PROSPECTS FOR FUNDAMENTAL TAX REFORM

How Different Are Income and Consumption Taxes?

By R. GLENN HUBBARD*

Many recent proposals for fundamental tax reform have advocated replacing the current tax system with a broad-based consumption tax (see e.g., Robert E. Hall and Alvin Rabushka, 1983, 1995; Nicholas Brady, 1992; Alliance USA, 1995). Economists' support for such proposals centers on gains in economic well-being made possible by tax reform. Three sources of efficiency gains, it is argued, would accompany a switch to consumption taxation. First, the removal of the current tax on returns to new saving and investment would increase capital accumulation and, ultimately, family incomes. Second, the consumption tax would remove distortions in the allocation of capital across sectors and types of capital. Third, a broad-based consumption tax would avoid potentially costly distortions of firms' financial structures. Recent estimates suggest that efficiency gains from consumption tax reform could be substantial (see e.g., Alan J. Auerbach, 1996; Dale W. Jorgenson, 1996).

Another group of proposals has suggested reforming the income tax, in particular toward taxing broad measures of income—once (see e.g., American Law Institute, 1992; U.S. Department of the Treasury, 1992). While the debate between "income tax reform" and "consumption taxation reform" often characterizes the differences between the two plans for reform as significant, I argue below that, with respect to the efficiency gains noted above, the distinction between reform toward a broad-based income tax and reform toward a broad-based consumption tax is relatively minor. This is not to say that there are not important efficiency and distributional consequences of moving from the current tax system to a broad-based consumption tax. Instead, I mean simply that most such consequences can be traced to reform of the income tax.

* Graduate School of Business, Columbia University, 3022 Broadway, New York, NY 10027, and National Bureau of Economic Research.

I. Bases of Income and Consumption Taxes

In order to illustrate the difference between broad-based income and consumption taxes, compare two hypothetical taxes: a pure uniform-rate income tax and a subtraction-method value-added tax (as a representative consumption tax). The base of a pure uniform-rate income tax includes all forms of labor and capital income; the tax applies a flat rate against this income. Such an income tax could be implemented by means of a business-level (both corporate and noncorporate business) tax on receipts less wages, materials costs, and capital depreciation, plus a household-level tax on wages. For simplicity, suppose that the same (flat) rate is imposed in both the business and household tax. Abstracting from risk considerations (see below), then, the revised income tax has three components: (i) a wage tax, (ii) a tax on returns from marginal investment projects, and (iii) a cash flow tax on returns from existing capital and inframarginal investment projects. Within the context of broad-based income-tax reform, the Treasury Department's 1992 Comprehensive Business Income Tax (CBIT) proposal generally followed this model. That proposal would deny deductibility at the business level of payments to debt-holders and equity-holders, but it would not tax such distributions at the investor level. Hence, in principle, the tax base is receipts less payments for employee compensation and other variable inputs and capital depreciation charges.

Under a subtraction-method value-added tax (VAT), each business has a tax base equal to the difference between receipts from sales

of goods and services and purchases of goods and services from other businesses. This measure of value added is then taxed at a fixed rate. Because the aggregate business tax base equals aggregate sales by businesses to nonbusinesses, the tax base is equivalent to aggregate consumption. As long as the tax rates are the same, such a tax is equivalent to a European-style credit-invoice value-added tax.

Following the Hall-Rabushka flat tax (Hall and Rabushka, 1983, 1995), one could equivalently permit a deduction for wages at the business level with wage taxation at the same rate for individuals. Hence, the subtraction-method VAT can be thought of as a combination of a wage tax and a tax on business cash flow. Viewed in this way, (this form of) a consumption tax is quite similar to the broad-based income tax (at least for business taxation). The difference between the two taxes is that the income tax base depreciates capital expenditures, while the consumption tax base deducts capital expenditures.

