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LARGE AND CONTINUING DEFICITS: THEIR INFLUENCE ON MACROECONOMIC PERFORMANCE

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ABSTRACT

This report discusses the overall effects of and reasons for concern about, the current and expected budget deficits with respect to macroeconomic stabilization efforts. It has been variously stated that the current budget deficits have caused, worsened, or prolonged the recent contraction in economic activity; that the prospect of future deficits has had these same effects; or that deficits that will occur later during the recovery are likely to abort or inhibit economic expansion.

An examination of these assertions indicates that there is little theoretical or empirical support for the assertion that either the current or expected future deficits are contractionary in the conventional sense of the term, meaning a reduction in aggregate demand for goods and services in the economy. Instead, the analysis suggests that the possible adverse macroeconomic consequences of the projected deficits are primarily associated with their potential to affect the ability of the economy to produce output. This distinction is not trivial, and can have important implications for the type of policies adopted to eliminate or reduce future deficits.

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LARGE AND CONTINUING DEFICITS: THEIR INFLUENCE ON MACROECONOMIC PERFORMANCE

INTRODUCTION

Virtually all projections of Federal budget receipts and outlays over the next five years indicate unprecedentedly large budget deficits. These deficits are large both in absolute size and as a percentage of GNP. They follow not only from current trends in outlays and current receipts but also from budget projections incorporating substantial spending limitations. Moreover, they are not entirely the result of the depressed state of the economy; they would also be relatively high if the economy were operating at capacity.

These high deficits, both current and anticipated, have caused considerable concern. It has been frequently asserted within the popular press and business community that deficit spending by the government has had contractionary rather than expansionary effects on employment and output. It has also been asserted that current fears about large deficits expected to occur have delayed or retarded the current recovery from the recession. In addition, the effects of future deficits have been variously stated as inflationary, capable or arresting the recovery, and likely to substantially reduce investment and long-term growth.

Conventional economic theory suggests that not all these propostions can be true. For example, it seems contradictory to argue that current deficits are contractionary now but that as large or larger deficits occurring in the future will be inflationary. Similarly, if one holds that large deficits in the future can abort the recovery then one would assume that, with recovery

aborted, the economy would not get close enough to full employment for future deficits to substantially reduce investment and growth of capacity. Presumably, some of these concerns about deficits are not justified if others are.

Sorting through these various claims is made particularly difficult by a confusion engendered by the use of certain terms. Traditionally, the principal focus of macroeconomics has been on the demand for goods and services in the economy. Most of the words associated with business cycles--words like expansionary, contractionary, recession, recovery, and others--have been primarily related to the course of aggregate demand. The current discussion of the role of deficits in the recession and recovery has suffered from the fact that some of these terms have been carried over into the analysis of the deficits' supply-side effects. As a consequence, some propositions concerning the depressing effects of deficits, while inapplicable in terms of demand, may be correct if they refer to supply.

This paper attempts to clarify the issue. The effect of large and continuing deficits on both supply and demand is analyszed. These effects are examined in terms of (1) the effect of current deficits on current economic activity, (2) the influence of expectations of future deficits on the current state of the economy, and (3) the consequences of future deficits on economic activity in the future. These hypothesized effects are distinguished from each other and analyzed to determine which are consistent with what we know or can reasonably theorize about the economy. The implications of these effects for tax policy are then discussed.

I. THE RECENT DEFICITS AND THE 1981-82 ECONOMIC CONTRACTION

Since at least the middle of this century, the overwhelming majority of economists has embraced economic theory that maintains that increases in the government's deficit are expansionary. The Keynesian model of the macroeconomy is probably best known for this proposition. What is less known is that the quantity theory model used by many monetarists also indicates an expansionary role, albeit a smaller one, for deficits in the Federal budget. 1/ While a small minority of economists has maintained that there is no long-run effect on the level of income from fiscal policy, 2/ the proposition that increases in the deficits are actually contractionary is rarely found in the professional economics literature. For example, none of the major textbooks used by universities in this country entertain the idea that higher deficits reduce aggregate demand. 3/ In addition, virtually none of the empirical investigations of the subject have contradicted the standard theory in this regard. The consensus of the economics profession is that increases in the deficit are, by themselves,

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1/ See, for example, Friedman, Milton. Comments on the Critics. Journal of Political Economy, vol. 80, Sept./Oct., 1972, pp. 906-950; Cagan, Phillip. Monetarism in Historical Perspective. In Mayer, Thomas, ed. The Structure of Monetarism pp. 85-93, 1983, Norton, New York; and Stein, Jerome. Monetarist, Keynesian, and New Classical Economics, New York University Press, New York, 1982.

2/ For example, Anderson, L. and Carlson, K. A Monetarist Model for Economic Stabilization. Federal Reserve Bank of St. Louis Review, April 1970, pp. 7-25.

3/ Consult, for example, the country's two best selling undergraduate intermediate macroeconomic textbooks: Gordon, R.J. Macroeconomics. Little Brown, Boston, 1982; and Dornbush, R. and Fischer, S. Macroeconomics. McGraw-Hill, 1982.

if anything, expansionary. Increases in the deficit may have deleterious effects on some indiviaual industries. Under some circumstances, they may conceivably prompt the Federal Reserve to adopt a more restrictive monetary policy. But standard theory holds that by themselves and in aggregate terms the effect of increased budget deficits is not contractionary.

A. How Deficits Affect Aggregate Demand

The expansionary character of increased deficit spending can be fairly easily explained. 4/ A tax cut, in addition to increasing the size of the deficit, also increases disposable income relative to what it would have been otherwise. The increase in disposable income will either be saved or spent. To the extent that it is saved, it provides resources for the Government to borrow without reducing resources available for aggregate investment. The portion of increased disposable income that is spent provides an increase in consumption that is an exact offset to the investment that is crowded out by increased Government borrowing. Barring any other effect, the result is an even wash. The sum of extra comsumption demand and saving equals the amount borrowed on credit markets. Similarly, an increase in government expenditures will also provide an increase in total demand that fully offsets the fall in investment due to higher interest rates. However, the increase in interest rates that accompanies extra Government borrowing raises the cost of holding money. The public typically responds by trying to hold less money, shifting their portfolio holdings toward bonds and other earning assets and, thus, moderating the impact of additional Government borrowing on interest rates and investment. In other

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4/ This explanation is, in verbal terms, identical with the mathematical apparatus known as IS-LM analysis in macroeconomics where the determinants of equilibrium in the economy are examined in terms of an investment and saving relation along with a liquidity demand and money supply relation.

words, the higher interest rates coax the public into financing more government and business borrowing; hence, investment need not fall nearly so much as would otherwise be necessary to accommodate the extra Government borrowing. The result of this is an increase in total aggregate demand--the sum of investment demand, consumption demand, and Government demand for goods and services. 5/ As long as additional capacity exists, real income will tend to rise. 6/ The increase in the deficit should, therefore, other economic effects aside, cause an expansion of output and employment, not a contraction. The interest rate increases that accompany this expansion normally do not choke off demand; rather, they are a consequence of the demand increase that results from the increased deficit.

This is true even when one considers the behavior of international trade. The higher interest rates created by additional Government borrowing tend to draw capital into the country from abroad. As this occurs, the value of the dollar rises, depressing U.S. exports and increasing U.S. imports. Under a system of flexible rates, the supply of foreign currency must equal its demand. Thus, there occurs an increase in the supply of foreign currency on exchange markets as investors abroad try to acquire dollars to invest in high yielding U.S. assets. The amount of dollars left over to purchase U.S. produced goods falls. Export demand and U.S. demand for import-competing goods fall, depressing employment in these sectors as a result.

