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Stabilization Policy and Long-Term Economic Growth

by

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Macroeconomic stabilization policy consists of all the actions taken by governments to (1) keep inflation low and stable and (2) keep the short-run (business cycle) fluctuations in output and employment small. Stabilization policy includes both monetary policy and fiscal policy. And, because no market economy is closed, stabilization policy also includes arrangements for international monetary transactions--that is, exchange rate policy and the international coordination of policy.

The central purpose of this paper is to provide a non-technical overview of the effects of stabilization policy on long-term economic growth. By long-term economic growth, I mean the growth of productivity--real GDP per hour of work--over periods longer than the five-year span of the average business cycle. Productivity fluctuates over the business cycle, but it is the long-term trend in productivity growth that is the source of increased living standards and well-being for a nation.

Stabilization policy is not often mentioned as a factor in long-term growth, but it is as important as any of the other factors more frequently mentioned, including education, tax policy, technology policy and regulatory policy. In fact, stabilization policy--in particular a change from good to bad policy--can explain a large part of a major puzzle about productivity growth in the United States and other advanced

countries: the remarkable slowdown in productivity growth from the mid-1960s to the early 1980s and the partial revival in recent years.

In the first section of the paper I consider the general rationale for government's role in macroeconomic stabilization. I then specify a particular monetary and fiscal stabilization policy which, according to my own research, would work well in achieving the goals of small fluctuations in inflation and small fluctuations in output and employment. I then examine the effects of this policy on long-term growth. Although the policy was explicitly designed to achieve the goals of stabilization policy, its effects on long-run growth are good as well.

THE GENERAL RATIONALE FOR GOVERNMENT STABILIZATION POLICY

Most modern research on stabilization policy is highly technical involving stochastic simulation of rational expectations models with hundreds of equations. (See Bryant, Hooper and Mann (1993) or Taylor (1993b), for example.) Much of this research focuses on examining alternative methods of conducting policy. However, the basic economic principles underlying stabilization policy are much less technical. The role of the government in maintaining price stability and keeping the overall economy stable is closely related to two other key roles of government in a market economy: insuring property rights and enforcing contracts.

In order for markets to operate, it is necessary for people to have the ability to buy and sell goods and services. To do so, they must have the property rights to the goods they sell and obtain the property rights to the goods they buy. If there were great uncertainty about the property rights, markets might not even be able to operate. Buyers must also have some assurance that what they buy will actually be delivered as agreed. Agreement to deliver goods or services can either be informal or written down in formal contract.

The government has a role to play in securing property rights and enforcing contracts. Without this role, markets--at least on the scale we see in modern economies--could not exist. The government--by passing laws and enforcing them through the justice system--secures property rights, and thereby creates an

environment in which the market can operate efficiently.

Of course, the role of government in establishing and securing property rights did not start overnight. It evolved slowly as feudalism gave way to a market economy and the Industrial Revolution began. For example, property rights were granted to small farmers on the feudal estates; they were given the right to sell part of the farm products they grew and harvested. Gradually, the courts began to enforce the contracts to deliver food and other goods.

Many less-developed countries today still do not adequately enforce contracts for large segments of the population. This is one reason why markets in these economies frequently do not work well. In many formerly centrally-planned economies, property rights are still very poorly defined, a fact that has become evident when the countries tried to transform to market economies. With no property rights to gain or lose, firms have little incentive to increase profits or minimize losses.

Part of the U.S. government's role in defining and securing property rights is in the U.S. Constitution. For example, Article 2, Section 8 says the Congress should secure "for limited times to authors and inventors the exclusive right to their respective writings and discoveries." Copyright laws were passed to implement this part of the constitution. The Fifth Amendment also describes the right to property. However, most laws about property in the United States are state laws and are handled in the state or county court systems.

Inflation Stabilization

As part of its task of maintaining property rights and enforcing contracts, the government maintains the unit of account for carrying out transactions in markets. In the United States, the unit of account is the U.S. dollar. The contracts to exchange goods and services are written in dollars and the value of property rights is stated in dollars. For the dollar to be an effective unit of account, however, its value cannot fluctuate wildly over time. Just as a yardstick that increased or decreased in length from year to year would cause havoc to a carpenter, a unit of account whose value fluctuated from year to year would cause problems for those buying and selling in markets.

When the overall price level--the average price of all goods and services in the economy--rises, the value of the dollar falls: it takes more dollars to buy the same amount of goods. Thus, maintaining a stable unit of account means keeping the overall price level stable. If inflation--the percentage increase in the price level from year to year--is positive on average or fluctuating, the dollar is less effective as a unit of account. Of course, the rate of inflation has varied considerably over time. In the United States, for example, the inflation rate skyrocketed during the American Revolutionary War, averaging more than 50 percent per year from 1776 to 1778 and more than 120 percent from 1778 to 1780. In Germany after World War I, the inflation rate reached more than 50 percent per month,

a condition economists call "hyperinflation." Very high inflation has been reached in Brazil in more recent times. In modern times inflation has been less severe in the United States and other developed countries. However, an unprecedented persistent bout of worldwide inflation--the Great Inflation--occurred in the late 1960s and 1970s in many countries (see Figure 1).

High or variable inflation--a lack of a stable price level--interferes with the functioning of markets. When inflation rises to hyperinflation levels, the price of gasoline and food changes virtually every day in gasoline stations and grocery stores. But the changes are not uniform. Some days the price increase is large and on other days it is small; and the price of gasoline and food do not always change by the same amount. These changes have little to do with real shifts in the supply and demand for gasoline and food. It is difficult to know what the price is without going around to every store on every day. Inflation adds uncertainty about what the relative prices are. Thus, informational efficiency of prices is diminished.

Although inflation at lower levels, such as below 10 percent per year, is less of a concern than inflation of 50 percent per month, the change in prices can still add up over time; at 4 percent inflation, for example, the overall price level doubles every 18 years. The cost of a college education could more than double from the time a child is born until freshman year begins. Thus, uncertainty about the price of goods in the future may

still be a problem with inflation at 4 percent.

How would one estimate the magnitudes of these effects? According to the Solow growth accounting formula, high rates of inflation would reduce productivity growth if they reduced investment in physical and human capital or if they reduced the rate of technological change (the Solow residual). Why would investment or technological change be affected by inflation? Part of the answer has to do with the common occurrence of high inflation rates and highly volatile inflation rates from year to year, and from the increased volatility of relative prices which are usually associated with inflation.

Investment is negatively related to the interest rate. Higher interest rates reduce the attractiveness of new investment projects which do not have high enough returns. If high inflation rates are associated with highly volatile inflation rates, then high inflation would increase uncertainty about the future returns from investment. A higher rate of inflation than expected would reduce the real cost of borrowing and a lower rate of inflation than expected would increase the real cost of borrowing. Thus, by increasing uncertainty, high inflation could reduce investment; the resulting lower growth in the capital to labor ratio would thus reduce productivity growth.

