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LIMITATIONS OF KEYNESIAN ECONOMICS[1]

BY WILLIAM VICKREY

THE tools of analysis developed by Keynes have had such a profound influence on economic thinking that it is probably safe to say that today few economists of note are without some degree of indebtedness to Keynes. And of those who still refuse to make use of the Keynesian apparatus, many neglect it only because they do not understand it. Thus, if using the Keynesian apparatus makes one a Keynesian, most economists today are Keynesians.

There is, however, considerable divergence among the conclusions reached by different groups who make use of this apparatus. In the narrower sense of the term, the more specifically Keynesian economists can be distinguished by the emphasis that they place upon fiscal policy—that is, the variation in governmental deficit or surplus—as the crucial element in any program for the overall stabilization of the economic system. Over against these extreme Keynesians stand those who would place chief reliance on monetary measures, such as control of reserve ratios, changes in rediscount rates, and the purchase and sale of government bonds on the open market. These are the methods that were considered to be proper by respectable economists before the advent of the Keynesian era, and which Keynes showed to be, under certain conditions, inadequate to produce the desired results. The object of this paper is to show in what circumstances each of these two policies can be relied on, in what circumstances each is likely to prove ineffective, and, in those cases where both may be effective, the relative advantages of the two policies.

1 The substance of this paper was delivered before the Conference on Methods in Philosophy and the Sciences, at the New School for Social Research on May 9, 1948.

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The Monetary and Fiscal Elements of Policy

At the outset, we should have fairly clearly in mind the difference between fiscal or budgetary policy, on the one hand, and monetary policy, on the other. Fiscal policy in its purest form consists of changing the deficit without changing the quantity of money or the level of governmental expenditures. A stimulating pure fiscal action would consist of reducing taxes and simultaneously selling a corresponding amount of government bonds, while preventing the expansion of bank credit. A sedative fiscal action would consist of increasing taxes and either buying bonds or selling fewer than would otherwise be necessary. In effect, individuals hand over the same amount of cash to the government to enable it to carry on its activities, but in one case they are given in exchange a tax receipt, and in the other they are given a bond. The stimulating effect comes from the fact that individuals will spend more freely on consumption goods if they have bonds in their strong box than if they merely have tax receipts that do not call for any future payment by the government. There is no change in the amount of money outstanding, nor is there any change in government outlays.

The simplest form of pure monetary stimulus is provided by printing money and buying bonds with it. The process of buying the bonds tends to raise their price and lower the interest rate. If the interest rate can be lowered in this way to an extent sufficient to encourage investors to borrow at the low rates and purchase capital goods, the stimulus will be effective. There may also be a slight tendency for individuals to spend more on consumption if their assets consist more largely of liquid cash than interest-bearing securities, but ordinarily this is deemed negligible; a person's desire to add to his assets rather than to spend on consumption is commonly thought to be little affected by the type of asset accumulated. Possibly also the reduced rate of interest may induce more spending now rather than saving for later on, since giving up consumption in the present will yield less purchasing power for the future than it did when interest

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rates were higher. It is usually felt, however, that interest has little influence in this direction, and that the influence may even be the reverse. For example, it seems rather unlikely that the increase in life insurance premium rates that might result from a fall in interest rates would actually lead to a decline in the aggregate amount that individuals choose to devote to the payment of premiums. A 10-percent increase in premium rates would probably produce less than a 10-percent decline in the face value of policies taken out, so that total premiums might even increase.

In the reverse case, a purely monetary sedative can be applied most simply by selling bonds and destroying the cash received from the sale. This will tend to drive interest rates up, reduce the desire of investors to borrow money and buy capital goods, and so abate the competition for goods and curtail inflation.

The same stimulus may be applied more indirectly if the government negotiates loans from banks, buys bonds with checks drawn against the deposit thus set up, and so raises the market price of bonds, thereby lowering interest rates. In the process the deposit created by the loan is transferred to the credit of individuals. Or still more indirectly, banks may be induced to expand their loans through the lowering of reserve requirements, through reducing rediscount rates, or by a general relaxation of restrictions on the making of loans. In these cases the money is created by the banking system rather than by the government, and additional interest payments to the banks are involved. From the point of view of the economy at large, however, the effect is exactly the same as if the money had been simply printed, and accordingly in what follows we will speak in the simpler terms of printing or destroying the money. One way of expressing this concretely is to assume that banks are on a 100-percent reserve basis and are required to have cash on hand equal to their demand deposits.

