United States General Accounting Office

GAO

Report to the Joint Committee on Taxation, U.S. Congress

May 1993

TAX POLICY

Value-Added Tax: Administrative Costs Vary With Complexity and Number of Businesses

149097

GAO/GGD-93-78

GAO United States
General Accounting Office
Washington, D.C. 20548

General Government Division

B-249902

May 3, 1993

The Honorable Dan Rostenkowski
Chairman, Joint Committee on Taxation

The Honorable Daniel Patrick Moynihan
Vice Chairman, Joint Committee on Taxation
Congress of the United States

This report provides information about the costs of administering a value-added tax (VAT) in the United States, including how those costs are affected by changes in the design of the tax. It also discusses the costs and time frames for implementing a VAT.

The cost estimates presented in the report are not intended to be all-inclusive or to serve as budget estimates. Rather, they are broad estimates that cover the largest cost factors of the Internal Revenue Service, Customs, and the Federal Reserve. The basic VAT, designed for ease of administration and compliance, is a simple, single-rate, broad-based tax with all businesses included. Alternative scenarios show variations in costs when small businesses are exempted from the tax or when complications are introduced through multiple rates and exemptions. The assumptions on which these estimates are based are stated explicitly, and the estimates can be modified on the basis of different assumptions.

The report, the fifth of a series, was prepared pursuant to GAO's statutory authority, not at the Committee's request. These reports are intended to provide a better understanding of decisions that would have to be made if a VAT were considered. GAO neither supports nor opposes a value-added tax, and the report contains no recommendations.

We are sending copies of this report to the Secretary of the Treasury, other executive branch officials, and appropriate congressional committees and Members of Congress. We will make copies available to others upon request.

Major contributors to the report are listed in appendix VIII. If you have any questions, please contact me on (202) 512-5407.

Jennie S. Stathis

Jennie S. Stathis
Director, Tax Policy and
Administration Issues

Executive Summary

Purpose

For several years a federal value-added tax (VAT) has been discussed as an option that the United States might use to reduce the budget deficit, reform the current federal tax system, or fund new programs.

To raise the level of understanding about VATs, GAO has already issued several reports addressing the issues U.S. tax policymakers would face in enacting a VAT, methods of calculating a VAT, and state tax officials' concerns regarding a federal consumption tax. During its work, GAO found a major gap in the literature pertaining to how a VAT might be administered in the United States and how much it might cost.

GAO thus initiated this review to provide Congress with information about the cost of administering a VAT in the United States. Specifically, GAO's objectives were to

- identify the processes and structure for administering a VAT;
- estimate the costs of administering a basic VAT in the United States;
- consider how alternative designs affect administrative costs; and
- discuss the transition necessary to implement a VAT.

Background

More than 75 nations, including all European Community countries and most industrialized countries, have adopted a VAT. A VAT is a consumption tax collected on the difference between a business' purchases and its sales. It is a tax on the value added by each producer and distributor, and it is collected at all stages of production and distribution. This distinguishes the VAT from a retail sales tax, which is collected only once at the point of sale of the good or service to a consumer. Both VATs and retail sales taxes can raise about the same amount of revenue given the same tax rate and tax base. With a VAT, however, the burden of collecting the tax from the consumer is not concentrated entirely on retail businesses. The Congressional Budget Office estimates that a VAT in the United States could raise between $10 billion and $20 billion, depending upon the breadth of the tax base, with each percentage point of tax imposed.

In developing cost estimates, GAO made a number of assumptions and relied on a variety of data from the Internal Revenue Service (IRS), states, and foreign countries. GAO intended the estimates to be considered broad orders of magnitude that capture IRS' four largest cost factors: returns processing, examination, taxpayer services, and collections. They are not intended to be all-inclusive, nor are they meant to serve as budget estimates. Rather they are intended to serve as a basis for Congress to understand the impact of decisions that would have to be made if a VAT is considered. The estimates were put together in modular form so that others can modify the estimates on the basis of different assumptions.

GAO estimates include the costs of administering a VAT but not the costs to businesses of complying with a VAT. GAO's estimates show how the structure of a VAT affects administrative costs. The study makes broad assumptions and general cost estimates based on data obtained from IRS, the Customs Service, the Federal Reserve System, states, and foreign countries. GAO neither supports nor opposes a VAT.

Results in Brief

A VAT would likely be administered by IRS with U.S. Customs' support at the borders for imports and exports and the Federal Reserve System's support in receiving and processing VAT payments. The costs of administering a VAT would vary according to the complexity of the tax.

GAO estimated that to administer a simple, broad-based VAT in 1995, it would cost the government between $1.22 billion and $1.83 billion annually, depending on the number of taxpayers subject to the tax. Were the VAT structured to include exemptions and multiple rates, the administrative costs could be as much as $700 million higher. For transition to a VAT, about $800 million would be needed for taxpayer education, staff training, and computer system development.

To minimize administrative costs, a VAT design should be simple, with a single tax rate applied to the broadest possible base of goods and services. To address concerns that such a VAT may be particularly burdensome on low-income consumers, foreign countries have often used goods and services exemptions and multiple rates for necessities. However, exemptions and multiple rates—rather than refundable credits or other avenues to help low-income consumers—would significantly increase the complexity of the tax, resulting in higher costs of administration.

The examination function is the major administrative cost component. Under the basic VAT, this function would represent about 70 percent of the total estimated administrative costs. Examination costs are sensitive to both the number of taxpayers and the degree of tax complexity. A complex VAT would require more frequent and in-depth audits than a simple tax. To a varying degree, costs for all administrative functions can be reduced by limiting the number of small businesses included under the tax by setting a threshold on the value of sales. Reducing the number of businesses subject to the tax from 24 million to 9 million would reduce administrative costs by about 33 percent, while reducing the revenue base by less than 3 percent.

A substantial amount of time—from 18 to 24 months, optimally—would be required to properly prepare for a VAT. A key element of a successful transition would be an intensive educational campaign aimed at promoting compliance.

GAO's Analysis

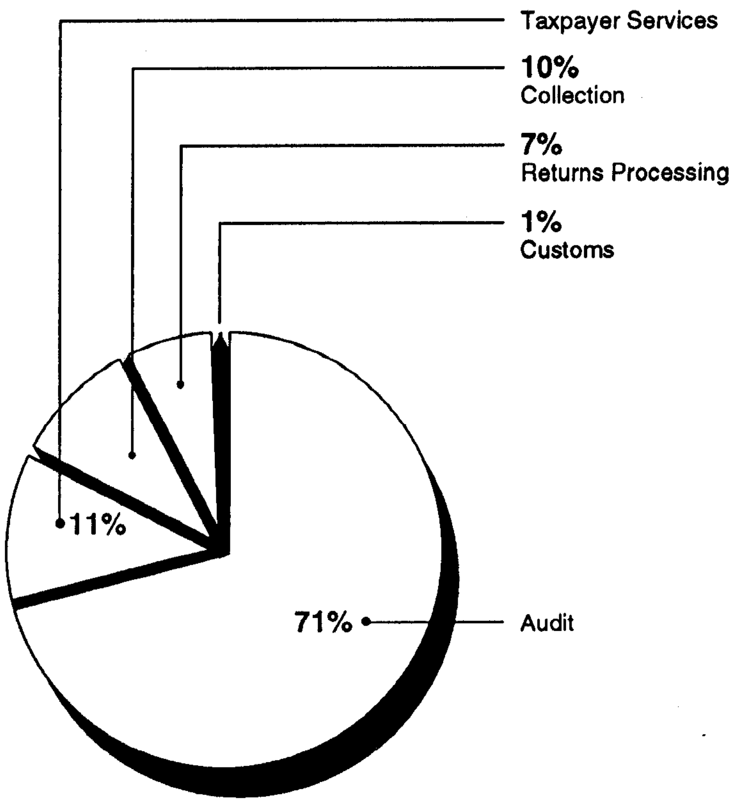
A Simple VAT Would Minimize Administrative Costs

A single-rate, broad-based VAT would promote economic neutrality among goods and services, minimize compliance burdens for the taxpayer, and minimize administrative costs. In estimating the administrative costs of a simple VAT, GAO made a number of assumptions. For example, GAO assumed that (1) IRS would administer the tax in cooperation with Customs and the Federal Reserve System; (2) all goods and services would be taxed except for difficult to tax sectors, such as financial intermediaries, whole life insurers, and pre-existing buildings, including residential housing; (3) nearly all businesses (about 24 million) would be subject to the tax and would file monthly or annually depending upon the gross receipts of the business; and (4) businesses with gross receipts above $25,000 would be required to file and pay electronically. (See pp. 29-35.)

There are two methods for calculating the value-added tax: (1) the credit-invoice method, which can be thought of as a transaction by transaction approach; and (2) the subtraction method which generally is applied to more summary information, such as the total value of sales and purchases. Either the credit-invoice or subtraction method could be used with the basic VAT. However, GAO believes that to achieve the same level of compliance under either method would require similar documentation standards and audit frequency and intensity, because under either approach in-depth examination of the support behind the books would be necessary to maintain the integrity of the system. Only the credit-invoice method can accommodate multiple rates or exemptions. (See pp. 17-18, 43-44, 73-74.)

GAO estimated the costs of administering this basic VAT in 1995 would be over $1.83 billion. As shown in figure 1, examination (71 percent) and taxpayer education (11 percent) would be the largest cost components. The estimated $1.3 billion in examination costs represent personnel costs and assume an annual audit rate of about 8 percent. While other federal taxes have not had audit rates this high in recent years, GAO believes frequent visits to taxpayers would be critical to educate them about their responsibilities under a new tax and to ensure voluntary compliance. The returns-processing cost estimate of $129 million was made using IRS' cost data for processing employment taxes and Federal Reserve System's cost data for electronic information and funds transfers. GAO estimated that it would cost $210 million to provide materials, answer questions, and offer necessary taxpayer services; $180 million to collect unpaid taxes; and $11 million for U.S. Customs to administer the tax on imports and exports. (See pp. 36-60.)

Figure 1: Percentage of VAT Administration Costs by Function



Estimated Annual Cost = $1.833 Billion (1995)

24.4 Million Taxpayers

The cost of administering the basic VAT would be lower if fewer taxpayers were subject to the tax. This could be accomplished by exempting small businesses from the requirement to collect and remit VAT. GAO estimated that reducing the number of businesses subject to the basic VAT from 24 million to 12 million would reduce administrative costs from $1.83 billion to $1.41 billion; with only 9 million taxpayers, the estimated cost would be further reduced to $1.22 billion. According to GAO estimates, if only 9 million taxpayers were subject to the tax, the total for returns processing, taxpayer services, and collections costs would be reduced from $519 million to $170 million. A similar reduction in the number of taxpayers would only reduce examination costs from $1.3 billion to $1 billion. This decrease would be proportionately less than the decrease in other costs because GAO assumed the majority of the examination resources would be focused on large taxpayers. (See pp. 61-70.)

Adding Complexity to VAT Would Increase Administrative Costs

Using the basic VAT as a baseline, if multiple tax rates and product exemptions were added, the total annual administrative costs would increase substantially. For example, to ease the effect on lower income people, groceries and medical expenses might be exempted from the VAT. Examination costs, more than any other functional area, are sensitive to the degree of tax complexity. The more complicated the tax, the greater the opportunity for taxpayer error or evasion and the more difficult the auditor's task. Due to insufficient data, GAO was not able to estimate precisely the effect of tax complexity on the costs of the examination function or any other function. However, tax administrators told GAO that tax complexity would increase the examination costs by 30 to 50 percent. This would increase the estimated examination costs of $1.3 billion for the basic VAT to between $1.7 billion and $2 billion. The higher cost could come from a combination of increased audit coverage, longer audits, and employment of more highly qualified examiners. The only alternative would be a low level of audit coverage, which, in turn, could cause compliance to suffer and revenue to be jeopardized. (See pp. 71-84.)

VAT Transition: Planning and Taxpayer Education Are Critical

Successfully instituting a VAT in the United States would require careful planning and an intensive educational campaign. Based on Canada's and New Zealand's recent experiences in implementing a VAT, 18 to 24 months would be necessary to properly prepare for a VAT. According to a 1984 Treasury report, IRS would need, at a minimum, 18 months to prepare for a VAT. IRS would need time to assess staffing requirements, hire new staff, and train staff on the new tax. IRS would also have to develop or modify returns-processing systems and ensure that new forms were developed and tested. The cost of this preparation is estimated to be about $800 million. (See pp. 85-90.)

Canada and New Zealand placed heavy emphasis on educating the public about their new VATs. The philosophy behind their emphasis on taxpayer education was that it would promote taxpayer compliance. Educating the U.S. public about a VAT would require tax administrators to (1) educate the general public on how a VAT works, (2) educate businesses about the new laws and procedures for compliance, and (3) educate tax preparers. In addition to these education costs, there are other costs of transition. While GAO estimated some cost components of transition to a VAT, such as hardware and systems development set-up costs and the one-time costs incurred for staff training and business registration, the estimates are not all-inclusive. (See pp. 90-96.)

Recommendations

This report contains no recommendations.

Agency Comments

GAO received comments on the draft report from the Internal Revenue Service, U. S. Customs Service, and the International Monetary Fund. Both IRS and Customs were concerned that GAO may have understated staffing and costs. In addition, IRS was concerned about transition time frames for both hardware acquisition and hiring and training personnel. The GAO cost estimates for a VAT are based on a conceptual framework that GAO designed. The estimates are not meant to be all-inclusive. As more detailed VAT proposals are considered, more precise estimates can be made.

The International Monetary Fund, on the other hand, was most concerned that the number of businesses included in the system be kept small. GAO provided estimates of administrative costs based on three different filing thresholds for small businesses. The final decision of how many businesses to include in the VAT involves trade-offs among administrative cost savings, revenue losses, and economic efficiency considerations. These are decisions Congress will eventually have to make if it considers a VAT. (Agency comments and GAO's evaluation of them are presented at the end of chs. 3, 4, 5, and 6 and in apps. V, VI, and VII.)

Contents

Figures

Abbreviations

ABA	American Bar Association
ACES	Automated Commercial Export System
ACH	Automated Clearing House
ACS/IRS	Automated Collection System/IRS
ACS/Customs	Automated Commercial System/Customs
ADP	Automated data processing
AFDC	Aid to Families With Dependent Children
AICPA	American Institute of Certified Public Accountants
AOC	Advice of Credit
BMF	Business Master File
C&E	United Kingdom's Customs and Excise Department
CBO	Congressional Budget Office
CEP	Coordinated Examination Program
CRS	Congressional Research Service
EC	European Community
EIN	Employer Identification Number
EMS	Electronic Management System
FMS	Financial Management Service of the Treasury Department
FRB	Federal Reserve Bank
FRS	Federal Reserve System
FTD	Federal Tax Deposit
FTE	Full-time equivalent
GNP	Gross National Product
GST	Goods and services tax
IMF	International Monetary Fund
IRS	Internal Revenue Service
LTCU	Large Trader Control Units
OECD	Organization for Economic Cooperation and Development
OMB	Office of Management and Budget
PIN	Personal identification number
SED	Shipper Export Declaration
SIC	Standard Industrial Classification
SOI	Statistics of Income
TSM	Tax Systems Modernization
VAT	Value-added tax
VRU	Voice response unit
WAE	When actually employed

Introduction

The United States relies more heavily on income taxation as a source of general revenue for its national government than any other major industrialized nation. If additional sources of revenue are sought, Congress may consider imposing some form of consumption tax, such as a value-added tax (VAT). The Congressional Budget Office (CBO) estimates that a 5-percent VAT in the United States could raise between $70 billion (narrow base) and $134 billion (broad base) in 1995.

The VAT has widespread international acceptance, and it is now employed in approximately 80 countries. Value-added taxation is the most common form of consumption tax employed by our major trading partners; the European Community (EC), Japan, Mexico, and, in 1990, Canada have all enacted some variant of a VAT. The U.S. federal government, on the other hand, has little experience in the design and administration of such a tax. While GAO is not arguing for or against the adoption of a VAT, it is important that Congress have as much information as possible should one be considered. In this report, GAO considers one potential approach to structuring a federal VAT and the effects of certain variations in the basic design on the costs of administering the tax. This report is one of a series GAO has issued on the VAT.[1]

Background

Consumption taxes can take many forms—sales/use and specific excise taxes are the most commonly used in the United States. Forty-five states and the District of Columbia tax consumption through sales and use taxes. Excise taxes, used in this country by the federal and state governments, are selective taxes on particular goods and services.

The VAT is a multistage tax on goods and services, levied at each stage of the production and distribution process. It is a transaction-based, as opposed to an expenditure-based, consumption tax. An expenditure-based tax is equivalent to a personal income tax from which all household savings are deducted from the tax base. A transaction-based tax is levied on each taxable purchase at the point of sale. An example of transaction-based consumption taxes is states' retail sales taxes.

[1] The Value-Added Tax in the European Economic Community (GAO/ID-81-2, Dec. 5, 1980); The Value-Added Tax—What Else Should We Know About It? (GAO/PAD-81-60, Mar. 3, 1981); Choosing Among Consumption Taxes (GAO/GGD-86-91, Aug. 20, 1986); Tax Policy: Tax-Credit and Subtraction Methods of Calculating a Value-Added Tax (GAO/GGD-89-87, June 20, 1989); Tax Policy: Value-Added Tax Issues for U.S. Tax Policymakers (GAO/GGD-89-125BR, Sept. 15, 1989); Tax Policy: State Tax Officials Have Concerns About a Federal Consumption Tax (GAO/GGD-90-50, Mar. 21, 1990).

Value Added Can Be Calculated on an Income or a Consumption Base

Value added is the difference between the price obtained by selling a product or service and the cost to a business of the materials and services purchased from other companies (inputs) used to make a product or deliver a service. Included in value added are wages and salaries, interest paid, rent, and profits. For example, if a business buys $150 worth of materials to produce a product that sells for $200, its value added would be $50.

Computing the value-added tax base depends on whether the tax is an income-based or consumption-based tax. These two types of VATs are distinguished by their treatment of purchased capital goods, in particular plant and equipment. By far, the most common VAT is the consumption type. Under this form, the entire purchase price of capital goods is written off as an expense when purchased.[2] For the purposes of this report, we will limit our discussion to the consumption type of VAT.

Mechanics of the VAT Depend on the Method of Calculation

There are two methods for calculating the amount of VAT owed: the credit-invoice method and the subtraction method.[3] Under either method of calculation, businesses are meant to remit only the tax on the value added at their stage in the production process. The tax can be calculated either as the difference between the tax collected on sales and the tax paid on purchases with the credit-invoice approach or the tax on the difference between the value of sales and purchases with the subtraction method. If a VAT is simple, with a single rate and broad base, there should be little or no difference in the economic effects of the two methods of calculation. If the VAT is complicated, there will be substantial differences between the two approaches.

Conceptually, the credit-invoice method can be thought of as a tax on each separate transaction. This method applies the VAT rate to the value of sales but allows a credit against VAT paid on purchases. The difference is the tax on the value added at the present stage. Using our earlier numerical example and a VAT rate of 5 percent, we would calculate a tax of $10 (0.05 X $200) as the amount of tax charged on a sale of $200. We would subtract

[2]Under an income-based VAT, purchased capital goods are depreciated.

[3]There is also an additive method for calculating the VAT, under which the tax is imposed on payments to all factors of production (wages, rent, interest, and net profit) that were not previously taxed. This approach is more complicated than either of the others, and no country applies it generally.

from this the tax included in the price of purchases, or \$7.50 (0.05 X \$150), to arrive at a net tax of \$2.50 (0.05 X \$50 in value added).[4]

In contrast to the transaction-by-transaction approach of the credit-invoice method, the subtraction method generally is applied to more summary information, such as the total value of sales and purchases. This method calculates value added as the difference between the value of sales and the value of purchases, and it applies the tax rate to that difference to calculate the tax liability. In the example, value added is \$50 (\$200 minus \$150) and the VAT is \$2.50.[5]

Businesses, which are responsible for collecting and remitting the tax, would, to the extent possible, add the VAT to their prices just as they attempt to do under a retail sales tax. The \$200 product would likely be sold for \$210 with the 5-percent VAT included. Under a VAT, each business is presumed to pass the tax along to the next purchaser until the final consumer is reached. Since there is no sale beyond that point, the final consumer most likely pays the tax in the form of higher prices.[6]

Distinctions Between the VAT and the Retail Sales Tax

As revenue sources, value-added and retail sales taxes can be of equivalent magnitude, because the base of each tax is supposed to be consumer purchases. The fundamental difference between the two taxes is the point at which they are applied. Retail sales taxes apply to only one type of transaction—sales of business-supplied goods and services to consumers. Value-added taxation is a multistage tax on goods and services; the tax applies to transactions along the entire stream of production and distribution. Retail sales taxes place the entire burden of collecting the tax on businesses that sell directly to consumers. On the other hand, compliance with a VAT is the responsibility of all types of businesses, not only the retail sector.

[4]The tax rate used in the example is called the tax-exclusive rate because it is a tax rate applied to sales, purchases, and value added net of tax. The same result could be achieved using a tax-inclusive rate of 4.76 percent. For example, 4.76 percent of \$210 (the value of sales including the tax) is \$10 and 4.76 percent of \$157.50 (the value of purchases including the tax) is \$7.50.

[5]Using a tax-inclusive rate of 4.76 percent, we would subtract \$157.50 from \$210 to arrive at a tax-inclusive tax base of \$52.50. The resulting tax would be \$2.50.

[6]As is the case in almost every discussion of a VAT, we assumed the tax would be passed forward to consumers, rather than backward to factor payments, such as wages, interest, rents, and profits. For a discussion of an alternative assumption, see Tax Policy: Tax-Credit and Subtraction Methods of Calculating a Value-Added Tax (GAO/GGD-89-87, June 20, 1989). Consumers can avoid the tax only by not consuming, either now or in the future, and instead choosing to work less and take more leisure time.

Under a retail sales tax, consumer purchases are taxable, while business purchases are usually exempt from tax. Complications result when a business makes sales to both consumers and businesses, a condition that is especially common to service industries.

To avoid taxing business purchases under the VAT, it is not necessary to distinguish among types of users at the point of sale. Instead, businesses are allowed to subtract the tax paid on purchases or deduct the value of purchases in calculating the tax; consumers are not allowed to subtract or deduct the tax paid and, thus, are meant to pay the tax.

Imports Are Taxed the Same as Domestic Products While Exports Are Untaxed

Because it is generally assumed that a VAT will raise consumption goods prices by the amount of the tax, a device called the border tax adjustment is used to keep the tax from harming, even for a short period of time, the balance of trade. Border tax adjustments are not intended to favor domestic production, either as a subsidy for exports or as a protective tariff on imports. Rather, the VAT on imports is imposed at the same rate as that on domestically produced products, and exports are freed of the tax through a device called zero-rating. Zero-rating is a mechanism for completely removing the tax on sales of products by not only charging a zero rate on all export sales but also by allowing the business to claim credit for tax paid on inputs related to the production of the export. If the value of taxes paid on all inputs used in the production of exports and domestic sales exceeds the tax collected on domestic sales, the business is usually entitled to a refund.

An important premise of the border tax adjustment is that the VAT is based on the so-called destination principle, a principle that underlies the VAT systems of all countries. This principle states that the tax consumers pay should be levied at the rate of the country in which the goods are consumed rather than the rate applicable in the country in which the goods are produced, so that a consumer's choice among possible purchases is not influenced by tax rates. Taxing imports at the same rate as domestic goods eliminates the incentive to purchase goods simply for tax-related reasons.

Zero-rating is used to ensure that exports are competitively priced in the country of destination. If an export sale is not zero-rated and, in particular, if taxes paid on inputs are not rebated, the exporter will attempt to recoup the input tax paid or will be forced to accept a lower profit on export sales. Either of these alternatives is likely to reduce exports, at least when the tax is first imposed.[7] If all VAT countries use the destination principle, taxing imports and zero-rating exports ensures that all goods are taxed once and only once.

VAT Liability Can Be Simple to Verify

From the perspective of tax administration, a distinguishing feature of the VAT is the ease with which a business' tax liability can be verified. For a business to receive credit for tax paid on purchases, it must keep records of these payments, usually through invoices. Tax paid by one business becomes tax collected by another. The opposing interests of the business paying the tax in receiving credit and the business collecting the tax in not overstating its tax collections helps to ensure the maintenance of accurate records by both sides to a transaction. The knowledge that tax examiners can access these records helps to foster voluntary compliance among taxpaying businesses under a VAT system. A significant exception to this self-policing feature occurs when a VAT applies nonuniform tax treatment to different goods and services through exemptions and rate variations. The significance of this exception is discussed throughout this report.

Exemptions, Multiple Rates, and the Number of Taxpayers Can Affect the Costs of Administering a VAT

VAT systems are often structured to accommodate trade-offs among the different objectives of revenue raising, administrative efficiency, and tax equity. Specific aspects of a VAT that affect the costs of tax administration are the number of rates; the breadth of the base (the extent to which goods and services are exempted, zero-rated, or taxed at lower rates); and the number of businesses that are required to pay the tax. A tax with a single rate and the broadest possible base is considered by many countries to be inconsistent with the goal of distributional equity,[8] and the resulting VAT systems are structured to accommodate trade-offs among these different objectives. Efforts to reduce the impact of the tax on lower income consumers through tax exemptions,[9] lower-than-standard rates, zero rates, and special rules have the effect of reducing the amount of revenue raised and complicating tax administration. The administrative costs of the tax are affected by how these different objectives are managed.

[7]Border tax adjustments may not be necessary in the long run. Price increases resulting from a VAT will likely lead to an exchange rate change, that is, the domestic country's currency will lose value. As a result, any trade deficit caused by the tax should disappear under flexible exchange rates.

[8]Distributional equity refers to how the burden of the tax is distributed among families and individuals.

[9]In practice, no goods are exempted from the VAT in most EC countries, but many services are exempted. In a few countries, goods, such as food, are exempted to reduce the regressivity, but zero-rating is a preferable approach.

Some contrasting views exist about potential differences in the costliness and difficulty of complying with and administering the credit-invoice method as opposed to the subtraction method of calculating a VAT.[10] If the tax is simple, with a single rate and a broad base, it may not matter which of the two methods of calculation is used, because the methods should be relatively interchangeable. Some believe that the subtraction method would be simpler to administer and easier to comply with because the same books of account can be used for both the VAT and the income tax. Others argue that the subtraction method makes it harder to separate the tax from the price and may make certain calculations, such as rebates on exports, problematic.[11]

In any case, if the VAT has multiple rates or exemptions, the subtraction method would not be usable because there is no way to correctly identify and verify the amount of exempt and lower rated sales. The credit-invoice method would be able to accommodate exemptions and multiple rates, because it is based on transactional records listing the amount of tax collected or paid on each sale.

Certain Sectors Are Difficult to Tax

Value-added taxation encounters theoretical and administrative obstacles when it is extended to financial intermediation services, insurance (particularly life insurance), and real estate in the form of owner-occupied housing. At this point, we have not encountered any practicable solutions that are superior to those currently applied in other countries. This usually means exempting financial intermediation, life insurance, and much real estate activity from the VAT base.

Financial Intermediation Services

Every country that employs the credit-invoice method exempts financial intermediation services from the VAT base. This exemption is because of the inherent difficulty of observing a value for these services on a transaction basis. The aggregate value of services that a financial firm offers is equal to the difference between its receipts (which are the interest payments received from borrowers) and its costs (which include

[10]Experience with the subtraction method is limited. Japan is the only major industrial country that has instituted a subtraction method VAT. Because the Japanese VAT has a very low tax rate (3 percent) and exempts two-thirds of businesses, it may not be a useful model to determine the effect of the subtraction method on taxpayer compliance.

[11]In addition to potential difficulties in calculating border tax adjustments, some also argue that the subtraction method is more politically vulnerable, because an exemption under the subtraction method is more likely to be an advantage than under the credit-invoice method. Being exempted under the subtraction method actually reduces the final tax paid by consumers. (For discussion of this and other concerns about the subtraction method, see Sijbren Cnossen, "Consumption Taxes and International Competitiveness: The OECD Experience," Tax Notes, Sept. 2, 1991, pp. 1211-1217.)

the interest paid to depositors plus an allowance for bad debts). Financial intermediation transactions also vary greatly in the degree of service that the financial firm provides and the amount of risk that it assumes. However, it is practically impossible to break down the aggregate value of those services to accurately calculate the value added for each and every one of the firm's transactions. In addition, since financial intermediation services are used for both consumption, which is taxable under VAT, and investment, which is not, it is not necessarily desirable to impose a tax that will affect investment and savings decisions.

Tax policymakers have proposed ways to accommodate financial intermediation services in a VAT base. One proposal is to apply the subtraction method of calculating VAT.[12] The subtraction method is more suitable to financial intermediation services than the credit-invoice method because it uses total accounts to calculate tax liability. Even this approach is flawed because the subtraction method does not offer a way to separate financial services that are used for consumption from those used for investment. Japan, although it employs a subtraction method VAT, has chosen to exempt financial intermediation services from its VAT base.

Insurance

As with financial services, insurance presents difficulties in correctly valuing the services provided. Insurance is essentially the pooling of risks, and premiums are the price the insured pay to be included in that risk pool. Most of the premium goes toward payment of insurance claims and represents a transfer payment between the parties belonging to the risk pool. Some portion of the premium covers the cost of administering the pool and represents a payment for services, including the insurer's profit. Similar to the problems of explicitly calculating value added for financial intermediaries, it is difficult to calculate the value added on a transactions basis for insurance, because it is difficult to calculate the portion of the premium that represents payment for insurance services. An additional complication arises with respect to life insurance (whole life) that involves a savings element, because the savings portion should be outside the scope of a VAT. For these reasons, insurance is exempted from the VAT base in every Organization for Economic Cooperation and Development (OECD) country except New Zealand, which does tax certain types of property and casualty insurance that can be valued more precisely than most insurance services.

[12] An alternative would be to use the additive principle for taxing financial intermediation services. The base for such a tax would include wages and profits. Israel tried this system but abandoned it, because other traders demanded a credit for the VAT implicit in their purchases of financial services. Rather than introduce these complications, an income tax was substituted.

Real Estate

A truly broad-based VAT would include the value of all consumption, including all housing, whether rented or owned. Applying the VAT to actual market rents paid by a tenant is far easier than applying it to implicit rents of housing that is occupied by owners. Because calculating this implicit rent could be very complicated, an alternative is to tax the market value of housing at the time of purchase. In this case all housing would be made liable to a VAT at the first sale after the introduction of a VAT. The house's sale would be subject to VAT only once. An invoice showing the VAT had been paid on the house would suffice to exempt it from any subsequent VAT.

However, no EC countries tax the sale of housing that existed at the time the VAT was introduced. Instead, value-added taxes are imposed on the sale of newly constructed housing or improvements. This allows the construction industry to recapture the taxes paid on purchased inputs. As old houses are replaced by new houses, an increasing proportion of the housing stock will be taxed. Because there is no broad tax on the consumption of owner-occupied housing, it would be inconsistent to impose VAT on residential rentals; therefore, all types of residential rentals are exempted under nearly every VAT regime.[13] This is the approach we take in this report.

Similarly, the EC countries generally exempt sales of existing nonresidential real estate and commercial leases. Newly constructed commercial buildings are subject to tax. In some cases, lessors have the right to register and pay the tax, which they might do in order to collect a rebate (apportioned to their leases) on the VAT paid when the buildings were constructed.

Earlier Studies of a U.S. VAT

Relatively little study has been done on the administration of a VAT in the United States, or of the potential shape and structure of a U.S. VAT. In 1984, as part of its tax reform proposal, the Treasury Department released an estimate made by the Internal Revenue Service (IRS) of the costs and administrative requirements of a federal VAT.[14] The limitations of that study are (1) its cost estimates were based entirely on IRS' experience, which does not include administration of a broad-based consumption tax; (2) the technology IRS envisioned has been superseded by electronic methods

[13]Austria imposes a reduced rate on residential rents.

[14]Department of the Treasury, Office of the Secretary, The Treasury Department Report to the President, Tax Reform for Fairness, Simplicity, and Economic Growth, Volume 3, Value-Added Tax, November 1984.

with potential for substantial cost savings; and (3) economic changes, such as inflation factors and the number of business entities in various gross receipts categories, have been significant. A follow-up study, done by Peat Marwick in 1989, was based on the Treasury's 1984 study.[15] However, it contained some of the same limitations as the earlier study.

Selective aspects of a VAT in the United States have been studied by various tax experts and groups, notably the American Bar Association (ABA) and the American Institute of Certified Public Accountants (AICPA). In 1988, a committee of ABA developed a model statute for a VAT that discusses broad policy issues and sets out basic VAT rules but leaves details to regulations.[16] Also, the ABA Subcommittee for Small Business has looked at the VAT's impact on small business.[17] The 1990 AICPA study discusses in depth the effects of the VAT on businesses.[18] Among the tax experts who have written extensively on the subject are Sijbren Cnossen[19] and Alan Tait. [20] Their experience with VATs internationally makes their assessments of design issues and associated costs particularly valuable when the basis for a U.S. system is considered.