Higher inflation could reduce the rate of technological change for similar reasons. Investment in human capital and in research and development--both factors in technological change--might therefore be lower.

Quantitative Estimates of the Effects of Inflation on Growth

Observations on economic growth in different countries indicate that inflation is negatively correlated with economic growth. Moreover, technological change as estimated by the growth accounting formula also seems to be negatively correlated with inflation when economists examine different countries.

How large are the effects? Motley (1994) provides a comprehensive set of estimates based on data in both developed and less developed countries. He finds that a reduction in the inflation rate of 1 percentage point would increase the long-run growth rate of productivity by about .06 percentage points per year in developed countries like the United States. If this estimate is correct, then an increase in the inflation rate from 2 percent--close to where it was in the 1950s and early 1960s--to 12 percent--close to where it was in the late 1970s--would lower productivity growth by .6 percentage points.

Are these estimates plausible? In Figures 1 and 2, I endeavor to summarize the relevant information for the United States. Figure 1 shows that the start of the Great Inflation in the mid-1960s corresponded very closely in timing to the start of slowdown in productivity growth. Moreover the productivity growth slowdown ended at about the same time as the Great Inflation ended. Although Figure 1 only shows the United States, similar productivity growth slowdowns and inflation increases occurred in many other countries. And, as in the United States, when the inflation ended productivity growth increased.

Although the productivity growth slowdown has ended, the growth of productivity has not yet returned to the levels of the 1950s and 1960s. But neither has the inflation rate. Figure 2 shows how much of a revival in productivity growth would be expected if the simple relationship between productivity growth and inflation observed during these years persisted. Observe that this relationship shows a considerably larger effect of inflation on productivity growth than reported in Motley (1994): in Figure 2 we see a rise in inflation of 1 percentage point leading to a decline in productivity growth of .25 percentage points. Such an estimate can, of course, be no more than suggestive. People have pointed to many other factors in the productivity slowdown and there is no reason to expect the .25 coefficient to be stable or to hold outside of the range of observations in Figures 1 and 2.

Nevertheless, Figure 2 clearly shows the plausibility of the Great Inflation as a culprit in the productivity slowdown. It also shows that productivity growth has not yet recovered to levels of the 1950s and 1960s. Despite Figure 2 we can only speculate that lower rates of inflation would help complete the revival.

While inflation has clearly been correlated with productivity growth during this period, we have not explicitly linked inflation to government policy. However, many historical studies have shown that inflation is ultimately determined by government stabilization policy. In particular, increases in the

growth rate of money are directly linked to higher inflation. For example, the more Continentals were issued during the Revolutionary War, the higher was the inflation rate. In the United States, the role of government in establishing control over the amount of money in the economy is stated explicitly in Article 1, Section 8 of the U.S. Constitution which gives the federal government the right "to coin money." Today, the supply of money in the United States is under control of the Federal Reserve Board.

Is the Optimal Inflation Rate Zero?

If inflation seems to be bad for long-term growth, why is there debate about the target for the average inflation rate? Why not zero inflation?

Inflation is measured with an upward bias. The reason for the upward bias is that people tend to consume less of items that increase more rapidly in price. Thus, people would consume fewer wool sweaters and more cotton sweaters as the price of wool rises relative to cotton. However, if the market basket is fixed when computing the CPI, it will appear that people have not reduced wool sweater consumption. Thus, wool sweaters that are increasing in price will be weighted too heavily.

It is hard to estimate how large this bias is, but 2 percent is a common view. If 2 percent is the bias, then a 2 percent target for inflation would actually be quite close to zero. (See Poole (1994), for example.)

A Trade Off Between Inflation Stability and Output Stability?

Giving the government the role of establishing a stable price level by controlling money also gives the government another power: influencing the ups and downs in total production and employment in the economy. By reducing the amount of money in the economy, the government may temporarily reduce production and employment. Increasing money can temporarily raise production and employment. Large changes in the amount the government spends on goods and services can also affect total production and employment.

The fact that changes in the money supply and government spending can affect production and employment, at least temporarily, gives the government a powerful tool. It is a matter of great controversy among economists how the government should use this tool.

Two points about the short-run output effects of stabilization policy should be emphasized. First, there is no long-term tradeoff between inflation and unemployment, or between inflation and the deviations of real GDP from potential GDP. Evidence in support of this is shown in Figure 3. It shows four years during which the economy was operating at normal capacity levels; neither recessions or booms. Observe that as inflation rose and then fell during the Great Inflation, the unemployment rate barely moved.

Second, another type of tradeoff does seem to exist, as discussed in Taylor (1979). Among stabilization policies that do

not themselves cause instability, there is a trade-off between the fluctuations in inflation and the fluctuations in unemployment or the deviations of real GDP from potential GDP. This is illustrated in Figure 4. For different types of policies, as the variability of inflation declines the variability of real output increases. A stabilization policy that places too much focus on inflation stability could increase the amplitude of the business cycle. This tradeoff raises serious questions for stabilization policy. Most feel the government should have a policy that reduces the ups and downs in the economy. Large fluctuations in the economy are harmful. They add to uncertainty and cause hardship. Some would say that they are a sign of market inefficiency.

A PARTICULAR SPECIFICATION OF MONETARY AND FISCAL POLICY

In order to assess the impacts of stabilization policy on long-term growth, it is necessary to consider some specific stabilization policies. What exactly does one mean by stabilization policy? Stabilization policy involves government action--or lack of action--taken in response to short-run developments in the economy. Thus, to answer this question, I need to specify what action would be taken under alternative circumstances. In other words, I need to specify a policy rule. I first consider monetary policy and then fiscal policy.

Monetary Policy

There are different ways that monetary policy can be specified. The central bank could buy and sell securities so as to bring the money supply to a desired level. For example, the policy could keep the growth rate of the money fixed--as in Milton Friedman's k percent rule--or it could adjust the money supply so as to bring real GDP or inflation to some target.

Currently, however, central banks operate monetary policy by buying and selling securities so as to bring the *short-term interest rate* to a desired level. The reason is that different monetary aggregates have given different signals. For example, recently M1 growth has been strong while M2 growth has been weak. While it is very important to monitor the growth of money and reserves, until these indicators become more reliable, central banks are likely to continue focusing on the interest rates.

In setting interest rates the central bank must, of course, watch what is happening to inflation. Raising interest rates sufficiently in response to increases in inflation will act to reduce demand and thereby mitigate the increase in inflation. But monetary policy works with a lag and current inflation--even inflation in sensitive commodity prices--is not a sufficient statistic for future inflation. Thus responding to other factors besides inflation is also necessary. The level of GDP in comparison with the normal level of GDP is another factor. If real GDP rises above normal or potential levels, then the central bank should raise interest rates because that will offset

inflationary tendencies in the economy.

