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Can It Break  
the Capital Formation Deadlock?

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WRITE-OFFS

Structuring Corporate Taxes  
for a More Productive Economy

# EDITOR'S NOTE: TAX POLICY AND PRODUCTIVITY GROWTH

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Boosting the rate of productivity growth in U.S. industry is considered by many to be among the chief economic policy tasks of the 1980s.

Most economists agree that heavier investment in new plant and equipment would boost productivity growth. Thus measures have been proposed to increase private saving, which would make more money available for business investment, and to encourage capital expansion by reducing the real cost of capital facing business planners. A favored vehicle for accomplishing both aims is tax policy.

In this issue of the *Business Review*, Laurence S. Seidman suggests that converting from the present personal income tax to a personal consumption tax might stimulate saving without producing inequitable side effects for any income group. Robert Rossana addresses the effects on business investment of changes in investment tax credits, depreciation allowances, and corporate tax rates.

Each author's views are his own and are published here to stimulate informed discussion. Neither article should be interpreted as representing an official position of this bank or of the Federal Reserve System.—J.J.M.

## A Personal Consumption Tax: Can It Break the Capital Formation Deadlock?

By Laurence S. Seidman\*

Over a period of many decades, the United States' standard of living was the envy of the world. U.S. industry thrived, churning out immense quantities of products ranging from the heaviest of heavy equipment to the most delicate of consumer goods. Other nations looked to America for the pattern of a productive economy.

In recent years, however, some of the glamour of the U.S. economy has worn off as the relative productivity growth of American business has taken a nosedive. The causes of the fall in U.S. productivity growth

have proved elusive to researchers, but many believe that tax policy is a major contributor. If tax policy could be made to favor saving over present consumption, they say, the United States would have the dollars to reinvest and rebuild its aging industrial plant and to become the world's model for productivity once again.

One way to tilt the balance in favor of saving and against consumption is to modify the income tax so that the income from saving—whether interest, dividends, or capital gains—would be wholly or partially exempt from taxation. But while this approach clearly would encourage saving, it also would tend to give a tax break to those who enjoy high consumption financed by capital income and thus might be objected to

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on equity grounds. Another approach is to transform the income tax into a direct tax on personal consumption. A personal consumption tax with graduated rates might well turn the trick of encouraging capital investment without running afoul of equity objections.

#### WHY TAX AT ALL?

It would be nice to live in a world without taxes. But as Ben Franklin noted, taxes are as inevitable as death. The reason is that, although a strong case can be made for relying on the private sector for much of our economic activity, certain tasks can be performed only by government. Public goods, such as national defense, and social insurance programs, such as social security, can be financed only by compulsory taxation.

Any tax, however, directly imposes a burden on people. Further, it indirectly reduces the efficiency of resource allocation in the private sector and alters the distribution of income. Thus in deciding how to go about taxing, policymakers have to add the indirect burden from the inefficiency of a tax to its direct burden in order to determine whether the total cost of a government program is less than its benefits. And they must attempt to determine as well what the incidence of the tax will be—on whom it will fall, and how heavily.

Altering the mix of taxes generally will affect both economic efficiency and the distribution of income. Thus both the level and the mix of taxation are important. Some economists believe that changing the tax mix to encourage saving and investment could improve both economic efficiency and the equity of income distribution. Such questions of efficiency and equity seem especially pressing after a decade in which Americans have seen little advance in the standard of living of the average household.

#### SAVING AND THE STANDARD OF LIVING

The standard of living of an American

worker in 1970 was much higher than that of his counterpart in 1920. Further, he was much better off than a worker in a developing country in 1970. The single most important cause of these differences was that the productivity—output per manhour—of the American worker had grown tremendously in the half-century preceding 1970. And this growth in productivity was induced primarily by investment in more and better machinery (physical capital) and more and better education and training (human capital) per worker. The accumulation of capital per worker has been the key to a rising standard of living and gradual reduction of poverty.

Capital formation comes only from investment, however, and investment comes mainly from private saving. When individuals and business firms reduce their current consumption, more resources are released to produce machinery, factories, education, and training, and to develop new technology. A nation must sacrifice consumption today to enjoy higher output and consumption tomorrow.

