Enterprise Economics IV: The Case For and Against Value-Added Taxation

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Introduction

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This monograph is the fourth in a new series of tax policy studies sponsored by the Progressive Foundation's Project on Tax Reform, along with the Progressive Policy Institute. This project's primary mission is to identify and design a growth-oriented tax reform program that could -- consistent with a progressive distribution of the tax burden -- help stimulate national savings and investment, strengthen job and business formation, and improve economic productivity and growth. The essays in this series include alternative reforms for the corporate, personal, and payroll tax systems; an analytic comparison of tax burdens applied to workers and firms, and to capital and labor, in the United States and other major industrial nations; and new evaluations of value-added taxes and pollution taxes. This volume offers two analyses of value-added taxation, "Value-Added Taxes and International Competitiveness," by David G. Raboy and "The Economics and Politics of a Value-Added Tax," by M. Jeff Hamond.

A serious interest in tax reform is part of a broad commitment by the Progressive Foundation and the Progressive Policy Institute to help develop a new Enterprise Economics that can place the valid insights of both traditional liberal and conservative economics in the new global economic context. This approach seeks to focus policy not simply on financial capital or aggregate demand, but rather on the various resources for heightened innovation, efficiency, and productivity by U.S. workers and firms. In addition to tax reform, the policy agenda of Enterprise Economics includes budget reforms to restrain the growth of public spending while revitalizing public investment, Social Security reforms that could help to sustain that system while expanding private savings, and strategies for strengthening market competition by phasing out industry-specific subsidies and unproductive economic regulation. Enterprise Economics also includes new analyses and approaches to labor market policy, education, and training, in order to endow American workers with the skills and opportunities they will need to create economic security in an era of dynamic global competition.

The Economics of Tax Reform

Since this project began in 1993, tax reform has once again become an important element in the ongoing discussion of national economic policy. Specific and often radical tax reform proposals are debated heatedly in Washington research institutes, on the opinion pages of major publications, and increasingly by members of Congress. With this renewed interest in tax reform, it is time to reconsider two questions: First -- simply and seriously -- why reform the tax code? And second, what are the likely consequences of the various current approaches to reform?

The question "why tax reform" deserves careful attention not only because any significant change could have far-reaching economic effects, but also because the effort to reform federal taxes will in itself entail significant costs. To begin with, as soon as Congress turns to tax reform, businesses and individuals will be forced to make tax-sensitive allocation and investment decisions under conditions of greater uncertainty. Serious debate about reforming the tax code, therefore, entails tangible efficiency losses for the economy.

Actually unraveling the code and trying to build a new one, whatever the outcome, also has to consume a considerable share of the scarce time and energy of hundreds of members of Congress and their senior staffs, along with hundreds more Treasury and White House officials and private tax experts and practitioners. Federal officials cannot tackle tax reform, therefore, without turning away from other important issues such as health care, welfare, and perhaps even the budget deficit.

Finally, if reforms of consequence are enacted, their particular features will affect the government's ability to address other problems. If a new tax code leaves the value of employer-provided health insurance and other fringe benefits

untaxed, for example, health care reform will have to depend on other, less market-oriented measures to discipline demand for medical treatment. If the earned-income tax credit for working poor people were eliminated as part of tax code simplification -- as urged recently by proponents of a national sales tax and a flat tax -- work-based welfare reform would become more problematic. And if the next round of tax reform were to reduce total revenues, as did the tax reforms of 1981 and 1986, permanent deficit reduction will become even more difficult than today.

To justify these various costs, tax reformers should be able to claim credibly that their tax strategy will produce substantial benefits. The problems that any proposal would address should be genuinely significant, and its likelihood of ameliorating those problems should be high. At this time, two problems seem to meet this criterion: the costs associated with the unnecessary complexity of the present code, and the nation's low rates of personal savings and business investment.

The rationale for a simpler tax system is straightforward: Administering and complying with the current code, with its hundreds of special deductions, credits, and exemptions, cost businesses and individuals an estimated $100 billion a year -- a deadweight loss to the U.S. economy equal to nearly 1.5 percent of total gross domestic product (GDP). Eliminating most of these special provisions could cut these costs by as much as half. Since every such provision reduces revenues, their elimination also would allow the Treasury to collect as much revenues as today with lower tax rates, and allow markets to better allocate the economy's resources. The end result should be greater efficiency and stronger growth.

The code's complexity, therefore, presents a problem of real significance, and in theory dramatic tax simplification could substantially reduce the costs associated with it. Achieving significant simplification is always difficult politically, because inevitably it shifts a portion of the tax burden, usually from those who have not used the abolished preference to those who have -- so they in turn naturally resist the reform. The core technical issue in simplification, moreover, involves the precise taxation of the myriad forms of capital assets or capital income. Several current tax reform proposals try to finesse the political problems involved in simplifying the personal income tax by simply excluding from the tax system all capital assets or capital income.

This approach raises social and economic issues that go well beyond simplification. Is a tax system that, on the individual side, taxes only labor income consistent with a progressive distribution of the tax burden? Judging by these proposals, probably not. However, it is worth noting that while consumption-type taxes do tend to increase tax burdens on lower-income people, they also operate as a form of wealth tax, taxing existing wealth as it is consumed.

This approach to tax simplification is also commonly justified by the proposition that it would significantly increase savings and investment rates. Like simplification, the rationale for pro-savings and investment tax reform is clear and compelling -- and also hard to achieve. Since the 1960s and 1970s, the U.S. national savings rate has fallen from 7 percent to 8 percent to less than 2 percent. Furthermore, the personal savings rate has dropped precipitously, from a respectable level of 7.8 percent in the 1970s to just 4.6 percent thus far in the 1990s. And despite sometimes massive foreign investment in the U.S. economy, net fixed business investment -- which not long ago grew at an average annual rate of 7.0 percent -- expanded by just 2.3 percent a year over the last decade.

As U.S. savings and investment rates have declined, so have the annual productivity gains of U.S. workers and firms, falling from roughly 3.0 percent a year in the 1950s and 1960s to less than 1.5 percent annually over the last decade. Finally, slow productivity growth has cut the real income gains achieved by working Americans by fully one-third to one-half.

Proposals for major tax reform today -- the flat tax, the national sales tax, a new income tax that would exempt all forms of saving -- all try to incorporate a bias toward greater savings and investment by focusing the tax burden in some manner on consumption or labor. Yet the preponderance of economic evidence suggests that tax preferences for savings and investment typically produce fairly modest results, especially if the value of the incentive depends on how a taxpayer saves or how a company invests. The 1981 Reagan tax reforms, for example, created a new personal tax deduction for personal savings deposited in special individual retirement accounts, for up to $2,000 a year or nearly 7 percent of average family income. Reaganomics also created a host of new corporate tax deductions and credits for various forms of business investment. Yet personal savings rates and net fixed business investment rates continued to fall through the 1980s.

The United States may be caught in a vicious economic cycle which tax reform alone cannot stop:

Changes in total business investment seem to depend less on prevailing tax rates than on the economy's underlying rate of return and the nation's overall savings rate.

These in turn depend little on the tax rate and more on the size of government deficits and the personal savings rate.

Changes in personal savings rates depend primarily on how fast personal income grows.

And personal income growth depends primarily on our rate of productivity gains, which in turn depend on (and bring us full circle to) business investment rates and therefore personal savings rates.

If this is the way the economy works, tax reform would have to deliver a very large and systematic incentive for savings and investment in order to be very effective. A partial reduction in the tax rate on certain capital gains, George Bush's favorite tax reform, clearly does not pass this test: Despite four successive cuts in the capital gains tax burden from 1977 to 1985, net investment rates continued to decline.

The value-added tax (VAT) offers something of a test case of the economic benefits of consumption-based taxation. VATs have been in place in most other advanced economies for a generation or longer, and thus the VAT has been the topic of extensive economic analysis. The two papers published in this monograph survey the results of these analyses and conclude that the form of value-added taxation likely to emerge from our political process would not produce permanent and substantial economic benefits.

Is comprehensive tax reform aimed at stimulating savings and investment, then, worth the effort? Yes -- but not by itself. If the problem of low savings and investment is as important as we believe, tax reform should create a sustained and positive incentive for the general acts of savings and investing, and not simply increase the price of particular items of consumption. More important still, such tax reform should be accompanied by additional measures to reinforce and amplify its effects; namely, deficit reduction and mandatory private savings.

The simple fact is, the largest single contributor to low national savings and investment is not the tax system, but our willingness to allow government to absorb up to half of our personal and business savings to finance its deficits. Based on the record of the last 15 years, spending cuts alone will not eliminate these deficits, especially if the political parties cannot build a new consensus about what responsibilities now financed at the federal level should be devolved to the states, localities, or private entities. To permanently eliminate deficits, the parties also will have to redefine the ways in which we, collectively and individually, ensure health care for elderly people along with everyone else and income security for those retired or disabled. Unless these conditions are met, any genuine and serious pro-savings tax reform will also have to raise additional revenues to reduce those deficits.

After the budget deficit, the second largest factor in low national savings and net investment is still not the way we tax consumption and savings, but the impact of the Social Security system. While most economic research shows that tax incentives do not greatly increase personal savings and investment, research also suggests that the expectation of public pension payments has significantly decreased private retirement saving.

The challenge will be to address this issue through reforms that do not undermine the Social Security system's achievement of sharply reducing poverty among elderly Americans. The most promising -- yet politically daunting -- approach is to gradually transform Social Security and the taxes that finance its benefits into mandatory private savings supplemented by a minimum public retirement benefit for low-earning people. For example, this process could begin by redirecting to mandatory, individual private retirement accounts the 2 percentage points of the payroll tax that currently produce the so-called Social Security surplus. To increase net national savings, however, such a reform has to be accompanied by other spending and tax changes to ensure that the deficit doesn t rise as the surplus payroll-tax revenues are channeled to private savings. In addition, eligibility and benefit changes would have to be enacted to ensure that the remaining payroll tax still covers benefits even as more people retire. Over succeeding decades, the share of the payroll tax directed to mandatory private savings accounts could increase as the size of the publicly financed pension benefit would contract.

By tying mandatory private savings to consumption-based personal and corporate taxes that also reduce the deficit, government policy could create a genuine systemic bias toward savings and investment. No one can guarantee that even this approach would transform the economy's performance. Anything that is less systematic or that does not also reduce the deficit, however, may well not be worth the effort.

Executive Summaries

In the first essay, David G. Raboy offers a close analysis of one key aspect of the debate over value-added taxes: the impact of a VAT on a nation's competitiveness. He concludes that an ideal VAT will have positive trade effects over the short term, and can lead to efficiency benefits that improve a nation's competitiveness by enhancing productivity. However, such efficiency gains can be produced by a number of tax reform strategies. Moreover, a VAT that is less

than ideal -- notably, one that exempts certain goods and services and applies multiple rates, as do current VATs in Europe and Asia -- can actually harm national competitiveness.

To assess how value-added taxes affect international trade, Dr. Raboy reviews current and classic trade theory in depth. The crucial issue for a nation's economic competitiveness, he argues, is its terms of trade, or the ratio at which the country exchanges goods with the rest of the world. These terms of trade are determined by dividing the external price of a country s exports by the external price of its imports. A country is better off when the products it exports fetch higher prices (as measured by world currencies), or when the products it imports from other countries fetch lower prices -- when its terms of trade improve -- because it can purchase more of other countries production using the same domestic effort, savings, or production.

The pertinent issue here for tax reform, therefore, is whether a VAT can improve a country's terms of trade. The first-order answer is that a VAT does appear to improve these terms. Unlike a corporate or personal income tax, VATs exempt exports (i.e., previous VAT payments are rebated when a product is exported) and are applied to imports. At least for a time, a new VAT that replaces an existing income tax should enhance the country's economic welfare by improving its terms of trade.

However, if markets work, the author notes, this improvement cannot last. This is because market pressures dictate, over time, that a firm that produces goods for both domestic and foreign consumption must earn the same return, after tax, in both markets; and that domestically produced goods must bring the same price as imports with which they compete, including all taxes. Otherwise, a producer will produce only for the market, domestic or foreign, that offers the higher after-tax return or the higher tax-included price. By this logic, over time, any improvement in a country's terms of trade produced by enacting a VAT will disappear. Moreover, as Dr. Raboy explains, a VAT with preferences -- that is, a VAT that exempts nontraded necessities such as housing and medical care, or food -- can impair a nation's competitiveness. The tax preference channels investment and demand away from the firms producing tradable goods and services, contracting the country's international trade industries.

Dr. Raboy raises important new questions about this traditional economic critique of value-added taxes. A country could improve its terms of trade for a time by replacing a corporate income tax with a VAT. The tax rebate for products exported would reduce the real cost of those goods on world markets and so increase demand for them -- and, he claims, exchange rates would not fully adjust to nullify these effects over a longer term. He reasons, first, that exchange rates are now less influenced by the currency demands associated with exports and imports than by trading in financial instruments and the expectations of currency traders. Furthermore, with the enactment of a substitute VAT, these currency traders might expect the Federal Reserve to accommodate the increased demand for exports with monetary expansion. That expectation would exert downward pressure on the dollar, which would in turn offset some of the upward pressure from the increased export demand. As a result, Dr. Raboy argues, the full readjustment of exchange rates which should nullify the VAT's short-term improvement in the country's terms of trade might not take place. Therefore the benefits from enacting a VAT could be permanent.

Whether expectations would unfold as this argument suggests, or as more traditional economic models have predicted, the bottom line remains essentially the same: Tax reformers cannot rely on a VAT to appreciably and permanently enhance U.S. economic performance. The search for ways to increase U.S. savings and investment reliably and substantially will have to continue.

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M. Jeff Hamond's essay, "The Economics and Politics of a Value-Added Tax," offers an overview of the major economic and political issues involved in enacting and implementing value-added taxes, particularly a VAT that would replace the current corporate income tax.

The case for value-added taxation, he notes, cannot rest on the savings associated with administrative simplification, since a VAT entails substantial compliance of its own. The chief claim of VAT proponents in this regard involves tax neutrality; that is, a VAT would provide efficiency gains for the economy, because it would interfere less than the current corporate tax with market allocations of resources. In this respect, Mr. Hamond concludes, a VAT is clearly superior to the current corporate tax -- but only if the VAT applied a single rate to all value added, without the common exceptions for various basic goods such as food, health care, and housing.

Yet, the author reminds us, politics would probably drive a considerable wedge between the pure VAT adduced in theory and the version likely to emerge from a normal democratic political process. If such a wedge did emerge, the resulting VAT would produce, at best, meager efficiency gains.

Mr. Hamond then reviews two other basic economic issues raised by VAT proponents and opponents, and concludes that the positive economic case for a VAT is less strong than often assumed. There is little evidence, at best, that the VATs enacted by the major European nations have increased overall personal savings rates, or that a VAT can help improve a country's trade balance by exempting exports and being applied to imports. In addition, the charge that the enactment of a VAT will permanently increase a nation's inflation rate is also not supported by economic theory or evidence. Rather, with appropriate monetary policy, a VAT should produce a one-time price increase, followed by lower capital costs that could reduce underlying inflation.

The essay then turns to a series of related issues. The most important of these is, must a VAT and any other consumption-based tax have regressive effects? Mr. Hamond shows that the answer depends, in part, on other factors; in particular, the distribution of the burden of any tax it replaces, and what other measures, if any, are taken to increase the incomes of low-income people. The central issue, however, involves one's time horizon. Over a lifetime, the distribution of the burden of a consumption tax will approximate the distribution of the burden of a broad income tax, because over a lifetime people consume all the resources they have -- except for gifts and inheritances. Therefore, a VAT need not necessarily be more regressive than an income tax, so long as wealth transfers are also taxed.

Mr. Hamond also examines a series of political issues. The prodigious revenue-raising capacity of a VAT, he notes, does not necessarily produce larger government than other revenue-raising systems. Nor need a VAT necessarily encroach on the taxing authority of states that currently apply their own sales taxes. Furthermore, a VAT need not be more expensive to administer than an income tax. In fact, a VAT's administrative and compliance costs can be sharply lower than those for an income tax, if the VAT exempts millions of small businesses that in any case account for a very minor share of potential VAT revenues. While excluding small business could be accomplished easily, covering products such as government services, financial services, housing, and the sale of used goods presents formidable technical problems. The system's administrative and compliance costs will rise sharply if they are subject to the tax; but if they are not taxed like other goods and services, the VAT will end up harming the economy by sharply distorting the allocation of resources.

On balance, Mr. Hamond concludes that there is little compelling economic evidence to either strongly support or strongly oppose a VAT. If the point of tax reform is to measurably improve U.S. economic performance, tax reformers should look elsewhere.

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Value-Added Taxes and International Competitiveness

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It is not uncommon for the views of academic economists and those of business people -- whose actions and decisions economists attempt to study -- to differ. It is, of course, somewhat of an irony in our academic era; with its models of bounded rationality, rational expectations, and other representations that suggest that business people act in their own self-interest. Yet on some key issues, business people and academic economists can apparently hold radically different views for long periods of time on the effects of policies. One policy issue on which the opinions of these two groups appear to be most at odds is the economic effects of a value-added tax (VAT) -- or, more precisely the substitution of a VAT for existing business taxes -- on international competitiveness.

The very existence of this issue can be traced to provisions of the General Agreement on Tariffs and Trade (GATT), which includes a system of border tax adjustments.[1] Such adjustments are allowed for indirect taxes (sales taxes, VATs, excise taxes, and the like); but not for direct taxes (income taxes, payroll taxes, and other taxes on income flows). Given the choice between adopting the "origin" principle -- where taxes are levied on goods in countries where they are produced -- or the "destination" principle -- where taxes are levied on goods in the country in which they are consumed -- the GATT adopted the latter. Consequently, indirect taxes like the VAT, which are applied directly to goods, are levied on imports and rebated on exports, while direct taxes like the corporate income tax, which may indirectly affect the price of goods, are not applied to imports and not rebated on exports.

Since the United States currently relies on origin-based direct taxes with no border adjustments while the rest of the world is more heavily dependent on indirect taxes with border adjustments, many business people in trade-intensive sectors have argued for transformation of the U.S. tax system, despite the analysis of academic economists. To such proponents of tax changes, Martin Feldstein and Paul Krugman (1990, p. 263), for example, lecture:

> Among many businessmen, however, the case for a VAT is often stated quite differently. They view such a tax as an aid to international competitiveness since VATs are levied on imports but rebated on exports. The case is often stated as follows: an income tax is paid by producers of exports but not by foreign producers of the goods we import, while a VAT is paid on imports but not exports. Surely, say the proponents of this view, this means that countries that have a VAT have an advantage in international competition over countries that rely on income taxation.

In fact, this argument is wrong. Feldstein and Krugman (1990, p. 264) go so far as to attribute to Charles McLure the view of "the competitive argument for a VAT as evident nonsense."[2] Mainstream economic theory assumes that economic actors are "rational," that is, that they behave in predictable ways that represent their self-interest, based on available information. Why then would rational, profit-maximizing business people insistently advocate policies that apparently will not achieve their intended goals? Perhaps the information costs are so high that, given bounded rationality, it has been too expensive to educate those with errant opinions. (Presumably, the more lectures that business people receive from academic economists, the lower the transactions costs will be.) Or perhaps this is a principal-agent problem, where managers are promoting policies that don t coincide with the desires of the owners of capital. Or -- just maybe -- the gulf is not as wide as some economists believe.

This essay attempts to reconcile these divergent views on the trade implications of VATs, and to determine what the economic literature actually says about VATs, other taxes, and international competitiveness. A first step must be to cull the plethora of issues and approaches. There is the question of the international effects of a VAT in isolation; or as a substitute for other taxes. The latter possibility raises the question of differences in tax incidence among VATs, the corporate income tax, payroll taxes, or individual income taxes. There is also the issue of the international monetary system and floating exchange rates, not to mention international capital flows.

To begin with, how should "competitiveness" be defined? Much of the popular literature considers the effects of a VAT on the trade balance (the "current account"), while much of the academic literature on trade is more concerned with the effects of tax policy on the relative prices of traded goods or the "terms of trade." The terms of trade, it is claimed, represent a nation s true economic welfare with respect to trade policy. Are the two concepts, the current account and the terms of trade, the same thing? Are they related? Used as alternative measures of the effects of policy change, will they provide the same answers? These are threshold questions. This essay argues that if true economic efficiency is what we re after, then the terms of trade, or relative prices, are the best barometer for gauging the effects of policy changes.