Table 1 gives a description of such a policy. The federal funds rate is given in the table and is seen to adjust according to what is happening to inflation as well as to the deviations of real GDP from trend, or potential GDP. Higher inflation and increases in real GDP above potential GDP brings about higher interest rates. Similarly lower inflation and decreases in real GDP below potential GDP brings about lower interest rates.

Table 1 - Federal Reserve Interest Rate Policy

		GDP DEVIATION (%)		
		-2	0	2
I N F L A T I O N (%)	0	.5	1	2
	2	3	4	5
	4	6	7	8
	6	9	10	11
	8	12	13	14

Note: The table shows the federal funds interest rate for different inflation rates and deviations of real GDP from potential GDP.

The policy rule in Table 1 explains the actual behavior of the federal funds rate quite well in recent years as shown in Figure 5. The level of inflation and the deviation of real GDP from potential GDP--which drive the policy--are shown in Figures 6 and 7. According to the policy rule in Table 1, actual federal reserve policy was too easy in much of 1993, but after the

tightening moves in 1994, it is again close to the policy rule.

Note that the policy rule leaves some discretion to the central bank. For example, the decline in the federal funds rate at the time of the 1987 stock market crash was an appropriate deviation from the policy rule. Observe also that the exchange rate is not a factor in the policy rule, and there is no formal attempt to react to developments in other countries. The implication is that the monetary policy rule in Table 1 is one with flexible exchange rates. To the extent that the policy is successful in reducing the fluctuations in inflation and interest rates compared with other policies, the fluctuations in the exchange rate would be small.

If the long-run real interest rate in the economy is 2 percent, then the *implicit target for inflation is 2 percent* in Table 1. For example, if inflation is 2 percent and real GDP is equal to potential GDP, the interest rate is 4 percent. (The formula for Table 1 is $r = p + .5y + .5(p-2) + 2$ where r is the interest rate, p is the inflation rate and y is the GDP deviation; see Taylor (1993a).)

Fiscal Policy

Fiscal policy also has a role to play in stabilization policy. In a recession, an decrease in taxes, for example, can bolster demand and mitigate the downturn. A temporary increase in the deficit can thereby make the recession less severe. Similarly in a boom, a reduction in the deficit or an increase in

the surplus can attenuate the boom and reduce the prospect of future inflation. Like monetary policy we can distinguish between discretionary policy and rule-like policy. In the case of fiscal policy, the rule-like behavior consists of the automatic stabilizers. In fact, in recent years discretionary fiscal policy has been a very small part of stabilization policy, and most of the response of fiscal policy to the economy has been due to the automatic changes.

Table 2 below gives a particular example of a rule for fiscal policy. Analogous to the monetary policy rule, it shows different values of the deficit for different values of the deviation of real GDP from potential GDP. Although in principle one could have fiscal policy responding to inflation, it makes more sense for the federal reserve to focus its efforts on inflation.

Table 2 - A Fiscal Policy Rule

GDP Deviation from trend (%)	-2	-1	0	1	2
Federal Budget Deficit (percent of GDP)	-1	-.5	0	.5	1

Figure 8a shows this fiscal policy rule for the deficit in comparison with the actual policy for the deficit. While the cyclical pattern is similar, the level is obviously way off because of the large structural federal budget deficit. Figure

8b shows what the fiscal policy would look like if the structural budget deficit were 3 percent lower. The response of the deficit to the state of the economy is much like the actual response.

The increase in the deficit in Figure 8b during the recession is due to the reduction in tax revenues that always occur in recessions and to the increase in government expenditures. During recoveries and booms tax revenues again rise and expenditures rise less rapidly.

The Automatic Stabilizers in Two Budget Deals

Many have commented on the remarkable similarity between the budget reduction program of 1990 and the budget reduction program of 1993. The projected decrease in the deficit was about the same in both, and the proportion devoted to tax increases and spending cuts was about the same in both.

But there is another similarity that has frequently gone unnoticed. As part of the 1990 agreement, several legislative changes were made that altered the automatic response of fiscal policy to the state of the economy. These changes remained in place in the 1993 budget deal. The changes were made recognizing the importance of the automatic stabilizers.

The 1990 budget agreement had special treatment for "discretionary" spending which consists primarily of military purchases, foreign aid, and domestic purchases of good and services, and "entitlement" spending which consists largely of transfer payments such as welfare, medicare, medicaid, and

unemployment insurance. The 1990 budget law put explicit dollar "limits" on discretionary spending for five years and required that any new entitlement program be matched either by reductions in other entitlement programs or by increases in taxes; the latter was called the "pay-as-you-go" rule. Any legislation that violated either the "limit" rule or the "pay-as-you-go" rule would bring about an automatic "sequester"--an automatic across the board cut in the category of government spending where the violation occurred. The procedures aimed to prevent new government programs from increasing the budget deficit.

However, an increasing budget deficit would be allowed if caused by the automatic stabilizers. For example, if unemployment compensation were to rise as the economy slowed down, then this would be allowed to increase the deficit. But legislated changes in entitlement programs would not be allowed unless they could be offset elsewhere in the budget, or unless an emergency was declared by the president.

In effect, the 1990 act attempted to both reduce the structural deficit through the "limit" and "pay-as-you-go" rules and allow the automatic stabilizers to increase the budget deficit in a recession. While the new budget law has such features, there is still significant room for improvement. The growth of "entitlement" spending, even on existing programs, is still growing rapidly. Additional legislative changes were required to restrain this growth.

The 1993 budget deal preserved these budget rules and

extended them to 1998. However, the 1993 budget deal did not consider the major loophole in the 1990 agreement, the continued growth of entitlement programs after the year 2000.

Recent Experience with Discretionary Policy

The fluctuations in taxes and spending have been dominated by these automatic effects in recent years. In fact in the early 1990s discretionary policy added virtually nothing to the automatic stabilizers. As in the early 1980s, the increase in the deficit in the early 1990s was mainly due to the automatic stabilizers providing a substantial degree of fiscal stimulus.

In the period after the 1990-91 recession, many proposals were put forth to help speed the recovery. President Bush summarized his proposal in the January 1992 State of the Union address. And soon after he was elected, President Clinton proposed a stimulus package in his 1993 State of the Union address. Both stimulus plans were discretionary, but they should be judged in comparison with the automatic stabilizer effects of fiscal policy shown in Figures 8a or 8b.

Table 3 summarizes the Bush fiscal stabilization policy proposals. Some of the proposals consisted of actions that the president could do unilaterally without the Congress. The advantage of these was that the lag would be smaller and there would be less uncertainty that they would take place. Other proposals would require legislation.