II. Differences in the Taxation of Capital Income

The conventional description of a consumption tax or a cash-flow tax assumes that all income from capital is exempt from taxation.[1] To explain this view, one can decompose the base of the flat tax into two parts: the first is a business cash-flow tax, the base of which is $R - I$, where R is receipts from sales of goods and services less purchases for labor and materials, and I is expenditure on capital goods; the second is a wage tax, the base of which is wages, W.[2]

Under the cash-flow tax, the present value of depreciation allowances for one dollar of current investment is one dollar; under the income tax, the present value is less than one dollar. For a risk-free investment project, the tax savings from depreciation allowances represent risk-free cash flows, which the firm would discount at the risk-free rate of interest. For a marginal investment (one in which the expected rate of return just equals the discount rate) the up-front subsidy to investment provided by expensing equals the expected future tax payments. It is in this sense that the return to capital is not taxed under a cash-flow tax or a consumption tax.

Life-cycle simulation models used to evaluate tax reforms follow this intuition and generally assume one risk-free return on accumulated savings (see e.g., Auerbach and Laurence Kotlikoff, 1987; Hubbard and Kenneth Judd, 1987; Hubbard et al., 1995). In such models, the shift from an income tax to a consumption tax is equivalent to forgiving the taxation of capital income from new saving and imposing a one-time tax on existing saving used to finance consumption.

What about inframarginal investments? That is, in addition to risk-free projects, suppose that certain entrepreneurs have access to investments with inframarginal returns (associated with rents to ideas, managerial skill, or market power). In this case, rates of cash flow in excess of the firm's discount rate for depreciation allowances are taxed. Cash flows representing inframarginal returns are taxed equivalently under the broad-based income tax and the cash-flow tax (or consumption tax). As long as the scale of inframarginal projects is limited (and entrepreneurs' project selection is optimal), the tax saving from expensing should be invested in another risk-free asset. Hence, for inframarginal projects only the return representing the risk-free rate is untaxed under the cash-flow tax or consumption tax.

What about risky investments? First, risky investments generate *ex post* high or low returns. The component of capital income that represents luck after a risky investment has been made can be treated like the inframarginal return in the foregoing example of the income tax and the cash-flow tax.

Second, risky investments have a higher *ex ante* required rate of return than risk-free investments, reflecting a risk premium to compensate savers for bearing risk. Whether either tax system levies a tax on the risk premium depends on how one defines a "tax." If a tax is defined as an increase in expected government revenue, then both the income tax and the cash-flow tax include the risk premium. If,

[1] The arguments in this section draw on William M. Gentry and Hubbard (1997).

[2] The subtraction-method VAT combines the two pieces, with a base equal to $R - W - I$.

in contrast, a tax is an increase in the discounted present value of government revenue, then neither tax system includes the risk premium. In either case, the central point is that the stylized income tax and the consumption tax treat the return to risk-taking similarly.

To summarize, what is often called the return to capital can be thought of as the sum of the risk-free return (opportunity cost), inframarginal returns (economic profits), and returns to risk-taking (payment for bearing risk and luck). In contrast to the base of the consumption tax, the income tax includes the opportunity cost of capital, which equals the rate of return on a marginal riskless project.

III. Efficiency and Distributional Consequences of Consumption Taxation

Acknowledging that, relative to a broad-based income tax, a consumption tax exempts only the risk-free component of capital income may warrant a reconsideration of the efficiency and distributional consequences of a shift toward consumption taxation. In the interest of brevity, I discuss below only five areas that need to be reconsidered: (i) saving and investment, (ii) intersectoral and interasset distortions, (iii) distortions of business financing decisions, (iv) short-run distributional consequences (asset price effects), and (v) long-run distributional consequences.

Saving and Investment.—Much of the interest of economists and policymakers in consumption taxation reflects a belief that such tax reform will increase domestic saving and investment. While the responsiveness of saving to changes in the net return can be large in life-cycle simulation models, available empirical evidence based on household data suggests that the sensitivity of household saving to changes in the net return is modest, at least for most households (see e.g., the review in Eric M. Engen and William G. Gale [1996]). In addition, if only the risk-free interest rate is exempt under a consumption tax (relative to an income tax), the stimulus to domestic household saving may not be large. For business investment, however, the combination of the shift to expensing and recent large estimates of the responsiveness of investment to changes in the user cost of capital suggests that consumption tax reform can still be a potent stimulus for domestic investment (see Kevin Hassett and Hubbard, 1997).

