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A Proposal to Reduce the Federal Deficit and the National Debt

By Robert Kleine, Senior Economist

Although this report was first issued in February 1988, it is just as timely today. The budget deficit declined as a share of GNP from 1986 to 1989 because of fairly strong economic growth and a slowdown in spending. Federal government outlays rose 15.4 percent during that period, compared with a 22.5 percent increase for the previous three years. Outlays are expected to rise only moderately in FYs 1990 and 1991, but owing to a sluggish economy the federal deficit is again increasing, despite the help of the Social Security surplus (see below). Congress and President Bush are negotiating a package of spending cuts and tax increases designed to meet the Gramm-Rudman-Hollings deficit target of $64 billion; the prospects of success are not promising, although the chances are greater in light of the president's recent willingness to consider tax increases.

The federal budget deficit and the national debt continue to grow despite Gramm-Rudman and a general consensus that deficits adversely affect the economy.[1] The downturn in economic growth expected in late 1990 and 1991 will result in slower federal revenue growth and larger federal expenditures, making the budget situation even worse. This paper examines historical trends in federal revenues and expenditures, discusses the immediate and long-run effects of the deficit and the national debt, and proposes a national tax on consumption. The latter, coupled with obligatory spending limits, would raise enough revenue to eliminate deficit spending in four years and eventually retire a large portion of the national debt.

HISTORICAL TRENDS IN THE DEFICIT AND DEBT

Deficit spending (a technique of fiscal policy whereby the government spends more than it receives in revenue) was popularized by British economist John Maynard Keynes in the 1930s. The original objective was to stimulate the economy, by increasing government spending or decreasing taxes, so as to shorten a period of negative or slow economic growth. The U.S. government has used this tool to combat seven recessions since World War II. Unfortunately, deficit spending has become standard policy, regardless of the state of the national economy. Huge annual deficits have become common in the last ten years, even during periods of substantial economic growth.

Exhibit 1 shows that the federal deficit has equaled or exceeded $150 billion every year since FY 1983. The deficit peaked at $221 billion in FY 1986 and then stabilized at about $150 billion through FY 1989. The congressional Budget Office (CBO) is estimating, however, that the deficit could approach $200 billion in FY 1990 and exceed that figure in FY 1991.[2] From 1950 to 1983, the deficit exceeded 3 percent gross national product (GNP) on only four occasions: 1975, 1976, 1982, and 1983. Exhibit 2 shows the deficit as a share of GNP since 1970.[3] As recently as 1979, the deficit was only 1.6 percent of GNP. The recession in the early 1980s resulted in a slightly larger deficit by the end of the Carter administration (2.6 percent of GNP in 1981). If Carter's tax and expenditure policies had remained in place after his term of office, the resumption of economic growth that began in 1982 would have reduced the deficit to about 2–2.5 percent of GNP in 1982 and beyond. The link between economic conditions and whether the government incurs a deficit ended with the Reagan administration tax cuts and the acceleration of defense spending beginning in 1982.[4] The deficit exceeded 5 percent of GNP from FYs 1983 to 1986, the highest

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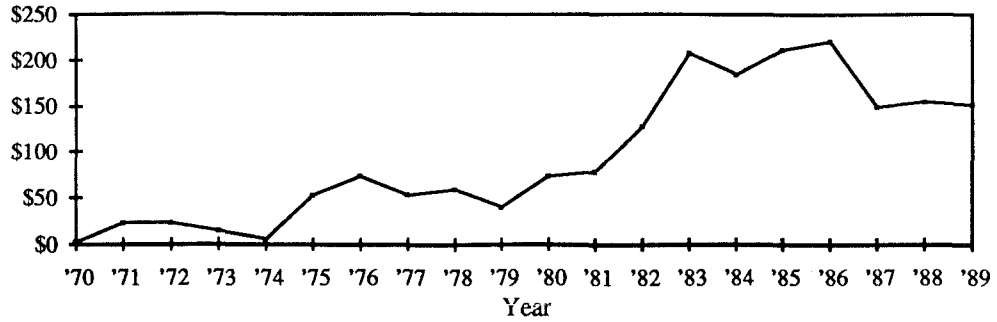
EXHIBIT 1