5/ This discussion neglects the effect of the "multiplier", a process by which all the above effects on aggregate demand are magnified as additional income creates additional consumption and so on. When this is taken into account, the net expansionary effect is even greater.

6/ If extra capacity does not exist the result is higher prices. In either case nominal income tends to expand as a consequence of increases in the deficit.

However, there is again an offsetting effect that should keep the Government borrowing from being contractionary. The easiest way to understand this is to realize that the reduction in export business is a concomitant of inflowing capital. This extra capital is an offset to crowding out, making it possible for the Government to borrow more without decreasing investment. That is, the depressing effect of capital inflows on exports also moderates the effect of borrowing on interest rates and investment. The net impact of a tax cut or expenditure increase is still positive, even taking into account these international flows. 7/

It is significant to note that these explanations have been presented in terms of deficits created by tax cuts or increased government expenditure. Changes in the deficit also come about as a result of changes in the level of output. These are of an entirely different character. These changes in the deficit cannot be said to have expansionary or contractionary effects because they themselves are the result of the economy's expansion or contraction. Thus, throughout this report, the discussion of the effects of deficts refers to those changes in the budget that have resulted from discretionary changes in taxes and expenditures and not those cyclical changes resulting from the rise or fall in economic activity. Consequently the measure of the deficit appropriate to the disucssion of issues in this report is the deficit standardized for some level of unemployment--usually defined as full employment.

7/ An example of the traditional model that includes these international trade effects can be found in Wykoff, F.C. Macroeconomics, Theory, Evidence, and Polciy. 1976, Prentice Hall, Englewood Cliffs, New Jersey. Chapter 22.

B. A Theoretical Exception: Effects on Money Demand

Edmund Phelps cites one situation in which an increase in the deficit might not be expansionary. 8/ He suggests that a tax cut will increase the public's demand for money (i.e., their willingness to hold their assets in the form of money instead of something yielding interest). This, he argues, could occur because the public's disposable income will be higher, expenditures will rise, and the need for money to execute these additional transactions will increase. As in the increase in the demand for any good, an increase in demand for money forces its price up. In this case, the price is the interest rate, so that the public's increased demand for money creates an additional force pushing the interest rate up as a result of a tax cut. This is an effect beyond that normally associated with crowding out, basically equivalent in its result to contractionary monetary policy. If money demand depends on taxes in this way, it would be theorectically possible for a tax cut to produce a contractionary effect (although whether the effect is actually contractionary depends on the relative sensitivity of investment and money demand to interest and income).

There are three reasons for regarding this theoretical possibility as unlikely to occur in the actual economy. First, virtually all empirical work with money demand has related it to income (or permanent income). 9/ Phelps' argument implies that household money demand depends on household expenditures.

8/ Phelps, Edmund. Cracks in the Demand Side; A Year of Crisis in Theoretical Macroeconomics. American Economic Review. May 1982, pp. 378-381.

9/ For a comprehensive study of money demand, see Goldfeld, S. the Demand for Money Revised. Brookings Papers on Economic Activity, 3 1973, pp. 577-638. An update of money demand research is in Judd, J. and Scadding, J. The search for a Stable Money Demand Function. Journal of Economic Literature, Sept. 1982, pp. 993-1023.

Yet, Steven Goldfeld tried modeling household money demand with consumer expenditure, and the specification, if anything, worked less well than one using income. 10/ This particular result from Goldfeld's study supports the usual specification of money demand dependent on total income and draws into question the idea that a tax cut could affect money demand in the way Phelps suggests.

The work of Vito Tanzi provides a second reason for regarding Phelp's theoretical possibility as empirically unimportant. 11/ One of the few researchers in the area of monetary economics to take explicit account of taxes in his money demand equations, he does not use disposable income in his specification. Instead, Tanzi emphasized the role of the effect of taxes on the after-tax rate of return on investment. This tax effect is the opposite of that cited by Phelps. Tanzi notes that a decrease in taxes causes after-tax interest rates to rise. By raising the return on alternative assets, this effect decreases the quantity of money demanded and makes fiscal policy even more expansionary. Thus, Tanzi's work indicates that even if the contractionary influence cited by Phelps occurs, there would be another effect of the tax cut working in the opposite direction that would tend to offset the contractionary influence.

Finally, there is the weight of empirical evidence on the effect of tax cuts and expenditure increases on aggregate demand. If tax cuts had the kind of effect on money demand cited by Phelps, it is likely that some empirical evidence would have emerged over the last twenty-five years indicating that

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10/ Goldfeld, op cit.

11/ Tanzi, Vito. Income Taxes and the Demand for Money: A Quantitative Analysis. Banca Nazionale del Lavoro Quarterly Review, March 1979, pp. 55-72 and Demand for Money, Interest Rates, and Income Taxation. Banca Nazionale del Lavoro Quarterly Review. December 1974. pp. 319-328.

expansionary fiscal policy has perverse effects on employment and output; none have. 12/

C. The 1981-82 Economic Contraction

The notion that an increase in the deficit can have contractionary effects on aggregate demand is a view widely rejected by most economists. The proposition that tax cuts and expenditure increases tend to expand demand has been examined by economists and, given what is known of economic behavior, the theory in both simple and complex forms supports this proposition. Most statistical evidence buttresses this conclusion. 13/ Even those who deny it, or who have contrary evidence only go so far as to say that the effect is neutral--not contractionary. Thus, the recent contraction must be attributable to something other than the increases in the deficit.

The consensus among economists is that the 1981 contraction was principally due to monetary policy. As a resolve developed over the last few years to make a serious anti-inflation effort, it became apparent that a restrictive monetary policy would have to be implemented. The tighter monetary policy was required because, whether or not one might want to augment it with, say, fiscal stringency or incomes policy, slowing the growth of monetary aggregates

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12/ At worst, some studies have indicated that fiscal policy has no effect, and these studies, analysis indicates, are seriously biased downward so that the actual effect is probably in the direction conventionally believed. See Modigliani, F. and Ando, A Impacts of Fiscal Actions on Aggregate Income and the Monetarist Controversy: Theory and Evidence. in Monetarism. Stein, J. ed. North Holland. 1976. pp. 17-42.

13/ This view is also embodied in the major econometric models. See for example, the results of alternative fiscal policy effects in Elwell, Craig. The Macroeconomc Consequences of Alternative Deficit Trajectories: An Econometric Analysis CRS Report No. 82-141E, July 1982; and Cashell, Brian. Potential Macroeconomic Effects of Rescinding Phase 3 of the Personal Income Tax Cut, CRS Report No. 82-213E, Dec. 1982.

is a nessary condition for slowing inflation. That is, inflation cannot be reduced without tight money no matter what else might also need to be done. 14/ This also means, however, that the economic contraction was triggered by anti-inflationary policy, since a contraction in economic activity is the natural consequence of the monetary actions taken to slow inflation. 15/ This contractionary outcome can be explained as follows.