The decade of the 1970s witnessed a significant slowdown in the growth rate of labor productivity in the United States—from 3 percent in the early 1960s to perhaps 1 percent at the close of the 1970s. Although the causes are hard to pinpoint, one important source of this deterioration almost surely was inadequate investment. Since 1973, the capital-labor ratio has grown less than 2 percent per year in contrast to the 3-percent average growth rate from 1948 to 1973.<sup>1</sup> This slow growth in the capital-labor ratio has been associated with declining U.S. saving rates, which, in fact, were significantly below those in most other advanced economies even prior to the recent slowdown.

One obstacle to raising the rate of saving and capital formation is the income tax. The income tax discourages saving, and the

<sup>1</sup>The Economic Report of the President 1979, p. 68.

degree of discouragement increases with the rate of inflation. In the year when saving occurs, the saver is taxed as much as the nonsaver with equal income; and in the future, the saver is taxed on the return he earns. With inflation nibbling away at whatever is left of interest income, saving loses much of its attractiveness.

Thus advocates of capital formation often have recommended the exemption of capital income from personal taxation under the income tax along with the reduction of business taxation. They have argued that if interest, dividends, and capital gains were exempt from tax, individuals would be more encouraged to save; and if business taxes (such as the corporate income tax) were cut, business would find it more profitable to increase spending on new plant and equipment.

But the exemption of capital income has run into significant opposition on grounds of equity. In effect, this approach would convert the income tax into a tax on labor income alone. Exemption of capital income would make it possible for wealthy people who enjoy a high level of consumption to pay little or no tax if the consumption were financed primarily by capital income. While defenders of the exemption reply that the past saving and investment of the wealthy helped raise productivity and thus the standard of living of the average worker, these arguments to date have won only a partial exemption of capital income. A wholesale exemption appears to fail the test of political feasibility.

Because attempts to adjust the income tax in favor of saving so far have run into so much resistance, some tax theorists have proposed moving away from the income tax altogether. Their proposal is to tax people on the basis of how much they consume rather than on how much they earn. Such a consumption tax approach, they believe, could break this capital formation deadlock by overcoming equity objections.

Taxable consumption would be computed by a process of subtraction that is quite similar to the current procedure under the income tax. Each year, in preparing his return, the taxpayer would add all cash receipts (including wages, salaries, interest, dividends, and receipts from the sale of assets such as stocks and bonds) and subtract the purchase of investment assets along with the net increase in his savings account balance and actual tax payments. The difference—consumption—would be subject to the tax rates given in the tax tables (after any adjustments that Congress decided were appropriate). And these tax rates could be scaled to make sure that the tax fell equitably on all taxpayers (see . . . AS PROGRESSIVE AS AN INCOME TAX overleaf).

Thus the basic mechanics of a consumption tax are not hard to envisage. But what impact would such a tax actually have?

#### WHAT A CONSUMPTION TAX WOULD DO

Any shift in tax policy represents a step from the known to the unknown. Policy changes of almost any sort affect the economy in ways that sometimes are unintended and unforeseen. In the case of a consumption tax, however, it seems fairly clear that certain effects can be predicted.

**It Would Raise the Reward to Savers.** Savings represent forgone consumption; and since many people find it hard to delay gratification, they find it hard to save. The benefit to saving, however, is that it can allow a larger volume of consumption in the future. It hardly seems farfetched to argue that the more future consumption people can obtain by postponing consumption today, the more they are likely to save.

One way to calculate the benefit from saving is to consider the amount of future consumption it permits relative to the amount of consumption an individual forgoes when he makes a savings decision. If a person saved \$1,000 at an interest rate of 6 percent,

### A CONSUMPTION TAX CAN BE MADE AS PROGRESSIVE AS AN INCOME TAX

In a given year, most low-income households devote a smaller fraction of their income to saving and a higher fraction to consumption than do high-income households. It follows that if consumption tax rates were the same for all households, the ratio of tax to income would be greater for a low-income than for a high-income household; the consumption tax would be regressive.

The consumption tax rate schedule, however, can be whatever Congress decides that it should be. A consumption tax can be made more than, less than, or just as progressive as the current income tax.