Intersectoral and Interasset Distortions.—Moving to a broad-based consumption tax eliminates current distortions in the tax treatment of alternative sectors (e.g., corporate vs. noncorporate) and of alternative assets (e.g., owner-occupied housing vs. business capital). Efficiency gains from removing these distortions are likely to be large (see e.g., the estimates in Auerbach [1996]). It is important to note, however, that these gains (essentially arising from eliminating differential taxation of alternative forms of capital income) can arise entirely from *income* tax reform. That is, while substantial intersectoral and interasset gains may be achieved from a shift from the current tax systems to a broad-based consumption tax, many such gains are achievable in a move from the current tax system to an integrated income tax system, as in the Treasury Department's CBIT proposal.

Financial Distortions.—While life-cycle simulation models of tax reform do not consider distortions of business financing, some evaluations of tax reform have concluded that tax-induced distortions of corporate capital structure and dividend decisions can generate significant efficiency costs (see e.g., U.S. Department of the Treasury, 1992). A move to a broad-based consumption tax of the "flat tax" form would clearly remove these distortions; neither interest payments nor dividends is a deductible business expense, and neither is taxed to investors. The same outcome would obtain under income tax reform of the CBIT form, however.

Asset Price Effects of Tax Reform.—Conventional analyses of tax reform using life-cycle simulation models focus distributional analysis on the short run, in particular, on asset price effects in the transition from the current tax system to a broad-based consumption tax. In such models, in which there is a representative agent within a cohort, asset price effects represent an intergenerational redistribution. Relative to fundamental income tax reform,

the shift to a broad-based consumption tax entails two potentially significant asset price effects. For equities, the shift from depreciation to expensing reduces the value of old capital and equity. In life-cycle models with a representative agent within a cohort, the decline in the value of old capital is largely borne by older generations, who own a disproportionately large share of the capital. For debt, to the extent that the price level rises in response to a shift to a consumption tax, the value of existing nominal bonds falls. Other significant asset price effects of tax reform stem from the shift from the current tax system to a broad-based income tax with uniform capital income taxation. For example, the adverse consequences of tax reform for the prices of existing homes reflects this shift in the income tax. In addition, many effects of tax reform on equity values (e.g., through the removal of dividend and capital gains taxes) arise from corporate tax integration—an income tax reform—and not from the shift to consumption taxation per se. These effects on equity values would, for example, have accompanied the Treasury Department's 1992 proposals via dividend exclusion or CBIT.[3]

Long-Run Distributional Consequences of Tax Reform.—Critics of consumption tax reform sometimes claim that, as a tax base, consumption is less equitable than income because the benefits of not taxing capital income accrue to households with high levels of economic well-being.[4] Recall, however, that, relative to a uniform income tax, a consumption tax exempts from taxation only the opportunity-cost return to capital. Using U.S. household data, Gentry and I (1997) found that heterogeneity of household portfolios within a cohort is significant, highlighting the significance of examining consequences of eliminating differential taxation of capital income in tax reform. We also found that holdings of assets most easily identified with inframarginal returns (e.g., active business interests of the households) and risky returns (e.g., equities) are highly concentrated among high-income and high-net-worth households. This finding suggests a more progressive distribution of the tax change than that generated under the assumption that all capital income represents opportunity cost. Furthermore, our distributional analysis indicates that this qualification is economically important. Designing "distribution tables" similar to those used in practice, we find that more than one-third of the reduction in the share of taxes paid by very high-income households in switching from an income tax to a consumption tax is offset by assuming that only the risk-free return to saving is exempt from taxation in the reform.

[3] The Treasury Department's "dividend exclusion" proposal follows the CBIT proposal: for equity-holders, dividends would neither be deductible at the business level nor taxable at the investor level.

[4] This would be true, for example, if the ratio of household wealth to permanent income, ceteris paribus, increases with permanent income, as suggested by Hubbard et al. (1995).

IV. Conclusions

A shift from the current tax system to a broad-based consumption tax is best thought of as a two-step process. First, most elements of consumption tax reform are consistent with moving to a pure income tax with uniform capital taxation. Second, for a switch from this pure income tax to a consumption tax, the key element of reform is replacing depreciation allowances for physical investment with expensing of capital assets. These points suggest the need for reevaluating conventional conclusions about efficiency and distributional consequences of tax reform. They also indicate that fundamental income tax reform and consumption tax reform are not in many regards significantly different directions in tax reform.