Thus we have two distinct elementary operations by which a stimulus or a sedative may be administered to the economy. The classical monetary operation consists of the substitution of cash for bonds or vice versa, and the Keynesian deficit operation con-

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sists of the substitution of bonds for tax receipts or vice versa. If we add a third elementary operation—a simultaneous increase in taxes and expenditures with no change in deficit or money supply—any program of government action can be expressed as a combination of these three elements. But since this third or expenditure element by itself has only relatively minor effects on aggregate activity and the general price level, we will consider only the monetary and deficit elements. Any program not involving a change in government outlays will consist of a combination of these two elements, and its effects can be analyzed accordingly. The analysis is greatly simplified if we keep these two contrasting elements distinct.

The Roles of the Two Elements

We may now ask what limits the effectiveness of the monetary operation. In the first place, the terms on which funds are actually available to business respond only with some sluggishness to the prices quoted for bonds on the open market, or to rediscount rates of reserve banks, except in those cases in which a businessman actually owns some bonds or similar securities himself and is able to sell them and obtain funds directly. Much more important, however, is the fact that under our present economic institutions there is a limit below which the interest rate cannot be driven by monetary measures; this limit may not be low enough to permit investment to be stimulated to the level needed to produce full employment. This is particularly likely to be true if at the beginning of the operation the interest rate is already low. Obviously the interest rate cannot be pushed to negative values. In fact, even with an interest rate considerably above zero, individuals begin to be rather indifferent whether they hold their capital in the form of cash or low-interest securities; large quantities of cash could be substituted for corresponding amounts of bonds in the hands of the public without driving them to offer to lend at much lower rates of interest, and without driving the price of bonds much higher. Before an adequate

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stimulus to investment could be produced, the amount of cash issued might well be so great as to be a serious threat to the stability of the economy; if an upturn were eventually induced, it might easily become an unmanageable boom. And even if such operations were conducted on an extremely large scale, there would be no assurance of producing an upturn.

Even assuming that interest rates could be lowered substantially, there would still be the possibility that investment might be relatively unresponsive. Rapid obsolescence and general uncertainty are likely to loom large in the eyes of the prospective purchaser of capital goods, and reductions in interest rates, especially when the rate was small to start with, are unlikely to be very effective in inducing increased purchases or construction of capital equipment. For example, if an item is expected to be worn out or obsolete in ten years, so that depreciation must be charged at 10 percent, a reduction in interest rates from 3 percent to 2 percent is likely to have a relatively unimportant influence on the decision whether or not to make this outlay.

Thus the success of monetary expansion in providing a stimulus depends on three links: the increase in money holdings must lead to a willingness to lend at lower interest rates; these lower rates must be made effectively available to potential purchasers of capital goods; and purchasers of capital goods must have their decisions affected by the change in interest rates. If any one of these links is broken, monetary policy loses its effectiveness. There is, to be sure, a possible alternative to the interest rate-investment link, and that is the possibility that with lower interest rates and the substitution of cash for other assets held, individuals will save less and spend more on current consumption. In practice, however, a substantial effect of this sort is sufficiently unlikely that we may leave it out of account.

To turn now to budgetary policy, the success of an expansionary operation, consisting of lowering taxes and selling bonds, depends on the willingness of individuals and businesses to spend their stock of money more rapidly without drastically increasing

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the rate of interest at which they are willing to make loans. For obviously if the volume of money and demand deposits is held constant, then an increase in the volume of trade must mean a decrease in the number of days of outlays that is kept on hand on the average in the form of money and demand deposits. Now, having a certain minimum number of days' outlays on hand in the form of cash or deposits is a practical necessity. Having somewhat more than this on hand is of some added convenience, for which individuals are willing to forgo something in the way of interest that they might be able to obtain by giving up cash in exchange for interest-bearing assets; also, having a certain reserve of cash may enable individuals to take fuller advantage of opportunities that arise than would be possible if they could not pay the cash deposit required immediately but had first to sell some of their other assets to obtain cash. Thus, in general, as the interest rate declines and the cost of holding cash diminishes, individuals tend to turn over their cash more and more slowly, and to keep on hand an amount equal to the outlays of a longer period. As the interest rate rises, individuals will keep more of their assets in interest-bearing form and less in the form of cash, until at very high rates of interest their cash holdings are reduced to barely more than the minimum necessary to carry them from one lump payment to the next.