Once the proper barometer has been chosen, there are many separate issues that must be analyzed in order to assess the international implications of substituting a VAT for other taxes remitted by businesses. Upon sorting through these various issues, which are discussed below, my reading of the literature indicates that the following conclusions are defensible:

All else held constant, a switch from an origin- to a destination-based tax system will increase exports somewhat and decrease imports somewhat in the short run. An overhaul of the tax system cannot be justified on this basis alone, but if there is to be a major tax change for other reasons, the destination principle should be employed.

Although an ideal VAT (broad-based with a single rate) is neutral in its effects on trade, a narrow-based VAT with exemptions and zero-ratings could result in a deterioration of competitiveness.

The economic efficiency gains associated with a switch from taxes that distort economic decisions to a tax that is less

obtrusive will result in additional indirect, positive effects on trade.

The following section defines and provides background on the terms-of-trade concept, as well as on the current account, and explains why the former is preferred to the latter as a gauge for tax policy. The subsequent section temporarily puts aside questions of differential incidence to explore the effects of idealized "origin-based" and "destination-based" VATs on relative prices. We next examine an extremely important point that hasn t received proper attention in the popular literature -- the effects on trade of a VAT with a narrow base including exemptions and/or zero-rated goods. Following that, we briefly explore the literature on the effects of substituting a VAT for existing business taxes. We then return to the subject of the current account, and, finally, offer some conclusions.

How Should We Judge Competitiveness? Relative Prices and International Trade

The classical theory of trade states that countries trade because they are different (Dixit and Norman 1980, Krugman and Obstfeld 1991). They are endowed with different levels of natural resources, labor of differing qualities and costs, capital, and other factors of production; or there are differences in consumer tastes. Because they are different, countries face different tradeoffs in the types and quantities of goods and services they can produce.

For instance, in one country (Country A) it may be possible to choose between producing two cars or 20 televisions with equivalent resources; whereas in another country (Country B), the resources employed to build two cars could only produce 10 televisions if shifted to that industry. In the absence of trade, in Country A, the relative price of televisions to cars is 10 -- each car is worth 10 televisions. In Country B, the relative price is five. We can say that in A, cars are relatively more expensive because the production of one entails giving up 10 televisions; while in B, only five televisions are foregone per car. On the other hand, televisions are relatively more expensive in B: One television is worth 20 percent of a car. In A, however, producing a television entails sacrificing only 10 percent of a car.

We can therefore say that A has a comparative advantage in the production of televisions, and that B has a comparative advantage in cars. Further, each can benefit from trade. Remember that internally, citizens of A require the equivalent of 10 televisions to buy one car. If instead, they sent those 10 televisions to B, they could buy two cars. Similarly, B s citizens could internally purchase five televisions with the resources needed for one car. But if they ship that one car to A, they can buy 10 televisions.

For both countries, there are gains from trade. As the countries begin to trade, the relative prices in each country will change, due to increased demand for each country's export, until the relative prices are equalized somewhere between the initial levels. At this equilibrium, each country will be economically better off than it was before.[3] That, in a nutshell, is the classical theory of trade. Each country can exploit the other's efficiency and so better itself. The faith that is required is that the free market will sort out the best solution. Therefore, countries are best served if prices are not distorted by government policies. But not just any prices -- relative prices. Country A could have higher absolute costs for both products, and still Country B could benefit from trade. Or as Avinash Dixit and Victor Norman (1980, p. 2) put it, "If two countries engage in trade, each will have incentives to increase production, and reduce consumption, of goods in which it has the lower relative marginal cost prior to trade than the other." The gains from trade stem from a lack of distortion of real prices and costs in the economies of the world. Exchange rates are not relevant in this view.[4] All that matter are the opportunity costs -- what must be given up in terms of one thing to produce another thing.

This classical theory has been challenged by some rather embarrassing observations. Notably, almost identical countries trade with each other; also, some countries export essentially the same goods to each other (two-way trade). Rather than jettison classical theory, however, new trade theorists have added to it. They developed notions of economies of scale in production (in order to be efficient it might not make sense, given the market, to have 20 countries producing wide-body aircraft or supercomputers); and of imperfect competition.[5] When added to the classical concept of comparative advantage, these concepts do fairly well to explain trade in the modern world.

Whereas some of the new trade theory questions the efficacy of free trade, and most economists would grant that interference is warranted under certain situations, the dominant view of the new trade theorists is that, in general, the additional explanations of trade patterns enhance rather than diminish the potential gains from trade.[6] Therefore, it is still appropriate to judge government policy as to its effects on relative prices.

As a general principle, policies that artificially distort the relative prices of traded goods diminish economic efficiency by lessening the gains from trade. They inhibit the decisions of both consumers and producers and artificially direct both groups into uneconomic activities. There are both internal and external relative prices to be considered. Economists define the "terms of trade" as the external price of exports of a country, divided by the external price of

the goods that the country imports. Paul Krugman and Maurice Obstfeld (1991, p. 109) call this the "ratio at which countries exchange goods." In the economics profession there is a "presumption that the terms of trade are a relevant measure of the welfare of a trading country -- but that is usually taken for granted" (Dixit and Norman 1980, p. 19). As stated by Krugman and Obstfeld (1991, p. 98): "The general statement, then, is that a rise in the terms of trade increases a country's welfare, while a decline in the terms of trade reduces its welfare." A country is better off when the external price of exports rises relative to imports; that is, when the terms of trade improve; because obviously it can buy more with the same volume of exports -- what it sells in international markets has increased in value.

The terms of trade are not, however, the only relative prices that matter to policymakers. It is well known in the literature, for instance, that a tariff produces two countervailing effects. There is an efficiency loss from a distortion of the internal prices facing consumers and producers after application of the tariff which disturbs the allocation of resources, and there is an improvement in the terms of trade which benefits the country.[7] For a "small" country -- that is, one that has insufficient market share to influence world prices -- by definition no trade policy can affect the terms of trade. But policies will influence internal relative prices and force consumers and producers into decisions they otherwise would not make, thus distorting the allocation of resources and lessening economic efficiency.

Therefore, to gauge the effects of policy, this essay looks at how both internal relative prices and the terms of trade differ from those that would prevail under free trade. The relevant question will be whether a VAT, or a VAT which replaces another tax, alters the internal or external relative prices of traded goods from those that would have prevailed under free trade.

Why Not Use the Current Account?

The current account, popularly know as the trade balance, is one component of a country's international accounts. It is defined as the difference between the value of exports and imports plus income received from foreign investments less income paid to foreigners from investments in the United States, plus adjustments for transfers (such as international relief efforts), and military transactions. The current account is measured in nominal units of a nation's currency.

A second component of a country's international accounts is the capital account, which is essentially the net of capital inflows and outflows (both private and public). Capital outflows include government currency reserves and other assets, and private assets such as stocks and bonds issued by foreign companies and governments. Capital inflows are basically official foreign government purchases of home country assets and private purchases of domestic assets by foreigners. In addition, there is a small component of the capital account for International Monetary Fund Special Drawing Rights.

These two accounts comprise the balance of payments, which is simply an accounting identity that reflects all monetary inflows and outflows. By definition this identity must always be in balance; that is, any deficit in the trade balance must be made up by a capital inflow of equal magnitude. The excess of imports over exports must be paid for by borrowing money from foreign entities in one form or another.

Since the balance of payments must always balance, it also defines the demand for a nation's currency when exchange rates are free to float. Exports plus capital inflows essentially define the external demand for a country's currency (because a nation's goods and assets must be purchased in home currency), while imports plus capital outflows define the external supply (because home currency must be converted to foreign currency to purchase foreign goods and assets). The supply of a currency will always be equal to demand. Therefore, there cannot be a change in the current account unless there is an offsetting change in the capital account, because both are recorded in nominal terms. If imports rise, the supply of a currency increases because domestic entities need to buy foreign exchange with dollars to purchase the imports. If there is no offset, i.e., foreign entities demand more dollars through lending to domestic entities (e.g., purchasing dollar- denominated bonds), then there will be a demand/supply imbalance. When the supply of dollars exceeds demand, the "price" of dollars -- just like anything else -- will fall. A currency depreciation will occur, returning the nominal current account to its previous position. Obviously, this says nothing about the real economy or economic efficiency.

Politicians focus on the trade balance because to them it relates to jobs. The perception is that exports create jobs and imports eliminate jobs, so a trade surplus is a good thing. Of course a trade surplus also requires capital outflows -- any increase in the level of exports relative to imports requires capital, which otherwise would have been invested in the United States, to be invested abroad.[8]

The best way to illustrate that the current account is not a good gauge for policy is to take a noncontroversial issue -- say, tariffs -- and compare the analysis of that issue with respect to the current account and relative prices.

The world has recently concluded the Uruguay GATT Round which was designed to reduce tariff and nontariff barriers to trade in a range of sectors including manufacturing, agriculture, and services. The 100+ GATT contracting parties devoted huge amounts of resources to negotiate the reduction of trade barriers, and economic studies published by international bodies predict substantial increases in the world's wealth due to the reduction of the trade barriers accomplished by the new GATT agreement.

Everyone can agree that tariffs distort trade. Tariffs also, economists agree, artificially distort the internal relative prices facing consumers and producers, and therefore change the allocation of resources from what would exist under free trade. Economists also agree that if a country is relatively large, a tariff will change the external terms of trade. Further, there is virtually universal agreement among academic economists that -- except in rare situations -- tariffs make the world less efficient and less well off; therefore, tariff increases are generally opposed.

So in an era of floating exchange rates, all else held constant, what happens to the current account if one country increases its tariffs? Absolutely nothing:

> In a large class of macroeconomic models with flexible exchange rates the tariff also has no impact on the current account, because an exchange rate appreciation will immediately offset all changes from higher tariffs...[I]f a tariff is to reduce a current account deficit it must have the effect of decreasing the country's international borrowing (Engel and Kletzer 1986).

In other words, nothing can change the trade balance unless it also changes the capital account.[9]

There is nothing incorrect about this statement. It simply affirms that the current account is an accounting mechanism that measures items in nominal terms, and that there is no necessary correspondence between it and changes in the real economy, the allocation of resources, or economic efficiency. Tariffs are real costs, involving the extraction of real resources. The effects of this extraction cannot be masked by changes in strictly nominal phenomena, such as the movement in nominal exchange rates.[10] For this reason, the effects of tax and trade policies on real relative prices are the preferred analysis route.

Of course, the trade balance will continue to be a politically charged issue. It is the most publicly accessible image of our trading relationships, and has become politically tied to such issues as the "export of jobs," and some general feelings concerning our standing in the world. Therefore, we will revisit the current account following an analysis of the effects of VATs on relative prices.

Origin- Versus Destination-Based Taxes

Much of the debate on the trade effects of a VAT concerns the prospect of substituting a VAT for other taxes on business, including the corporate income tax and the employer portion of payroll taxes.[11] Such a substitution raises several issues, including potential differences in tax incidence and the effect of switching from an origin- to a destination-based tax. We here concentrate on the latter issue. Using an ideal (broad-based with a single rate) VAT, this section analyzes, in turn, the relative-price effects of an origin-based VAT and a destination-based VAT. It then investigates any effects on the relative prices of traded goods caused by switching from an origin- to a destination-based VAT.

The Methodology

Several analyses (e.g., Feldstein and Krugman 1990, Grossman 1980, and Wade 1982) have been written that investigate the effects on relative prices of a VAT. All of these use approximately the same approach, which we will also use here. This standard methodology involves a general equilibrium model in which all results are reported after the world has fully adopted to a tax change, and no mention is made of what happens during a period of adjustment.

The methodology also makes a crucial assumption that the country being studied is relatively small; that is, its world market share is sufficiently small that it has no power to affect the world prices of traded goods. Rather, the country is a price-taker; it takes world prices as given. By definition, therefore, nothing the country does in terms of policy changes can influence the external terms of trade, but tax changes can affect the internal relative prices of traded goods facing domestic producers and consumers. These relative prices are what are tested, at equilibrium, for the effects of VATs or other taxes.

The standard model assumes that the test country, and the rest of the world, produces three goods. The first good produced by the country is consumed domestically, but also can be exported (exportable). The second is domestically produced and consumed, but competes with imports from the rest of the world (importable). The final good is produced and consumed domestically and is neither exported nor faced with potential import competition (nontradable).

For equilibrium to occur, several conditions must be satisfied. First, the domestic seller of the exportable good must earn the same return, after tax, in both the home market and the external market.[12] Obviously, if this were not the case, sellers would divert sales to where the after-tax returns were higher, and the positive or negative change in domestic supply in the home market would cause the domestic price to adjust until after-tax prices were equalized in the home and external markets. By definition, the world price is fixed, so the domestic price of the exportable must change until sellers are indifferent between producing for the domestic and external markets. Similarly, the price of the domestically produced importable good, including tax, cannot differ from the price of the import, including tax. Otherwise, consumers would shift to the cheaper version until demand changes caused the domestic price to adjust to restore equilibrium. (Recall that, by assumption, the import price before domestic tax is a world price, and cannot be changed by domestic policies or changes in domestic demand.)

Finally, domestic supply of the nontradable good must equal demand for there to be equilibrium. In this section, where we are considering an ideal VAT with no exemptions or zero-ratings, we can ignore nontraded goods. Nontradable goods will be important when a non-ideal VAT is considered. As discussed in the next section, preferential treatment is often most apparent for goods that do not enter international trade.

There is one final assumption that this model makes. To isolate the relative price effects of tax changes and allow changes in producer or consumer income to be ignored, it is assumed that all tax revenue is distributed to consumers and/or producers in a nondistorting way that compensates them for any additional tax liability. Thus, relative price changes, which alter incentives and therefore change economic behavior, are the only subjects of the analysis.

How useful is this model in terms of analyzing the real world? Certainly the United States, with respect to some products, is not a small country and can influence world prices, but the fact that the model is capable of assessing changes in internal relative prices allows for an understanding of the direction of changes in distorting forces. In addition, it may be possible to adjust the model to allow for a "large country" case.[13] Judging the effects of tax changes on relative prices in a small country is probably a sufficient representation of the general effects for a large country as well. Although the assumed nondistortionary redistribution of tax proceeds is unrealistic,[14] it does let us isolate the pure price effects and therefore is useful for equilibrium analysis. Such an assumption is not equivalent to the more plausible assumption of revenue neutrality, and the differential intra-equilibrium effects will be examined later in the discussion of the path of adjustment when one moves from an origin-based tax to a destination-based one.

With these thoughts in mind, we can investigate the tax effects of various VATs on the relative prices of traded goods employing Gene Grossman's model (1980). Assume that initially the home (small) country has no tax system. Although it doesn t matter what system the rest of the world follows -- since world prices are given and fixed -- let us assume that the rest of the world has destination-based VATs.

In the initial free-trade equilibrium, the world price of imports into the home country is 10; therefore, the price of the domestically produced importable is also 10. The world price of the good that is exported is 15. Therefore, both the internal and external relative price of exports to imports is 1.5.

Origin-Based Taxes

This example shows that there is no change, at equilibrium, in any relative prices when a country with no prior tax system imposes an origin-based tax.

The home country imposes an origin-based VAT levied at 10 percent. What does the new equilibrium look like? An origin-based tax applies to exportables consumed domestically, actual exports, importables produced and consumed domestically, but not to imports.

A seller of exportables is constrained in world markets by the world price of 15. Thus at equilibrium, the seller's return must be reduced to about 13.64 so that he can meet the world price after the tax is levied. Of course, the same price applies to exportables consumed domestically so arbitrage will result in an equilibrium where the return to the seller is also 13.64, and consumers pay an after-tax price of 15.

Because there is no tax on imports, they continue to enter the home market at 10. To remain competitive with imports, domestic sellers of importables, at equilibrium, will have to reduce their pre-tax price to about 9.09. Notice that the small country assumption implies that the origin-based tax is fully borne by domestic producers constrained by world prices. The model finesses this by assuming that the tax proceeds are redistributed to producers in lump-sum fashion, so that the only thing that matters is any change in relative prices.[15]

What did the origin-principle VAT do to the relative prices of traded goods facing consumers and sellers? For consumers, exportables still cost 15 and imports and importables still cost 10, so there is no change in the relative price facing consumers. Sellers receive 13.64 for exports and 9.09 for importables, leaving the ratio of returns unchanged. The relative price ratio of exports (exportables) to importables is still 1.5 for both consumers and producers.

At equilibrium, none of the relative prices facing consumers or producers has changed after the imposition of the origin-based VAT. The VAT, therefore, is entirely neutral in its long-run effects on trade. At equilibrium, the opportunity cost of producing exportables (in terms of foregone importables) is exactly the same as before the imposition of the tax, so there is no incentive to alter the pattern of trade.

Destination-Based Taxes

What if the country imposes a destination-based tax at the same 10-percent rate? This example shows that, as in the case of an origin-based tax, the imposition of a destination-based tax would cause no change in relative prices, compared to the no-tax scenario.

Looking strictly at the outcome at equilibrium the following would be true. Exporters would be charging and receiving 15 per unit on the world market because the tax would be rebated. Because sellers must make the same return in the home and external markets, the VAT on exportables would be passed forward so that the after-tax price facing consumers would be 16.5 and sellers would receive 15. The world price of imports is still 10, but now the VAT would apply at the border, so consumers would face an after-tax price of 11. Domestic sellers of importables would also receive 10 so that the after-tax price is 11.

Note that, relative to the no-tax world, the destination VAT is a tax on consumption in the small-country case. Once again, the standard models assume that consumers are fully compensated for the tax via lump-sum transfers.

What are the relative prices of traded goods at equilibrium under the destination-based tax? For consumers, exportables cost 16.5 and imports (importables) 11. The relative price is still 1.5. Of course, since the sellers of exportables and importables are receiving returns equal to world prices, the sellers relative price also remains at 1.5. Thus, under both the origin- and destination-based VATs, the relative prices of traded goods at equilibrium are exactly those that prevail under free trade. Both versions are trade-neutral. This is a standard result readily demonstrated in the literature.

The Switch

What happens if a country decides to substitute a theoretically ideal destination-based VAT for an existing ideal origin-based one? This is the central question relevant to the trade-effects debate. Based on the above, moving from one neutral system to another obviously will have no long-run trade effects, at equilibrium.[16] Thus, if policymakers decided, for whatever reason, to move to destination-based ideal taxes, they know that they will not create a deteriorating trade situation. But the equilibrium result does not provide the whole picture. There are, for instance, some potentially significant short-run benefits that would accrue to industry sectors that engage in international trade before the final equilibrium is reached.

The process of moving from the origin-based system to the destination-based one involves some short-run changes in levels of exports and imports. In order to see this, we must look at the first-order changes in relative prices; that is, the prices that prevail immediately after the tax change is implemented -- and before sellers have changed their prices. Then we can predict how behavior will change in the interim period before equilibrium is restored.

Under the origin-based tax, producers of exports (exportables) charged 15 on the world market but only received 13.64 in private return. The instant after the destination-based tax goes into effect, exporters will receive rebates for the tax, so the private return will increase to 15. In the first order, exportables consumed domestically are still sold to consumers at 15, but sellers are receiving 13.64 because of the tax. Clearly, there is an incentive for sellers to shift

from domestic sales to exports. Also, since returns have gone up for the producers of exports (exportables), investment may flow to that sector.

To the producers of importables, initially nothing has changed. By definition, they have not changed their price and the tax is still the same. Therefore the first-order relative price of exports to importables for sellers has increased to 1.65. This change in relative prices subsequently provokes changes in behavior which restores equilibrium to the relative price level dictated by world prices over which the country has no influence.

One of these behavioral changes has already been described. Exports will increase due to the higher returns to exports relative to sales of exportables domestically. As the domestic supply of exportables decreases, the price will be bid up by consumers until the pre-tax price equals the world price, and exporters are indifferent between selling domestically or exporting. Similarly, consumers will find imports more expensive due to the imposition of the border tax that previously only applied to domestically produced importables. Thus, the demand for importables produced domestically will increase relative to imports, and the pre-tax price of importables will rise. This, of course, increases the short-run profits of importable sellers and encourages the commitment of resources to that sector. The pre-tax price will increase to the world price, at which point consumers will be indifferent between imports and importables.