The accompanying Figure shows how consumption tax rates can be set to achieve equal progressivity with respect to income, at least in principle. Under the progressive income tax in this illustration, the \$60-thousand household would pay \$15 thousand in tax (a 25-percent average tax rate), while the \$15-thousand household would pay \$1,500 in tax (a 10-percent average tax rate).

### A CONSUMPTION TAX COULD PRESERVE THE SAME RATIOS OF TAX TO INCOME FOR EACH INCOME CLASS

	Income Tax						
	Income	I-Tax Rate	I-Tax	Disposable Income	Consumption	Saving	Tax/Income
High Income	\$60,000	25%	\$15,000	\$45,000	\$30,000	\$15,000	25%
Low Income	15,000	10	1,500	13,500	13,500	0	10

	Consumption Tax						
	Income	Saving	Consumption and Tax	C-Tax Rate	Consumption	C-Tax	Tax/Income
High Income	\$60,000	\$15,000	\$45,000	50%	\$30,000	\$15,000	25%
Low Income	15,000	0	15,000	11 1/9	13,500	1,500	10

Under a consumption tax regime, a \$60-thousand household that saved \$15 thousand (as it did under the income tax) would have \$45 thousand to divide between consumption and tax. At a 50-percent rate, consumption would be \$30 thousand and tax would be \$15 thousand, just as under the income tax. The ratio of tax to income also would be the same. To keep the tax payment for the lower income household at the same dollar level as under the income tax, the consumption tax rate would have to be 11 1/9 percent.

While a consumption tax could be designed to be as progressive as the income tax, it might in actuality be more or less progressive. Why? For precisely the same reason that the income tax is not actually as progressive as it is designed to be. Instituting a tax structure creates incentives for some people to restructure their activities so as to reduce their tax burden. Exactly what form this different behavior will take, however, is difficult to predict. As a result, it would be close to impossible to design a consumption tax schedule that would guarantee the same degree of progressivity as the current income tax.

for example, then the ratio of consumption one year ahead to consumption forgone in the present would be  $\$1,060/\$1,000$  or 1.06, *provided that interest is not taxed and that there is no inflation*. If interest were taxed, this ratio would, of course, be lower, since part of the reward for saving would not be available for future consumption. But a tax which exempts capital income or a consumption tax would not affect this ratio.

Consider what would happen with an income tax of 33 1/3 percent. A person who earned \$1,500 last year would have had to pay \$500 in tax and would have \$1,000 left over to spend or save. If he saved it, interest on the \$1,000 still would be \$60, but it would be taxed \$20, so after-tax interest would be only \$40. The future-consumption factor now would be  $\$1,040/\$1,000$ , or 1.04. Thus an income tax reduces the future consumption that can be obtained for a given sacrifice of present consumption. Under a tax that

exempts all capital income, the factor would stay at 1.06.

Suppose instead that there is a consumption tax—for example, of 50 percent (any rate will do). Out of \$1,500 of income, the person can consume \$1,000 on which a tax of \$500 would be owed or he can save the \$1,500 and earn \$90 of interest. Out of \$1,590 in the next year, he can consume \$1,060, on which a tax of \$530 would be owed. The ratio of future consumption to presently forgone consumption facing the person would be  $\$1,060/\$1,000$ , or 1.06.

Thus, even with no inflation, the reward to saving would be greater under a consumption tax than under an income tax. In the real world, with inflation, this gap in reward widens (see INFLATION, TAXES, AND THE REWARD TO SAVERS) as the inflation rate rises; the real return to savers becomes smaller and can even become negative under an income tax. In contrast, a consumption

### INFLATION, TAXES, AND THE REWARD TO SAVERS

Because lenders want to maintain the purchasing power of their saving, and because business borrowers who expect higher prices for their products are willing to pay higher rates for money, a given percentage increase in the expected inflation rate will tend to raise the rate of interest by approximately the same percentage, provided rates are not constrained by regulatory ceilings. If the interest rate without inflation were, say, 3 percent, then an increase in both actual and expected inflation of 9 percent would raise the interest rate to about 12 percent. With this 12-percent rate under the income tax, interest would be \$120 on each \$1,000 saved for a year's time; taxes (at 33 1/3 percent) would be \$40. So consumption one year ahead can be \$1,080.

