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The American Economic Review, Vol. 87, No. 2, Papers and Proceedings of the Hundred and Fourth Annual Meeting of the American Economic Association. (May, 1997), pp. 147-150.

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Thu Mar 9 18:15:42 2006

Potential Disruption from the Move to a Consumption Tax

By ROBERT E. HALL*

Last year, when the political prospects for a move to a consumption tax seemed brighter, I spent some time thinking about the shocks that would occur upon the adoption of such a tax. Hall (1996) reports the results of that thinking in a formal way. The potential disruptions include:

(i) a rise in the after-tax interest rate;
(ii) a decline (by the amount of the tax) in the value of existing capital goods in relation to consumption goods;
(iii) a decline in the value of housing; and
(iv) a sharp rise in the price level.

Although none of these effects calls into question the consensus among public finance economists that a move to a consumption tax would lessen the deadweight burden of the tax system, the disruption occurring around the time of the adoption of a consumption tax is sufficiently important that it merits an important role in the design of the tax itself. Some disruptions can be avoided by intelligent design, while others are intrinsic to consumption taxation.

I. The Interest Rate

The simplest life-cycle intertemporal general-equilibrium model indicates that the immediate effect of replacing an income tax with a consumption tax is to raise the after-tax interest rate by the amount of the tax, so that the before-tax interest rate is unchanged (Hall, 1971, 1996). The consumption tax stimulates investment, however, and extra investment occurs until the marginal product of capital falls to the point that the interest rate returns to its earlier after-tax level. At reasonable parameter values, the process of capital intensification should take about a decade.

A recent analysis by Martin Feldstein (1995) makes the alarming prediction that replacement of the existing corporate and personal income taxes with a unified consumption tax would result in an immediate and large *increase* in before-tax interest rates, contrary to the standard analysis. He finds earlier studies deficient because they do not explicitly consider the effect of the removal of the corporate income tax. Discussion of this issue enters the difficult territory summarized by the question: why do corporations pay dividends? Absent twice-taxed dividends, the U.S. tax system would tax corporate income once at the corporate level and all other income (interest and wages) once at the individual level, and it would be amenable to the standard analysis, particularly because the marginal rates of the two taxes are close to each other.

Feldstein's analysis is not carried out in a general-equilibrium model in which consumers make explicit choices about present against future consumption, given opportunities to use current resources to form capital rather than for consumption. Instead, he posits a model in which equity and debt coexist in the market in the presence of corporate and personal income taxes, despite a huge tax advantage for debt. When the corporate income tax is removed, the return to equity rises because shareholders no longer face the burden of that tax. The interest rate on debt has to rise in order to preserve its historical relation to the equity rate. Under the assumptions of Feldstein's model, a more reasonable story would be that the potential return to equity is far below the interest rate in the presence of the corporate tax. Firms finance with debt alone. When the corporate tax is removed, the potential return to equity rises to the point where equity is viable. No change in the interest rate occurs.

Two standard cases are well understood in public-finance discussions of the corporate income tax. First, corporations may use debt as

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the marginal source of finance for investment. In that case, the corporate tax extracts a lump sum from the corporate sector, and the analysis based on just the personal income tax applies, as outlined above. Second, corporations may forgo dividends in order to finance investment. In that case, the personal taxation of dividends is on a consumption basis and does not distort the investment decision. Only the corporate tax rate has the distorting effect, and one may use the standard analysis taking the corporate tax rate to be the relevant income tax rate that is changed to zero by the switch to the consumption tax. These two cases are only illustrative, not exhaustive, but they do point in the direction of the standard view.

Although Feldstein's model does not do justice to the issue, I believe he is correct in pointing out that the standard analysis is oversimplified. U.S. firms do not rely exclusively on debt finance. I will sketch out a view that has some of the implications of Feldstein's work. First, the tax system distorts firms' financing decisions toward debt because interest is always deductible at the corporate level but is often not taxed at the personal level because it is paid into retirement funds. The return to equity enjoys the same freedom from personal taxation but is taxed at the corporate level. The distortion toward debt finance imposes agency and monitoring costs on the firm and its lenders or bondholders.

A consumption tax would remove the distortion and permit firms to make efficient decisions about their capital structures. Firms would use more equity and less debt to the point where the agency costs of debt were nil, leaving a Miller and Modigliani world where leverage does not matter (in the relevant range). The effect would be to raise the marginal product of capital; management input, a complementary factor to capital, would effectively increase. With a higher marginal product of capital, the pure risk-free interest rate and the risky rates of return of all types of productive assets would rise, just as Feldstein suggests. This rise in interest rates would be accompanied by increased, not decreased, real investment. An increase in the productivity of existing capital raises its return, and thus the recognition of the agency costs resulting from the present tax system and their removal introduces some ambiguity about the impact of the consumption tax on the return to capital. However, I believe that the magnitude of the rise in interest rates would probably be far less than Feldstein predicts. In addition, I believe that corporate transactions in equity are sufficiently small that the relevant margins for financing investment are and will remain the ones for which before-tax interest rates will be essentially unchanged after tax reform.

Feldstein also questions the standard view that a consumption tax would stimulate enough investment to push the interest rate back down to its earlier after-tax level over a decade or so. He does not consider the standard Ramsey analysis lying behind this conclusion, namely, that in the long run the interest rate will converge to a level determined by consumers' rate of time preference and the growth rate. Instead, he asks what level of gross saving would be needed to sustain a capital stock large enough to push the marginal product of capital this low. He is skeptical that the U.S. economy could save enough to lower the interest rate by very much in the longer run. Further investigation of this criticism would seem to be in order. Cross-country evidence on the failure of the Ramsey condition may support Feldstein's position.