When all the adjustments have been made, the relative price of exports (exportables) to imports (importables) will once again be 1.5 for both sellers and consumers. Trade neutrality will be restored, and there will be no influences on relative prices that deviate from those that would exist under free trade. But along the way, several things will have occurred to a greater or lesser extent:

profits to exporters and sellers of importables will have increased by some amount;

new resources will probably have flowed to the trade sector of the economy;

exports will have increased by some amount;

imports will have decreased by some amount; and

exchange rates will have changed.

The magnitude of these effects is uncertain, as is their duration, but from the standpoint of a business person involved in a trade-intensive sector, the results are positive.[17] That is why business people take the positions they do.

The existence of short-run positive trade effects is, in and of itself, no reason to change a tax system, given the uncertainty of the trade effects and the administrative and compliance costs associated with the tax change. But there are many other reasons to overhaul the existing tax system and replace it with a more economically efficient one. If policymakers were to engage in tax reform, they ought to base the new system on a destination principle so that, in addition to the economic benefits that justified the change in the first place, some short-run trade effects would also be enjoyed. Since ultimately both ideal origin- and destination-based systems are trade neutral, the tax change ought to include the switch to a destination system so as to benefit the traded goods sector in the short run.

Tax Preferences and Long-Run Trade Effects

The preceding section ignores the role of nontraded goods. Feldstein and Krugman (1990) have established that, at equilibrium, both an origin- and destination-based VAT are trade neutral as long as the VAT applies equally to all goods -- including nontraded goods. The literature, including Feldstein and Krugman (1990), concludes, however, that a VAT will have adverse trade effects if preferential tax treatment -- such as exemptions, zero-rating, or a lower tax rate -- is accorded to nontraded goods. Since many of the goods in existing VAT systems that receive preferential treatment do not enter international trade, an analysis of preferential treatment, heretofore typically concerned only with regressivity and economic efficiency, must also include consideration of these trade effects.

Consider an example where nontradables are zero-rated. If a VAT applies to traded goods but not to nontraded goods, the relative prices of exportables to nontradables and importables to nontradables would increase. Having the tax apply to tradables but not to nontradables introduces a tax wedge between the different classes of goods. Either the cost to consumers of importables and exportables relative to nontradables will increase and/or the returns to businesses of importables/exportables relative to nontradables will decrease.

In either case, the result is a reduction of consumption of tradables relative to nontradables and/or a relative decrease

in investment flowing to the tradable sector. The tradable goods sector will contract strictly because of a tax-induced relative price change.

This is a serious issue for policymakers when one considers the types of goods that don t enter international trade -- e.g., housing; medical care; education; various foods, such as fluid milk, some types of fresh produce, eggs, etc., sold for home consumption; and other goods. As Feldstein and Krugman (1990, p. 276) note, "the important point is that the de facto and de jure exemptions from a VAT are likely to fall primarily on nontraded goods rather than traded goods and services." The standard proposals to exempt or zero-rate housing, food, medical care, and welfare activities would apply to nontraded goods. Preferential treatment for nontraded goods distorts the relative prices of traded goods (importables and exportables) to nontraded goods for both consumers and producers. Feldstein and Krugman (1990, pp. 276-77) conclude:

> The effect of a selective VAT is, therefore, to increase nontradable consumption and production at the expense of tradable...Clearly the presence of the tax acts as a disincentive to produce traded goods...A selective VAT that falls most heavily on traded goods, then, will tend to hurt the traded goods sectors of an economy -- the reverse of the common belief.

John Alexander Wade III (1982) constructs a general equilibrium model -- including a balance of payments equation and representation of producer supply and consumer demand -- in order to study the effects of a VAT with preferential treatment for nontraded goods. While noting that both importables and exportables faced the same tax, and therefore that, initially, their relative price was undistorted, Wade concludes by predicting secondary effects which would result in a deterioration in the terms of trade at equilibrium: "The conclusion in the case of the nontraded good being zero-rated under a value-added scheme of taxation is that the imposition of the VAT or further increase in the rates of an already existing VAT will likely lead to a deterioration in a nation's terms of trade" (Wade 1982, p. 57).

Bob Hamilton and John Whalley (1986) also consider VATs with narrowed bases. Their line of investigation involves the differences between origin- and destination-based taxes when there are differences in the levels and ways goods are taxed. They provide evidence that origin- and destination-based taxes are not equivalent in terms of their effects on a country's terms of trade when narrow tax bases are in evidence. Although the quantitative results of switches from destination- to origin-based taxes under the scenarios investigated by Hamilton and Whalley are not large, they are not to be dismissed. This simply points out that adverse trade results may follow from narrow-based VATs, regardless of border-tax adjustments.

Preferential treatment for some goods and services as a remedy for perceived regressivity has been criticized on several bases. First, it is generally agreed that exemption, zero-rating, or lower rates are extremely inefficient and costly ways to redress regressivity; and that it is preferable to seek remedies outside the VAT system through income tax credits or transfers. Second, preferential treatment causes economic inefficiency by distorting consumer and producer choices across industries. Now a third compelling reason has been added to oppose narrowing of the VAT base: The effects of such a narrowing will be a long-term deterioration of a nation's trading position. This is especially important in light of the types of taxes that are slated for replacement by a VAT. While it would be nonsensical to claim that these taxes are neutral, nonetheless the payroll tax applies to traded and nontraded sectors, as does the corporate income tax (or the individual income tax in the case of noncorporate businesses). Thus, their replacement by a destination-based VAT with a narrow base could hurt, rather than enhance, U.S. competitiveness.

VATs and Other Business Taxes

So far, this essay has reviewed the trade effects of VATs levied under the origin or destination principles with broad or narrow bases. This was a necessary first step in investigating the competitive effects of a substitution of a VAT for existing business taxes. Ultimately, we must return to the question of incidence. The short-term trade effects described earlier that result from shifting from an origin- to a destination-based tax will only occur if the new tax has a similar incidence to the one it is replacing.

Incidence

Elsewhere (Raboy 1989b), I have argued that the incidence of existing business taxes must be qualitatively similar to that of a VAT. The reasoning underlying this proposition is as follows. At root, a VAT, regardless of its form (credit, subtraction, addition), is a tax on a company's value added. This value added in turn is equal to the sum of payments to the factors of production: wages and benefits to labor; and interest, dividends, and gains to capital. The return to capital that is included in the VAT base may be simply the competitive return to capital or may include quasi-rents associated with innovations, or pure rents associated with less than perfect competition. Paul Conrad (1990, p. 97)

has stated that with respect to the VAT, "the incidence on the factors of production (capital, land, and labor) is in proportion to their shares in pretax gross national income."

Business taxes today include the corporate income tax, payroll taxes, and the individual income tax for noncorporate business.[18] Regardless of the interminable debate on the incidence of the corporate income tax, there are theoretical similarities between its base and the capital portion of value added. Most important, the corporate income tax is a tax on the competitive return to equity capital, and therefore is a component of variable cost. As such, the corporate income tax is not dissimilar from ad valorem taxes which also shift a firm s cost curves. As stated by McLure (1987, p. 49):

> A multitude of reasons exist, however, for believing that the corporate income tax can be at least partly shifted either to consumers or to labor, even in the short run. First, corporate income for tax purposes is not made up solely of economic profits; it includes the normal return to equity capital. Thus part of the tax does constitute an element of costs. Second, important portions of the corporate sector of the U.S. economy fit neither the perfect competition nor the pure monopoly mold, and oligopoly behavior is quite consistent with substantial shifting of the corporate tax...third, corporate goals other than profit maximization (such as avoidance of antitrust action, constrained sales maximization, or limit pricing based on long-range profit maximization) may lead to shifting of the tax. Finally, if capital is mobile internationally, the corporate tax is more likely to be borne by consumers and by land and labor.

Clearly, payroll taxes are also similar to the labor component of a VAT. Although there are obvious differences -- interest is not taxed to corporations but to individuals, nonwage compensation escapes taxation, etc. -- the aggregate bases of business taxes today add up to a value-added base with a great deal of preferential treatment. A basic tenet of public finance economics is that the initial point of taxation does not determine a tax s incidence. Economists general belief is that taxes with identical bases, regardless of the point of taxation, must have the same incidence. Thus, it is difficult to rationalize that a VAT, with a qualitatively similar tax base to the existing hodgepodge of business taxes, would not also have a qualitatively similar incidence. As long as the incidence is similar, the short-term trade benefits described earlier will occur.

Other Relative Price Effects

There are other aspects of a VAT/business tax substitution that may affect comparative advantage. In classical trade theory, one explanation of comparative advantage that is frequently cited is relative factor intensity, which in turn can be traced to relative factor cost. Some economists have argued that replacing the corporate income tax with a VAT would significantly lower the cost of capital in the United States. For example, Gary Hufbauer (1987, p. 189) maintains that: "If the corporate income tax in the Tax Reform Act of 1986 were replaced by the VAT, the cost of capital would drop significantly." This, he concludes, could substantially enhance U.S. competitiveness.

Hufbauer's assertion echoes much of the literature on the cost of capital which indicates that a VAT is neutral with respect to a firm's decision to use capital and labor, but that the decision is disturbed under the current tax regime due to the capital recovery provisions of the post-1986 corporate tax system. Hufbauer's argument is based on the belief that the current mix of business taxes that fall on capital and labor bases is biased against capital inputs.

The VAT, the Current Account, and Exchange Rates

Throughout this essay, I have stressed the importance of economic efficiency for sound tax policy. I have argued that the proper gauge for tax policy as it affects trade should be the relative prices of traded goods, and that the point of comparison should be the relative prices that would obtain under free trade.[19] Further, these relative prices are real prices -- and the tax effects are real as well. Taxes represent extractions of real resources just as surely as energy costs or labor costs. Or, in the words of Hans-Wener Sinn (1990, p. 18): "It is impossible for exchange rate adjustments to compensate for tax-induced changes in relative prices." Purely nominal phenomena, like exchange rates, cannot mask fundamental changes in real costs.

This would seem fairly obvious in the case of other costs facing businesses. What would be the effect if one country discovered a process to manufacture steel that used only half the electricity previously required? That country's steel industry would certainly enjoy an enhancement of its competitive position, because the cost of producing steel relative to other domestic goods would drop as would the real costs of producing steel domestically relative to foreign-produced steel. All else held constant, the comparative advantage (or disadvantage) of steel production would change. It would be a strange conclusion indeed if this innovation was completely nullified by exchange rate changes resulting from an increase in demand for the country s steel.

Taxes on output are no different from a cost standpoint than per unit electricity costs. Taxes can only be remitted if steel is sold, and the returns foregone to pay the tax. It is as if a certain level of physical production is transferred to the government. This is not a monetary phenomenon: To argue otherwise is to assume that the entire economy is suffering from money illusion.

"All Else Held Constant"

Policymakers will continue to focus on the trade balance where exchange rates do matter. And thus the statement that is currently in vogue -- that tax policy cannot affect the current account -- must be investigated. My conclusion is that it would be very difficult to predict the effects on the trade balance from instituting a VAT and substituting it for another tax. First, the view that such a change would not affect the trade balance is predicated on the belief or assumption that tax changes do not affect international capital flows. Second, this view is also dependent on the notion that exchange rates are primarily a function of traditional trade and capital flows, whereas the reality is that exchange rates are more influenced by asset trades than by traditional trade flows. This means that the change in the expectations of currency traders after (or in anticipation of) a tax change will influence exchange rates more than currency demand changes associated directly with exports and imports.

What precisely is meant by the statement that tax policy cannot affect the current account? It is based on the balance of payments accounting identity that essentially states:

EXPORTS - IMPORTS = CAPITAL OUTFLOWS - CAPITAL INFLOWS

The statement that tax policy (or tariff policy, for that matter) can t affect the trade balance is predicated on the assumption of ceteris paribus -- all else held constant. In this case, the "all else" that is being held constant is capital flows.[20] Not surprisingly, if the right side of the equation, net capital flows, is held constant, there can be no change in the left side. Because the balance of payments is set in nominal units of currency, if, for example, a tax change increased the demand for exports, ceteris paribus, the dollar must appreciate to restore the left side to the same nominal position as before.

Capital Flows

It is conceivable that the "all else held constant" assumption is of less use here for policymakers than with respect to most other economic issues. It may be very difficult to identify the factors and transactions to hold constant because of the complex interactions of taxes and international investment decisions. There is a thriving literature on the effects of tax policy on international capital flows that runs the gamut of "no effects" to "large effects." And the various levels of effects feed through diverse conduits such as deficit reduction or tax-induced changes in savings and investment, all of which would directly affect net capital flows.

For instance, Donald Rousslang and Pieter Van Leeuwen (1990, p. 185) consider the effects of an add-on VAT on trade: "The substantial trade effects found here arise from the effect that eliminating the large federal deficit through tax increases would have on domestic interest rates and net U.S. borrowing from abroad." Similarly, Lawrence Summers (1987, p. 173) notes: "The only way in which we can raise both investment and international competitiveness simultaneously is to increase national savings." Having argued that the Tax Reform Act of 1986 moved toward a savings/investment balance by curtailing investment, Summers (1987, p. 76) suggests:

> The better way of bringing savings and investment into balance is through increases in savings. Here the major necessary step is a reduction in federal deficits. There is also a limited role for tax measures directed at encouraging private sector savings.

Feldstein and Krugman (1990) also stress the role of savings as the way a VAT/income tax substitution would produce short-run trade effects. Hufbauer (1987, p. 196) challenges the all else held constant approach to the balance of payments and tax policy:

> The key assumption in this analysis is that net capital flows are either determined independently of the tax structure, or that improved corporate profitability following the introduction of VAT would attract capital to the United States...The line of reasoning is open to challenge. It contains a basic weakness: the assumption that tax structure makes no difference to long-run domestic savings. In my view, the value-added tax, substituted for the corporate income tax could, in the long run, enlarge domestic savings and thereby ratify an improved trade balance.

The point here is not to argue who is right or who is wrong, but rather to illustrate that there are several paths by which a VAT can affect capital flows, and therefore the exchange rate. But possibly more important to the determination of exchange rates than actual changes in domestic savings due to tax changes are perceived effects in the eyes of foreign exchange traders. In fact, the perception of fiscal and monetary policy to currency traders may be the dominant force in exchange rate determination in this regard.

Expectations and Exchange Rates

If exchange rates were primarily influenced by changes in the demand for imports and exports, then a VAT change that affected trading patterns would have a predictable effect on exchange rates. But exchange rate determination is much more complicated, relating primarily to the actions of traders who view foreign exchange as an asset to be traded in its own right. I discuss exchange rate determination elsewhere (Raboy 1989a and 1990), but it is worth reviewing those arguments here. Foreign exchange trading worldwide grew from $200 billion per day in 1986 to $500 billion in 1989 (Krugman and Obstfeld 1991). The growth from 1983 to 1986 was enormous as well. This growth cannot be explained by differences in merchandise trade or capital flows associated with investment in tangible assets. In fact, these latter transactions may account for only 5 percent to 10 percent of foreign exchange trading (Dornbusch and Frankel 1987).

Jeffery Frankel (1989), observing Federal Reserve data, notes that most U.S.-based foreign exchange trading occurs among banks ($50 billion a day in 1986) and among brokers and other financial institutions ($34.4 billion a day in 1986). He also points out that only 11.5 percent of the bank trading was with nonbank customers, and that only 4.6 percent was with nonfinancial customers. Similar results were reported for brokers and other financial institutions -- both here and for foreign markets. Frankel (1989, p. 51) concludes, "Not only are these totals many times greater than the volume of international trade in goods and services, they are also many times greater than the volume of international trade in long-term capital." The overwhelming majority of foreign exchange transactions are conducted by investors who view foreign exchange itself as an asset. Ronald McKinnon (1988, p. 86) states:

> The floating exchange rate seems to be dominated by volatile asset preferences rather than adjusting passively to balance current flows of imports and exports. In the face of uncertainty about the future purchasing power of domestic money, liquid foreign exchange assets are more easily substituted for domestic financial assets (money or bonds) than are physical assets such as real estate or stocks of commodities. Foreign bonds or bank accounts are also convenient hedges against possible shifts in domestic, political, or commercial risks. These potential capital flows through the foreign exchanges on a daily basis are huge. Since they are so much greater than the value of commodity trade, they dominate observed movements in exchange rates.

These assets primarily take the form of liquid interest-bearing instruments, and are therefore a component of net capital flows in the balance of payments. As Krugman and Obstfeld (1991) explain, the expected return to a U.S. investor on a foreign currency bond is the rate of return on the foreign bond plus the expected depreciation of the dollar against the foreign currency.[21]

Foreign exchange determination is driven by people who hold foreign exchange as assets, and their transactions are dependent on their expectations. These expectations could easily change in anticipation of a major tax change, but it is difficult to predict the net effect on exchange rates.

Look at all the countervailing items that could affect a trader's perceptions. If the trader perceives that the demand for exports is going to increase and/or the demand for imports is going to drop, he or she may predict a dollar appreciation. But if part of the VAT is used for deficit reduction, he or she may anticipate a dollar depreciation due to decreased U.S. borrowing. Similarly, if he or she anticipates that tax reform is going to lead to greater domestic saving, a dollar depreciation prediction may seem appropriate. But if the expectation is for increased capital inflows due to better investment opportunities, an appreciation may be the better prediction.[22]

The sum of all of the fiscal policy ramifications of the VAT/other-tax substitution will determine the expectations of the traders who buy foreign bonds and have more to do with exchange rates than the buyers and sellers of real goods and services. And we haven t even discussed monetary policy! Certainly, expectations concerning the monetary policy that would accompany a VAT -- including tax reform -- will also be influential in foreign exchange markets.

Monetary Policy

It is well-known that domestic monetary policy, not just central bank exchange activity, exerts a primary influence on exchange rate motion.[23] In fact, the expectation of monetary changes affects current and forward exchange rates.[24] There is evidence that such expectations cause exchange rate "over-shooting" (Krugman and Obstfeld 1991).

What monetary policy might accompany, or be expected to accompany, a major tax reform including the addition of a VAT? The conventional wisdom is that the Federal Reserve would accommodate the VAT by increasing the money supply, even when a VAT is used to replace other taxes. Thus, against the expectation of an increased demand for exports (and all the possible countervailing effects involving capital flows) there would be an expansion -- anticipated or real -- of the money supply. This expansion would aim to accommodate a supply-shock in the amount of the tax rate times the entire domestic economy, many multiplies of any conceivable change in the demand for exports. An anticipated increase in the money supply, of course, exerts downward pressure on the dollar.

All of the potential effects of fiscal and monetary policy will combine to influence the expectations of foreign exchange investors. In all likelihood, these investors are far more important to exchange rate determination than the buyers and sellers of exports and imports, and their expectations more important than the direct effects on exchange rates from increases in domestic saving or from reductions in the federal deficit. Since the expectational effects on exchange rates contain so many offsetting forces, it would probably not be wise to base one's predictions of the effects of a VAT on the current account on an all else held constant assumption.

What's the Answer?

Carl Shoup (1988) notes that the idea that exchange rate changes would wipe out any tax-induced cost effects is not new. As an example, he refers to the 1953 Tinbergen Report to the European Community of Coal and Steel. This report, produced in an effort to determine whether to adopt a destination- or origin-based sales tax, included an equivalence theorem, which states that tax-induced trade effects would be eliminated by floating exchange rates. Shoup points out that the equivalence theorem was challenged contemporaneously, primarily along the lines noted in this paper.[25]

Everything that goes around comes around. So if a policymaker views the current account as the proper measure for judging tax policy, what is he or she to make of the claim that a VAT-based tax reform cannot affect the current account because of exchange rate adjustments? The last word belongs to Shoup (1988, p. 368):

> Accordingly, the only tenable position in our present state of knowledge is to assume that the destination and origin principles are neither equivalent nor wholly disequivalent (to coin a word), and that a move from the origin principle to the destination principle will probably increase exports and decrease imports somewhat, but not by as much as the tax rate alone might indicate...This statement may not be of much help in designing tax policy, but it at least avoids the errors inherent in taking either of the extreme positions.

Conclusions

This essay has considered various aspects of the debate concerning the trade effects of a substitution of a VAT for other business taxes in light of both the economic literature and the putative gulf between the beliefs of a wide range of business people and academic economists. I have argued that tax policy should be judged in terms of distortions in the relative prices of traded goods, rather than nominal changes in the trade balance. This argument is based on the view that undistorted relative prices provide the greatest possibility for gains from trade.

