long recession will not be permanent. Substantial improvement is possible only if the spending side of government and the domain of private investment are restructured.

Can we do better?

No matter how industry and government finances are structured, as long as the economy remains capitalist and innovation in industry and finance continues, there will be business cycles. Furthermore, as long as the financial structure is complex and long-lived capital assets are privately owned, a deep and long depression is possible. However, a closer approximation to a tranquil expanding economy may be attained if the nature of big government changes.

Our big government is "big" because of transfer payments and defense spending. The basic shortcomings of a capitalist economy that lead to business cycles are related to the ownership, creation, and financing of capital assets. Aside from the government's involvement in education and research, the basic spending programs of government either support private consumption or provide for defense, which is "collective consumption." Even as our federal government spends more than 20 percent of GNP, much of the physical and intellectual infrastructure of the economy is deteriorating. Very little of the government's spending creates capital assets in the public domain that increase the efficiency of privately owned capital. A government which is big because it engages in resource creation and development will encourage a greater expansion of output from private investment than is the case for a government which is big because it supports consumption. An economy in which a government spends to assure capital formation rather than to support consumption is capable of achieving a closer approximation to tranquil progress than is possible with our present policies. Thus while big government virtually ensures that a great depression cannot happen again, the resumption of tranquil progress depends on restructuring government so that it enhances resource development. While thoroughgoing reform is necessary, the Reagan road is unfortunately not the right way to go.