At low rates of interest, the velocity of circulation tends to be low, and there is considerable room for speeding it up. Individuals will be willing to lend their cash without requiring a much higher rate of interest in return for the sacrifice of liquidity. In these circumstances, fiscal policy can be effective, in that the amount of government bonds held by individuals will be increased, the interest rate raised only slightly, private investment diminished only slightly, individual consumption increased substantially, and the velocity of circulation of the fixed money supply increased.

On the other hand, if interest rates are high, and the velocity of circulation is already pushed close to its maximum, there is

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little room for further increase in the velocity of circulation. Individuals will not be willing to economize further in their use of cash unless there is a fairly sharp increase in the interest offered them to compensate for the loss of liquidity. The government will be able to sell its bonds in pursuit of an expansionary deficit policy only by offering much higher rates of interest. Higher interest rates will in turn curtail private investment. In the extreme case, where the velocity of circulation is entirely unresponsive to changes in the rate of interest, the net result will be that the government deficit will be exactly offset by an equal reduction in private investment (or possibly by a slightly smaller reduction in private investment coupled with a corresponding increase in individual savings); the interest rate will rise, and the total income and employment of the community will remain the same. More of the resources of the community will be devoted to current consumption, and less to the construction of capital equipment. Thus the success of fiscal policy depends on the demand for cash being responsive, in some substantial degree, to changes in interest rates (or, to put it the other way around, on interest rates being unaffected, or only moderately affected, by the supply of cash).

To be sure, even at high interest rates where the demand for money responds but little to changes in interest rates, a policy which combined fiscal and monetary measures, as for example a simultaneous printing of money and reduction of taxes, would be effective. But the effectiveness of such a policy is due primarily to its monetary element, and a purely monetary operation of printing money and buying bonds would be almost equally effective in stimulating the economy, though the resulting division of resources between current consumption and capital formation would be different.

Thus at high interest rates and low elasticity of demand for money, monetary policy is effective but a pure deficit policy alone is ineffective in controlling the level of the national income and with it the volume of unemployment or the degree of inflation,

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as the case may be. On the other hand, at low interest rates and an elastic demand for cash, monetary policy by itself is impotent and fiscal policy is required for the stabilization of the economy. As a restrictive policy, monetary control can always be made effective, for if at the outset interest rates are low and cash demand elastic, monetary contraction if carried far enough will first raise interest rates to the point where demand for cash is inelastic and monetary policy becomes effective, and further monetary contraction will then exert its effect on the national income. To be sure, in extreme situations, monetary contraction may produce subsidiary results that may be awkward. For example, if abatement of the present inflationary pressures were attempted by curbing bank credit expansion, selling bonds, and retiring from circulation the money and deposits received, it would probably be necessary to proceed until the interest rate was forced quite high. Short-term interest rates might have to be pushed as high as 10 or even 15 percent, but a businessman who is not deterred from purchasing capital equipment by grey market prices would probably not be greatly discouraged by any less drastic increase in interest rates. Long-term rates would probably not have to be pushed nearly so far, but even so, the value of present long-term low-interest government obligations would be pushed down. Twenty-year 3-percent bonds might well sell for as low as 70. This paper loss in value might easily create difficulties in individual cases. The amount of interest to be paid on the national debt would start to rise gradually as more and more of the debt is refinanced at the new rates. This would mean a need for increased taxation in order to keep the deficit at the same level and to avoid being indirectly pushed into an inflationary budgetary policy. But these tax increases would be neither as large nor as immediate as those required by a deflationary budget policy. The increased interest rate would mean increased property incomes and would tend to increase the concentration of income, though to some extent this would be offset by the losses in the market value of long-term bonds. Thus inflation can be con-

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trolled by monetary policy alone, if we are willing to bear the consequences. Budgetary policy, whether achieved through increased taxation or decreased expenditure, is not absolutely necessary.

There is a danger, however, in trusting entirely to monetary policy. If monetary curtailment overshoots the mark it may bring on an incipient recession. A reversal of policy, through buying back bonds and lowering the rate of interest, would then be in order, of course. Indeed, an alternate buying and selling of bonds, accompanied by expansion and contraction of the money supply, might be able to keep the economy on an even keel. But it is very likely that at some point in the process we would find the interest rate down at the lower limit of what can be achieved by monetary policy, and the economy still on the downgrade. In such an event, monetary policy would be powerless to do more to stimulate the economy, and a depression would set in unless some other means of control is resorted to. In effect, monetary policy is capable of imposing powerful downward pressures on the money national income and of keeping inflation within bounds, but monetary policy alone can exert only a moderate and uncertain pressure upward should employment begin to sag.