Feldstein carefully avoids any welfare conclusions. There is a danger, however, that he will be misinterpreted as suggesting that a consumption tax would lead to a stagnant economy with high interest rates and low investment, relative to the situation with an income tax. His analysis indicates just the opposite. Replacement of the corporate and personal income taxes with a consumption tax would *raise* the private return to capital, whether earned through equity or debt. An investment boom would follow. Private incentives for investment would improve substantially. Feldstein fears the perverse reluctance of Americans to save enough to take full advantage of the improvements that a consumption tax would bring.

II. Existing Capital Goods

A key feature of all consumption taxes is that they lower the value of capital goods to their owners, relative to the price of consump-

tion goods. This effect is obvious in the case of a sales tax on consumption goods, but it also occurs in value-added and cash-flow consumption taxes, which impose a tax on the sale of capital goods.

The anticipation of the coming discontinuous decline in the relative value of capital goods creates a serious transition issue. In the period between the announcement of a consumption tax and its imposition, there would be stockpiling of consumer goods and depletion of capital goods. I know of no way around this problem other than to make the consumption tax effective as of the date when the public first thought it was likely to go into effect.

There are huge distributional consequences of a decline in the relative price of capital goods. They have been discussed in two equivalent ways. One is that the capital stock represents the savings of the people alive at the time the new tax goes into effect. They have saved out of after-tax dollars under the income tax. Now, with a consumption tax, they have to pay a second time as they consume. The sudden decline in the purchasing power of the capital stock is the way that this double-taxation occurs. Some economists see this effect as grossly unfair; others see it as a highly desirable one-time wealth tax that is completely nondistortionary and that permits a much lower deadweight burden of the tax system for the future.

The second way that the decline in the value of the capital stock enters the discussion is through the tax basis. Firms have purchased capital goods (fixed investment and inventories) on the strength of the government's promise of deductions for depreciation or cost of goods sold. The replacement of an income tax with a consumption tax dishonors these promises. Again, it is the decline in the purchasing power of the capital stock that records the effect of this change. There is a fundamental moral question here of whether the government should dishonor promises of this importance. Further, one important episode in which the government defaults on a promise may create expectations of future defaults, with attendant inefficiencies.

III. Housing

Concerns about the effect of tax reform on housing have been particularly prominent, which is paradoxical because the effects would be mild in relation to those already discussed. As a first approximation, a switch from the current income tax system to a consumption tax would be a nonevent for housing. The reason is that the existing income tax treats housing on the consumption-tax principle already. This feature of the income tax has been widely misunderstood. It is often noted that the income tax fails to include the service value of owner-occupied housing in its definition of income. Overlooked, however, is the fact that this exclusion is equivalent to the write-off that a consumption tax would allow for housing. The present value of the service flow is equal to the amount of the write-off.

To put this another way, the move from an income tax to a consumption tax involves bringing the service flow of housing into the measure of consumption and then also granting the home purchaser a deduction for the amount paid for a house. Because these are equal in present value, they can both be removed without substantive effect.

For two reasons, however, tax reform is not quite a nonevent for housing. First, the effect of tax reform on the interest rate matters. If a consumption tax energizes the corporate sector, the interest rate will rise a little, and housing values will decline correspondingly as investment shifts away from housing to other forms of capital. Essentially, under a consumption tax, housing is treated the same as before, but other capital is treated more favorably, so relatively speaking, housing loses a little. Second, if forward interest rates decline in line with the Ramsey analysis, the value of land would rise immediately. There is no similar effect on the value of residential structures, because they are produced goods, and their price is controlled by supply in the longer run.

The second effect of tax reform on housing values operates through the existing mortgage-interest deduction. Owners of houses have a privileged position in the current tax system because ownership conveys the right to deduct interest on a loan secured by the house. Under a consumption tax, all types of interest are

treated equally, so there is no special benefit for housing. Because total borrowing on houses is far below the potential maximum, the value of this benefit is not large for many families, but it is still an important factor. I believe that there would be a modest decline in the value of houses as a result of a switch to a consumption tax.

One way to think about the disadvantage to housing is the following: housing already enjoys consumption-tax treatment. When other forms of investment are stimulated by the switch to consumption taxation, those forms of capital already enjoying consumption-tax treatment will suffer temporarily, as resources are attracted to capital formation in sectors newly eligible for consumption taxation.

IV. The Price Level

When Britain adopted consumption taxation in 1979, the price level rose by the amount of the new tax. This jump in prices caused substantial disruption in the economy, partly because it stimulated further rounds of wage and price increases through indexation formulas that failed to exclude consumption taxes from the measured cost of living. Standard macroeconomic analysis suggests that the underlying cause of such a price effect is the contractual determination of wages in money terms. Under an income tax, the wage is set in pretax terms. Workers finance consumption out of what remains of their wages after paying taxes. Under a sales tax or a value-added tax (VAT), the wage is set on an after-tax basis. Workers use their entire wages for consumption and pay their consumption taxes as they consume. When an income tax is replaced by a sales tax or VAT, the wage bargain should be revised to lower the purchasing power of wages by the amount of the tax. This could be done either by lowering nominal wages or by raising the prices of consumption goods. As a practical matter, the second always occurs.

One of the advantages of a flat tax or a personal cash-flow consumption tax is that both leave the wage bargain in pretax form. There is no disruptive jump in the price level. Unlike the other effects I have discussed, the increase in the price level is not intrinsic to a consumption tax, but is the result of a particular choice about how to administer the tax.

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