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ABSTRACT

This paper emphasizes the importance of the interaction between tax rules and the management of monetary policy. The monetary authorities' failure to recognize the implications of the tax structure has caused them to underestimate just how expansionary monetary policy has been. Moreover, because of our fiscal structure, attempts to encourage investment by an easy-money policy have actually had an adverse impact on investment in plant and equipment. The paper discusses the desirability of substituting a policy of tight-money and positive fiscal incentives for the traditional goals of easy money and fiscal restraint. More generally, the paper stresses the significance of the fiscal structure as a determinant of macroeconomic equilibrium.

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Tax Rules and the Mismanagement of Monetary Policy

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It is now widely agreed that the mismanagement of monetary policy over the past 15 years has been a major cause of our current obstinately high rate of inflation. I believe that an important source of this monetary mismanagement has been the failure of the monetary authorities (and of economists in general) to understand how the interaction between inflation and our tax rules influences the effects of monetary policy.

More specifically, as I shall explain in the present paper, I believe that the monetary authorities' failure to recognize the implications of the fiscal structure has caused them to underestimate just how expansionary monetary policy has been. Moreover, because of our fiscal structure, attempts to encourage investment by an easy-money policy have actually had an adverse impact on investment in plant and equipment. The conventional prescription of "easy money and a tight fiscal position" has been an unfortunate guide for macroeconomic policy. The switch to floating exchange rates and the relaxation of some of the old restrictions on financial institutions have made it even more important to reject this conventional prescription and to pursue instead a policy mix of "tight money and positive fiscal incentives".

I. Misjudging Monetary Tightness

During the dozen years after the 1951 accord between the Treasury

and the Fed, the interest rate on Baa bonds varied only in the narrow range between 3 1/2 percent and 5 percent. In contrast, the past 15 years have seen the Baa rate rise from less than 5 percent in 1964 to more than 10 percent at the beginning of 1979. It is perhaps not surprising therefore that the monetary authorities, other government officials, and many private economists have worried throughout this period that interest rates might be getting "too high". Critics of what was perceived as "tight money" argued that such high interest rates would reduce investment and therefore depress aggregate demand.

Against all this it could be argued, and was argued, that the real interest rate had obviously gone up much less. The correct measure of the real interest rate is of course the difference between the nominal interest rate and the rate of inflation that is expected over the life of the bond. A common rule of thumb approximates the expected future inflation by the average inflation rate experienced during the preceding three years. In 1964, when the Baa rate was 4.8 percent, this three-year rise in the GNP deflator averaged 1.4 percent; the implied real interest rate was thus 3.4 percent. By the beginning of 1969, when the Baa rate was 10.0 percent, the rise in the GNP deflator for the previous 3 years had increased to 6.2 percent, implying a real interest rate of 3.8 percent. Judged in this way, the cost of credit has increased only slightly over the 15 year period.

All of this ignores the role of taxes. Since interest expenses can be deducted by individuals and businesses in calculating taxable income, the net-of-tax interest cost is very much less than the interest rate

itself. Indeed, since the nominal interest expense can be deducted, the real net-of-tax interest cost has actually varied inversely with the nominal rate of inflation. What appears to have been a rising interest rate over the past 15 years was actually a sharply falling real after-tax cost of funds. The failure to recognize the role of taxes prevented the monetary authorities from seeing how expansionary monetary policy had become.

The implication of tax decutibility is seen most easily in the case of owner-occupied housing. A married couple with a $30,000 taxable income now has a marginal federal income tax rate of 37 percent. The 10 percent mortgage rate in effect at the beginning of 1979 implied a net-of-tax cost of funds of 6.3 percent. Subtracting the 6.2 percent estimate of the rate of inflation leaves a real net-oftax cost of funds of only 0.1 percent. By comparison, the 4.8 percent interest rate for 1964 translates into a 3.0 percent net-of-tax rate and a 1.6 percent real net-of-tax cost of funds. Thus, although the nominal interest rate had more than doubled and the real interest rate had also increased, the relevant net-of-tax real cost of funds had actually fallen from 1.6 percent to only 0.1 percent.

As this example shows, taking the effects of taxation into account is particularly important because the tax rules are so non-neutral when there is inflation. If the tax rules were completely indexed, the effect of the tax system on the conduct of monetary policy would be much less significant. But with existing tax rules, the movements of the pretax real interest rate and of the after-tax real interest rates are completely dif-

ferent. I think that monetary policy in the last decade was overly expansionary because the monetary authorities and others believed that the cost of funds was rising or steady when in fact it was falling significantly.