The growth in total nominal income can be divided into two components: (1) real output growth and (2) the rise in prices (i.e., inflation). By definition, these must equal the sum of (a) the growth of money and (b) the rate of change in how fast the money circulates (i.e., the change in its "velocity"). If the economy is at its potential, and if velocity is changing at a constant rate, a sustained reduction in the rate of change in prices can only be achieved by reducing the growth rate of money. However, price increases are usually set in advance, in anticipation of future economic conditions, and often based on past experience. This means that the slow growth in money, at first, can only slow the rate of growth of real output—contracting the economy as the amount of money for transactions becomes insufficient to support increased economic activity at the prices already set so that output tends to slow or decrease. After some experience with the lower levels of output, firms and workers usually ajdust changes in prices and wage rates to reflect the reality of lower money growth. As prices rise more slowly, output begins to grow more quickly until potential is achieved again. A temporary contraction of output is thus traded for a reduction in the rate of price change permanently below what it would otherwise be.

14/ See, for example, Gordon, op. cit. pp. 189-190.

15/ It is not necessarily correct, though, to assume that the severity or length of the contraction was intentional.

This explanation is complicated, though not significantly changed, by the fact that the growth rates of monetary velocity change. While growing at a fairly steady rate over the long-run, the velocity of money is volatile over short periods and tends to rise more slowly during contractions. This short-run volatility of velocity creates the dual problem of reinforcing tight money policies and making it difficult for policy makers to distinguish a temporary, random, or cyclical change in velocity growth from a fundamental one that requires an adjustment of long-term money growth targets. In the most recent downswing, the behavior of velocity has been surprisingly (and to many, inexplicably) contractionary (i.e., velocity growth has been extremely slow), exacerbating the effects of monetary policy on the economy.

Nonetheless, as explained above, an economy, over the longer term, can recover from a contraction without the help of fiscal or monetary stimulus. Such a recovery would be as a result of the downward revision of prices, though this mechanism may take a long time to occur. Consequently, policymakers may be interested in pursuing two alternative means of restoring output. Money growth can be increased through monetary policy; or velocity can be boosted by engaging in expansionary fiscal policy--a process which occurs when government borrowing increases interest rates and decreases the public's desire to hold money (because of the greater foregone income from not holding earning assets instead). The problem with both of these methods is, that while they may speed what might otherwise be a very slow and painful recovery, they do not rely on the price adjustment process described above. Hence, they do not permit the experience with unemployment and slack demand to have its full and lasting effect on prices with the result that inflation after the contraction may be higher than it would be without stimulus.

Early gains against inflation during a contraction can make it easy to believe that the anti-inflation effort is successful and that it is therefore safe to provide economic stimulus. High resource as well as social costs associated with unemployment may underscore the belief that the contraction cannot be further endured and that stimulus is necessary. If an anti-inflationary monetary policy is reversed, however, and the economy substantially stimulated, many of the gains against inflation are likely to be temporary and the inflation rate can wind up back close to where it was or higher.

There are many who believe that is what happened during the previous anti-inflation pushes. 16/ In particular the very short recession of 1980 is held up as an example of anti-inflation policy implemented and quickly abandoned (then implemented again precipitating the most recent contraction only 12 months later). These reversals of anti-inflation policy are believed to affect the public's expectation of future inflation. If they happen enough that they become anticipated they can detract from the credibility of future efforts. The process suggests to economic agents that there is little need to adjust prices downward in the face of slack demand because "stimulus is just around the corner." Hence, in future contractions, it can take even longer and longer bouts of unemployment and business failure to convince everyone that the anti-inflation effort is for real and that downward price adjustment is appropriate.

This view accounts for why many analysts expected a slow recovery from the recent contraction. Price expectations are regarded as hard to budge, partly because of previous anti-inflation efforts that have been abandoned. If the Fed

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16/ See Cagan, Phillip. Two Pitfalls in the Conduct of Anti-inflationary Monetary Policy; also Feller, William. On the Merits of Gradualism and on a Fall-back Position If It Should Nevertheless Fail: Indtroductory Remarks; both in Contemporary Economic Problems. William Fellner, ed., American Enterprise Institute, 1981, pp. 3-52.

tries to hold on to the gains made against inflation through a restrictive monetary policy, economic activity should increase relatively slowly. Consequently, the judgement of those who have predicted a slow recovery is probably based more on current and past monetary policy than on current or future deficits.

However, there is another possible effect that needs to be considered before the potential retarding influence of large and continuing deficits on aggregate demand can be rejected. The preceeding analysis has dealt with the effects of deficits on concurrent economic activity. It showed that increasing a government budget deficit would tend to expand output during the period in which the deficit was created (and immediately after). However, a deficit expected some time in the future might also affect economic activity today. There is no particular reason, without undertaking further investigation, to assume that this effect must be expansionary.

II. FUTURE DEFICITS AND CURRENT ECONOMIC BEHAVIOR

Even a superfical look at current economic literature impresses a reader with the frequency with which conventional propositions are reversed as a result of a few changes in the assumptions of individual behavior. In particular, consideration of the public's expectations of future policy can have this effect. Consequently, there is the possibility that the simple model of the economy explained in the previous section is not sophisticated enough to embody all the possible complications resulting from the effect of continuing deficits on expectations. It may be that the anticipation of large future deficits causes changes in current economic behavior, creating a contractionary effect now before the expansionary effect of future deficit increases can offset it.

This notion may underlie the somewhat unspecific claims of many individuals that the deficits threaten rather than assist recovery. A number of scenarios have been constructed that reportedly yield this result. 17/ However, little or no research has yet appeared in the professional economics literature in which these effects are rigorously and completely worked out in a theoretically satisfactory manner, much less empirically tested.

It is nonetheless possible to examine these claims in terms of the standard macroeconomic model, to check them for internal consistency, consistency with available evidence, and consonance with widely held theories contained

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17/ See Sinai, Allen. Reaganomics and the Financial Markets, Data Resources U.S. Review, February 1983, pp. 1.37-1.45; Penner, Rudolph. Macroeconomic Policy, and Domestic Saving. In Saving and Government Policy, Federal Reserve Bank of Boston Conference Series No. 25, 1982; and Penner, Rudolph. The 1983 Budget. The AEI Economist, March 1982.

in current models of economic behavior. Examined in this framework, there are essentially four ways for future deficits to influence current economic activity: (1) the threat of higher deficits may create inflationary expectations; (2) it may change the desire of firms to invest in plant and equipment; (3) it can alter the willingness to lend resources for investment; and (4) it might also influence the risk preceived by those involved in the investment process. Each of the four potential influences of anticipated deficits on current economic behavior is examined in the following sections. Generally, some appear to have no validity, while others may be theoretically possible but unlikely to occur.

A. The Effect of Anticipated Deficits on Inflationary Expectations

Allen Sinai appears to rely on the high deficit-inflationary expectations mechanism for his argument that the projection of large deficits has retarded economic activity. 18 / Deficits themselves, he admits, may not be inflationary, but market participants may expect the Fed to increase the money supply in response to them. This is not an unreasonable assumption. High deficits and the effect that deficit financing may ultimately have on interest rates, puts pressure on the Fed to ease monetary policy in order to lessen the impact on interest sensitive industries; some research indicates that the Fed has in the past responded to this pressure by monetizing deficits (i.e. creating money to finance them). Since this money creation can likely generate inflation, the prospect of large future deficits may indeed signal to market participants that greater inflation is on the way.

This expectation of higher inflation would be incorporated into current interest rates. Consequently, Sinai and other proponents of the view that deficit

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18/ Sinai, op. cit.

induced inflationary expectations retard recovery are arguing that these higher interest rates choke off investment demand and offset any stimulus generated by the current deficit. Sinai estimates that a $100 billion reduction in the deficit would result in a 300 basis point fall in short-term interest rates and an increase in output and employment over current projections.