National VAT Systems Vary Widely

Although the basic mechanics are generally similar, there are many variations among countries in how the VAT is structured and applied. For example, the number of tax rates may vary from a single rate on virtually all taxable transactions (New Zealand and Norway, for example) to five or more rates, as was the case until recently in France. Unique definitions exist of the kinds of goods, services, and transactions that are taxable. Different regulations apply to the types and sizes of businesses required to pay the tax and to how the tax is to be calculated and reported.

[15]Peat Marwick, The Policy Economics Group, Study of Value-Added Taxation in the United States, July 1989 (study done for American Petroleum Institute).

[16]American Bar Association, Section of Taxation, Value Added Tax: A Model Statute and Commentary (A Report of the Committee on Value Added Tax), 1989.

[17]American Bar Association, Subcommittee for Small Business, Small Businesses, unpublished draft, 1991.

[18]American Institute of Certified Public Accountants, Federal Tax Division, Design Issues in a Credit Method Value-Added Tax for the United States, May 1990.

[19]Sijbren Cnossen, Key Questions in Considering a Value-Added Tax for Central and Eastern European Countries, International Monetary Fund, Staff Papers, Vol. 39, No. 2, June 1992.

[20]Alan A. Tait, Value Added Tax, International Practice and Problems, International Monetary Fund, Washington, D.C., 1988.

The differences among VAT systems are caused mostly by the unique political, social, and economic priorities reflected in every nation's tax system.[21] While many proponents of the VAT argue that, ideally, it offers a splendid way to raise revenue without causing economic distortions, the opposite effect often results. Provided that the tax applies equally to every transaction, choices made by consumers and producers to buy or sell particular goods or services are not influenced by tax rates.[22] In practice, whether because of concerns over regressive impacts on consumers, compliance costs to businesses, or difficulties in taxing some types of business, governments have usually found it necessary to tailor their VAT systems in ways that move them further from economic neutrality. This is accomplished by means of exemptions, zero rates, multiple rates, and special treatment of certain goods and services. In addition to affecting economic behavior, these provisions increase complexity of compliance and administration.

Objectives, Scope, and Methodology

The objective of this report is to provide Congress with information about how a VAT might be administered in the United States. Until now there has not been a comprehensive study of administration costs beyond the estimates made by IRS in 1984. We have previously issued reports discussing consumption taxes and the VAT in particular. These reports focused on the various issues associated with consumption taxes, methods for calculating a VAT, and the concerns of state tax officials about broad-based federal consumption taxation.

In this study our objectives were to (1) identify a set of processes and the structure for administering a VAT; (2) estimate the costs of administration of a basic VAT model by focusing on relevant experience of the U.S. government, states, and other countries; (3) consider alternative designs to the basic VAT model, such as narrowing the tax base through exemptions, and estimate the impacts of these design changes on administration costs, processes, and structure; and (4) discuss the transition necessary to implement a VAT.

[21]The economic integration of the EC has included efforts to harmonize VAT regulations among its member states. EC's objective is to harmonize its component tax systems by requiring members to (1) restrict the number of tax rates to two—a standard rate of 15 percent for most goods and services and a reduced rate of 5 percent for necessities—and (2) apply equivalent tax treatment to the same goods and services. This effort acknowledges the growing realization that complex consumption tax systems can inhibit commercial growth and are less effective vehicles for raising revenue.

[22]Because the purchasing power of wages is reduced, worker decisions about how many hours to work could be affected. Compared with a tax that raised the same revenue without driving a wedge between pre-tax and post-tax wages, even an across-the-board VAT could reduce economic efficiency.

To accommodate discussion of the wide range of policy and design options associated with a VAT, we outlined three models with variations in the filing methods and number of taxpayers. We chose the most uniform version, i.e., a broad tax base, a single rate, and a maximum number of taxpayers, to serve as the basic model against which the effect of design variations on administrative costs and resources were measured. We also discuss the impact of adding complexity to the tax by adding rates and narrowing the base.

Processes and Structure for Administering a VAT

We assumed that IRS would have the primary responsibility for VAT administration within its current functional framework and with Tax Systems Modernization (TSM) technology as of mid-decade in place. With TSM, IRS will incorporate up-to-date computer hardware and software to automate many functions now done manually. Increased computer capacity and efficiency, including both higher processing speed and lower costs, should result. The current IRS organization is based on functional areas, for example, returns processing and examination. The VAT cost estimates were made following these functional lines. We made no cost estimates for legal functions, however, because they were a relatively small proportion of the total. Nor did we estimate space or support costs.

Where IRS functions closely resemble those needed for administering a VAT, we developed the processes and costs for administering the base model VAT from IRS' data for corporate income tax, employment tax, and excise taxes. Where no equivalent IRS experience exists, we relied on information provided by state sales tax and foreign country VAT authorities. We selected data from countries and states with the intention of providing contrasting examples to illustrate opportunities and problems inherent in tax design and administration. For example, to learn about the taxation of services, we consulted with New Mexico's tax authority, which administers a broad-based consumption tax that includes virtually all services. We also obtained detailed information on VAT administration from three countries—the United Kingdom, New Zealand, and Canada—to determine how variations in the tax base affect administration.

To learn more about how consumption taxes are administered in this country, we visited six states—California, Illinois, New Mexico, New York, Texas, and Wisconsin—that administer sales taxes and interviewed officials from all segments of their tax administrations.[23] We interviewed academics from four countries recognized as experts in consumption taxes to assess how variations in the way a VAT is structured affect such criteria as incidence, efficiency, and compliance.

Cost Estimates for a Basic VAT Model

Our study made broad assumptions and general cost estimates for administering a VAT on the basis of data we obtained from IRS, the U.S. Customs Service, the Treasury Department, the Federal Reserve System (FRS), states, and foreign countries. The data were put together in modular form so that others can modify our calculations with their own assumptions and make their own estimates. All cost estimates were inflated to 1995 dollars using Gross National Product (GNP) deflators from CBO.

We reviewed relevant literature and interviewed recognized tax experts to identify the range of design options that a VAT can support and to develop knowledge of the functional areas of VAT administration. Of particular importance were the studies done by the International Monetary Fund (IMF) and interviews with IMF officials. We also interviewed tax administrators from foreign governments, notably Canada, the United Kingdom, and New Zealand, as well as officials from IMF experienced in providing technical assistance to governments in tax administration. We reviewed recent reports on a U.S. VAT by the Congressional Research Service (CRS) and the CBO.[24] The design alternatives we identified through this search are presented only as models, reflecting a range of features that might be incorporated in a VAT. Our interest in presenting them is limited to illustrating the trade-offs that occur among different designs.

We based the design of the basic VAT model on the experience of other countries as well as expert opinions on structuring a tax for optimal efficiency. New Zealand's goods and services tax (GST)[25] is considered to be the closest to the ideal design, because that nation instituted a VAT with a

[23]We did not look at the Michigan Single Business Tax, because it is a hybrid, resembling both a VAT and a corporate income tax but containing enough differences in its tax base and method of calculation that we thought it anomalous. We were concerned we could not compare the costs and methods of administering it to those for other VATs or retail sales taxes.

[24]The Congress of the United States, Congressional Budget Office; Effects of Adopting a Value-Added Tax, February 1992; Reducing the Deficit: Spending and Revenue Options, February 1992; and The Library of Congress, Congressional Research Service, James M. Bickley, CRS Report for Congress, Economic Effects of a VAT on Small Business, April 11, 1988; James M. Bickley, CRS Report for Congress, Value-Added Tax: Concepts, Policy Issues, and OECD Experiences, November 27,1989; Jane Gravelle, CRS Report for Congress, New Tax Proposals: Flat, VAT, and Variations, April 27, 1992.

[25]GST is the name used for the VAT in both New Zealand and Canada.

single rate and broad base. Although we relied on that example for design and some aggregate cost information, we were unable to obtain cost estimates for many of its functions, because New Zealand administers its VAT in tandem with its income tax. Canada is a recent entrant into the VAT arena, having instituted its GST in January 1991. We relied on Canada's experience for information about starting up a VAT. Data to help us assess the complexities of tax design were available from EC countries.

To better relate cost information obtained from foreign sources to a U.S. context, we collected cost data on sales tax administration from states where that information was available.

We conducted interviews with U.S. government officials in Treasury, IRS, FRS, U.S. Customs Service, and the Small Business Administration to obtain opinions on the impact of a VAT on their operations and the fields they monitor.

IRS, Customs, and IMF provided written comments on a draft of this report. These comments are presented in appendices V, VI and VII, and the comments are also summarized and evaluated at the end of chapters 3, 4, 5, and 6.

Our work was done in accordance with generally accepted government auditing standards.

Administration of a Simple, Broad-Based VAT Could Be Shared by IRS, Customs, and FRS

To identify the costs associated with administering a VAT in the United States, we selected a simple VAT design. A single-rate, broad-based VAT would promote economic neutrality among goods and services, minimize compliance burdens for the taxpayer, and lower tax administration costs. The basic design was selected to eliminate features that (1) confuse taxpayers or make it difficult to calculate the tax correctly; (2) create opportunities for taxpayers to misrepresent their tax liability by claiming unwarranted exemptions or disguising transactions; and (3) decrease the ability of enforcement staff to ensure compliance among all taxpayers in a fair and timely way. Under the basic VAT, a taxpayer would file monthly or annually depending on the gross receipts of the business. (The effect of design changes on administration costs is discussed in detail in ch. 5.)

We assumed that the single-rate, broad-based VAT would be administered by IRS in cooperation with the U.S. Customs Service (Customs) and FRS. With this model, VAT administration would need to be structured differently from that of the corporate income tax, because the major functions, particularly audit, would not necessarily parallel income tax functions.

The Basic VAT Design Minimizes Administrative Complexity

International experience and the body of literature about the VAT indicate that, ideally, a VAT should be a simple, uniform tax—a tax on the broadest possible base with a single rate for all taxable products and services. This tenet was the driving force behind our selection of a basic VAT design that minimizes administrative complexities. Specifically, our basic VAT design included the following:

- a single rate for all taxable goods and services and zero-rating of exports in accordance with the destination principle of taxation;
- all goods and services included in the tax base except financial intermediaries, life insurers, and pre-existing buildings, including residential housing;[1] and
- the credit-invoice method, although the subtraction method of calculation is a possible alternative as long as a single rate and a base no narrower than that specified in the preceding item are maintained.

The Basic VAT Would Be Broad Based

All corporations, partnerships, sole proprietorships, and farmers would be subject to the tax, including nonprofit organizations and governments.

[1]Education, health, social services, and newly constructed buildings are not exempted in the basic VAT.

Small businesses would be included in the basic VAT, and only "occasional sellers" would be out of the system. We estimated the maximum number of taxpayers by 1995 to be 24.4 million.[2] (See app. I.)

Filing and Payment Frequencies Would Vary Under the Basic VAT

Filing and payment would be done together for all businesses, whether using paper or electronic returns. Filing and payment frequencies for the 24.4 million businesses included under the basic VAT would vary with the level of gross receipts. The 10 million businesses with over $25,000 in annual gross receipts would file and pay electronically each month, because most businesses close their books once a month. Monthly filing also follows the filing and payment frequencies that most states require for the majority of retail sales taxpayers. For the 14.4 million businesses with less than $25,000 in annual gross receipts, annual filing and payment were assumed.

For businesses of all sizes, rules governing filing frequency should be simple and readily understood. While there may be advantages to government and businesses if VAT payments coincide with the Federal Tax Deposit (FTD) schedule of payments, there are also disadvantages. FTD rules, in general, are based on the size of payroll, while VAT thresholds are based on value added. Because the relationship between payroll and value added can differ across industries, thresholds that are consistent with respect to payroll may be inconsistent with respect to value added. In addition, for larger companies, the FTD schedule is based on pay periods, whereas VAT usually is calculated on standard business accounting periods. As a result of all of these factors, we have not considered combining the VAT and FTD payment systems.

VAT Administration: A Shared Responsibility

IRS, by virtue of its current mission, its experience and expertise, as well as its physical capabilities, seems the logical agency to assume primary responsibility for VAT administration.[3] If a VAT were to be introduced in the United States, we assumed it would be administered within the major functional areas of IRS to capitalize on IRS expertise and minimize additional overhead. The similarity between VAT requirements and IRS' current operations would dictate the degree to which a VAT could be integrated within IRS' current functions.

[2] If all nonprofit organizations are included in the tax, as discussed at the end of chapter 5, the maximum number of taxpayers could increase substantially.

[3] Most countries use their income tax authority to administer the VAT. However, in a few countries, such as the United Kingdom and Luxembourg, Customs administers the VAT; in the United States, the Customs authority and experience is more limited in scope.

Customs and FRS would also have responsibilities for major aspects of VAT administration in accordance with their specific missions. Customs would retain the administration of taxation of imports using its current system. To check the validity of export claims, Customs would need to expand a system now being developed for tracking exports. FRS' role, through its member banks, would be that of receiver of VAT payments from the taxpayer, similar to its current role for FTDS.

IRS Would Be Best Equipped to Administer the VAT

In this design, returns processing for the VAT would be a large and unique area within IRS' current processing function. Automated data processing (ADP) of VAT returns and the VAT file would be another module on IRS' Business Master File (BMF). Audit/examination could be set up as a separate entity, but package audits, which are simultaneous audits of more than one tax and currently used only for large taxpayers, could be done jointly. Taxpayer services would likely be administered through the current program, but staff and telephone equipment could be added if necessary to accommodate the workload. Collections would be integrated with the current collections program, again with staffing adjustments. We understand that New Zealand's system is set up roughly in this manner.

Some functions, such as taxpayer services and collections, would closely parallel the current functions, but returns processing and audit would not follow the current IRS systems. With the European-style VAT that uses the credit-invoice calculation method, VAT returns require less taxpayer information, are simpler than income tax returns, and rely on businesses' records of transactions.

Returns would be filed and payments made similar to employment, rather than income, taxes. More and more states and IRS are using scanning equipment or requiring electronically filed returns, and, likewise, funds transfer is increasingly done electronically. In the basic VAT for all but the smallest taxpayers (businesses), returns and payments would be initiated together, electronically. This process, which states are developing, represents change in IRS' operating procedures but should improve administrative efficiency.

Although VAT audit is different from corporate income tax audit, there are advantages to administering a VAT and income tax within the same organization. With a VAT, invoices from sales of goods serve as purchase documents for establishing the tax paid, thus providing a possible cross-check for authorities to audit VAT. At the same time, these sales/purchases data can serve to verify calculations of income tax for income tax audit. Administering income and VAT taxes within the same organization would facilitate coordination of audit information.

Because VAT audits can be issue-oriented, tracking selected sales or purchases rather than all transactions, VAT audits generally are of greater frequency and shorter duration than income tax audits. In addition to checking different types of data during an examination, the auditor can educate the taxpayer. With the approach advocated by IMF, which in some ways is analogous to IRS' Compliance 2000 program, taxpayer education would be combined with frequent audit visits to promote taxpayer compliance.

Interaction points with other operating units would be important both when the VAT is handled independently within a functional area and when it is integrated across areas, including with other agencies, such as Customs and the Federal Reserve Bank (FRB). For example, there would need to be (1) a communications network across business taxes, such as VAT, corporate income tax, and employment tax, for information that would rapidly identify delinquent taxpayers and stop-filers; (2) a clearinghouse for refund information; (3) an intraorganizational plan for integration of some publications; and (4) coordination of income tax package audits with VAT audits.

U.S. Customs Service Would Administer the VAT at the Borders

Under this VAT design, Customs would have responsibility for administering the VAT on imports and exports at the borders. In accordance with the destination principle of the tax, goods would be taxed upon entry into the United States, and exports would be zero-rated, which means credits would be given for taxes paid.

The magnitude of the burden on Customs would be considerably less than in most industrialized countries where from 30 to 40 percent of the VAT is collected at the border; estimates for the United States range around 10 to 12 percent. However, compared with Customs' current role, particularly in the area of exports, administering the VAT would involve substantial increase in authority and resource requirements.

Collection of Tax on Imports Can Be Accommodated

It appears that, with minimal additional costs, Customs could readily integrate collection of an additional tax on imports into its current tariff system for goods entering the United States.[4] Entry documents must be filed for any goods that arrive at a point of entry into the United States so that the proper duties, taxes, and penalties can be assessed. When goods are "entered" by the owner, purchaser, or licensed customhouse broker, evidence, such as a commercial invoice or bill of lading, must be shown to prove their right to the goods.

Since this system does not include imported services, regulations or other mechanisms would need to be developed to impose duties on their importation. While there may be some concerns about reporting, these concerns are more for final consumers than for businesses. Unless a business could show that a VAT had been paid on imported services, it would not be allowed a credit against its tax liability. Thus, if the tax were not paid at the border, it would be paid at the next stage.

System for Tracking Exports Necessary at Customs

Exports would be zero-rated, necessitating a system at Customs and IRS to verify refund claims and process refunds to exporters. Refunds would be triggered by taxpayers reporting input purchases in excess of total sales minus exports.

Estimates made by the Bureau of the Census (Census) show that there were approximately 130,000 exporters[5] in 1987. Customs and IRS would need an electronic link-up for exchange of export data to share the data with IRS and verify the claims for refunds. Electronic data interface is already operational between the government and some exporters. Currently, 133 major carriers electronically file their Shipper Export Declarations (SEDs) directly with Census. It is the carriers' responsibility, not Customs', to verify the data on SEDs. Most penalties associated with SEDs revolve around late or erroneous filing.

Problems With Fraud

Because fraudulent claims for refunds and carryover credits, particularly on exports, can be a major problem when implementing a VAT, special attention should be given to early fraud detection and prevention. Although exports are not a large part of GNP in the United States, the huge number of businesses involved creates potential for significant revenue loss through fraud.

[4]Customs now uses a system based on the value of goods imported. Duties are determined on the basis of the inventory of commodities entering the country multiplied by the International Standard Value of those goods. Duties are generally not paid on services except as they are included within the value of the commodities.

[5]Exporters are defined as those who either shipped licensed exports (i.e., high-tech goods or exports to restricted countries) or exported more than $1,500 of a commodity in a shipment from the United States during that year.

To prevent fraud, most countries, rather than issuing refund checks, allow immediate carryover credits. These countries allow exporting businesses or businesses making capital investments or building up inventories to carry over any credits for 6 months; those credits not used within the 6-month period are refunded. Companies whose chief business is exports, however, can have substantial claims. Quick turnaround of their refund claims can be critical to the exporters' cash flow situation. If refunds were given, payment to newly established businesses could be postponed until validation was adequately determined. However, to established businesses, refunds could be paid immediately.[6] Bonding is one mechanism that would allow fast refunds to businesses while protecting the government from fraud. This could put new businesses at a disadvantage, however, because bonds for new businesses would be expensive, while those for well-established firms would be relatively inexpensive.

Because fraudulent refund claims have been a major problem in some countries, particularly at the outset of the VAT, verification of the claim before refund payment would be required. Customs officials in New Zealand initially had many problems with an international ring that specialized in defrauding governments of large amounts of money through false refund claims, chiefly of exports. New Zealand developed an extensive system for policing that included checking for empty boxes that were being exported (one system for fraud). Revenue Canada invited experienced inspectors from New Zealand to stay in Canada for 4 months to assist the Canadian government in recognizing patterns and instances of fraud. Six months into the Canadian GST, we were told that export fraud was not apparent.

FRS Would Serve as Receiver for VAT Payments

FRS, as the fiscal agent for the government and collector of funds for the Treasury Department, processes millions of payments in the form of paper checks and electronic transfers through its member banks. With a VAT, FRS would continue its current functions with the only change being the additional tax.

In the current FTD process, FRS receives an advice of credit (AOC) from the taxpayer's bank, obtains the government's money through settlement of the bank's accounts, and forwards this information to IRS. IRS then reconciles the data with the FTD coupon received from the taxpayer. With a VAT, FRS would continue to receive tax dollars, but the potentially large

[6] According to one tax expert, most EC countries do not require tax credit carryovers but provide immediate refunds.

volume of VAT payment transactions would create the need for additional FRS computer capability.

Costs for Administering the Basic VAT

The basic VAT represents a simple tax designed to minimize administrative burden and costs. A uniform VAT on the broadest possible base of goods and services allows the lowest tax rate, avoids definitional questions, provides limited scope for fraud and error, and, as a result, contributes to keeping both tax compliance costs and enforcement costs at a low level. Including all businesses in the tax makes the system more evenhanded and prevents having to draw distinctions on the basis of size. It may also promote efficiency, but it clearly increases administrative costs. Using the assumptions for the basic VAT cost estimates given in this chapter, we then describe in chapter 5 how the administrative costs are affected when the VAT design changes.

We estimated the total cost of administering the fully implemented basic VAT in 1995 would be over $1.83 billion. This cost estimate was derived using a variety of available data sources and cross-checks, but in some areas we have little data to rely on because the functions are merged in budgets. The estimate should not be considered all-inclusive but is intended to serve as a basis for comparison of different assumptions. The assumptions used in deriving this estimate are explicit so that others can revise the cost estimates based on alternate assumptions or different data.

The estimate included detailed breakdown on what would be IRS' four largest cost factors: returns processing, examination, taxpayer service, and collections. In addition, the estimate included costs associated with Customs' role in administering the tax at the borders and costs associated with FRS' role in receiving and forwarding taxpayers' VAT payments to IRS.[1] We expect our cost estimates of returns processing and areas involving communications may err on the high side, both because of the pace of technological change and because some of the data were projected from smaller populations, so economies of scale may not have been realized.

For the purpose of these cost estimates, the VAT tax year was the calendar year. Implementation was assumed to be about the middle of the decade. Important issues of transition are dealt with in chapter 6.

[1]FRS' costs may not be shown separately from IRS' costs, because of the sharing of communications devices and technology.

Most Small Businesses Are Included in Basic VAT

Most countries exempt small businesses or provide some other form of relief from their VATs. To reduce both administrative and compliance burdens, Canada offers small businesses a "quick method" to estimate the amount of tax due that does not require detailed accounting.[2] The amount of tax due under the quick method is usually marginally higher than under the regular reporting method, so no revenue loss is incurred.

A similar provision could be established for small businesses in the United States. However, many small businesses in the United States, at least at the retail level, are accustomed to paying state and local sales taxes, so a VAT may not impose excessive additional compliance costs, particularly if the tax is designed for simplicity. In fact, being outside the VAT system may not be in the commercial interest of small firms. Other businesses may be reluctant to purchase from exempt companies, because they will not receive an input tax credit. In addition, taxes paid by exempt companies on purchases from taxable businesses cannot be credited because the purchasing firms are not in the system.

Lastly, most tax experts are of the opinion that it may be neither feasible nor cost-effective to include the very smallest businesses, such as occasional sellers, within the tax system. We derived our estimate of the number of taxpayers without considering such businesses.

Costs for Administering the Basic VAT

The components of the estimated $1.83 billion cost for administering the basic VAT are shown in table 3.1.

[2]Using the "quick method," a business collects the 7-percent GST from its customers but calculates its tax by multiplying its total sales for the reporting period by a prescribed percentage. A business does not keep track of its input tax credits on such items as inventory purchases, rent, and utilities, but it may still claim input tax credits for purchases of land and other eligible capital costs (e.g., buildings and vehicles). The prescribed percentage is 5 percent for most businesses but varies with the type of business and goods sold.

Table 3.1: Estimated Annual Recurring Costs to Administer a Basic VAT

Number of taxpayers=24.4 million
Costs in millions of 1995 dollars

Function	Estimated cost	Estimated staff-years
Returns processing[a]	$ 129	238
Electronic	76	N/A
Paper	42	N/A
Staffing & other[b]	11	238
Audit	1,303	21,800
Collections	180	4,000
Taxpayer services	210	4,500
U.S. Customs Service	11	39
Total	**$1,833**	**30,577**

N/A - Not applicable

Note: Numbers may not add to total due to rounding.

[a]Includes Federal Reserve System.

[b]Staffing & other includes information systems management.

Source: Summary of GAO estimates contained in this chapter and appendices.

In its 1984 report on a VAT, Treasury estimated that audit costs would be about 39 percent of the total;[3] we estimated them to be more than 70 percent. The high level of audit costs relative to total costs was the result of two factors: (1) the audit coverage we assumed for the VAT and (2) the lower costs of returns processing relative to other functions because of improved technology.

Returns Processing

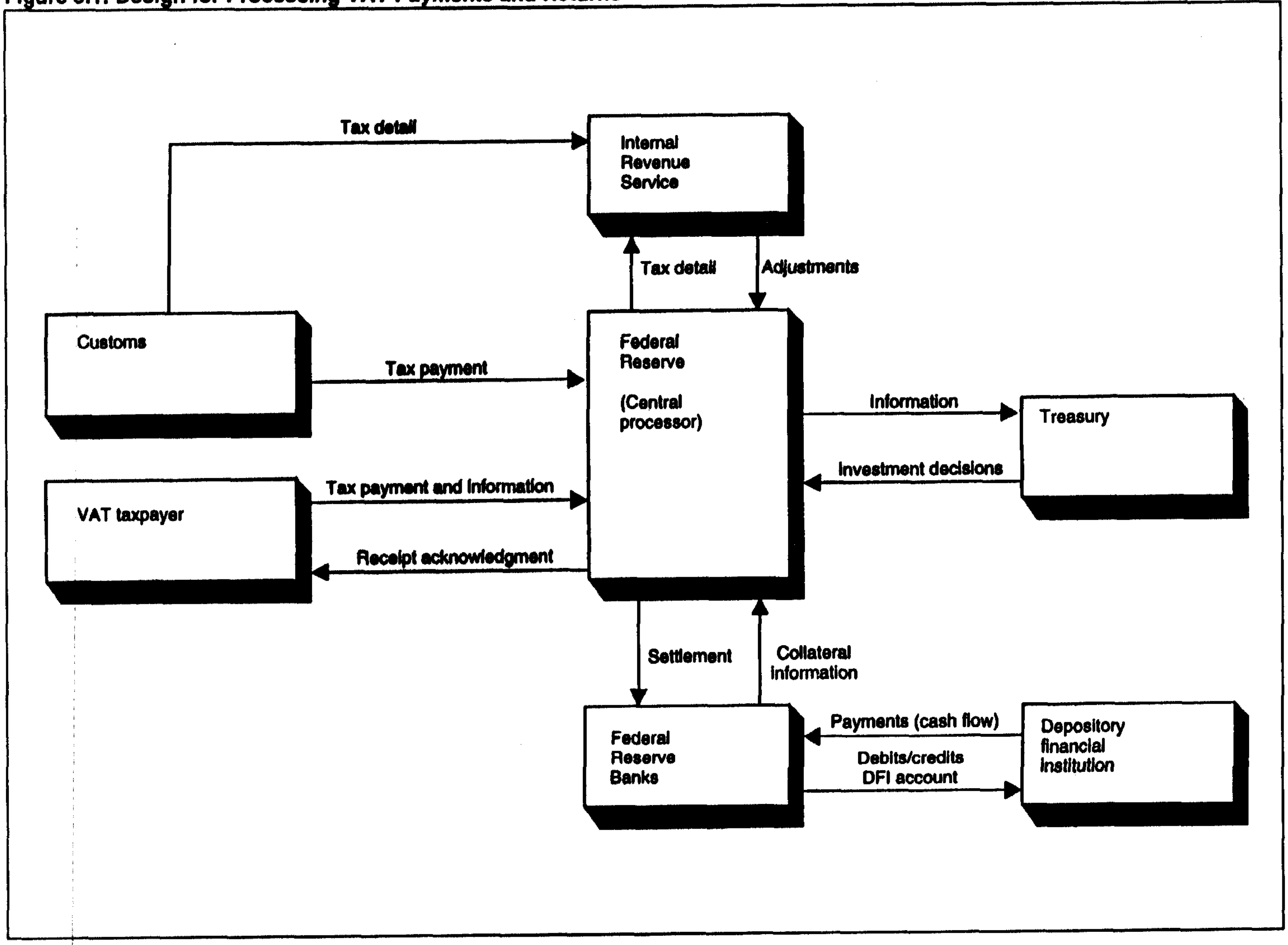
Returns-processing costs for the basic VAT were based on IRS receiving the information and FRS serving as cash concentrator.[4] The outline for processing the information and funds is shown in figure 3.1. The Electronic Federal Tax Deposit Concept for filing and paying together electronically is currently being tested by a Federal Reserve Bank.

[3]In 1984, Treasury estimated the costs for a fully phased-in VAT to be about $700 million per year (about $980 million in 1995 dollars). Treasury's assumptions, of course, were not identical to ours.

[4]A concentrator, an alternative to direct linkage between taxpayers and IRS, is a third-party network service that is part of the electronic data interchange (EDI). In the VAT, the financial institution or taxpayer would communicate the tax payment information to the concentrator, who would generate an Automated Clearing House (ACH) transaction to debit the taxpayer's account and credit Treasury's. The advantages are flexibility, savings in time and effort to initiate EDI, and reduced need to develop and buy translation software.

Establishing procedures for single transactions for electronic processing of VAT returns and payments would yield significant cost savings.

Figure 3.1: Design for Processing VAT Payments and Returns



We based our cost estimates for the basic VAT on these assumptions:

- Electronic filing of returns and payment information together would be required for all businesses with over $25,000 in annual gross receipts.
- All businesses with less than $25,000 in annual gross receipts would file paper returns and pay through a process similar to the FTD system.
- Businesses filing and paying electronically would contact FRB to initiate the procedure.[5] Initially, taxpayers would establish registration through their banks similar to current electronic funds transfer procedures.
- Businesses with less than $25,000 in annual gross receipts would file annually to ease both the administrative and compliance burdens. All other businesses would file monthly.[6]

Cost Estimates for Processing the Basic VAT (IRS)

We developed our cost estimates using (1) IRS data for employment taxes, (2) FRB data for electronic costs where possible, and (3) other sources as needed. IRS' costs for processing employment taxes (Form 941 returns and FTD payments) are the basis for estimating VAT paper processing costs, because the processes appear to be very similar.

Technology improvements in electronic processing offer obvious advantages. With electronic filing and paying, both returns processing and error resolution costs would be cut regardless of the complexity of the tax. In addition to expected long-run cost savings, an IRS official told us that the electronic filing system creates far fewer errors than paper filing: a 2.75- to 4-percent error rate electronically versus a 17- to 25-percent error rate on paper returns during the 1991 filing season. The FRB design for its Electronic Federal Tax Deposit Concept, now being tested, is the technological model on which we based our estimates. (See app. II.)

The cost estimates shown in table 3.2 are for annual recurring costs for a fully implemented VAT, including (1) processing VAT returns, (2) processing VAT payments, (3) processing VAT refunds, and (4) mailing out returns to taxpayers. Other costs, including most hardware purchases, were classified as transition costs and are shown in chapter 6 and appendix II.

[5]Businesses could also be accommodated through walk-in assistance centers (or other means, such as touch-tone telephones), possibly enabling IRS eventually to require single electronic transactions of all businesses regardless of size.

[6]A variation from this filing frequency is shown on pp. 113 and 114.

Table 3.2: Estimated Annual Returns Processing Costs for the Basic VAT

Costs in millions of 1995 dollars

Item	Type of return filed: Paper	Electronic	Total
Number of taxpayers	14.4 million	10.0 million	24.4 million
Number of returns	14.4 million	120.0 million	134.4 million
Total for processing	$36.4	$71.7	$108.1
Processing returns	29.7	59.8	89.5
Mailing returns	3.3	2.4	5.7
Refunds processing	1.9	9.5	11.4[a]
Processing payment coupons	1.5	0	1.5
Registration (recurring)	5.9	4.0	9.9
Staff costs	[b]	[b]	10.7
Total costs	**$42.3[c]**	**$75.7[c]**	**$128.7**

Note: Filing and payment frequencies are discussed in appendix II, including estimates of returns processing costs under the quarterly filing and payment frequency alternative preferred by IRS and IMF.

[a]Includes Financial Management Service costs discussed below.

[b]Breakdown not available.

[c]Does not include staff costs that are shown only in total costs.

Source: GAO estimates (see app. II).

Costs of Processing Refunds

Handling refund claims is a component of IRS' returns-processing costs and would include costs for making refund payments by Treasury's Financial Management Service (FMS). (See app. II for more discussion of the role of FMS.) Those refunds originating with export credit claims would be handled through a linkage between Customs and IRS that would establish a procedure for verification of claims before FMS makes payments (see app. II). Otherwise, the basic returns-processing system would remain the same. In New Zealand, 23 percent of the returns for the 12-month period ending August 31, 1990, had refund claims; 16 percent of these claims were held for review, a large proportion due to exports. A breakdown of the costs for refunds included in table 3.2 are shown in table 3.3.

Table 3.3: Estimated Annual Recurring Costs for Refund Payments for the Basic VAT

Includes voluntary filers
Costs in thousands of 1995 dollars

Number of refunds (in millions)	Total cost	Total IRS cost	Total FMS cost
20.16	$11,393	$9,357	$2,036

Source: GAO estimates (see app. II, tables II.2 and II.3).

