Increasing Personal Saving: Can Consumption Taxes Help?

Substituting a tax on consumer spending for the personal income tax is widely viewed as a way to stimulate saving. Basically, this notion stems from the fact that income saved is exempt from a consumption tax while it is subject to an income tax. However, careful examination suggests that it is less than certain whether higher saving will result from this replacement. Moreover, the many difficulties associated with the introduction and use of a Federal consumption tax —its potential inflationary impacts, administrative problems, and issues of equity and intergovernmental relations—must be weighed against any prospective savings gains.

A Federal consumption tax: the alternatives

Americans are familiar with paying taxes on their expenditures for goods and services. At the state level, for example, retail sales taxes are commonplace. While the Federal Government also uses such levies—mainly selective excise taxes such as the telephone tax—it has never taxed consumer spending in a comprehensive way. Rather, the primary sources of Federal receipts are income-type taxes—the personal, payroll, and corporate taxes—which account for about $9 out of every $10 of revenue.

The Federal Government could tax overall consumer spending in several different ways. Two of the most widely discussed alternatives are the value-added tax and the household expenditures tax. While the basic concept and economic effects of these taxes are similar, their structure and administration differ.

Value-added tax

As the name indicates, the value-added tax is levied on a firm's value-added in production and distribution of goods and services. Basically, value-added is the difference between the dollar amount of a firm's sales and its purchases from other businesses. For example, the value-added of a miller is equal to the value of the flour he sells less the cost of wheat. In the income statement of a firm, the value of output of the firm is matched by the earnings of the factors used to produce the product. Thus, value-added can also be calculated as the total payments made to a firm's productive resources (wages, rents, interest, and profits as a residual). In the total economy, the gross national product (GNP) is a familiar example of a value-added computation, totaling the value-added of a nation's output.

While three variants of the value-added tax are often discussed, the so-called consumption type is the only one seriously considered for use in the United States.[1] This version is unique because it deducts from the tax base the purchase price of newly acquired capital assets. Since all business purchases—including acqui-

[1] In addition to the consumption type, there are also the gross-product and income types of the value-added tax Under the gross-product type, the deduction of neither capital purchases nor depreciation is permitted so that the national tax base is equivalent to the GNP in the current year In contrast, the income type allows depreciation deductions but is still levied on newly purchased capital goods as well as on consumption goods

sitions of new capital goods—are deducted, the base is equivalent to total consumer spending.[2]

In calculating the value-added tax liability, the so-called credit or invoice method is generally favored due to its self-enforcing nature.[3] Under this form, a firm applies the tax rate to its sales in order to obtain its gross tax liability. The firm subtracts the taxes paid by suppliers (which are shown on its invoices) from this gross liability, yielding a net tax liability figure. To substantiate the computed liability, purchasers would demand receipts from suppliers stating the amount of tax in the sales price.

Firms incur no tax liability on the purchases of intermediate goods, because they receive a credit from the government for the value-added tax already paid by suppliers. Rather, the invoice mechanism acts to push the tax forward through subsequent production and distribution stages to the final sales price.[4] Since the consumer does not receive a credit for this tax, it is economically equivalent to a retail sales tax. In contrast to retail sales taxes, however, the value-added tax is usually not distinguished from the price of the goods at the retail level. Indeed, this is the case in the European Community's use of this tax. Of course, "hiding" it is not a necessity, and a separate accounting of the tax could be required

[2] The consumption-type variant of the value-added tax is the most popular type for several reasons On a practical level, it is easier to apply than other forms of the tax Since all production-material purchases are deducted, there is no need to distinguish between investment goods and intermediate inputs The resulting simplification in tax accounting (*e g* , elimination of the need to determine depreciation allowances) is a feature that the income type does not have Also, due to the particular treatment of capital in its base calculation, the consumption type is relatively more advantageous to new or growing firms than other variants By allowing the immediate deduction of the total cost of a newly acquired asset, the consumption type puts firms in a better initial cash position than if the deduction for capital were taken later on, when the resources actually contribute to value-added Firms will then be more able to meet the substantial start-up costs encountered when initiating a business