Table 3 - The Bush Discretionary Fiscal Policy Proposals

Shift \$10 billion in government purchases from the future into present.
Reduce the amount of tax withheld.
Enact an investment tax credit (called an allowance) to encourage investment in 1992 and 1993 rather than in later years.
Reduce the capital gains tax.
Provide a tax credit to first time home buyers.
Increase the personal tax exemption for children.
An extension of unemployment benefits.

The first proposal would speed up government purchases. This meant that laws that had already been passed to build or improve roads or bridges would be implemented more quickly. As a result of this speed-up, government purchases were to rise by \$10 billion in the first six months of 1992.

What would be the impact on the economy? The impact is less than a permanent increase in government spending because the increase would be offset later by lower spending, making the total about the same. In other words, the increased spending in the first six months of 1992 meant less in the following months. It was a temporary increase in government spending, and its impact would be smaller than a permanent increase.

If we use a multiplier of 1.5, the \$10 billion increase in spending would translate into a \$15 billion increase in demand in the economy. Real GDP is about \$6 trillion, so this would be

about 1/4 percent increase in GDP for one year. It would not have made a big effect on the recovery, but it was some stimulus.

The second proposal was to decrease temporarily the amount of income taxes withheld by the government. Individuals who work and pay income taxes contribute from each paycheck a percentage to the government. The withholding of taxes is the way many taxes are paid in the United States. On the average throughout the economy, taxes are over-withheld. For example, for the year 1992 approximately \$25 billion was to be refunded to taxpayers in April 1993. If this withholding could be reduced, it might help stimulate the economy in 1992. This meant that people would get more money during the year and less money in their refund the following year.

There would be no long-term decrease in taxes, however, because this tax change was temporary and essentially would be reversed in the next year. It would be expected to have a fairly small effect on the economy. The effect would certainly be smaller than a permanent tax cut of this magnitude and probably even smaller than a temporary tax cut that was not completely offset by a higher tax the following year.

How much additional consumption would come if all of the \$25 billion were received as income in 1992? Suppose that the marginal propensity to consume out of income is about .6. The change in withholding would clearly have a smaller marginal propensity to consume, but how much smaller we do not know. Perhaps .3 would be a good guess. If you multiply .3 by \$25

billion, you get \$7.5 billion. This is probably a reasonable guess of how much extra consumption would occur as a result of this kind of a tax cut. People would have less withheld, their paychecks would be a little larger and they could spend more. If you consider the multiplier effects, if the MPC is .3, then the multiplier is $1/(1 - .3)$ or 1.4. That would be less than 1/4 percent of GDP. Adding both the speed-up of construction spending and the delay in tax receipts, the effect is still less than 1/2 of a percent of GDP.

The remaining parts of the Bush package required legislation that the Congress would have to pass. The aim of the investment tax credit and the proposed capital gains tax reduction was to stimulate investment and purchases of capital assets and to help the economy by adding demand in the short run.

A tax credit for first-time home buyers was also proposed, in order to give more incentive for residential construction. Yet another part of the proposal was to increase the personal exemption for children on the income tax. The income tax already allowed for such an exemption for children. The proposal was to increase the exemption permanently by \$500 per child. That was a permanent tax decrease and was expected to stimulate the economy.

As it turned out, none of the Bush stimulus proposals that required legislation were enacted into law. The Congress voted positively on an alternative package with many of the president's proposals, but the package also included a tax increase, which President Bush said he would veto, and did veto. His veto was

sustained so there was no stimulus package.

Hence, the only part of the stimulus proposals were those that could have been done with out legislation--the adjustment of withholding and the speed up of purchases. These did occur but the effects were small--trivial in comparison to the automatic stabilizers that were already in place.

After President Clinton was elected in November 1992, he also developed a stimulus program. Many of his economic advisers had recommended a large fiscal stimulus of about \$50 billion in magnitude, which would be in the form of increased grants to state and local governments. The stimulus package proposed by President Clinton after he was inaugurated did propose a fiscal stimulus program aimed at the short-term problems in the economy, but its total size was much less than \$50 billion.

The program is summarized in Table 4 below.

Table 4 - The Clinton Discretionary Fiscal Policy Proposals

An increase in government spending of \$16 billion on items ranging from infrastructure to immunization programs.
An incremental investment tax credit, temporarily, except for small firms.
A reduction in the capital-gains tax for investments in certain small companies held for five years or more.
An extension of unemployment benefits.

Note that the investment tax credit, the reduction in the capital gains tax (though for a limited set of investments), and the extension of unemployment benefits were also on the Bush

stimulus list. Unlike the Bush proposals, however, the Clinton list did not have any proposals that could have been carried out without legislation.

Like the Bush proposal, the Clinton proposal was not enacted by Congress. The problem in this case was that the proposal would increase the budget deficit and it was clear that the economy was already recovering. During this period, the main concern had shifted to reducing the structural deficit rather than taking actions to stimulate the economy. Although the Democrats had a majority of both houses of Congress, enough Democrats did not like the president's stimulus package because it would increase the deficit, so the plan failed. Because it did not have any administrative part to it, there was no stimulus program at all.

In sum, both discretionary stimulus plans failed. We were left with the automatic stabilizers. But even if the plans had passed, both would have been small in comparison with the automatic stabilizers.

EFFECTS ON LONG-TERM GROWTH

The fiscal and monetary policy rules in Tables 1 and 2 are specific quantitative descriptions of a stabilization policy. Together they completely describe policy actions on short-term interest rates and the deficit. They imply actions for the growth of reserves, for inflation, and for the government debt. If the rules are followed consistently, my research indicates

that inflation will average 2 percent per year--about the level that corresponds to zero inflation when measurement bias is taken into account. I already reported the evidence on the effect of inflation on productivity growth in Section 1.

But short-term fluctuations in inflation and real GDP around potential GDP will not be eliminated by the policy rules. They take a position on the relative importance of inflation fluctuations and output fluctuations: the percentage fluctuations in inflation and output are about equal. What effect might this choice between inflation fluctuations and output fluctuations have on long-term economic growth? Would a different choice be better? These are difficult questions. In my view, there are three main issues to consider.

Effects of Recessions (and Booms) on Productivity Growth

More than any other economist, Schumpeter (1939) emphasized the interrelationship between economic growth and economic fluctuations. According to Schumpeter, booms were periods in which inventions spread throughout the economy through innovation. Recessions were periods in which the destruction of firms and jobs overtakes the creation of jobs. This analysis has led to the idea that recessions might be periods in which productivity is enhanced as firms take the opportunity of slack times to make structural adjustments.

Recent evidence by Davis and Haltiwanger (1990) has been interpreted by Caballero and Hammour (1991) to support this view.