Audit: A VAT Would Require IRS to Develop a New Examination Program

Properly enforcing a VAT would require IRS to develop an audit program with an emphasis significantly different from that of its income tax audit program. A VAT would require audits of greater frequency and shorter duration than are common in income tax administration. The divergent audit approaches stem from the different demands that the two types of taxes make upon taxpayers and tax authorities. We estimated that 21,800 personnel would be needed to administer a VAT examination program at a cost of about $1.3 billion in 1995. We made these estimates on the basis of the projected number of taxpayers, the frequency at which they would be audited, and the average length of audits. The frequency and length of audits assumed were consistent with the audit experience of existing VAT administrations. However, if the audit rate were reduced, the cost of audit would fall, although not proportionately.

Tax Enforcement Programs Are Designed to Maximize Examination Yield and Deter Noncompliance

Tax authorities generally consider two factors when allocating audit resources. The first objective is to maximize the return on cost by selecting only those cases that will yield the greatest amount of revenue per audit-hour. The second objective is to deter taxpayer noncompliance by maintaining a high enforcement profile so that all taxpayers believe there is at least a reasonable probability that their tax returns will be audited. These two objectives, however, involve trade-offs. On the one hand, the highest yields per audit originate from examinations of the largest taxpayers. On the other hand, examinations of a wide distribution of taxpayers generate less revenue per hour, but the wide enforcement presence may help deter noncompliance by all taxpayers.

When allocating audit resources, most tax authorities develop an overall enforcement strategy that considers the relative risks of noncompliance posed by classes of taxpayers and the amount of resources available. Large companies may be subject to package audits that combine the audits of more than one tax into a single audit. Most modern tax administrations rely on computerized processes to plan the allocation of audit resources.

By using historical data on taxpayer compliance to determine which taxpayer segments have the highest likelihood of noncompliance or high audit yield, tax administrators select cases to audit on the basis of the preferred balance between the two.[7]

VAT and Income Tax Audit Approaches Differ

Administering consumption taxes requires different audit approaches from administering income taxes. To comply with income tax laws, businesses are responsible for calculating their taxable income and remitting a defined percentage of that income to the government. To enforce an income tax, tax authorities examine the taxpayer's business activities to verify the amount of taxable or tax-free income claimed on tax returns.

Under a VAT, each business is responsible for collecting the tax directly from purchasers on behalf of the government and remitting the tax to the government. Until the VAT is remitted, businesses with cash flow difficulties may be tempted to use the extra cash to cover their operating costs. It is essential for a tax authority to ensure that these accrued taxes are reported correctly and remitted promptly, thus preventing potential problems with an increased collections workload. This approach fits in with the current emphasis of IRS' Compliance 2000 initiative on building voluntary compliance into the process through which taxes are accrued.

To administer a VAT efficiently, the tax authority does not need to verify profits and losses as reported on business income tax returns. The concern of VAT administration, provided that the tax is fairly uniform, is with a business' overall volume of sales and purchases. It is generally easier to verify information on business volume than it is to identify and characterize taxable income. Auditors can use invoices, inventory records, and financial information to ensure that the amounts claimed on the VAT return accurately reflect actual business volume. With a VAT, calculating depreciation correctly and making sure employee compensation expenses are not overstated are not problems.

As discussed earlier, two different methods can be used to calculate the amount of VAT owed. Under the subtraction method, VAT liability can be calculated by subtracting a business' total purchases of goods and services from its gross sales and multiplying the difference by the tax rate. Advocates of this method often argue that companies already keep records of sales and purchases as part of their normal books of account.

[7]A strategy suggested by IMF officials, known as a "mark-up ratio" (purchases-to-sales ratio), also could be employed to select companies for audit. Businesses are selected for audit if their ratio is out of line with the ratio of companies in their type of business.

Therefore, calculating the VAT would be simple because there would be no additional bookkeeping requirements, and business compliance costs could be kept to a minimum.

Under the credit-invoice method of calculating tax liability, taxes paid on purchases are subtracted from taxes collected on sales. Credit-invoice proponents argue that since most businesses keep track of purchases and sales using invoices or similar records, it would not be difficult to calculate the tax. Also, because both sides to a transaction have opposing interests in the amount of tax that is reported, the credit-invoice system is often thought of as an aid in ensuring compliance and accurate reporting to the tax administration authority.

Whichever method of calculation is used, the amount of tax computed would be the same under a simple VAT with one tax rate and no exemptions. We believe that to achieve the same level of compliance under either method of calculation would require similar documentation standards, along with similar audit frequency and intensity. If the audits of a company are done frequently, an in-depth look at invoices may not always be required, and a look at the books of accounts may suffice. However, occasional in-depth examination of the support behind the books or, at least, the threat of such examination would be necessary to maintain the integrity of the system. This would be the case under either approach.

The subtraction method could have limitations, however, because the VAT design included zero-rated exports. The tax authority would need to take extra precautions to ensure that only legitimate tax credits on inputs used to produce exports were awarded. If 100 percent of a business' sales were exported, verifying the refund due would not be difficult. Problems could arise if some transactions were zero-rated and some were not. A firm could claim that it had sold a zero-rated product when, in fact, it collected tax on the sale, diverting a good that it reported as an export sale to the domestic market. Without invoices to trace transactions, the taxing authority would not have an effective way to determine whether the volume of sales that were zero-rated were overstated. The credit-invoice approach is the only form of VAT equipped to provide transactional records that show the amount of tax collected or paid on each sale. Even under this method, however, the more widespread the use of zero-rating, the greater the oversight required on the part of tax authorities, because overstated rebates on exports are always a potential problem.

VAT Audit Programs Combine Taxpayer Education and Frequent Visits to Taxpayers to Enhance Compliance

Foreign VAT experiences show that VAT administrators tend to view the auditor's task as one of taxpayer education and enforcement. One strategy for enhancing compliance is to have auditors visit large numbers of businesses to increase taxpayer awareness. These contacts are particularly crucial during the initial years of a new VAT system. After the first few auditor visits, taxpayers should have a better understanding of how the tax applies to them, and the accuracy and completeness of their tax returns should reflect that understanding. The use of tax enforcement as an educational tool is a feature currently being explored under IRS' Compliance 2000 initiative.

We based our cost estimates on an annual audit rate of about 8 percent, which, while higher than IRS' current audit rate, is comparable to the audit coverage maintained by some VAT administrations. A review of audit coverage under various types of taxes illustrates the higher level maintained under a VAT than under other types of taxes. (See table 3.4.) The United Kingdom planned field audits of 6.5 percent of the VAT taxpayers in fiscal year 1992.[8] In 1990, New Zealand performed field audits of 10.4 percent of its value-added taxpayers. As noted, these audit rates are much higher than current U.S. audit rates. IRS audited 2.6 percent of corporate taxpayers in 1990. For recent years, state sales tax administrators reported auditing 2.2 percent of California taxpayers, 1.7 percent of New York taxpayers, and 2.7 percent of Texas taxpayers.

Table 3.4: Annual Audit Rates for Various Tax Types

Tax administration	Type of tax	Annual audit rate (percent)
IRS	Corporate income	2.6
Texas	Sales	2.7
California	Sales	2.2
New York	Sales	1.7
United Kingdom	VAT	6.5
New Zealand	VAT	10.4
IRS	VAT	(Estimated) 8.0

Source: IRS (1990); United Kingdom Customs and Excise (1992); New Zealand Inland Revenue (1990); California Board of Equalization (1990); New York State Department of Taxation and Finance (1990); Texas Comptroller's Department (1988); and IRS VAT, GAO estimate.

[8] In the 1970s, the United Kingdom audited about 24 percent of value-added taxpayers annually, but increased taxpayer familiarity with the tax and improved administrative efficiency enabled a gradual reduction in the audit rate without deterioration in the level of compliance.

Audits under a VAT should be more frequent than under other forms of taxes. The need to guard against underreported tax liabilities or unwarranted claims for tax refunds is ever-present with a VAT. It is relatively simple for taxpayers to reduce their liability or even to claim tax refunds by understating sales or overstating purchases on their tax returns. In addition, zero-rating exports would result in a considerable volume of tax refunds, creating an additional administrative burden, because tax authorities must guard against fraud.[9] Borrowing from the experience of other VAT administrations, we estimated that the average VAT audit would require about 9 hours to complete. On average, VAT audits are completed in less time than income tax and sales tax audits. The shorter the length of audit, the greater the number of taxpayers an examiner can visit. Table 3.5 shows the average number of hours per audit for different types of taxes and different tax administrations.

Table 3.5: Average Hours Per Audit for Various Tax Types

Tax type	Average hours
New York sales	60
IRS corporate income	56
California sales	55
Texas sales	47
United Kingdom VAT	10
New Zealand VAT	8
IRS employment	6
IRS excise	5
IRS VAT	(Estimated) 9

Source: IRS; United Kingdom Customs and Excise (1992); New Zealand Inland Revenue (1990); California Board of Equalization (1990); New York State Department of Taxation and Finance (1990); Texas Comptroller's Department (1988); and IRS VAT, GAO estimate.

The average hours per audit of the United Kingdom and New Zealand are typical for VAT administrations in other industrial countries. The average hours per audit shown for California, New York, and Texas are also typical for other state sales tax administrations.

[9]IMF emphasized that refunds should be kept to a minimum because tax administration resources are diverted away from the more important objective of fostering voluntary compliance.

Applicability of the Current IRS Income Tax Audit Program to Estimate Resource Requirements of a VAT Audit Program Is Limited

Because the corporate income tax in the United States is fundamentally different from the VAT, IRS' corporate audit program would not be a good model on which to base the design and estimate costs for a VAT audit program. As noted above, the allocation of audit resources differs between the two taxes. The examination strategy and audit staff experience and expertise would also differ. Computerization of audit selection could not be done until IRS had accumulated several years of experience in detecting patterns and indicators of noncompliance specifically for the VAT.

IRS would need auditors specifically trained for the VAT. These auditors would need to know audit methods and techniques that are different from those used in income tax examinations. The large number of audits of smaller taxpayers, together with the more basic accounting skills that are required, means that IRS would be able to assign a larger percentage of lower graded staff to audit the VAT than it assigns to income tax audits.

According to one tax expert, experience as a VAT auditor could be a preliminary step to qualifying as an income tax auditor. Enforcement of a VAT would not be compromised by employment of auditors at lower grade levels. Lower graded audit staff could screen taxpayers for referral to more qualified auditors if their initial examination revealed evidence of serious noncompliance. Together, the unique composition of staff, audit techniques, and audit frequency argues for a VAT audit program that is distinct from that for the income tax.

Package Audits Are Not Ideal for VAT

Simultaneous, or package, audits of taxpayers' value-added and income tax returns may seem to be an efficient way to enforce both taxes and to reduce disruption to the taxpayer caused by audits. The information generated by examinations of income statements is useful in verifying the records of sales and purchases, and, conversely, information on sales and purchases is useful in verifying income. However, because of the unique characteristics of the VAT, package audits are not suitable for the majority of taxpayers. Different types of taxpayers may be noncompliant with different taxes; for example, taxpayers with little or no income tax liability (or even negative liability) may still have a significant VAT liability. Further, a VAT requires frequent audits of businesses of all sizes; IRS audits the income tax returns of only the largest companies on a regular basis. Package audits, therefore, would be feasible only for large taxpayers. Package audits would not necessarily reduce overall staffing requirements, because auditors dedicated to the VAT may still be required. For these reasons, package audits are not widely used in VAT administration; for example, only 1 percent of New Zealand's VAT audits are package audits.

Estimates of Audit Resources Required for Administration of Basic VAT

Examination is generally the most costly tax administration function, averaging one-third or more of total administrative costs. In 1990, 27 percent of IRS' budget was for the examination function. For both the first and second years of operation, Canada allocated 33 percent of its GST administration budget to the audit function. Because of the labor-intensive nature of tax auditing, the personnel expenditures are the most significant components of these costs.

Our estimate of the audit resources required to administer a VAT was based on the projected number of taxpayers, the frequency at which they would be audited, and the average length of audits. The frequency and length of audits were judgmentally selected and were within the parameters of other VAT administrations. Both frequency and length of audits will vary with the size of taxpayers' business volume. Since we expect that a great deal of the audit effort in the first year of operation of a VAT would concentrate on taxpayers with claims for credit, our estimates were based on the second full year of implementation.

The lack of experience in administering a VAT in the United States means that there is no empirical evidence available on which to base estimates of the audit resources needed to ensure compliance with the tax in this country. Our estimates were gleaned from observations of the level and allocation of audit resources employed by various tax administrations in this country and abroad. These encompassed several different types of taxes, including value-added, sales, and income taxes. Although there are significant differences between the audit techniques and resources required by each tax, there are also some similarities. The differences themselves help to highlight the particular enforcement requirements of the VAT.

Under the basic VAT, we estimated that an additional 21,800 staff-years would be required to provide audit coverage. Of this amount, 17,000 (78 percent) would be for auditors directly involved in taxpayer examinations. The remaining staff would consist of management and administrative support. Table 3.6 shows the audit coverage and time assumptions that were used to estimate the resources required. The overall level of audit coverage would be about 8 percent of the estimated

24.4 million taxpayers, and the time required to complete these audits would average about 9 hours.

Table 3.6: Estimated Annual Audit Program Staff Allocation by Levels of Taxpayer Gross Receipts for the Basic VAT

Gross receipts	Taxpayers (in thousands)	Percent of total	Percent audited	Average hours per audit	Staff-years
Under $25,000	14,400	59.0	5	4	3,000
$25,000-$99,999	4,600	18.8	7.5	6	2,500
$100,000-$249,999	2,400	9.8	10	8	2,500
$250,000-$499,999	1,300	5.3	12.5	10	2,200
$500,000-$999,999	750	3.1	15	12	1,700
$1 million-$4,999,999	750	3.1	25	16	3,700
$5 million-$9,999,999	100	0.4	50	24	1,500
$10 million-$99,999,999	100	0.4	75	40	3,700
Over $100 million	10	0.04	95	80	1,000
Total	**24,410[a]**	**100.0**	**8**	**9.4**	**21,800**

[a]Differs from original estimate of 24,428,000 taxpayers due to rounding.

Source: GAO estimates (see app. III).

IRS currently employs about 30,000 full-time staff in its examination division. An additional 21,800 staff would increase current examination staff levels by almost 70 percent. The total personnel cost for staffing the examination function of the basic VAT system would amount to an estimated $1.3 billion in 1995 dollars.

There also would be material costs to the audit program. A one-time investment of about $40 million would be required to equip the 17,000 VAT field auditors with laptop computers, which have been found to significantly increase the productivity of state tax auditors. Travel expenses would be an additional component of the examination program costs. However, we did not estimate the geographic distribution of VAT audits and so have not included these costs in our estimates.

The amount of time required for direct examination of taxpayers (time spent on the taxpayers' premises, in travel, and reporting results) would amount to nearly 18 million hours annually, or an estimated 8,500 staff-years. The actual number of auditors required would be twice the number of staff-years because, according to IRS, approximately 50 percent of auditor time is spent in activities unrelated to the audit workload; these activities include training, leave, and supporting direct examinations conducted by other auditors. If the percentage of nondirect time were reduced, personnel costs would decrease.[10]

The estimated 8-percent annual audit coverage is comparable to the level maintained by many other countries administering a VAT. The rate is higher, however, than the one shown in Treasury's 1984 study of a potential U.S. VAT. Treasury estimated the size of audit staff on the basis of a 2.2 percent annual audit rate. This audit coverage is comparable to that of the corporate income tax examination program but, as noted in this report, may not be sufficient to ensure overall compliance with a VAT.

A lower rate of audit can reduce administration costs considerably. We estimated that a 2.2 percent audit rate would require about 11,000 staff-years for the examination function at a cost of $700 million. This amounted to approximately 50 percent of the $1.3 billion an enforcement program maintaining an 8-percent rate of audit would cost. However, these savings would have to be balanced against potential revenue losses caused by a lower level of enforcement activity. Although we did not estimate the revenue loss that would result from a lower level of audit coverage, the loss could be minimal if the reduction only affects audits of small businesses. The effect of the audit rate on examination costs is shown in table 3.7. One means of maintaining a sufficient audit rate with fewer resources is to reduce the number of small taxpayers by employing a small business exemption, which is discussed in chapter 4.

Table 3.7: Effect of Annual Audit Rate on Examination Staff Costs

Annual audit rate (percent)	Taxpayers (in millions)	Exam staff-years	Annual staff costs
2.2	24.4	11,200	$700 million
8.0	24.4	21,800	$1.3 billion

Source: GAO estimates (see app. III).

[10]Each 10-percent increase in total auditor time that is applied to direct examinations decreases total personnel costs by an equivalent percentage. If auditors were to allocate 70 percent of their time to direct exams and only 30 percent to other activities, total personnel costs for the examination function of the basic system would amount to an estimated $930 million in 1995.

Collections Cost Estimates Made on the Basis of IRS Experience With Business Returns

Some increase in IRS' accounts receivable inventory would likely result from instituting a VAT. IRS' TSM effort may offer an avenue for preventing this inventory from escalating to levels currently seen in trust fund taxes. However, until IRS develops a strategy for using TSM to cap the increase in accounts receivable, we expect the collections function would use procedures and techniques similar to those currently employed in enforcing collections of business taxes. We estimated that total annual staffing costs for the collections function of the basic VAT system would amount to $180 million in 1995. This included $57 million for the salaries of 1,700 additional telephone collectors and $123 million for 2,300 additional revenue officers.

Under current IRS procedures, when income tax returns are filed with balances due, IRS service centers generally send delinquent taxpayers up to four notices over a 6- to 8-month period. Cases that remain unresolved after these notices are then forwarded to the Automated Collection System (ACS/IRS) staff for telephone contact. If the delinquency involves a trust fund tax, such as employment taxes, only one notice is sent before the case is assigned to ACS/IRS. Cases that cannot be resolved through ACS/IRS are assigned to a field revenue officer for personal contact or otherwise queued in the inventory of outstanding collections cases. Once the case is assigned to the field, a revenue officer has 45 days to make contact with the taxpayer. It may take between 30 days (an unusually short period) to more than 2 years for Collections to close a case. Delinquencies often involve several different taxes, and revenue officers generally do not specialize in the collection of particular types of tax.

We estimated the collections costs for a VAT on the basis of the number of delinquent business tax cases handled by IRS' Collections function. IRS reports that approximately 5.3 percent of all businesses become delinquent in one or more federal taxes, and another 6.8 percent are nonfilers. If a VAT were enacted, IRS officials estimated that approximately 20 percent of the VAT delinquencies would also be associated with delinquencies or nonfilings of other federal taxes, and little or no additional work by Collections staff would be required. We included this factor in our estimates. However, if the actual percentage of VAT delinquencies involving other federal tax debts were higher than 20 percent, then our estimates of the marginal costs of collecting delinquent VAT debts would be overstated.

We used IRS performance data to estimate the VAT-related workload for both ACS/IRS and field collections. IRS data show that 65 percent of collections cases reaching ACS/IRS are generally resolved. The remaining cases (35 percent) are sent to revenue officers in the field for collection. Table 3.8 details the estimated collections caseload for the basic VAT system.

Table 3.8: Projected Caseload of VAT Delinquencies and Nonfilers

Numbers in thousands

Total taxpayers	Taxpayers delinquent	Nonfilers	Total VAT-only cases[a]	Resolved by ACS/IRS	Assigned to field
24,428	1,295	1,661	2,365	1,537	828

[a]The total number of VAT-only cases was computed by multiplying the total number of delinquencies (1,295 + 1,661) by 80 percent.

Source: GAO estimates based on IRS collections program data.

In estimating the added cost to IRS for resolving the number of delinquent VAT cases using ACS/IRS, we assumed that IRS' current investments in the ACS/IRS computer system will allow IRS to accommodate the additional workload. About 1,700 ACS/IRS collectors would be needed to process the delinquent cases. We computed the number of added staff on the basis of IRS data that show an average of 880 collection cases closed per ACS/IRS collector annually. At an average staff level of GS-6, the salary and benefits cost of the additional ACS/IRS staff would be about $57 million in 1995.

In estimating the added cost to IRS for resolving delinquent VAT cases sent to field revenue officers, we used IRS estimates that revenue officers can close an average of 320 delinquency cases per staff-year and an average of 400 nonfiler cases per staff-year. This level of productivity would require an additional 2,300 revenue officers at a cost of about $123 million in 1995.

IRS' Taxpayer Services Would Need to Be Expanded to Handle a VAT

Taxpayer services would be integrated with IRS' existing taxpayer service function if a VAT were implemented. We concentrated our cost estimates in three areas—staffing, telephone services, and publications. Initial training of staff was included in transition costs. (See ch. 6 for discussion of transition issues and costs.) Other areas, such as walk-in assistance centers, may be able to absorb a VAT into their current structures by adding staff. We estimated that IRS would incur costs of about $210 million annually, as shown in table 3.9, for taxpayer services if the basic VAT were implemented.

Table 3.9: Estimated Annual Recurring Taxpayer Services Costs With a Basic VAT

Costs in millions of 1995 dollars

Item	Cost
Staffing	$161.1
Telephone (line usage charges)	34.5
Publications	14.8
Total[a]	**$210.4**

[a]Initial training cost estimates are shown in ch. 6.

Source: GAO estimate (see app. IV).

When New Zealand and Canada set up their GST systems, particular emphasis was given to taxpayer services to encourage compliance. A well-designed and implemented transition program should familiarize taxpayers with VAT requirements in advance of implementation. Our estimates assumed that IRS would implement an effective education program during transition; otherwise, the subsequent costs of taxpayer services and audit programs would likely be higher.

Tax Administrators Use Similar Taxpayer Service Techniques

IRS' taxpayer assistance and education programs consist of a variety of services, including toll-free telephone information and assistance; TeleTax, a computerized phone system; walk-in assistance (at 723 locations in 1990); and meetings with practitioner associations, various business and industry groups, and seminars for local businesses. IRS also educates the public by getting involved with state education programs, formal community college programs, and trade association newsletters.

States generally use similar techniques to educate and provide assistance to taxpayers. Of the 32 states with business or corporate income taxes that responded to a 1988 survey of tax administrators, more than 90 percent used instruction pamphlets, personal contact, and/or correspondence for taxpayer assistance.[11] Some states have special programs designed to affect taxpayers' filing behavior beginning at their entry point into the tax system. For example, New Mexico's taxpayer education program includes taxpayer education workshops in cooperation with the University of New Mexico. Under the program, direct contact is made with about 10 percent of new taxpayers each year. New Mexico officials reported the following benefits: improved taxpayer relations, tax department contacts for

[11]State of Washington, Department of Revenue, Program Administration Section, Tax Administration Survey, All States, June 1988.

taxpayers' future questions, dissemination of important information and rulings, and new (gross receipts tax) registrants.

The experiences of New Zealand and Canada, countries that recently implemented VATs (GSTs), provide important insight into types of taxpayer services that might be required if a VAT were implemented in the United States. Both New Zealand and Canada educate taxpayers using seminars, advisory visits, and publications in addition to general inquiry services. Revenue Canada[12] also set up a computer-accessed electronic database for information dissemination.[13] Canada sends a news sheet to each registered business at least quarterly to disseminate information about changes, rules, etc.

Costs for Additional Staff

Canada has between 500 and 600 staff, or about 11 percent of the 4,700 to 5,200 employees involved in administering the GST, providing taxpayer services. We used this information to estimate the potential costs associated with providing taxpayer services in the United States if a VAT were implemented.

The basic VAT would require more taxpayer service employees than would a VAT that exempted small businesses. In 1993, IRS has budgeted for about 8,600 employees involved in taxpayer services. About 38 percent are taxpayer representatives, 23 percent are taxpayer specialists,[14] and 39 percent of the employees are classified as "other"—including "when actually employed" (WAE).[15] Reliance on temporary employees probably would not be possible under the basic VAT, because most taxpayers would pay monthly. However, because VAT taxpayer services would be integrated within the current taxpayer services function, we assumed approximately the same staff distribution as current IRS taxpayer service levels. We

[12]Revenue Canada is the Canadian taxing authority, similar in function to IRS in the United States. However, Revenue Canada administers Customs, whereas Customs is a separate agency in the United States.

[13]Canada has been unable to evaluate the effectiveness of this approach, because, at present, there is no way to determine whether the right audience has accessed the information.

[14]Taxpayer service representative (TSR) is the entry-level position for most new assistors, generally grades 4 to 7. Typically, TSRs are frontline assistors, providing the initial contact with taxpayers and answering less complex questions. Taxpayer service specialist (TSS) is the career ladder position for the more experienced assistors, generally grades 5 to 9. TSSs serve as the backup to the TSRs, answering taxpayer telephone calls, conducting workshops, instructing taxpayer service courses, and handling complex issues.

[15]WAE is a term used for part-time or temporary staff employed part of the year in such offices as walk-in assistance centers and at telephone sites.

estimated the total taxpayer services staff for a VAT to be about 4,500 and personnel costs to be about $161 million. (See app. IV.)

Telephone Services' Costs

Toll-free telephone lines for taxpayer services are used in many states. Of the 32 states with business or corporate income taxes that responded to the 1988 survey of tax administrators, about 50 percent used toll-free telephones as a means for the taxpayer to request assistance. Taxpayers' use of the toll-free 800-numbers appears to vary among states. For example, Texas, which emphasizes its 800-number service for its taxpayers, reported more than two calls per taxpayer annually on its 800-number line compared to less than one call per taxpayer in Illinois. Canada had more than two calls per taxpayer during the first year of operation of its GST.

IRS currently has about 5,200 toll-free telephone lines. In fiscal year 1991, IRS provided assistance via more than 35 million calls on its toll-free, staff-answered lines and about 29 million on automated TeleTax lines. We assumed that small businesses would use the telephone service more than larger businesses. (See table 3.10.) To be conservative with our cost estimates, we set our call levels at the high end of the range.

Table 3.10: Estimated Annual Number of Calls Per Taxpayer for the Basic VAT

Business' gross receipts	Number of taxpayers (in millions)	Number of calls (in millions)	Number of calls per taxpayer
Less than $25,000	12.2	12.2	1.0
$25,000-$100,000	3.2	2.7	0.85
More than $100,000	9.0	5.4	0.6

Source: GAO estimates (see app. IV).

IRS would need to add more than 2,000 new 800-number lines to handle the estimated 20 million calls annually (ongoing load) for the basic VAT. Because the load on telephone lines would be heaviest during the transition period, the maximum number of lines would be needed then. Therefore, all telephone line installation costs were included in transition costs, and only usage costs are included as recurring costs. We estimated the annual (ongoing) usage charges to be about $34 million in 1995, as shown in table 3.11.

Table 3.11: Estimated Number of Calls, Telephone Lines, and Usage Charges Annually for the Basic VAT

Gross receipts threshold	Number of taxpayers (in millions)	Number of telephone calls (in millions)	Number of telephone lines required	1995 telephone line usage charges (in millions)
None	24.4	20.3	2,030	$34.5

Source: GAO estimates (see app. IV).

Major Publications Costs

Publications would be important in explaining the VAT to the general public, taxpayers, tax preparers, and other tax professionals. During the first year of Canada's tax, publishing and distribution costs were approximately US $4 per GST taxpayer. The three major types of publications used by Revenue Canada (discussed in more detail in app. IV) are a registration and informational booklet and kit, sector guides, and memoranda and technical information.

It was assumed that the same types of documents would be published and distributed in the United States, their size and number dependent upon the VAT's complexity. In the United States, existing publications could be amended to include VAT information. New publications, such as a document similar to the current Circular E, which explains the employment tax to taxpayers, could be developed and distributed.

IRS currently spends about $125 million per year for printing and $130 million for posting and distributing about 700 tax publications. Although the distribution facilities are currently operating close to capacity, an IRS official told us that they could be expanded if it were required. IRS Circular E (Publication 15) is somewhat larger in size than the Canadian GST Guide for Small Business. In 1991, Circular E cost approximately $750,000 for printing (on newsprint paper) and an additional $1 million for direct mailing; about 6.7 million copies were mailed and 2.6 million were distributed in bulk. We assumed costs for a major publication for the basic VAT would be approximately the same as IRS Circular E cost per taxpayer, or nearly $15 million for printing and mailing. Actual cost, of course, could vary considerably depending on the type of paper and the mailing weight. An IRS official told us that development of publications would require one to two additional professional staff (GS-13 level) at an annual cost of $114,000. Costs for publications are shown in table 3.12.

Table 3.12: Estimated Annual Recurring Costs for Publications

	Number	Cost (1995 dollars)
Copies printed and mailed	67.3 million	$14.7 million
Staff	2	114,000

Source: GAO estimates (see app. IV).

Preparation of memoranda and technical documents concerning the basic legislation, regulations, and attendant issues would be handled through IRS' Office of Chief Counsel. We did not estimate their costs since they are not within an IRS functional area. Memoranda would be of varying lengths depending on the subject. Printing of these documents would be a relatively small expenditure, but mailing them could add considerably to the cost. For this reason, use of electronic communications for memoranda and technical documents would be economical and desirable from IRS' standpoint.

U.S. Customs Service's Costs for Administering the VAT Border Adjustment

Cost of Collecting Tax on Imports

Customs collects duties or fees on virtually all legally imported goods. Because Customs does not generally capture duties on imported services, however, regulations might be needed to implement their collection for the VAT. Customs officials in Commercial Operations and at the Finance Center reported that they could use existing manual and automated systems with minimal additional staff. Because customs law does not currently impose duties on all imported goods and Customs has very little information on imported services, tracking and valuing these items may require additional resources.

Both the automated and manual systems deposit customs duties through a contract depository. About 90 percent of formal entry declarations by brokers are filed electronically using an automated interface. Electronic payment of estimated duties, taxes, and fees via electronic bank transfers through an Automated Clearing House (ACH) bank was begun in 1990. Interfacing with IRS would necessitate some additional telecommunications connections, but these could be accommodated through Treasury's existing Consolidated Data Network with additional lines.

Costs for Verifying Export Credits

Customs is in the process of developing an export control system (Automated Commercial Export System) based on the Automated Commercial System (ACS/Customs) for imports, and we used their estimates of costs for tracking exported goods. The export control system is intended primarily to improve the accuracy of export statistics, facilitate the rapid release of outbound cargo, and reduce or eliminate paper requirements. The system will process information similar to that used for tracking imports, and Customs officials thought it could be adapted to accommodate the needs for tracking exports for a VAT. Because the system is now approaching the pilot testing stage, implementation should fall well within the mid-decade VAT time frame. However, unless the system is implemented, the costs could not be assumed to be Customs costs; therefore, we have included them in our cost estimates.

Customs' cost estimate of $38 million over 5 years for the export control system was assumed for a VAT tracking system. The costs primarily cover equipment (processor, storage devices, terminals), telecommunications and data center personnel, including 27 full-time equivalent (FTE) staff-years. Customs is currently evaluating the need for an additional processor. If it is not needed, the costs will be reduced.

Costs for Customs' Information Transfer to IRS

Customs would supply information regarding businesses' imports and exports to IRS, which would use it to verify the proper amount of payment and later for compliance purposes. To provide IRS with the information, Customs would extract it from its ACS/Customs and the Automated Commercial Export System (ACES) that Customs has under development.

Software development would be necessary so that Customs could create a file that would be uploaded to IRS through a telecommunications link. Because there currently are no lines between the Customs data processing center (in Newington, VA) and the IRS data processing center (in Martinsburg, WV), we included the cost of leasing and maintaining a data communications line between these points.

Our cost estimates, shown in table 3.13, included the cost of extracting the information for IRS, based on the number of possible exporters (size of the database) and frequency of runs (monthly), plus the telecommunications costs (see app. II).

Table 3.13: Estimated Annual Recurring Costs for Customs' Information Transfer to IRS

Costs in thousands of 1995 dollars

Item	Cost
Staff costs (12 technical)	$457
Data communications (line lease and other costs)	126
Total	**$583**

Source: GAO estimates (see app. II).

Agency Comments and Our Evaluation

IRS officials expressed concern that they have no experience administering a VAT from which to gauge the validity of many of the assumptions the estimates are based on. The cost estimates inherently are based on assumptions, some of which were needed because there is no current U.S. data; other assumptions were made because we were looking to the future; and others because we do not know exactly what kind of a VAT, if any at all, Congress might enact. Whenever possible we stated explicitly the assumption and the basis for the assumption. Any variation from the assumptions would change the costs, and in many cases we tried to show how different assumptions might affect the estimates. We did this so that others could use this report as a building block to make cost estimates for other scenarios.

We made staffing and cost estimates for the largest functions—returns processing, audit, collections, and taxpayer services—based on IRS data, VAT experience in other countries, and states' retail sales tax experience in the United States. While we expect that these estimates are reasonable, given the basic assumptions, the estimates are not expected to be all-inclusive. The estimates are also not intended to be budget targets, but rather are orders of magnitude to inform Congress regarding the impact on costs of certain decisions, such as the number of businesses included and variations in the audit rate. We presume that IRS will be asked for its opinion of costs of administering a VAT if one is seriously considered by Congress.

With respect to IRS' concern about administering a VAT on services, other than some of the difficult-to-tax sectors that we mention in the report, such as financial services, we are not sure why services, per se, would be a problem with a value-added tax. Services are currently taxed in VATs in all major industrialized countries.