[3] There are two other methods of calculating the base The addition method is based on the fact that value-added can be calculated as the sum of factor payments—that is, wages, rents, interest, and profits A firm then applies the statutory tax rate to the total in order to calculate its tax liability Under the subtraction method, the firm calculates value-added by simply subtracting purchased inputs from sales Its tax bill is then determined by applying the appropriate tax rate

[4] It is generally assumed that the entire consumption-type value-added tax liability is passed forward to consumers in the form of higher prices For example, in Britain, the Richardson Committee stated that in all probability the value-added tax would be fully passed on in higher prices Full forward shifting is also assumed in the description of such a tax by a European Community research group in a report studying tax reform In the Netherlands, estimates made by the Central Planning Board prior to the implementation of this tax assumed full forward shifting, as did the French government For an extended discussion, see Eric Schiff, *Value-Added Taxation in Europe* (Washington, D C The American Enterprise Institute, 1978), pages 24-25

Household expenditures tax

Another form of consumption taxation—though one commanding far less attention than the value-added tax—is the household expenditures tax (also known as a spendings tax).[5] Under this tax, consumers file an annual return, providing information necessary for the calculation of their total expenditures during the year, with the amount of the tax due based on these outlays. In this way, the administration of the tax resembles that of the existing personal income tax and differs from the collection procedure of the value-added tax, under which the legal liability falls on the producers of goods and services even though the consumer ultimately pays the tax.

A tax on spending does not require extensive records on expenditures during the year. Instead, consumers would figure annual expenditures indirectly as the difference between their income and the net increase in saving. The net increase in saving is determined as the amount by which the value of financial assets added to saving in a year exceeds the value of assets withdrawn from saving during that same period. (Unrealized capital gains or losses are not recognized in the measurement of net saving, since they would not affect the expenditures estimates. Any adjustment in asset value represents an equal change in both income and saving if it is unrealized during the year and would, therefore, net to zero in calculating expenditures as the residual.) Careful bookkeeping of changes in wealth is required, though this task is most likely less onerous than accounting for all outlays.

Consumption taxes and saving

Replacing the income tax with a consumption tax (such as the value-added tax or spendings tax) is widely viewed as a boon to saving. Total saving is expected to rise because of two adjustments which result from the tax substitution: an increase in the aftertax rate of return to saving and a redistribution of disposable income.

Alternative taxes and the return to saving

When a person saves, present consumption is delayed in exchange for future consumption. By replacing the income tax with a consumption tax, the rate of return to saving (that is, the value of additional future consumption per dollar of postponed current consumption) increases The basis for this lies in the amount of in-

[5] Both India and Ceylon used a personal spendings tax in the late fifties and early sixties However, both countries restricted the tax base to such a small number of upper income persons that the revenue yield was not considered worth the burden of compliance and administration

Rate of Return to Saving under the Alternative Taxes

Derivation of the rate of return	Income tax	Consumption tax
Income	$ 100	$100
Tax rate	20%	25%
Maximum current period consumption*	$ 80	$ 80
Maximum current period saving†	$ 80	$100
Assumed market rate of return on saving	10%	10%
Gross market return on saving‡	$ 8	$ 10
Maximum consumption possible with gross return on saving§	$6 40	$ 8
Rate of return to postponed consumption‖	$\frac{\$6\,40}{\$80} = 8\%$	$\frac{\$8}{\$80} = 10\%$

* With a 20 percent income tax, only $80, *i e*, $100 (1—0 2), is left after taxes to spend With a 25 percent expenditures tax, a similar result obtains The tax liability incurred by $1 of expenditure is 25¢ Thus, $80 worth of expenditure would exhaust the $100 in income since the remaining $20 is owed as tax

† Under an income tax, only $80 is available after tax to save Since under a consumption tax a tax liability is incurred only if income is spent, the entire $100 can be saved

‡ The gross return (*i e*, before taxes) under the income tax equals the amount saved and invested times the market rate $80 × 10% = $8 Under the consumption tax, $100 was saved, thus the return equals $100 × 10% = $10

§ The return under the income tax provides only $6 40 of additional consumption, since the gross return ($8) is subject to a 20 percent tax rate before it can be spent As described above, the $10 return arising under the consumption tax can buy at most $8 of consumption, with the remaining $2 representing the tax payment.