They find that job creation is much less sensitive to the business cycle than job destruction. Figure 9 illustrates this. When real GDP equals potential GDP, job creation is greater than job destruction as the number of jobs in the economy grows. But as real GDP falls below potential GDP, job destruction typically increases and job creation falls. However, the finding that the slope of the job destruction curve is steeper than the slope of the job creation curve does not indicate that recessions are needed to increase productivity growth. Even in normal times there is a significant amount of job destruction each year. And even with the steeper slope of the job destruction curve in Figure 9, there appears to be little need for recessions to "cleanse" the economy. There is plenty of cleansing going on in normal years.

In addition, if the issue is more related to the size of the fluctuations in real GDP rather than to recessions alone. Without non-linearities in the job creation and job destruction curves, larger fluctuations in real GDP around potential would not increase the amount of structural adjustment. The booms would affect the recessions.

The evidence is mixed on the effects of recession on long-term productivity growth. Galí and Hammour (1991) have found positive effects, while Dickens has found negative effects.

Effects of the Monetary Policy Rule on Real Output Growth

A frequently expressed concern is that a policy rule such as

that in Table 1--which increases interest rates when economic growth rises--could actually lower economic growth. For example, suppose that productivity growth is actually 2 percent rather than 1.1 percent as assumed in the potential GDP growth estimates in Figure 7. Potential GDP growth would be underestimated. A policy rule that raises interest rates too much or too early would certainly tilt the tradeoff toward inflation stability and away from output stability.

However, unless there were a permanent tradeoff between the levels of inflation and real GDP deviations, this would not affect long-term growth. In other words, this concern seems to be based on a permanent tradeoff between inflation and unemployment which we showed above is incorrect. Of course, as it became clear that potential GDP growth was higher, the path for potential GDP could be revised and Figure 7 modified accordingly.

An Anti-Investment Bias in Stabilization Policy

Another possible effect of stabilization policy on growth could come from an anti-investment bias in the fiscal policy rule. This was the focus of Taylor (1968). Such a bias might come about from the increase in government purchases or consumption due to the fiscal stimulus in the automatic stabilizers.

To be sure, the fiscal policy rule in Table 2 need not be biased in this way. By setting the average level of government

purchases and taxes at the appropriate level for long-term growth and the provisions of public goods, the fluctuations around the average can be symmetric, neither biased toward or away from investment.

In practice, however, the anti-investment bias must be taken seriously, as Figure 8a demonstrates. The average, or structural, level of the federal deficit is far from zero in the United States, and many other countries have even higher structural deficits. Most likely, this structural deficit is reducing saving, investment, and long-term growth. On the spending side the automatic stabilizers are due mainly to entitlement programs. In most countries the existence of these programs has led to increased structural deficits. The ideal budget reform would reduce the structural deficit while allowing the automatic stabilizers to continue to work. But in practice we are far from that ideal today.