IMF officials expressed concern that our audit selection criteria appear to include an implicit contradiction between a focus on audits of large taxpayers, while simultaneously auditing a wide distribution of taxpayers. We were simply acknowledging the trade-offs between criteria that exist in any audit strategy. The audit scenario for the basic VAT is based on the current examination strategies of IRS (income and employment taxes) and states (retail sales taxes), which focus on large businesses, because these audits potentially yield the largest return to the government. On the other hand, we agree a wide distribution of audits is also necessary to deter noncompliance, and this is taken into account in the report. On the basis of their experience, the taxing authority must make the decisions on the trade-offs between these competing demands on audit resources.

IMF officials also made some suggestions about targeting and timeliness of audits—i.e., (1) VAT audits should be issue-oriented, and (2) timely audits are more important with a VAT than with income tax—with which we concur. We discussed a general audit approach without advocating a specific audit strategy. IRS currently targets businesses for audit, and Compliance 2000 includes a market segment approach.

IMF officials stressed the administrative burden of separate filing and payment processes. Our VAT assumptions are that filing and paying should be done together, and we emphasized this in the report.

Administrative Costs Are Reduced by Exempting Small Businesses

An important issue that must be addressed when structuring a VAT is whether to include small businesses in the tax base. In an attempt to reduce compliance and administrative costs, many countries exempt small businesses. In this chapter, the estimated costs for three thresholds are discussed.[1]

Small Businesses Are Commonly Exempted From VAT

Most often, the reason for business exemption is business size. The rationale for exemption is the added cost to small firms of complying with the accounting and reporting requirements of the VAT system as well as the administrative burden to the tax authority of overseeing numerous marginal revenue sources. A recent New Zealand study reported that on average, a firm with under $30,000 (about US $16,000) gross receipts spent 500 times as much (as a percentage of sales) to comply with the GST as a firm with over $50 million (about US $27 million) in receipts.[2]

Small businesses are exempt to some degree under most VAT systems, although the annual gross receipts threshold for exemption eligibility differs. In the OECD, thresholds range from the equivalent of US $61,000 in the United Kingdom to a little over US $1,000 in Norway and Denmark; EC recommends an exemption level of about US $6,700.

Exclusion of Small Businesses Decreases Administrative Costs

Because small businesses are marginal sources of revenue, many are unlikely to be selected for audit under an examination program with low audit coverage. Exemption of small taxpayers reduces the demand on audit resources without jeopardizing much revenue.[3] Exempting small businesses may be more evenhanded than reducing the audit rate, because it does not penalize more compliant taxpayers. Advocates of taxing all businesses, however, argue for the perceived fairness and economic neutrality of taxing all alike. In addition, there are administrative costs involved in ensuring that companies do not split up to take advantage of exemptions.

[1]No cost alternatives are given for Customs, because taxes on imports are not affected by business size, and there are likely to be very few exporters that are small businesses.

[2]Cedric Sandford and John Hasseldine, The Compliance Costs of Business Taxes in New Zealand, Victoria University of Wellington, Institute of Policy Studies (Wellington, New Zealand, 1992).

[3]Revenue losses from exempting small businesses are low for two reasons: (1) a small number of large businesses produce a disproportionate amount of the value added in the economy and (2) exempt firms will still be paying some taxes on purchases from firms in the VAT system.

A New Zealand official told us that the best way for a country to decide the coverage for a VAT may be to (1) determine the optimal number of taxpayers that can be administered and (2) exempt businesses below the point at which the number of taxpayers equals the number optimally administered.

Thresholds can be used to reduce both the administrative costs and the burden on small businesses without seriously reducing potential revenue yields. The experience of foreign countries shows that 80 to 90 percent of VAT revenue is derived from 25 percent of taxpayers. IRS data show that in the United States, when sole proprietors and farmers are included as businesses, 0.4 percent of the business income tax returns account for 70 percent of the income tax revenue.

To evaluate the benefits and costs of exemption, we included all businesses in the basic VAT to assess the upper limits of the costs and the impact on IRS' administrative burden. Then, to illustrate the cost savings available from eliminating small businesses from the tax base, we estimated costs for two exemption thresholds: (1) businesses with annual gross receipts over $25,000 and (2) businesses with annual gross receipts over $100,000. These thresholds reduced the number of taxpayers to 10.0 million and 5.4 million, respectively, excluding voluntary filers. (See app. I.)

If a threshold were established, small businesses with gross receipts below the threshold level could have the option to enter the system. Other countries' experience indicates that a substantial number may want to register. Being in the VAT system may be advantageous for small firms, because they can claim refunds for the VAT paid at earlier stages of production, which is especially advantageous for exporters.[4] Also, some have argued that companies may want to register for the VAT to appear larger because of perceived competitive gains. On the basis of the levels of voluntary registration in Canada, the United Kingdom, and New Zealand, we estimated that small businesses registering voluntarily would increase the number of taxpayers from 10.0 million to 12.2 million under a $25,000 threshold and from 5.4 million to 9.0 million under a $100,000 threshold.

Costs for Alternate Taxpayer Thresholds

The basic VAT with no threshold is based on the assumption that all businesses would be taxed. Most countries alleviate the burden on small

[4]The importance of these refunds will depend on the size of the rate and, if there are differential rates, the size of the difference between the (potential) rate charged on output and the rates paid on inputs.

businesses by excluding them from the VAT, except those that wish to voluntarily register for it. Table 4.1 shows estimates of administrative costs if businesses with less than $25,000 and less than $100,000 in annual gross receipts were excluded from the VAT.

Table 4.1: Estimated Annual Recurring VAT Administration Costs for Three Thresholds and Cost Differences

Costs in millions of 1995 dollars

	Threshold			Cost savings over basic VAT	
Function	**None**	**$25,000**	**$100,000**	**$25,000**	**$100,000**
Returns processing[a]	$ 129	$ 89	$ 55	$ 40	$ 74
Audit/examination	1,303	1,140	1,040	163	263
Collections	180	90	65	90	115
Taxpayer services	210	78	50	132	160
U.S. Customs	11	11	11	0[b]	0[b]
Total	**$1,833**	**$1,408**	**$1,221**	**$425**	**$612**

[a]Includes FRS and FMS costs.

[b]Costs for Customs appear to vary insignificantly between thresholds.

Source: Summary of GAO estimates from chapter 4 and appendices.

If small businesses were included in the system, costs would escalate. Overall, we estimated that a cost savings of more than $600 million could be achieved by establishing a threshold eliminating businesses with less than $100,000 in gross receipts annually.

The relative cost savings from reducing the number of small taxpayers are higher for returns-processing costs than for audit and examination costs. By establishing a threshold of $100,000, audit costs would be reduced by over 20 percent; however, because the costs of processing paper returns would be eliminated, the returns-processing costs would be reduced by more than 50 percent. In absolute terms, $337 million dollars would be saved in returns-processing and audit costs combined. Both taxpayer services and collections functions also show major administration cost savings with the $100,000 threshold—combined, this amounts to nearly $275 million in savings.

Marked cost savings—an estimated total of over $400 million dollars—could also be achieved by establishing a $25,000 annual gross receipts threshold. Total returns-processing and audit costs would be reduced $200 million. Collections and taxpayer services savings together would be about $220 million.

Returns-Processing Costs

Although electronic filing can be used by individual taxpayers and by businesses paying employment taxes, most taxpayers currently use paper returns to file their taxes and paper checks to pay them. IRS must convert paper documents to computer-readable form by manually inputting data from them or electronically scanning them.

During the last 10 years, electronic data interchange has developed into a mature technology. Its benefits include the elimination of manually inputting data, a reduction in errors, and more efficient processing, all of which should reduce costs. IRS, aware of the savings electronic data transfer can bring to the organization, has increased its electronic filing of individual returns from three sites to five. It has also undertaken a project to create electronic FTDs that is currently being pilot-tested.

IRS has developed an entire electronic communications project, the Electronic Management System (EMS), as part of TSM. The EMS will serve as a gateway for all incoming and outgoing electronic communications with the business community and ultimately may expand to serve individual taxpayers and the general public. In the EMS project, IRS has taken the position that it will not be the central processor of electronic information and funds but will be in a position to receive and transmit high volumes of electronic data from the central processor. Based on IRS' decisions and projects, it is clear that IRS is moving into the electronic environment. Therefore, we assumed that the VAT would be collected through electronic media.

Once considered to be much too futuristic, the idea of concurrent filing and paying through an electronic process is now feasible. However, not all of IRS' pilot studies are considering collecting payment and information together. The concept of filing and paying together was developed and discussed in a GAO paper.[5] In addition, a number of states are testing similar procedures.

In our VAT design, an agreement between the taxpayer and the taxpayer's bank would allow the account to be debited for authorized amounts. The taxpayer would make a payment by calling the central processor (the

[5] A Conceptual Approach for Improving IRS' Federal Tax Deposit System (Discussion Paper), GAO/AFMD, December 1990.

Federal Reserve Bank) to notify the processor of the amount of taxes owed. The central processor then would debit the taxpayer's bank account for the authorized amount through the ACH. The central processor would notify IRS of the amount received along with information from the "return" in the form of electronic data.

The cost estimates shown in table 4.2 were based on filing assumptions described in appendix II. With technology changing so rapidly, we recognized that the estimates may be imprecise; however, we believed that they would serve as useful bases for comparison. Further explanation of these numbers is given in appendix II.

Table 4.2: 1995 Estimated Annual Recurring IRS' Costs for Returns Processing With the Basic VAT

Type of return filed based on gross receipts of business
Costs in millions of 1995 dollars

Threshold	Number of taxpayers (millions)	Number of returns (millions)[a]	Cost of mailing returns	Cost to process returns	Cost to process coupons	Cost of refunds	Maintenance staff and other	Registration[b]	Total costs
No threshold	24.4	134.4	$5.7	$89.5	$1.5	$9.4	$10.7	$9.9	$126.7
Paper	14.4	14.4	3.3	29.7	1.5	1.0	N/A	5.9	41.4[c]
Electronic	10.0	120.0	2.4	59.8	0	8.4	N/A	4.0	74.6[c]
More than $25,000	12.2	122.2	2.6	62.6	0.1	8.5	10.7	4.9	89.4
Paper	1.1	1.1	0.03	2.3	0.1	0.1	N/A	0.4	2.9[c]
Electronic	11.1	121.1	2.6	60.3	0	8.4	N/A	4.5	75.8
More than $100,000 (all electronic)	9.0	68.4	2.1	33.9	0	4.8	10.7	3.6	55.1

N/A = not applicable

Note: Detail may not add to total due to rounding. Note that these are IRS costs; FMS costs for refunds processing are not included.

[a]Includes returns for voluntary filers.

[b]Recurring (annual) registration costs only.

[c]Excludes maintenance staff costs.

Source: GAO estimates (see ch. 3 and app. II).

As shown in table 4.2, 56 percent, or almost $72 million, could be saved in returns-processing costs by establishing a $100,000 threshold. Establishing a $25,000 threshold would cause a cost savings of 29 percent in returns-processing costs over the basic VAT. The assumptions about paper versus electronic filing could change the costs dramatically. With a $25,000 threshold, we assumed that a minimum number—1.1 million, which is half of the voluntary filers under $25,000—would use paper documents and file on an annual basis.

Refund Payment

Refunds processing would be handled jointly by IRS and Treasury's FMS—IRS would process the data, and FMS would make the payments. We estimated costs on the basis of the taxpayer's method of filing. Those filing paper returns would receive paper checks, and those filing electronically would receive the refund directly into their bank accounts. (See also app. II.) Numbers of refunds and the estimated costs for the various thresholds are shown in table 4.3.

Table 4.3: Estimated Annual Recurring Costs for Refund Payments for Three Thresholds

Includes voluntary filers
Costs in thousands of 1995 dollars

	No threshold		More than $25,000		More than $100,000	
	Number of refunds (millions)	Cost	Number of refunds (millions)	Cost	Number of refunds (millions)	Cost
Total IRS	20.16	$9,357	18.33	$8,507	10.26	$4,762
Electronic	18.00	8,354	18.16	8,431	10.26	4,762
Paper	2.16	1,002	.16	77	N/A	N/A
Total FMS	20.16	2,036	18.33	1,239	10.26	662
Electronic	18.00	1,161	18.16	1,172	10.26	662
Paper	2.16	875	.16	67	N/A	N/A
Total	**20.16**	**$11,393**	**18.33**	**$9,746**	**10.26**	**$5,424**

N/A=Not Applicable

Note: Numbers may not add to total due to rounding.

Source: GAO estimates (see app. II).

FMS' costs for making refund payments would be very small if they could be handled electronically, as with the $100,000 threshold. IRS would, however, still incur costs for information processing.

Audit Costs: The Number of Auditors Required Is Related to the Size and Composition of the Taxpayer Population

The number of taxpayers has an obvious correlation to the number of auditors who must be employed. The total number of taxpayers, however, is only one factor to consider in estimating audit staffing. Another consideration is the relative mixture of different classes of businesses in the taxpayer population. Because of the varying degrees of examination coverage for taxpayers of different classes (i.e., large businesses requiring more extensive audit coverage than smaller businesses), estimates of sufficient audit staff must also take into account the average size of taxpaying businesses. Given the longer and more frequent audits of large taxpayers, the appropriate ratio of auditors to taxpayers would necessarily increase under a higher gross receipts threshold.

Our basic VAT assumption was that nearly all businesses would be taxable, for a total of 24.4 million taxpayers. Here again, we considered two alternate thresholds of $25,000 and $100,000 in annual gross receipts. The audit resource requirements and costs for the basic VAT system and the two alternate thresholds are detailed in table 4.4.[6]

Table 4.4: Estimated Examination Staff Costs for Three Thresholds

Costs in billions of 1995 dollars

Gross receipts threshold	Number of taxpayers (in millions)	Percent audited	Hours per audit	Total staff-years	Total staff costs
None	24.4	7.8	9.4	21,835	$1.30
$25,000	12.2	10.6	11.9	18,850	1.14
$100,000	9.0	11.7	13.3	17,087	1.04

Source: GAO estimates (see ch. 3 & app. III).

Audit Program Costs: $25,000 Threshold

With a registration threshold of $25,000 annual gross receipts, the estimated taxpayer population decreased from a total of 24.4 million to approximately 12.2 million. Under this scenario, our estimate of the level of annual audit coverage increased to 10.6 percent of taxpayers. Average time per audit increased from 9 hours to nearly 12 hours. The increase in audit rate and time reflected the relatively greater individual revenue potential of the 12.2 million taxpayers as opposed to the population of 24.4 million taxpayers, which consists of a large number of small businesses that are marginal revenue sources. An annual audit rate of 10.6 percent and an average audit length of 12 hours for a taxpayer population with

[6]The reduction in audit costs is dependent on our assumed audit rates. If more audit resources were devoted to small companies, the savings from exemption would be larger.

more than $25,000 annual gross receipts are comparable to those of the United Kingdom and New Zealand.[7]

Our estimate of the personnel required for this level of audit coverage of a population of over 12 million taxpayers amounted to a total of 18,850 staff-years. Of this amount, 14,800 would be auditors directly involved in taxpayer examinations with the remainder comprising management and support staff. The total personnel costs for audit program staffing would amount to an estimated $1.14 billion in 1995 dollars. (This represents a 12.5-percent reduction in enforcement staff costs compared with the costs for a population of 24.4 million taxpayers.) Purchases of laptop computers would generate an additional $30 million in one-time costs.

Audit Program Costs: $100,000 Threshold

If the registration threshold were set at $100,000 annual gross receipts, we estimated that the taxpayer population would be approximately 9 million (see table 4.4). Under this scenario, the rate of audit would increase to nearly 12 percent and the average audit length to just over 13 hours. Our estimate of the personnel required for this level of audit coverage of a population of 9 million taxpayers was about 17,000 staff-years. Of this amount, 13,400 would be auditors directly involved in taxpayer examinations with the remainder comprising management and support staff. The total personnel costs for audit program staffing would be $1.04 billion in 1995 dollars. (This represents a 9-percent reduction in enforcement staff costs compared with the costs for a population of 12 million taxpayers, and a 20-percent reduction compared with the costs for a population of 24.4 million taxpayers.) Purchases of laptop computers would generate an additional $25 million in one-time costs.

Collections Costs

Costs for the collections function are proportionate to the number of taxpayers. We estimated that collections costs for a population of 24.4 million taxpayers would be $180 million annually. In estimating the collections costs for the two alternate scenarios, we assumed, for simplicity, a linear relationship between the number of taxpayers and the number of collections cases, although collections cases might decrease by a greater percentage than the decrease in taxpayers given the reductions in the number of small taxpayers. Projected costs of the collections function for the two thresholds are detailed in table 4.5.

[7]In 1992, the United Kingdom raised its threshold for mandatory registration from US $36,000 to approximately US $61,000. New Zealand's threshold is about US $13,000.

Table 4.5: Estimated Collections Staff Costs for Three Thresholds

Costs in millions of 1995 dollars

Gross receipts threshold	Number of taxpayers (in millions)	Collections staff costs
None	24.4	$180
$25,000	12.2	90
$100,000	9.0	65

Source: GAO estimates based on costs detailed in ch. 3.

Taxpayer Services Costs

As can be seen in table 4.6, the thresholds directly affect the cost of taxpayer services. Although we assumed that the workload would be integrated in the IRS taxpayer services function and staffing would not be differentiated by type of tax, the existing staff levels could be raised substantially, especially if small businesses with annual gross receipts of less than $25,000 paid VAT. More taxpayers, particularly small taxpayers, would increase the number of taxpayers to educate and respond to and also generate more telephone calls; larger businesses are more likely to rely on trained accountants or tax preparers.

Table 4.6: Estimated Taxpayer Services Costs for the Basic VAT for Three Thresholds

Costs in millions of 1995 dollars

Gross receipts threshold	Taxpayers (millions)	Staff (thousands)	Staff costs	Telephone calls (millions)	Telephone line usage charge	Publications costs	Total costs
None	24.4	4,500	$161.1	20.3	$34.5	$14.8	$210.4
$25,000	12.2	1,450	51.9	8.1	18.3	7.4	77.6
$100,000	9.0	900	32.2	5.4	12.2	5.5	49.9

Source: GAO estimates (see app. IV).

Instituting thresholds decreased the estimated taxpayer services cost from about $9 per taxpayer to about $6 per taxpayer with the $25,000 threshold and to about $5 with the $100,000 threshold. The largest cost saving is in the staff required for educating and assisting the taxpayers.

Agency Comments and Our Evaluation

Customs was concerned that the broad-based tax we used as our basic VAT would tax goods currently exempted from tariffs or tax merchandise with little value. We agree that taxing currently exempted tariffs would require Customs to establish new procedures, because the fact that a good currently is duty-free is not relevant as to whether it should be exempt from a VAT. On the other hand, under the basic VAT, low-value imports, including goods of less than $400 value acquired abroad brought in by passengers, could be exempt from a VAT, similar to exempting occasional sellers, to alleviate costs of administration and compliance.

Similarly, IMF strongly advocates setting thresholds to reduce the number of taxpayers, not only for the purpose of reducing administrative costs, but also to allow tax administrators to focus on promoting voluntary compliance. While we acknowledge that administrative costs would be reduced with thresholds, this would be a policy decision for Congress to make.

Customs officials commented that they refund tariffs only on exported goods, all or part of which were previously imported ("drawback"), and that new regulations and procedures would have to be established to verify claims for refunds of all VATs previously paid, whether the goods are imported or produced domestically. While export data would be used for verification of VAT refund claims, we recognize that drawback and VAT refunds would be independent calculations that should be included in the same reporting system. The jurisdiction of proprietary information would have to be worked out between Customs and IRS and, if new legislation is necessary, with Congress.

Effects of Alternate Designs on Tax Administration and Compliance

Congress would have to consider a number of fundamental design issues should it debate the merits of implementing a VAT in the United States. The key design issue in structuring a VAT is whether to use multiple tax rates and/or exemptions on goods and services to reduce the regressive impact of the tax on low-income taxpayers. The level of VAT administrative costs and taxpayer compliance burdens hinges largely on the resolution of this issue. A corollary issue is the choice between the credit-invoice and subtraction methods of calculating the tax; only the credit-invoice method can accommodate multiple rates and exemptions. In addition, whether to include nonprofit organizations and governments under the tax involves trading off equity and efficiency benefits against small revenue amounts and disproportionately high administrative costs.

Multiple Rates, Exemptions, and Zero-Rating Are Mechanisms for Offsetting Perceived Regressive Impact of a VAT

A VAT is a tax on consumption to which the poor generally devote a greater percentage of their annual income than the rich. There are those who argue, however, that a VAT may be less regressive over a lifetime than it is on an annual basis. In any case, a VAT is more regressive than the current income tax, because very high income households do not generally consume all their income over a lifetime.

To reduce the tax burden on lower income consumers, many U.S. states and foreign countries that tax consumption through value-added or sales taxes apply lower tax rates to or exempt purchases of certain goods or services, such as food and medicine. Although these mechanisms may reduce the regressive nature of a VAT, they introduce complexity to tax administration. Other methods, such as tax credits and transfer payments, are currently used in the United States and may be an alternative way to address regressivity.

Multiple Rates Are Expensive to Administer

Most countries that have VATs use multiple rates—typically, a standard rate, a reduced rate for necessities, and sometimes a higher rate for luxury items. The additional record-keeping and calculations associated with multiple rates can increase compliance and enforcement costs.

In the United States, this effect can be observed in those states where local sales taxes are administered by the state tax authority in conjunction with the state's own sales tax. In states where local rates are set at the discretion of local authorities, the overall sales tax rate may vary widely across the state. To properly disburse the receipts, the state tax authority must ensure that the tax collected for each transaction is at the correct rate for the location where the transaction occurred. Likewise, businesses with statewide sales need to maintain separate accounting for all selling points to calculate their overall tax liability.

Although the context in this example is geographical—applying the correct tax rate for a given location—the problem is similar to that of applying the correct tax rate to a given product. Officials in one state with a particularly complicated rate structure informed us that the tax could be administered at one-half the cost if the rate structure were simplified.

Exempting Goods and Services Does Not Entirely Eliminate the VAT

Exemption of goods and services is another way some countries have addressed regressivity associated with a VAT. Exemption of a good or service from the VAT however, does not entirely eliminate the tax from the price of the exempt products. When a business sells an exempt product, it collects no VAT on that sale. The business, however, will have paid tax on purchases of goods and services, such as maintenance, utilities, and transportation, that are related to its operation. The exempt product itself will consist of components, such as packaging, for which tax was paid at some point during manufacturing. Since no credit is available for tax paid on purchases related to the sale and manufacture of exempt products, these prior tax payments are part of the seller's cost and will be included in the price the consumer pays for the product. Therefore, although the product is tax-exempt, it is not tax-free, because some amount of tax remains hidden in the price of the product.

Unless exemptions apply to an entire class of items, such as food of all types, there arise many definitional questions over what is and is not an exempt item. For example, until recently, California exempted from its sales tax all types of food purchased for home consumption. In an effort to reduce that state's budget deficit, this exemption was narrowed to permit an 8.25-percent tax on items considered snack foods. Tax administrators had to engage in a highly publicized effort to determine whether an item such as whipped marshmallow from a jar, which is used for baking, is more deserving of tax exemption than regular marshmallows, which are often eaten straight from the bag. Also under this regime, doughnut holes are taxable, while whole doughnuts are not. Fine definitional distinctions such as these are a burden to both business and tax authorities.

From the standpoint of efficiency, exempting products from the tax would reduce some portion of the tax base, requiring a higher tax rate on taxed goods to earn the same revenue as a broad-based tax. From the standpoint of equity, exempting products would (1) benefit all purchasers of the exempt product, rich or poor; and (2) fall short of providing the maximum degree of relief to those for whom the benefit is intended, since exemption does not eliminate the tax entirely. Exemptions also complicate taxpayer compliance and create administrative burdens as well.

Exemptions of Goods and Services and Multiple Rates Can Create Compliance Problems for Business

Multiple rates and exemptions of goods and services complicate the tasks of pricing and accounting for businesses that trade in both taxable and nontaxable items or that trade in products taxed at various rates. Larger firms can usually afford to invest in the sophisticated point-of-sale equipment necessary for accurate accounting of mixed taxable and nontaxable sales or variations in rates. For instance, out of the 31,000 supermarkets (stores with sales of $2 million or more annually) in the United States, 23,000 were equipped with electronic scanners that automatically determined the tax on each item; fewer than 500 of 57,000 convenience stores had this equipment. For smaller firms, with less automated procedures, delineating between sales of taxable and nontaxable items or sales at different rates can impose a heavy compliance burden.

Canada allows small- and medium-sized retail businesses selling a mix of basic groceries and taxable goods to use a streamlined accounting procedure that only approximates their tax liability but eliminates the need to account for the tax collected on sales of every item. Under some circumstances, the amount of tax liability can be marginally higher under Canada's streamlined method than when calculated separately. However, the reduced compliance costs can make it preferable for some companies.

A Subtraction Method VAT Would Be Defeated by Exemptions and Multiple Rates

Product exemptions and multiple rates cannot be reconciled with the subtraction method VAT.[1] The biggest problem is that it is very difficult to trace how much tax was or was not paid on a good as it moves up the production chain through exempt and taxable phases. Under the subtraction method, the tax is calculated by subtracting purchases from sales and multiplying the difference by the rate of tax. If more than one rate applies, or if some transactions are tax exempt, the net difference between sales and purchases cannot be the basis for calculating the tax.

[1]One proposal to accommodate exemptions under the subtraction method would require businesses to record taxable and nontaxable purchases separately. However, this method introduces compliance and administrative difficulties and offers no solution to the problem of multiple rates. For further discussion, see Charles E. McLure, Jr., The Value-Added Tax: Key to Deficit Reduction?, Washington, D.C., 1987, pp. 76-86.

The difference must be broken down into portions corresponding to the percentage of sales and purchases that were tax exempt or that were taxable at different rates. Taxpayers might forego taking such care and inexactly apportion net income to different tax categories. The tax authority would have to review the total transaction record to verify tax liability. As one result, calculating rebates for exports would be very inexact and could lead to taxing or subsidizing exports instead of neutral treatment.

The credit-invoice method can handle multiple rates, even though the system becomes more complex and compliance and administrative costs are increased. The subtraction method simply cannot properly keep track of multiple rates, and the resulting taxes paid and credited by companies under such a system become arbitrary.

Zero-Rating Eliminates the VAT From the Price of the Goods or Services

Under a VAT, favorable tax treatment can also be accorded certain products by using what is known as a zero rate. Zero-rating is a mechanism for removing the tax on sales of products while allowing businesses to claim credit for tax paid on inputs related to their manufacture. When a product is sold at the zero rate, VAT is considered charged at a rate of 0 percent and is so listed on the invoice.

Because zero-rating completely eliminates the tax from the price of a good or service, preferential tax treatment is sometimes accorded in this way to items like food and medicine. While charging tax at 0 percent may seem counterintuitive, zero-rating has the advantages of (1) providing a mechanism for businesses selling tax-free products to claim credits for taxes paid earlier in the production and distribution process and (2) serving to maintain the integrity of invoice records that auditors use to verify the figures claimed on businesses' VAT returns. Canada adopted zero-rating of basic groceries as a component of its 1991 GST, and the United Kingdom uses zero-rating on purchases of food, medicine, and children's clothing.

Under zero-rating, not only would there be no tax on the product, but there would also be a rebate of taxes previously paid on the inputs that went into the product. In addition to the administrative burden of paying refunds, the biggest disadvantages to zero-rating products would be the revenue loss that would ensue and the fact that tax advantages are shared by the poor and wealthy alike. According to the February 1992 CBO report on value-added taxation,[2] a narrowly based VAT with zero-rating for necessities would raise from 20 to 50 percent less revenue than a broad-based VAT. To obtain the same level of revenue as a broad-based VAT, the VAT rate would have to be set higher, reducing the amount of relief for low-income households that zero-rating is intended to provide.

If what is sought is the maximum possible tax relief on purchases of necessities, zero-rating of goods and services is better than an exemption. The price to the consumer of zero-rated goods is less than that of exempted goods, because exemption does not remove the tax paid on inputs related to the sale and production of the goods. From a business perspective, sales of zero-rated goods are preferable to sales of exempt goods because businesses can recover tax paid on inputs directly from the government, instead of having to include it in the prices of their products. Because zero-rating credits the entire amount of input tax, it provides less revenue to the government than product exemption.

Economic Aspects of Exemptions and Multiple Rates

According to tax experts, the disadvantages of multiple rates and exemptions, in terms of the inefficiencies they create, outweigh any gains from reduced regressivity. Tax economist Henry Aaron stated that "...the use of multiple rates and especially of exemptions complicates administration and compliance and distorts consumption in ways that are unlikely to promote economic efficiency."[3] As a result, some EC countries are moving away from employing multiple rates.

Exemptions or lower tax rates have the added disadvantage of indiscriminately applying these benefits to middle- and upper-income households for whom tax preferences are not intended. According to Sijbren Cnossen, a noted authority on value-added taxation,

> "...rate graduation is a very blunt and expensive instrument to mitigate regressivity. As household budget expenditure surveys indicate, the rich generally benefit twice as much as the poor in absolute amounts. This is because, for VAT purposes, it is nearly impossible to distinguish, say, expensive higher-quality food products bought by the rich from less

---

[2]Congressional Budget Office, Effects of Adopting a Value-Added Tax, Table 8, p. 22.

[3]Henry J. Aaron, ed., The Value-Added Tax: Lessons from Europe, The Brookings Institution, Washington, D.C., 1981, pp. 8-9.

expensive ordinary food products bought by the poor. But if such a distinction is not feasible, lower rates become less effective in mitigating the regressivity of the VAT."[4]

Cnossen and others also argue that under a uniform rate structure, some of the apparent inequity is mitigated if lifetime consumption patterns are considered rather than annual consumption patterns. Because some portion of those who are in the low-income population are there temporarily—they are young and will earn higher incomes when they get older or they are having an off year—they may be consuming more than other low-income people whose incomes are permanently low. This phenomenon raises the ratio of consumption to income when measured on an annual basis. If looked at from a lifetime perspective for most people, consumption and income are approximately equal; hence, a single-rate VAT would be proportional to income for the vast majority.

Regressivity Can Be Addressed Outside of the VAT System

Income tax credits or transfer payments are, according to most tax experts, the preferred remedies to problems of VAT regressivity because they target those in need and limit the revenue losses that derive from tax relief. When it implemented a VAT as part of its tax reform effort in 1986, New Zealand decided that it would be more beneficial to deal with regressivity outside the VAT system. It implemented a broad-based VAT without exemptions for the majority of goods and services—including food and medicine. To offset the regressive effects of the VAT, New Zealand targeted assistance to low-income households through a complex system of tax credits, which integrated social welfare payments with the income tax. In the United States, tax credits and transfer payments are currently in use and may be a way to address regressivity if a VAT were implemented.

Refundable Tax Credits

In the United States, the earned income tax credit, a refundable income tax credit available to low-income wage earners with children, provides a model for how the current income tax system could be used to remedy a VAT's regressive effects. The amount of a credit could be set at the average amount of VAT paid by a low-income individual or household. Taxpayers would be able to use this credit to offset any income tax liability. Those who pay less income tax than the amount of the credit, including those whose income is so low that they are not required to file an income tax return, would receive a refund from the government.

[4]Sijbren Cnossen, "Key Questions in Considering a Value-Added Tax for Central and Eastern European Countries," International Monetary Fund, Staff Papers, Vol. 39, No. 2, July 1991. In addition, Cnossen has found that, in the EC, multiple rates have not effectively reduced regressivity. He suggests that consumption patterns of various income groups have converged.

One criticism of refundable tax credits, however, is that they impose a steeper marginal tax rate on lower-middle-income taxpayers than on other taxpayers. As taxable income rises, the credit is reduced, until income reaches the level where the taxpayer is no longer eligible to receive the credit. The lessening of the credit with each added dollar of income means that the credit recipient is paying proportionately more tax on each additional dollar of income than taxpayers who earn more, but do not receive the credit.

The advantages of using a refundable credit to address regressivity associated with a VAT are that (1) a refundable credit targets those households that really need the assistance, unlike exemptions on necessities that benefit all households regardless of income; (2) Treasury loses less revenue because the VAT base could be kept as broad as possible; and (3) the tax system is streamlined because regressivity is remedied through an existing mechanism (the income tax), allowing the VAT to remain simple.

A disadvantage of using a refundable credit to address regressivity is that many in the low-income population, who presently are not required to file a tax return, would have to file a return to receive the credit. This could impose a compliance burden on this population. Assuming those who are entitled to refunds are made aware of this requirement (a potential problem in itself), there could be a substantial additional burden on IRS from processing and reviewing income tax refund returns. This additional workload, however, could be offset by the greater administrative simplicity that a broad-based VAT affords.

Transfer Payments

Increasing transfer payments, including Aid to Families With Dependent Children (AFDC) and food stamps as well as some Social Security benefits, is a more direct way than tax credits to ameliorate the effect of a VAT on lower income households. Unlike tax credits, transfer payments could reach those whose incomes are below the filing threshold without requiring them to file tax returns. Raising payments and benefits by the same percentage as the tax rate (i.e., indexing) could be more efficient than product exemptions and reduced rates in reaching those who need assistance the most. This would minimize any tax administration and compliance burdens caused by increased filing.