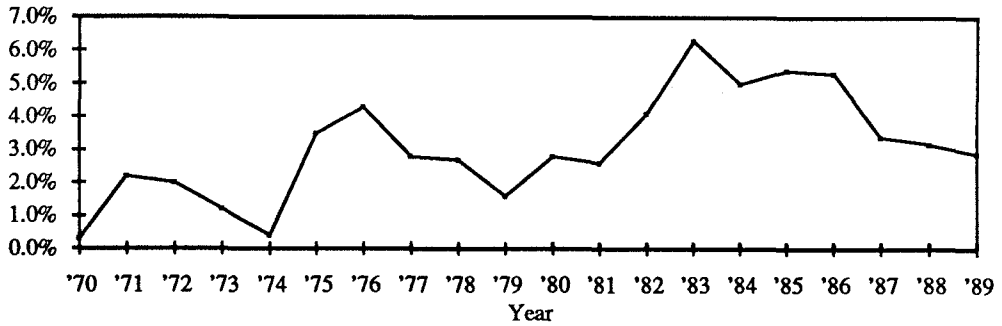
Federal Deficit, 1970–89
(in billions of dollars)



SOURCE: U.S. Department of Commerce, *Statistical Abstract of the United States*, 1989.

EXHIBIT 2

Federal Budget Deficit as a
Percentage of GNP, 1970–89



SOURCE: U.S. Department of Commerce, *Statistical Abstract of the United States*, 1989.

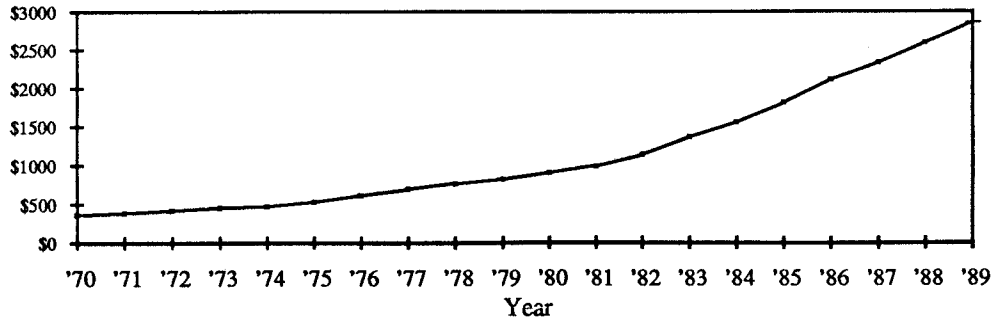
level since World War II. Since then the deficit has stabilized at 3–3.5 percent of GNP, but it is likely to rise in FYs 1990 and 1991 due to sluggish economic growth.

Furthermore, the real size of the deficit is partially camouflaged by the Social Security surplus, an estimated $63 billion in FY 1990 and $132 billion by FY 1995. In effect, the federal government is spending on current programs the surplus that will be needed to pay benefits in the next century. When the bill comes due, the options will be sharp reductions in other expenditures, higher taxes, or huge deficits. Senator Daniel Moynihan (D-New York) has proposed that the Social Security Tax be reduced to use up the surplus and prevent it from being spent on current programs. This proposal has merit, since the tax is very regressive and should not be used to finance general spending. The rate could be increased when additional funds are needed to pay for the large number of retirees expected in the next century. Moynihan's proposal has generated much debate in Congress and is not likely to pass, as it would require concrete action to reduce the budget deficit. (PSC will issue a report on this topic in the next few weeks.)