Figure 1

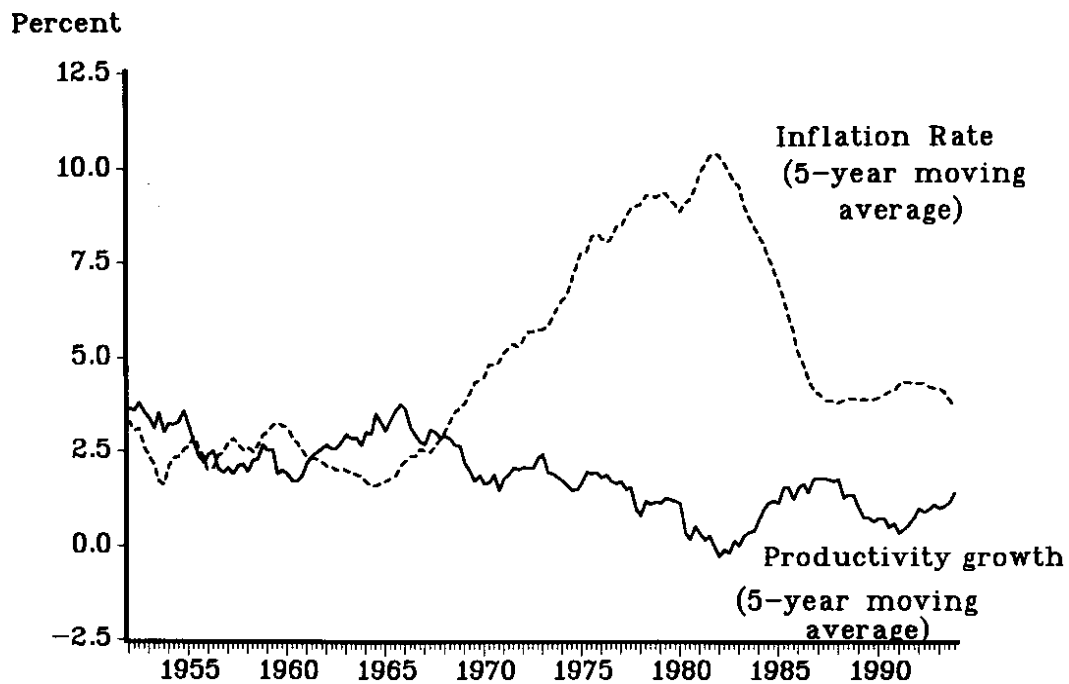


Figure 2

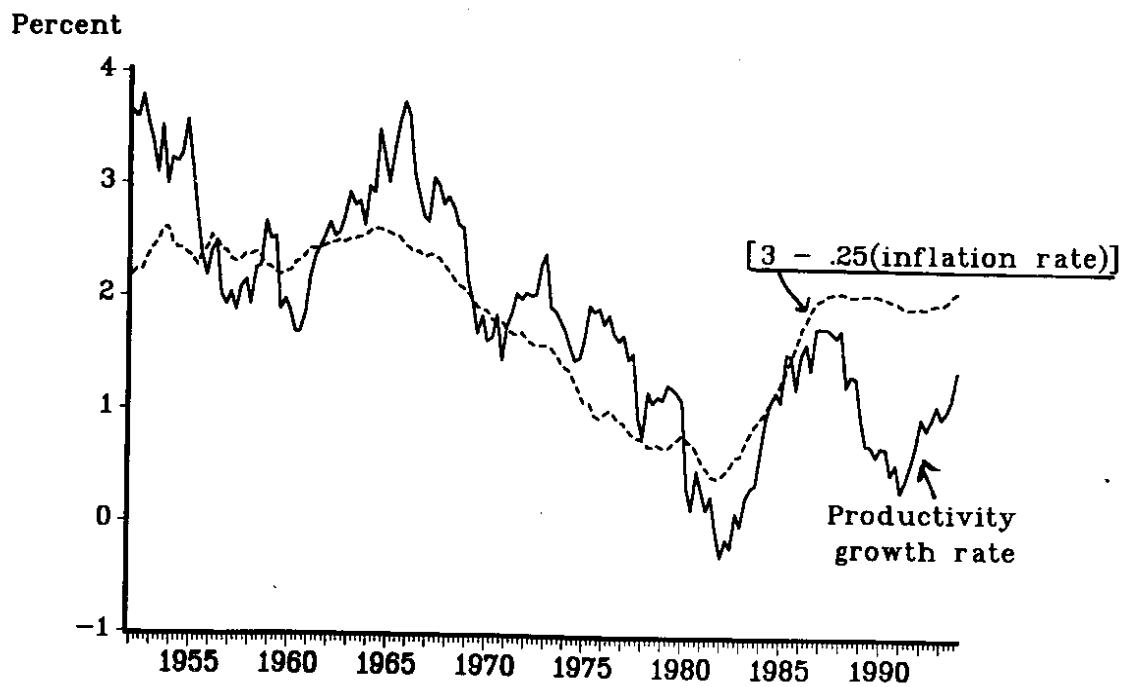


Figure 3

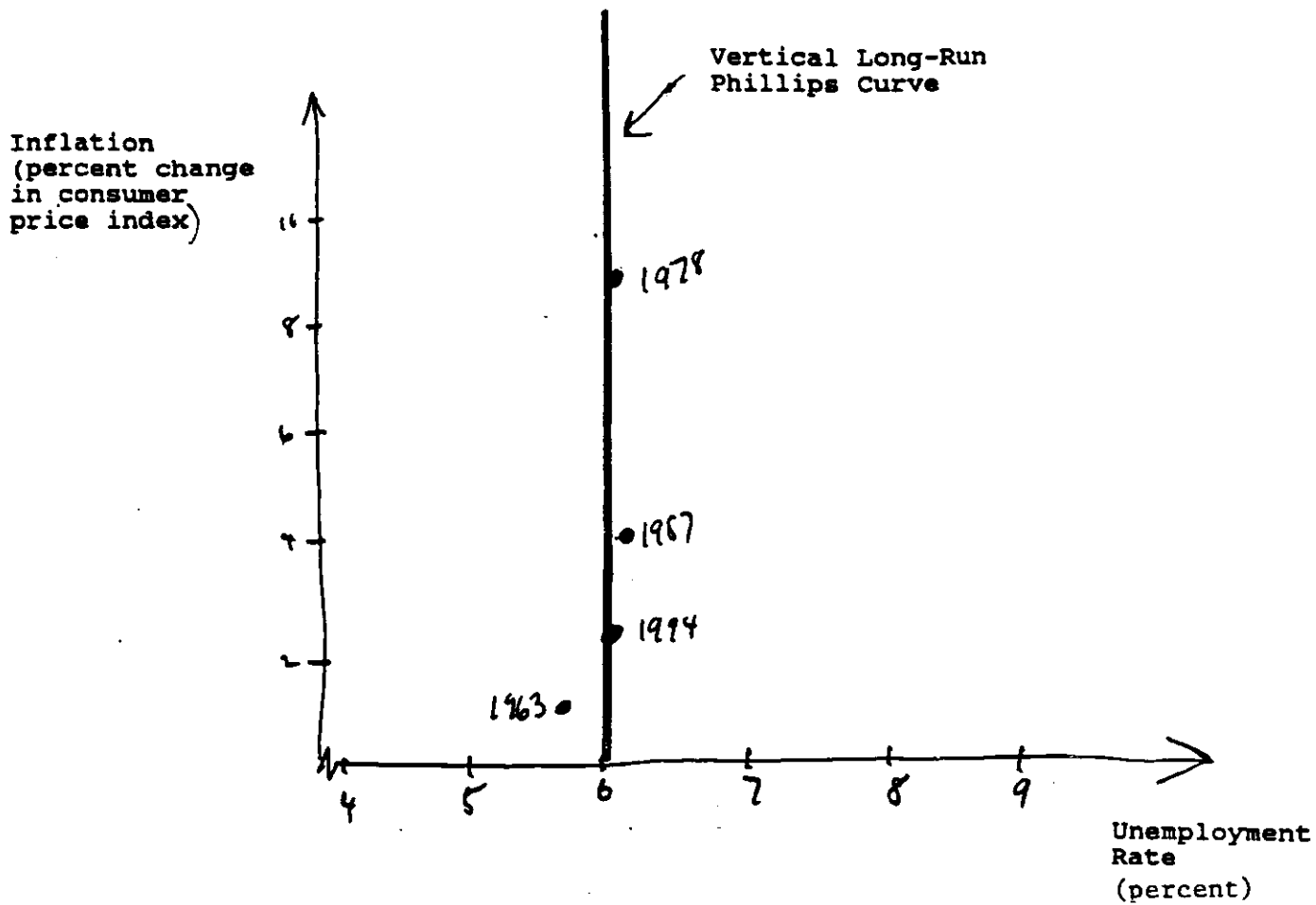


Figure 4

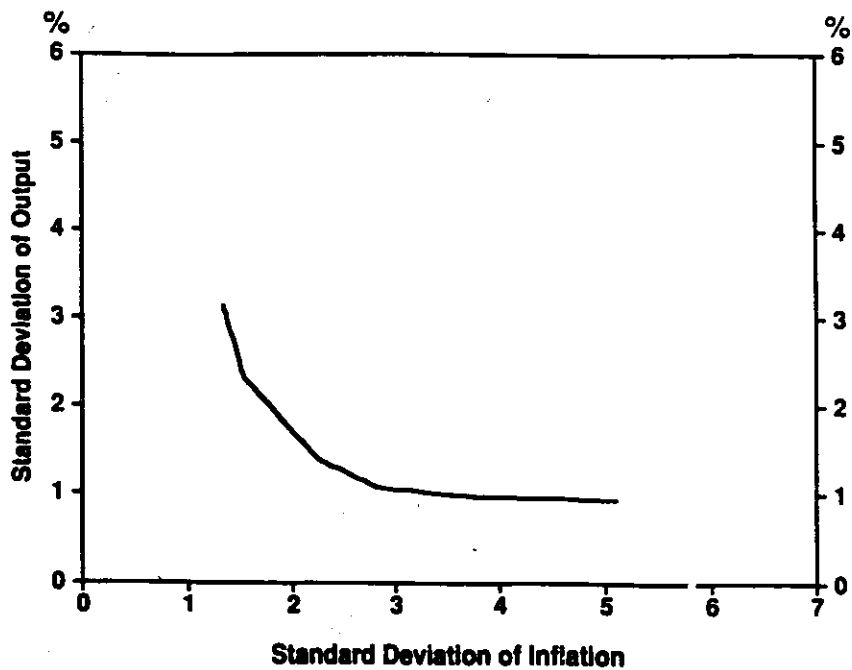


Figure 5