In the United States, adjusting transfer payments (e.g., Social Security and AFDC) would be one way of compensating lower income households for a VAT. However, social welfare program coverage is far from universal.

According to statistics published by the House Ways and Means Committee, only 58 percent of children in poverty received AFDC benefits in 1989.[5] Also, the social stigma attached to welfare may discourage many low-income individuals adversely affected by a VAT from applying for remedial benefits.

Structure of the VAT in Foreign Countries

Most EC countries established multiple tax rates in their VAT systems for equity purposes.[6] The EC nations have each agreed to limit their VAT rates to no more than two: a reduced rate for necessities and a standard rate on all remaining taxable transactions.

In recent years, some countries implementing VATs have moved away from multiple rates and exemptions. In 1986, New Zealand, having examined the experiences of other countries, chose to avoid the pitfalls of multiple rates and exemptions by legislating a single-rate, broad-based VAT. South Africa also enacted a single-rate, broad-based VAT in 1991. Japan recently adopted a single-rate subtraction method VAT. One exception to this trend is Canada, which chose to zero-rate basic groceries.

The EC and New Zealand experiences show a clear contrast between complex and simple tax designs. The simple design adopted by New Zealand has proved to be relatively inexpensive to administer. Estimated VAT administration costs per New Zealand business taxpayer amounted to US $46 in 1987, the latest year for which figures are available. This is significantly less than the administrative costs incurred by many EC countries, nearly all of which employ significant base exemptions and multiple rates in their VAT systems. In 1986, for example, VAT administration costs were approximately US $175 per taxpayer in Belgium and US $200 per taxpayer in the United Kingdom.

[5]U.S. House of Representatives, Committee on Ways and Means, 1991 Green Book, May 7, 1991, Table 22.

[6]James M. Bickley, Value-Added Tax: Concepts, Policy Issues, and OECD Experiences, Congressional Research Service, Economics Division, November 27, 1989.

Specific Aspects of Tax Administration That Are Affected by the Inclusion of Exemptions and Multiple Rates

While it is not possible to precisely quantify the difference between the overall administrative costs of a simple tax versus a complex one, there are significant functional areas in tax administration where the effect of complexity on costs is demonstrable. These include audit, taxpayer services, and the transition to full implementation of a new tax.

State and International Experiences With Multiple Rates and Exemptions

A complicated tax creates more opportunities for taxpayers to misreport—through error or intention—their true tax liability than does a uniform tax. To ensure against misreporting, auditors cannot rely as much on selective sampling as an indicator of compliance.[7] More transactions must be reviewed for a wider range of products to safely determine whether all taxable transactions are reported and the correct rate of tax applied. Errors are more prevalent with a complicated tax, particularly among smaller businesses.

Sales tax auditors we spoke with were firm in the opinion that a uniform tax requires significantly less audit effort than does a more complex tax that has multiple rates or exemptions. A Texas state auditor told us that exemptions and variable rates make an auditor's task more than twice as complicated as it would be under a flat-rate, broad-based tax and that between 60 and 80 percent of the issues confronted in sales tax audits concern exempt sales. California auditors informed us that a broad-based tax would reduce the need for audits by 60 to 70 percent because the opportunity for noncompliance through exempt sales claims would be taken away.

The most resource-consuming task in any tax administration is ensuring that taxpayers correctly apply and report exemptions, rate variations, and other exceptions. The primary means for ensuring compliance is through selective audits. As noted above, auditors identified exemptions and multiple rates as contributing to the length and complexity of audits. A reasonably thorough sales tax audit program should, in the opinion of sales tax experts, average 55 hours of auditor time per audit. Some states report an average length of 75 hours or more. Tennessee, one of a minority of states with no sales tax exemption for food, completes sales tax audits in an average of 37 hours.

[7]Selective sampling is discussed in appendix III.

Empirical evidence of the effect of exemptions and multiple rates on an audit program comes from France, which reported in 1990 that an average of 40.6 percent of audits identified ineligible claims for input tax credits relating to the sale or production of tax-exempt products. An average of 5.6 percent of audits identified instances where the incorrect tax rate was applied (as of 1991, France's tax had five separate VAT rates).[8]

Audit Costs Reflect the Degree of Tax Complexity

In making cost estimates for the examination function of the basic VAT, we assumed a reasonably uniform tax with a single rate and minimal number of exemptions. While we cannot quantify precisely the effects on administration costs that would result from a less uniform tax, these could be substantial, particularly over a period of years. As noted, sales tax auditors believe that nonuniformity in a tax substantially increases the audit oversight that is required as well as the complexity of audits. It is probable that if a tax were not structured simply, a high degree of oversight would be needed until taxpayers and tax administrators gained enough experience for such oversight to be reduced. This was the case with the United Kingdom's VAT, for which, between 1988 and 1991, the rate of audit was reduced from over 20 percent annually to about 6 percent.

Another cost consideration is the effect of subsequent changes to the taxable base. If maintaining the uniformity of a tax is not a priority, there is more incentive to legislate additional exemptions. A state official responsible for tax auditor training told us that such changes have an enormous effect on an examination program. He explained that when a portion of the tax base significant to particular taxpayers becomes exempt, or in some way changes, those taxpayers must be revisited and educated about the change so that they remain in compliance with the tax laws.

Although it is difficult to offer concrete estimates of the effect of tax complexity on administrative costs, if the opinions offered by tax administrators are taken as a guide, the effect could be a 30- to 50-percent increase in the cost of the tax examination program. This would increase the estimated cost of the examination program for the basic VAT system from $1.3 billion to between $1.7 billion and $2 billion. The higher cost could come about through a combination of increased audit coverage, longer audits, and employment of more highly qualified examiners.

[8]Denis Duverne, Coordination of Income Tax and VAT Audits, (paper presented at the International Conference on Administrative Aspects of a Value-Added Tax, Washington, D.C., October 11-12, 1990).

International Experience Indicates Tax Complexity Increases Demand for Taxpayer Services

Multiple rates and exemptions pose additional burdens for the taxpayer services function and raise the costs of administering the tax. If all goods and services are taxed, questions about what is and is not taxed are avoided. These questions are a major portion of the demand on the taxpayer services lines. New York state tax administrators said that most of the 50,000 to 60,000 calls received from vendors and practitioners each week on their tax inquiry telephone lines are questions regarding what is taxable or not taxable; about 1,000 of these calls are from practitioners. They emphasized the advantages of a simple, single-rate tax with as few exemptions and exclusions as possible. If complexity is introduced into the tax, establishing clear definitional distinctions to minimize the burden for both the taxpayer and the tax administrator is crucial.

Since the implementation of Canada's GST, its taxpayer services program has concentrated on responding to electronic and telephone inquiries from taxpayers. Canada's GST is complicated by numerous exemptions to the tax base and special concessions for small businesses and charities. In the first 12 months of the Canadian GST, 3.8 million telephone inquiries were received, or more than 2 per registered taxpayer. Initially, standard responses for about 350 "most-asked" questions were prepared but, 6 months into the tax, the "most-asked" list had expanded to about 3,500 questions.

Impact of Complexity on Taxpayer Services Costs Can Be Shown

The experiences of states and IRS in providing educational information and responding to taxpayers' inquiries indicate wide variation in staffing levels and in the number of telephone lines required. (See app. IV.) Based on assumptions reflecting differences in staffing levels and in length and number of telephone calls resulting from VAT complexity, the cost of taxpayer services could be more than half again as much with a complex tax as with a simple tax. If all taxpayers are taxed, as in the basic VAT, but a more complex tax is adopted, the taxpayer services costs could be over $350 million compared to $210 million estimated for the basic VAT.

Complications Drive Up Transition Costs

Multiple rates, exemptions, or other complications would drive up the costs of implementing a VAT (i.e., transition costs) by requiring more taxpayer education on all levels. Revenue Canada spent about US $6 million to $8 million on advertising.[9] Many of Canada's publications were dedicated to explaining how more complicated aspects of the GST

[9] Revenue Canada purchases advertising time, whereas free television advertising time is donated to IRS by the Advertising Council.

operated, one example being the guide to tax rebates available to qualified charities and nonprofit organizations.

Some Sectors Can Be Exempted From the VAT

In some instances, an entire business sector is exempted from the VAT. Chapter 1 discussed the exemption of financial intermediaries, insurers, and real estate due to the difficulty of identifying value added in those industries. VAT exemption can also be extended to sectors involved solely in the production of exempt products, such as agriculture, as is the case in most of EC (with the exception of Denmark and the United Kingdom). Conversely, certain sectors that might normally be exempt under different forms of taxation are taxable under a VAT. These include the government and nonprofit sectors—normally tax-free under the U.S. income tax—that often provide services that are also provided by the private sector. For purposes of economic neutrality, these public and nonprofit services could be taxable under VAT.

Charitable/Nonprofit Organizations

Many activities conducted by nonprofit concerns are the same as those carried on by commercial enterprises. Nonprofit activities range from local sales of Girl Scout cookies to major sporting events or large educational programs. Exempting significant activities from a VAT may create an economic distortion and defeat the neutrality of the tax.

Historically, the United States has afforded special tax treatment to organizations that engage in charitable, educational, religious, and certain other "not-for-profit" activities. In recent years, there has been less acceptance in some countries of an automatic need by this sector for special status. New Zealand's GST affords no special treatment to such organizations.

Income earned by nonprofit and charitable organizations on business activities unrelated to their charitable mission is taxable under the federal income tax. The distinction between related and unrelated income has proven to be an ongoing problem in IRS audits of these organizations, which have an incentive to characterize income as mission-related to shield it from tax. IRS auditors have had substantial difficulty verifying such claims because accounting and record-keeping among nonprofit and charitable organizations are often far less than adequate. Audits tend to be time-consuming because auditors must reconstruct the records and accounts of these organizations. Should a VAT apply only to unrelated business sales by these organizations, the same problems could be expected to occur.

A major reason for including nonprofit organizations in the tax system is to enable these organizations to file for refunds of tax paid on purchases. This is the same reason that many businesses prefer not to be exempted from the VAT (see ch. 4).

The Public Sector Can Be Taxed

Questions of competitive equity and intergovernmental relations arise with taxation or exemption from taxation of governments. Governments may provide goods and services to consumers, with or without charge, that compete with commercial enterprises. Government services, such as transportation, medical care, and utilities, are often equivalent to services provided by businesses. Lifting the tax on government-provided services while taxing equivalent commercial services may discriminate against the private sector and is an argument for including governments in the tax system. Regardless of whether a government provides taxable services, inclusion in the tax system offers a mechanism to credit government organizations for VAT paid on purchases of supplies and equipment.

Different countries treat the government sector differently under their VAT systems. Most European countries exempt governments, taxing only those activities that are in direct competition with commercial businesses. They apply the basic rule that if the activity is taxable when it is provided by private firms, it should similarly be taxable when provided by governmental units. New Zealand, on the other hand, taxes all supplies of goods and services to and by governments on the same basis as supplies to and by other taxable producers, unless explicitly exempted. This approach ensures that the tax is applied in a neutral manner to both the public and private sectors. Canada exempts governmental services, except for a narrow range of activities that are defined as commercial.

Canada's constitution prohibits the taxation of one level of government by another. Therefore, purchases made by subfederal governments are accorded special tax treatment; municipal governments and school authorities receive tax rebates, while sales to provincial governments are zero-rated. Purchases made by Canada's federal government are taxable, but since in essence it is paying money to itself there is no financial drain.

Were purchases made by governments below the federal level in the United States to be taxable, with no reimbursement available, a flow of funds from state and local governments to the federal government would result. There may be objections to such an economic burden being imposed by the federal government, but there is no clear legal constraint in this country on including purchases by subfederal governments in the VAT base.[10]

Agency Comments and Our Evaluation

IMF officials emphasized that the disadvantage of zero-rating is the increase in the number of refunds. We revised our discussion of zero-rating issues to make clear the administrative burden of refunds.

[10]In accordance with the doctrine of intergovernmental tax immunity, federal taxation of states has, under certain circumstances, been found unconstitutional. It is unclear how this doctrine would apply to a VAT.

VAT Transition Issues: Careful Planning and Taxpayer Education Are Keys to Success

If Congress were to decide to institute a VAT in the United States, a number of important matters beyond the basic structure of the VAT would need to be addressed. A substantial amount of time and resources would be required to properly plan the transition to the new tax. We estimated that it would cost over $800 million in 1995 to prepare for a VAT. On the basis of Canada's and New Zealand's recent experiences, it could take 18 to 24 months for transition to a VAT. If little preparation for a VAT is made during congressional deliberations, a smooth transition would require an effective date much later than the passage of legislation. Our returns-processing costs for transition included some additional up-front staffing costs on the assumption that a time frame of 18 to 24 months would be mandated.

A key element of a successful transition would be an intensive education campaign to ensure that the public understands how a VAT works. The education campaign would be aimed at promoting compliance through various public relations activities, including advertising and distributing publications to businesses and tax preparers. The organization most likely to be responsible for administering the tax—in this case, IRS—would require time and resources to make the necessary organizational changes, such as assessing staffing requirements and training staff, and to develop or modify systems—particularly for returns processing. Using the experiences of New Zealand and Canada as well as the plans contained in Treasury's 1984 report as a basis for our discussion, this chapter presents important transition issues and estimates of some of the transition costs.

Costs of Transition

The costs associated with transition fall into two broad categories: (1) one-time costs for implementing the VAT and (2) costs that are incurred during transition but are ongoing costs. The one-time set-up costs would include (1) training existing staff in tax enforcement and taxpayer services; (2) providing educational materials to the general public, initially educating businesses, and responding to taxpayers' inquiries until they become familiar with the tax; and (3) initial registration. Costs that are primary considerations for transition and that could affect the transition time frames would include (1) computer hardware and systems development for returns processing and examination, (2) installation of telephone lines for collection and transfer of data, and (3) installation of telephone lines for telephone assistance. In this chapter, we retained the functional approach, rather than separating the costs by these categories.

The costs shown in this report do not cover an exhaustive list of items. We attempted to include estimates for the major components of transition to a

VAT, including IRS, FRS, and Customs costs, but there are others we neither identified nor attempted to cost. Therefore, our figures shown in table 6.1 may indicate a low-end estimate of the costs for transition.

Table 6.1: Estimated Transition Costs for the Basic VAT

Costs in millions of dollars

Item	Costs
Returns processing[a]	
Hardware	17.1
Staff, systems development, and other[b]	22.8
Examination (laptop computers)	40.0
Training of current staff	
Examination (2 days)	21.0
Taxpayer services (2 days)	2.4
Taxpayer services	
Telephone assistance[c]	250.0
Forms and printed information[d]	59.3
Telephone line installation	1.0
Registration (@ $18/registrant)	390.4
Customs (information transfer set-up costs)	2.0
Total	**$806.0**

Note: Computer hardware, systems development, laptop computers, and telephone line installation costs would be incurred during transition but are not, technically, one-time costs, since the equipment might ultimately be replaced.

[a]Includes Federal Reserve costs.

[b]Includes development of Customs/IRS interface.

[c]Includes staff costs and line usage charges; assumes telephone assistance transition time of 1 year.

[d]Includes cost of mailing.

Source: GAO estimates. See appendices II, III, and IV for more detail.

Sufficient Time Needed for Transition to VAT

To have sufficient time for transition to a VAT in the United States, preparations should begin well in advance of the effective date of the VAT legislation. Initially, New Zealand tax administrators allowed 18 months to move from policy paper to implementation of the GST. New Zealand officials planned to use this time for education, registration, and a publicity campaign. However, because actual taxpayer education began about 4 months before the scheduled implementation of the GST, the effective date of the GST had to be delayed an additional 6 months primarily to allow more time for educating businesses. According to a New Zealand official, 18 months would be a minimal period to begin tax collection after legislation was in place. It was his opinion that a year would not be sufficient to properly educate businesses and develop the necessary support systems. Also, collection efforts would likely suffer in the long run because of the lack of preparation.

A Canadian official stated that although there were only 2 weeks between final passage of the legislation and the beginning of the Canadian GST, transition planning began nearly 2 years in advance. Transition efforts began increasing about 9 months before the effective date once it was more certain that the tax legislation would be enacted. The Canadian official estimated that a minimum of 12 months would be required to prepare for a new consumption tax.

The 1984 Treasury VAT report estimated that IRS would need at least 18 months after enactment of legislation before it would be prepared to administer a VAT. The preparations would include designing the necessary administrative systems, developing the staffing requirements, and educating the public.

IRS Would Need Time and Resources to Prepare for VAT Administration Duties

To make a successful transition to a new tax, IRS would have to assess staffing requirements, hire new staff, and train staff on the new tax. IRS would also need to develop or modify returns-processing systems and ensure that new forms were developed and tested as well as to expand or modify other functional areas. Lead time for purchase of equipment, particularly computer hardware, and for development of software could be substantial if standard government contracting methods were used. Recent IRS experience shows that 5 years or more can be needed for purchasing with standard government contracting practices. It might be possible to expedite this process by beginning the Requirements Analysis Package in advance of passage of legislation.

Staffing Requirements Should Be Identified and Key Staff Hired Before the VAT Is Implemented

Successful transition would rely on having the proper personnel in place before the effective date of the VAT. At the beginning of New Zealand's preparations for transition, a development team independent from tax administration units was established to help set up the GST. According to a New Zealand official, this team was an important element in designing New Zealand's transition because working independently gave team members more flexibility in developing new ideas. The official said that allowing the development team to disband before the effective date of the new tax was a mistake, because the team's expertise was not available for operational issues. The official thought the team would have been very useful during the first 6 months or so of the GST.

Initially, New Zealand appointed staff to three major areas: (1) manuals, (2) computer development, and (3) training. The computer development staff was appointed about 2 to 3 months before the legislation was finalized, and the manuals staff and trainers were appointed about the time that the legislation was completed. The second tier of staff appointments was for management and supervisory personnel. These appointments were also made about the time that the legislation was completed. Auditing and returns-processing staffs were appointed several months later. A New Zealand official credited its taxpayer assistance effort with helping to secure public acceptance of the GST when it was first implemented. This official thought the taxpayer services staff could be reduced gradually to between 65 or 70 percent of the initial level after the public becomes more familiar with the tax during the first 3 years.

Canada also emphasized the importance of having an independent development team. In addition, about 3,000 to 3,500 additional personnel were hired initially to administer the GST.[1] These added positions resulted in a GST staff-to-taxpayer ratio of between 1:370 and 1:334.

Of the staff Canada initially hired, about 1,500 were to perform various educational functions, which included providing walk-in services, seminars, written correspondence, business information sessions, and extensive printed material. Advisory contacts and visits, initiated in the transition phase, were continued only through the first quarter after the implementation of the tax.

Treasury and IRS also recognize the need to identify and hire key staff before the tax is implemented. Lead time would be necessary for personnel matters, such as position classification, labor relations concerns, and recruitment of personnel. When new staff would actually begin work, however, would depend upon the phase of implementation. For example, personnel involved in taxpayer education would be needed well in advance of the effective date; examination personnel could be

[1]The manufacturers sales tax, which the GST replaced, had been administered by about 1,700 personnel.

phased in later during the implementation so that they were available about the time the examination workload materialized.

The training of tax administration staff on the workings of a VAT is another important element of a successful transition. Because of the numbers of personnel needed (shown in table 3.1), the audit and taxpayer services staffs would require most of the training resources.

Returns-Processing Systems and Forms Development Will Need to Be Addressed During Transition

Development of a comprehensive computer system capable of processing VAT data, either through modification of the current computer systems or purchase of a new one, should be a major issue addressed during transition. IRS' progress in implementing TSM should be a major factor in this assessment. If a new computer system or specific hardware were deemed necessary, it probably would require at least 24 months to acquire the equipment using standard General Services Administration purchasing procedures. New Zealand allotted 18 months for all aspects of its computer development. Initial user specifications were developed before the law was finalized. If the United States were to require businesses to file electronically and pay the VAT electronically, additional time and resources could be necessary for development of computer software.

As expected, the introduction of a VAT in the United States would also require time and resources for developing and testing forms and returns. The timing of the forms development is important; they must be available during the educational process. Because so many countries now collect a VAT, the development of forms for reporting and paying the tax should be fairly straightforward, particularly if it is a simple tax. (Sample forms are shown in app. II.) If an overhaul of business tax payment procedures were undertaken concurrently with the initiation of the VAT, as suggested by an IMF official, new legislation would be necessary, and more time would likely be needed for forms development. Registration forms development took about 2 to 3 months in New Zealand's transition to a GST; Canada allocated 12 months to develop, test, print, and distribute forms.

Readying Returns Processing for a VAT

Returns-processing transition would be an extension of current paper-processing operations at IRS, and additional scanners would need to be purchased. Costs would also be incurred for computer hardware procurement and computer systems and software development at both IRS and FRS. We estimated that nearly 315 staff would be needed for the implementation of these operations at both these agencies. An estimate of the implementation costs, explained in detail in appendix II, was $41.9 million.[2] About 40 percent of the cost was for computer hardware, and over 50 percent was personnel costs.

Training of Existing Tax Enforcement Personnel

Tax enforcement personnel would need to be trained in the VAT. Income tax auditors, in particular, would need training so that they can cooperate with VAT auditors when necessary.

Nearly 75 percent of tax enforcement personnel are assigned to the examination and collection functions. Total IRS staff employed for fiscal year 1993 in these functions was estimated to be 50,500. Assuming training costs average $207 per staff per day, total personnel costs for 1 day of training these IRS enforcement personnel on the pertinent aspects of a VAT would amount to $10.5 million. We estimated that between 1 and 3 days of training would be required for each current enforcement staff member depending on the degree to which his or her work affected or was affected by the administration of a VAT.

Educating the Public About How the VAT Works

The New Zealand and Canadian experiences highlight the importance of educating the public on the VAT. New Zealand and Canada took the approach that educating the public on the new tax would promote compliance. Based on their experiences, transitioning to a VAT in the United States would require tax administrators to educate the public on three levels: (1) educating the general public about how a VAT works and why there would be a one-time price rise to include the tax, (2) educating business persons about the law and the procedures necessary for compliance, and (3) educating tax preparers.

New Zealand's extensive planning for transition to GST included 15 months for preparation of VAT publicity materials for consumers, 6 months for preparation of a general VAT guide, and 6 months for a registration guide. Work on publicity materials started before the law was finalized. Technical and procedural manuals were also allotted 6 months, but preparation did not begin until close to passage of the law.

New Zealand placed a special emphasis on educating businesses about the GST by sending government personnel to businesses for consultations. Every business in New Zealand received a visit from a tax administrator before the GST was implemented. New Zealand officials also held seminars

[2]Figure includes Customs costs of $1.9 million.

with trade and professional groups and had general discussions with the private sector over an 18-month period. Private trade and professional groups also significantly aided the government in its educational campaign by holding seminars and distributing publications.

Revenue Canada's approach was to give businesses only the information they needed to comply with the laws rather than risk confusing businesses by providing too much information. Revenue Canada targeted information to two groups: (1) large and medium-sized businesses (those with about CN $2 million or more in annual gross receipts) and (2) small businesses (those with under CN $2 million in annual gross receipts).

Some of Canada's major education efforts included consultations with individuals and groups of businesses; seminars in which the tax was explained to various groups; and publications such as pamphlets, guides, and registration mailings. Canada drafted informational materials that targeted specific business sectors, such as hotels, charities, and retailers. Overall, Revenue Canada published 51 pamphlets and guides and many more memoranda, technical information bulletins, notices, etc., for transition. The total cost of publications (including distribution) associated with Canada's transition to a GST was about US $5 per business that registered.

Canada's other major efforts included developing advisory programs for preselected industries, particularly small businesses affected by complex tax accounting rules or those that were seen as potentially noncompliant. Revenue Canada interviewed businesses by telephone and followed up with some on-site visits. In all, about 130,000 contacts were made. Canada phased out its advisory program visits about 3 months after the GST went into effect.

Private trade and professional groups significantly aided Canada's transition to a GST. Since Revenue Canada's mandate did not include educating the general public or publishing general education pamphlets, the Retail Council of Canada issued a point-of-sale educational pamphlet in 14 versions—1 for each province and bilingual when appropriate. The council distributed 12 million of these pamphlets to retailers for dissemination at cash registers throughout Canada. It also held 60 seminars for members; 5,000 retailers attended them.

Media advertising could also be used to alert taxpayers to a forthcoming VAT. Canada spent about US $10 million on radio and television advertising (no free air time was available). About one-third of that cost was because legislative approval for the tax occurred only shortly before the tax's scheduled implementation, and taxpayers needed to be alerted to its provisions very quickly. We made no estimate of media advertising costs, because IRS uses free television time donated by the Advertising Council.

Transitioning to a VAT in the United States could be helped by the general public's familiarity with retail sales taxes. It is reasonable to expect that most consumers may have or could readily acquire a general concept of the mechanics of a VAT. Education efforts may, then, be better targeted toward businesses and preparers than toward the general public. The 1984 Treasury report discussed why an intensive public information campaign would be necessary to prevent resistance to a VAT based on inaccurate or inadequate data. At that time, IRS expected its taxpayer education campaign would include fact sheets, press conferences and briefings, news releases, and meetings with business-related organizations such as chambers of commerce.

Taxpayer Services Begin During Transition

The taxpayer services staff would be in the forefront of transition in the event of a new tax. Educating the public and responding to taxpayers' inquiries would be a major function of taxpayer services staff during the transition period. Our cost estimate of $250 million for telephone assistance services during the transition, shown in table 6.1, was about 10 percent more than the annual telephone assistance charges—taxpayer services staff costs and line usage charges—for the basic VAT. About $1 million for installation of telephone lines was included as a start-up cost incurred during the transition period. We estimated publications costs by multiplying the annual VAT publications costs estimate by a factor of 4 to include major explanatory documents and other publications as necessary.

Training of Existing Taxpayer Services Personnel

All existing taxpayer services staff would need training to prepare them to educate the public and respond to taxpayers' concerns about the VAT. In 1984, IRS estimated that existing taxpayer services personnel would require 2 or 3 days of VAT training. Assuming 2 days of training for a simple VAT and 3 days of training for a more complex VAT, the staff training costs would range between $2.4 million and $3.5 million. (See app. IV, table IV.7.)

Registration of Businesses

The registration of businesses is an important transition issue. Under the basic VAT scenario discussed in chapter 3, every individual or business in the United States that would pay a VAT or receive refunds from a VAT would be required to register. This would include corporations; partnerships; sole proprietors of businesses; farmers; nonprofit organizations; and any organization or person engaged in taxable activities, including importers and exporters.

The initial registration process would support several key tax administration and enforcement objectives. Registration would identify businesses for assignment of a VAT identification number that could be a verified current Employer Identification Number (EIN).[3] Businesses that export products or services would be identified to give IRS an initial indication that these businesses might request refunds. Registration would also be a mechanism to educate businesses on the procedures required for compliance with the VAT. Another benefit of early registration of businesses would be that tax administrators would be able to estimate a business' tax liability for those businesses required to make estimated payments. Adjustments then could be made after the first filing. Lastly, registration would also give IRS the unique opportunity to revamp and perfect the Standard Industrial Classification (SIC) codes contained in its files. IRS files presently do not contain complete data showing each of the subsidiary industries a particular business may encompass. According to IRS and state officials, erroneous or missing SIC numbers reduce the usefulness of the information for audit identification purposes.

Existing IRS tax files could provide the basis for initial identification of businesses for the VAT. Corporations and partnerships could be identified using the Business Master File (BMF), and sole proprietors and farmers could be identified using information from the Individual Master Files. Businesses should be required to register for the VAT in advance of the effective date of the VAT to allow time for the information to be compiled and verified. The timing of the registration would have to be such that the information would not be obsolete (e.g., firms going out of business) by the effective date of the VAT.

Both New Zealand and Canada emphasized the importance of getting businesses registered for the tax. New Zealand allowed about a year from the time the application forms were first issued shortly after the passage of the law. In Canada, on the other hand, the late adoption of the law necessitated the use of anticipatory language in its education campaign. Separate registration packets were sent to small and larger businesses, and a large media campaign was used to reach businesses that were not on

[3]Each taxpayer should have only one taxpayer identification number.

the master list of probable GST businesses. The Canadian registration effort required 500 people, and the data entry was contracted out to staff working in double shifts. Follow-up was an important component of the registration efforts. Reminders were sent if no response was received 6 weeks after the initial mailing, a second notice was sent 4 weeks later, and telephone contact was made by the district office 2 weeks after that. Even then, about one-third of the 1.6 million Canadian businesses that were registered for the GST 6 months into the tax had not registered before the start of the tax. The retail sector was the last to register.

Canada spent approximately US $14 per taxpayer on the initial GST registration program during 1990. This program included taxpayer contacts, registration, and follow-up. New York State carried out a pilot project to re-register business taxpayers during that same year. On the basis of this pilot, re-registration of all businesses within the state was estimated to cost about $40 per business. New York's program was planned for the purposes of updating and adding information, collecting outstanding liabilities, and identifying nonregistrants. On the basis of Canada's experience, we estimated U.S. registration costs to be approximately $16 per taxpayer in 1995. If the New York experience were used as the basis for our cost estimates, however, the estimated basic VAT registration costs would increase from $390 million to $975 million.

Once businesses have registered, the registration program must be ongoing to ensure that (1) new businesses register, (2) companies no longer in business de-register, and (3) tax administration records are current. New York officials estimated that initial registration costs would be about four times the cost of renewal. For the U.S. VAT, many of the registrations may be handled more like renewals, since IRS has current BMFs with a great deal of information, lowering the costs somewhat. The second year after the GST implementation, Revenue Canada planned staffing to be about one-fourth of that during the initial registration effort.

Businesses Will Need Time to Make Adjustments During Transition

Principal transition issues for businesses would include (1) adjusting their record-keeping methods, including, in the case of retailers, their cash registers; and (2) repricing their goods.

Record-Keeping Methods and Equipment May Need Adjustment

Many businesses in the United States have computerized record-keeping and should be able to adjust it to accommodate the VAT. The Small Business Administration estimated that in 1989, 36 percent of small businesses (those with fewer than five employees) used computers. Businesses may also have to adjust their cash registers to accommodate both a VAT and a sales tax, and time would be needed for conversion. The Retail Council of Canada estimated that half of its independent retailers (a group of primarily medium-sized and small firms) had to convert (or reprogram) their old cash registers to accommodate the new tax, and some businesses required new cash registers. The Canadian government provided an allowance of $1,000 to businesses to help with necessary equipment purchases. The Retail Council reported that 6 months into the GST, it had few complaints about the paperwork burden or the mechanics of the tax.

Repricing of Products

Whether the pricing of goods or services at the retail level is inclusive or exclusive of the VAT is a matter that must be addressed. Although it would not make a difference from a tax administration standpoint, it could make a difference with consumers, especially if the method used is not clear. Initially, Canadian businesses thought it would be better to explicitly state the tax at the register, as U.S. retail sales taxes are handled. Six months after implementation, however, because of consumer confusion, many businesses were switching to including the tax in the price of the good or service. New Zealand gave businesses the option, and businesses have been moving toward using the tax-inclusive price. According to New Zealand tax officials, consumers seem to prefer paying the VAT as a part of the price. If goods sold at the retail level were inclusive of the VAT, many retailers, especially the smaller ones such as small grocery owners, could find repricing goods to be a formidable task. A New Zealand official told us that implementing their GST on a weekday rather than a weekend left too little time for retailers to change the prices of their goods.

Customs Would Incur Start-Up Costs

We estimated transition costs for Customs to be approximately $2 million in 1995. Customs would need time and resources for installing and leasing a data communications line (see ch. 3) and developing software in advance of implementing the VAT. Although we assumed that Customs' current processor would have enough capacity to accommodate the VAT, additional disk storage, workstations, and supplies would be needed. On the basis of Customs' projections of staff for the ACES, we estimated the staffing to be one management staff at grade GS-14, eight staff at GS-13, and seven at GS-12. The cost items shown in table 6.2 were included in our estimate.

Table 6.2: Estimated Customs' Transition Costs for the Basic VAT

Costs in thousands of 1995 dollars

Item	Cost
Staff (16 staff-years)	$877
Additional disk storage	826
Telecommunications installation and other costs	257
Total	**$1,960**

Source: GAO estimates. See app. II.

Agency Comments and Our Evaluation

IRS stated that a minimum of 24 months from the date of actual enactment of a VAT would be needed to plan for implementation. We suggest that a minimum of 18 to 24 months would be necessary for implementing the VAT on the basis of recent experiences of Canada and New Zealand. IRS could plan more effectively for implementation in 24 months than in 18 months. Less than 18 months could create many problems for both IRS and the taxpayer. While we would hope Congress would allow IRS sufficient time to implement the VAT, IRS and any potential participants in a VAT system should begin coordinating and planning for a VAT well in advance of the passage of legislation, as Canada did.

IRS is also concerned that if significant new computer systems or equipment are needed, a 2-year implementation period would not allow enough lead time for procurement. Our assumption that a 2-year implementation time frame is feasible is based on IRS' acquisition plan to bring in additional computer hardware capacity by 1995 (CSM/MIA acquisition), which will serve as a bridge until new/additional hardware is acquired. The returns processing for a VAT the size and design of the basic VAT, which utilizes a transmitter and a cash concentrator, could be accommodated with this added capacity. As Customs stated, new procedures for electronic transfer of data and verification of exports would need to be carefully worked out between Customs and IRS.