The fall in the real after-tax interest rate has caused a rapid increase in the price of houses relative to the general price level (see e.g., Hendershott and Hu, 1979) and has sustained a high rate of new residential construction. There were, of course, times when the ceilings on the interest rates that financial institutions could pay caused disintermediation and limited the funds available for housing. To that extent, the high level of nominal interest rates restricted the supply of funds at the same time that the corresponding low real after-tax interest cost increased the demand for funds. More recently, the raising of certain interest rate ceilings and the development of mortgage-backed bonds that can short-circuit the disintermediation process have made the supply restrictions much less important and have therefore made any interest level more expansionary that it otherwise would have been.

The low real after tax rate of interest has also encouraged the growth of consumer credit and the purchase of consumer durables. More generally, even households that do not itemize their tax deductions are affected by the low real after-tax return that is available on savings. Because individuals pay tax on nominal interest income, the real after-tax rate of return on saving has become negative. It seems very likely that this substantial fall in the real return on savings has contributed to the

fall in the personal saving rate and the rise in consumer demand.[1]

For corporate borrowers, the analysis is more complex because inflation changes the effective tax rate on investments as well as the real net-of-tax interest rate. More specifically, historic cost depreciation and inventory accounting rules reduce substantially the real after-tax return on corporate investments (see Feldstein and Summers, 1979). An easy-money policy raises the demand for corporate capital only if the real net cost of funds falls by more than the return that firms can affort to pay. This balance between the lower real net interest cost and the lower real net return on investment depends on the corporation's debt-equity ratio and on the difference between the real yields that must be paid on debt and on equity funds. It is difficult to say just what has happened on balance. In a preliminary study, Lawrence Summers and I concluded that the rise in the nominal interest rate caused by inflation was slightly less than the rise in the maximum interest rate that firms could afford to pay (Feldstein and Summers, 1978). However, this analysis made no allowance for the effect of inventory taxation or for the more complex effects of inflation on equity yields that I have more recently investigated (Feldstein, 1979a). My current view is that on balance monetary policy reduced the demand for business investment at the same time that it increased the demand for residential investment and for consumption goods.

It is useful to contrast the conclusion of this section with the conventional Keynesian wisdom. According to the traditional view, monetary expansion

lowers interest rates which reduces the cost of funds to investors and therefore encourages the accumulation of plant and equipment. This statement is wrong in three ways. First, a sustained monetary expansion raises nominal interest rates. Second, although the interest rate is higher, the real net-of-tax cost of funds is lower. And, third, the lower cost of funds produced in this way encourages investment in housing and consumer durables (as well as greater consumption in general) rather than more investment in plant and equipment.

II. The Correct Mix of Monetary and Fiscal Policies

There is widespread agreement on two central goals for macroeconomic policy: (1) achieving a level of aggregate demand that avoids both unemployment and inflation, and (2) increasing the share of national income that is devoted to business investment. Monetary and fiscal policy provide two instruments with which to achieve these two goals. The traditional view of the effect of monetary policy has led to the conventional prescription of easy money (to encourage investment) and a tight fiscal policy (to limit demand).

This policy mix could in principle achieve its two goals. A government surplus would permit a reduction in the supply of government liabilities (money and bonds) and would thereby facilitate increased capital accumulation. The required change in the interest rate would depend on the relative interest sensitivities of the market demand for bonds and money. In the likely case in which the demand for money is relatively inelastic, the government surplus must be accompanied by a lower rate of interest and the substitution of real capital for government bonds.[2]

Unfortunately, the traditional prescription of easy money and a tight fiscal position is almost bound to fail in practice because of the political difficulty of achieving and maintaining a government surplus. During the past twenty years, there have not been any two successive years in which the federal government budget showed a surplus. As a result, the pursuit of an easy money policy has produced inflation. Although one inflationary increase in the money supply did reduce the real after-tax cost of funds, this only diverted the flow of capital away from investment in plant and equipment and into owner-occupied housing and consumer durables. By reducing the real net return to savers, the easy money policy has probably also reduced the total amount of new saving.

The inappropriateness of the traditional policy mix reflects not only its overoptimistic view about the feasibility of government surpluses but also its overly narrow conception of the role of fiscal policy. In the current macroeconomic tradition, fiscal policy has been almost synonymous with variations in the net government surplus or deficit and has generally ignored the potentially powerful incentive effects of taxes that influence marginal prices.

