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THREE

Present and Future
in an Uncertain World

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A native of Boston, Massachusetts, he received his A.B. degree in Economics from Duke University, and his M.A. and Ph.D. degrees in Economics from the University of California, Los Angeles. He has served on the faculties of a number of leading universities, including The Wharton School of the University of Pennsylvania, the Carnegie Institute of Technology, the University of Chicago, and Harvard University. He is noted for his research on the relation of money and changes in monetary policy to national income, employment, and prices.

In the two decades that followed World War II, real per capita income probably increased at a higher rate, in more countries and for more people, than at any other time in recorded history. The achievement is not diminished by the qualifications. There are, of course, more people, and the recorded history for much of the world is relatively brief. It remains true, however, that in these
two decades, there was considerable material progress for much of the world’s population.

The progress of the 1950’s and the 1960’s continued into the 1970’s. Estimates by the World Bank show that between 1970 and 1977, nearly 50 percent of the world’s population lived in countries that experienced growth of real per capita incomes of 4 percent or more.¹ Many of these gains are real gains in standard of living that do not vanish when we mentally make the more obvious adjustments for erroneous and imprecise reports, effects of the oil cartel on the reported income in oil producing countries, and differences between consumption and average per capita income reported or produced. Much of the world may remain poor on some absolute standard, but most of the world is less poor than a generation ago. And progress appears to have been more rapid and widespread than in earlier periods of comparable length.²

By the end of the 1970’s, however, growth and development slowed in many countries. Reduced growth in several of the major developed countries necessarily slowed the growth in other, less developed, countries that rely on the growth of their exports to maintain or increase growth of domestic output and income. Growth rates remained below the level of the 1960’s in many countries during the first two years of the 1980’s. Although the world economy has grown more slowly and many countries have experienced temporary recessions or stagnation, there is no general decline that is in any way comparable to the decline from 1929 to 1933 or even the decline of 1920-21.

It is common, now to assign major responsibility for slower growth to some recent political personalities or their policies. Reagonomics and Thatcheritis are often described as causes of slower growth, stagnation or even depression in the world economy. Such statements are imprecise and inaccurate. Slower growth did


² Persistent declines in output for both the periods 1960-70 and 1970-77 are found in only five countries reported by the World Bank. The five are: Cuba, Ghana, Niger, Somelia and Kuwait. Data from the World Bank Atlas 1972 and 1979.
not begin in 1980 or 1981. The growth rate of output for 1977-80 had fallen below the rates achieved earlier in the decade. A substantial decline in reported growth for 1977-80 relative to 1970-77 occurred in many countries, including the U.S. and the United Kingdom, but also including Canada, Spain, New Zealand, Belgium, Brazil, Korea, France, and the Netherlands.3

Growth occurs when people sacrifice current consumption in anticipation of increased future consumption. Output and consumption increase if the resources released from current consumption are invested in productive assets, in useful training, or in improvements of technology. Properly calculated measures of the return on these investments depend on the rate of interest. The higher the rate of interest, the smaller is the present value of returns received in future years; the lower the rate of interest, the larger the present value of returns received in future years. Projects with a given current cost become more profitable as the rate of increase falls. A rise in the rate of interest reduces investment, the accumulation of capital and the level of future of output.

The rate of interest relevant for these comparisons is the so-called real rate of interest. This rate differs from quoted market rates by the rate of inflation that borrowers and lenders anticipate. The higher the anticipated rate of inflation, the higher is the market rate that is required to maintain a given real rate of interest.

The critical role of the real rate of interest in allocating resources between present and future suggests that we look to the present level of real rates to explain the slower growth of output experienced in many countries during recent years. All computations of the real rate of interest—whether by subtracting the past average rate of inflation, the current rate of inflation, or some measure of expected future inflation—show a marked rise in the computed real rate in recent years.