The national debt and interest payments on the debt have been growing since 1970 (see exhibits 3 and 4). As a percentage of GNP, the national debt has increased at a remarkable rate since 1981 (see Exhibit

EXHIBIT 3

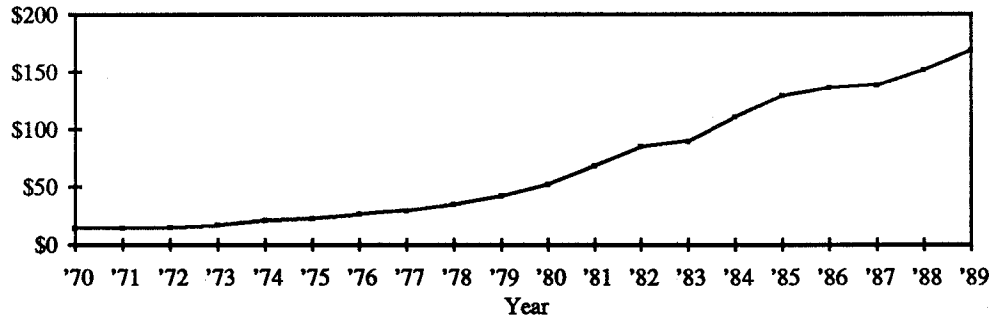
Federal Debt, 1970–89
(in billions of dollars)



SOURCE: U.S. Department of Commerce, *Statistical Abstract of the United States*, 1989.

EXHIBIT 4

Interest on Debt, 1970–89
(in billions of dollars)



SOURCE: U.S. Department of Commerce, *Statistical Abstract of the United States*, 1989.

5). The size of the debt and the market interest rate affect the government's interest payments, which have risen as a percentage of total federal outlays each year but two since 1975 (see Exhibit 6). In 1989, interest payments accounted for 14.8 percent of total federal outlays. Although moderate changes in tax and expenditure policy could significantly reduce the annual budget deficit, more extreme and concentrated efforts are needed to make a dent in the current $2.9 trillion national debt.

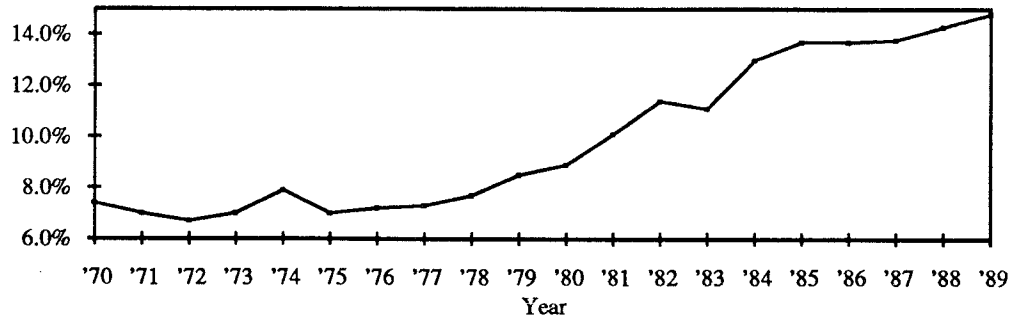
ECONOMIC EFFECTS OF THE DEFICIT AND DEBT

Although the degree to which deficit spending improves or hinders the economy is open to theoretical debate, there is general agreement on the following broad principles.

- Increases in government spending (whether within or beyond revenue raised) can boost demand for goods and services in the economy and reduce the length and severity of a recession. Such expansionary fiscal policy also can cause inflation if the economy already is growing at a healthy rate.

EXHIBIT 5

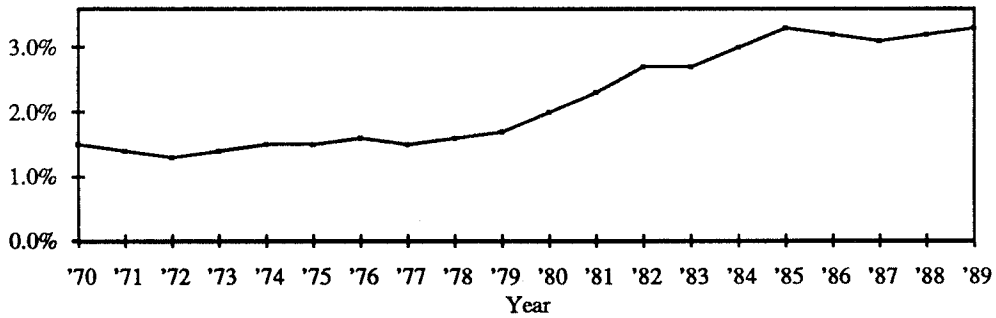
Federal Debt as a Percentage of GNP, 1970–89
(in billions of dollars)



SOURCE: U.S. Department of Commerce, *Statistical Abstract of the United States*, 1989.