On the other hand, budgetary policy alone may in the present situation be relatively ineffective against inflationary pressures. Or if it is effective, it may be adequate only when carried to such lengths as to have very serious repercussions. What would be needed would be for the government to increase taxes to such an extent that the sum of what people want to spend out of the income remaining to them after taxes, plus what businessmen want to spend on capital equipment, at existing low rates of interest, will not exceed the productive capacity of the country. Or to put it another way, the government must redeem through taxation a sufficient quantity of securities so that the funds thus returned to bondholders, plus the amount which people are willing to save out of their disposable incomes, will equal the amount that businessmen want to use, at the present low interest rates, for the

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expansion of their capital plant. To do this on the required scale is likely to have consequences even more serious than those resulting from monetary contraction.

The political difficulties of getting an increase in taxes on the scale required are familiar to all. The economic difficulties are no less serious and more deep-seated. Fundamentally, arresting inflation through budgetary policy and low interest rates, rather than through monetary policy and high interest rates, means that a larger fraction of the national resources will be used for additions to capital and less for individual consumption. Curtailment of the resources available for individual consumption in order to leave to businessmen as much as they want for additions to capital plant and equipment will mean, in general, a lower standard of living for the poorer classes. Those with large incomes will probably not be driven to curtail their consumption expenditures very much by such tax increases as are likely to be adopted. If a smaller proportion of the national resources are to go to consumption, and the wealthy do not decrease their consumption, the living standards of the poor will have to suffer. This is the obverse of the often-heard statement that the tax increases that are most deflationary are those that fall upon the lower-income classes, and that the taxes on the wealthy come primarily out of savings and have relatively little deflationary effect.

In addition to the problem of the living standards of the lower-income classes, there is the fundamental question whether, as a matter of broad national policy, we should devote as large a proportion of our resources to capital formation as would be the result if budgetary methods are relied on for inflation control. With devastation and need abroad, it would seem that the expansion of our own capital plant might be placed a bit lower on the priority list. And the attempt to make up in a short period for the time lost during the war is likely to lead to an overexpansion in capital goods industries that may well lead to grief later on. At the very least these are matters that should consciously be considered before deciding whether to employ the Keynesian

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budgetary policy or the classical monetary policy as a means of controlling inflation.

Thus, for the time being at least, budgetary policy has a strong competitor in monetary policy for the role of exercising general control over the economy. There is a shortage of capital equipment, which produces a high profitability of new investment; this in turn, by proper monetary measures, could be placed in equilibrium with a high money rate of interest, which would give monetary control a substantial margin in which to work.

The Administration of the Two Elements

In terms of the present division of authority, the Treasury Department and the Federal Reserve Board between them can put into effect almost any monetary policy that is needed. Indeed, within limits, either agency operating alone can exert a substantial influence in controlling the amount of money and demand deposits in circulation, and together it appears likely that without further legislation they have the power to take monetary action that would be sufficient to control inflation. On the other hand, fiscal policy is to a large extent in the hands of Congress. The administration is almost completely powerless to adjust tax revenues on its own initiative, and the degree of possible adjustments in the rate of expenditures is severely limited. Thus, though it may be admitted that the Treasury and the Reserve Board together could check inflation—and that checking inflation by monetary action is desirable in spite of the resulting disturbances to bond markets and the check that high interest rates would place on certain lines of investment, notably housing—even so, as long as there is no assurance that Congress stands ready to adopt the correct fiscal policy on short notice should the monetary action overshoot the mark, there is considerable justification for the use of great caution in the application of monetary measures, especially since so little is known about how to determine what degree of contraction is required to produce a given result.

To use a crude analogy, the monetary authorities may be com-

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pared to the man in charge of the gas release valve of a balloon that is rising somewhat too rapidly. He knows he can check the ascent by releasing gas (contracting the money supply), but also that should he release too much, so that the balloon begins to descend, he can do nothing to correct the situation, but must rely on the man in charge of the sandbags (Congress) to release some of the ballast (increase the deficit or reduce the surplus). If the gas valve man is uncertain whether the ballast man is prepared to release ballast quickly should the occasion arise, he may well hesitate to release any large amount of gas for fear that if he overshoots the mark and causes the balloon to descend, the balloon may get into serious difficulty before the ballast man gets around to acting. This is especially so if he does not know the sensitivity of his valve.