3 See Table 3.1 for the reported growth rates in these and other countries. A few countries on the list—Mexico, Italy, Switzerland, Germany and Sweden—reported substantially higher growth in the later period. For 8 of the 23 countries, the relative growth rates do not differ by more than 10 percent up or down in the two periods. The list includes most of the market economies of North America, Europe and Asia but excludes the Comecon countries and others for which comparable data is not available in the sources used.
I believe that increased risk or uncertainty is a principal reason that interest rates, after adjusting for inflation, have remained above their postwar norms in recent years. One principal cause of the increased uncertainty is the greater variability of money growth that we have experienced in recent years. Although the Federal Reserve announces targets for money growth, the targets bear little relation to the actual rates of money growth. No one can guess whether monetary policy will produce another round of inflation, a severe deflation, or a period of disinflation. Interest rates and exchange rates reflect this uncertainty.
Unstable U.S. monetary policy is not the only source of increased uncertainty. Trade policy and fiscal policy are difficult to forecast also. Countries repeatedly use and threaten to use tariffs, quotas, subsidies and regulations to protect or support domestic industry or to retaliate against real or alleged harm done by others. Recent tax cuts in the United States did not increase certainty about fiscal policy or make future tax rates more predictable. Future tax rates are no more certain.

Increased uncertainty about the future discourages investment in real assets and encourages people to hold relatively safe assets such as currency, insured bank deposits and short-term debt. The attempt to shift from long-term debt, land, common stocks and other real assets to these safer assets raises the real rate of interest on long-term debt and on real assets. In principle, the increased demand for money and short-term securities may raise or lower the real rate of interest on short-term securities. If long-term debt is a closer substitute for short-term debt than for money, real rates on short-term debt rise with long-term rates. This is the pattern observed in recent years.4

The mismanagement of monetary control by the Federal Reserve increased the variability of both money growth and interest rates after 1979. Instead of trading increased variability of interest rates for greater certainty about money growth and inflation, Federal Reserve policy added to the risks in the economy. The increased risk is reflected by the higher levels of short- and long-term rates and by the failure of rates to respond fully to the substantial decline in current and expected future rates of inflation.

The increase in risk premiums helps to explain several features of recent experience other than interest rates and the increased demand for "safe" financial assets. The increased demand for money lowered the increase of the price level and contributed to the decline in inflation. The reduced demand for real capital contributed to the persistent stagnation of real output from 1979

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4 Technical details of this argument and estimates of the increased risk premium are in Angelo Mascaro and Allan H. Meltzer, "Long- and Short-term Interest Rates in a Risky World," unpublished December 1982. This study suggests that the risk premiums in short- and long-term rates increased by 3.5 and 1.5 percentage points during the period 1979-81.
through 1982. The rise in real rates of interest attracted foreign capital and contributed to the higher exchange value of the dollar.

Technical economic analysis contributes to an understanding of our past and current position and the effect of policy procedures on risk. It does not explain why destabilizing and inefficient procedures are adopted and maintained or why policymakers do not adopt more stable policies. To explain the choice of policy procedures, we must join the political to the economic aspects of policy.

I—Why Government Policies Are Often Variable and Unpredictable

Every predictable policy is a policy rule. Policy rules may be complex or simple. They may call for predictable changes in response to observable events. Or, they may specify a constant level, a constant ratio or a constant rate of change. The essential feature of a policy is that action is predictable.

The alternative to a policy rule is random, haphazard, unpredictable action. No one chooses to defend haphazard or unpredictable policies, so the case for unpredictable policy is presented instead as a defense of discretionary action by a policymaker. The traditional argument for discretion presupposes that the central bank or government can predict future changes well enough to offset them and reduce variability. The traditional case against discretionary policy is that, in practice, discretionary policy increases variability and reduces stability. At issue, is the degree to which discretionary changes in policy can be used to offset unforeseen changes arising from other sources. A rule that requires policies to remain predictable denies to governments the opportunity of

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5 This section is partly based on Alex Cukierman and Allan H. Meltzer, "A Positive Theory of Credibility and Monetary Inflation," unpublished November 1982.

responding to unforeseen events but also prevents governments from making errors.