‖ Expressed as the ratio of the additional spending made possible by saving to the present consumption postponed due to that saving. *i e*, line 7 of the table divided by line 3

come available for investment under each tax.[6]

The differing rates of return associated with the alternative taxes are illustrated in the table. For purposes of comparison, the income and consumption tax rates are set so that the most an individual can consume with his current income is the same under each tax ($80 in the example), and that all his present income is saved and invested at some assumed market rate (10 percent). Under the income tax, the tax liability is incurred before the individual decides what to do with his money—whether he spends or saves all of it, or does some combination of the two. This is not true in the case of the consumption tax. Here, the tax liability is created only when the income is spent. By postponing current spending the tax liability associated with that spending is also deferred and is thereby available, in addition to the value of the delayed consumption, for investment. Thus, in the example, a total of $100 can be invested under the consumption tax ($80 of postponed consumption and $20 of postponed tax liability), as opposed to $80 under the income tax.

Since more of the taxpayers' income can be invested under a consumption tax than under an income tax, the earnings on the initial investment will also be greater. But it is not simply the money earned that is of prime concern. Rather, in determining the rate of return on the initial postponed consumption, the value of future consumption that can be purchased with that money is of key importance. Under the income tax, interest income is subject to the tax before being spent, and thus only a fraction of the gross return represents additional consumption (80 percent or $6.40). Likewise, the income earned under the consumption tax will not totally represent additional consumption, since part of the money must be used to pay the tax on purchases of goods and services. After taxes are fully accounted for, and the net-of-tax return in each case is compared with the amount of postponed spending which gave rise to the additional consumption, the rate of return under the consumption tax exceeds that available under the income tax (in the example, 10 percent as opposed to 8 percent), and equals the market rate of return.

In sum, taxpayers can escape the current consumption

[6] The following is influenced by Richard Goode, *The Individual Income Tax* (Washington, D C The Brookings Institution, 1976) It is assumed throughout, for purposes of comparison, that the taxes considered give rise to equal yields For a related discussion, see the paper by James Fralick in Jared Enzler, *ed*, *Public Policy and Capital Formation* (Board of Governors of the Federal Reserve System, forthcoming, 1980)

tax liability on income that is saved. By being allowed to invest both the value of the postponed consumption and the deferred tax liability, enough additional future consumption is made available to yield a market rate of return on the initial postponed spending. The benefit of investing the delayed tax liability on income intended for saving is not available under the income tax, the result being an aftertax rate of return less than the market rate.

Although it is sometimes taken for granted that an increase in saving will result from the higher return, the impact is, in principle at least, unclear. While the incentive to save is increased by a more lucrative return than under the income tax, there is also reason to decrease saving since the higher rate of return allows a desired level of wealth to be achieved with less saving.

Empirical studies on the impact of the rate of return on saving also fail to provide a consensus. Some of the results support the notion of a positive response of saving to an increase in the aftertax rate of return, while others indicate no response at all.[7] Moreover, even in those studies which find a positive relation between interest rates and saving, the impact is found to be numerically modest—on the order of a 0 4 percent rise in private saving for every 1 percent increase in the aftertax rate of return. One point seems clear: the presumption that a higher return to saving (resulting from the tax substitution) will spark a substantial increase in the amount of saving undertaken (or any increase at all) is not well founded. Much ambiguity remains and, until more information becomes available, such a conclusion is premature.

Increasing the capacity to save by redistributing taxes

A change in the form of taxation also can increase total saving by redistributing income Insofar as different groups have differing tendencies to save out of an additional dollar of income, total saving can be increased by simply shifting the distribution of income toward consumers likely to save an above-average portion of the extra income. If a consumption tax is substituted for the income tax, disposable income will be distributed differently, but the question remains whether saving will be increased.