Based on my reading of the literature, I believe the following conclusions are warranted:

At equilibrium, both an origin- and a destination-based VAT are neutral in their effects on the relative prices of traded goods.

Switching from a pure origin-based VAT to a pure destination-based VAT would cause exports to increase in the short run and imports to decrease. At equilibrium, however, relative prices would return to the neutrality position that existed under free trade.

If preferential VAT treatment is afforded classes of goods and services to redress regressivity, the most likely affected goods will be those that do not enter international trade. The results of zero-ratings, exemptions, or preferential tax rates for nontraded goods will be a contraction of the traded goods sector, and a worsening of the U.S. terms of trade (an adverse distortion of relative prices).

Although a VAT is neutral with respect to relative prices, taxes that may be replaced by the VAT may distort the relative prices of traded goods through artificial distortions of factor costs, and intertemporal distortions. Therefore -- at least in the short run -- a VAT/other-tax substitution may remove some existing distortions in the relative prices of traded goods.

The effects of the VAT/other-tax substitution on the current account are unpredictable, due to the overwhelming influence on capital flows of foreign exchange traders, whose expectations will be influenced by countervailing aspects of tax policy as well as by monetary policy. The view that exchange rate appreciations will wipe out any demand influences on exportables (exports) or importables (imports) is based on a narrow assumption unsustainable in real international financial markets.

Notes

1. The adjustments reflect a "destination-based" system, and are as follows: Taxes are forgiven on exports as they cross a country's frontier, and taxes that apply to domestically produced goods can also be levied on imports.

2. In fact, McLure did not make this definitive statement. While arguing that a stand-alone VAT was neutral in its trade effects, he states that, "it seems reasonable to believe that substituting a VAT for part of the corporate income tax might improve U.S. competitiveness in the short run" (McLure 1987, p. 41).

3. This, of course, is an extremely simple example that ignores, among other things, transportation costs. For detailed discussions of the classical theory of trade, see Dixit and Norman (1980) and Krugman and Obstfeld (1991).

4. "[T]he exchange rate...is immaterial for the validity of the basic gain from trade. The sole purpose of the exchange rate is to translate the comparative advantage into an actual lower cost for consumers in the other country" (Dixit and Norman 1980, p. 3).

5. See, for example, Krugman (1980), Lancaster (1980), Harris (1984), and Helpman (1981); for comprehensive volumes, see Krugman (1990) and Grossman (1992).

6. See, for instance, the introductory chapter in Krugman (1990).

7. See Dixit and Norman (1980), pp. 23-25; and Krugman and Obstfeld (1991), Chapter 8.

8. See, for example, Sinn (1990, p. 1) who notes: "The confusion is shared by countries that take pride in being world export champions without realizing that they could equally well regard themselves as capital flight champions."

9. It may well be that trade barrier reductions will indirectly influence capital flows, but these are second-order effects caused by the first-order changes in the relative prices that determine economic decisionmaking.

10. It is generally agreed in the literature that exchange rates are immaterial to changes in relative prices. For instance, Dornbusch (1974), considering the effects of tariffs in a model with nontraded goods, states:

> [T]he requisite adjustment is one of relative prices...Indeed there is nothing in this model that will determine nominal prices or an exchange rate and the frequently encountered assumption that in the background monetary and fiscal policy maintain the nominal price of home goods is an unsatisfactory way of concealing what is essentially a non-monetary economy.

11. The term "taxes on business" is used loosely here to denote the point of taxpayer compliance, not necessarily economic incidence. For instance, business remits VAT, the employer portion of the payroll tax, and the corporate income tax; therefore, these are taxes on business. This does not mean, however, that the owners of business bear the ultimate economic burden.

12. The implicit assumption is that firms strive to maximize profits. In the real world, firms may price strategically to achieve other goals, such as an expansion of market share.

13. In most cases the results of a large country model will be indeterminant, because the equilibrium result depends on the relative market strengths of the country in exportable and importable markets.

14. To be nondistorting, a lump-sum distribution exactly equal to the change in tax liability would have to be calculated for every taxpayer for each year that the tax change is in effect. The practical problems in such a calculation are enormous, and it has never been tried. Given political realities, a VAT would likely be used to pay for other tax changes in a revenue-neutral fashion.

15. Under any assumption that does not distribute tax proceeds to producers in relation to their initial tax liability, the first-order incidence of an origin-based tax will fall on producers.

16. A rigorous mathematical proof can be made for this finding.

17. Of course, under the small country assumption, what business gains, consumers lose in the form of higher prices. That the models assume that consumers will be made whole through lump-sum distributions is of little comfort to policymakers. In the real world, where revenue neutrality is a likely scenario, the tax burden on some consumers will be shifted in the first order under the small country scenario. It is unclear how a large country scenario would play out. It should also be noted that the switch from an origin- to a destination-based tax could involve a lowering of the tax rate. If a country is running a current-account deficit, as is perennially true for the United States, then the tax base is, by definition, larger under the destination principle than under an origin-based tax. See Frenkel, Razin, and Symansky (1991). Accordingly, a lower rate could produce the same amount of revenue.

18. Throughout the essay, the term "business tax" is used to denote a tax where the check to the taxing authorities is remitted by the business. This does not mean that the owners of the business bear the ultimate burden of the tax.

19. This is not to say that incentives affecting saving and investment should be ignored. As noted by Mutti and Grubert (1988), such effects are highly significant to trade. But here, too, it is the intertemporal relative prices, or inter-industry relative prices, that should concern policymakers.

20. To some this is merely an assumption. To others it is a truism: Tax policy cannot affect capital flows.

21. Or, see Summers (1987, p. 173): "International capital markets should equalize not real rates of return but, rather, real rates adjusted for anticipated changes in exchange rates."

22. To add to the confusion, the magnitude of any real effects is dependent on a host of empirical measures including (1) the domestic elasticity of saving, (2) the substitutability between foreign and domestic assets, (3) factor substitutability, (4) cross-elasticity between domestic and foreign goods, and (5) the initial asset holdings of foreigners (Mutti and Grubert 1988).

23. See, for example, Krugman and Obstfeld (1991), Chapter 14; or, for a comprehensive treatment, Baillie and McMahon (1989).

24. For example, see Marston (1987).

25. Shoup (1988, p. 367) cites Bulassa: "Yet, since capital movements, immigrants remittances, tourist expenditures and other nontrade items also affect exchange rates, changes in tax rates will not lead to proportionate variations in the rate of exchange. In addition, price rises following an increase in tax rates are likely to elicit capital movements responding to differences in price levels...thus the presumed long-run readjustment of exchange rates may never take place."

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The Economics and Politics of a Value-Added Tax

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Once again, taxes have become the major issue in the public discourse. On the surface, the debate is over distributional issues: Who should get a tax cut, and how large should it be? Should taxes on capital gains and corporate investment be reduced? Which programs should be eliminated to pay for tax cuts? Implicit in the debate are additional arguments over the correct size and role of the federal government. While Democrats are interested mostly in distributional questions and in providing tax incentives for education and training, the Republican focus is on debating the very nature of government, and how its size and scope can be reduced to finance tax cuts.

The GOP's arguments for large tax reductions -- even those paid for through "smaller government" -- are peculiar in an era of persistent budget deficits. Thoughtful members of both political parties acknowledge that the debate over tax cuts raises larger economic issues, such as the low rate of savings and investment in the United States and the compliance costs of our complicated tax system. Therefore, underneath the current push for tax relief is a movement for very broad reform that would alleviate the systemic bias against saving, as well as the high societal cost resulting from the tax code's complexity. This movement emphasizes a shift toward consumption-based taxation, and includes proposals ranging from a flat income tax with no deductions to a national sales tax. The focus of this essay is to evaluate the economic justification and political likelihood of one consumption tax: the value-added tax (VAT) used in the European Union and elsewhere, which serves as a paradigm for consumption taxes in general.

Basis for Reform

Several members of Congress are pushing to make fundamental tax reform one of the major issues in the 1996 presidential campaign. The exact nature of the reform remains in question, but most would-be reformers -- Democrats and Republicans alike -- agree on several issues:

Tax reform should encourage savings and investment, since these are the building blocks upon which increased productivity, economic growth, and broad income gains rely.

The tax change should simplify our overly complicated tax system.

The change should maintain progressivity wherever possible.

Tax reform should be combined with spending cuts so the overall tax burden is reduced for all Americans.

The VAT, as an "add-on tax" (i.e., one added on top of the current system), has in the past been considered as a possible way to fund additional programs or reduce the deficit. Now the emphasis has shifted to the VAT (or other consumption-based tax) as a replacement tax which would ideally boost savings, investment, and economic growth while sharply reducing administrative and compliance costs. The strict economic benefits of the VAT are dubious, however, and the political problems inherent in making it palatable to the general public are daunting. A VAT has certain economic advantages as a replacement tax, but these are not as great as many conservatives believe -- and most of these advantages would be eliminated by the politics of passing a VAT, most notably the special-interest pressures to exempt or provide special treatment for particular goods. This essay addresses both the economics and politics of the traditional VAT, and discusses why it is unlikely to replace our current burdensome income tax system.

Problems with the Income Tax

Much of the disagreement over tax reform is over how to fix the problem, not over the existence or magnitude of the problem. Few tax policy experts would deny that the current income-based tax system is seriously flawed; the most egregious of these flaws are described below:

Defies easy understanding. The tax system is highly complicated, particularly for individuals in the top fifth of the income distribution and for businesses; it thereby constitutes a costly drag on the economy. The 1994 Internal Revenue Code and its regulations total almost 8,000 pages, and the Internal Revenue Service (IRS) has nearly 500 different tax forms. Estimates of the total cost of the tax system are staggering, especially when indirect costs such as tax evasion, tax avoidance, special-interest lobbying, and tax planning expenses are added to the direct compliance costs of filing the returns. Various estimates place annual total compliance costs in the hundreds of billions of dollars.

Discourages saving and favors current consumption. Since the current system taxes both income saved and the returns on those savings, the income tax now implicitly encourages taxpayers to consume their incomes.

Deters capital-intensive production. Since major capital investments are depreciated, while additional labor costs and fringe benefits are immediately tax deductible, the present corporate income tax implicitly discourages firms from undertaking major capital investments, compared to a more "neutral" tax system that treats labor and capital costs equally.

Favors the production of services over goods. Since many service industries escape full taxation (e.g., financial, medical, and legal services are usually exempt from sales taxes), the current system promotes the consumption of more services than would occur if all industries received the same tax treatment. This tax-inflated demand distorts the market by diverting additional resources to service production.

Encourages debt-financed investment. The current system provides an incentive for firms to finance investment with debt rather than through retained earnings or new equity, since interest incurred on loans is tax deductible and retained earnings are taxed as income. This bias in favor of debt finance leads to an overemphasis on borrowing for new corporate investment.

An important question for lawmakers is whether these persistent distortions can be solved by modest reforms of the tax code, or if we should set off in an entirely new direction.

The Case for Consumption Taxation

Economists have long favored increased consumption taxation as a way to address the inefficiencies and distortions outlined above, but politicians have moved instead toward base-broadening and/or minor simplification of the existing tax structure. The most recent example of this tendency was the 1986 Tax Reform Act, which aimed to simplify and broaden the base of the individual and corporate income taxes. The act did not sufficiently simplify the code, which remains highly complex and biased in favor of current consumption.

The persistent bias toward consumption, combined with the stubborn federal deficit, the globalization of capital markets (which makes taxing capital more difficult), and the abysmal rate of U.S. net national savings (3.6 percent in the 1980s and 2.1 percent so far this decade), are causing consumption-based taxes to be reconsidered as a way to promote economic growth and boost savings and investment. The basic theory is that making consumption more "expensive" will induce people to save more, increasing the domestic resources available for investment and enhancing prospects for strong economic growth.

Many policymakers agree that more consumption taxes may be necessary. For example, a report prepared for the Bipartisan Commission on Entitlement and Tax Reform notes that the following officials, among others, favor a broad-based consumption tax: Leon Panetta, White House Chief of Staff; Alice Rivlin, Director of the Office of Management and Budget; Roger Altman, former Deputy Treasury Secretary; Lawrence Summers, Undersecretary of the Treasury; and several members of the Senate Finance and Budget Committees (Weinberger and Garrett 1993). Various interest groups and research organizations, from the American Business Conference to the Cato Institute, have also publicly supported such a change; as have leading economists of all political persuasions, from Henry Aaron of the Brookings Institution on the left, to Milton Friedman of the Hoover Institution on the right. When it gets down to the details, however, there is little agreement on the form of consumption tax that would efficiently promote savings and growth without placing an undue burden on lower-income groups.

Consumption taxation can take many forms, from "point-of-sale" taxes like the VAT to other systemic reforms, such as the flat tax or a consumption-based income tax. While this essay focuses on the VAT, these other tax schemes are briefly discussed later.

Point-of-Sale Consumption Taxes

There are three different consumption taxes -- excise, retail sales, and value-added -- in the point-of-sale category alone. Excise taxes, which fall on specific products such as tobacco, alcohol, and gasoline, are the only major form of consumption tax currently used in the United States. In 1991, excise taxes and other taxes on specific goods and services accounted for 7.1 percent of U.S. total tax revenue -- much less than for our major trading partners.

From an economic perspective, excise taxes can have positive effects because they are often designed to discourage behavior with negative externalities, such as smoking and automobile use. On the other hand, many goods taxed through excises are relatively price inelastic, so taxing the good does not reduce demand enough to decrease projected revenues appreciably. The Clinton Administration has shown a willingness to increase excise taxes, especially on energy and tobacco, but it is unlikely that a shift of significant magnitude toward consumption taxation would involve stiff excise increases.[1]

Another point-of-sale consumption tax is the retail sales tax, applied to retailers as a specified percentage of their final sales. More than 40 states and the District of Columbia use retail sales taxes, although the tax base differs from state to state and sometimes within states. For example, food purchased in restaurants or clothing is taxed in some jurisdictions but not in others, and many cities impose their own separate sales tax. Any effort to expand the use of sales taxes nationally would therefore involve high administrative costs for businesses -- not to mention consumer confusion -- as each retail business would have to calculate several separate tax liabilities based on different tax bases.

If the states would agree to adopt the federal tax base -- perhaps by offering them a share of the federal tax revenues -- these administrative costs could be reduced. Such agreement would be difficult to achieve because the states view sales taxes as their exclusive domain and would likely protest an effort to harmonize or federalize the sales tax system. This issue is discussed in the treatment on state sovereignty.

The value-added tax is levied on the value added by an individual or business during the course of production and distribution of a good or service. In theory, "value added" is the difference between the value of a good or service sold and a firm's costs of producing and/or distributing that good or service. The VAT is by far the most significant consumption tax used by our major trading partners, including 22 of the 24 nations in the Organisation for Economic Co-operation and Development (OECD) and a total of about 80 countries worldwide. Within the OECD, only Australia and the United States do not use the VAT or other broad-based national consumption tax.

VAT Methods

The VAT is generally calculated by one of three different methods: credit-invoice, subtraction, and addition. Most countries that use the VAT employ the credit-invoice method. This method requires firms to record the VAT separately on all sales invoices, from which the taxpayer subtracts, or credits, the amount of VAT paid on all purchase invoices. The business thus remits to the government the difference between VAT paid to suppliers and VAT collected from customers. The invoice method is often called "self-enforcing," because the invoice trail makes it difficult for firms to overcharge their customers or overstate their credits. In addition, each firm has an economic incentive not to allow its suppliers to understate their VAT liabilities, in order to receive the maximum tax credit on its own purchases. This characteristic distinguishes the VAT from a retail sales tax. Another important difference between the two taxes is that evasion of the VAT at the retail level will not result in zero tax revenue, since the tax will

still be collected at earlier stages of production.

The subtraction method is used by Japan and a few non-advanced countries. Under this method, the firm subtracts the cost of taxed inputs from its sales, then applies the VAT rate. The subtraction method results in lower administrative costs for the government, and it greatly simplifies compliance for taxpayers. However, this method will not work as easily when goods are exempted or zero-rated, or when border-tax adjustments are used for trade. The reason for this is that all sales and purchases are lumped together, which makes it much more difficult to determine which goods were taxed at a different rate, or which goods were exported. Therefore, all of the European nations use the credit method -- and it is likely the United States would do the same, since there would undoubtedly be political pressure to apply lower or zero rates to certain goods.

The third method of calculating VAT is the addition method, under which value added is defined as the sum of wages, interest, rents, and profits. This method can coexist with a separate sales tax, but it presents the same problems as the subtraction method -- namely, the difficulty of using multiple rates or border-tax adjustments. The state of Michigan has used a variation of the additive VAT instead of a state corporate income tax since 1976, reasoning that its cyclical auto industry made corporate tax revenues difficult to predict. This change at first greatly complicated the state's budget process, but since value added often varies less than profits, Michigan's legislature decided that the tax combined political palatability with better revenue predictability.

A VAT will usually require the price of a particular good to increase as much as with a same-percentage sales tax; the difference is that the tax is collected incrementally rather than entirely at the retail stage. How much of the full incidence of the tax falls on the consumer, however, is not only a complicated and unresolved economic question, but one whose answer is critical to the VAT's political reception. Tax incidence is discussed briefly in the section on efficiency and equity, below.

VAT Background

The first modern VAT was introduced in France in 1954, and its use is now a necessary condition for membership in the European Union. In fact, nearly all developed countries use consumption and income tax systems simultaneously. In those countries where they are not both used, it is usually for administrative reasons rather than any incompatibility with the current tax system.

Debate over a VAT for the United States goes back to the 1960s, when business groups and the Committee for Economic Development proposed to replace part of the corporate income tax with the VAT. (Many businesses today claim that such a change would help reduce our trade deficit, an assertion we evaluate in the section on trade.) More recently, the VAT has been proposed in legislation submitted by former Rep. Al Ullman in 1980, Sen. William Roth in 1986, and -- as the Business Activities Tax -- by Sens. David Boren and John Danforth in 1994. Rep. Sam Gibbons, a longtime proponent of the VAT, still favors a subtraction-method VAT with no exemptions as a substitute for the corporate income tax, the payroll tax, and most of the individual income tax. (He has not yet introduced a legislative proposal during the current Congress.) Other advocates of the VAT as a replacement tax favor it for its purported effects on tax neutrality, savings, investment, and economic growth.

Most European countries started moving toward the VAT in 1967 to replace less efficient, "cascading" consumption taxes.[2] Recent efforts toward tax harmonization in Europe have induced many nations to maintain only one or two tax rates in their VAT systems. Consequently, every OECD nation except Turkey has now abolished its higher rate to include only a standard rate and between zero and four different reduced rates for certain basic goods. (See Table 1 for current VAT rates in OECD nations.)

Why Is the Value-Added Tax Often Dismissed?

Interest groups and lawmakers have long debated the purported benefits and potential drawbacks of consumption taxes like the VAT. Many economists favor consumption taxes as a way to increase the efficiency of the tax system and promote long-term economic growth, while politicians have traditionally opposed such shifts due to arguments about regressivity or inflation. For example, the VAT is thought to be regressive since people with lower incomes consume a higher proportion of their incomes than those at the top of the income distribution; thus, consumption taxes increase the tax burden for those with lower incomes, relative to an income tax. The VAT is thought to be inflationary since it is generally added to the price of products. Interest groups are generally split over consumption taxes, with many business interests supporting such a change (as a means to promote exports, or as a substitute for other complicated business taxes); and consumer groups or advocates for the poor are usually opposed.

Nevertheless, given future deficit projections and the problem of low national savings and modest investment rates, some shift toward increased consumption taxation -- even if only as an experiment -- seems warranted. The rationale for this position is based on the strong correlation between economic growth and savings: In recent years, countries whose growth rates have surpassed that of the United States have, almost universally, much higher savings and investment rates. Increasing the national savings rate is important for future growth because savings supply the needed funds for investment -- and, all else being equal, it is better to obtain the necessary capital for investment from an increased domestic pool of savings than to rely on foreign capital.

But whether the tax code can efficiently influence an increase in domestic savings is an unresolved question. Is it better to provide individual incentives by tinkering around the edges of the code -- through individual retirement accounts (IRAs), investment tax credits, and the like -- or to induce more savings and investment simply by making consumption less attractive? Proponents of the latter position argue that increased consumption taxation would induce people to save a larger percentage of their incomes, and that the VAT in particular would improve the trade balance and result in better tax compliance.