Sinai's analysis, however, has two significant shortcomings. First, the inflationary expectations should result in an increase in nominal, not real, interest rates. If lenders and borrowers are both prompted by the projection of deficits to expect a certain amount of inflation, then neither the real yield from lending nor the real cost of borrowing changes. Investment, purchases of consumer durables, and other interest sensitive activities should not be affected. Hence, interest rate increases due to inflationary expectations should not significantly affect the level of economic activity. This is the standard analysis of investment behavior: anticipated inflation should have no effect on the volume of real investment. This conclusion does not require that businessmen calculate their real interest rates. It is sufficient that businessmen be aware that future inflation also implies an increase in the price at which their products will be sold. 19/

Aside from the use of nominal instead of real interest rates in Sinai's analysis, his hypothesis has an additional problem in that it can only explain the behavior of long-term interest rates. That is, a persuasive case might be made that the future deficits will raise inflation in a few years, but not in the next few months. There should be little of such an inflation premium in

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19/ The reason why Sinai gets these results is because he incorporates his estimates of the deficits' effect on interest rates into the DRI model. DRI uses an investment equation which depends on nominal instead of real rates.

3 month treasury bills, for example. 20/ Yet Sinai predicts a substantial fall in these rates as a result of reduced deficits in the future. 21/

B. The Influence of Future Deficits on Investment Demand

Rudolph Penner presents the possibility of a slightly different construction of events regarding the impact of deficit anticipations on current activity. 22/ As interpreted by James Tobin, Penner suggests that the expected effects of future deficits on future levels of interest rates and income might affect the current willingness to consume and invest. Tobin demonstrates that the prospect of large future deficits can, under certain circumstances, have a depressing effect on current economic activity (but not necessarily). 23/ However, it can also be shown that in order for this expectation effect to lower aggregate demand, it must also lower interest rates. 24/ Interest rates would be lower because the expectation effect described by Penner works through the supply and

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20/ Another phenomenon that casts doubt on this hypothesis is the behavior of foreign exchange markets. As indicated earlier, capital flows into the U.S. from abroad in response to interest rate differentials between the U.S. and other countries. If U.S. interest rates are high due to expectations of higher U.S. inflation, then no difference actually exists between the real interest rate in the U.S. and abroad. Consequently, the large capital in-flows are difficult to reconcile with the hypothesis that inflationary expectations are responsible for high interest rates.

21/ These predictions should not be confused with DRI model projections. In spite of Sinai's projections, the DRI model still yields results that show tax cuts and expenditure increases to be expansionary. See Elwell, and Cashell, op. cit.

22/ Penner, Macroeconomic Policy and Domestic Saving. op. cit.

23/ Tobin, James. Discussion, Saving and Government Policy. Federal Reserve Bank of Boston Conference Series No. 25, 1982, pp. 126-137.

24/ The analysis here, as in the rest of the report, can be expressed mathematically; or graphically in terms of what is called "IS-LM analysis". To those using this framework, the phenomenon described above is a leftward shift in the IS locus.

demand for investment. If current investment demand falls as a result of anticipated large deficits, aggregate demand and output is reduced; but the fall in investment demand also reduces borrowing pressure on financial markets which puts downward pressure on interest rates.

Consequently, Penner's hypothesis is a possibility, but it does not support the proposition that high interest rates are holding back the current recovery. Indeed, Penner's hypothesis implies that cuts in future deficits would tend to raise current interest rates because lower future deficits would increase the demand for funds.

One can construct a scenario by which a change in investment behavior due to the expectation of high future deficits forces up current interest rates, but that story has the opposite problem: output would not be depressed. The expectation of higher interest rates resulting from future deficits could prompt businesses to attempt to invest now in order to borrow while costs were still relatively low. This would tend to drive interest rates up sooner. As one can see, however, this rise in interest rates occurs because of increased investment demand which strengthens rather than weakens economic activity. It is of course true that firms may not invest now because of the existence of widespread excess capacity; but in that case there is no pressure to raise interest rates and the scenario still does not explain how the current economy can be depressed by future deficits.

C. The Effect of Prospective Deficits on the Availability of Resources for Investment

An internally consistent explanation can be developed from the supposition that the willingness to lend and, thus, the availability of resources for investment is reduced by the prospect of future deficits. The likelihood of high future deficits and their potential for raising interest rates could induce

lenders to charge higher interest rates currently, since they have the option of waiting and lending the funds out later when they expect interest rates to be high. Basically this means that potential creditors reduce the amount they are willing to lend at current interest rates. Businesses would not be willing to borrow as much at the higher interest rate required to overcome this reluctance of lenders to provide funds. The resulting reduction in demand for investment goals would tend to depress the economy.

The funds that these potential creditors would have otherwise provided for business investment would have to be channelled elsewhere. One alternative is for creditors to hold their wealth in the form of money as a substitute for assets earning interest until interest rates rise even higher in the future. The result of this would indeed be contractionary. It would imply a rise in the demand for money, which is consistent with the recent behavior of M1 velocity (i.e., the rate of circulation of money). This velocity measure has fallen, indicating a surprising willingness of the public to hold money at a time when interest paid on earning assets is very high.

The trouble with this explanation is that it is difficult to explain why money would be the asset that the public would choose as the temporary abode of its wealth while it waits for interest rates to rise further. The financial market tightness that would motivate this switch from earning assets to money is one that is expected to occur later in the recovery as the large budget deficits clash with investment demand in a tight economy. Thus, the logical resting place for lenders to leave such assets while they wait for interest rates to rise in the future would be shorter term securities, not money. It is difficult to say, but proponents of the view that expectations of large future deficits depress investment may be maintaining that potential lenders

have shifted their wealth into money. If so, they are posing behavior that is very difficult to explain under the circumstances if the motivation for this switching of assets is to hold out until deficits push interest rates further up in the future.

One can explain this behavior by assuming irrationality. This causes a difficulty too, however. If households and businesses are not rational enough to hold assets in short-term securities under these circumstances, it cannot be readily assumed that they are rational enough to want to hold out for higher yielding assets in the future, or that businesses are rational enough to be discouraged from borrowing by high interest rates.

If the funds were shifted from long to short-term markets, the outcome would be unknown. Firms and others wishing to borrow long-term would face higher interest rates, but more credit would be available in short-term markets, stimulating borrowing there. Under fairly reasonable assumptions about the demand for investment and money, shifts of funds from long to short term markets would have no effect on output. But it is also possible that the net effect would be contractionary. And it is similarly possible that the result would be expansionary. The reason for the uncertainty of outcomes is that the rise in long-term interest rates would be accompanied by a fall in the short-term rates. The two can offset each other to varying degrees. 25/

It is unknown whether a shift in the supply of funds from long to short-term markets actually occurred during the current business cycle. There is

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25/ The effect on aggregate demand can be neutral or even expansionary and yet the shift can have deleterious effects. Changes in the term structure of interest rates can affect the relevant investment horizon of businesses. The full implications of this for productivity and growth are not explored here since the concern of this paper is the level and not the character of economic activity.

certainly no evidence that such a shift occurred at the beginning of the contraction. When the 1981-82 contraction began, short rates were very high, in a pattern common to most postwar contraction. Falls in the long rate during the course of the contraction were not as great as one could expect from previous business cycles. However, these modest declines in long rate were not accompanied by greater than normal drops in the short rate as dictated by the hypothesis that the supply of funds were shifted to short-term makets.