EXHIBIT 6

Interest on Debt as a Percentage of Outlays, 1970–89
(in billions of dollars)



SOURCE: U.S. Department of Commerce, *Statistical Abstract of the United States*, 1989.

- Significant hikes in taxes or reductions in government expenditures designed to reduce the deficit just before or during an economic downturn could worsen its effects.
- Deficit spending leads to government borrowing, which may result in higher interest rates.
- Government borrowing that elevates interest rates also raises international demand for the U.S. dollar, pushing up its value. A dollar of higher value relative to other currencies expands imports to the United States and hurts our export industries.
- Persistent annual deficits may reduce investor confidence in the U.S. government and economy, making it more difficult for the government to borrow and causing instability in worldwide financial markets. Deficit spending results in an unrealistically optimistic evaluation of the U.S. economy as long as investors believe that nothing will be done to reduce the deficit or debt. Loss of confidence can occur if the level of indebtedness becomes so large that investors believe the federal government must address the problem. It is impossible to predict at what point investor

confidence will waver, although most analysts agree that the current deficit level has some effect on investment decisions.

- Although deficit spending permits the government to live beyond its means and indirectly allows higher levels of personal consumption and income, there are negative effects. Annual deficits are added to the public debt, on which interest must be paid each year, and this reduces government revenue available for other purposes. In addition to current interest payments, the growing debt itself must be paid at some point; this will reduce future levels of personal income and consumption. It is arguably inequitable for future generations to pay so heavily for this generation's overspending.

Some economists do not believe the federal budget deficit is a problem. In a recent commentary in *Business Week* (July 30, 1990), Paul Craig Roberts states that the deficit does not matter and presents supporting arguments from several prominent economists. Robert Eisner, past president of the American Economic Association, calls the deficit "the nonproblem." A recent study by Harvard economist Robert J. Barro finds no connection between deficits and higher interest rates. In his latest book, Robert L. Heilbroner refers to the debt and the deficit as "fake alarms." Although it is debatable whether large deficits affect economic growth, it is clear that the large interest payments on the debt restrict budget flexibility and reduce funds available for needed programs.

Whether deficit spending is wise in a particular year usually depends on the economic climate; a case often can be made for increasing government spending or lowering taxes to ameliorate the negative effects of a recession. **The proportions to which the federal deficit and debt have grown, however, make the costs of future deficit spending and of ignoring the debt much greater than the benefits of continuing the policy.** Our total indebtedness and propensity to overspend excessively each year have had the following negative effects.

- Faltering confidence in the U.S. economy is causing problems in international financial markets and making consumers wary of long-term investments.
- Our debt has grown to nearly 55 percent of annual GNP. Unless an effort is made soon to reduce this debt, the burden of doing so will fall on an ever-shrinking number of taxpayers as a larger and larger proportion of the country's population retires from the job market.
- Real interest rates are at historically high levels, which increases the cost of financing the debt and restricts government revenue.
- Surpluses in Social Security trust funds (resulting from 1983 amendments designed to address the problem that will occur when the baby boom generation retires) are being used to offset overspending. Continuing to finance deficits with payroll tax receipts will further jeopardize the Social Security system.

The benefits of continued overspending (in terms of higher current consumption) pale compared to these negative effects.

A PROPOSAL TO REDUCE THE DEFICIT AND DEBT

The revenue needed to shrink the deficit could be raised by increasing existing federal taxes, cutting federal spending, or instituting a new tax. Neither a moderate increase in existing taxes nor a decrease in spending would be much help, however, in reducing the public debt.