There are probably specific examples of discretionary policy that reduced variability and, on the other side, some mistakes that increased variability. A recent very approximate calculation, for the period 1953-80, suggests that, on balance, discretionary monetary policy in the United States slightly increased the variability of the economy. In the more recent period, 1969-80, a monetary rule that held the growth of the monetary base constant would have eliminated 60 percent of the variability in growth of nominal GNP.\(^7\)

Computations of this kind, or more exact computations that give broadly similar results, are not likely to persuade central bank or governments to adopt a monetary rule. The experience with monetary targets shows that legislation requiring the Federal Reserve to announce money growth rates has not been followed by tighter control of money growth. Deviations from announced targets are large and variability of quarterly growth rates has increased. Studies completed by the staff of the Federal Reserve show that many of the errors, and much of the variability, is avoidable if improved control procedures are adopted.\(^8\) Most of the required changes have not been made.

Experience in several other countries that have announced monetary targets has not been studied in as much detail. In many of these countries, however, there are substantial differences between the announced and actual growth rates. The Bank of Canada announced monetary targets for several years but often pursued exchange rate policies that were inconsistent with the announced monetary targets. The Bank of England publicly accepted the

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\(^8\) Errors of 1 percent per year, or less are attainable according to Federal Reserve estimates. See Board of Governors, *New Monetary Control Procedures* vols. I and II. Washington 1981 and also J. Johannes and R. H. Rasche, “Predicting the Money Multiplier,” *Journal of Monetary Economics* 5, (July 1979) pp. 301–25.
monetary policy of the government but strongly resisted any effort
to adopt procedures that would improve monetary control.9

None of these experiences is inconsistent with the propositions
that governments, and their central banks, resist policy rules, fail
to adopt procedures that would make rules work effectively and
prefer discretionary policies even if these policies increase variability
and uncertainty. The problem is to explain why governments
often resist policies that reduce uncertainty and favor discretionary
policies that increase uncertainty.

The reason, I suggest, is that government policymakers gain
from discretionary policies. The gains arise from the effects that
unanticipated policy changes have on employment and output.
Unanticipated increases in money increase spending, output and
employment. Fully anticipated changes in money increase prices
but have no effect on output and employment. Anticipated and
unanticipated changes in tax rates have different effects on the
timing of spending.

Discretionary policies give policymakers the opportunity to re-
spond to shifts in voter preferences and to make exaggerated
claims about the short-run effects of their actions. Public opinion
polls that ask people about their “priorities” show positive association
with current problems. When unemployment is high, the polls
report that the public gives higher priority to reducing unem-
ployment than to reducing inflation. When the rate of inflation
rises, the reported “priorities” change.

Public opinion polls do not inquire about the public’s long-term
preferences or ask whether the public is willing to increase the
maintained average rate of inflation or the size of government to
speed the reduction in unemployment. Economists recognize that
there is no permanent trade-off between unemployment and in-
fation. Increases in the growth rate of money increase the rate
of inflation but have no lasting effect on employment or the growth

9 There is simply no factual basis for James Tobin’s claim that the “central bank
fraternity embraced monetarism,” and Tobin offers none. See James Tobin
of output. Increases in the budget to stimulate spending often become permanent programs and lead to higher tax rates. We can only guess at the extent to which public opinion polls reflect these long-term effects or the public's preferences for stable long-term policies instead of shifting priorities.

Suppose policymakers respond to the poll results. If they respond immediately, changes in policy are predictable. The polls would be an accurate index of the timing (but not the magnitude) of policy changes. People would learn to anticipate a shift to inflationary or disinflationary policy or a change in tax rates or government spending and could take action to protect themselves. To increase the effectiveness of discretionary policy, there must be a very loose relation between reported changes in opinion and policy changes. People must remain uncertain about the timing and magnitude of policy changes and the duration of policies.

Although uncertainty increases the effectiveness of policy changes, it has a cost to the policymaker as well as to the public. Large, frequent differences between announced and actual policy reduce the credibility of announced policies. Low credibility means that the public puts low weight on policy announcements. The public remains skeptical about commitments to reduce inflation or to keep inflation from rising or to reduce taxes.