Some observes have pointed to the fall in interest rates in July of 1982 as evidence that the threat of future deficits has been retarding demand. They argue that the acceleration of money growth seemed not to have begun until the following August, after interest rates began to fall, so that the interest rate fall was an expectations effect associated with the passage of the Tax Equity and Fiscal Responsibility Act in that same July--a tax increase designed principally to reduce future deficits and affect future credit demand. However, as shown above, if the interest rate fall was due to the prospective tax increase, one should see not just a drop in long-term rates, but a rise in short rates. Short rates not only fell in that episode, but fell by more than long rates, a pattern inconsistent with the assertion that prospective future deficits have shifted funds away from long-term markets.

D. Anticipated Deficits and Interest Rate Risk Premia

The last of the four potential influences that large future deficits might exert on current activity is through risk premia attached to interest rates in order to compensate lenders for the uncertainty associated with how the large deficits will ultimately be reduced. Much of the analysis of the previous section applies equally to this scenario. When risk premia

are attached to interest rates it is equivalent to saying that there is a decrease in the willingness to lend. When this occurs, however, something must be done with the funds that lenders are disinclined to provide. If the funds are spent instead, the result is expansionary. Presumably, therefore, proponents of this scenario have something else in mind.

The only alternative use for the funds is for them to go into other assets. As demonstrated above, these other assets either have to be money--a move that does not appear consistent with rationality--or short-term assets--a shift that can neither be detected from available evidence nor is necessarily associated with contraction.

Moreover, there is another point worth noting about hypotheses which depend on risk premia to explain high interest rates and low economic activity. When risk is responsible for the behavior of financial markets, the contractionary effect is not really the result of expectations relating directly to deficit size and growth patterns, but of what those deficits suggest about the course of future policy. The deficits might suggest a fiscal policy out of control. They may increase risk because there is a possibility that at least one of the methods the government might use to deal with the deficits is regarded as unhealthy for investment. If investment is thus hampered by risk it may be an error to conclude simply that the deficit must be narrowed or eliminated. There are many methods available to policymakers for reducing the deficit. If the method chosen to close the deficit happens to be the one that makes investors and lenders fearful of the future, then narrowing or eliminating the deficit by this method would only serve to make the situation worse. Consequently, the proposition that future deficits are contractionary because of uncertainty and risk premia may suggest policy approaches to the problem very different from the other hypotheses that future deficits reduce demand. In the case of risk

premia the true cause of investor uneasiness is not really the deficits, but what the deficits seem to say about policy.

E. Summary

Analysis shows that some of the assertions about the effect of future deficits on current activity appear to have no validity. The remaining hypotheses are theoretically possible but necessarily presume that the public acts illogically, or suggest results that do not appear to be consistent with available evidence. This does not mean that the prospect of future deficits is not or will not ever depress aggregate demand. However, no matter how much detail or complexity is introduced into the analysis to accommodate the various known hypotheses that deficits are contractionary, there appears to be neither compelling theoretical reasons for believing nor empirical evidence supporting the notion that the prospect of large deficits in the future depresses current economic activity.

III. THE ROLE OF DEFICITS LATER IN THE RECOVERY

Given the preponderance of evidence and theoretical analysis that shows deficits to be expansionary, it would appear that current concern with them is not based on their effects on aggregate demand. The U.S. economy is currently well below virtually anyone's definition of full employment. The expansion of aggregate demand resulting from the increases in the deficit has likely had the effect of helping to moderate the contraction and speed the recovery. In spite of these likely desirable effects, there are three reasons why the budget deficits projected for the future might not be desirable: (1) the deficits may become too expansionary and result in inflation; (2) they may reduce aggregate supply and slow long-run capacity growth, and (3) their differential effects on various sectors of the economy might outweigh their salutary aggregate effects.

A. The Inflationary Effects of Deficits

Since large deficits are expected to continue into the forseeable future, it has been argued that they will ultimately be too expansionary. The economy will reach full employment and this expansion will generate only accelerating inflation. However, the liklihood of this inflation scenario is questionable.

Technically speaking, it is not the existence of a deficit that is expansionary; it is the increase in its size that tends to push up aggregate demand. Inflation, however, is the continuous increase in prices--that is, prices rising again and again period after period as opposed to simply moving once to a new, higher level. Hence, for inflation to occur, aggregate demand must grow

continuously. 26/ Deficits produce this effect by growing. A deficit of some constant size, maintained period after period, should not be expected to expand aggregate demand.

The tax cuts enacted by the Economic Recovery and Tax Act of 1981 were set up to phase in over the period 1981-83. One would expect that their effect on the full employment deficit would occur primarily during the 1981-84 period and leave the deficit measure relatively unaffected thereafter. However, some of the increases in expenditures, particularly for defense, are expected to persist, tending to increase the budget deficits beyond 1984 right through the end of current projections in 1988.

Estimates by the Congressional Budget Office (CBO) of the standardized employment deficit (their version of the full employment deficit with full employment defined at 6 percent) shed some light on this. 27/ Even though the CBO estimate of the standardized employment deficit as a proportion of potential output grows throughout the five year projections, thereby adding stimulus each year, that stimulus declines during the final years in which the economy approaches capacity. Moreover, those increases in the full employment deficit are not unprecedented. The deficits projected by the CBO analysis are very large, but the stimulus they add to the economy late in the recovery is not out of the range of historical experience.

Estimates of Data Resources, Inc. indicate a more dramatic leveling off of the full employment deficit. Their full employment budget model (with

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26/ The discussion here is of deficits and aggregate demand. Obviously inflation could also be caused by other sources of demand shifts or by continuous shifts in supply as well.

27/ Congressional Budget Office. Outlook for Economic Recovery. Report to the Senate and House Committee on the Budget, Part I. February 1983. p.65.

full employment defined as a 6.1 percent unemployment rate) shows the full employment deficit as a percentage of potential GNP peaking in 1986 and then declining. 28/ Hence, there is some indication that fiscal policy will cease to be expansionary before full employment output is reached, indicating little inflationary threat from future large deficits. The monetary authorities might choose to partially finance the deficits by means of money creation, and cause inflation that way; but the deficits themselves appear to pose little of such threat.

Thus, in strictly aggregate terms, we should expect the projected deficts to expand the economy but to lose that expansionary thrust by the time that capacity is approached. Presumably, if these future deficits are to have deleterious effects later on in the recovery, these effects must either be in terms of aggregate supply, or in terms of their effects on certain disaggregated, individual sectors of the economy. As will be evident from the analysis below, these two effects are closely associated.

B. Deficits and the Allocation of Output

Deficits, more than just being related to aggregate demand, are also related to the allocation or composition of output. If the government cuts taxes, even though the total amount of resources it uses for its activities may be the same, the way it obtains those resources changes. Taxing typically reduces the amount of consumption out of a given level of income more than anything else. Government borrowing, however, comes out of the flow of saving, leaving less of that saving left over for investment.

28/ Sinai, A. and Rathjens, P. Deficits, Interest Rates, and the Economy. Data Resources Economic Studies. Series No. 113. June 1983.