Available evidence indicates that in any given year saving as a fraction of income tends to increase with income. Since the income tax is progressive—*i.e.,* the higher the income level the greater the tax payments as a percentage of income—its burden is heavier for those with above-average ratios of saving to income. In contrast, the consumption tax burden is heavier for those with lower savings rates Hence, the tax substitution would reallocate disposable income toward the group which, on average, saves more

However, this does not necessarily insure an increase in aggregate saving, since a group with a higher average savings rate may not save the average rate out of an additional dollar of income The high-income groups might save more or less, making it difficult to know precisely what the net effect would be. To the extent that high-income groups do save more out of each additional dollar than low-income groups, introducing a consumption tax would tend to increase total saving since the additional saving of upper income groups resulting from their increased income would exceed the fall in saving of lower income groups resulting from their decreased income. Alternatively, if the proportions in which different income groups save and spend the additional income are the same, there will be no effect In this case, income is simply redistributed among groups which have an equal tendency to save (or dissave) the additional income. The additional saving of upper income groups would exactly offset the decreased saving of lower income groups.

Empirical studies of consumption behavior provide indirect information on this redistributive effect, though the results are not clear-cut.[8] Analyses of the consumption behavior of different income groups in a single period reveal a positive relationship between the average and the incremental behavior.[9] Calculations based upon these findings indicate that the increase in saving resulting from a redistribution of tax burdens would range from 6 percent to 10 percent of the total tax yield involved in the switch.[10] In other words, saving would

[7] Estimates of a positive response can be found in Colin Wright, "Some Evidence on the Interest Elasticity of Consumption", *American Economic Review* (September 1967), pages 850-55, and Michael Boskin, "Taxation, Saving and the Rate of Interest", *Journal of Political Economy* (Part 2, April 1978), pages 1-25 A critique of the Boskin results, as well as evidence for the insensitivity of saving to interest rate changes, is contained in Philip Howrey and Saul Hymans, "The Measurement and Determination of Loanable-Funds Saving", *Brookings Papers on Economic Activity* (1978, 3), pages 655-85

[8] The potential effect on saving cannot thoroughly be studied without also considering the impact of the redistribution on investment and on total income However, rather than complicate matters, a useful first approximation to the effect on saving can be obtained by assuming that personal income remains constant With this simplification, the question of how much people save from an additional dollar of income can be reinterpreted as how much is consumed from that dollar—a question which has been studied extensively

[9] For example, Ralph Husby, "A Nonlinear Consumption Function Estimated from Time-Series and Cross-Section Data", *Review of Economics and Statistics* (February 1971), pages 76-79

[10] A survey and brief discussion of these estimates can be found in George Break, "The Incidence and Economic Effects of Taxation", in Alan Blinder, *et al*, *The Economics of Public Finance* (Washington, D C The Brookings Institution, 1974), pages 192-94 These estimates only consider flat-rate consumption taxes

increase by $6 billion to $10 billion for every $100 billion of personal income tax replaced by a consumption tax However, there is a difficulty in the interpretation of cross-sectional results for the purpose of resolving questions about income redistributions. Moreover, in contrast to the cross-sectional results, time-series analysis supports the idea that a redistribution of income will not affect total saving [11] While current thought favors the time-series conclusion that little permanent savings gain can be obtained by redistributing income, it appears that, in practical terms, no definite conclusions about this mechanism can be drawn at present [12] More information is necessary.

Furthermore, even if the redistributive mechanism resulted in an increase in saving, any progressivity in the structure of a consumption tax which replaced the income tax would likely lower the gain in saving relative to that available with a flat-rate consumption tax. Simply put, replacement of the income tax with a progressive tax would shift less of the tax burden from upper to lower income groups than replacement by a flat-rate tax Most policies recommending the use of a personal spendings tax usually include the provision of a graduated or progressive rate structure While a progressive rate structure, *per se,* is not an issue in the case of the value-added tax, certain exclusions in the tax base used to mitigate the potential increased tax burden to low-income households (discussed below) would cause a similar reduction of the gains in saving from the redistributive effect

Costs of the tax change

The possibility of increased personal saving is only one aspect of the tax substitution scheme. Such a massive overhaul of our tax structure raises several other difficult questions which need to be explored These include the potential inflationary impact of the tax switch, considerations of equity, the relative administrative burdens of the taxes, and issues of intergovernmental relations

Inflationary potential of the substitution

Concern is often expressed that the replacement of the income tax with a value-added tax may initiate or intensify inflationary pressures. However, a major structural tax change primarily alters the method by which government funds are collected from taxpayers. Surely relative prices can change, but how is it possible for the average level of prices to rise continually, or to increase at all, because of the tax substitution? The answer lies both in the way price changes are measured and in the potential reactions to price level increases.