Widespread skepticism about policy announcements raise the cost of slowing inflation and the cost of shifting resources from consumption to investment. Skepticism reduces the gains to the policymaker from announcements or campaign promises. The greater is the skepticism, the slower is the response by the public to policy announcements. People take a wait and see approach. They delay increases in investment and are hesitant to make long-term commitments based on the belief that the announced policies will continue.

We have seen some recent examples of the high social costs of skepticism and the low credibility about the degree to which tax rates and inflation will remain low in the future. These social costs differ from the costs borne by the policymaker, but the two are related. The public blames the policymaker for the persistence of "high" interest rates, unemployment, slow growth and falling real
income that are consequences of the low credibility, skepticism and disbelief about the announced policies or about commitments to "stay the course" which leave "the course" uncertain.

The policymaker has no lasting interest in perfecting policy operations to eliminate control errors. The reason is that, at times, control errors have a function for the policymaker. If control is poor, the policymaker can attribute his mistakes to errors in the control process. Since the public cannot separate control errors from unannounced changes in policy, they learn, gradually, that actual policy differs from the announced policy. They observe the deviation but cannot be sure whether they have observed a control error that will be corrected or an unannounced policy change that will persist. When policies change, some are fooled into believing that policy has not changed. The policymaker who chooses to increase current output and employment by choosing more expansive policies than he announces raises the cost of slowing inflation that he, or his successor, bears in the future.

Abstract arguments about credibility and control errors may seem far removed from practical affairs, but they are not. Currency devaluations are almost always preceded by commitments to maintain the exchange rate. Control errors make it difficult to separate the thrust of actual policy from random fluctuations. President Johnson chose to hide the increase in expenditures for the Vietnam war in the monthly budget variances. The Federal Reserve, the Bank of England and other central banks resist changes that can reduce the errors in monetary control and the variability of money growth to a fraction of their current values. They choose poorer to better control. Opportunities for discretion are increased, but uncertainty is increased also.

II—Reducing Uncertainty

Risk and uncertainty cannot be eliminated. The timing of productive innovations, epidemics, weather conditions, other natural occurrences, wars and political events abroad introduce variability into current prices and output. The future is uncertain because we do not know what will occur or how long the changes we have observed will persist.
The institutions, voting and market arrangements that societies adopt can alter the risks and uncertainty that people bear. Insurance is an example of a market arrangement that reduces risk and the cost of risk bearing by pooling risk. The invention of checks, double entry bookkeeping, and credit cards are additional, familiar examples of innovations that reduce risk for the buyer, the seller or both.

Many social and political arrangements reduce risk and uncertainty. Others increase risk. Countries with a history of political instability generally have less capital per worker and less durable capital than countries with greater political stability. In countries with a history of instability, the productivity of new capital may be very high, but the return on investment in durable capital is uncertain.

Where risk and uncertainty are above the attainable minima, the risk premiums in interest rates are above the minimum. Interest rates are increased. People hold more of their wealth in assets that earn returns quickly, or they hold a substantial fraction of their wealth in gold, other precious metals, diamonds or foreign assets that are not dependent on domestic political uncertainty. The risk premium for investments in long-term capital reflects the social and political instability. The stock of real capital is reduced to a level at which the after-tax, risk adjusted real return compensates for bearing uncertainty.

Argentina offers an example of a country where political institutions and a history of monetary and fiscal instability hamper development by increasing uncertainty and reducing capital formation. Bolivia is rich in resources but has a history of coups and revolutions. Per capita income in Bolivia is the lowest in South America. Hong Kong, with few natural resources is one of the richer countries of Asia and one of the most stable. Stable political and economic arrangements are not the only factor determining whether economic development occurs, but the absence of political stability and high uncertainty about tax rates, inflation and other economic policies increase the real rate of interest that projects must yield and, thus, hinder economic development.