In a period of slack demand, the effects of borrowing are not so important to the allocation of output; the Government can borrow without major reductions in investment because unemployed resources are available for the purpose of satisfying the additional demands of the Government. Indeed, during periods of very low economic activity investment can even be expected to rise as a result of an increase in the deficit. This occurs if the salutary effects of increased aggregate demand on income and, hence, the demand for plant and equipment, outweigh the depressing effects of high interest rates on investment demand.

If the economy is at potential output, the allocational effects of deficit financing are strongest. Government borrowing under such circumstances will almost always reduce investment. Unless the higher interest rates coax forth additional saving or loans from abroad, investment will be reduced dollar for dollar for all additional Government borrowing. If the borrowing is to finance greater government expenditures the result (at capacity) would be a shift in output from investment to government. If the borrowing is to cover the shortfall of revenues resulting from a tax cut, investment will decline as consumption rises in response to higher after-tax income.

This allocational effect accounts for three very basic concerns about the deficit. First, the notion that deficits are contractionary may be a result of the fact that large changes in deficits reallocate demand. Even though increases in the deficit tend to be expansionary, it is only because the expansion of consumption or government demand offsets any depressing effects on other sectors of the economy. If one views the economy from the perspective of one of the sectors adversely affected by the high interest rates caused by Government borrowing to cover its shortfall of revenues below expenditures, a growing deficit does seem to be depressing. That is because such an outlook does not encompass the offsetting gains in employment and sales in the industries that

are helped by the expansionary fiscal policy. If one's point of view is that of the auto, steel, housing or similar interest sensitive-industries, or that of an export or import competing firm, then deficits will indeed seem contractionary--a fact that would not be true for the economy as a whole. 29/

The second concern related to this allocational effect is with the growth of the economy's capacity to produce. If investment is reduced by the amount of Government borrowing, capital formation and productivity growth can be expected to slow. The significance of this effect will be discussed in more detail in the next section. It is an important concern and has been the focus of much of the professional economics discussion of the effects of the deficit. The important points to note are that the phenomenon is a long-run effect, that it arises primarily from deficits run at capacity output, and that it is a supply rather than a demand effect.

The final effect of the allocational shift caused by deficit finance is the loss of output resulting from the adjustment of the economy to the new pattern of demand. Examination of various analyses of the deficits' impact on the recovery indicates that this effect implicitly underlies much of the discussion on the subject and has resulted in considerable confusion about the role of the deficits in the recovery.

Explained briefly, resources do not flow costlessly from one sector of the economy to another. Consequently, a jump in the demand for a particular good does not immediately call forth all productive capacity necessary to supply it.

29/ Even at that, deficits may be getting the blame for problems caused by other phenomena. The auto industry, for example, has problems of a secular nature unrelated to deficit or recession. Lower interest rates may increase demand for autos. But they should also increase the industry's investment in new capital. The latter effect of eliminating jobs could outweigh the former effect of creating them.

Such a shift takes time. Prices must usually rise, raising wages and rates of return to signal and motivate the movements of labor and capital into various industries that need them. The adjustment to this shift in demand takes time and costs resources in the transition.

Substantially larger deficits will set new patterns of demand in which the demand for housing, consumer durables, exports, import competing goods and some investment falls relative to the demand for other goods, particularly consumption and defense. This shift in the pattern of demand creates an unbalanced recovery in which some industries encounter supply constraints long before others. Essentially, some of the resources capable of producing output will be located in the wrong places. The time it will take for these resources to move where they are in demand will mean that frictional unemployment of resources, including labor, will rise. That is, the capacity of the economy to produce will be lower under the new unaccustomed pattern of demand than under the old--at least until the adjustment to the new pattern of demand is complete.

This is not a new phenomenon. Presumably it occurs whenever fiscal or monetary policy is used to boost the economy, tilting demand away from certain patterns that existed previously or that might exist once the economy reaches the desired level of output. In the past, little attention was paid to this phenomenon. 30/ However, the size of these projected deficits, and their persistence over several years may make these demand shifts and their effect on capacity a consideration in this recovery. Indeed, this demand shift effect

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30/ It has not been totally ignored, though. It has been a criticism directed at countercyclical policy by members of the Austrian School of Economics. See O'Driscoll, Gerald P. Jr., and Sudhia R. Shenoy, Inflation, Recession and Stagflation in The Foundations of Modern Austrian Economics. Edwin G. Dolan, ed. Sheed and Ward Inc. Kansas City. 1976. pp. 185-211.

would partially explain the emphasis some observers have placed on the unprecedented size of the deficits and would account for the proposition, asserted by some analysts, that the continuation of large deficits will "abort" the recovery.

"Abort" is probably an unfortunate choice of terms; as seen from the analysis in the first section, this assertion is difficult to understand in its conventional sense as an aggregate demand phenomenon. There is no particular reason to expect the deficits to suddenly become contractionary at some point in the recovery. What is probably meant by such a statement is that the economy will reach a supply constraint well before it reaches a level of unemployment consistent with what is traditionally associated with full employment as a result of the adjustment problem just described.

For example, in the Brookings study, Setting National Priorities: The 1984 Budget, it is stated that the imbalance between government receipts and expenditures will "...undermine prospects for recovery from the most serious economic slowdown since World War II." 31/ However, the reasons for the Brookings conclusion appear to be supply rather than demand related:

> "In short, the direct result of large Federal budget deficits would be a high consumption-low investment economy that would tend to grow slowly, run persistent deficits in trade with other nations, and encounter industrial bottlenecks (because of low investment) before full employment of the labor force is reached". 32/

Similarly, in this year's Economic Report of the President, the Council of Economic Advisors States:

31/ Pechman, Joseph, ed. Setting National Priorities, the 1984 Budget. Brookings Institution, Washington, D.C. 1983, p. 14.

32/ Setting National Priorities, p. 14.

> "A "lopsided" recovery in which some sectors remained relatively depressed might prove more fragile than a recovery which was broadly based. An increase in economic activity limited to some sectors and regions might result in greater upward pressure on prices and wages at any given level of total output and employment than would be the case if there were balanced expansion among industries." 33/

The reduction in capacity, of course, would not be a permanent condition. Deficits over an extended period of time will set new patterns of demand that will shift resources from interest-sensitive sectors to consumption, and the frictional unemployment of labor and other resources will fall after the adjustment is complete. 34/ Yet, if at some point a few years from now it is our intention to eliminate the deficits, demand can then be expected to shift back towards interest-sensitive sectors of the economy. If, in the meantime, these sectors have been depressed due to high interest rates, the resources to produce these goods will have moved to another place. The costly, time consuming process of shifting resources will need to be undertaken again, with a consequent rise in frictional unemployment.

These allocational effects appear to be the central reason for the concern with the deficits projected over the next five years. Unfortunately, much of the discussion about them has been clouded by a confusion of aggregate demand and supply effects. While the compositional shifts in output can leave the impression that deficits tend to be contractionary, in the aggregate the effect of these shifts on demand is expansionary. The likely source of any constraint on the recovery is the effect of the deficits on supply. The possibility that these shifts will raise frictional unemployment lies behind the assertion that

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33/ pp. 28

34/ This applies only to the frictional unemployment of resources. Any reduction in capacity due to low investment would persist.

they will abort the recovery. Consequently, while economic theory and evidence contradict the assertion that the deficits expected to occur later during the expansion will somehow choke off demand and stop the recovery, it is possible that these deficits will have the effect of making the achievement of capacity occur at a lower level of employment or output than might be the case otherwise. In this sense the deficits might be said to have the potential to abort the expansion. However, this use of the word "abort" is very different from its more popular and traditional use implying the cessation of aggregate demand growth.