Number of Businesses Required to File

Business taxpayers included in a VAT system could include corporations, partnerships, sole proprietorships (including farmers), nonprofit organizations, and governments. Many taxpayers would be omitted and the IRS costs reduced if thresholds were established. For purposes of cost estimation, we established scenarios for thresholds of $25,000 and $100,000 in addition to no threshold. Other threshold levels could serve equally well.

We used IRS data for the number of businesses that would fall within the VAT compiled from Statistics of Income (SOI) 1987 Business Master Files data on the distribution of taxpayers by receipts categories. We compiled the number of returns within each receipts category for corporations, partnerships, sole proprietorships, and farmers within major gross receipts categories. Table I.1 shows the number of business taxpayers within major gross receipts categories in 1987.

Table I.1: Number of Returns Filed in 1987, by Type of Taxpayer Within Major Gross Receipts Categories

Number of taxpayers in thousands

Gross receipts	Total number of returns	All corporations	Partnerships	Nonfarm sole proprietors	Farmers
Under $10,000	10,604	684	1,113	6,713	2,094
$10,000-$24,999	2,489	193	79	2,194	23
$25,000-$49,999	1,829	245	75	1,496	13
$50,000-$99,999	1,596	353	102	1,136	5
$100,000-$249,999	1,680	649	130	899	2
$250,000-$499,999	908	526	70	312	[a]
$500,000-$999,999	528	387	40	101	[a]
$1,000,000-$4,999,999	524	452	32	40	[a]
$5,000,000-$9,999,999	73	68	4	1	[a]
Over $10,000,000	73	68	4	1	[a]
Total	**20,304**	**3,625**	**1,650**	**12,892**	**2,137**

Note: Detail may not add to total due to rounding; all figures are estimates based on samples.

[a]Less than 0.5

Source: IRS, Statistics of Income.

Estimated Number of Taxpayers in 1995

The IRS Research Division projects the number and type of returns it expects to be filed in future years for audit purposes based on the definitions of the Examination Division. These IRS projections of returns filed were the basis for our estimates of the total numbers for corporations and partnerships for 1995. However, because of the Examination Division's unique definitions for nonfarm sole proprietors and farmers' returns, numbers for those sectors were not directly comparable between actual data, based on the SOI definition, and projected data, based on the examination definition. We, therefore, adjusted the examination definition data to conform with the SOI definition so that the projected number of returns was comparable with IRS' SOI returns data. Specifically, adjustments were made in the number of sole proprietors and farmers with less than $25,000 and less than $100,000 in gross receipts annually. We based our adjustments on 1987 returns data from IRS' computer tapes to estimate the number of businesses in those categories that would file a VAT return in 1995. IRS projections for 1995 are shown in table I.2.

Table I.2: IRS' Projections for Number of Returns to Be Filed in 1995, by Type of Taxpayer

Numbers of taxpayers in thousands

Total number of returns	Corporations	Partnerships	Nonfarm sole proprietors	Farmers
14,796.4	4,781.9	1,695.6	7,496.2	822.7

Source: IRS, Statistics of Income Projections, Fall 1991, Table 2, United States.

The number of taxpayers that would be filing under a VAT, including those that would not show up under the current income tax structure, is shown for major sectors at various gross receipts levels in table I.3. These are sole proprietors and farmers with less than $25,000 in annual gross receipts. We estimated the number of taxpayers below the $25,000 and $100,000 thresholds by applying the 1987 returns' distribution to these categories for corporations and partnerships.

Table I.3: Number of Returns to Be Filed in 1995, Including Adjustments to IRS' Projections, by Type of Taxpayer and Business' Gross Receipts Level

Numbers of returns in thousands

Type of taxpayer	Gross receipts less than $25,000	Gross receipts less than $100,000	Gross receipts more than $25,000	Gross receipts more than $100,000	Total number of returns
Corporations[a]	1,157.2	1,946.2	3,624.7	2,835.7	4,781.9
Partnerships[a]	1,225.9	1,407.3	469.7	288.3	1,695.6
Nonfarm sole proprietors[b]	10,931.0	14,052.1	5,126.7	2,005.6	16,057.7
Farmers[b]	1,070.5	1,583.8	822.7	309.4	1,893.2
Total	**14,384.6**	**18,989.4**	**10,043.8**	**5,439.0**	**24,428.4**

Note: The number of taxpayers represented by the number of returns may be somewhat overstated, because taxpayers may file more than one income tax schedule. However, the numbers are the closest approximations we could find, and we assume that returns equal taxpayers for our purposes.

Sources: [a]IRS, Statistics of Income Projections, Fall 1991, Table 2, United States. [b]Adjustments made by GAO to the IRS estimates.

Thresholds for Taxation

For the alternative designs discussed in chapter 4, we selected $25,000 and $100,000 as thresholds for businesses that would be included in the VAT. A business below these receipts levels would not be required to pay or to file a return. These thresholds were picked to show the cost differences from exempting very small businesses from the tax.

Either of these thresholds would eliminate a substantial number of taxpayers with very little revenue loss. In 1987, business taxpayers under the $25,000 threshold accounted for 64.5 percent of the returns and only 0.7 percent of the gross receipts. Taxpayers under the $100,000 threshold accounted for 81.4 percent of the returns and 2.6 percent of the gross receipts. Table I.4 shows the percentage distributions of gross receipts reported by business taxpayers in 1987.

Table I.4: Percentage Distributions of Gross Receipts in 1987, by Type of Taxpayer Within Major Gross Receipts Categories

Annual gross receipts	Corporations	Partnerships	Nonfarm sole proprietors	Farmers	Total
Under $10,000	0.0	0.1	3.6	20.8	0.2
$10,000-$24,999	0.0	0.3	6.0	18.2	0.4
$25,000-$49,999	0.1	0.7	8.9	21.0	0.7
$50,000-$99,999	0.3	1.8	13.5	15.3	1.2
$100,000-$249,999	1.3	5.2	23.7	16.7	2.9
$250,000-$499,999	2.2	5.9	17.7	1.7	3.4
$500,000-$999,999	3.2	6.8	11.4	2.8	3.9
$1,000,000-$4,999,999	11.2	15.8	11.9	2.7	11.5
$5,000,000-$9,999,999	5.6	6.7	1.5	0.3	5.4
Over $10,000,000	75.9	56.8	1.9	0.4	70.4
Total	**99.8**	**100.1**	**100.1**	**99.9**	**100.0**

Note: Columns may not add to 100 percent due to rounding.

Source: IRS, Statistics of Income.

Additional Taxpayers Included in the Basic VAT

Voluntary filers, nonprofit organizations, and governments were included in the basic VAT.

Voluntary Filers

For businesses that fall below the $25,000 and $100,000 thresholds of annual gross receipts, voluntary participation in the VAT system would be permitted. The experience of other countries indicates that many taxpayers that do not meet the requirement for mandatory registration nonetheless choose to be included in the tax system. The reasons some businesses voluntarily participate in a VAT are discussed in chapter 4.

We estimated the potential number of voluntary filers on the basis of the proportion of voluntary filers in Canada's, the United Kingdom's, and New Zealand's VAT systems. The representation of voluntary filers in the VAT-paying population of these countries is detailed in table I.5.

Table I.5: Voluntary Filers as a Percentage of 1991 Value-Added Taxpayers

Country	Number of VAT taxpayers	Percent voluntary	Threshold for mandatory filing (approximate US $)
Canada	1,737,741	22	$25,000
United Kingdom[a]	1,994,980	9	61,000
New Zealand	357,000	17	13,000

[a]Before 1992, the United Kingdom's threshold was $36,000; in 1987, 12.8 percent of United Kingdom registrants were voluntary.

Source: Correspondence from Revenue Canada, United Kingdom Customs and Excise, and New Zealand Inland Revenue.

Lacking actual U.S. experience of business behavior under a VAT system, we approximated the number of voluntary filers by assuming that 15 percent of businesses with less than $25,000 annual gross receipts and 30 percent of businesses with between $25,000 and $100,000 annual gross receipts would register voluntarily. Table I.6 details our estimates of the potential number of mandatory and voluntary filers.

Table I.6: Estimated Number of Voluntary VAT Registrants in 1995

Numbers in thousands

	Voluntary registrants		
Business' gross receipts	$25,000 threshold	$100,000 threshold	Total registrants
Less than $25,000	2,158	2,158	14,384
$25,000- $100,000	0	1,381	4,605
Over $100,000	0	0	5,439
Total	**2,158**	**3,539**	**24,428**

Source: GAO estimates based on percentage of voluntary VAT registrants in the United Kingdom, New Zealand, and Canada.

The total number of taxpayers estimated for each threshold is detailed in table I.7. If the registration threshold for a U.S. VAT were set at $25,000, 18 percent of the estimated total number of taxpayers would register voluntarily. If the registration threshold were set at $100,000, 39 percent of the estimated total number of taxpayers would register voluntarily.

Table I.7: Total Number of VAT Taxpayers, Including Voluntary, in 1995 for Three Thresholds

Registration threshold		
None	$25,000	$100,000
24,428,400	12,201,500	8,978,100

(Table notes on next page)

Source: GAO estimates.

The example of the United Kingdom, which has both the highest threshold and the lowest voluntary participation of the three countries, appears to contradict our assumption that voluntary participation increases as the threshold is raised. However, Canada's percentage of voluntary registrants supports our assumption for the $25,000 threshold, and, given the sophisticated and competitive business environment of the United States, we believe that voluntary participation in the tax system would be high among businesses under that level of gross receipts.

Nonprofit Organizations and Governments

As discussed in chapter 5, many countries exempt nonprofit organizations or governments or both from the VAT, freeing them from the burden of collecting tax and remitting the revenue to the government. While an exempt entity does not incur the costs of complying with the tax, neither does it receive a rebate on the VAT paid on its purchases of goods and services. As a result, an exempt entity must pay the tax itself without receiving an accompanying credit.

Table I.8 shows data for nonprofit charitable organizations in the United States in 1986. While these data do not indicate how much of the revenue would be taxable, the levels of receipts and expenditures are such that the amount of refunds, at least, may be significant. However, because nonprofit charitable organizations represent relatively small numbers, we have excluded them from the calculations.

Table I.8: Number of Returns Filed and Revenues and Expenses of Nonprofit Charitable Organizations in 1986

Millions of 1986 dollars

Total number of returns filed	**113,072**
Total revenue	**$292,500**
Program service revenue	187,900
Contributions, gifts, and grants	60,100
Dues and assessments	3,700
Total expenses	**$263,500**
Program service expenses	221,900
Fund-raising services	2,500
Management and general expenses	38,200

Note: Numbers do not add to total because of miscellaneous revenues and expenses that have not been included; reporting year was 1986.

Source: IRS, Compendium of Studies of Tax-Exempt Organizations, 1974-87, "Nonprofit Charitable Organizations: Highlights of Tax Year 1986 Data," Cecelia Hilgert, Publication 1416 (7-91), pp. 167-168.

Governmental units are likely to come under the VAT for the same reason that nonprofit charitable organizations do, that is, for refund requests. Here again, because there are so few of them in relation to the VAT population, we excluded them from our costing alternatives. The number of governmental units in the United States is shown in table I.9.

Table I.9: Number of Governmental Units in 1987

Level of government	Number of units
Federal	1
State	50
Local, total	83,186
County	3,042
Municipal	19,200
Township and town	16,691
School district	14,721
Special district	29,532
Total	**83,237**

Source: U.S. Bureau of the Census, Census of Governments, 1987, Vol. 1, No. 1, Government Organization.

Financial Services

As explained in chapter 1, businesses engaged in financial services are exempted from the basic VAT because of the difficulty in assessing the amount of value that is added. Nevertheless, we included financial service businesses in the total number of taxpayers, because most of these businesses could have other business receipts or exports to report.

Returns Processing Costs

The costs for processing a VAT depend on the assumptions chosen and the use of available technology. Particulars, such as the form for filing the VAT and the filing frequency, are important to the efficiency of the processing.

Processing of the basic VAT was based on the capabilities of systems discussed in IRS' TSM Design Master Plan, which allows electronic filing of returns and electronic payments; paper processing of returns and payments is used for small business taxpayers. Our scenario combined electronic filing of tax returns and payments into a single transaction. Single-transaction filing is currently being piloted by the Federal Reserve Bank.

Form for Filing the VAT

We reviewed numerous forms for filing the VAT, including forms from New Zealand and the United Kingdom, and a sample form from IMF. We designed the VAT form shown in figure II.1, which is intended to include a minimal amount of necessary information and fields for filing a simple VAT. It is expected that the fields with calculated totals would not be picked up, either during the data entry process or with electronic transmission of data, since they could be automatically recalculated more economically than stored. Figure II.2 shows the forms for VATs with exemptions; the form in figure II.3 includes both exemptions and multiple rates.

Figure II.1: Sample Form for a Single-Rate VAT With No Exemptions

Tax Period: Mon./Yr.(__/__) *Taxpayer ID No.: ________*

SIC Code: _____ *Telephone No.: (__)-__-__*

Firm: ____
Address: ____
(Street/City/State/Zip/Country)

(NOTE: TO BE FILLED OUT ONLY IF IDENTIFICATION LABEL PROVIDED IS INCORRECT OR INCOMPLETE.)

Total sales during this period _____
Minus: Zero-rated exports -_____
Net domestic sales =_____

VAT due on net domestic sales at .XX rate _____
Plus: Tax liability for under-declarations
from last period +_____
VAT liability =_____ *(a)*

Total purchases during this period ______

Minus: VAT paid on imports -_____
Minus: VAT paid on purchases -_____
Minus: Tax credit for adjustments
on purchases from last period -_____
VAT credits =_____ *(b)*

VAT liability - VAT credits (a-b) _____

Minus: Credit carried forward (if any) -_____

Net VAT _____

Penalties due
for late filing +_____
for late payment +_____

Total VAT _____

If total VAT is positive, VAT owed = _______.
Payment enclosed _______.

If total VAT is negative, VAT credit = _______.
If credit is not to be carried forward, check here [ ].

Figure II.2: Sample Form for a Single-Rate VAT With Exemptions

Tax Period: Mon./Yr.(__/__) *Taxpayer ID No.: ________*

SIC Code: ______ *Telephone No.: (__)-__-__*

Firm: ______________________________
Address: ______________________________
(Street/City/State/Zip/Country)

(NOTE: TO BE FILLED OUT ONLY IF IDENTIFICATION LABEL PROVIDED IS INCORRECT OR INCOMPLETE.)

Total sales during this period	______	
Minus: Zero-rated exports	-______	
Minus: Exempt salses	-______	
Net domestic sales	=______	
VAT due on net domestic sales at .XX rate	______	
Plus: Tax liability for under-declarations from last period		+______
VAT liability		=______ (a)
Total purchases during this period	______	
Amount of purchases that were:		
used in non-exempt sales	______	
imports	______	
Minus: VAT paid on imports		-______
Minus: VAT paid on purchases used in non-exempt sales		-______
Minus: Tax credit for adjustments on purchases from last period		-______
VAT credits		=______ (b)
VAT liability - VAT credits (a-b)	______	
Minus: Credit carried forward (if any)	-______	
Net VAT		______
Penalties due		
for late filing		+______
for late payment		+______
Total VAT		______

If total VAT is positive, VAT owed = ________.
Payment enclosed ________.

If total VAT is negative, VAT credit = ________.
If credit is not to be carried forward, check here [ ].

Figure II.3: Sample Form for a VAT With Exemptions and Multiple Rates

Tax Period: Mon./Yr.(__/__)

Taxpayer ID No.: ________

SIC Code: _____

Telephone No.: (__)-__-__

Firm: ____
Address: ____
(Street/City/State/Zip/Country)

(NOTE: TO BE FILLED OUT ONLY IF IDENTIFICATION LABEL PROVIDED IS INCORRECT OR INCOMPLETE.)

Total sales during this period ______
Minus: Zero-rated exports -______
Minus: Exempt salses -______
Net domestic sales =______
Net domestic sales:
at .XX1 rate______ at .XX2 rate______ at .XX3 rate______

VAT due on net domestic sales at .XX1 rate +______
VAT due on net domestic sales at .XX2 rate +______
VAT due on net domestic sales at .XX3 rate +______
Plus: Tax liability for under-declarations from last period +______
VAT liability =______ *(a)*

Total purchases during this period ______
Amount of purchases that were:
non-exempt goods ______
imports ______

Minus: VAT paid on imports -______
Minus: Total VAT paid on purchases of non-exempt goods -______
VAT paid on purchases
at .XX1 rate______ at .XX2 rate______ at .XX3 rate______

Minus: Tax credit for adjustments on purchases from last period -______
VAT credits =______ *(b)*

VAT liability - VAT credits (a-b) ______

Minus: Credit carried forward (if any) -______

Net VAT ______
Penalties due
for late filing +______
for late payment +______
Total VAT ______

If total VAT is positive, VAT owed = ________.
Payment enclosed ________.

If total VAT is negative, VAT credit = ________.
If credit is not to be carried forward, check here [ ].

Filing Frequency

We estimated the number of returns to be filed by defining the threshold and the number of businesses above that level. This number was adjusted for the number of times each business would file a return and the number of payments each would make during the year. Annual filing and payment frequencies were established for businesses with annual gross receipts less than $25,000. All others would file and pay monthly. These frequencies were chosen to reduce the burden and ease the administration and taxpayer compliance. As explained in chapter 2, these frequencies do not follow the current FTD system for Forms 940 and 941, because of threshold and timing differences between employment and value-added taxes. Although it might be useful for ease of compliance to coordinate business taxes through filing and payment schedules of VAT and employment taxes, unless schedules for monthly closing of books and payroll payments coincide, the tax overlap could be confusing to taxpayers. The number of returns to be filed is shown in table II.1.

Table II.1: Estimated Total Number of Returns Per Year With Basic VAT for Three Thresholds

Includes voluntary filers

Exemption threshold	Number of taxpayers (in millions)	Number of taxpayers (in millions) by payment frequency and gross receipts level		Total number of returns (in millions)
None	24.4	14.4	Annual payment (all taxpayers less than $25,000)	134.4
		10.0	Monthly payment (all taxpayers more than $25,000)	
More than $25,000	12.2	2.2	Annual payment (voluntary taxpayers less than $25,000)	122.2
		10.0	Monthly payment (all taxpayers more than $25,000)	
More than $100,000	9.0	3.6	Annual payment (voluntary taxpayers less than $100,000)	68.4
		5.4	Monthly payment (all taxpayers more than $100,000)	

Source: GAO estimates (see app. I).

Filing Assumptions

Basic VAT

For the basic VAT, we assumed that all businesses with less than $25,000 in annual gross receipts (14.4 million) would file and pay annually with paper forms. For businesses with more than $25,000 in gross receipts (10 million), monthly filing and payment by electronic means were assumed under the basic VAT.

$25,000-Threshold VAT

For the $25,000 threshold, we assumed that half of the voluntary filers would file and pay annually with paper forms; the other half of the voluntary filers would pay annually electronically. All other taxpayers would file and pay monthly electronically.

$100,000-Threshold VAT

For the $100,000 threshold, we assumed that all taxpayers with over $100,000 annual gross receipts (5.4 million) would file and pay monthly electronically. Only the voluntary filers would pay electronically, annually.

For all scenarios, we assumed that filing and payment would be done together.

To estimate the costs for processing paper returns, we used IRS' costs to process a VAT in today's environment of paper processing. We assumed that a paper-processed VAT would look very much like an employment tax (Form 941), and we based the costs data on the data contained in IRS' Costing Reference for Service Center Processing.[1]

Procedures for Paper Processing

The FTD system is used to remit most business tax payments to the government. VAT payments would be made with a similar system. If a VAT were to be implemented, returns processing for businesses with less than $25,000 in annual gross receipts would closely resemble the existing IRS procedures for FTDs.[2]

Under a VAT, taxpayer registration is required. Registration enables IRS to maintain current taxpayer information, such as an identification number and address. Registered taxpayers would mail tax returns to 1 of IRS' 10 service centers where the returns would be keyed in for sorting and editing. Return information would be transcribed for processing on service center mainframe computers, corrected as necessary by error resolution units, and sent to the Martinsburg Computer Center where the information would be posted to taxpayers' master file accounts. Payment coupons would be mailed to a service center where they would be scanned into the computer for sorting and editing. If a taxpayer were entitled to a refund,

[1]Department of the Treasury, Internal Revenue Service, Costing Reference for Service Center Processing, Document 6746, Rev. 10-88.

[2]Under the current system, payments are made with accompanying deposit coupons through financial institutions. Payments are processed and summarized on AOCs, which are then forwarded to both IRS and FRB. FRB completes a net settlement of accounts with depository banks and forwards deposit data to Treasury. For a VAT, IRS, upon receipt of the payment coupons and AOCs, would classify the payments (as a VAT) and credit the appropriate taxpayers' accounts.

IRS would post a credit or forward a refund authorization to FMS for disbursement by refund check. As previously mentioned, the schedule of payments would not follow the FTD system.

Costs of Paper Processing

Processing costs for filing would include the costs of providing taxpayers with the returns for filing, registering taxpayers, processing the returns, and processing the payments. For registration, we assumed a 25-percent rate for new registrants and changes annually, based on data from Canada, with over 30 percent change, California with 40 percent, and Wisconsin with about 8 percent. Table II.2 shows that costs for processing paper returns and payments for the basic VAT would be about $36 million. For the $25,000 threshold VAT, we assumed that 50 percent of all taxpayers with annual gross receipts under $100,000 would file paper returns and pay with checks. No paper returns would be used under the $100,000-threshold VAT scenario.

Table II.2: Estimated Annual Recurring Costs for Paper Filing and Paying of the Basic VAT

Costs in millions of 1995 dollars

Threshold	Number of taxpayers (paper filers only) (millions)	Filing	Number of returns (millions)	Cost of mailing returns	Cost to process payments	Cost to process returns	Cost[a] of refunds (paper)	Total
None	14.4	Annual	14.4	$3.34	$1.49	$29.67	$1.88	$36.38
More than $25,000	1.1[b]	Annual	1.1	0.03	0.11	2.27	1.44	3.85

Note: There would be no paper filers with a $100,000 threshold.

[a]Cost includes IRS and FMS costs.

[b]Estimates shown include half of the projected voluntary taxpayers with annual gross receipts under $25,000, because the others would be expected to pay electronically.

Source: GAO estimates based on costs for processing Form 941 and Form 1120 refunds from the Dept. of the Treasury, IRS, Costing Reference Manual for Service Center Processing, Doc. 6746, Rev. 10-88.

IMF and IRS believe filing and payment should be done more often than the annual filing and payment frequency we used for the basic VAT. The disadvantages of annual filing and payment are that (1) small businesses might use the tax money for current expenses and have trouble meeting their tax obligations months later, and (2) the high turnover of small businesses may make infrequent tax collection problematic.

Returns processing costs for the basic VAT escalate if a quarterly filing and payment frequency is assumed for businesses with less than $25,000 gross receipts. We estimated that total paper processing costs would be $156.5 million for small taxpayers paying and filing quarterly. This is an increase of $122 million and more than quadruples paper returns processing costs of $34.5 shown here.[3]

We also calculated the costs for quarterly payment and annual filing. This scenario runs counter to the principle of filing and paying together established throughout the report, but it would ease the taxpayer and administrative burden of dealing with quarterly returns. If small taxpayers paid estimated taxes quarterly and filed annually, the paper returns processing costs would increase to $67.5 million, an increase of $33 million (excluding refund payments), or almost 50 percent higher than with annual payment.

Procedures for Electronic Processing

For making the cost assumptions, we designed a scenario with IRS receiving the tax information from the Federal Reserve Bank (FRB) system, which will serve as the central processor or cash concentrator. Other scenarios could be chosen, and the associated costs would differ.

Our processing design took into consideration the IRS TSM program, which calls for two computer centers to maintain the account indices and receive information returns. Therefore, costs for two computer centers were included in the estimates.

FRB is now testing its Electronic Federal Tax Deposit Concept, which is a response to FMS' request for electronic tax deposits. In the last 2 years, state governments have successfully utilized third-party concentrators for the payment of business taxes, various sales taxes, and excise taxes. In the FRB design, the government serves as the cash concentrator rather than contracting with a third party for a network.

Returns Processing Assumptions Are Based on FRS Concept

Under our VAT scenario, 1 day before the tax due date, the taxpayer would inform a Federal Reserve bank, either through a computer link or a touch-tone phone, of its tax liability (or credit). The taxpayer would enter the system using the business' EIN and personal identification number (PIN). After the identification number was verified, the taxpayer would

[3]These figures represent processing costs only and do not include costs of administering refund payments.

enter pertinent tax information through a touch-tone telephone or a taxpayer's computer file: tax period, total sales, VAT liability, total purchases, credits, and total VAT to be paid or the credit or refund due.

The information would then be associated with data (such as the taxpayer's address and depository institution) in the FRB's file. The FRB would post the charges to the depository institution's account and send to Treasury an accounting of the amount of funds it would collect the following day.

On the next day (i.e., the tax due date), the FRB would notify the depository institution of the debit. The depository institution would sweep the taxpayer's account of the amount of the VAT payment, and the FRB would pick up the funds through its night cycle process.

The FRB would transmit to IRS (via bulk file transfer) a complete record of the transaction, including the taxpayer identification data and the VAT data. In addition, the FRB would have an on-line database for IRS to query to ensure it had the latest data for the particular taxpayer.

FMS Would Handle Refund Payments

Refunds would be handled in the same way as business tax refunds are currently handled; that is, the data are received by IRS, which then authorizes the credit or refund. The VAT refund transaction would be handled through Treasury's FMS, which would issue the paper check or electronic funds transfer.

We assumed that a taxpayer filing a paper return would receive any refund due by means of a paper check, and a taxpayer filing a return electronically would receive the refund either electronically directly into the authorized bank account or by check. On the basis of international experience and the smaller proportion of U.S. businesses that are exporters, we made the assumption that 15 percent of the returns would be due refunds. Although we assumed that a refund would be paid whenever claimed, there could be a mechanism for carrying forward refund credits for a period of time to simplify the refund process. Table II.3 shows the FMS costs for processing refunds.

Table II.3: Estimated Annual Recurring FMS Costs for Processing Refunds

Costs in thousands of 1995 dollars

		No threshold		More than $25,000		More than $100,000	
	Cost per refund	Number (millions)	Cost	Number (millions)	Cost	Number (millions)	Cost
Paper processing	$0.358	2.16	$875	0.165	$67	N/A	N/A
Electronic processing	0.057	18.0	1,161	18.16	1,172	10.26	$662
Total FMS costs		**20.16**	**$2,036**	**18.33**	**$1,239**	**10.26**	**$662**

N/A = not applicable

Source: GAO estimates.

Costs of Electronic Processing

Costs were estimated for electronic filing and paying the VAT for the three threshold scenarios. Here again, the assumptions chosen were intended to be reasonable but not definitive. The assumptions that the costs were based on are shown in table II.4.

Table II.4: Assumptions for Electronic Returns Processing Cost Estimates

	Threshold		
Assumption	**None**	**More than $25,000**	**More than $100,000**
Number of FRB processing sites	2	2	2
Returns per site per month	5 million	5.04 million	2.85 million
Transactions (calls) per day	250,000	252,300	143,000
Number of lines[a]	1,400	1,400	800
Number of calls per line per 18-hour day	360	360	360
Number of voice response units (VRU) @ 48 lines per VRU	30	30	18

[a]Costs for 800 of these lines (assumed to be the minimum number of lines needed to start up the system) are considered capital costs—they are omitted from ongoing costs and included in the transition costs.

Source: GAO estimates based on data from the Federal Reserve Bank and IRS TeleFile telecommunications consultant.

The cost assumptions on which electronic returns-processing cost estimates were based are shown in table II.5. We calculated registration costs based on a 25-percent rate of change. A variety of sources was used for the cost per unit data, and other data could be substituted.

Table II.5: Estimated Annual Recurring Costs for Electronic Returns Processing

Costs in thousands of 1995 dollars

		Threshold		
Item	**Cost per unit**	**None**	**More than $25,000**	**More than $100,000**
Line usage	$146.70 /day/line	$52,358	$52,386	$28,168
Automated Clearing House charges (including error)	$25.53 /1,000 transactions	3,064	3,092	1,746
Annual lease of communications lines (4)	$81,500 /year/line	326	326	326
Registration— database maintenance	$1.63	4,075	4,523	3,668
Total		**$59,823**	**$60,327**	**$33,908**

Note: Figures in tables 3.2 and 4.2 show registration costs, which include these electronic database maintenance costs. These estimates assume 20 18-hour work days per month.

Source: GAO estimates based on Federal Reserve Bank, PACS Manual, 1991; IRS, Costing Reference Manual for Service Center Processing, 1988; and IRS' TeleFile telecommunications consultant.

Implementation Costs for Paper Processing

Because IRS is currently using and is experienced with paper processing, there would be few implementation costs for processing paper VAT returns. However, additional hardware costs for IRS to process the VAT returns were included to cover the scanners to handle the increased workload.

Implementation Costs for Electronic Processing

Hardware costs were estimated for two small-scale mainframe computers that would be located at the two FRB sites and large-scale mainframes for the two IRS Computer Centers (Martinsburg and Detroit). Hardware sizing was based on gross estimates and not on sizing and capacity studies. The FRB machines would serve primarily as transaction processors for processing the VAT and incorporating the data into the accounts. FRB would send the data to IRS which would incorporate them into the current posting and analysis runs of the master files. Additional mainframe disk storage costs and magnetic media costs were estimated.

The FRB sites would use voice response systems to receive the phone calls from taxpayers, then prompt the automated menu. The taxpayer, after establishing its identity, would input data. The capacity of the voice response system would be increased with six additional workstations per site, requiring both hardware and networking additions. Also, additional telephone lines would be needed for the voice response system at the two sites. The communications processor would prepare the data to be transferred between the FRB site and IRS via the telecommunications lines. The number of phone lines needed for the voice response system depends on the number of transactions. Table II.6 shows the components of the estimated hardware costs that would be incurred during the transition phase of the VAT.

Table II.6: Estimated Costs of Hardware for IRS and FRB

Costs in thousands of 1995 dollars

	Costs for base implementation		Costs that vary by threshold level		
Item	**FRB cost**	**IRS cost**	**None**	**More than $25,000**	**More than $100,000**
Mainframe computers (2 small-scale, peripherals)	3,698[a]				
Mainframe computers (2 large-scale)		8,415[a]			
Workstations (6 per site)	125				
Communications processors		849			
Magnetic media	226	113			
Printer	27	27			
Scanners for paper processing (10)		328			
Voice response units 18 for implementation 12 additional	 1,600		 1,066	 1,066	 (b)
Telephone lines (4 and multiplexers)	91	91			
Telephone line installation (800- number lines)	188		141	141	(b)
Total costs	**$6,100**	**$9,823**	**$1,207**	**$1,207**	(b)

[a]Includes software needed to operate machines. FRB has plans to consolidate its ADP operations to two sites.

[b]Included in capital costs.

Source: GAO estimates based on data on previous IRS project, DataPro Reference Manual, IRS' TeleFile telecommunications consultant.

Computer Systems Staff Required for Implementation of a VAT

On the basis of the staffing of current software development projects, we estimated a total of 315 staff-years would be required for implementation of a VAT processing system, assuming the paper and electronic processing scenarios we have outlined.[4] Over one-third of the staff-years would be needed at the FRB sites. Table II.7 shows an estimated number of staff and their duties.

[4]The 315 staff-years include 16 staff-years for Customs' implementation.

Table II.7: Estimated Staff Required for Returns Processing During Implementation of a VAT

Staff responsibility	FRB	IRS	Total
Software development	86	129	215
Hardware interface and support	12	32	44
Quality review and testing	6	17	23
Returns processing	0	7	7
Project management (to ensure integration with IRS modernization)	0	10	10
Total	**104**	**195**	**299**

Source: GAO estimates based on IRS' current staffing and data from IRS program analysts.

Table II.8 shows the estimated costs for the staff based on IRS' current staffing levels and salaries. We assumed that consultants would be needed for implementation only. At the FRB sites, consultants would assist in the voice response system and networking to ensure responsiveness; at IRS, they would assist in systems development and telecommunications receipt of the data. An additional transition cost for IRS would be the creation of the cross-reference EIN file. This file would be needed for compliance processing to be effective. The cross-reference file would associate subsidiaries with the parent corporation and would identify multiple EINS for the same corporation. Costs for training, supplies, and travel are included, as well. Because the processing system would probably require intensive maintenance for the first few years of operation, it was estimated that after the system has been thoroughly tested and refined through several years of use, about 75 percent of the 299 staff-years, or 224, would be needed for system maintenance. The recurring costs were estimated to be $10.7 million.

Table II.8: Estimated Staffing and Miscellaneous Costs for Systems Implementation

Costs in thousands of 1995 dollars

Item	FRB	IRS	Total
Staff	5,176	7,841	13,017
Consultant fees	1,698	1,698	3,396
Training	183	226	409
Travel	453	113	566
Supplies	226	113	339
Cross-reference EIN file	0	5,094	5,094
Total	**$7,736**	**$15,085**	**$22,821**

Source: GAO estimates based on staff costs shown in table II.7 and IRS Business Master Files Information Returns Program Cost Estimate, 10/31/90.