In countries with a history of political stability, like the United States or Britain, the political system increases variability in a number of ways that are less dramatic and less apparent than the coups
and disruptions of Bolivia and Argentina. In Britain a small change in the vote has shifted power from those who favor nationalization of industry or confiscatory taxes on wealth to those who favor denationalization and reduced taxes. Throughout the nineteenth century, the tariff was a major issue in U.S. politics. Small changes in the vote were capable of producing major changes in the real returns to investment in steel and agriculture. Currently in Britain, the United States and other Western countries, voters may change their commitment to disinflation or price stability and have done so on a number of occasions. Voters' right to change policy is a principle of democracy. Our choice of policies must always be subject to change as majority opinion changes. Within that framework of a political democracy, we can increase stability, lower the real rate of interest and increase real output by removing the instability introduced by unanticipated policy changes and adopting policy rules. To illustrate, I will suggest a set of monetary, fiscal and trade rules that provide greater certainty than current arrangements.

III—Monetary Arrangements

From 1947 to 1964, the United States maintained a relatively stable monetary framework under which many countries developed, recovered and prospered. Inflation remained low in the United States and in many other countries that tied the values of their currencies—their exchange rates—to the dollar. The framework and monetary policy procedures were not ideal, but they produced greater stability than the monetary regimes that preceded or followed.

The system of fixed exchange rates based on the dollar, known as the Bretton Woods system, formally ended in 1971 when President Nixon allowed the exchange value of the dollar to be set by market forces. Holders of dollars and dollar securities could, no longer, have any certainty about the long-term values of the dollar. Long before the Bretton Woods system ended, however, uncertainty about monetary policy, inflation and the future value of the dollar
had increased. Inflationary policies after 1964 eroded much of the credibility of the U.S. commitment to a fixed exchange rate system and a non-inflationary monetary policy. The unwillingness of the U.S. to change its policies and the unwillingness of other countries to increase their rates of inflation made certain that the Bretton Woods system would not survive. Only the timing of the breakdown of the system was uncertain.

Many people look back on the Bretton Woods system nostalgically. They would like to restore some type of fixed exchange system to recapture some of the stability that enabled countries to achieve the benefits they associate with that system. There are several proposals. Some want to establish a world central bank that would issue a common money to be used as reserves and for settlements between national central banks. Others propose a return to some type of gold standard.

These and other proposals for a return to fixed exchange rates misinterpret the experience under Bretton Woods. Fixed exchange rates were not a cause of increased stability and the relatively high growth of the world economy during those years. They were a result of the relatively stable policies followed in major trading countries and, particularly, the relatively stable monetary and fiscal policies in the United States. In the years 1953-1964, when the Bretton Woods system flourished, deficits remained small on average and the most common measure of the U.S. money stock—currency and checking deposits—rose at an average annual rate of less than 2.5 percent. In the succeeding seven years, that ended with the breakdown of the system, average U.S. money growth rose to 5 percent and the variability of money growth increased.

To restore monetary stability, I propose a monetary arrangement that builds on past experience. I do not suggest that the proposal would eliminate uncertainty, for I believe that is not possible. I do not claim that the proposal would reduce uncertainty to some theoretical minimum, but I believe there is much to be gained from the reduction of uncertainty that the proposal brings.

The proposal calls on the central banks and governments of the leading economies—the United States, Japan and Germany—to maintain the growth rate of their monetary liabilities, known as the monetary base—currency and bank reserves—in relation
to the average rate of growth of domestic output (measured in real terms) during the preceding three years. The relation would be set to maintain a zero average rate of inflation in each of the countries. Other countries that wish to do so could make a similar commitment, or could fix their exchange rates in relation to one of the three currencies, or could remain outside the system.

Price levels would continue to fluctuate in the three countries, and exchange rates between the dollar, the yen and the mark would fluctuate. Fluctuations would remain bounded by the commitment of major trading countries to maintain policies that aim at non-inflationary money growth. Each country would gain from its own policy even if other countries did not honor theirs. The gain to participants increases, however, as the number of countries in the agreement rises.