IV. CONCEPTUAL ISSUES RELATED TO REDUCING THE DEFICITS

It would seem to be particularly ironic that supply-side tax cuts designed to expand the capacity of the economy would have among their principal effects a reduction in capacity output, an increase in frictional unemployment, and a reduction in investment. The cuts were supposed to boost capacity and long-term growth, not depress it. In some ways this perverse outcome is the result of two popular fallacies that characterized much of the discussion of the tax cuts when they were first proposed. The first is the notion that the cost of Government consists of the taxes it imposes on the economy. The second is the idea that the drag these taxes create on the economy is related to the proportion of income that these taxes take up.

In reality, the cost of Government is not measured by the taxes it extracts from the economy, but by its expenditures--the resources it uses up. These resources are secured by one of, or a combination of, three means: by taxing directly, by borrowing, and by money creation (which essentially imposes a so-called "inflation-tax," which extracts resources from the public by reducing the value of people's money holdings).

The last of these three methods was largely foresworn when a serious anti-inflation policy was adopted. Thus, unless cuts in tax rates could actually yield increases in tax revenues, then government borrowing is needed to meet the level of expenditures. Many were possibly led to believe such revenue effects could follow rate cuts as a result of believing the second fallacy, that is, that the drag that taxes impose on the economy is related to how much rather

than how the public is taxed. However, it is not taxes per se that cause disincentives and retard efficiency and growth; it is the unevenness with which the taxes are imposed on different endeavors that causes inefficiency. A lump sum tax, for example, which is assessed on everyone regardless of how much they work, save, earn, or produce, can be increased or decreased without affecting efficiency because it does not make any kind of activity more attractive than another. 35/ Output loss from taxation results only if some activities are taxed more heavily than other activities. Differential treatment in taxation can make uneconomic investment worthwhile; it can make output producing activities unattractive; and it can channel productive effort into nonproductive endeavors.

Of course, some activities cannot be taxed. Leisure appears to be inherently untaxable. "Psychic income," the satisfaction or other nonpecuniary compensation one receives from a job is also impossible to tax. Given this fact, economic distortion is minimized by taxing most heavily those endeavors which are least responsive to the higher cost. Activities which are very sensitive to changes in cost should then be taxed the least.

Seen from this perspective, the supply-side tax cuts were designed in such a way as to reduce only two of these tax differentials, the higher rate at which saving is taxed relative to spending, and the higher rate that work is taxed relative to leisure. The many tax differentials among types of assets, industries, and incomes were largely ignored by the tax reform. This focus on saving and working is, in many ways, surprising; for of all the different economic decisions

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35/ This discussion is limited to efficiency effects, since they were the focus of debate over the tax reform. Obviously equity or fairness considerations are also important elements of the effects of taxation. This explains why the "lump sum" tax in not seriously considered as a revenue source in modern economies.

that are influenced by taxation, it is impossible to know theoretically how taxation affects the labor-leisure and the saving-spending choices. An increase on the return to saving may make us want to save more, but it also increases our lifetime income, making us tend to spend more out of current income and reduce saving as a result. An increase in our take-home pay may encourage us to work more, but it may provide us with the extra income to take more leisure and work less instead. There is some evidence to show that saving will rise when the after-tax return on it rises. Among secondary workers (i.e., additional workers from a household that already has a principal earner) in particular, there is ample evidence that work incentives increase with higher pay. However, none of the empirical evidence indicates a responsiveness of either that is sufficient to raise revenues as a result of the tax cut. Certainly the evidence indicates that these activities are not nearly so sensitive to tax differentials as many other economic endeavors.

For these tax cuts to have decreased the cost of government, they would have had to increase efficiency by more than any decrease in efficiency resulting from the Government borrowing that they necessitated. At the simplest level, one might expect that every dollar of Government borrowing that occurs at capacity output will squeeze out a dollar of investment. Assuming this relationship, if the deficit is around 4 1/2 percent of GNP and total saving hovers around its historical norm of 15 percent of GNP, this would appear to imply a hefty reduction in potential growth. 36/ However, there are two or three considerations that suggest the actual impact on growth will be less

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36/ At capacity. See Denison, E. A Note on Private Saving. Review of Economics and Statistics. August 1958. p. 261-67; and David, P. and Scadding, J. Private Saving; Ultrarationality, Aggregation, and "Denison's Law". Journal of Political Economy. April 1974. pp. 27-49.

dramatic. First, when all forms of saving are properly accounted for, actual saving in the economy exceeds 15 percent of GNP. For example, a number of components counted as consumption are actually saving; purchases of consumer durables, investment in research and development, and most educational expenditures. Hence, when these other components of saving are considered the deficits projected over the next five years are much smaller proportions of gross saving than they at first appear.

Moreover, the principal crowding out effects of the projected deficits will probably not have much effect on the aggregate level of investment in plant and equipment. Higher interest rates caused by Government borrowing will tend to be offset by reductions in the tax rate on the return to capital (such as resulted from the more liberal cost recovery allowed by the corporate tax cuts). Hence, the cost of investment to firms may not rise by much if at all. The investment that will tend to be crowded out by government borrowing will be owner-occupied housing and consumer durables. Since the returns on these are not taxed, it will be household investment that will feel the full increase of interest rate changes. To the extent that crowding out is limited to household investment there will presumably be less effect on the growth of productive capacity than if business plant and equipment investment were crowded out.

An additional consideration is that saving may respond to changes in interest rates so that a net increase will occur in the resources made available for investment and Government borrowing. Short of this, there are the effects of international capital flows. These flows make capital available for Government borrowing and investment even if domestic saving stays fixed. Productive capacity can grow at the same time the Government borrows to finance its deficits.

Finally, one should consider the size of the changes involved. Productivity growth averaged nearly three percent a year prior to its recent slowdown. 37/ Estimates of the contribution of capital formation to this growth have ranged from only a fifth to about half of this growth. 38/ If only a fraction of the deficit will be financed by reduced capital formation and this amount is but a part of total capital formation in a given year, then the actual impact of the Government's borrowing on the standard of living would not appear to be that great. Conceivably it may not be noticeable at all.

The net short-run effect of output composition effects on the level of frictional unemployment is also difficult to gauge. A shift of two percent of GNP away from housing, consumer durables, exports and import competing industries is significant. The effect on aggregate supply, however, also depends on how easily resources can shift from these sectors to where they are in demand. In a growing economy, the demand for labor and capital grows, so that a compositional shift in demand from one sector to another can frequently be expected to show up as a reduction in the rate of growth of labor and investment demand for a given industry instead of a reduction in the absolute levels of these inputs. Since capital wears out and workers retire, it is possible for an industry to absorb small decreases in demand without much disruption and reduce its share of output by attrition. A large shift in demand may not be accommodated so

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37/ That is, the slowdown that occurred some time after 1965, See Denison, Edward. Accounting for Slower Economic Growth, the U.S. in the 1970s. Brookings, Washington, 1979 and Kendrick, John. Productivity Trends and the Recent Productivity Slowdown. In Contemporary Economic Problems, American Enterprise Institute, Washington, 1979, pp. 17-69.