The two major federal revenue sources are the personal and corporate income taxes. The federal Tax Reform Act of 1986 broadened the base of both taxes and reduced marginal tax rates. Because of the promises made at that time, many Americans would view a hike in the income tax rate at this point as a betrayal. Neither the Bush administration nor any successful presidential aspirants are likely to support raising the income tax to reduce the deficit, although other taxes may be considered. Moreover, sufficient cuts in annual federal spending are unlikely given growing domestic spending needs. The end of the Cold War will allow defense cuts to be made, but these will not be large enough to solve the problem.

If headway is to be made on reducing the deficit and retiring the debt, expenditures will have to grow at a slower rate, and revenue will have to be raised—most probably through a new source. We offer the following solution.

- Institute a national tax on consumption beginning in 1991. Start with a rate of one percent and raise it to 4 percent by 1994. The tax base should be broad, and very few exemptions should be allowed. Income-based refunds could be used to reduce the proportion of the consumption tax burden falling on the poor.
- Earmark a portion of the consumption tax revenue for reducing the current deficit and, later, for lowering the national debt.
- Restrict government expenditures by requiring that these (including interest payments) not exceed government revenues (net of the earmarked consumption tax revenue) each year after 1994.
- Allow the federal government to spend more than it receives in revenue in any year that there is a national recession or emergency (declared by a two-thirds vote Congress).

A VALUE-ADDED TAX VERSUS A SALES TAX

A national tax on consumption could take the form of a national sales tax or a national value-added tax (VAT);[5] both fall on consumption. The major differences are in (1) the treatment of capital goods, (2) the collection process, and (3) the implications for intergovernmental fiscal relations. The differences between the two and the arguments for and against each are discussed below.

The Treatment of Capital Goods

Capital goods should be exempted from the tax.[6] A consumption VAT allows an immediate deduction for the purchase of capital goods,[7] whereas it is difficult to exclude these under a retail sales tax. Taxing capital goods under a retail sales tax is objectionable because it can result in multiple taxation of a given item and defeats the objective of a uniform tax burden on consumers.

The Collection Process

A retail sales tax is imposed at the final stage of the production-distribution process and is collected by the retailer, based on the final selling price. The VAT is collected at each stage in the production-distribution process, based on the value added by each firm.

Exhibit 7 illustrates the collection process for a 5 percent VAT. A raw materials supplier sells $100 worth of materials to a manufacturer and pays $5 in VAT. The manufacturing firm then sells its output to a wholesaling firm for $200. The manufacturing firm's VAT liability is $5, which is equal to the VAT due ($10) on its sales less the VAT paid ($5) by the supplier. The wholesaler purchases $200 worth of inputs from the manufacturer and sells $500 worth of output to a retailing firm. The wholesaler pays a VAT of

EXHIBIT 7

Collection of a 5 Percent VAT

	Raw Materials Supplier	Manufacturer	Wholesaler	Retailer	Total
Value of purchases	0	$100	$200	$500	
Tax on purchases	0	$5	$10	$25	
Value of sales	$100	$200	$500	$700	
Tax on sales	$5	$10	$25	$35	
Value added	$100	$100	$300	$200	$700
Value added tax (Tax on sales minus tax on purchases)	$5	$5	$15	$10	$35

$15 on the $300 difference between the VAT due on sales and the VAT already paid on purchases. The retailer purchases $500 worth of inputs from the wholesaler, sells the final product for $700, and incurs a VAT liability of $10. Total value added is $700, and the total VAT paid is 5 percent of value added, or $35. This example also illustrates the near equivalency of the VAT and a retail sales tax. A 5 percent sales tax levied only on the retail price of $700 also would yield revenue of $35.

Intergovernmental Fiscal Relations

Some state and local officials are concerned that a federal VAT or national sales tax might make it harder for them to increase their sales tax. A VAT generally is viewed as a form of retail sales tax, and its use at the national level might affect public acceptance of higher state and local sales taxes. In a 1973 report, the Advisory Commission on Intergovernmental Relations concluded that a national VAT and a national sales tax would have similar effects on intergovernmental fiscal relations.