Lots of "Ifs"

The VAT's prospects in the United States are dubious due to the lack of hard evidence that it would serve its intended purpose. For example, the preponderance of the evidence from the extensive VAT literature leads to the following stipulation: IF the United States implemented a value-added tax; and IF it replaced (at least partially) a less efficient or less neutral tax (such as the corporate income tax) rather than being solely an add-on tax; and IF it had very few (or no) exemptions or zero-rated products; and IF a minimum income level to include small businesses in the system could be agreed upon; and IF the perceptions and/or arguments about regressivity, inflationary effects, the tax as a "money machine" or "hidden tax," etc., could be overcome; THEN a value-added tax would be worth considering as a fair, simple, efficient modification to the current tax system. But behind each of those "ifs" are economic and political issues that need to be resolved -- and the evidence on most of the economic issues is, at best, ambiguous.

Political reality also requires consideration, because successful tax reform mandates a confluence of economic argument and political acceptance. The value-added tax could simplify the tax system, increase national savings, and improve economic efficiency only if it has certain characteristics -- and there would be significant and identifiable political resistance to many of these necessary policy choices. This essay examines the issues of regressivity, inflationary effects, administrative costs, trade effects, and the appropriate treatment of small business. While the main focus is on economic issues -- with a conclusion about each issue offered at the end of each section -- several political issues, such as how a VAT would be viewed by the states, are also discussed.

Key Issues for a VAT

This essay seeks to answer the following questions: Would the VAT likely to emerge from the American political process provide substantial economic benefits without being unduly burdensome to certain groups or industrial sectors? If not, is the tax worth considering at all, especially if it will only be a revenue-neutral replacement tax (as opposed to an add-on tax that would reduce the deficit or fund new programs)? While on paper the VAT can be argued to be neutral, fair, non-inflationary, and efficient, the political process has a way of deflating even the most purely correct economic arguments. In that light, the concluding section of this essay assesses prospects for adoption of a VAT in the United States.

A Recap of Vital VAT Issues

This section examines 10 important questions relating to the value-added tax, each of which has been closely examined in the economics and political science literature. Discussion of these 10 topics opens with economic arguments, moves toward the more political, and concludes with practical, real-world concerns. The 10 issues are:

1. Would a VAT improve the efficiency of the tax system?

2. How would a VAT affect savings, investment, and economic growth?

3. Would instituting a VAT have a positive effect on U.S. trade?

4. Would a VAT lead to higher inflation?

5. Would the VAT be regressive in practice?

6. How would the size of government be affected by a VAT?

7. What effects would a VAT have on administrative and compliance costs?

8. How would small business be treated under a VAT?

9. Would certain products or sectors be exempt from taxation?

10. How would a VAT affect state sovereignty?

Issue 1: Efficiency and Equity

A strong argument can be made that a single-rate VAT would be more efficient than the current income tax, but the experiences of other countries should be considered: Did the VAT improve efficiency elsewhere?

Sound tax policy should meet three criteria: neutrality, efficiency, and equity. Neutrality and efficiency are closely related. A neutral tax system is one that distorts as few consumer or business choices as possible by taxing all or most choices the same, while an efficient system wastes as little of society's resources as possible. For example, a neutral tax system would not affect the trade-off between work and leisure or a firm's choice to finance investment through debt or equity. Our current income tax code is far from neutral. It implicitly encourages the consumption of certain goods (e.g., the mortgage interest deduction encourages housing consumption); as well as encouraging consumption over saving.

Enhancing efficiency, however, may conflict with furthering equity, which in the United States is traditionally measured by the progressivity of the system.[3] If people with similar incomes pay similar amounts in taxes, and people with higher incomes pay more in taxes or fall into a higher bracket, the tax system is generally considered "fair."[4] For example, a flat tax on all income with no deductions or exemptions would be simpler and more efficient than the current system. It would also be inequitable in the view of some, since part of the burden of the individual tax would shift from upper- to middle-class taxpayers (especially if the personal tax is based only on wage income and exempts all capital income).[5]

The most efficient tax of all -- a "lump-sum" or "head" tax that is the same dollar amount for everyone, regardless of income -- is also considered the most unfair. Many of the seemingly innumerable exemptions and deductions in the tax code were designed to enhance fairness, but each instance of special treatment adds to the complexity and detracts from efficiency. Consumption taxation is generally lauded as more efficient and neutral than income taxation, but often criticized as less equitable.

The ideal VAT -- a broad-based, low-rate tax with few exemptions and a single tax rate -- would be relatively neutral compared to other revenue systems. For individuals, any shift away from the income tax toward a broad-based, uniform VAT would improve neutrality because it would not distort choices among products or affect the savings/consumption decision (i.e., savings would be taxed only once). The household's work/leisure decision would still be theoretically affected, since the returns from work would be taxed if consumed, but most full-time workers must -- and would continue to -- work regardless of the tax rate. This effect may, however, influence the labor supply of part-time workers or second earners.

Tax neutrality will be reduced if many goods receive special tax treatment, as they do in Europe. Exemptions or special rates on favored products lower the prices of these products relative to other goods in the economy. As a result, demand for these goods rise above the level that would be expected if all goods were treated equally. Resources are misallocated toward less efficient uses, away from the production of highly taxed goods and toward the production of tax-favored goods. Numerous exemptions thus introduce greater inefficiency.

An ideal VAT that made no such distinctions would not only be neutral for business decisions, but could also replace an inefficient tax such as the current corporate tax. Under this arrangement, the tax system would not penalize capital-intensive production, affect the debt-versus-equity financing decisions for investments, or influence the decision about what goods to produce. Given the experience of other nations with VATs, however, such an "ideal" VAT is unlikely, since political pressures typically result in favorable treatment for various products. The same pressures would be present in the United States, perhaps to an even greater degree. As a consequence, theoretical neutrality provides an insufficient rationale for moving toward a VAT or national sales tax.

TAX INCIDENCE. The incidence of a VAT (i.e., who actually "pays") is also an equity consideration. Although retail prices for individual goods in most cases should increase by the amount of the tax, the final incidence of a VAT would likely be shared among consumers, employees, and shareholders; the burden would not be borne solely by consumers. Most analysts of tax incidence agree that the VAT operates as a proportionate tax on the factors of production (i.e., labor and capital), not as a tax on goods and services themselves. Thus, labor will bear a greater tax burden for labor-intensive goods, and capital will bear more of the tax in production of capital goods. The actual burden of the tax is shared, and will vary greatly depending upon how much labor and capital is used in production, the demand elasticity of the good or service in question, and other factors, such as the level of competition in the industry. From an equity perspective, the most important issue may be the degree to which the VAT's true burden falls on consumers and workers in lower income groups.

EFFICIENCY GAINS. VAT proponents assert that the tax will improve the efficiency of the tax system through its "self-enforcing" characteristics and its ability to capture part of the underground economy. The VAT is self-enforcing, at least under the credit-invoice system, because firms have an incentive to police themselves. The VAT can capture part of the underground economy because it is collected at each stage of production. Thus, part of the tax falls on primary and intermediate goods rather than only on final goods at the retail stage, where compliance is often difficult to enforce.

The underground economy is comprised of two distinct parts: (1) "informal" sales of legal goods, and (2) sales of illegal goods. With regard to legal goods, unlicensed vendors who sell final goods to the public must obtain their inputs from businesses within the tax system. While taxes would still not be collected at the retail level, some revenue that escaped in the past would be collected.

In addition, the VAT would collect some tax from individuals who avoid income tax by failing to declare certain cash income: When some of those funds are spent under a VAT, the income will be taxed. By contrast, sales of illegal goods such as drugs would escape most taxation -- as they do today -- although some means of production and/or distribution (e.g., the purchase of chemicals for processing) would be taxed. The fact that a VAT would capture some revenue from sources that formerly escaped taxation means that it could raise more revenue per dollar of administrative costs than an equivalent sales tax, thus making it a more efficient use of government resources.

Quantifying such efficiency gains, however, is difficult. A study by Alan Auerbach of the University of Pennsylvania and Lawrence Kotlikoff of Boston University, for example, did find that shifting from an income-based tax to a consumption-based tax would produce significant welfare gains from greater efficiency and higher economic growth (Auerbach and Kotlikoff 1987). Assessing their study, however, Jane Gravelle of the Congressional Research Service (CRS) found that 90 percent of this long-run welfare gain represented a distribution of welfare gains across generations, rather than a pure efficiency gain. In other words, accounting for the extra taxes that must be paid by the generations alive at the time of the tax change would eliminate much of the long-term gain (Gravelle 1988a). Her analysis suggests that the pure efficiency gains of a VAT may not be highly significant, especially when compared to the administrative and compliance burdens of starting a whole new tax system.

The efficiency benefits of a VAT would depend on its design and on its success in taxing goods or services for which the value added at each stage of production is difficult to measure, such as financial services, insurance, and nonprofit institutions. In its study of the economic effects of a VAT, the Congressional Budget Office (CBO) concurs that the efficiency benefits of a VAT with multiple rates and preferences would probably be negligible, but that resources would be allocated more efficiently than under an equivalent income tax increase (CBO 1992). A slight improvement in resource allocation, however, is not a sufficient argument for introducing an entirely new tax bureaucracy.

SUMMARY: A VAT may improve efficiency and neutrality in economic decisions if it is "ideal," or a single low-rate, broad-based tax. If equity and other political considerations obviate the adoption of an ideal VAT, the case for the change cannot rest only on considerations of improved efficiency or neutrality.

Issue 2: Effects on Savings, Investment, and Economic Growth

Supporters of consumption taxes assert that making consumption more "expensive" and removing the current code's bias against savings and investment will increase national savings and spur economic growth. The low savings rate in the United States is a legitimate concern because low savings depress investment, slow growth of the capital stock, reduce productivity gains, and -- ultimately -- endanger growth in real wages. Increasing the savings rate thus would be a first step toward stronger economic growth and higher real wages. Finding the best way to boost savings, however, has been a source of confusion for policymakers. For example, IRAs and capital gains tax cuts have failed

to produce the desired results, while consumption taxes have been sharply ridiculed by members of Congress.[6]

THE ARGUMENT AND THE EVIDENCE. One argument for a VAT's capacity to increase savings generally follows this logic: Since a uniform consumption tax reduces the final returns to work or saving only if they are used for consumption, whereas the income tax reduces those returns whether they are consumed or saved, substituting a VAT for part or all of the income tax should promote saving by increasing its rewards relative to consumption.

The problem with this reasoning is its assumption that savings will increase if the real rate of return rises. On the contrary, much economic analysis suggests that savings may increase or decrease -- i.e., the interest elasticity of savings may be positive or negative -- depending on the magnitude of the income and substitution effects. And, if savings increase when the rate of return rises, we should have seen a large boost in the savings rate in the 1980s, when real interest rates rose sharply and income taxes fell for upper income individuals (who have the most resources available to save). In fact, however, total net private saving -- or the national savings rate before deficits are included -- has declined from over 8.0 percent in the 1960s and 1970s to 6.0 percent in the 1980s and 5.1 percent thus far in the 1990s. One explanation is that most people are "target savers" who seek a specific monetary goal, rather than a particular rate of return. They therefore can achieve their goals with less saving as its rate of return increases. Another view holds that consumers try to maintain their consumption levels and therefore must reduce their savings when consumption taxes are increased. Most studies that have examined the effects of consumption taxes on savings and economic growth predict modest effects from introducing a VAT. For example, Gravelle (1988b) compared a VAT to an equivalent income tax increase. She estimated that the tax substitution would raise the capital stock by less than 2 percent after 50 years and increase long-term consumption by less than 1 percent -- positive effects, but very marginal ones. The CBO study (1992) on the economic effects of the VAT found that substituting a 6 percent VAT for a quarter of the income tax would, in the long run, increase the savings rate by only 0.5 percent and increase the economy's output by only 1.5 percent. These gains are very small considering the potentially burdensome administrative and compliance problems that could accompany a new VAT.

A simulation by Laurence Kotlikoff (1993), however, does predict that substituting a national sales tax for all income taxes would significantly increase savings, wages, and output; but such a change would also require the abandonment of the current system's progressive features. Furthermore, if the VAT's base is smaller than the base for the income tax, tax rates would have to rise to produce the same amount of revenue, reducing the incentives to work -- especially for part-time workers and second earners. Even if a VAT did initially increase savings, several considerations suggest that the long-run growth benefits could be very small. Since an initial increase in savings would boost the capital stock, the return on capital (i.e., the price) could decline, possibly attracting less additional capital and resulting in a zero-sum -- or negative -- long-run effect on the capital pool. This shift is analogous to the outward shift in a supply curve that results from a technological improvement. As the curve shifts, the price at any given quantity declines, so if savings rates are relatively elastic, a lower permanent savings response could result.

OECD EXPERIENCE WITH SAVING RATES. Analysis of the European experience provides scant evidence that instituting a VAT would increase savings rates. Ken Militzer, chief economist for AT&T, performed regression analysis for every five years since 1965 for OECD nations, and could not find empirical evidence that a VAT -- or consumption tax in general -- has any impact on national, private, or household saving (Militzer 1990). He also found that incremental shifts toward greater consumption taxation do not increase saving. This latter finding was unexpected, since income and profit taxes supposedly discourage saving.

While the OECD experience cannot be directly applied to the United States, the fact that incremental shifts toward consumption taxation did not boost saving should caution those who advocate substituting a VAT for other taxes as a pro-saving strategy. If the government raises a minor share of its total revenue from a different tax, that should not drastically alter spending and saving patterns for average consumers. Gina Despres, tax advisor to Sen. Bill Bradley in the 1980s, states, "If you can't convincingly make the case that the VAT will result in a significant increase in savings, why do it? The idea that you want to squeeze the savings out of lower middle class consumers is a perverse concept."[7] A substantial savings effect, however, might be more likely if the entire income tax system were replaced by a consumption-based system. This is what Sen. Richard Lugar (national sales tax), Sens. Sam Nunn and Pete Domenici (consumed-income tax), and Sen. Arlen Specter and Rep. Richard Armey (flat tax) have all advocated.

HOW SERIOUS IS THE SAVINGS CRISIS? There is also some question as to whether the current savings problem is as severe as is often claimed. For example, one study found that some measures of saving generally exclude capital gains income, federal retirement plans, human capital expenditures, home equity build-up, and investments in consumer durables (Militzer and Ontscherenki 1990). If these sources of income or expenditures are counted as "savings," part of the problem of low saving disappears. This study concludes that demographic changes over the next 20 years, mostly as a result of baby-boomers saving for retirement, should sharply increase the U.S. savings

rate.

Robert A. Blecker of The American University is another analyst who believes that the savings "crisis" is not severe. He has argued that consumption has actually not been rising out of control, and writes that consumers are slow to adjust their spending when income growth falters, so the average consumption rate (consumption divided by income) rises (Blecker 1990). He posits that a low rate of savings is a natural reaction to slow income growth; therefore, "penalizing" consumption through taxation would be inappropriate.

Blecker also argues that the savings rate in the 1980s was not unusually low, but in fact rose from 1970s' levels, contrary to official government figures. His analysis, however, counts increases in the value of household assets as saving. These increases do not increase the pool of capital available for productive investment, which is why we care about increasing the savings rate. If the increased value of real estate is removed from the data, savings rates are still much lower than in past decades -- lower than they need to be to promote long-term growth.

Regardless of how changing demographics may or may not affect saving behavior in the coming decades, rising projected federal deficits over the next few decades will, if not checked, continue to depress national savings. If the uncontrolled growth of federal entitlements continues, national saving will continue to decline.

SUMMARY: A VAT would probably not discourage saving, but the evidence fails to prove that it would strongly encourage it, either. Instituting a VAT requires more compelling justification than its ambiguous effects on savings, investment, and growth.

Issue 3: Trade Effects

Under the rules of the General Agreement on Tariffs and Trade (GATT), a country can levy a VAT on imports and rebate it on exports because such an arrangement does not interfere with open trade. Under GATT rules, however, an income tax cannot be imposed selectively on imports or rebated on exports because such actions would artificially favor domestic producers and disadvantage foreign producers.

Many U.S. businesses argue that these rules place them at a competitive disadvantage in global competition with firms from nations that rely more on VATs, because foreign goods bear a smaller corporate tax burden incorporated in their prices than U.S. goods. Many in the U.S. business community have lobbied to replace the corporate income tax with a value-added tax, arguing that such a change would improve the international "competitiveness" of our products and narrow our trade deficit.[8] In addition, some economists contend that even adding the VAT to the current system would have positive trade effects.

The preponderance of the evidence, however, does not strongly support these claims.

TRADE BALANCE -- The VAT as an Additional Tax. According to traditional economic analysis, the trade effects of an add-on VAT depend not on its direct impact on import and export prices, but on its effects on net foreign lending and borrowing. This reflects the view that a nation's trade balance is determined by how much it consumes and produces. If consumption exceeds production -- if we run a fiscal deficit -- then a trade imbalance is inevitable.

As a result of this mainstream macroeconomic reasoning, any tax increase that cuts the budget deficit -- thus reducing national consumption and raising national saving -- should narrow the trade gap. This is because lower government borrowing produces lower interest rates, an outflow of capital, reduced demand for dollars -- and thus a lower value of the dollar, higher exports, and lower imports. If the deficit were not reduced by the additional tax (whatever form that tax takes), exchange rates and domestic prices eventually should adjust to dampen or eliminate any short-term positive effect that the tax increase might have on the nominal trade balance. Recent analyses (e.g., Bickley 1992a, Bickley 1993a, Metcalf 1995) concur with the conclusion that the VAT would offer no major benefit over any other tax increase (i.e., additional tax) in reducing the U.S. balance-of-trade deficit. To the contrary, the VAT would only ensure that imports receive the same treatment as other products; i.e., the rebate on exports at the border would prevent our products from being disadvantaged in global markets, not give them an advantage above the status quo.[9] In other words, an add-on VAT, in and of itself, would do nothing to close our widening trade deficit.

TRADE BALANCE -- The VAT as a Replacement Tax. If part of the corporate tax burden is borne by consumers in the form of higher prices, and replacing the corporate tax with a VAT would allow firms to lower their prices exclusive of the tax, then the VAT could improve the trade balance in the short term by lowering the domestic prices of our products relative to foreign ones. This gain, however, would be spread unevenly through the economy.[10] However, most economists argue that exchange rate adjustments eventually would cancel out this effect, especially if the

budget deficit remained unchanged.

Why is this result likely? One explanation is that shifts in trade volumes do not necessarily affect the level of the trade balance, which is measured in dollars. If using the VAT as a replacement tax lowers domestic prices, and the tax is rebated on exports and applied to imports, the United States will export more goods at lower prices and probably import fewer goods at higher prices. Exclusive of any effects on the terms of trade, the trade balance in dollars should remain unchanged, especially after exchange rates adjust.

The Advisory Commission on Intergovernmental Relations (ACIR) was not enthusiastic about the VAT's ability to stimulate U.S. trade if substituted for all or part of the corporate tax. Its central 1973 finding on the trade issue still holds true:

> If the value-added tax was adopted and fully shifted forward, prices could be expected to rise by the amount of the tax. The tax is rebatable on exports, so it would be taken off those goods and services entering into international trade. The net change in the price of exports would therefore be zero. In effect, the new tax would be levied on the export firm and then removed, leaving the exporter no better and no worse off than before the introduction of the tax (ACIR 1973, p. 14).