The nation's foremost barometer of inflation—the consumer price index—does not treat all taxes equally. In particular, the income tax is not reflected in the price index whereas a value-added tax would be, since the latter is included in the price of goods at the retail level. As a result, a retail price increase attributable to an increase in the value-added tax is reflected in the index just as is a price rise due to cost or demand pressures. By shifting from an income tax to a consumption tax, the consumer price index would initially jump because the reduction of income taxes would not be tallied in the index while the increase in the value-added tax would Of course, the one-time increase in measured inflation is not, on its own, disconcerting. However, this essentially spurious rise in measured prices can have longer term effects. In particular, the initial price increases could both indirectly exacerbate inflation by raising inflationary expectations and directly spur inflation through cost-of-living adjustments. These likely reactions make hiding the value-added tax in the final sales price detrimental from an inflationary perspective, since consumers and government would be less able to differentiate tax changes from price changes due to market forces.

Equity considerations

In addition to inflationary concerns, another source of opposition to the use of consumption taxes in place of an income tax is rooted in equity considerations. Because consumption taxes are borne relatively more heavily by lower income groups, in contrast to the progressive income tax, the substitution diminishes the progressivity in the Federal tax structure. This charge, while perhaps not applicable to a spendings tax with a graduated rate structure, is relevant for a consumption value-added tax levied in a flat-rate, no-exemption form.

Dealing with equity issues always involves difficult trade-offs. One important problem is that schemes to relieve the regressivity of a consumption tax may be self-defeating, since the potential gains in saving from a redistribution of disposable income are reduced as the consumption tax is made more progressive. Moreover, these schemes necessarily complicate the administration of the tax.

[11] For example, Alan Blinder, "Distribution Effects and the Aggregate Consumption Function", *Journal of Political Economy* (June 1975), pages 447-75

[12] Even if aggregate saving is not independent of the income distribution, a qualification related to the redistributive effect must be noted The magnitude of the change in aggregate saving will not, in general, be reflected in the simple difference between the average of the marginal savings propensities of the high and low savers Rather, it will depend upon the weighted average of the marginal propensities to save, where the weights are the fraction of the total tax burden borne by each group Thus, the redistributive effect may be diminished substantially, depending upon the incidence patterns of the taxes considered

Among the ways of reducing the regressivity of the value-added tax are selected deductions—*e.g.*, the exclusion of food purchases from the tax base—or the use of multiple rates.[13] However, in addition to a significant erosion of the tax base, preferential treatment can also cause inefficient use of society's resources, since the relative prices of items would not reflect their relative production costs. As a result, too many resources are channeled into the production of the exempt goods, while too little resources are allocated to making the taxed goods. A credit for low-income consumers, similar to the earned income credit, is one alternative to offering exemptions. Another possible solution is to adjust other taxes to compensate for the reduction of progressivity, although this, too, can have adverse side effects.

Administrative considerations

A truly comprehensive tax is difficult to implement, and both the value-added tax and the spendings tax have troublesome administrative aspects. Some of the problems also arise with the income tax, but others are unique to consumption tax use. Any realistic consumption tax proposal must face up to these technical matters.[14] In the case of the value-added tax, for example, a different procedure for calculating the tax base might be necessary in certain industries for which value-added is difficult to identify. Examples of these are banking and insurance, where the addition method, as opposed to the invoice method, is more appropriate.

A spendings tax also introduces new and complex compliance requirements both for taxpayers and the government. The calculation of net saving means accounting for income items not recognized by the income tax. These cover, among others, cash gifts and interest on state and local bond holdings. Moreover, extensive purchases and sales of assets would make government monitoring of tax returns extremely difficult.

The purchase of durable goods would also present a unique problem. The cost of a consumer durable good should be spread over several years to reflect more accurately both the flow of service provided by the good (that is, the actual consumption of the good) and the purchaser's capacity to pay taxes. Obviously, such an adjustment greatly complicates the tax. A related issue is the treatment of the sale of a durable good prior to the end of its full service life. Some type of credit provision would be necessary if tax is initially paid on the full purchase price.