> The retail sales tax would be as direct an intrusion as possible; it is, after all, the tax instrument used by states and localities. Yet, the value added tax offers nothing salutary either. . . .[It is,] in essence, equivalent to a retail sales tax confined to consumption goods with a singular difference being in method and nomenclature. As such, neither tax is likely to assuage fears of federal intrusion into the sales tax field.[8]

How much a federal VAT intrudes on the revenue-raising ability of state-local sales taxes will be determined largely by two factors: rate and visibility. For example, at the relatively high rate of 8 percent, the portion of the VAT that is tacked on at the point of retail sale would reduce states' ability to raise their own sales taxes. Conversely, a VAT with the relatively low rate of 3 percent *included* in the retail price would have much less effect on states' sales taxing ability.

The Michigan experience with the single business tax (a form of VAT) suggests that a VAT may not necessarily be viewed as a retail sales tax; thus it may not be seen as an intrusion into state and local taxing authority, particularly if the additive method is used and the tax is included in the price.[9] Even it a national VAT were to use the tax credit method of calculation,[10] the effect on states' ability to use the sales tax is unlikely to be significant if the rate does not exceed 3–4 percent.

Which Tax Is More Desirable?

Which is the more desirable addition to the national tax system—a VAT or a sales tax? There are good arguments for each. Richard Lindholm lists a number of reasons for favoring the VAT.[11]

- If a retailer evades the retail sales tax, that revenue is lost; evading the VAT would mean losing only that part due on value added from the retailer, since the VAT is collected at several stages.

A retail sales tax generally does not cover services, most of which are exempted from existing state and local sales taxation. The breadth of coverage is much less a problem with a VAT. Rather than exempting all services of one type, certain types of businesses (for example, small or labor-intensive firms) can be shielded under the VAT.

- A retail sales tax often levies a tax on capital goods. The VAT avoids this problem because the tax paid on these goods is deductible by each firm along the production process until the end-use is reached.

- Under the General Agreement on Tariffs and Trade (GATT), exporters can receive a refund on all VAT paid. The tax also can be levied on imports at the frontier. Used in this way, the VAT can encourage exports and discourage imports, improving the trade balance. The retail sales tax cannot provide these benefits.

- Exempting small businesses from the VAT would not result in the loss of all revenues from the entire production-distribution process. For example, only small manufacturing firms could be exempted. A national sales tax does not allow this flexibility.

The U.S. Department of the Treasury notes that although the two taxes are economically equivalent in their purest form, there are administrative differences between the retail sales tax and VAT that tend to favor the latter. "In particular, a value added tax may be superior to a retail sales tax in freeing capital goods and other business purchases from taxation."[12]

Among those favoring a national sales tax is Charles McClure, who sees no economic difference between the two and prefers the sales tax for administrative reasons.[13] He views the advantages of the sales tax as follows.

- State and local sales taxes can be piggybacked on a national sales tax, which would not be possible with a national VAT.

- A well-designed retail sales tax can promote tax consciousness: A direct tax on consumer goods might heighten awareness of the cost of government. Some observers of the European system believe that one weakness is the ease with which the VAT can be raised when revenue is needed. This is unlikely to be the case with a retail sales tax.

- A retail sales tax involves fewer taxpayers, resulting in lower administrative overhead.

Public Sector Consultants believes that, on balance, a national VAT is preferable to a national sales tax mainly because a VAT would be less likely to intrude on state-local fiscal matters, would reduce taxation of capital goods, would provide trade advantages, and likely would be more acceptable to the public than a retail sales tax. Opposition from state and local officials can be deflected by sharing with these governments a portion of the VAT revenues not earmarked for federal deficit reduction. This would reduce

the need for state and local governments to raise their own sale taxes if they need more revenue in the future.

THE BASE OF THE TAX

We recommend a broadly based VAT with only a few consumption items exempted. The broader the base, the greater is the revenue potential of the tax and the fewer are the distortions in consumers' purchasing decisions. Although a number of items could be exempted from the tax for administrative or social reasons, we recommended restricting these. Since the rental value of owner-occupied housing is extremely difficult and costly to calculate, it should be exempt for administrative reasons; it follows that all residential rent payments also should be exempt. Foreign travel, local transportation, and insurance and finance expenditures could be exempt for administrative reasons as well. Medical care, education, and religious and welfare expenditures could be exempt for social reasons. Assuming these exemptions, the remaining base in 1988 would have been approximately $2,158 billion. (See Exhibit 8.)