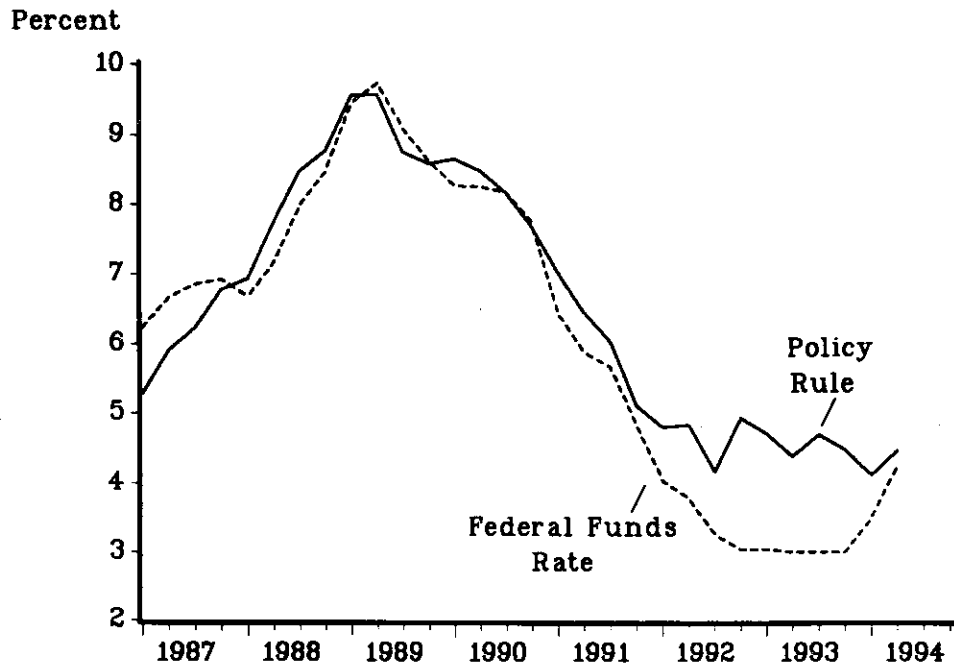


Figure 6

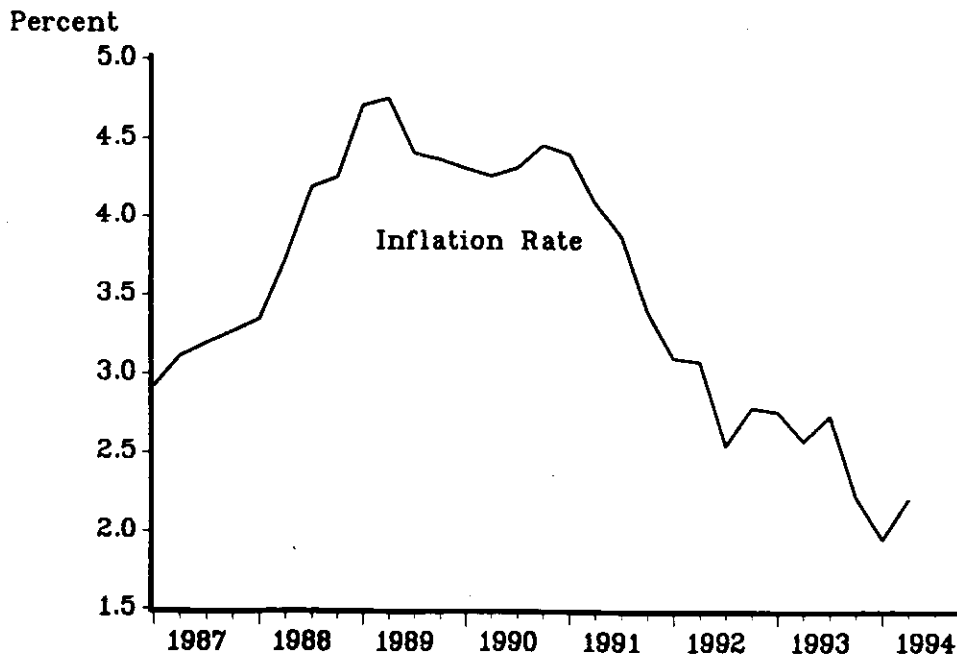


Figure 7

Billions of 1987 dollars

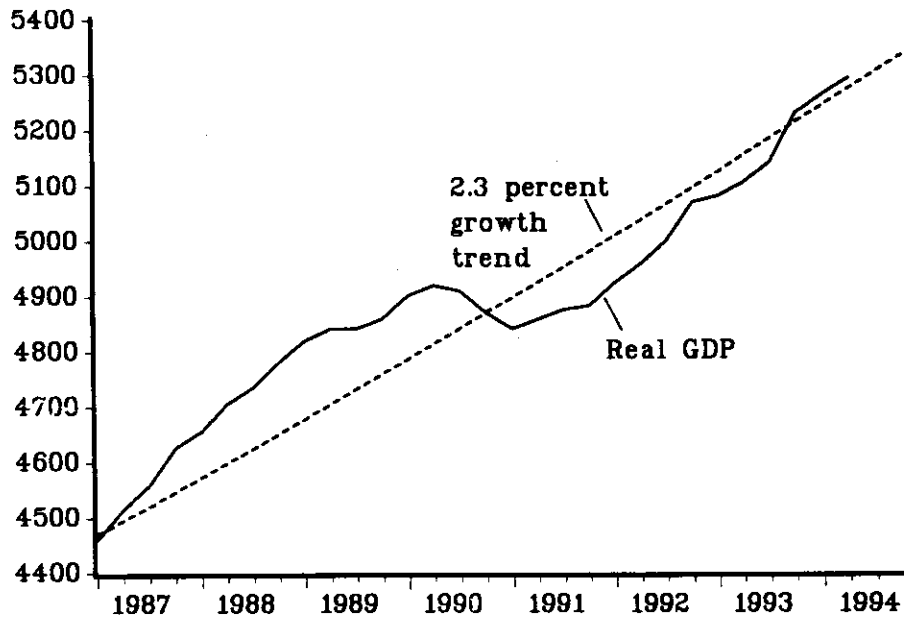


Figure 8a

Percent of GDP

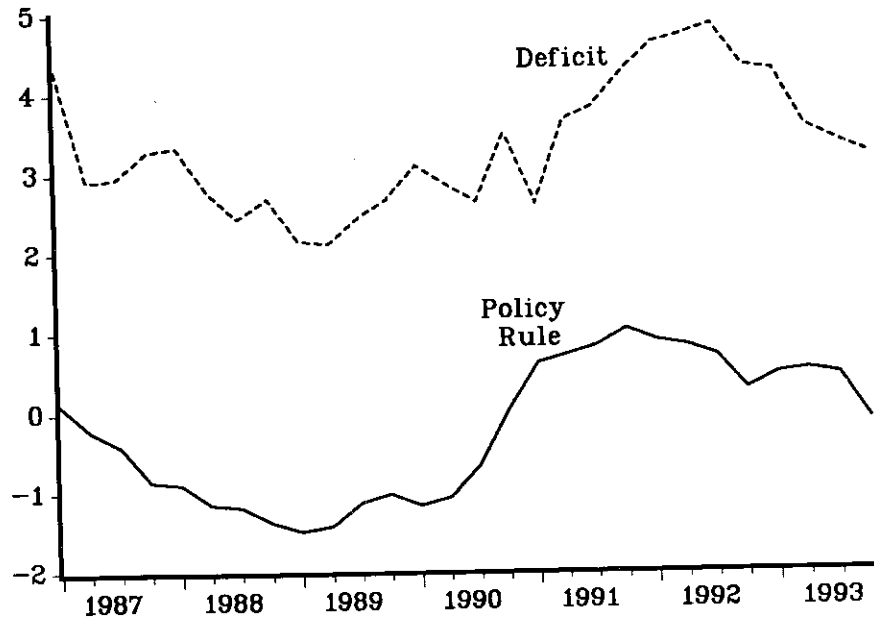