Proponents of the VAT, on the other hand, respond that foreign exchange markets do not instantly adjust to trade flows, because trade is a small component of the supply of and demand for a currency. They argue that the VAT will have some nontrivial trade effects, but will not by itself balance the trade account. Exchange rates will eventually adjust, however, so any long-run effects on the trade balance are dependent on the country's underlying savings and investment patterns (i.e., the deficit).[11] If the corporate tax has little or no effect on consumer prices, however, replacing it with a VAT would not affect trade even in the short run. This does not mean that domestic prices would be unchanged -- they would likely increase by the amount of the tax -- but rebating the tax on exports would leave the price of exports unchanged, even if the tax rates vary by industry. Similarly, applying the VAT to imports at the border would simply ensure that imports receive the same treatment as domestic products.[12]

TERMS OF TRADE. Some economists argue that America's terms of trade, or our general level of competitiveness, would be improved if replacing the corporate tax with a VAT lowered domestic prices. The logic is that exporters care more about volume than dollars, and that as lower prices make our goods more competitive, our volume of exports will increase and our volume of imports will fall -- but the total dollar value of the trade imbalance would remain constant. David G. Raboy, an economist who believes that the corporate tax does increase prices (and whose analysis of the VAT's trade effects appears in this volume), framed the argument this way: If one country imposes a tax on all of its exports, and no other country had any export taxes, and the country with the supplemental tax removed it, the terms of trade would change because all of the country's exports would become "cheaper." He applies this argument to the VAT, noting that the United States is the only major trading power without a border-adjustable tax. "If the United States is the only country out of harmony, there is an effect on the terms of trade because real resources are being extracted from U.S. exporters to the government, relative to the competition."[13] In his view, if the country adopted a replacement VAT, there would be increased production to meet higher foreign demand, generating more jobs and more domestic production to make up for the smaller volume of imports. And if foreign competitors respond by cutting prices in order to maintain the relative terms of trade, American consumers would clearly be better off because the prices of both domestic and imported goods would decline.

Robert Lawrence, a Harvard University trade economist, disagrees. Traditionally, a country's terms of trade are defined by the ratio of the index of its export prices to the index of its import prices. Lawrence argues that if the prices of all exported goods fall, the terms of trade will worsen, not improve, because foreigners can obtain our goods more cheaply. He notes that the improvement in the terms of trade claimed by Raboy would not be the result of a permanent improvement in productivity or the use of new technology or resources, but solely due to a change in the tax code that lowers domestic prices relative to foreign prices.[14] Lawrence argues that once exchange rates adjust, we would return to neutrality as our goods become more expensive once again. He adds two caveats, however:

If the American economy were at full employment and the volume of exports increased after a VAT is introduced, fewer goods would be produced for domestic consumption, and imports would fall as they became relatively more expensive. The resulting shortage of goods in America would, by the laws of supply and demand, raise the price of goods again.

While it may be true that substituting a VAT for the corporate tax would "stimulate" exports, the change also would forego the portion of the corporate tax currently paid by foreigners. As a result, American consumers would bear a greater share of the total tax burden, assuming that part of the initial corporate tax is reflected in prices and thus

borne by foreigners who purchase U.S. exports.

Even a leading and distinguished VAT proponent, Sijbren Cnossen of Erasmus University in the Netherlands, concedes that the imposition of a VAT does not affect the allocation of resources or international competitiveness. Cnossen (1991) writes that substituting a VAT for part of the corporate or personal income tax may improve the trade balance in the short run by encouraging saving, but in the long run this effect would dissipate as the accumulation of foreign reserves increased imports. Thus, even if exchange rates do not respond immediately to trade flows, the long-term trade benefits of moving to a VAT are still suspect.[15]

TRADE COMPOSITION. Substituting a VAT for all or part of the corporate income tax could affect the composition of trade. As compared to the current income tax, a VAT favors capital investment. It therefore would likely favor domestic production in capital-intensive industries (e.g., agriculture, communications, utilities, computer software) over labor-intensive industries (e.g., textiles, apparel, most services), all else being equal. Thus, the composition of trade could be altered in favor of capital-good exports and labor-good imports, even as the overall trade balance remains unchanged in the long run.

SUMMARY: To the extent that a VAT which is rebated on exports replaces income and payroll taxes which cannot be rebated, the change may improve the U.S. trade position in the short term. Any long-run trade effects cannot be predicted with accuracy, however, and should be modest if the size of the budget deficit is unaffected by the tax change.

Issue 4: Inflationary Effects

Will a value-added tax lead to a one-time increase in prices or a permanent increase in the rate of inflation? The majority of the European nations did not experience a permanent rise in the inflation rate upon introduction of the VAT. But in many of these countries, the VAT replaced less efficient "turnover" business taxes on consumption. Therefore, the European results may not fully apply to the United States, where no national consumption tax exists for the VAT to replace.[16]

INITIAL EFFECTS. Most analysts, including those from the U.S. General Accounting Office (GAO) and the CRS, conclude that a new, add-on VAT would have no major effect on the inflation rate if the Federal Reserve followed an accommodating monetary policy upon introduction of the tax. Generally, price levels should increase by an amount equal to the VAT rate multiplied by the share of the consumption base covered by the tax;[17] a five percent VAT on 70 percent of consumption therefore would be expected to increase the general price level by 3.5 percent (0.05 x 0.70 = 0.035). This exogenous price shock would have a contractionary effect on the economy, since people will be able to purchase fewer goods and services with the same income. But if monetary policy is sufficiently accommodating to allow an equivalent increase in the price level, the underlying rate of price increases should be unaffected. GAO (1989, p. 30) concludes, "Only under some very special conditions concerning wage and price setting behavior and an expansive monetary policy is the rate of inflation likely to increase after the tax is fully integrated into the economy."[18]

SECONDARY EFFECTS. The "special conditions" to which GAO refers are what concern economists -- especially when factors of production such as labor costs are linked to price indices. That is, if the VAT is included in price indices, and workers link their wage demands to these indices, then higher wage costs can push prices up yet again. Thus, some goods may experience price increases greater than the 3.5 percent cited in this example. But the CRS has concluded that if the Federal Reserve disregarded these secondary price increases in formulating monetary policy, the increases would tend to be offset by price reductions in other sectors of the economy (Bickley 1993a).

If the one-time price increase goes directly into the consumer price index (CPI), however, higher transfer payments through cost-of-living adjustments (COLAs) and higher wage demands would result. This inflationary spiral could be avoided by redefining the CPI and COLAs to exclude price increases resulting from the introduction of a VAT. Moreover, the CPI is due to be redefined -- the "market basket" of goods it measures was assembled with data from 1982-84 and needs to be adjusted to reflect current preferences -- so this change could be incorporated in this process.

COULD A VAT LOWER PRICES? There is another dimension to this argument that has not been examined extensively in the literature. If replacing the corporate tax with a VAT has the effect of raising the corporate rate of return, businesses would be better credit risks and therefore should be able to borrow long-term funds at lower interest rates. Since the cost of capital is a component in prices, a replacement VAT could also have deflationary price effects that might reduce the impact of its inflationary effect.

SUMMARY: It is difficult to predict the inflationary effects of a VAT because factors such as monetary and fiscal policies, the use of the tax revenues, and public expectations can have an important influence in determining how the VAT affects inflation. Any second-order inflation pressures (i.e., increased wage demands pushing up prices) could be reduced if Congress redefines the CPI or COLAs to exclude the VAT.

Issue 5: Regressivity

Perhaps the primary reason that neither Congress nor the President has ever seriously considered a broad-based consumption tax is that people with lower incomes spend more of their incomes on consumption than those with higher incomes, so the tax would have a regressive impact. Ask most politicians about consumption taxation, and the responses will likely focus on the purported regressivity of these taxes. Since taxes that hurt the poor more than the rich are deemed to be unfair, instituting a replacement VAT or national sales tax will be politically difficult.

IS A VAT REALLY REGRESSIVE? Are sales taxes and value-added taxes actually regressive in practice? Consumption patterns in several European nations suggest that taxes may become less regressive as individuals of different income levels consume the same kinds of things. For example, as the income differential between rich and poor in the Netherlands shrank in magnitude, consumption patterns between higher and lower income groups became more similar. This is one reason why Cnossen (1982) objected to the lower VAT rates on necessities in his home country. If the consumption pattern data are accurate, then the VAT's effects in these countries are becoming less regressive -- but not progressive. These results will not apply in the United States, however, where the income differential between rich and poor -- or, more specifically, between the well-educated and less well-educated -- is widening. This suggests that a U.S. VAT would be very regressive, especially at high income levels.

Opponents of consumption taxes like the VAT point to other equity considerations. First, recent evidence from the 1981 and 1986 tax reforms shows that, in certain respects, these tax acts actually made the income tax system less progressive.[19] For example, the payroll tax in the United States is more regressive than the income tax, since it is a flat rate that applies to only the first $60,600 of wage income, whereas the income tax has graduated rates. Since 1980, the share of total federal tax collections coming from the individual income tax has declined from 48.7 percent to 44.9 percent, while the share coming from payroll taxes has increased from 27.7 percent to 35.1 percent. This regressive shift in the overall tax burden should be considered when a tax like the VAT, which could exacerbate the problem, is proposed as an add-on or replacement tax.

Second, the equity impact of a VAT depends on the extent to which the original tax falls on capital income or labor income. Taxes that fall on labor income are rarely progressive because the share of income earned from labor generally declines as income rises. Thus, if the tax to be replaced falls heavily on capital income, a consumption-based replacement would likely make the tax system less progressive by shifting an additional burden to labor. For example, the corporate income tax is widely considered to fall more heavily on capital income than the payroll tax; therefore, a VAT that replaced the former would likely have a regressive net effect.

LIFE-CYCLE MODELS AND CONSUMPTION TAXES. A relatively new method of economic analysis approaches these distributional questions by focusing on tax burdens and economic behavior not at any given moment but over more extended periods. In particular, many economists who study tax burdens from a "life-cycle" perspective question the assertion that taxes on general consumption, including the value-added tax, are regressive over an individual's lifespan. Life-cycle theory observes that individuals consume varying percentages of their incomes at different times in their lives, with high consumption relative to income in early adulthood -- when people further their education or start a family -- and after retirement -- when they consume out of their savings. During the years in between, most people save more and consume less of their incomes, often in order to provide for their retirement or their children's college education. The life-cycle analysis further observes that people's annual consumption levels are related to their expectations of permanent (or lifetime) income, as well as their annual income. Therefore, through a person's lifespan, his or her annual consumption will vary less year to year than his or her annual income.

From this perspective, annual consumption, rather than annual income, offers the more stable tax base, and therefore provides a better proxy of a person's ability to pay. As a result, the life-cycle paradigm says that the burden of a value-added tax or national sales tax can properly be considered proportional with respect to lifetime income, rather than regressive with respect to annual income, because the tax claims a constant percentage of consumption even as consumption increases.

Most economists accept the empirical importance of life-cycle analysis. Henry Aaron, Jane Gravelle, and Sijbren Cnossen are among the many economists who have noted that a VAT would be a proportional tax based on lifetime

income. (In fact, the finding is so broadly accepted that it is mentioned as an aside, without citation, throughout the consumption tax literature.) CBO (1992) found that the average lifetime burden would be roughly the same for most people under either an increase in the income tax or the addition of a VAT, with the exception of the very poor and very wealthy. The effects vary from family to family, however, depending on variables such as bequests and family size.

The issue of bequests is extremely important. Lifetime income will only equal lifetime consumption if there are no gifts or bequests, which is unlikely. According to a recent study of the VAT's regressivity, the tax is less regressive when viewed from the life-cycle perspective, but it is still moderately regressive. That characteristic is exacerbated if bequests are not included, since the propensity to give bequests rises rapidly in the top quintile of income (Caspersen and Metcalf 1994). The VAT is basically proportional to lifetime income over a long time horizon only if all income is eventually consumed -- i.e., if inheritances are set aside. If all of a household's lifetime income is not consumed, then the value-added tax will be regressive even in the long run, especially when compared to an income tax with rising marginal rates.

In addition, economic argument is often not determinative in politics, because economists and politicians have different concerns. As a general rule, economists try to maximize efficiency and minimize "deadweight loss," and are rarely concerned with the political ramifications of their policy ideas. Politicians, on the other hand, often base their decisions on public perception and opinion, not economic reasoning, since their ultimate goal is to be reelected. So while consumption spending might be a better proxy for ability to pay than annual income, most consumption decisions are based on funds presently available through savings or borrowing, not on future income. This means that the life-cycle paradigm, no matter how accurate in a mathematical simulation, may not be politically persuasive since taxes must also be paid out of current income. As economist Alan Tait (1988, p. 215) of the International Monetary Fund writes, "the professional economist can keep in mind that [using annual income] probably overstates the regressivity [but] for most people, and certainly for political presentation, the most understandable and most practical measure [for taxation] is annual household income."

In light of the perception that a VAT would be regressive -- an accurate view, at least for the top and bottom quintiles of the income distribution -- and the reality that the overall tax burden has shifted downward since 1980, any proposal for consumption taxation must address the regressivity issue in order to gain public acceptance.

REMEDIES FOR VAT REGRESSIVITY. Accepting that consumption taxes are more regressive than an income tax with rising marginal rates, what is the most efficient way to alleviate this regressivity? There are two general approaches:

apply a lower (or zero) tax rate to necessities, or other goods that account for a large percentage of the expenditures of low-income people, and/or increase the tax rate on certain luxury items; and/or

offset the burden for low-income people through other tax relief or increases in benefit programs such as food stamps, welfare, or refundable tax credits.

EXCLUSIONS AND LOWER RATES. While VAT rates cannot differ by income level, one possible (and popular) response to the expected regressive effect is to apply different tax rates to different products. Virtually every country with a VAT either exempts a variety of "necessary" goods or applies lower rates (i.e., rates greater than zero but lower than the standard rate) to these goods. OECD countries use numerous exclusions in addition to the common necessities of food, housing, and medicine. These include: financial services; life insurance; government-subsidized education or health services; and services provided by social, charitable, or religious organizations. Examples include:

Belgium, which applies a zero rate to newspapers and cars for the handicapped, and a lower rate to agriculture, original art, clothing, food, coal, and gold;

Ireland, which applies a zero rate to books, children's clothing, oral medicine, food, and fertilizer, and a lower rate to newspapers, fuel, electricity, and restaurant meals;

Italy, which applies a zero rate to books, newspapers, and recycled paper, and a lower rate to food, medicine, jewelry, and weekly publications;

Sweden, which applies a zero rate to commercial aircraft and ships, newspapers, aircraft fuel, and prescribed medicine, and a lower rate to accommodations, food, passenger transport, and most postal services.

One difficulty with exempting various products or services to temper the VAT's regressive impact is that, on an absolute basis, favored treatment for some products will also benefit the well-off. Wealthy people spend more on food and clothing than lower income consumers, even if they spend a smaller share of their incomes on these goods. Also, some tax-favored goods, such as books or newspapers, are not necessities, but are given special treatment anyway because the country has determined that these are "merit goods," or goods whose consumption is regarded as socially desirable and therefore worth subsidizing through a VAT exemption. But these goods are not purchased exclusively by low-income consumers.

Exempting entire categories of goods, such as food, creates additional problems. First, how broadly should the categories be defined? Should caviar and truffles fall into the same category as milk and bread? Should any distinction be made between confections, or other "unhealthy" items, and other foods? Second, exempting "necessities" requires a higher tax rate on other goods to keep revenue constant, which increases the distorting effect of the tax. For example, excluding housing, physician services, financial services, life insurance, and education from a VAT would limit the tax base to less than 80 percent of total consumption. Excluding food consumed at home, medical services, and utilities would further contract the base to less than 45 percent -- the tax rate would have to be more than twice as high to raise the same revenue (McClure 1987; Bickley 1993b).

Another complication is that exclusions and/or multiple rates will not greatly affect the regressive distribution of the VAT's burden if the tax-favored commodities are consumed in similar amounts by all income groups. For example, recent studies of the European VAT indicate that the distributional impact of the tax does not differ significantly when necessities are zero-rated (United Kingdom), taxed at a lower rate (the Netherlands), or taxed at the standard rate (Denmark) (Cnossen 1989). But again, income -- and thus, consumption patterns -- is more evenly distributed in those countries than in the United States.

Finally, since audit and compliance costs are very sensitive to the degree of tax complexity, numerous exemptions and/or rates entail significantly higher administrative costs. By one estimate, a more complex VAT would increase audit costs by 30 percent to 50 percent over a simple, single-rate VAT (GAO 1993b).

The lesson from the European experience is that exemptions and multiple rates may reduce the regressivity of value-added taxes, but the efficiency losses, higher compliance costs, and greater administrative complexity probably outweigh the gains. Most economists agree that distributional objectives would be better served by making adjustments to income taxes or transfer payments. Nevertheless, multiple rates and exemptions are common and popular. The European Union's recent effort to harmonize its tax system still allows two (or more) VAT rates: lower rate(s) for necessary goods and a standard rate. "The big advantage of the food exemption in a VAT," writes one analyst, "is that it gives the legislator something he can tell his middle-class constituents he did for them" (Brannon 1984, p. 307).

ADJUSTMENTS TO TRANSFER PAYMENTS. While differential rates and exemptions benefit the well-off in addition to the poor, increases in transfer programs or tax credits are seen as a more efficient way to target those who would be most adversely affected by consumption taxes. Yet increases in programs such as food stamps or welfare would offset only part of the VAT's increased burden on lower income taxpayers.

For example, in 1991 only 49.1 percent of the overall U.S. poverty population received benefits under the Aid to Families with Dependent Children (AFDC), and only 63.3 percent of the poor population participated in the food stamp program (U.S. House of Representatives 1993). As a result, increases in these programs could not possibly reach all of the families who would be disadvantaged by a broad-based tax on consumption. If all programs for the poor -- including General Assistance and Supplemental Security Income for the needy aged and disabled -- were increased, almost everyone could be compensated. But this approach would be grossly inefficient -- not to mention impossible in the current Congress -- since the overlap in various benefit programs (for example, millions of people receive both AFDC benefits and food stamps) would result in many people being overcompensated for their share of the tax burden.

The most promising way of reducing the disproportionate burden of the tax on low-income groups is direct payments to reimburse them for taxes paid. This practice also "avoids the administrative complexity of distinguishing between tax-free and taxable purchases and the difficulty of complying with these distinctions" (Brashares, Speyrer, and Carlson 1988). Providing refunds to the poor, however, would require many people to file tax returns who do not do so now, adding to the administrative and compliance costs of the tax system.

Other Methods

There are other methods to alleviate short-term regressivity. For example, VAT revenue could be earmarked toward

"progressive" programs, or those that benefit individuals and families at the lower end of the income distribution. This is a common use of sales tax and/or lottery revenue at the state level. For example, much of Georgia's lottery revenue is used for education programs; and South Carolina's state sales tax is earmarked for education, economic development efforts, and engineering technology.

The problem is that it is both expensive and difficult to ensure that benefits for low-income people increase in proportion to their additional tax burden. Notes Gina Despres, "You've got to spend a lot of money to hold the people you care most about harmless."[20] Of course, using the VAT as a revenue-neutral replacement tax makes it impossible to fund additional programs without raising other taxes or cutting spending.

Another progressive strategy is to include services in the tax base, since higher income people tend to spend a greater proportion of their income on services. But many services, especially those provided by financial intermediaries, are difficult to tax (see Issue 9). Regressivity could also be offset through payroll tax reductions, but these are not specifically targeted toward the poor and would wreak havoc on the impending problems with the Social Security system. Finally, as proposed by Henry Aaron (1988), a VAT could be combined with increases in food stamp programs or the EITC, and higher estate and gift taxes, to make sure wealthy people who save contribute fairly to the new system.

SUMMARY: Numerous studies and the European experience indicate that some combination of payments to lower income groups, increased transfer payments, or income tax credits would be more efficient and effective than exclusions or multiple rates in offsetting the regressivity of a VAT. But no solution is perfect, and selling the VAT based on "lifetime incidence analysis" will be next to impossible.

Issue 6: Effects on the Size of Government

VAT opponents often charge that a VAT is a "money machine" that would drive larger government spending, especially if it were adopted as an addition to the current tax system rather than as a replacement for the corporate or personal tax. The basis for this concern is clear: Each percentage point of a value-added tax would raise between $14 billion and $28 billion annually -- depending on exemptions -- providing a temptation for lawmakers to use VAT revenues to expand spending.[21] Moreover, the VAT's direct cost to consumers can be "hidden" from taxpayers because the tax is often included in the price of a good rather than listed separately. Thus, consumers would not be able to tell whether price increases reflect more expensive factor inputs or a higher tax rate.

The evidence to support these concerns is mixed. A study for the National Federation of Independent Business found that countries with VATs do have a higher ratio of total tax revenue to gross domestic product (GDP) than those without VATs, and that government spending has increased faster in the VAT countries than in the non-VAT countries (Bannock 1990). Another study found that countries that rely most heavily on VATs tend to have larger government sectors (Militzer 1990).