To complete the picture, one might supply the valve man with a gas generator with which he may replace the gas released (re-expand the money supply) except for the fact that the generator sometimes refuses to work properly, especially when the balloon is low or falling (expansion of money supply merely increases cash balances without lowering interest rates sufficiently to expand investment and production); on the other hand, the ballast man has a means of taking on more ballast, for example, by condensing atmospheric moisture (increasing the surplus or reducing the deficit), except that this becomes difficult at higher altitudes when the balloon is rising. Thus while either acting alone can to a degree control the balloon, the most effective control requires that they supplement each other's actions, with the valve man (monetary policy) playing the dominant role at high altitudes or during the ascent (prosperous or inflationary periods) and the ballast man (fiscal policy) being prepared to take over promptly at lower altitudes or during a descent (periods of deflation or recession). The immediate requirement, therefore, is for strong monetary policy coupled with a preparedness on the part of Congress to take proper fiscal action if the need should arise. As monetary policy is considerably more flexible than fiscal policy,

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this, for the time being, would seem to be a fairly satisfactory program, if the proper coordination of elements could be achieved.

Economic Policy, the Role of Government, and the Social Heritage

But what of the longer-run outlook? Many observers have argued that there is a long-term tendency for the needs of the economy for capital to become saturated, and for the rate of return which can be earned by new capital to fall. If this is so, then after the effects of the present emergency have worn off, we will find, if we are fortunate enough to enjoy a substantial period of peaceful development, that the interest rate consistent with full employment and stable prices, on the one hand, combined with a balanced budget (or a moderate surplus), on the other, gradually declines until it approaches the level at which the liquidity function is very elastic, and the monetary authority no longer has much room for further reductions in the interest rate. Thus the power of monetary policy to exert upward pressure on the economy in times of incipient slump will diminish. Eventually, then, a return to the Keynesian budgetary methods of control appears to be required. And from some points of view this would be a satisfactory result.

In terms of broad economic policy, however, a mechanism that requires that the budgetary deficit be adjusted entirely as dictated by the requirements of maintaining full employment seems not completely satisfactory, in that it imposes an unfortunate limitation on our freedom of action. One would like to be able to decide upon the amount of government expenditures, not by the need to preserve full employment, but by a judgment of the extent to which resources can be utilized more effectively through governmental agencies than through private enterprise. That opinions may differ widely on this issue is no reason for not acting according to some reasonable consensus, or average opinion. One would also like to determine the budgetary deficit, and with it the degree to which resources are to be used for capital formation, on the basis of a deliberate choice as to how much of a social heri-

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tage should be left for future generations, and not merely according to the needs of the moment for keeping the economic mechanism working smoothly. If we have to determine the deficit by full employment considerations, then either the decision as to the size of the social heritage or the decision as to the relation between government and private activity will have to give way. But if we can somehow retain the effectiveness of monetary control, these decisions can be made on their own merits. Are there, then, methods by which the effectiveness of monetary control can be maintained and the resort to budgetary control avoided?

The complete answer to this question lies beyond the scope of this paper. For the present it may suffice to suggest two possible methods of avoiding the eventual recourse to budgetary policy. The first method is the imposition of a tax on holdings of cash and demand deposits at a rate of from 3 to 10 percent per year, as suggested by Arthur Dahlberg.[2] Here the cost of holding cash would be the loss of interest plus the cash balances tax, so that even at a zero rate of interest, cash holdings would remain small and the velocity of circulation of money kept up. Even negative rates of interest would be possible. Monetary policy could then maintain a steady flow of income without recourse to budgetary policy. The other method would be the adoption as a permanent policy of allowing a "creeping inflation" at a rate, say, of 5 to 10 percent a year, with nominal interest rates correspondingly higher and all long-term contracts modified in the light of such an expectation; the promise of steadily rising prices would be a stimulus to investment and a penalty for holding cash. There are difficulties involved in both of these schemes; they are mentioned merely to show that the eventual resort to the use of budgetary policy as the principal means of overall stabilization is far from inevitable.

[2] See Dahlberg, *When Capital Goes on Strike* (New York 1938). This plan is to be distinguished from the more usual "stamped scrip" plans by the more moderate rate of tax, which would be sufficient to keep the velocity of circulation fairly high, but not sufficient to induce individuals to forgo the convenience of using money in favor of other possible media of exchange not subject to tax.

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