Customs' Role in VAT

We assumed that in addition to establishing an automated system for identifying exports (discussed in ch. 3), Customs would supply IRS with information regarding businesses' imports and exports by means of reporting documents. IRS, in turn, would use this information to ensure that the proper amount of VAT is paid. The information from Customs also would assist in compliance processing for IRS.

Customs would extract the appropriate information from its Automated Commercial System (ACS/Customs) and the Automated Commercial Export System (ACES) that Customs has under development. The data would consist of company name, VAT identification number, amount of goods imported or exported, and value of the goods.

Customs would develop software within ACES that would download information on each taxpayer's identification code. This software would be used to create a file that would be uploaded to IRS through a telecommunications link. Additionally, Customs may collect VAT; therefore, software would be developed to transfer the data to FRB. On the basis of the staffing figures for the Customs' ACES, we estimated staff-years for development of the linkage to be 10 computer specialists, 3 ACES specialists, 2 telecommunications specialists, and 1 manager; these staff would be GS levels 12 through 14. After implementation, we assumed that eight technical specialists (GS-13) would be needed to maintain the system.

We assumed that there would be enough capacity on the processor to complete the search and create the file, but additional hardware could be needed if the processor does not have this capacity. Additional storage costs and telecommunications costs were included. Because there currently are no lines between the Customs data processing center (in Newington, VA) and the IRS data processing center (in Martinsburg, WV), we included the cost of installing and leasing a communications line between these points. A communications line from Customs to FRB to transfer data is also needed.

The cost estimates, shown in table II.9, included the cost of extracting the information for IRS, based on the number of possible exporters (size of the database) and frequency of runs (monthly), plus the telecommunications costs.

Table II.9: Estimated Costs for Customs' Information Transfer to IRS

Costs in thousands of 1995 dollars

Item	Recurring costs	Implementation costs
Staff costs		
8 technical	$457	N/A
15 technical, 1 manager	N/A	$877
Telecommunications:		
Line lease	102	N/A
Line installation	N/A	147
Additional disk storage	N/A	826
Work stations, magnetic media/supplies, printer	N/A	87
Maintenance and supplies	24	23
Total	**$583**	**$1,960**

N/A=Not applicable.

Source: GAO estimates based on Customs' staffing in Automated Customs System Reference Documentation, DataPro and IRS' current telecommunications costs.

Audit Program Costs

Our estimates of the audit resources that a VAT would require were based on our analysis of various tax administrations, including federal, state, and foreign authorities. In developing our estimates, we adapted the experiences of VAT administrations in other countries to a U.S. context and those of state sales tax administrations to a nationwide context. We also examined IRS' current examination programs to determine the extent to which they could be expanded or modified to encompass a VAT. The estimated costs and components of the VAT audit program are detailed in tables III.6, III.7, and III.8.

This appendix examines functions and programs relevant to our audit estimates. It provides a background on the requirements and strategies of audit enforcement for various taxes and on how these apply to an audit program for a U.S. VAT. Also addressed are some of the variables affecting an examination program, including business size, the characteristics of a tax, and the composition of the taxpaying population.

IRS Examination Strategy

The IRS examination strategy is to maintain a minimum degree of audit coverage for all classes of taxpayers. This strategy reflects IRS' belief that having some presence in a large number of classes of taxpayers is desirable for its indirect effect of encouraging compliance among the general population of taxpayers. The distribution of IRS' 1990 corporate audit coverage is detailed in table III.1.[1] The data indicate that while a minimum audit coverage was maintained for all classes of corporate taxpayers, the largest taxpayers received the most frequent audit examinations.

Table III.1: IRS' 1990 Corporate Audit Coverage

Taxpayer's gross assets	Percent audited annually
Under $1 million	1.82
$1 million - $50 million	7.22
$50 million - $100 million	33.79
Over $100 million	59.12
Corporate total	**2.59**

Source: Commissioner of Internal Revenue, testimony before Senate Committee on Governmental Affairs, April 17, 1991.

[1]Some experts believe that an employment tax audit program is a closer parallel to a VAT audit program than the corporate income tax program. However, as discussed later in this appendix, IRS devotes relatively few exam resources to the employment tax.

IRS Uses Statistical Risk Analysis to Select Cases for Audit

To select candidates for audit, IRS employs a statistical procedure that assigns tax returns to different classes according to how they score on an initial review. The result of this procedure is known as the DIF score, or Discriminant Function score. The intent is to discriminate between cases with the highest potential for examination yield and those likely to result in little or no change upon examination. Similar procedures are used by state sales tax administrations, and some variant of DIF scoring would undoubtedly be a component of a VAT audit program.

Approximately 12 percent of all federal tax returns filed in 1988 were classified as potential low-yield, low-compliance cases. In fiscal year 1988, IRS completed examinations of about 122,000 returns from these classes for an average yield per hour of $100 to $300. This contrasts with an average of $1,300 per hour for IRS corporate audits. Although the yield from examinations of low-compliance taxpayers is small relative to the yield from corporate examinations, IRS considers them to be effective in strengthening overall taxpayer compliance.

Allocation of IRS Audit Resources Within Corporate Audit Programs

In addition to coverage of all classes of taxpayers, IRS relies on several special audit programs to target certain classes of taxpayers that offer potentially very high yield examinations. One example is the Coordinated Examination Program (CEP), which encompasses almost 1,600 of the largest corporate taxpayers. Should even a small percentage of the correct tax liability of large corporations be underreported, the amount of revenue at risk can still be substantial. Large corporations, therefore, tend to receive very close audit coverage. In fiscal year 1990, the average yield per CEP audit-hour amounted to $4,480. Despite the small number of corporations examined (1,461 in fiscal year 1988), CEP examinations result in 48 percent of all IRS-recommended audit adjustments.

The allocation of IRS staff-years to the direct examination of corporate taxpayers by gross asset levels is shown in table III.2. To examine returns of nearly all 1,577 corporations in the CEP inventory, IRS allocated 1,559 auditor staff-years, equal to 40 percent of all staff-years devoted directly to corporate audits in 1990.

Table III.2: IRS' Planned Allocation of Direct Examination Staff Years to Corporate Taxpayers, FY 1991

Corporate assets	Staff-years	Percent of staff-years
CEP	1,559.33	40.9
Corporate	2,248.92	59.1
No balance sheet	78.41	3.48
Under $250,000	449.14	19.97
$250,000 - $999,999	215.88	9.59
$1,000,000 - $4,999,999	359.14	15.96
$5,000,000 - $9,999,999	261.09	11.60
$10,000,000 - $49,999,999	334.81	14.88
$50,000,000 - $99,999,999	142.49	6.33
$100,000,000 - $249,999,999	153.47	6.82
$250,000,000 and over	254.49	11.31
Total corporate and CEP	**3,808.25**	**100.0**

Source: IRS, Office of Examination Planning and Research.

Allocation of Audit Resources Within State Sales Tax Audit Programs

In estimating the audit resources required to administer a VAT, it is helpful to examine state sales tax administrations. Both value-added and sales taxes are consumption-type taxes, and audit enforcement of both taxes is heavily reliant on examination of transaction records such as invoices.

State sales tax administrations, like IRS, assign a significant share of audit resources to examining large corporate taxpayers. One difference between the two taxes is that the largest taxpayers under a retail sales tax are large retailers, while the largest taxpayers under the VAT are likely to be manufacturers. Table III.3 outlines California's allocation of audit time by percentage of the sales tax base. California devotes an average of 44 percent of audit time to the largest 5 percent of sales taxpayers, which account for 70 percent of the revenue from that tax. In Texas, 32 percent of audit time is allocated to taxpayers with more than $2.35 million in income. These taxpayers represent only 1 percent of accounts but are the source of 65 percent of that state's tax revenue.

Table III.3: Average Length of California Sales Tax Audits by Percentage of Tax Base

Percent of taxpayers	Percent of tax base	Average hours per audit	Percent of total audit hours
5	70	97	44
37	25	41	46
58	5	35	5
100	100		95[a]

[a]Remaining 5 percent of audit hours are for miscellaneous accounts.

Source: California Board of Equalization, 1991

Illinois provides a detailed example of how audit resources are deployed by a sales tax administration. Table III.4 shows Illinois' planned sales tax audit production for fiscal year 1991. Of the 3,128 audits planned for that year, 17 percent were audits of large taxpayers with more than $10,000 in monthly tax payments. These large case audits required the most experienced auditors (revenue agent III) and were allocated 35 percent of planned audit time. Middle-sized companies with monthly tax payments between $1,000 and $9,999 represented 26 percent of the planned audit caseload and required a proportional 29 percent of audit hours. Nonfilers and small taxpayers with less than $999 monthly tax payments were the targets of the remaining 57 percent of audits and were allocated 36 percent of auditor time.

Table III.4: Illinois Sales Tax Audit Forecast, FY 1991

Average monthly tax payments	Audit hours	Percent of total hours	Completed audits	Average hours per audit	Auditor level
Nonfiler	32,499	9.5	486	67	I
$0 - $499	74,727	21.9	1,046	71	I
$500 - $999	18,712	5.5	228	82	I
$1,000 - $4,999	68,137	19.9	616	111	II
$5,000 - $9,999	27,475	8.0	217	127	II
$10,000 - $24,999	44,060	12.9	280	157	III
$25,000 - $49,999	28,636	8.4	124	231	III
Over $50,000	47,483	13.9	131	362	III
Total	341,729	100.0	3,128[a]		

[a]The 3,128 audits represent 1.4 percent audit coverage of Illinois' 222,513 sales taxpayers.

Source: Illinois Department of Revenue, 1990.

Allocation of Audit Resources Within the United Kingdom's VAT Audit Program

The United Kingdom's Customs and Excise (C&E), which is responsible for VAT administration, employs special examination groups known as Large Trader Control Units (LTCU). These units are similar to IRS' CEP and are responsible for examining some of the United Kingdom's largest corporations. C&E currently allocates 204 of its examination staff (out of a total of 4,273) to LTCUs. The LTCUs provide examination coverage of 124 corporate groups with a varying number of corporations in each group. As shown in table III.5, C&E's fiscal year 1992 audits of the 2,904 largest corporations required 4.3 percent of all audit hours. In the same year another 5 percent of taxpayers were classified as high-priority cases and accounted for 44.5 percent of all audit hours.

Table III.5: United Kingdom Customs and Excise Audit Distribution, FY 1992

Case type	Number of taxpayers	Percent of taxpayers	Percent audited	Average hours per audit	Percent of all audit hours
Large trader	2,904	0.2	100	36.0	4.3
High priority	85,271	5.0	100	12.5	44.5
Medium risk	373,690	21.5	8	9.0	11.2
Low risk	889,877	51.0	0	N/A	0
New registers	386,539	22.3	33[a]	7.5	39.9
Total	**1,737,281**				

N/A = Not Applicable

[a]This reflects the planned audit rate for new registrants, not the number actually audited.

Source: United Kingdom Customs and Excise, 1992.

C&E assigns audit priority according to a number of factors, including business volume and growth, type of business, and past compliance performance. The policy that guides C&E auditors is to analyze a few risk areas in the taxpayer's account with each audit, the aim being to examine all risk areas over a number of audits. Note that the percentage of audit time allocated to examinations of the largest 2,904 corporations is substantially less than IRS' CEP devotes to the 1,600 taxpayers in its inventory.

Excise and Employment Tax Audits

Excise and employment taxes share a characteristic with value-added and sales taxes; they are collected by someone other than the party on whom the tax is imposed. The incidence of these taxes is on the consumer, or, in the case of employment taxes, the employee. These taxes, however, are collected and remitted by businesses, which are legally responsible for these collections.

IRS-administered excise taxes are also similar to a VAT in that they are consumption taxes. As indicated in table 3.4 of chapter 3, the average hours per excise tax audit is less than 10 percent of that for corporate tax audits and only half of that for the United Kingdom's VAT. The excise tax, however, is not comparable to other forms of consumption taxation and does not offer a reliable estimate of VAT audit requirements. By definition, an excise tax is a tax on a specific product type (for example, liquor or firearms). Since the tax is based on the physical unit rather than valuation, an excise tax does not significantly vary among transactions; hence, there is much less detail for auditors to contend with than there is with taxes affecting many different types of products.

Employment taxes consist of income tax and Social Security payments that are withheld by employers from employee salaries as well as unemployment taxes paid by employers. IRS examinations of employment tax returns are the result of two processes, package audits of all tax types and regular employment tax examinations. Various groups within the Examination Division are responsible for conducting the examinations. IRS' overall employment tax examination program is small. For example, during fiscal year 1992, revenue agents spent only 154 staff-years on employment tax examinations. As a result, this program does not offer a reliable measure for the resource requirements of a VAT audit program.

Value-Added Tax and Sales Tax Auditors Use Similar Methods, but Examination Strategy Differs

VAT and sales tax auditors employ much the same examination methods and possess similar qualifications. However, the allocation of audit resources differs between value-added and sales tax audit programs. Because state sales taxes apply only to the retail level, sales tax administrations allocate a large percentage of audit time to examinations of large retail concerns, such as supermarkets and department stores.

Because of the way the VAT is structured, with all levels of production and merchandising subject to the tax, tax liability does not concentrate in large retail outlets to the degree that occurs with sales taxes. A VAT audit administration needs to examine a wide range of taxpayers to ensure tax compliance among the numerous producers, distributors, and suppliers below the retail level. For this task to be accomplished with an affordable level of audit staffing, VAT audits need to be completed in less time than the average sales tax audit.

The longer amount of time, relative to the VAT, required to audit state sales taxpayers is the result of several conditions. One condition is that the sales tax auditor is faced with the task of distinguishing between numerous taxable and nontaxable transactions. At one level, this demands the normal differentiation between in-state sales of goods to which the tax applies and in-state sales of goods that are not taxable. Because of the numerous exemptions from state sales taxes generally, the task can be time-consuming. It is, however, necessary because the bulk of all taxpayer errors detected in sales tax audits relate to exempt sales. Should a VAT be adopted that contains multiple rates or numerous exemptions for goods and services, these same taxpayer errors could be expected to occur.

At another level, sales tax auditors need to distinguish between intrastate and interstate transactions. Interstate transactions may or may not be taxable depending upon the identity and locus of the parties to a transaction and the type of product sold. With the exception of the export tax credit, which is generally verifiable by invoice and customs records, the VAT auditor does not have to account for transactions between taxpayers in different tax jurisdictions. This represents a significant time saving for auditors.

Selective Sampling of Records to Indicate Noncompliance Is Primary Audit Technique

For both value-added and sales taxes, auditors rely primarily on selective sampling of records to indicate the degree of taxpayer compliance. In selective sampling, only a portion of business records are examined, such as those for a particular month. If these records support the information provided on tax returns, overall compliance can be assumed and no further examination is necessary. When selected samples reveal that there may be problems with the accuracy of a taxpayer's reporting, a more thorough audit can be undertaken.

Selective sampling enables the tax administration to avoid prolonging unproductive audits and to concentrate on cases with a higher probability of noncompliance. However, even selective sampling can be time-consuming in audits of large businesses; the amount of time required for audits increases in proportion to the size of the business. As indicated in table III.4, Illinois' audits of large sales taxpayers require an average of five times the number of hours as for those of the smallest sales taxpayers.

Effectiveness of Selective Sampling Is Reduced When Tax Is Not Uniform for All Transactions

As an examination technique, selective sampling is less reliable when a value-added (or sales) tax does not apply uniformly to all transactions. This occurs when product exemptions or rate variations are significant features of the tax. To determine the correct tax liability, transactions to which no tax or a different rate of tax applied must be accounted for. Invoices must be examined more thoroughly to ensure that the actual distribution of a business' taxable, lower-taxed, and nontaxable sales and purchases is accurately reflected in its tax returns. Nonuniform tax treatment almost invariably results in more lengthy audits than does a uniform tax, because the increased complexity of business records reduces the effectiveness of selective sampling as a barometer of tax compliance.

Audit Selection and Information Matching

A technique for enhancing the accuracy of audit selection and strengthening taxpayer compliance is to match information on returns with data on sales and purchases made by individual businesses. IRS currently ensures compliance with the individual income tax by matching information returns against tax returns.

A document matching program for a VAT would require registered businesses to prepare year-end summaries of all taxable transactions completed with other registered taxpayers. The summary would detail the dollar volume of their taxable sales to each registered customer and their taxable purchases from each registered supplier. The purpose of these summaries would be to obtain information on business volume from sources other than tax returns or taxpayer audits.

Once IRS had consolidated this information, it could check the volume of sales and purchases claimed on tax returns against the volume reported on the summaries. Taxpayers whose returns indicated a volume of sales or purchases not supported by information provided by their customers and suppliers would then presumably be at some risk of receiving a visit from an auditor.

The weakness of such a system is its reliance on the accuracy of information reported on the summaries, particularly correct identification of purchasers and suppliers. South Korea developed an information matching program for its VAT that proved to be extremely inefficient and costly. These problems stemmed from the effort required to screen and correct data as well as the large amount of computer processing needed to match sales and purchase information to individual taxpayers, which reduced computer capacity available for other purposes.

The feasibility of an information matching program for a VAT would depend on the technology and computer capacity available to IRS, the cost of processing the information returns, and the degree of compliance burden to businesses. IRS budget data show a cost of 20 cents for each information return processed for the individual income tax, and IRS has estimated a cost of 25 cents per return for a business document matching program. Should the majority of taxpayer returns and information summaries be filed electronically, eliminating the need for manual entry of data, it may be cost-efficient for IRS to employ an information matching program for a VAT. However, the issue of an additional compliance burden to businesses would still remain.

Estimate of Audit Costs

Our estimates of the level and costs of VAT audit resources werebased on assumptions about (1) the number of business taxpayers and the size of their gross receipts, (2) the percent of taxpayers audited annually and the amount of time required to complete audits, and (3) the qualifications and experience of auditors.

Projected Number and Business Volume of 1995 Taxpayers

The estimated number and size of business taxpayers was based on our projections of business expansion by 1995. These projections were supported by data obtained from IRS' SOI branch and IRS' Research Division. Based on these data, the projected number of businesses with annual gross receipts below $25,000 in 1995 will be approximately 14 million. The number of businesses with annual gross receipts between $25,000 and $100,000 in 1995 will be approximately 4.6 million. In total, businesses with annual gross receipts below $100,000 will number 19 million out of an estimated total of 24 million U.S. businesses in 1995.

The distribution by business volume of the remaining 5.4 million businesses (those with annual gross receipts above $100,000) was based on the distribution compiled by the SOI branch for all business taxpayers in 1987. For example, 24 percent of business taxpayers with gross receipts in excess of $100,000 in 1987 recorded gross receipts of between $250,000 and $499,999 for that year. Applying this same percentage to 1995, we estimated that 1.3 million businesses (24 percent of businesses with gross receipts in excess of $100,000 in 1995) will record gross receipts within this same range. This calculation does not take inflation into account:

assuming no business growth and a 4-percent annual rate of inflation, a business grossing $250,000 in 1987 would take in $340,000 in 1995, and one grossing $500,000 in 1987 would take in $680,000 in 1995. If we were to adjust the categories to account for migration caused by inflation, substituting, for example, the category $340,000-$680,000 for that of $250,000-$500,000, the relative distribution of businesses along the scale would remain the same. Therefore, for the sake of simplicity, we used the same dollar figures for all years.

Audit Coverage by Level of Gross Receipts

The audit coverage we propose would result in an overall annual audit frequency of 7.8 percent (rounded to 8 percent) of a population of 24.4 million taxpayers. We believe the proposed 8-percent audit coverage is a good target, because it approximates the audit coverage of other countries' VAT administrations.

The frequency of audit under a VAT, as with other taxes, varies according to the size of businesses. Based on our research, a 5-percent annual audit coverage of businesses with less than $25,000 in gross receipts would be a cost-effective level of enforcement for that category of taxpayer. At the highest end, we estimate that 100 percent of all businesses with gross receipts above $100 million would have their VAT returns audited annually. The progressive increase in the level of audit coverage we propose is consistent with two objectives: (1) cost-effective examinations of taxpayers according to size of business and prospective audit yield; and (2) the maintenance of an effective, yet economical, level of enforcement for all taxpayers. The allocation of audit resources and their estimated costs for the basic VAT system is detailed in table III.6.

Length of Audit

The average length per audit varies according to the size of the business being audited. Our estimates ranged between an average of 4 hours per audit for taxpayers with annual gross receipts below $25,000 to an average of 80 hours per audit of taxpayers with annual gross receipts above $100 million. These numbers are reasonable, given data supplied by the United Kingdom's C&E, whose VAT audits range between 4 hours to being nearly continuous in length. With the distribution in audit hours we have selected, the average length per audit comes to 9.2 hours for the basic VAT system. This average is comparable to the average hours per GST audit by New Zealand (ch. 3, table 3.4). The particular numbers of hours that we estimated for audits of taxpayers at different levels of gross receipts were, to some degree, arbitrarily selected, but the average of 9.2 hours per audit that resulted from our proposed distribution is reasonable.

Table III.6: Allocation and Costs of Audit Resources for Basic VAT

Gross receipts	Number of taxpayers[a]	Percent audited annually	Audits (thousands)	Hours per audit	Examiner staff years	Other staff years	Total staff costs (1995 dollars)
Under $25,000	14,000,000	5.0	720.0	4	2,760	764	$195,391,815
$25,000 - $99,999	4,600,000	7.5	345.0	6	1,984	549	140,437,867
$100,000 - $249,999	2,400,000	10.0	240.0	8	1,840	509	133,966,149
$249,000 - $499,999	1,300,000	12.5	162.5	10	1,557	431	113,382,808
$500,000 - $999,999	750,000	15.0	112.5	12	1,294	358	94,194,948
$1,000,000 - $4,999,999	750,000	25.0	187.5	16	2,875	795	223,512,395
$5,000,000 - $9,999,999	100,000	50.0	50.0	24	1,150	318	91,685,534
$10,000,000 - $99,999,999	100,000	75.0	75.0	40	2,875	795	243,316,598
Over $100,000,000	10,000	100.0	10.0	80	767	212	67,101,438
Totals	**24,410,000**	**7.8**	**1,902.5**	**9.4**	**17,101**	**4,734**	**$1,303,461,243**

[a]Numbers differ from estimated total of 24,428,000 taxpayers due to rounding.

Source: GAO estimates.

Audit Staff Costs

Since an audit program's single biggest cost factor is personnel, salary levels of auditors have a significant impact on cost estimates. The staff level of IRS revenue agents ranges from GS-13 to GS-11 and below. We chose to use these same levels for VAT auditors. However, we believed that more lower level auditors could be employed to enforce a VAT than are currently employed to enforce the corporate income tax.

The 1991 distribution by grade of IRS technical audit staff assigned to corporate income tax enforcement is 28 percent GS-13, 20 percent GS-12, and 40 percent GS-11 and below. An additional 11 percent of the technical audit staff are managers. We retained the 11 percent representation of managers, but for the basic VAT we assumed that 20 percent of the technical staff would be GS-13, 28 percent GS-12, and 41 percent GS-11 and below. This mix of higher, middle, and lower grade auditors, in our opinion, would meet the distinct staff needs of a VAT examination program. With the two other thresholds of 12 million and 9 million taxpayers, the proportion of higher grade auditors would increase marginally. To demonstrate the effects of staff levels on costs, we considered an alternative assumption for staffing the basic VAT exam program. Staff costs can be reduced by 5 percent to $1.26 billion if GS-13s constitute only 10 percent of staff, GS-12s 25 percent, and GS-11s and below, the remainder.

We derived the number of auditors by dividing the estimated number of audit hours shown in table III.6 by 1,043.5, which is 50 percent of the 2,087 annual hours that are the basis of federal salaries. The 50-percent figure was used because that is the percentage of time that IRS calculates is available to its revenue agents for direct examinations; the remaining 50 percent is allocated to training, leave, and other activities.

We estimated that 12 percent of all examination staff would be support personnel. For our approximation of staff support, we began with the estimate contained in the 1984 Treasury report on a VAT, which predicted that 17 percent of all examination staff- years would be support staff-years. The qualitative improvements in office automation that have occurred since that date would, in our estimation, reduce the proportion of support staff required by the enforcement function.

Management staff were calculated at GS-14, currently the most predominant staff level for managers in IRS tax enforcement. Staff support was calculated at GS-6, midway between levels GS-5 and GS-7, which comprise the bulk of lower level staffing in IRS enforcement. All levels are calculated at Step 5 per the advice of the Office of Personnel Management contained in Office of Management and Budget (OMB) Circular A-76 (Revised). Salary levels were calculated by multiplying GS salary levels (nonspecial rate) effective January 13, 1991, by the February 28, 1991, OMB-specified pay raise assumptions for the years 1992, 1993, 1994, and 1995. The salary multiplier for government-supplied benefits is 1.2955 per OMB Circular A-76 (Revised) and includes retirement, health, and fringe benefits.

Audit Costs for Alternate Thresholds

The effects of the two alternate thresholds of $25,000 and $100,000 on the allocation and costs of audit resources are detailed in tables III.7 and III.8.

Table III.7: Allocation and Costs of Audit Resources—$25,000 Threshold

Gross receipts	Number of taxpayers[a]	Percent audited annually	Audits (thousands)	Hours per audit	Examiner staff years	Other staff years	Total staff costs (1995 dollars)
Under $25,000	2,200,000	5.0	110.0	4	422	117	$29,851,527
$25,000 - $99,999	4,600,000	7.5	345.0	6	1,984	549	140,437,867
$100,000 - $249,999	2,400,000	10.0	240.0	8	1,840	509	133,966,149
$250,000 - $499,999	1,300,000	12.5	162.5	10	1,557	431	113,382,808
$500,000 - $999,999	750,000	15.0	112.5	12	1,294	358	94,194,948
$1,000,000 - $4,999,999	750,000	25.0	187.5	16	2,875	795	223,512,395
$5,000,000 - $9,999,999	100,000	50.0	50.0	24	1,150	318	91,685,534
$10,000,000 - $99,999,999	100,000	75.0	75.0	40	2,875	795	243,316,598
Over $100,000,000	10,000	100.0	10.0	80	767	212	67,101,438
Totals	**12,210,000**	**10.6**	**1,292.5**	**11.9**	**14,763**	**4,087**	**$1,137,920,956**

[a]Numbers differ from estimated total of 12,202,000 taxpayers due to rounding.

Source: GAO estimates.

Table III.8: Allocation and Costs of Audit Resources—$100,000 Threshold

Gross receipts	Number of taxpayers[a]	Percent audited annually	Audits (thousands)	Hours per audit	Examiner staff years	Other staff years	Total staff costs (1995 dollars)
Under $25,000	2,200,000	5.0	110.0	4	422	117	$29,851,527
$25,000 - $99,999	1,400,000	7.5	105.0	6	604	168	$42,741,959
$100,000 - $249,999	2,400,000	10.0	240.0	8	1,840	509	$133,966,149
$250,000 - $499,999	1,300,000	12.5	162.5	10	1,557	431	$113,382,808
$500,000 - $999,999	750,000	15.0	112.5	12	1,294	358	$94,194,948
$1,000,000 - $4,999,999	750,000	25.0	187.5	16	2,875	795	$223,512,395
$5,000,000 - $9,999,999	100,000	50.0	50.0	24	1,150	318	$91,685,534
$10,000,000 - $99,999,999	100,000	75.0	75.0	40	2,875	795	$243,316,598
Over $100,000,000	10,000	100.0	10.0	80	767	212	$67,101,438
Total	**9,010,000**	**11.7**	**1,052.5**	**13**	**13,383**	**3,704**	**$1,040,170,557**

[a]Numbers differ from estimated total of 8,978,000 taxpayers due to rounding.

Source: GAO estimates.

Taxpayer Services' Costs

We estimated costs for taxpayer services in three general categories: staff, publications, and telephone assistance. These categories appeared to be the areas where the most additional costs would be incurred if public service time were used for advertising. A summary of these costs appears in table IV.1.

Table IV.1: Estimated Annual Recurring Costs for Taxpayer Services for Three Thresholds

Costs in millions of 1995 dollars

	Threshold		
	No threshold	More than $25,000	More than $100,000
Staff	161.1	51.9	32.2
Telephone usage	34.5	18.3	12.2
Publications	14.8	7.4	5.5
Total	**$210.4**	**$77.6**	**$49.9**

Note: Simple VAT assumed for all threshold levels.

Source: GAO estimates.

Costs for Staff

Current IRS staffing levels show the large role that "Other" positions have played in the IRS taxpayer services function. In addition to the other full-time permanent positions, there were temporary employees who traditionally worked early in the year during the income tax season. In recent years IRS has been trying to retain more of the temporary employees as year-round personnel. Table IV.2 indicates a shift among the taxpayer services personnel categories; we used the distribution planned for 1993.

Table IV.2: Current Levels of IRS Taxpayer Services Staff

Taxpayer services personnel	Number of positions in 1991	Percent of total in 1991	Number of positions in 1993	Percent of total in 1993
Taxpayer Service Specialists	1,437	16.6	1,897	23.0
Taxpayer Service Representatives	2,563	29.7	3,099	37.5
Other (full-time, part-time, temporary, WAE, or permanent)	4,631	53.7	3,258	39.5
Total	**8,631**	**100.0**	**8,254**[a]	**100.0**

[a]Total excludes 100 Tax Law Specialists in the 1993 IRS staffing estimate.

Source: IRS budget document for 1993.

In IRS about 7 percent of the 116,000 average positions (realized in 1991) were taxpayer services staff. This contrasts with Canada's ongoing taxpayer education staff for its GST, which is between 500 and 600, or about 11 percent of the 4,700 to 5,200 GST employees.[1] During the Canadian transition to the GST, 1,500 staff worked primarily on taxpayer education.

To make assumptions about U.S. staff levels, we looked at the ratio of taxpayer services personnel to the number of taxpayers in Canada and a few states. (See table IV.3.) The wide variations in the ratios between the taxing authorities may result from the relative degree of tax complexity, emphasis on taxpayer services, and/or funding levels.

Table IV.3: Ratio of Taxpayer Services Personnel to Taxpayers

Taxing authority	Number of taxpayer services personnel	Number of taxpayers	Number of taxpayers per taxpayer service person
IRS (all taxes)	7,449	113,320,413	15,213
Canada — GST	550	1,737,741	3,160
Texas — RST	52	450,000	8,654
Tennessee — RST	39	146,021	3,744
Illinois — RST	30	222,000	7,400
Nebraska — RST	20	70,524	3,526
Massachusetts — RST	8	212,850	26,606

Note: GST is a goods and services tax, and RST is a retail sales tax.

Source: Interviews with and correspondence from appropriate tax administrators.

The following assumptions for taxpayer services personnel levels reflect the varying degree of taxpayer services required depending on the size of business and the complexity of the tax. For example, under a complex tax, we estimated that 1 taxpayer services person would be required for every 2,000 taxpayers with less than $25,000 annual gross receipts. Under a simple VAT, for taxpayers with gross receipts in excess of $100,000, we judgmentally selected a ratio of 1 taxpayer services person for every 10,000 taxpayers. The assumptions for each gross receipts level are shown in table IV.4.

[1]In New Zealand, the GST taxpayer services staff are totally integrated with other taxes, and no estimates of staffing levels could be obtained.

Table IV.4: Estimated Ratio of Taxpayer Services Personnel to VAT Taxpayers by Business Gross Receipts and Tax Complexity

Businesses' level of gross receipts	Simple VAT	Complex VAT
Less than $25,000	1:4,000	1:2,000
$25,000 to $100,000	1:6,000	1:4,000
More than $100,000	1:10,000	1:8,000

Source: GAO estimates.

According to these assumptions, for 24.4 million taxpayers with the basic VAT, an additional 4,500 taxpayer services staff would be required for the basic (simple) VAT, while a complex tax would require about 8,025 additional taxpayer services staff. (See table IV.5.) The ratio of taxpayers per taxpayer services person for the simple VAT is 5,422, and for the complex VAT, 3,040; both ratios fall well within the ranges shown in table IV.3. If threshold levels existed, the number of personnel required for taxpayer services could decrease significantly.

Table IV.5: Estimated Number of Additional Taxpayer Services Personnel Required Under Simple and Complex Value-Added Taxes for Basic VAT and Two Thresholds

Threshold	Number of taxpayers	Simple VAT	Complex VAT
No threshold	24.4 million	4,500 (basic VAT)	8,025
More than $25,000	12.2 million	1,450	1,925
More than $100,000	9 million	900	1,125

Source: GAO estimates based on ratios shown in Table IV.4.

We assumed that the taxpayer services workload could be integrated in the existing IRS function, and additional staff would be dedicated to providing information on all taxes. The grade levels of additional taxpayer services personnel are assumed to be approximately the same as current IRS staff levels. Table IV.6 shows how the staff might be distributed among the IRS staff levels and the associated costs.