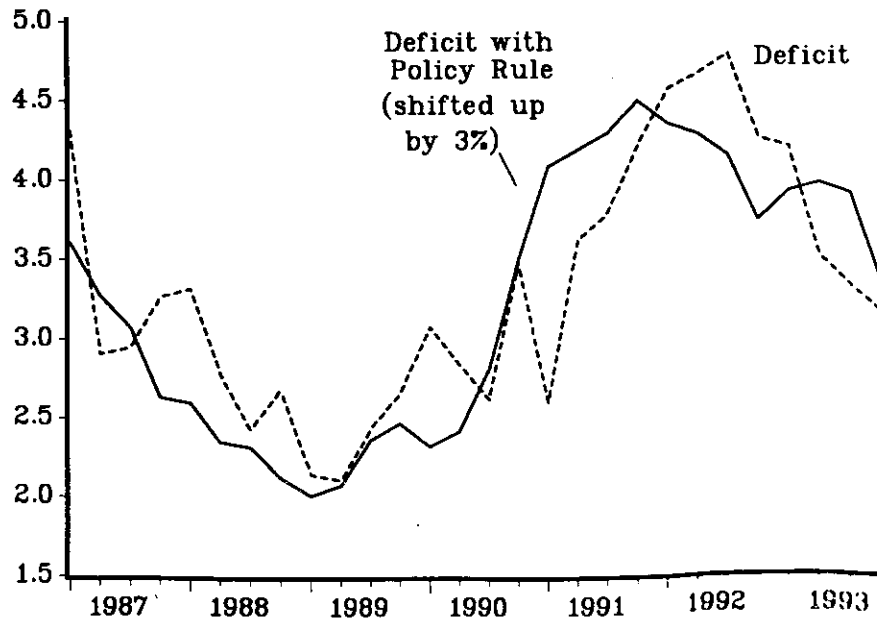


Figure 8b

Percent of GDP



Percent of
jobs created
or destroyed
each year

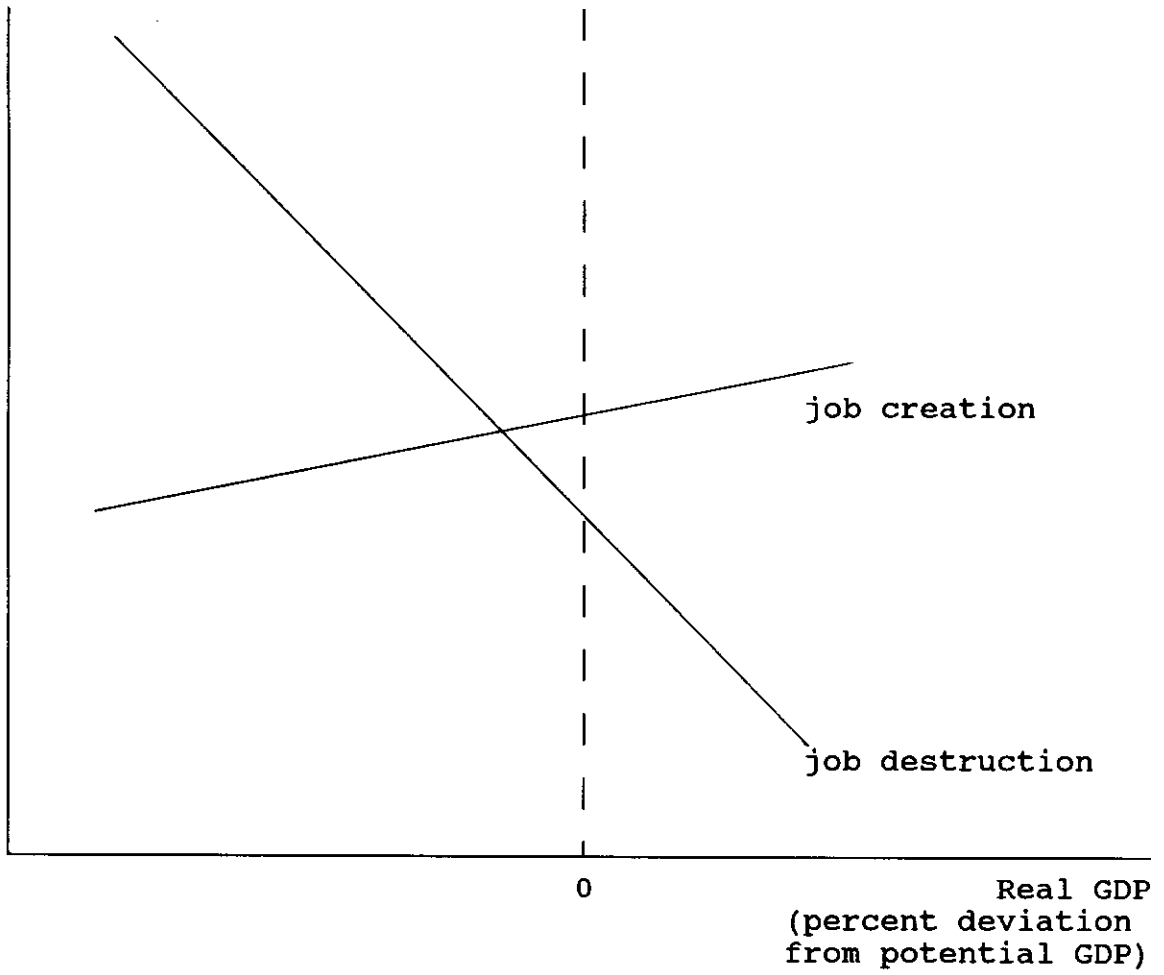


Figure 9

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