Reevaluating conventional conclusions about efficiency and distributional consequences of tax reform requires at least three extensions of current research. First, incorporating risk and portfolio-allocation decisions in life-cycle models will improve the ability to measure efficiency gains from tax reform. Second, most models used to evaluate tax reform assume that any increase in domestic investment in fixed capital must be financed by increases in domestic household saving. Because investment is likely to respond more strongly than household saving to the change in the net return accompanying

a switch to consumption taxation, it is important to model explicitly reallocations of funds domestically (i.e., from previously tax-favored sectors to the domestic business sector) and internationally (i.e., international capital flows). Third, assessing the distributional consequences of tax reform requires more careful study of cross-sectional differences in wealth accumulation. In particular, do households become rich by saving and earning the opportunity-cost return on capital or by having access to inframarginal returns?

The observation that fundamental income tax reform and fundamental consumption tax reform have similar consequences also has several implications for policy analysis of tax reform. First, policy analysis should study effects of tax reform on economic well-being within cohorts as well as across cohorts. Second, because many of the gains made possible by consumption tax reform can be achieved through income tax reform (in particular, through integrating corporate and individual income taxation), income tax reform should occupy a prominent place in the tax-reform debate. Finally, incremental reforms toward integration and toward making capital taxation more uniform may offer a significant starting point for more fundamental tax reform.

REFERENCES

Alliance USA. "Description and Explanation of the Unlimited Savings Allowance Income Tax System." *Tax Notes*, 10 March 1995, *66*, pp. 1483–1575.

American Law Institute, Federal Income Tax Project. *Reporter's study draft, integration of the individual and corporate income taxes*. Philadelphia, PA: American Law Institute, 1992.

Auerbach, Alan J. "Tax Reform, Capital Allocation, Efficiency, and Growth," in Henry J. Aaron and William G. Gale, eds., *Economic effects of fundamental tax reform*. Washington, DC: Brookings Institution, 1996, pp. 29–82.

Auerbach, Alan J. and Kotlikoff, Laurence J. *Dynamic fiscal policy*. Cambridge: Cambridge University Press, 1987.

Brady, Nicholas F. "Remarks Presented at the Graduate School of Business, Columbia University." Unpublished manuscript, 10 December 1992.

Engen, Eric M. and Gale, William G. "The Effect of Fundamental Tax Reform on Saving," in Henry J. Aaron and William G. Gale, eds., *Economic effects of fundamental tax reform*. Washington, DC: Brookings Institution, 1996, pp. 83–121.

Gentry, William M. and Hubbard, R. Glenn. "Distributional Implications of Introducing a Broad-Based Consumption Tax," in James M. Poterba, ed., *Tax policy and the economy*, Vol. 11. Cambridge, MA: MIT Press, 1997 (forthcoming).

Hall, Robert E. and Rabushka, Alvin. *Low tax, simple tax, flat tax*. New York: McGraw-Hill, 1983.

_____. *The flat tax*, 2nd Ed. Stanford, CA: Hoover Institution Press, 1995.

Hassett, Kevin A. and Hubbard, R. Glenn. "Tax Policy and Investment," in Alan J. Auerbach, ed., *Fiscal policy: lessons from economic research*. Cambridge, MA: MIT Press, 1997 (forthcoming).

Hubbard, R. Glenn and Judd, Kenneth L. "Social Security and Individual Welfare: Precautionary Saving, Borrowing Constraints, and the Payroll Tax." *American Economic Review*, September 1987, *77*(4), pp. 630–46.

Hubbard, R. Glenn; Skinner, Jonathan and Zeldes, Stephen P. "Precautionary Saving and Social Insurance." *Journal of Political Economy*, April 1995, *103*(2), pp. 360–99.

Jorgenson, Dale W. "The Economic Impact of Fundamental Tax Reform," in Michael J. Boskin, ed., *Frontiers of tax reform*. Stanford, CA: Hoover Institution Press, 1996, pp. 181–96.

U.S. Department of the Treasury. *Integration of the individual and corporate tax systems: taxing business income once*. Washington, DC: U.S. Government Printing Office, 1992.