Moreover, recent OECD data show a significant correlation (+0.61) between general consumption taxes as a percentage of GDP and the size of the government sector (see Table 2). These studies imply that a relationship does exist between the VAT and the size of government at any single point in time. The direction of the correlation is ambiguous, however: The VAT could result in a larger government sector, or a larger government sector could lead to a need for higher consumption taxes.

Examining the question over a longer period of time, however, suggests a different conclusion. For example, a study by the Rand Corporation comparing the annual rate of growth of tax collections, relative to the annual rate of GDP growth, for VAT and non-VAT countries found essentially no difference in the size of the government sector (Stockfisch 1985).[22] So the evidence is mixed about whether a VAT results in "bigger government," but the chances are good that the VAT alone does not cause this effect.

SUMMARY: The overall impact of the VAT on government spending is ambiguous, because a correlation alone does not indicate the direction of the relationship: Does a VAT drive bigger government, or does bigger government lead to a VAT? On balance, the chances are good that the existence of a VAT does not cause more public spending.

Issue 7: Administrative and Compliance Costs

Does a VAT entail inordinate administrative and compliance costs, relative to other tax regimes? Any substantial tax reform should seek to minimize these costs.

ADMINISTRATIVE COSTS. In Europe, VATs have often proved less costly to administer than income taxes. Nevertheless, the administrative demands of a VAT in the United States would likely be considerable. GAO estimated in 1993 that VAT administration, when fully phased in, would cost $1.8 billion annually and require 30,000 full-time staff. Exemptions or multiple rates would add an additional $700 million to the annual tab, and $800 million more would be required for one-time transition costs for education, staff training, and equipment (GAO 1993b). Exempting small businesses with annual gross receipts below a certain threshold, however, would substantially reduce administrative and staffing costs. For example, GAO estimates that applying the tax only to those businesses with $100,000 or more in annual gross receipts would reduce the number of taxable businesses from 24 million to 9 million, cutting administrative costs by about 33 percent while foregoing only 3 percent of revenues. However, a study by the IRS (1993) concluded that even a VAT with a $100,000 exemption level would require $2.2 billion in annual administrative costs and 28,000 full-time staff.

Obviously, estimates of administrative costs and staffing needs vary widely. A study by the accounting and consulting firm of Klynveld Peat Marwick Goerdler (KPMG) (1989) estimated that a VAT with two tax rates and covering 6 million larger businesses -- those with gross receipts exceeding $50,000 a year -- could be administered by only 6,100 employees at an annual cost of $300 million -- by far the lowest estimates of the major reports.[23] Looking only at dollars and employees, however, does not present a complete picture. The key statistic on tax administration is costs as a percentage of revenue. For example, the current administrative costs for the IRS may appear high in relation to other countries, but that is largely due to our larger population, not the inefficiency of the system. When administrative costs are measured as a percentage of revenue collected, the U.S. income tax compares very favorably to that of other countries. In 1985, for example, IRS costs amounted to only 0.56 percent of revenue, while administrative costs for the VAT in the European nations ranged from 0.32 percent in Norway to 1.09 percent in Belgium, with an average of 0.68 percent.[24] In other words, countries with decades of experience in administering the VAT have administrative costs 21 percent higher, on average, than the U.S. income tax system.

We would be hard-pressed to design a replacement VAT that would entail lower total administrative costs than the current tax system, especially given initial implementation costs and the higher administrative burden of exempting or zero-rating particular goods. How the VAT, or any consumption tax, will affect compliance costs is a much more decisive issue.

COMPLIANCE COSTS. Compliance costs can be measured both in terms of direct costs (i.e., the estimated costs of keeping records and filling out returns) and indirect costs (i.e., the "deadweight losses" resulting from the suboptimal allocation of resources). If the VAT is used as a replacement tax -- as a substitute for the corporate income tax, for example -- it would almost certainly result in lower direct compliance costs than the current system. The difference is clear when costs per taxpayer are considered. The KPMG study, for example, estimated direct compliance costs of only $49 per business for a U.S. VAT, compared to $53 to $282 per business in other countries. (Direct compliance costs are higher abroad, because other countries generally provide more guidance and more frequent "control visits," or audits, than the United States.[25]) These additional costs are only significant, however, if the VAT is added to the current corporate income tax. If the VAT replaces the corporate tax, billions of dollars will likely be saved in direct compliance costs.

The KPMG prototype's low estimates, however, assume a $50,000 small business exemption and a liberal, or less frequent, payment schedule. A lower exemption level and/or a more strict payment system would increase compliance costs. CBO estimates that a VAT exempting businesses with receipts of $25,000 or less would entail total direct compliance costs of $4 billion to $7 billion. These costs would offset some of the efficiency benefits of the VAT -- especially if the alternative to a VAT is an income tax increase, which would entail negligible additional administrative or compliance costs -- but would still be far lower than under the current system.

Numerous exclusions or multiple rates would also substantially increase compliance costs since taxpaying businesses would have to calculate their tax burden separately for each category of goods. If there were no exclusions, making possible a single-rate, subtraction method VAT, compliance costs would decline -- both because the single-rate system would be much simpler, and because firms would not have to maintain detailed invoice records to deal with the complexity of multiple tax rates. Designers of any U.S. VAT should be aware that this is one area where the efficiency/equity tradeoff is important. Adjustments designed to make the system more "fair," such as lower tax rates on necessities, will likely add to the administrative and compliance burden of the tax. The higher the direct compliance burden, the more likely businesses are to try to evade the tax, which in turn increases indirect compliance costs.

To be sure, the indirect compliance costs of a VAT or other broad-based consumption tax would surely be much lower than under the current personal and corporate income taxes: This is one argument used by VAT proponents

who advocate the VAT as a replacement tax. But there is no guarantee that a VAT will be a simple, inexpensive system to administer. The political pressures upon lawmakers to provide special treatment for certain goods and services will likely be greater than the pressure to adopt a simple, subtraction method tax. This will, in turn, increase administrative and compliance costs, making the VAT look less attractive as an alternative tax.

SUMMARY: Aggregate administrative and compliance costs will greatly depend on the design of the VAT system, but any multi-rate VAT does entail considerable costs -- although probably less than the tax it would replace.

Issue 8: Treatment of Small Business

Research shows that the high administrative and compliance costs often associated with a VAT are closely related to the number of taxpaying units covered under the system. If all businesses are required to register, large firms would realize significant economies of scale in compliance, based on more efficient use of accountants, computer systems, tax lawyers, recordkeeping, and so on. Small firms thus would bear a much larger compliance burden relative to large firms. In 1986 and 1987 in the United Kingdom, for example, direct compliance costs as a percentage of taxable sales ranged from 1.94 percent for firms with sales under $30,000 to only 0.003 percent for firms with sales of $15 million or more (CBO 1992). Many countries attempt to address this problem by exempting from the VAT any firm with gross annual receipts below a certain threshold.

In the United States, an exemption for small business would seem to make both economic and political sense, since it would simultaneously satisfy a powerful interest group and significantly reduce administrative and compliance costs without greatly reducing VAT revenues. For example, in 1985 approximately 60 percent of all U.S. businesses had receipts of less than $25,000, yet they accounted for less than 1 percent of U.S. total business tax receipts. Exempting these firms would reduce the number of taxable firms from 20 million to 7.5 million, and by so doing save millions of dollars in administrative costs. KPMG's study of the VAT estimated that exempting firms with receipts of $50,000 or less -- nearly three-fourths of all U.S. businesses -- would lose only 1.5 percent of tax total revenue while reducing the number of taxpayers to 6 million (KPMG 1989). GAO (1993b) published a similar estimate.

Another rationale for exempting small business is to avoid the potential cash-flow problems for firms that experience substantial lags between the time they purchase their inputs and collect receipts on their sales. Such firms would have to pay a portion of the VAT on a product before its sale, which may force some small businesses to borrow additional working capital solely to cover their tax liability. This problem is exacerbated if payments to the government are collected frequently. Exempting all small firms would alleviate this problem, as would allowing small businesses to follow a more liberal payment schedule -- such as quarterly instead of monthly.

VOLUNTARY REGISTRATION. Exempting small business does create considerable difficulties. Since exempt firms are not in the tax system, they cannot obtain credits for VAT paid on their inputs or other purchases. As a result, if a small business anticipates that its VAT credits will exceed its expected compliance costs, it may wish to register voluntarily and become a part of the tax system. If numerous small businesses choose this option, the government's costs of administering the VAT would markedly increase. Nevertheless, it would be difficult for government to forbid a business from voluntarily joining the tax system. If the number of such firms is expected to be large, the government may be less willing to set any threshold because actual outlays for administrative costs could then exceed the budget authority allocated to the collection agency. Setting no threshold, however, would be difficult politically and would add substantially to expected costs. "The bottom line," writes James Wetzler (1991), tax commissioner for New York State, "is that enforcing a VAT against small businesses would be a messy and not particularly cost-effective process, yet the IRS would be under considerable pressure to bring these businesses into compliance."

SUMMARY: To restrain administrative costs, small firms can be exempted, but they also should be allowed to be part of the system. Any threshold will affect some business expansion decisions, however, since some firms will strive to stay below the threshold.

Issue 9: Exempting Certain Products or Sectors

Another approach to reducing the costs of a VAT is to exempt or zero-rate goods and services whose value added is difficult to calculate, such as insurance or financial intermediaries. Like exempting small firms, exempting firms in certain industries does have certain advantages. For example, an exempt business neither collects VAT on its sales nor receives credit for VAT paid on its inputs, so it has no compliance costs and imposes no administrative costs on the collecting authority. Experience in Europe and elsewhere has shown that certain goods and services are difficult to tax under a value-added system, and these are consequently often excluded from the VAT in many countries.[26] Major categories of excluded goods include the following:

Government Services. Unless financed by user fees, public services are difficult to value and thus hard to tax under a VAT.

Financial Services. Financial intermediation services provided by banking institutions are difficult to value because banks usually do not attach specific fees or prices to their services. Rather, they make money via the interest rate differential -- that is, by charging a higher interest rate on loans than they offer on deposits, as opposed to selling a specific good at a specific price. This makes it practically impossible to allocate the value added among the many users of bank services.

Housing. Housing presents many complications for a VAT. For example, the American Bar Association (1975) notes that it would be "an unacceptable departure from neutrality to apply the value-added tax to a tenant with respect to the full amount of rents paid by him, but not to a home owner with respect to the interest paid by him on a home mortgage."

Services Provided by Charitable Organizations. Charities often provide services that also are available in the private sector. An exemption for goods or services provided by charitable organizations, therefore, would distort the allocation of demand. Nevertheless, most European VATs exempt such goods and services, and it seems likely -- considering the traditional tax treatment of charities -- that the United States would follow suit. Charities currently are not subject to the corporate income tax, so if the VAT replaced the corporate tax while exempting charities, their current tax advantage would be maintained (but not enhanced).

Sales of Used Goods. When a business resells a used good obtained from an individual, the VAT on the good was paid when it was first sold. As a result, the resale price often includes some portion of the original VAT as well as the VAT on the resale, resulting in double taxation of some portion of the good's value.

Insurance. Applying a value-added tax to insurance is difficult, since insurance premiums are designed to be risk-sharing transactions rather than consumption items.

This is only a selection of the difficult-to-tax areas, but many of these items represent significant sectors of the economy. Some areas, like fringe benefits, are possible to include under a VAT but are often excluded because of political opposition. Excluding fringe benefits from the VAT provides an incentive for firms to provide (and workers to demand) a greater share of employee compensation in benefits, because they will become VAT-free when the employer applies for the appropriate credit. As more and more areas get excluded from the VAT, the base is narrowed and a higher tax rate is required to obtain a given amount of revenue.

An additional problem with exempting entire sectors is that exemption at an intermediate production stage can result in double taxation of some value added, thus resulting in higher retail prices.[27] This double-taxation occurs because of the cascading effect described in note 2, where the actual tax ends up higher than dictated by the statutory tax rate.

SUMMARY: Difficult-to-tax services make up an important share of the American economy. Including them in the VAT base may be prohibitively difficult and/or expensive; exempting them would require higher tax rates, and thus incur greater inefficiency.

Issue 10: State Sovereignty

State cooperation is needed to institute a federal system of sales taxation. This cooperation will obviate significant compliance and administrative problems -- not to mention the potential for protracted legal action if the states challenge the federal government's "intrusion" into their financial affairs. Charles McClure (1988) examined various combinations of federal and state sales taxes, concluding that the only feasible combinations would be a state-federal coordinated retail sales tax or a combined state-federal VAT that would rely on federal collection. In other words, any combination of existing state retail sales taxes and a new federal VAT would not be practicable, because of varying tax bases among the states. He also concluded that tax- or revenue-sharing plans probably would not be acceptable to many states, which would want to maintain some degree of fiscal autonomy.

Some state lawmakers, tax administrators, and other opponents of the VAT argue that issues of state sovereignty and fiscal autonomy may be more important in determining states' opposition than any technical difficulties. State and local governments oppose the federal government's entering an area of taxation that has mostly been reserved for their use. This resistance could carry a lot of influence on Capitol Hill, where each elected official must ultimately

answer directly to his or her constituents.

But the state sovereignty argument is not based on strong precedents. Most states have found a way to tax income, which has been mainly the federal government's domain since the 16th Amendment was ratified in 1913. Most states have even adopted the federal tax base to simplify the tax-collecting process. Thus, it should prove possible for states to piggy-back on a federal VAT or national sales tax by again adopting the federal government's tax base. The central question is one of willingness, not sovereignty.

OPINIONS HAVE CHANGED. A 1983 poll of state and local officials showed that 52 percent preferred a broad-based national consumption tax as a means for reducing the deficit, while only 24 percent favored an increase in the income tax. In more recent polls, however, a broad-based consumption tax was opposed by over two-thirds of state tax policymakers who responded, while 72 percent said the deficit should be reduced by increasing existing federal taxes (GAO 1990; Kleine 1984). Why the change? Eighty percent of those opposed to a national retail sales tax (and 70 percent of those opposed to a VAT) cite the reason stated above -- that it would be an intrusion on state revenue sources. Many states are concerned about reserving this domain for themselves, because 31 of the 45 states with a state sales tax generate 30 percent or more of their revenue from that tax.

State policymakers are also concerned that a national sales tax or VAT would (1) limit states' ability to raise additional revenue, (2) pressure states to alter their tax bases, (3) result in categorization problems between necessities and non-necessities, and (4) finance additional spending rather than deficit reduction. Moreover, fewer than 20 percent of the respondents indicated that they would reduce their opposition if the states received part of the VAT revenues through a revenue-sharing plan.

SUMMARY: The states' fear of a loss of sovereignty is likely overstated given their experience with the income tax. The fact remains that one of the constituencies with great potential to derail any VAT proposal is state and local governments, which will protest any attempt to nationalize a sales tax.

Recapping the Conclusions

Economic literature and other countries' experience with the value-added tax should make VAT proponents cautious about its potential effectiveness in this country, where an "ideal" VAT with a broad base and a single rate is highly unlikely to be enacted. The problems with a multi-rate, exemption-ridden VAT have been outlined above:

- There are minimal gains in efficiency and neutrality.
- There are minimal or no savings in administrative costs.
- Important sectors of the economy escape taxation.
- Exemptions and multiple rates do little to offset the regressive nature of the tax.

The purported economic benefits of the VAT also do not stand up to strict scrutiny. There is little reliable evidence to show that a VAT would greatly increase savings and investment, improve our trade situation, or boost economic growth. And addressing the regressive distribution of the tax burden under a VAT without increasing transfer programs or introducing further inefficiencies poses a difficult problem.

The Political Context

Much has been written on the value-added tax, but -- whether the source is a scholarly journal or government publication -- surprisingly little has been said about how the VAT would be received by the American political system. Even the strongest economic argument means very little if political roadblocks cannot be overcome. The important question for proponents of the VAT, or of any broad-based consumption tax, is this: Given the general view of economists that a more consumption-based tax system would be better for the country in the long run, why have consumption taxes like the VAT been so difficult to enact?

One simple reason has to do with the different goals of economists, interest groups, and policymakers. Economic evidence often has little impact on policy decisions: Economists tend to be interested in "efficiency" and "the long run," while most interest groups are interested in distributional questions and how their constituencies are affected, and many politicians focus on public perceptions and the balance of "winners and losers."

This situation is not likely to change. As long as individual taxpayers do not fully understand tax policy proposals -- and most Americans have little knowledge of what a value-added tax is or how it would work -- it will be much easier to reflexively accept the arguments of those who oppose any substantive change. That's the way the political process works, and evidence plays a very small role. As Robert E. Rubin, Secretary of the Treasury, said last year, "If you're trying to do something complicated and difficult to explain, and if your opponents use bumper sticker critiques, that is a very difficult thing to counter."[28]

Incorrect Perceptions

Let's look at one example of how a poorly informed electorate inhibits helpful debate on issues of taxation. Most Americans believe that businesses, not individuals, bear the burden of the corporate income tax. Part of the burden is indeed borne by business, but most economists would agree that the true burden of corporate taxes is shared by business owners (in the form of lower profits, thus a lower return to capital); all owners of capital; workers (in the form of lower wages); and consumers (in the form of higher prices). In fact, most politicians would also agree with this characterization. But the public's perception, shaped as it is by partisan rhetoric, is that businesses and their shareholders pay taxes, and that they do not pay their fair share of the overall burden. One symptom of this misconception is that many Americans believe that the employer portion of the payroll tax is actually paid by employers, rather than coming out of wages.

The average non-economist also does not know that the same shared incidence argument can be applied to broad-based consumption taxes. As with the corporate tax, economic analysis suggests that the true direct and indirect burden of a VAT would be shared by workers, owners of capital, and consumers. But the public's perception -- again shaped by political rhetoric -- is that the entire burden of a national sales tax or a value-added tax would fall on consumers.

What does this mean for the lawmaker who favors a VAT substitution? He or she would have to explain to his/her constituents either (1) why he or she is removing taxes from corporations and replacing the revenues with additional taxes on individuals that would fall mostly on the middle class, or (2) why he or she is replacing the progressive income tax with a steeply regressive consumption-based tax. (In other words, continuing the trend of the 1980s, when the tax burden shifted from corporations and upper income people to middle income people through higher payroll taxes.) Of course, this view is not entirely correct, but that message will not appease the member of Congress faced with the prospect of giving lessons on economics and tax incidence at an election-year town meeting.

What Can Be Done?

The problem of fallacious public perceptions and inadequate understanding of economics has two solutions; (1) public education in advance of any major tax proposal; and (2) leadership by trusted public officials, who have the power to influence public opinion without necessarily "enlightening" the public about economic specifics. The first solution will be the more difficult to achieve.

Enlightened Debate

Public debate on important issues usually only occurs when legislation is pending.[29] But if the discussion of the benefits and drawbacks of consumption taxation occurs simultaneous to the consideration of a bill, the debate will likely be dominated by interest group advertisements and short sound bites, rather than by discussion of the prospects for long-term economic gains. This treatment will weaken any proposal, and will force Congress to focus on short-term imperfections or to make exceptions to appease various interests, rather than on the long-term economic benefits of any consumption tax proposal. This is why any VAT adopted in the United States will almost certainly diverge from an efficient, single low-rate, broad-based tax. "If you're going to talk about a neutral, improved tax code," says Barry Rogstad of the American Business Conference, a business lobbying group that favors the Nunn-Domenici version of a consumption-based income tax, "then there's no such thing as neutrality plus one little goodie.' All of the folks who normally want hooks and levers to give their constituency a little more of a boost have got to get off the goodie train."[30] If a consumption tax proposal is filled with "goodies" and exemptions, he argues, then the underlying problems in the tax code are not being dealt with, and the tax code is not being made more efficient. The flat tax tries to solve this problem, but political pressures will still exist to provide numerous deductions and exemptions.

In one ideal world, Congress could debate and pass a bill providing for increased consumption taxation, acknowledge that there would be imperfections to be worked out later, and delay the effective date for at least one year in order to educate the public about the economic benefits of the change. A moderate phase-in period could follow. This delay would allow some taxpayers to take advantage of the system by altering the composition of their investments or

increasing their consumption in advance of the tax. Any consequent short-term revenue loss, however, would be offset by the long-term benefits of moving toward consumption-based taxation. A second-order gain would be a populace better versed in economic issues.