FEDERAL DEFICIT AND DEBT REDUCTION

The VAT proposed would raise approximately $23 billion in 1991 (at one percent), $47 billion in 1992 (at 2 percent), $73 billion in 1993 (at 3 percent), and $100 billion in 1994 and each year thereafter (at 4 percent).[14]

A small portion of the revenue should be devoted to low-income credits, which should be equal to the amount of VAT paid by low-income individuals on the level of consumption necessary to maintain a

EXHIBIT 8

Estimate of Value-Added Tax Base Using 1988 Levels of Expenditures (in billions of dollars)

Total personal consumption expenditures			$3,235
Less:			
	Rental value of owner- and tenant-occupied housing (including farms)	$501	
	Medical care (including health insurance)	443	
	Insurance and finance services (other than health insurance)	170	
	Education	58	
	Religious and welfare	76	
	Net foreign travel	3	
	Local transportation	5	
	Other: food produced and consumed on farms, military-issued clothing, domestic services, and so forth	19	
	TOTAL		–1,275
Plus: Sales of new housing			198
Comprehensive value-added tax base			$2,158

minimum standard of living. In the recommended revenue allocation that follows, these credits have not been deducted.

- From 1991 to 1993, use all VAT revenue to reduce the federal deficit. Assuming a $200 billion deficit in 1991 (before the extra revenue), this would reduce the deficit to approximately $57 billion by 1993.
- In 1994, dedicate $57 billion of the VAT revenue to eliminating the deficit and the remaining $43 billion to reducing the national debt.
- After 1994, prohibit budget deficits (unless there is a national recession or emergency). Allocate half the VAT revenue to general government and half to reducing the national debt. (The portion earmarked for the debt would be used to reduce the deficit in times of emergency or recession.) This means that the federal government would have about $50 billion more to spend each year after 1994 than it has from current sources and would eliminate the deficit by 1995.
- This plan could totally eliminate the national debt in about forty years, although that may not be wise. Reducing the debt will have a dampening effect on the economy, and it may be desirable to choose a certain acceptable level; once it is reached, the VAT rate could be reduced and/or the revenue used to reduce other levies (such as the corporate income tax), ensure the viability of the Social Security system, or build surpluses in other vital accounts.

OTHER ASPECTS OF A NATIONAL VAT

Aside from eliminating the federal deficit and eventually the debt, instituting a national VAT would have the positive effect of diversifying the nation's tax structure and reducing the relative importance of the federal income tax. A national VAT also would have some negative effects, the most important of which relate to prices, administrative costs, and equity.

Prices

A national VAT of 4 percent levied on the base we propose (about 75 percent of total consumption) probably would result in a one-time rise in the overall price level of about 3 percent. This would mean an increase in inflation of 3 percent (above the level that would have occurred without the tax) in the first year of the VAT. When the European countries instituted a VAT, the effect on prices was limited to the first year. We could expect a similar price reaction if the United States were to institute a VAT.

Administrative Costs

The U.S. Treasury estimates that administering a national VAT would require 20,000 additional employees and cost about $700 million per year. (Exempting firms with gross receipt below $50,000 could reduce this figure by about $200 million annually, at a cost of 2 percent of the tax base.) Administrative costs would have to be covered by nonearmarked VAT revenue or other federal revenues.

Equity

The most serious drawback of any consumption tax, whether on retail sales or value added, is that much of the burden falls on the poor unless adjustments are made in either the base or collection of the tax. A VAT without such adjustments would be regressive; that is, the amount of tax paid as a percentage of income would be greater at lower income levels than at higher income levels. This is because individuals with a low income consume a larger percentage of it than do individuals with a high income. Furthermore,

wealthier individuals spend a greater proportion of their income on nontaxable consumption items that would be exempted from the VAT. Adding a regressive VAT to the current federal tax system would reduce its overall progressivity.