But there is a snag here from the consumer's point of view. Because of inflation, this sum of money a year from now will not buy as many goods as it would today. In fact, at today's prices it will buy only \$991 ( $\$1,080$  divided by 1.09) worth of goods. Thus the ratio of future real consumption (after adjustment for inflation) to today's forgone consumption is  $\$991/\$1,000$ , or .99. An individual in effect reduces his total ability to consume by saving. Instituting a consumption tax would prevent this consumption loss and thus should stimulate saving.

Under the consumption tax, assuming a 12-percent interest rate and a tax rate of 50 percent, the \$1,500 earned in the prior year could be invested for a year and would grow at 12 percent to \$1,680. If this whole sum were drawn out after earning a full year's interest (it could be left to grow further), \$1,120 could be used for consumption while \$560 went to taxes. Because prices were 9-percent higher, this sum of \$1,120 would buy only \$1,028 worth of goods expressed in today's prices. But the ratio of real future consumption to consumption presently forgone still would be  $\$1,028/\$1,000$ , which is approximately 1.03.

Thus a consumption tax maintains incentives to save in the face of high inflation, whereas an income tax produces less incentive to save the higher the rate of inflation.

tax preserves a positive return for savers.

It seems likely that the higher the return people expect, the more they will choose to save. Although empirical studies have yielded mixed results, one recent study suggested that saving would be increased sharply by a higher return.<sup>2</sup> Stronger confirmation, however, must await further empirical research.

**It Would Put More Money in the Hands of Those More Inclined To Save.** Just as consequential as the size of the reward to savers is the shifting of after-tax income from heavy consumers to those with more of a saving bent.

People who earn the same incomes may differ greatly in their attitudes toward consumption and thrift. But under an income tax, regardless of their spending and saving behavior, they would pay the same tax, all other things being equal, and would be left with the same after-tax income. The high spender would have as much to spend on consumption as the high saver would have to put away.

The consumption tax would alter this situation by leaving more after-tax dollars with the saver than with the spender of the same income level. And so the saver would have more money available to put into saving. Even if people were not much influenced by an increase in the reward to saving that a consumption tax would bring, the shifting of after-tax dollars to those who are more inclined to save would raise the volume of saving and make more funds available to finance spending on construction and business equipment.

**It Would Raise the Real Wage of Labor.** A higher saving rate also would enable industry to provide workers with more and better

facilities, and the more capital per worker, the higher would be labor productivity and the buying power of wages. Thus converting the income tax to a consumption tax eventually should result in a higher standard of living for workers.

Conversion of the income tax to a consumption tax therefore can be regarded as a longer run antipoverty policy. While social insurance and transfers to those unable to work have an important income-stabilizing role to play, reducing poverty for everyone able to work must depend on a rising growth path for the real wage of labor. Those who give important weight to this goal might find conversion to a progressive consumption tax attractive.

#### **BUT SOME SEE DIFFICULTIES**

Although the consumption tax appears to have much to recommend it, some economists and policymakers believe that it could pose certain dangers. These range all the way from recession to inequity to excessive administrative costs.

Some income tax supporters caution, for example, that a switch to a consumption tax could be detrimental to the economy's performance, at least in the short or medium run. If a consumption tax reduces consumption demand, the slack must be taken up by an increase in the demand for capital goods by firms, or total demand will fall and recession will follow (Keynes called this the paradox of thrift). To the extent that increased saving reduces interest rates, business demand for investment goods should be stimulated. But a long time lag, it's feared, could intervene before investment responded, so that a period of weak overall economic activity might follow should a consumption tax be instituted.