Table IV.6: Estimated Level and Personnel Costs of Taxpayer Services Staff for Basic VAT in 1995

Costs in millions of 1995 dollars

Threshold and item	Total[a]	Taxpayer Service Specialists	Taxpayer Service Representatives	Other (full-time, permanent)
Percent of total personnel	100	23	38	39
Average annual salary and benefits		$36,936	$31,341	$39,479
No threshold				
Number of positions	4,500	1,035	1,710	1,755
Personnel costs	$161.1	$38.2	$53.6	$69.3
More than $25,000 threshold				
Number of positions	1,450	333	551	566
Personnel costs	$51.9	$12.3	$17.3	$22.3
More than $100,000 threshold				
Number of positions	900	207	342	351
Personnel costs	$32.2	$7.6	$10.7	$13.9

[a]Distribution is same as estimated for 1993.

Source: GAO estimates based on current IRS staffing and salary levels.

In 1984, IRS estimated that existing taxpayer services personnel would require 2 or 3 days of VAT training. We assumed 2 days of training for a simple VAT and 3 days of training for a more complex VAT. Table IV.7 shows the estimated costs, based on 1993 staffing levels, of providing VAT training to taxpayer service personnel; these are included as transition costs (ch. 6).

Table IV.7: Costs of Training Current IRS Taxpayer Services Personnel

Costs in thousands of 1995 dollars

Personnel type	1993 Number of employees	Daily salary & benefits	Total cost 2 Days	Total cost 3 Days
Tax Law Specialist	100	$207	$41.4	$62.1
Taxpayer Service Representative	3,100	142	880.4	1,320.6
Taxpayer Service Specialist	1,900	120	456.0	684.0
Other (full- and part-time)	3,260	151	984.5	1,476.8
Total	**8,360**		**$2,362.3**	**$3,543.5**

Source: GAO estimates based on projections of IRS staffing in 1992 Budget document and current salary levels (inflated).

Telephone Services' Costs

Taxpayers' use of telephone services varies widely (see table IV.8). Canadian taxpayers' inquiries about the new GST averaged 2.2 calls per taxpayer during the first year of operation. In the U.S. inquiries about the long-established employment tax averaged .21 calls per taxpayer. Taxpayers' unfamiliarity with the new GST and the relative complexity of it, as compared with the U.S. employment tax, may account for the difference.

Table IV.8: Number of Taxpayer Services Telephone Calls Per Taxpayer Recorded Annually

Taxing authority	Calls per taxpayer
IRS (all taxes)	.32[a]
IRS (employment taxes)	.21
Canada (GST, only)	2.2
Texas	2.2
New York	.53
Massachusetts	.14
Illinois	.27

[a]Calls (including toll-free and TeleTax) per return filed for all types of taxes.

Source: Interviews and correspondence with appropriate tax administrators.

From these data we judgmentally selected the assumption for the basic VAT that each small business taxpayer would make an annual average of 1.7 calls during the transition period and 1 call after the first year. (See table IV.9.) A more complex VAT, with multiple rates or exemptions, might generate 2 calls per small business taxpayer during the transition period and 1.2 calls after that.

Table IV.9: Estimated Number of Calls Annually Per VAT Taxpayer for Taxpayer Services

Businesses' level of gross receipts	Simple VAT—transition	Complex VAT—transition	Simple VAT—ongoing	Complex VAT—ongoing
Less than $25,000	1.7	2.0	1.0	1.2
$25,000-$100,000	1.45	1.7	.85	1.0
More than $100,000	1.0	1.2	.6	.7

Source: GAO estimates.

We reviewed the experiences of states to determine the number of calls received per line and the length of the calls and found a wide variation in the number of calls received per line. (See table IV.10.) The IRS averaged about 3,500 calls per line during the peak-load 17-week income tax filing season, or about 40 per day for the 85 business days. This equates to over 10,000 calls per line for a full year, which was the assumption selected for an ongoing (recurring) call load for the basic (simple) VAT. The states we contacted reported that the length of calls averaged 2 to 3 minutes after call queuing ended.

Table IV.10: Average Number of Taxpayer Services Calls Per Hour on 800-Number Lines

Taxing authority	Type of tax	Number of lines	Calls per year	Calls per line per year	Average minutes per call[a]
Internal Revenue Service	Income[b] (800-number)	5,212	17,860,000 (17-week filing season)	3,427 (17-week filing season)	3.5
New York	Sales (800-number)	15	375,000	25,000	3
Massachusetts	Sales (Toll number)	12	30,000	2,500	2
Texas	Sales (800-number)	100[c]	1 million	10,000	3
Illinois	Sales (800-number)	38 (+8 seasonal)	60,000	1,579	4 - 5

Note: Data for Canada are unavailable.

[a]Call queuing is excluded from the times shown here, except for Illinois.
New York — average length of call is 6 minutes (3 of which is call queuing)
Massachusetts — average length is 2 minutes
Texas — average length is 4.5 minutes (1.5 of which is call queuing)
IRS — average length of call during a 1-week period is 3.5 minutes; 2.5 minutes additional is call queuing.

[b]IRS data are "filing season" data and would be likely to be income tax inquiries.

[c]Lines allocated to Taxpayer Information and Collections.

Source: Interviews and correspondence with appropriate tax administrators.

For the basic VAT design with no threshold, we estimated 2,030 new 800-number lines would be required to handle the calls beyond IRS' currently installed 800-number lines, based on the estimated call load and call length. (See table IV.11.) If a VAT were more complex, we estimated 2,930 additional lines might be required for the same number of taxpayers, assuming more and longer calls. The number of calls regarding the VAT were estimated to range from 5.4 million for a simple VAT with the $100,000 threshold level to 23.4 million for a complex VAT with everyone taxed.

Table IV.11: Estimated Additional Telephone Lines Required Annually for Simple (Basic) and Complex VAT

Threshold	Number of taxpayers (in millions)	Simple VAT—Number of calls (in millions)	Simple VAT—Number of lines (@10,000 calls per line)	Complex VAT—Number of calls (in millions)	Complex VAT—Number of lines (@8,000 calls per line)
No threshold	24.4	20.3	2,030	23.4	2,930
More than $25,000	12.2	8.1	810	8.8	1,100
More than $100,000	9.0	5.4	540	5.6	700

Source: GAO estimates.

During the transition period, the number of calls per taxpayer would be expected to be considerably higher, as shown in table IV.9. We assumed that a slightly longer length of call for a complex VAT or during the transition to the VAT would reduce the calls per line per year to 8,000. Line installation for the VAT would occur during the transition period, and the cost is included in transition costs. This would be about $1 million for the basic VAT. Because of the expected heavier call load during transition, more lines would be installed for this period than would be retained after the tax is established.

Table IV.12: Estimated Installation Costs for Additional Telephone Lines Required During Transition for Simple (Basic) and Complex VAT

Costs in thousands of 1995 dollars

		Simple VAT			Complex VAT		
Threshold	Number of tax ayers (in millions)	Number of calls (in millions)	Number of lines	Cost of lines	Number of calls (in millions)	Number of lines	Cost of lines
None	24.4	34.4	4,300	$1,007.6	37.8	4,730	$1,108.3
More than $25,000	12.2	13.6	1,700	$398.3	14.4	1,800	$421.8
More than $100,000	9.0	9.0	1,125	$263.6	10.8	1,350	$316.3

Source: GAO estimates based on call load and telephone line estimates and line installation charges from IRS TeleFile telecommunications consultant.

Usage charges for the various numbers of taxpayers and types of VAT are shown in table IV.13. At a charge of $7.20 per hour,[2] the annual usage charges for the basic VAT would be $30.5 million. Inflated to 1995 dollars, the usage charges for the basic VAT are $34.5 million.

[2] We used $7.20 per hour as an average current charge.

Table IV.13: Annual Usage Charges for Telephone Lines for Simple (Basic) and Complex VAT

Numbers in millions

Threshold	Simple VAT — Number of lines	Telephone line usage charges	Complex VAT — Number of lines	Telephone line usage charges
None	2,030	$34.5	2,930	$49.9
More than $25,000	810	$13.8	1,100	$18.7
More than $100,000	540	$ 9.2	700	$11.9

Note: Telephone line usage is based on 8-hour days and 261 working days per year.

Source: GAO estimates based on data from table IV.12 and IRS TeleFile telecommunications consultant.

Another vehicle for information dissemination is an electronic inquiry system, such as an electronic bulletin board with a database of questions and answers. Canada's experience indicates that this is an expensive service, however, and it is unclear whether its cost is justified by its usefulness.

Major Publications Costs

In the United States, VAT publications would likely take several forms similar to those in other countries. Revenue Canada developed three types of publications for use during transition to the GST and for ongoing education:

(1) A registration booklet and kit, nontechnical, were developed that included a 12-page pamphlet designed to persuade and assist businesses in registering for GST. The kits were sent to all 1.7 million potential taxpayers.

(2) Thirty separate guides in layman's language were developed to comprehensively explain the GST to business sectors, such as farmers, fishermen, charities, hotels, retailers, etc.

(3) Memoranda and technical information bulletins, which were issue-specific technical documents, were directed only to professional tax preparers.

In addition to revising and reprinting these existing publications as warranted, Revenue Canada planned to publish 96 additional publications, mostly routine memoranda and technical information bulletins for tax professionals, during the second year of GST operations. The newsletter, initiated during the first year of the tax to attempt to keep taxpayers informed of changes and new developments, was considered useful enough to merit continued publishing and mailing to 2 million taxpayers.

The number of documents necessary for a U.S. VAT would be directly affected by the complexity of the tax. VAT publications could include (1) a major technical document similar to the current Circular E, which explains the employment tax to taxpayers; (2) sector guides to explain the tax to businessmen in various specific sectors; (3) registration forms; (4) returns (if used) and directions for filling out the returns or filing electronically; and (5) technical bulletins.

Many current publications, such as Publication 334 (guide for small businesses), Publication 17 (section for partnerships and sole proprietors), Publications 583, 542, 541, and 538 (all of which provide guidance to businesses), could be amended to include VAT information, and little additional publications cost would be incurred.

A major publication would be IRS' counterpart to the Canadian Guide for Small Business. Publications costs in 1991 for IRS' Circular E (Publication 15—Employer's Tax Guide), which is somewhat larger than the Canadian GST Guide for Small Business, were approximately $770,000 for printing 9.3 million copies and $1 million for direct mailing to approximately 6.7 million taxpayers (2 mailings for each business on the mailing list). We assumed the VAT costs per taxpayer would be approximately the same as those for IRS Circular E—8.3 cents per copy to print and 15.1 cents per copy to mail. All IRS taxpayer information publications are printed on newsprint, and forms are done on more expensive paper stock. Inflating these figures to the number of VAT taxpayers with a basic VAT, the total costs for a guide similar to Canada's would be approximately $12.9 million—$5.6 million for printing and $7.4 million for mailing.

Other documents, such as memoranda and technical information bulletins, would be needed with a complex VAT. They would cover the basic legislation and regulations and questions pertaining to these and would be published by IRS' Office of Chief Counsel. Relatively inexpensive to print, they could be issued routinely to tax professionals and others as necessary, and their mailing costs would probably be more significant than the printing costs. This type of document could be transmitted electronically to taxpayers who were properly equipped. Because there are so many unknowns about these documents, such as the frequency and size, which would be dependent on the complexity of the tax and other taxpayer education services, we did not make any estimate of number or cost.

With a basic VAT, sector guides that clarify the way the tax would apply to the different kinds of business, such as manufacturers, retailers, services, and farmers, probably would not be necessary. These guides could be necessary if the VAT were more complex, but since they are much smaller and less technical than the Guide for Small Business, they would be less expensive to print. Mailing could be a larger cost factor, however.

Publications development would require an additional one or two GS-13 staff members, according to an IRS official. Printing and mailing services are contracted by IRS with the U.S. Government Printing Office. Publications costs included in our estimate are shown in table IV.14.

Table IV.14: Annual Recurring Costs for Publications

Costs in millions of 1995 dollars

	No threshold		More than $25,000		More than $100,000	
Item	**Number[a]**	**Costs**	**Number[a]**	**Costs**	**Number[a]**	**Costs**
Registration/ informational materials	67.3	$14.7	33.7	$7.3	24.8	$5.4
Printed	67.3	6.3	33.7	3.2	24.8	2.3
Mailed	48.8	8.3	24.4	4.2	18.0	3.1
Staff	2 FTE	0.1	2 FTE	0.1	2 FTE	0.1
Total		**$14.8**		**$7.4**		**$5.5**

Note: Detail may not add to total due to rounding.

[a]Number of printed and mailed items in millions.

Source: GAO estimates based on current IRS data and discussions with Revenue Canada officials.

For transition costs, we applied a factor of four times the total cost (with no threshold) to cover printing and mailing two to three copies of the major publication and additional minor publications.

Comments From the Internal Revenue Service

DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
WASHINGTON, D.C. 20224

COMMISSIONER

FEB 08 1993

Mr. Richard L. Fogel
Assistant Comptroller General
United States General Accounting Office
Washington, DC 20548

Dear Mr. Fogel:

We appreciate the opportunity to review your draft report entitled "Value-Added Tax: Administrative Costs Vary with Complexity and Number of Businesses" (Report). The GAO has undertaken a comprehensive review of the potential administrative concerns of implementing a Value-Added Tax (VAT) in the United States. On the whole, it appears to be a very balanced presentation.

We concur with the GAO that it is imperative to keep any VAT legislation as simple as possible. GAO projects a substantial increase in the administrative and compliance costs associated with the more complex VAT given any exemptions, multiple ratings or other exceptions. We believe even these increases are understated.

A number of other concerns merit further attention. First, because we have no prior experience administering this type of tax, we have no experience from which to gauge the validity of many of the assumptions. For example, the Report assumes that examinations will take an average of nine hours and this was the basis for projecting total Examination staffing. To the extent the nine hour assumption is valid, the projected staffing would appear to be valid. On the other hand, if the VAT examinations of the largest corporations, including multinational corporations, approximate the difficulty of examining transfer pricing issues, the estimated average time is substantially understated. Even more important, because the Congress has not yet considered specific VAT alternatives, many of the assumptions, while generally credible, may not apply to any VAT ultimately enacted.

Second, there are so many variables, we caution against reliance on the staffing and cost estimates included in the Report. For example, we are particularly concerned that there was very little discussion of the difficulty of administering a VAT on services. Also, in a number of critical areas, staffing, costs and target effective dates may be too optimistic.

-2-

Mr. Richard L. Fogel

See comment 1.

Third, we are concerned that GAO's projections of filers is understated to the extent that non-profit organizations decide to register to claim credits for taxes paid. Exemption from a VAT does not exempt an organization from the requirement to pay the tax on products it purchases; it simply exempts them from paying over tax on products they sell. Since many of these organizations have minimal sales, the effect of an exemption from a VAT is the loss of a refund of taxes paid on purchases. For this reason, most VAT legislation permits these organizations voluntarily to register to participate in the VAT. We estimate that there are more than one million exempt organizations on our master file. Many others that are tax exempt, including churches, are not included. To the extent these organizations register to claim refunds of VAT taxes paid, IRS' processing, assistance, and compliance costs would increase. For the same reasons, while there would be some decrease in administrative costs if the VAT rules exempt small businesses, we do not believe the savings would be as substantial as projected in the Report. Many of these businesses would also register to receive a refund of tax paid. Moreover, to the extent unregistered businesses avoid paying the tax altogether, any savings in our administrative costs would be offset by increased enforcement costs.

Fourth, because of the magnitude of the necessary implementation actions, we believe that a minimum of 24 months from the date of actual enactment would be needed to plan for effective implementation. There also needs to be adequate lead time, after enactment and before implementation, to educate taxpayers on this new tax.

Fifth, if only upgrades or enhancements to existing computer and processing systems are required, it may be possible to make the necessary acquisitions during the two-year implementation period. However, if significant new computer systems or equipment are required, it would take additional lead time to acquire such equipment. The primary determinants of this need will be the size and composition of the taxpayer population, the frequency, method and timing of the filing requirements, the requirements to file electronically and the ability of the Service to place its future processing system on-line in advance of VAT registration and filing requirements. At this time, most of these factors are either unknown or have not been resolved.

See comment 2.

Similarly, to bring on board the number of additional projected staff in such a short time frame and to acquire space, equipment, and supplies would be problematic if not impossible. Even assuming some kind of excepted hiring authority, we

-3-

Mr. Richard L. Fogel

anticipate difficulty in accommodating such a massive influx of new staff without substantial disruption of our current programs.

See comment 3.

Sixth, another area not fully addressed in this Report, and which could have substantial impact on our administrative costs, is whether there will be modifications to the existing federal tax structure. For example, it is not clear whether credits or offsets to income and employment tax liabilities are anticipated. This example is just one of many rules which must be explicit in designing computer systems and compliance programs.

Seventh, successful implementation of a VAT is as much a factor of planning and preparation by governmental agencies as by the taxpayer community. To achieve this, extensive consultation with stakeholders, such as industry groups, tax practitioners, software developers, affected federal agencies and state governments will be needed in developing the mechanics of VAT implementation.

Enclosed are our specific comments to the various sections of the Report. These comments address IRS functional and support staffing assumptions, the filing and processing of returns, the impact of a VAT on nonprofit organizations, and various assumptions dealing with the Collection and Examination functions.

GAO Note: IRS' detailed comments not reprinted.

Thank you for the opportunity to comment on your Report.

Best regards.

Sincerely,

Michael P. Dolan

Michael P. Dolan
Acting Commissioner

Enclosure

The following are GAO's comments on IRS' letter dated February 8, 1993.

GAO Comments

1. IRS expressed concern that our estimate of 100,000 nonprofit organizations included in VAT taxpayers is understated. Although our estimate was based on the number of returns now being filed under the corporate income tax, we agree there could be as many as a million nonprofit taxpayers, as IRS states. It is difficult to estimate how many nonprofits would enter a VAT system to file for refunds, whether or not they have VAT sales to report. Organizations would have to weight the benefits of obtaining refunds against the compliance costs of such items as bookkeeping.

If 1 million nonprofit organizations enter the VAT system under a basic VAT, 900,000 would be added to the approximately 100,000 included in the report. Table V.1 shows our estimate of costs if all 900,000 nonprofit organizations were small businesses (less than $25,000 annual gross receipts). Under the basic VAT, the rate of refunds is assumed to be 15 percent. However, if the nonprofits enter the system primarily for the purpose of obtaining refunds, the refund rate would escalate. Therefore, in addition to the 15-percent rate of refund, we made an estimate using a 50-percent rate of refund. Including the 900,000 additional nonprofits would increase the costs by about $3 million over the $129 million total costs for returns processing shown in the report. The additional costs would accrue only to the basic VAT and not to the other threshold levels in which businesses with less than $25,000 annual gross receipts are not taxed, except as those businesses chose to file voluntarily.

Table V.1: Costs for 900,000 Additional Nonprofit Organizations

Costs in thousands of dollars

VAT Scenario	Returns processing	Mailing	Payments processing	Registration	Refunds IRS	Refunds FMS	Total
Basic VAT —15% rate of refunds	$1,854.2	$201.0	$590.9	$366.8	$ 62.7	$ 54.7	$3,130.3
Basic VAT —50% rate of refunds	$1,854.2	$201.0	$590.9	$366.8	$208.8	$182.4	$3,404.1

Source: GAO estimates.

We agree that the group of voluntary small business filers may have an over-representation of refund recipients. However, we have no data on how significant the amount of refunds would be. Thus, we did not adjust our estimates of revenue losses to account for increased refunds. Small businesses that do not choose to register would still be paying the VAT on goods purchased. This point is discussed in ch. 4, pp. 61-62.

2. Hiring massive numbers of new staff and acquiring space and equipment could, according to IRS, create difficulties. We agree that this situation would present a management challenge to IRS.

3. Since we did not make any assumptions regarding the manner in which perceived regressivity would be offset, we made no allowance for modifications in the existing federal income tax system. If Congress decided to expand refundable tax credits to a larger population, the number of eligible recipients could increase significantly, and additional resources may be needed to cover administrative costs.

Comments From the U.S. Customs Service

DEPARTMENT OF THE TREASURY
U.S. CUSTOMS SERVICE
WASHINGTON, D.C.

FEB 11 1993

ENT-1-CO:TO:E:CS RLB

Ms Mary Phillips
U.S. General Accounting Office
Washington, D.C. 20548

Dear Ms Phillips:

On December 17, 1992, representatives from the General Accounting Office (GAO) provided a briefing to U.S. Customs regarding administrative costs associated with the implementation of a Value Added Tax (VAT) on businesses. At the close of the meeting, Customs was requested to provide a written response to GAO indicating our concerns about implementing a VAT and how it will affect Customs operations.

We understand that GAO plans to issue the VAT report in the near future. The report is aimed at providing guidance to Congress should it decide to review the feasibility of implementing a VAT. We also understand that the report will be made available to the public.

We are currently in the process of surveying the various offices within the Office of Commercial Operations, as well as our Regional and District offices, for their opinions regarding the VAT report. This will enable Customs to provide GAO with a comprehensive assessment on the full range of issues associated with the implementation of the VAT. Though it will not be possible to provide the results of the survey to GAO before the report is scheduled to be released, we, nevertheless, would like to offer some preliminary comments on the subject.

- The VAT will be assessed on the Customs value of imported goods. Customs will assess the tax and collect it. Unless the proposals contain exemptions to cover certain types of importations, the VAT will be levied on goods which enter the U.S. duty free, or assessed against merchandise having little value. Parameters should be established which would exempt certain transactions from the VAT, e.g. low value shipments, passengers who declare less than $400 in value of articles acquired abroad, etc. Otherwise, new procedures will need to be established for situations where we do not currently concentrate our efforts.

-2-

- o We suggest that, if implemented, the program by handled in an automated environment. A manual system that relies on paper documents would be difficult to manage. The Customs Automated Commercial System (ACS) currently processes approximately 92 percent of U.S. import transactions. The automation of export transactions is not as highly developed as that for imports. The Automated Export System is currently being developed and the approximate cost is anticipated to be $38 million over the next five years.

- o The relationship between the VAT and drawback (Customs refund program) needs to be considered in light of the current regulations and procedures. The VAT will not only be refunded upon the exportation of goods that were previously imported, but also on goods of domestic origin. A linkage between Customs and some other designated agency would be required to verify claims for these refunds.

- o We suggest that protests of VAT assessments and refunds be handled by an agency other than Customs. This will maintain the integrity of the collection and refund processes, as well as provide the necessary internal control mechanisms. The Customs export data could be used for verification of claims. However, discussions will have to take place on this issue because Customs is currently prevented from releasing business proprietary information by the Trade Secrets Act.

- o It is appreciated that the analysis of the role of Customs at this stage must necessarily be based on generalizations and assumptions. Customs valuation procedures, as well as the operational impact on this agency, will have to be considered in more detail. In addition, new regulations and procedures would have to be created for the collection of the VAT on services.

- o Many Customs administrations throughout the world are responsible for collecting VAT and other taxes and have devoted substantial resources in this effort. At the appropriate time in the future, U.S. Customs would be pleased to consult with these administrations to draw upon their experiences in administering this type of program.

-3-

The Customs Service appreciates the opportunity to comment on this new proposed tax policy. We appreciate the information that GAO has provided regarding this program and request that we be kept informed of any developments in the future that may affect our role in the implementation and collection of this tax.

Sincerely,

for Karen J. Hiatt
Acting Assistant Commissioner
Office of Commercial Operations

Comments From the International Monetary Fund

INTERNATIONAL MONETARY FUND
WASHINGTON, D.C. 20431

CABLE ADDRESS
INTERFUND

November 25, 1992

Dear Mr. Fogel:

Thank you for the opportunity to review and comment on the report entitled, "Value-Added Tax: Administrative Costs Vary with Complexity and Number of Businesses." It is obvious that GAO staff spent a great deal of time and effort in preparing this comprehensive document. I agree with the overall premises of the draft report that more tax rates, more exemptions with respect to specific goods, and more taxpayers will raise administrative costs. However, certain basic issues have not been adequately addressed.

Treatment of Small Businesses

The report's estimates of administrative cost assume that 24.4 million businesses will be subject to the value-added tax (VAT). The rationale given is that Congress may want to apply the VAT to all businesses. However, few countries attempt to register all businesses under the VAT. The European Economic Community, with a population of about 345 million, collects VAT revenues equal to 7.3 percent of GDP 1/ from only 17.5 million businesses. 2/ Why should the U.S., with a population of 250 million, consider placing a VAT on 24.4 million businesses to collect, according to CBO estimates, less than 2.0 percent of GDP in VAT revenue? A well-designed VAT should contain a sales threshold, above which businesses must register and below which businesses may register only if they so desire. Since the report states that only 3 percent of the potential revenue would be lost if the number of taxpayers is reduced to 9 million, it makes sense for the report to emphasize the soundness of setting an appropriate threshold. Reducing the number of taxpayers not only cuts administrative costs, but also allows the tax administration to focus on the more productive work of promoting voluntary compliance (through adequate enforcement) among taxpayers with revenue significance. Note also that exempting small traders does not completely remove them from the VAT since they must generally pay VAT on their purchases. In addition, studies have shown that VAT compliance costs are relatively higher for smaller businesses than for larger ones.

1/ Unweighted average.
2/ The number of taxpayers would be smaller if Italy had not chosen to tax all businesses (5 million).

- 2 -

Audit

Audit coverage

There is an apparent contradiction between the executive summary, which states that the majority of audits would be focused on large taxpayers, and the body of the report, which states that audits of a wide distribution of taxpayers may help to deter non-compliance of all taxpayers. Our experience is that a wide distribution of audits is necessary. However, these audits should be based on specific selection criteria, such as the mark-up ratio which is the ratio of sales to purchases. Ranking taxpayers by this ratio and selecting for audit from those who have a mark-up ratio less than one improves the probability of positive audit findings.

Audit strategy and timing

VAT audits should be issue oriented, rather than comprehensive. The reason, which the report should emphasize, is that independent issue-oriented audits can be performed in a relatively short timeframe and allow broader coverage of taxpayers.

We have found also that the time-factor is more important in VAT audits than income tax audits, which often review several prior years of filings. If VAT audits are not timely, the amount of revenue involved grows quickly and the possibility increases that the government will not be able to recover the additional revenue assessed. The time factor plus an issue-oriented audit strategy are the main reasons for having VAT audits separated from income tax audits. It should be noted that VAT is a monthly or quarterly tax, while the income tax is an annual tax.

Collection

A major burden is placed on tax administration by separate filing and payment processes. The administration must spend many resources, which could have been used more productively, trying to match payments with returns. The report is not clear on what is being proposed, but if the costs of administering a VAT are to be kept at a minimum, filing and payment should be done simultaneously, even before electronic filing is fully implemented.

Zero-rating

The report states that the biggest disadvantages of zero-rating are the revenue loss that would ensue and the sharing of tax advantages by the poor and wealthy alike. However, the report overlooks another important disadvantage: zero-rating creates an additional burden on VAT administration by increasing the number of refunds. Refunds should be kept to a minimum because tax administration resources are diverted away from the more important objective of fostering voluntary compliance.

This summarizes my major comments on the draft report. Further comments of a more detailed nature will be provided orally to your staff.

Sincerely yours,

Milka Casanegra de Jantscher
Assistant Director and
Chief, Tax Administration Division

Mr. Richard L. Fogel
Assistant Comptroller General
General Government Division
U.S. General Accounting Office
Washington, D.C. 20548

cc: Mr. Tanzi
Mr. Tait
Mrs. Ter-Minassian
Mr. Silvani
Mr. Vehorn

Major Contributors to This Report

General Government Division, Washington, D.C.

Thomas McCool, Assistant Director, Tax Policy and Administration Issues
Lynda Willis, Assistant Director
John Hutton, Assignment Manager
Mary Phillips, Evaluator-in-Charge
Galen van Rensselaer, Evaluator
Patricia McGuire, Technical Specialist

Cincinnati Regional Office

Robert Lidman, Issue Area Manager
George Buerger, Evaluator
Michael Enriquez, Evaluator

Kansas City Regional Office

Ronda Price, Evaluator

San Francisco Regional Office

Ralph Block, Issue Area Manager
Louis Roberts, Evaluator

Bibliography

Aaron, Henry J., ed. The Value-Added Tax: Lessons From Europe. Washington: The Brookings Institution, 1981.

American Institute of Certified Public Accountants, Tax Division. Design Issues in a Credit Method Value-Added Tax for the United States. Washington: AICPA, 1990.

Cnossen, Sijbren. "Consumption Taxes and International Competitiveness: The OECD Experience." Tax Notes, Volume 52, Number 10, September 2, 1991.

—. "Taxing Value-Added: The OECD Experience." International VAT Monitor, May 1990, pp. 2-16.

—. Key Questions in Considering a Value-Added Tax for Central and Eastern European Countries. Washington: International Monetary Fund, Staff Papers, Vol. 39, No. 2, June 1992.

—. "What Rate Structure for a Goods and Services Tax? The European Experience. Canadian Tax Journal, Vol. 37, No. 5, September-October 1989.

Commission of the European Communities. Value-Added Tax Collection and Control Procedures Applied in Member States. Report to the Council and the European Parliament, February 24, 1992.

The Congress of the United States, Congressional Budget Office. Effects of Adopting a Value-Added Tax. Washington: CBO, 1992.

—. Reducing the Deficit: Spending and Revenue Options. Washington: CBO, February 1992.

Due, John F., and Mikesell, John L. Sales Taxation: State and Local Structure and Administration. Baltimore: The Johns Hopkins University Press, 1983.

Ernst & Young. International VAT: A Guide to Practice and Procedures in 21 Countries. London: Ernst & Young, 1991.

—. VAT in Europe. London: Sweet & Maxwell, 1989.

Government of Canada, Department of Finance. Goods and Services Tax: Explanatory Notes to Bill C-62 as passed by the House of Commons on April 10, 1990. May 1990.

Henderson, Yolanda K. "Financial Intermediaries Under Value-Added Taxation. New England Economic Review. Federal Reserve Bank of Boston, July/August 1988, pp. 37-50.

Hoffman, Lorey Arthur; S.N. Poddar; and Whalley, John. "Taxation of Banking Services Under a Consumption Type, Destination Basis VAT." National Tax Journal, v. 40, no. 4, December 1987, pp. 547-554.

Internal Revenue Service. Advisory Report on Implementation and Administration of the Business Transfer Tax. February 1986.

—. Evaluation of the IRS System of Projecting Enforcement Revenue (1990 Update). Research Division, Publication 1501 (Rev. 10-90).

Johnstone, Dorothy. A Tax Shall Be Charged. Civil Service Studies No. 1. London: Her Majesty's Stationery Office, 1975.

KPMG Peat Marwick. Study of Value-Added Taxation in the United States. Report prepared by KPMG Peat Marwick Policy Economics Group for the American Petroleum Institute, July 1989.

Lent, George E.; Casanegra, Milka; and Guerard, Michelle. "The Value-Added Tax in Developing Countries." IMF Staff Papers, 20 (1973), pp. 318-78.

Library of Congress, Congressional Research Service. Value-Added Tax: Tax Bases and Revenue Yields. January 13, 1989 (Revised March 20, 1991).

—. New Tax Proposals: Flat, VAT, and Variations. April 27, 1992.

—. Value-Added Tax: Concepts, Policy Issues, and OECD Experiences. November 27, 1989.

McLure, Charles E., Jr. The Value-Added Tax: Key To Deficit Reduction? Washington: American Enterprise Institute for Public Policy Research, 1987.

—. State and Local Implications of a Federal Value-Added Tax. Academy for State and Local Government, January 1987.

Organisation for Economic Co-operation and Development. Taxing Consumption. Paris: OECD, 1988.

Prentice-Hall. Prentice-Hall's Guide to Sales and Use Taxes. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1988.

Sandford, C.T.; Godwin, M.R.; Hardwick, P.J.W.; and Butterworth, M.I. Costs and Benefits of VAT. London: Heinemann Educational Books, 1981.

Sandford, Cedric and Hasseldine, John, The Compliance Costs of Business Taxes in New Zealand, Wellington: The Institute of Policy Studies, Victoria University of Wellington, 1992.

Schenk, Alan (Reporter). Value-Added Tax: A Model Statute and Commentary. American Bar Association, Section of Taxation, 1989.

Schuyler, Michael A. Consumption Taxes: Promises & Problems. Washington: Institute for Research on the Economics of Taxation, 1984.

Shoup, Carl S. Public Finance. Chicago: Aldine, 1969.

Tait, Alan. Value-Added Tax: Administrative and Policy Issues. Washington: International Monetary Fund, October 1991.

—, editor. Value Added Tax: International Practice and Problems. Washington: International Monetary Fund, 1988.

Turnier, William J. Accommodating to the Small Business Problem Under a VAT. Report for the American Bar Association Subcommittee for Small Businesses, 1992.

—. "Designing an Efficient Value-Added Tax." Tax Law Review, v. 39, no. 2, Summer 1984, pp.435-472.

U.S. Treasury. Office of the Secretary. The Treasury Department Report to the President, Tax Reform for Fairness, Simplicity, and Economic Growth. v. 3, Value-Added Tax, Washington: November 1984.

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20884-6015

or visit:

Room 1000
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000 or by using fax number (301) 258-4066.

PRINTED ON RECYCLED PAPER

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use $300

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100