Expenses due to hardship would most likely require special consideration under a spendings tax, though this would cause administrative difficulty. For example, spending on repairs to a storm-damaged home would surely warrant different treatment from that for luxury items. Certain medical expenses are another involuntary expenditure that could be treated separately. However, a unique handling of hardship outlays introduces arbitrariness into the calculation of the spendings tax base, since that expenditures category is fairly broad and open to various interpretations.[15] Furthermore, such special treatment would increase the record-keeping requirements and reporting complexities of the tax. Expenditures could no longer be calculated as simply the difference between income and the net increase in saving, since preferential treatment of certain expenditures requires explicit accounting for those items.

Life insurance payments, too, would cause administrative difficulty under a spendings tax since these partly represent saving, with the proportion depending upon the particular type of policy held. A technically accurate method of handling these payments is to allow as saving that part of the premium which increases the cash value of the policy. However, this would introduce a significant record-keeping burden to

[13] The Ullman value-added tax bill, H R 7015, exempts the retail sale of food and nonalcoholic beverages (including restaurant sales), the sale and rental of residential real property for use as a principal residence, medical care (including prescription drugs), and sales to government entities Also exempt are exports, nonretail sales by farmers and fishermen, mass transit in urban areas, activities of tax-exempt organizations (as described in Section 501 (c) (3) of the Internal Revenue Code), other than unrelated business activities, educational activities of governmental entities, and interest In addition a small business with sales below $20,000 a year could elect to be exempt from the value-added tax

[14] The following discussion is by no means a comprehensive catalog of the administrative issues associated with the consumption taxes For a more complete discussion, see *The Value-Added Tax and Alternative Sources of Federal Revenue* (Washington, D C Advisory Commission on Intergovernmental Relations, August 1973), Richard E Slitor, "Administrative Aspects of Expenditures Taxation", in Richard Musgrave, *ed*, *Broad-Base Taxes New Options and Sources* (Baltimore Johns Hopkins University Press, 1973) and the contrasting papers of David Bradford and Richard Goode in Joseph Pechman, *ed*, *What Should Be Taxed Income or Expenditure?* (Washington, D C The Brookings Institution, 1980) For some possible approaches to certain administrative difficulties arising with consumption tax use, see the United States Treasury publication, *Blueprints for Basic Tax Reform* (Washington, D C United States Government Printing Office, January 1977)

[15] That special treatment of certain categories causes administrative problems is evident from actual experience In Britain, for example, authorities were forced to determine if a popsicle was foodstuff, and thus exempt from their value-added tax (*Wall Street Journal*, November 21, 1979), page 1 Similarly, Burberry's Ltd is currently engaged in a dispute with the United States Customs Service over the categorization of its trench coats Due to epaulets on the coat, the Customs Service wants it classified as an "ornamented garment" and thus subject to more than four times the tax rate of garments that are not ornamented Burberry's argues that the epaulets are not just ornamentation but " the essence of the garment's traditional appeal" ("Trench Coat under Fire from Customs" *New York Times*, August 13, 1980, page D4)

taxpayers, in addition to being difficult for the government to monitor.

Issues of intergovernmental relations

Since not all areas have similar income distributions and consumption patterns, the replacement of the income tax with a consumption tax will result in an increased tax burden in certain regions. Thus, the tax change could make it politically impossible for these states and localities to increase their taxes further in the case of budget needs, as the combined tax bill would provoke resistance. This direct competition for state and local funds is an important issue in the decision to introduce consumption taxes.

Conclusions

Substituting a consumption tax for the personal income tax is a tax reform of huge proportions with potentially significant consequences. Proponents view it as a policy measure to increase saving. But careful review suggests their arguments are not completely convincing. Indeed, the evidence in favor is fragmentary at best, and at present there is no conclusive evidence that this change would increase saving significantly. Moreover, there are negative side effects which could result from the replacement Before such a change is implemented, more assurance should be given that the gains from the tax substitution outweigh its prospective costs.

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