38/ Denison, Edward. Accounting for U.S. Economic Growth, 1927-1969. Brookings, Washington, 1974, and Jorgenson, D.W. and Christensen, L.R. U.S. Real Product and Real Factor Input, 1929-1967. Review of Income and Wealth, p. 16 (1970) pp. 19-50.

easily however. In that case, an adjustment is required where currently employed workers must migrate from declining to growing industries; one can expect a period of unemployment between layoff of workers and their rehiring. The result is increased frictional unemployment during the transition. Still, if this adjustment can be completed relatively quickly, the short-run increase in frictional unemployment could be negligible. If, however, the adjustment is long and costly, the impact of such a large compositional shift could make a big difference in the (temporary) potential of the economy to produce.

In any case, the question is one of magnitudes and tolerances. Presumably, there are some levels of deficit spending so low that the problems they create are simply insignificant. Conversely, there must also be some size of the deficit at which additional borrowing could have serious consequences. Whether the deficits projected for the next five years exceed the amount that marks the threshold of the economy's ability to tolerate further borrowing without substantial efficiency costs is not clear. Moreover, whatever those costs of borrowing are, they should be compared with the cost of the alternatives.

Projected Government spending can only be financed in the three ways listed earlier: taxes, borrowing, and money creation. Taxes inevitably cause some distortion of incentives and economic inefficiency. Borrowing shifts the composition of demand, tending to reduce the rate of economic growth in the long-term and increasing frictional unemployment during the short-run adjustment to the new allocation of output. Money creation will cause inflation if used to finance a shortfall in revenues for a length of time. Ideally one would like to avoid all these consequences. In reality, the best that can be expected is to minimize their effects by choosing the least harmful combination.

It is unlikely that such a painful anti-inflation policy as recently experienced would have been undertaken if there were not a strong desire to avoid

inflation. Thus, inflation appears to be ruled out as a means of financing Government expenditures. The choice between the remaining two options depends on the desired allocation of output and rate of growth.

In choosing the tax increase approach, it need not be the case that the supply side intentions of the original tax cuts be abandoned. There are many distortions in the tax code other than just those related to work and leisure or saving and spending choices. Anecdotal evidence suggests that substantial uneconomic activity occurs both as a result of economic agents trying to shelter their income from taxation and as a result of the deviation of after-tax costs of some forms of investment relative to their true economic before-tax costs. The efficiency gains that were achieved by the tax cuts for saving and working activities are likely to have been small relative to the potential gains related to these distortions. For example, by reducing the differences in tax rates imposed on different assets, capital can be better allocated and a reduction in the resource cost of producing output can be achieved; by doing away with the preferential treatment accorded capital gains relative to other income it can be possible to divert investment from less productive to more productive uses; ending the tax-exempt status of fringe benefit compensation can prevent the diversion of resources into sectors into which they would not go given underlying economic costs and preferences. Consequently, given these alternatives, it is actually possible to reduce distortions and tax-induced inefficiency by raising taxes on tax-exempt and low-taxed activities. Thus, if policy makers so choose, taxes can be increased and many disincentives eradicated--raising tax revenues and honoring supplyside intentions at the same time.

It is this fact that may account for much of the current interest in tax base broadening. An effort to treat different types of income and expenditures

alike amounts in many ways to taxing different activities more uniformly, reducing the distortions in the economy that can result from taxation and that tend to hold down the supply of output.

V. CONCLUSION

Government deficits have been regarded as part of expansionary policy for nearly 50 years. This view has been attacked before, but has been successfully defended on both theoretical and empirical grounds, becoming a central feature of mainstream macroeconomics. Recently, the proposition has been challenged again by a variety of commentators who have argued that budget deficits through their effect on interest rates are actually contractionary. There have been three separate and distinct arguments made in support of this assertion.

First, some have insisted that current deficits have either caused, worsened or prolonged the recent economic contraction by raising interest rates and retarding interest sensitive sectors of the economy. This view which has been almost uniformly rejected by economists for many years, results partly from a confusion about the role of interest rates; when interest rates rise because of increased Government borrowing it is because the growing deficits raise aggregate demand. Hence, interest rate increases under these circumstances are part of the very process that raises output and employment, not some kind of independent offset to the stimulus provided by the budget. The view that deficits can depress concurrent economic activity also hinges on an analysis based on less than the total economy; it frequently concentrates only on the sectors adversely affected by the interest rates and ignores the sectors that are helped by the deficit spending.

Second, some argue that the prospect of future deficits has made the recent contraction worse and has retarded the current recovery. This idea that projections of large future deficits create expectations that serve to contract demand

is a relatively new view and is hard to evaluate because its proponents have yet to systematize it into any complete and consistent model. Following the analytical leads suggested by those who assert this view, a theoretical investigation of it shows that in some versions it is inconsistent--requiring that its proponents maintain that interest rates are too low, for example. In another version it assumes selective irrational behavior on the part of the public --a possibility, of course, but not easily accepted under the circumstances. There is one version of the proposition in which a contractionary effect can be derived. However, there does not appear to be evidence of financial market activity consistent with this expectations scenario, or of conditions that would have made a contractionary outcome from deficits possible during the recent recession.

The third argument about deficits is not that they have had any effect in slowing or delaying the recovery now, but that they will abort the recovery later. Careful analysis shows that the proposition that future deficits will cause a future contraction is probably not what it seems to be. Proponents of this view do not seem to expect future deficits to reduce aggregate demand later during recovery. What they are apparently referring to is the potential of large future deficits to reduce aggregate supply by shifting the composition of output demanded. This could occur because the resource shifts that would be required by the reallocation of demand could be large enough to temporarily increase frictional unemployment of productive resources as labor and capital make their transit from declining to expanding sectors of the economy. Such demand shifts could mean that the recovery will encounter a supply constraint before the economy reaches what is more commonly accepted as full employment.

The consensus of the profession is that the 1981-82 contraction was principally the result of anti-inflationary monetary policy that required a slowdown

in monetary expansion and a consequent rise in interest rates. The effect of fiscal policy since the implementation of the tax cuts has been expansionary. Thus, most economists contend that it has been the anti-inflation efforts of the Fed that primarily influenced the depth of the recession and were responsible for many of the predictions of a slow recovery. Fiscal policy, if anything probably served to partially offset the effects of contractionary monetary policy.

The allocational effects of large and continuing deficits on the economy seem to be the primary source of concern about the sizable budgetary shortfall of revenues below expenditures. Either the demand composition effect on frictional unemployment is regarded as a serious cost to bear or the retardation of investment resulting from government borrowing is believed significant enough to want to avoid. Yet neither of these effects may, in fact, be very great. Due to a variety of reasons, the crowding out of business investment may be rather small in the face of even large deficits. The crowding out that does occur may not affect economic growth by much either. The effect on frictional unemployment is only temporary, and its magnitude depends on the flexibility and responsiveness of the economy. Clearly, however, there is some size of the deficit at which these costs do become significant. It is not readily apparent whether the deficits projected over the next five years are large enough or too small to cause significant supply effects.

If it is believed that these effects are harmful enough that they should be avoided, there remain but two methods of financing government expenditure: taxes and money creation. With inflationary finance ruled out as a source of paying for government outlays, the choice comes down to one of reduced expenditures or increased taxes. If taxes are indeed increased they need not reverse the intent of the 1981 tax cuts, however. By concentrating on the other aspects of tax-induced supply-side distortions, it is possible to raise taxes and still

enhance efficiency by focusing efforts on base broadening and by addressing the unevenness of the tax burdens imposed on different economic activities, instead of the aggregate size of that burden.

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