The likelihood of this prospect is quite difficult to predict, since a consumption tax never has been tried in the United States. Indeed, if one could anticipate reasonably closely how the macroeconomy would re-

<sup>2</sup>Michael Boskin, "Taxation, Saving, and the Rate of Interest," *Journal of Political Economy* 86 (April 1978). Boskin's results, however, are challenged by Philip Howrey and Saul Hymans, "The Measurement and Determination of Loanable-Funds Saving," *Brookings Papers on Economic Activity* 1978:3, who detect little responsiveness.

spond to a consumption tax, it might be possible to offset any undesirable consequences with monetary or fiscal policies. But it has been doubted that policymakers possess such knowledge. From this point of view, the uncertainty surrounding the short-term effects of a consumption tax on total economic activity must be regarded as one of the costs of such a policy to be balanced against expected gains. Not all economists, however, share these fears. They point to the German and Japanese experiences, in which higher saving rates have proved consistent with strong economic performance.

It's possible, also, that changing the rules in the middle of the game—moving from an income tax to a consumption tax—would produce inequities. It would be unfair to tax the consumption of retirees, for example, who had accumulated assets only after paying the income tax all their lives, unless some offsetting adjustment were made. But this inequity could be avoided if, when the consumption tax first was introduced, people above a certain age were given the option of choosing the income tax instead—an option that would be phased out over time. Thus inequities caused by the conversion might be avoided by designing the tax package with care.

Finally, it may seem that a consumption tax would be more difficult to compute for the taxpayer and the IRS. How would saving and investment be distinguished from consumption in practice, and how would consumer durables such as housing and autos be treated? Consumption tax advocates have tried to address these practical questions. One approach suggested for housing, for example, would be to treat annual mortgage payments as a measure of housing consumption in the year they are paid. Further, the

consumption tax would eliminate some administrative costs imposed by the income tax, such as the requirement to measure depreciation.

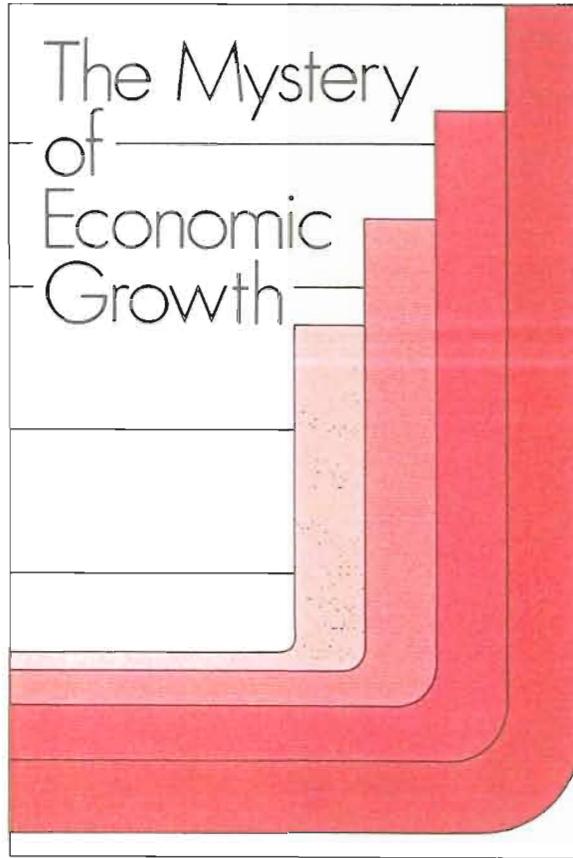
There would be difficulties in switching from an income tax to a consumption tax. On balance, however, many believe that they can be dealt with at an acceptable cost or that they fall short of offsetting the anticipated benefits of a consumption tax.

#### CONCLUSION

Converting the income tax into a personal consumption tax could end a prevailing stalemate concerning tax policies to stimulate investment. Advocates of capital formation usually have sought the exemption of capital income under the income tax. Although eliminating the taxation of capital income almost certainly would stimulate saving and investment, opponents have argued that it would be inequitable because it would allow some of the wealthy whose consumption is financed by capital income to pay little or no tax.

A progressive personal consumption tax would ensure that any wealthy person who enjoyed high consumption would pay a correspondingly high tax. At the same time, by excluding saving from taxation in the year it occurred, the consumption tax would encourage saving. Conversion to a consumption tax therefore should promote capital formation and productivity and eventually should raise the real wage of labor. Given current concern about weakness in these areas and about the deadlock that has prevailed over exempting capital income, the proposal to convert the income tax to a consumption tax deserves serious consideration.

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Federal Reserve Bank of Philadelphia

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