The proposal increases stability in five main ways: First, there is a stable framework for policy that reduces uncertainty about the future price level. Second, exchange rates are free to fluctuate, but long-term changes are constrained by the commitment to non-inflationary and non-deflationary policies. Third, the system adjusts, gradually, to changes in the growth of output or in the demand for money. Fluctuations in prices or output arising from these sources are not eliminated, but they do not cumulate. Fourth, monitoring is relatively easy, so the credibility problem is reduced. Fifth, central banks are required to control the liabilities on their own balance sheets, a task which is within their capability and can be achieved with precision. They do not forecast or base policies on forecasts by others.

IV—Trade and Capital Movements

A stable monetary framework encourages people to hold a smaller share of wealth in precautionary balances and to invest a larger share in capital. By reducing present uncertainties, the monetary system contributes to lower real interest rates, a larger capital stock and increased output.

The monetary framework should be supplemented by rules that strengthen trade in capital and reduce the risk of exchange controls.
The right to own foreign currencies and invest in foreign assets, like the right to own gold, is a valuable right. The fact that people choose to exercise the right suggests that they perceive risks that can be reduced by the maintenance of rules that make policies more predictable. Restrictions on capital movements attempt to block the operation of this mechanism. Fear of restrictions encourages people to diversify into short-term foreign assets or into diamonds and precious metals. This reduces investment in long-term capital and lowers real output.

The growth of world trade during the past three decades provided a major stimulus to economic development, the growth of income in many countries and the increase in standards of living. Without rules for trade and agreements (or rules) that reduced tariffs and non-tariff restrictions, growth would have been lower and the increase in standards of living smaller.

The Hawley-Smoot tariff of 1930, and the prompt retaliation to the tariff by many countries lowered world real income. Restrictions on trade were an important factor converting the 1929 recession into the period known as the Great Depression and contributing to the avoidable monetary collapse of 1931 to 1933. The well-intentioned policies of fiscal and monetary stimulus contributed to recovery, but did not restore real output to the level reached in 1929 until 1935 for major European countries and until 1939 in the United States. Absent the restrictive trade practices, the recession and the monetary contraction would have been smaller and the depression less severe and long lasting.

Governments can contribute to the expansion of the world economy by reaffirming their commitment to the rules guiding trade policies during the last three decades and by reducing many of the remaining restrictions on trade and capital movements. By removing barriers to trade and capital the principal market economies of the world work to expand output and standards of living. The expansion of world trade is one of the main ways that permanent gains in living standards can be achieved.

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V—A Rule for Fiscal Policy

Rules for money, trade and capital movements cannot assure that resources are used efficiently. Government tax and spending policies in many countries encourage the transfer of resources from future to current consumption. Variable fiscal policies that increase uncertainty about future tax rates on labor and capital also encourage current consumption and leisure.

A monetary rule without a fiscal rule cannot assure stability. The reason is that budget deficits must be financed either by increasing money or by selling debt to savers. When deficits become large relative to saving or output, the saving rate may be too low to finance the deficit and pay the interest on the outstanding debt. Governments typically rely on inflation, under these circumstances, to reduce the real value of outstanding debt and to tax wealth owners.

A rule for fiscal policy that fixes the relative size of government, or the relative growth of government, increases certainty about future tax rates. Several years ago, I proposed a rule that ties the growth of government spending to the growth of nominal output and ties tax collections to the average level of government spending. A rule of this type produces a cyclically balanced budget, more predictable average tax rates and limits the growth of government.

A common objection to any fiscal rule is that legislatures meet annually and can, if they wish, set an annual limit to spending, taxes, and deficits. Governments have not chosen to limit the growth of spending. In all democratic countries, government spending has grown faster than output for several decades.

A main purpose of a fiscal rule is to provide a common understanding of the outcome of collective decisions. A spending rule is an agreement under which everyone agrees to limit the demands he places on government in exchange for a promise by others to limit their demands. A rule that limits the growth of spending affects the demands made by all groups and individuals. In the absence of the rule, no one can be certain whether others will agree to limit the demands they make. The outcome of elections decides how the spending is allocated. The purpose of a spending rule is to provide greater certainty about the demands that others can make and the taxes that everyone pays.
VI—Concluding Remarks

In recent years, interest rates after adjustment for inflation have remained higher than in the past and growth of the world economy has slowed. A common response to these, related events is to urge a change in the mix of policies in many countries and particularly in the United States. Coordinated monetary expansion in the United States, Germany, Japan and other countries and higher tax rates in the United States are proposed to reduce interest rates and increase output.