This result is highly unlikely for two reasons. First, the instantaneous, competitive nature of news coverage makes it difficult to hold thoughtful public debates about controversial, sweeping changes, even in advance of any legislative proposal. In addition, making a complicated economic case in a 10-second sound bite for news programs is a formidable task, while it is relatively simple to criticize a proposal as "regressive" or "damaging to the middle class." Second, Congress, working in two-year cycles, will want to see some benefit from its actions before the next election. Politicians will not want a long delay between the vote and the positive results of their decision. This puts additional pressure on Congress to appease as many interests as possible, spend less time on public education and thoughtful debate, and pass a tax bill with special provisions designed to stimulate short-term benefits or minimize short-term pain.

Leadership

The second possibility is leadership -- either from a president or other prominent, trusted public official. Public perceptions can be shaped by prominent public figures, even if complicated details or "legalese" are not explained. Most interviewees for this study volunteered that a sitting president would have to promote a consumption tax heavily for it ever to be taken seriously by the public. Until this year, no nationally recognized elected official has insistently and consistently pushed this type of tax as a priority for the well-being of the country.[31] Should a sitting president make a consumption tax a high priority for his administration, then a proposal could conceivably gain public support. It could also gain support with congressional leadership, but no public official -- not President Clinton, not Senate Majority Leader Bob Dole, not House Speaker Newt Gingrich, not House Majority Leader Armey -- can claim the mantle of undying public trust.

Regardless of the composition of the current Congress, some analysts feel that executive branch leadership will be necessary if we are ever to pass a broad-based consumption tax. Rob Leonard, former chief of staff of the House Ways and Means Committee, points out, "Tax legislation is only viable when a president puts the prestige of his office on it. A consumption tax with a major replacement component is part of this country's future, and it will be enacted on a Democratic watch"[32] to deflect the potent arguments concerning regressivity.

If such a strategy for fundamental replacement is to occur, many observers believe the individual income tax must be opened up to deal forthrightly with the equity issues. More tinkering around the edges of the tax code -- for example, expanding investment tax credits, reducing capital gains taxes, or changing the rate structure once again -- will not address many of the underlying problems. Moreover, incremental changes to make the tax system more equitable usually make it more complicated. "If we want to truly reform the tax system, making it fair and efficient for both business and individuals," says Barry Rogstad, "we can't start telling people that toothpaste is in the tax base but toothbrushes are not, or any proposal is dead in the water."[33] If his analysis is correct, movement toward a VAT seems unlikely because the current political environment will not allow consideration of any tax proposal designed to improve efficiency in the abstract but introduce more inefficiency in its application. We need to decide how much revenue is needed, then find the most efficient way to raise it, not let revenue needs dictate the type of tax code we choose.

Fundamental tax reform is very similar to health care reform, in that any change to the status quo will create millions of winners and losers. This creates an interesting dilemma for politicians: Not only will they not gain the support of the losers, but they will also have trouble convincing the winners that they will actually be winners because public officials have so little credibility. Thus, those who will benefit from tax reform do not offer much political support, and the opponents of change can dominate the debate. Rob Leonard agrees: "The notion that you could enact any type of consumption tax to replace the corporate income tax alone is absolute baloney politically. There has to be some component that affects individuals so they [think they] benefit or aren't part of the loser' category." If people believe that consumers alone pay consumption taxes, consumers would be losers and businesses winners under such a replacement proposal.[34]

Other Options

If the enactment of a VAT seems unlikely, this judgment does not preclude any movement toward increased consumption taxation. The entire income tax system could be replaced by a consumption-based system, such as the Unlimited Savings Allowance (USA) income tax presented by Sens. Nunn and Domenici (a.k.a., the Savings-Exempt Income Tax or consumed-income tax), the flat tax proposed by Rep. Armey and Sen. Specter, or the national sales

tax advocated by Sen. Lugar.

Nunn-Domenici

The logic behind the USA tax is relatively simple to grasp. On the personal side, taxpayers would put income from all sources (e.g. wages, interest, rent, dividends, asset sales, etc.) in pot A, subtract out whatever they save into pot B (except for assets purchased with borrowed funds), and be taxed on the difference -- that is, all taxpayers would receive a deduction for net savings. This is a consumption tax with a few interesting twists.

There is no requirement that the system include only a single rate, since progressive tax brackets can still apply to the difference between pots A and B.

Capital gains, interest income, and dividend income will be untaxed at the personal level if the income is reinvested, whereas capital income used for consumption purposes will still be taxed.

The plan contains an explicit savings incentive (unlike a sales tax or a VAT), since the best way to reduce tax liability is simply to save more.

The USA tax also includes a flat-rate tax of 10 percent on businesses, applied to the difference between a firm's gross sales and its allowable deductions. These deductions would include plant, equipment, inventory, rent, utilities, fuel, and legal and accounting fees. Wages would not be deductible, but a tax credit would be allowed for the employer's portion of the payroll tax. Like the personal tax, the business tax is designed to increase savings and investment by allowing capital investment to be immediately expensed, rather than depreciated.

There are many complications to such a scheme. For example, under a consumed-income tax, retirees who saved for future consumption under the income tax (and were taxed on that savings) would have to pay tax again on that same savings when the money is withdrawn to be consumed. Devising a fair plan to "grandfather" in existing savings or assets is one of the major complications of this tax proposal. Another potential problem is deciding what counts as "savings": Education expenses? Life insurance premiums? Consumer durables? Finally, some lawmakers and interest groups will be concerned that -- like under a VAT -- the rich would benefit much more than lower income taxpayers since they save and invest a much larger percentage of their incomes.

Flat Tax

The flat tax has recently received a great deal of attention, as its proponents sell it as a fair, simple system that would tax all income at one low rate, thus reducing most people's taxes and allowing returns to be filed on a postcard. Discussing the pros and cons of the Armey and Specter flat-tax proposals in detail would require substantial space, but here are a few issues that warrant further consideration:

Since there is no taxation of any income from capital at the personal level (the individual tax includes only wages, salaries, and pensions), the flat-tax proposals endanger the standards of vertical and horizontal equity. Flat-tax proponents claim that the business tax will tax all capital income once, so taxing it at the personal level would perpetuate double taxation. Profits from short-term trades in stocks and bonds, however, would not necessarily be captured by the business tax, nor would profits from collectible or real estate sales. If large segments of capital income go untaxed, people with the same total income can pay vastly different taxes, and people with disparate incomes can pay the same amount in taxes.

Robert Hall and Alvin Rabushka, the original designers of the flat tax, acknowledge something that Armey and Specter do not: The tax will not make everyone better off, and some of the tax burden will shift down from upper- to middle-class Americans, regardless of the size of the personal exemption.[35] Eliminating all deductions, including mortgage interest, and setting a single rate at a level that would be revenue neutral -- the Treasury Department estimates that this would be about 22 percent using the exemption levels in the Armey plan -- will raise taxes for most Americans and reduce them for those in the highest income groups.

Eliminating tax withholding, as the Armey and Specter plans propose, would increase administrative costs and reduce compliance rates, forcing more audits and an increased level of government intrusion into people's lives.

National Sales Tax

Several organizations, including the Cato Institute and Citizens for an Alternative Tax System, have proposed substituting a national sales tax in the neighborhood of 16 percent to 20 percent for both the personal and corporate

income taxes. Among other problems, the above perception problem would remain: People would still believe that the corporate tax burden is being shifted to them. Furthermore, it would be considered unfair by a vast majority of taxpayers. Even if tax credits are built in to mitigate the effect on low-income people, the tax would still be regressive -- or proportional at best -- at other income levels. And the regressive payroll tax would undoubtedly survive. Until the American people redefine "fairness" to mean "proportionality" rather than "progressivity," some element of progressivity must remain in our tax system. That's why Ron Pearlman, former assistant secretary for tax policy at the Treasury Department and chief of staff of the Joint Tax Committee, among others, believes that we will never totally eliminate the income tax in this country.[36]

Conclusions

For many reasons, the VAT likely to come out of our political system would bear little resemblance to the VAT that economists consider efficient and equitable. Although a VAT would raise $14 billion to $28 billion each year for each percentage point of tax, Congress would face the difficult task of justifying a new tax structure with questionable economic benefits at a time when people feel they do not get their money's worth from current taxes.

Given Congress's penchant for finding short-term gains, the weak evidence concerning the effects of a VAT on savings, capital stock, and economic growth is certainly not a strong enough inducement to risk the political damage of increasing taxes on the middle class. This argument holds true even if the VAT's regressivity is perceived, rather than real, since it will take a lot of education -- and arm-twisting -- to convince the average taxpayer that the VAT does not make him or her worse off. This does not even mention the 18 to 24 months that would likely be necessary for the VAT to be fully operational: Why risk political capital by voting for a program that won't have any positive effects before the next election?

So there are many obstacles to the introduction of a VAT, either as an add-on tax or a replacement. But the largest obstacle to the VAT in the United States may not be the costs, or the time horizon, or state sovereignty, or the regressivity issue. Rather, it may be the effect interest groups will have on the process of defining and deciding upon exemptions and necessities. This concern was noted by Sen. Bradley in 1991, at a seminar sponsored by the National Association of Business Economists:

> The value-added tax has a superficial appeal to politicians, because what you can say is a very low rate tax on a very broad base can raise a lot of money. And so the damage appears to be very modest. But what happens in the political process is that someone will say well, we're going to have a one percent value-added tax and it's going to raise billions and billions of dollars. Then we'll get into the process and someone will say well, we've got to exempt food. Well, what about medical appliances -- oh, of course medical appliances. What about medicine, oh yeah, definitely exempt medicine. And pretty soon the base shrinks. And as the base shrinks to raise the same amount of revenue, the rate goes up. [And the VAT] becomes less and less appealing. And more distorting. And then [it] begins to resemble the old income tax: A very narrow base riddled with various loopholes and producing greater, not less, inefficiency.

If we look at the states' experience with sales taxes, we find that Sen. Bradley's concerns are well-founded. For example, in December 1990, 27 states with sales taxes exempted food purchased for home use, 43 exempted medicine, and 36 exempted newspapers. In addition, efforts to broaden the tax have proved to be politically difficult. According to James Wetzler (1991, p. 721), "state experience with the sales tax should make one skeptical that the VAT's potential for being nondistortionary is likely to be realized in practice in an American political process." While the long-term deficit problem -- driven largely by unchecked growth in entitlement programs -- may have shifted the status of the consumption tax debate from "if" to "when," the economic benefits of a VAT remain dubious, and politics makes it an unlikely and unwise tax to introduce into the American system. Most tax policy experts interviewed for this study concede that some sort of broad-based consumption tax will eventually be a part of our tax system. Nevertheless, it will likely have to be something more fair and more likely to produce true economic benefits than the value-added tax.

Notes

1. One excise tax that has not received much attention from the Clinton Administration is the use of pollution charges, or "green fees," to replace part of the corporate tax. For more information on environmental taxation, see Stavins and Whitehead (1992) and Arnold (1995).

2. A cascading tax applies a double tax to some of the value added in a product, resulting in tax revenue greater than the applied statutory rate. For example, state sales taxes are supposed to tax only goods sold to consumers, not those sold to other firms for use in production. But if some producer goods are taxed -- and the U.S. Treasury Department (1984) estimated that 20 percent of the revenue from state sales taxes comes from taxing business purchases -- then the statutory tax rate will be applied to the entire finished good, part of which has already been taxed once. As a

result, some of the value added is taxed twice.

3. Most public finance texts contain a detailed discussion of efficiency losses caused by taxation (called "excess burden" or "deadweight loss") and the equity/efficiency tradeoff. See, for example, Musgrave and Musgrave (1989).

4. To be sure, some analysts reject progressivity as a benchmark for fairness, preferring proportionality, by which each taxpayer would pay the identical percentage of his or her income in taxes. Proportionality was a driving force in the 1981 tax reforms, which reduced the number of tax brackets and cut marginal rates on upper income taxpayers. Proportionality continues to be an impetus behind the recent advances of the flat-rate tax.

5. Since the percentage of one's income that comes from capital rather than labor increases with income and since taxes on capital income are often deferred or paid only after the sale of an asset, the effective tax rate of wealthier individuals under the individual portion of the flat tax will be lower than the effective rate for those who obtain all or most of their income from labor.

6. Witness the debacle in 1993 over President Clinton's proposed energy tax, an economically and environmentally sound idea which was strongly criticized by most of Capitol Hill and easily stripped from the President's economic plan.

7. Personal interview, March 4, 1994.

8. For example, see Weidenbaum, Raboy, and Christian (1989). Of course, whether U.S. products are advantaged or disadvantaged depends on many factors other than the tax system, including labor policies and the level of government subsidies.

9. An add-on VAT may have some nontrivial effects within our borders, as high value-added exporters gain relative to low value-added exporters, but this should not affect the overall balance of trade.

10. It has never been conclusively determined how much payroll or corporate taxes increase prices, since each firm's competitive environment and/or pricing strategies are different. The incidence of the corporate income tax has been the subject of countless analyses, and the definitive answer will not be conjectured here, but tax incidence depends a great deal on the demand elasticity of the good or service in question.

11. Note that a replacement VAT could improve the trade balance if it were appreciably more efficient than the tax it replaced, thus raising the economy's productivity and affecting the consumption/production relationship. Estimates of efficiency effects, however, vary widely depending on assumptions.

12. Contrast this to an income tax, which can affect trade if relative prices are affected, because the taxes cannot be rebated at the border. For example, if the corporate income tax increases the price of a tradable good, there is no effective way to determine how much of the export price is a result of the tax, and therefore no way to rebate the exporter. Therefore, if the corporate tax raises consumer prices, that price increase carries forward into the global market and makes U.S. goods appear more expensive to foreigners.

13. Personal interview, April 14, 1994.

14. Personal interview, April 18, 1994.

15. David G. Raboy conceded this point in his April 1994 interview, saying that "the trade effects are not going to be sufficiently significant to sell the tax on its own."

16. In some countries where the VAT did not replace a less efficient tax (e.g., Denmark), the VAT did prove to be inflationary, but these results also cannot be extrapolated to the United States.

17. Exempting various goods and services from the tax reduces the consumption base covered by the VAT to less than 100 percent.

18. Some economists note that this inflationary effect will occur only if the VAT is an add-on tax. If a VAT replaced another tax already reflected in product prices, the risk of a general price increase would be lessened.

19. For example, see Gravelle (1988b) and Shapiro (1991). The tax changes made in the Omnibus Reconciliation Act of 1993 succeeded in restoring some progressivity to the system by raising marginal tax rates on upper income individuals and expanding the earned-income tax credit (EITC) for the working poor. In fact, the effective tax rate for those in the bottom fifth of the income distribution is now negative, largely due to the EITC.

20. Personal interview, March 4, 1994.

21. This is also one criticism of the various flat-tax proposals. Opponents worry that it would be a relatively simple maneuver to raise the tax rate slightly whenever the government needs more resources.

22. Ironically, Canada's version of the VAT -- the Goods and Services Tax (GST) -- was introduced by a conservative government whose election platform emphasized reducing the size of government. The Canadian people originally accepted the GST as a means to reduce the deficit, but the tax turned out to be regressive in practice and wildly unpopular. The GST is believed to have been at least partly responsible for the Progressive Conservatives' electoral defeat in the 1993 elections.

23. One reason for the sizeable differences between KPMG's estimates and those of GAO and the IRS is the frequency of "taxpayer visits" by the administering agency. The federal agencies' estimates assume relatively tight VAT administration, which adds to costs but would likely be necessary (at least in the first few years) due to U.S. businesses' unfamiliarity with the new system. Thus, the higher estimates are widely considered to be closer predictors of the actual results.

24. The average is for 10 selected European countries (CBO 1992, p. 69).

25. European tax authorities generally visit, or audit, 10 percent to 30 percent of the taxpayers each year, compared to only 2.5 percent to 3.5 percent in the United States. Adjusting the audit rate to be more consistent with the practices of other countries would raise U.S. direct compliance

costs to $167 per business. See KPMG (1989).

26. For a more detailed discussion of how to treat difficult-to-tax sections, see CBO (1992), Due (1990), and American Bar Association (1975).

27. The issue of exemption versus zero-rating of firms is important, but it should not dictate whether a nation institutes a VAT in the first place. Therefore, the details of this issue are not discussed here. For a detailed quantitative analysis, see GAO (1989) or Bickley (1988).

28. Speech at a Center for National Policy luncheon, April 14, 1994.

29. This phenomenon may be experiencing a shift, as entitlement reform has begun to enter the public discourse in advance of serious legislative proposals. But most Americans are still unaware of the magnitude of the problem and the specific steps required to solve it.

30. Personal interview, March 14, 1994.

31. In 1994, Sens. Nunn, Domenici, Boren, and Danforth publicly discussed the benefits of consumption taxation, but no bills were seriously considered. No acting president yet has made consumption taxes a priority, although several presidential candidates have jumped on the bandwagon.

32. Personal interview, March 11, 1994.

33. Personal interview, March 14, 1994.

34. Personal interview, March 11, 1994.

35. Hall and Rabushka (1995). While the first edition of their book (1983) admitted that "lower taxes on the successful will have to be made up by higher taxes on working people" until economic growth makes up the difference, the new edition is more careful to state that "lower taxes on some people will have to be made up by higher taxes on others" (emphasis added). Most distributional analyses, however, still conclude that the greatest part of the shift will be from upper- to middle-income groups if the single rate is set at a revenue-neutral rate, and all or most deductions are eliminated.

36. Personal interview, March 8, 1994.

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Table 1: Value-Added Tax Rates in OECD Nations			
Country	**Year Introduced**	**Lower Rate(s)**	**Standard Rate**
Australia	No VAT		
Austria	1973	10	20
Belgium	1971	0, 1, 6, 12	20.5
Canada	1991	0	7
Denmark	1967		25
Finland	1964		22
France	1954	2.1, 5.5	18.6
Germany	1968	7	15
Greece	1987	4, 8	18
Iceland	1990	14	24.5
Ireland	1972	0, 2.5, 10, 12.5	21
Italy	1973	4, 9, 13	19
Japan	1989		3
Luxembourg	1970	3, 6, 12	15
Mexico	n/a	0, 6	10
Netherlands	1969	6	17.5
New Zealand	1986		12.5
Norway	1970	0	22
Portugal	1986	5	16
Spain (1/1/95)	1986	4, 7	16
Sweden	1969	12, 21	25
Switzerland	1994	2	6.5
Turkey	1985	1, 8	15
United Kingdom	1973	0, 8	17.5
United States	No VAT		

Note: Data are as of January 1, 1994, unless noted otherwise.

Source: OECD, Consumption Tax Trends, forthcoming.

Table 2: Consumption Taxes and Total Government Outlays (Percentage of GDP)			
Country	**Taxes on Goods and Services - a**	**Taxes on General Consumption - b**	**Outlays - c**
Iceland	16.7	10.1	n/a
Denmark	16.1	9.9	58.7
Greece	17.4	9.9	50.8
Finland	14.1	9.0	54.1
Sweden	14.3	8.9	61.5
New Zealand	12.8	8.6	n/a
Australia	12.9	8.5	36.9
Norway	16.4	8.2	55.4
France	12.0	7.9	50.6
Ireland	15.3	7.5	42.1
Netherlands	11.9	7.3	54.5
Belgium	11.5	7.2	49.9
Luxembourg	12.3	7.2	n/a
Portugal	14.9	6.8	49.7
United Kingdom	11.8	6.7	40.8
Turkey	8.6	6.5	n/a
Germany	10.5	6.4	48.5
Italy	11.1	5.7	53.6
Spain	9.8	5.5	43.3
Canada	10.2	5.3	49.1
Switzerland	5.6	3.0	n/a
United States	5.0	2.3	34.1
Austria	8.1	2.4	49.9
Japan	4.2	1.4	31.4

Notes: Data are for 1991. The data in column 2 are a subset of those in the first column and are listed in decreasing order. The correlation in the text is for data in columns 2 and 3 and is calculated by the author. n/a =not available.
a - Taxes on goods and services include, but are not limited to (1) multi-stage cumulative taxes; (2) sales taxes; (3) value-added taxes; (4) excises; (5) taxes on imports or exports; and (6) taxes on the extraction, processing, or production of minerals and other products.
b -Taxes on general consumption include (1), (2), and 3) above, with border-tax adjustments included.
c - Government outlays include current plus capital.
Sources: OECD, Revenue Statistics of OECD Member Countries, 1993b. Correlation calculated by the author.

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Progressive Foundation

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