Some states ease the regressivity of their sales tax by exempting food and other necessities or by allowing an income tax refund for sales taxes paid by low-income persons. Exempting food and necessities is an inefficient way to reduce regressivity, since it benefits the wealthy as well as the poor. We propose that the national VAT reimburse low-income individuals in the amount roughly equal to the VAT paid on the consumption necessary to attain a minimum standard of living. The reimbursement effectively would reduce the VAT burden borne by low-income individuals and would be phased out as income rises. It would be administered as a credit against federal income tax liability, refundable to those below the income tax threshold. The U.S. Treasury estimates that if such a refund is phased out for those with income between 100 and 150 percent of the poverty level, the overall regressivity of the tax would be greatly reduced, and the revenue of the VAT would be decreased by only 5 percent.

CONCLUSIONS

Political discussions about the current fiscal situation typically pertain to appropriate debt ceilings, the magnitude of the deficit, and the effects on the economy, not whether an annual deficit or a large national debt is justifiable. The discussion should be broadened to touch on this question. We believe that unless expansionary fiscal policy is vitally necessary to the general health of the economy, deficits are not advisable. Their adverse immediate and long-term effects make it unwise economic policy to continue overspending. In addition, this generation should not have the license to spend future generations into debt. The national VAT and expenditure restrictions proposed here would help secure our future by reducing the deficit and the debt, while diversifying and increasing federal revenue.

Notes

1 The federal budget deficit is the amount by which federal government expenditures exceed revenues each year. The national (or public) debt is the total indebtedness, including accrued interest, of the federal government. Whenever annual federal expenditures exceed revenues, that deficit is added to the national debt.

2 These numbers do not include the cost of the savings and loan bailout, which is expected to be well over $500 billion during the next 10–15 years.

3 When looking at the deficit and debt over time, the most appropriate measures are relative to GNP (the market value of all final goods and services produced in the economy in one year). Today's deficit of more than $200 billion is not as significant in today's $4 trillion economy as it would have been in the 1970 economy of $1 trillion.

4 The Reagan administration inherited a manageable deficit of 2.6 percent of GNP; it also inherited a defense budget that had been declining during most of the Carter administration and a tax system that resulted in record tax revenue as a percentage of GNP.

5 A value-added tax is collected at each stage in the production process. Value added can be calculated in many ways, but it is simplest to visualize it as the difference between a firm's sales and its nonlabor purchases of inputs. Since the retail sales price of a good equals the combined value added during all stages of production (including the retail stage), a tax on value added at each stage will raise the same amount of revenue as a retail sales tax.

6 Capital goods are those purchased by business to be used in the production process and not to be resold as output to consumers or other firms. A VAT is designed to tax output and not capital goods.

7 Under a consumption VAT (hereafter referred to simply as VAT), businesses are not taxed on capital goods. Other types of VAT include capital goods in the base, but the consumption VAT is the type most often discussed in the United States and used in Europe. A pure consumption VAT would exclude all items not sold as output. In practice, such a VAT would exclude many investment purchases but probably would include many items (pencils, paper, chairs, and so forth) used in the production process.

8 Advisory Commission on Intergovernmental Relations, *The Value Added Tax and Alternative Sources of Federal Revenue* (Washington, D.C.: 1973), pp. 81 and 84.

9 Under the additive method, as used in Michigan's single business tax, a firm's value-added tax liability is calculated by adding together the components of value added—wages, rent, interest, and net profit—and then applying the tax rate to that sum.

10 The tax credit method is used in the European consumption VAT. Tax liability equals the tax rate times gross sales less the tax rate times purchases made by firms. (See Exhibit 7 for an example of the credit method.)

11 Richard W. Lindholm, *The Economics of VAT* (Lexington, Mass.: D.C. Heath, 1980), pp. 106–109.

12 U.S. Department of Treasury, *Tax Reform for Fairness, Simplicity, and Growth*, November 1984.

13 Charles E. McClure, Jr., and Norman B. Ture, *Value-Added Tax: Two Views* (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1972).

14 This assumes that consumption as a percentage of GNP would remain constant over time. The values are in real (inflation-adjusted) dollars with a base year of 1988.