A more appropriate policy mix for achieving the dual goals of balanced demand and increased business investment would combine a tight-money policy and fiscal incentives for investment and saving. A tight-money policy would prevent inflation and would raise the real net rate of interest. Although the higher real rate of interest would tend to deter all forms of investment, specific incentives for investment in plant and equipment could more than offset the higher cost of funds. The combination of the higher real net interest rate and

the targeted investment incentives would restrict housing construction and the purchase of consumer durables while increasing the flow of capital into new plant and equipment. Since housing and consumer durables now account for substantially more than half of the private capital stock, such a restructuring of the investment mix could have a substantial favorable effect on the stock of plant and equipment.

A rise in the overall saving rate would permit a greater increase in business investment. The higher real net rate of interest would in itself tend to induce such a higher rate of saving. This could be supplemented by explicit fiscal policies that reduced the tax rate on interest income and other income from saving.

Switching from an easy money policy to a policy mix with high real interest rates would have a further advantage. Because of the current system of floating exchange rates, a rise in the real interest rate would cause an appreciation of the dollar which would in turn reduce the price level directly (see e.g., Dornbusch and Krugman, 1977). With less than perfect international capital mobility, higher interest rates could persist and would tend to attract some inflow of foreign capital that would further augment investment in the United States.

III. Macroeconomic Importance of the Fiscal Structure

The misjudgement of monetary tightness and the advocacy of an inappropriate policy mix suggest the importance of recognizing that the fiscal structure of our economy is a key determinant of the macroeconomic equilibrium and therefore of the effect of monetary policy. Conventional

macroeconomic analyses that ignore the fiscal structure (or that assume that all taxes are equivalent to lump sum taxes) can be seriously misleading.[3] The fact that the real interest rate can simultaneously rise on a pretax basis and fall on a net-of-tax basis shows that fiscal effects with the existing U.S. tax law are qualitatively as well as quantitatively important.

The common tendency to ignore the tax structure in macroeconomic analysis is due at least in part to the fact that taxes were much less important at the time that the current models of macroeconomic analysis were developed. When Keynes' General Theory was first published, less than five percent of American families were affected by the income tax and the median tax rate among those who paid tax was less than five percent. The greater current significance of the the fiscal structure reflects not only the growth of the income tax but also the increased importance of social insurance programs like unemployment insurance and social security.

The tax structure is particularly important as a cause of the macroeconomic non-neutrality of inflation. Irving Fisher's (1930) famous conclusion that inflation raises the nominal interest rate but leaves the real rate unchanged is appropriate for an economy with no taxes but not for an economy in which nominal interest payments are reflected in income and profits that are subject to substantial marginal tax rates. I have shown elsewhere (Feldstein, 1976) that in an economy with economic depreciation and a 50 percent tax rate,

each on percent increased in the inflation rate raises the nominal interest rate by two percent. With other depreciation rules, the effect of the inflation rate on the interest rate can be more than one-to-one or less than one-to-one (Feldstein, Green and Sheshinski, 1978).

More generally, the tax structure determines how inflation influences the real values of corporate equities (Feldstein, 1978b, 1979a and Hendershott, 1979) of residential real estate (Hendershott and Hu, 1979), and of such "store of value" assets as land and gold (Feldstein, 1979b). As Hartman (1979) has shown, the tax rules may also induce international capital flows in response to changes in inflation that would have no real effect in the absence of taxation.

IV. Some Conclusions

This paper has emphasized the importance of the fiscal structure as a determinant of the macroeconomic equilibrium. It discussed the desirability of substituting a policy of tight money and positive fiscal incentives for the traditional goals of easy money and fiscal restraint. More specifically, it identified the failure to recognize the effects of the tax rules as an important reason for the mismanagement of monetary policy. Although the guidance of shortrun monetary policy may now give more weight to controlling the money supply and credit aggregates, interest rates will almost certainly continue to influece the determination of longer-term monetary policy. The correct interpretation of the relation between interest rates and inflation therefore remains important and will become even more important if the authorities attempt to shift to a policy of tighter money and an altered tax structure.

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Footnotes

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[1]Although the response of household saving to even a compensated change in the interest rate is theoretically ambiguous (Feldstein, 1978A), plausible parameter values and some econometric evidence support a positive saving elasticity (Boskin, 1978; Summers, 1979).

[2]See Feldstein (1980) for a formal model of the relation of fiscal policy, monetary policy and capital formation in a fully-employed economy.

[3]Ignoring the tax structure is analagous to ignoring the international aspects of domestic economic equilibrium; there are issues for which both taxes and international aspects can be ignored but there are others for which doing so would be very inappropriate.