The recommended change in the policy mix ignores lessons that can be learned from the experience of the past decade and many previous periods. Faster growth of money will be followed either by higher inflation or by another recession. Higher inflation will be the inevitable result of faster money growth; recession is the likely outcome if money growth is reduced at some time in the future. And, both will occur if money growth remains at recent levels then quickly drops to less inflationary levels. No lasting improvement will be achieved if we continue the variable policies of the past two decades.

Proposals to adjust the mix of policies ignore learning, anticipations and risk. Years of experience with variable policies have brought higher inflation and higher average unemployment. Many people have learned that periods of monetary stimulus are followed, first, by higher inflation, then by attempts to slow inflation and by higher unemployment. They have learned, also, that the large budget deficits incurred during recessions are usually followed by higher tax rates and by monetary policies that raise tax rates by making an increased share of income subject to higher marginal tax rates.

Skepticism about attempts to steer the economy, from quarter to quarter or year to year, by varying fiscal and monetary policy are a cause of current high interest rates and stagnation. Variable policies increase variability of the prices of assets and output and increase uncertainty. People demand higher risk premiums for investing in durable capital. Investment is lower, so the capital stock is lower, and output is lower. A larger fraction of wealth is held in relatively safe short-term assets or in gold.

This paper suggests a very different program to increase output
and employment. Emphasis is on long-term stability, on policy rules and on policies that increase information, reduce uncertainty and restore credibility. I argue that acceptance of policy rules that reduced uncertainty about trade, payments and inflation were much more important, and shifts in government policy much less important, than proponents of finely structured mixes of policy recognize or concede when they survey the past or exhort us, currently, to raise taxes, end tax indexation and inflate away the budget deficits that are in large part a result of past efforts to redistribute income.

Each of the principal market economies can contribute most effectively to lower interest rates and increase output permanently by adopting rules for monetary, fiscal and trade policy to replace the rules that provided stable growth and relatively low interest rates in the 1950's and 1960's.

The monetary rule that I propose calls for the United States, Germany and Japan to fix the growth rates of domestic money stocks in relation to the average growth of output so as to maintain price stability on average. Exchange would be permitted to fluctuate, but the range of fluctuation would be reduced by the commitment to maintain long-term price stability in each of the countries. A rule of this kind combines the benefit of relatively stable prices that each major country can achieve alone to the benefit of relatively stable exchange rates that countries cannot achieve alone.

A monetary agreement of this kind is not a panacea. I propose additional steps to reduce uncertainty about fiscal policy and steps to expand trade by reducing tariffs, other trade restrictions and restrictions on capital movements. Still other steps to provide rules for lenders of last resort can also reduce uncertainty.

Opponents of policy rules typically argue that activist policies are required to offset shifts in the rate of use of money, or monetary velocity. This argument is not compelling, as Friedman showed long ago.\textsuperscript{11} Discretionary policies conducted with the best of intentions, can increase rather than reduce variability. The fact that there are changes in monetary velocity does not establish that discretionary policies will offset instability. Large or poorly timed

\textsuperscript{11} Milton Friedman, \textit{op. cit.}
policy changes may—and indeed have—increased variability during the 1970's, in the depression of the 1930's, in the recovery of 1937 and in the past five years.

The Federal Reserve, and other central banks and governments, make the mistake of identifying most, and perhaps all, instability with changes in the public's willingness to hold money. They want to offset such changes by varying money growth. They fail to recognize that they cannot forecast many of the changes that occur or their duration. They fail to recognize that some of the variability is the result of weather, innovation and other random events. By varying policy, they often increase variability and uncertainty, add to the risk premiums and cause us all, rationally, to discount the future more heavily and to be poorer as a result.