Should the United States Levy a Value-Added Tax for Deficit Reduction?

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Summary

Long-term fiscal problems, which were exacerbated by the recession that ended in June 2009, resulted in widespread concern about the need to formulate a fiscal solution to the high budget deficits and growing national debt. The levying of a value-added tax (VAT), a broad-based consumption tax, has been discussed as one of many options to assist in resolving U.S. fiscal problems. A VAT was not included in the report of the National Commission on Fiscal Responsibility and Reform but was included in the report of the Debt Reduction Task Force of the Bipartisan Policy Center.

A VAT is imposed at all levels of production on the differences between firms' sales and their purchases from all other firms. For 2011, a broad-based VAT in the United States would raise net revenue of approximately $45 billion to $55 billion for each 1% levied. Most other developed nations rely more on broad-based consumption taxes for revenue than does the United States. A VAT is shifted onto consumers; consequently, it is regressive because lower-income households spend a greater proportion of their incomes on consumption than higher-income households. This regression, however, could be reduced or even eliminated by any of three methods: a refundable credit against income tax liability for VAT paid, allocation of some of VAT revenue for increased welfare spending, or selective exclusion of some goods from taxation.

From an economic perspective, a major revenue source is better the greater its neutrality—that is, the less the tax alters economic decisions. Conceptually, a VAT on all consumption expenditures, with a single rate that is constant over time, would be relatively neutral compared to other major revenue sources. A VAT would not alter choices among goods, and it would not affect the relative prices of present and future consumption. But a VAT cannot be levied on leisure; consequently, a VAT would affect households' decisions concerning work versus leisure. For a firm, the VAT would not affect decisions concerning method of financing (debt or equity), choice among inputs (unless some suppliers are exempt or zero-rated), type of business organization (corporation, partnership, or sole proprietorship), goods to produce, or domestic versus foreign investment.

The imposition of a VAT would cause a one-time increase in this country's price level. But a VAT would not necessarily affect this country's future rate of inflation if the Federal Reserve offset the contractionary effects of a VAT with a more expansionary monetary policy. If the United States continued its policy of flexible exchange rates, then the imposition of a VAT would not significantly affect the U.S. balance-of-trade. There is no conclusive evidence that a VAT would substantially change the rate of national saving more than another type of major tax increase. The administrative costs of a VAT would be significant but relatively low if measured as a percentage of revenue yield. In comparison to other broad-based consumption taxes, VATs have produced relatively good compliance rates. A significant gross receipts threshold for registration could reduce the costs of administration and compliance. Data suggest that 15 to 24 months would be required to implement a VAT. Whether or not a federal VAT would encroach on the primary source of state revenue, the sales tax, is subject to debate. A federal-state VAT could be collected jointly, but a state would lose some of its fiscal discretion.

The prevailing view of tax professionals is that an optimal VAT would have the following characteristics: a broad base, a single rate, the credit-invoice method of collection, the destination principle, and a significant sales threshold for registration.

This report will be updated as issues develop, legislation is introduced, or as otherwise warranted.

Contents

Appendixes

Contacts

Introduction

A value-added tax (VAT) is a broad-based consumption tax. During the 111th Congress, proposals to levy some form of a value-added tax (VAT) were debated. Bills were introduced to replace the U.S. income tax system with a flat tax, a modified VAT.[1] Before the passage of the Patient Protection and Affordable Care Act, a bill was introduced to levy a VAT to finance national health insurance.[2]

Long-term fiscal problems, which were exacerbated by the recession that ended in June 2009, resulted in widespread concern about the need to formulate a fiscal solution to the high budget deficits and growing national debt. The Congressional Budget Office (CBO) published reports with extensive data documenting the severe long-term fiscal problems.[3] Budget documents issued by the Office of Management and Budget (OMB) also quantified the long-term fiscal difficulties. Representatives of some think tanks, international organizations, and academic institutions examined the VAT as part of a possible solution. The mass media also discussed the levying of a VAT for deficit reduction.[4]

On June 11, 2009, Senator Jim DeMint introduced S. 1240, *Roadmap for America's Future Act of 2009*, and on January 27, 2010, Representative Paul D. Ryan introduced H.R. 4529, *Roadmap for America's Future Act of 2010*. These similar bills were designed to be comprehensive plans to address America's long-term economic and fiscal problems. Both bills included a value-added tax as a replacement for the corporate income tax.

On January 25, 2010, the Bipartisan Policy Center established a "Debt Reduction Task Force" led by former Senate Budget Chairman Pete Domenici and former OMB and CBO Director Alice Rivlin. The press release stated that "the Domenici-Rivlin Task Force will develop a comprehensive, balanced, and politically-viable package of spending reductions and revenue increases for expedited consideration by Congress and the Administration."[5]

On February 18, 2010, President Barack Obama issued an executive order establishing the National Commission on Fiscal Responsibility and Reform (the "Commission"). The executive order stated that "no later than December 1, 2010, the Commission shall vote on the approval of a final report." President Obama selected the co-chairs of the Commission: Erskine B. Bowles,

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[1] The combined individual and business taxes proposed by the typical flat tax can be viewed as a modified value-added tax (VAT). The individual wage tax would be imposed on wages (and salaries) and pension receipts. Part or all of an individual's wage and pension income would be tax-free, depending on marital status and number of dependents. The business tax would be a modified subtraction-method VAT with wages (and salaries) and pension contributions subtracted from the VAT base, in contrast to the usual VAT practice. For a comprehensive analysis of the flat tax, see CRS Report 98-529, *Flat Tax: An Overview of the Hall-Rabushka Proposal*, by James M. Bickley.

[2] On January 6, 2009, Representative John D. Dingell introduced H.R. 15, *National Health Insurance Act*, which would have levied a VAT to finance national health insurance.

[3] For example, see U.S. Congressional Budget Office, *The Long-Term Budget Outlook*, June 2010, 74 p.

[4] For example, see Lori Montgomery, "Once Considered Unthinkable, U.S. Sales Tax Gets Fresh Look," *The Washington Post*, May 27, 2009, p. A15, and George F. Will, "Higher Taxes, Anyone?," Sunday Opinion, *The Washington Post*, July 12, 2009, p. A15, and more recently, Seth McLaughlin, "VAT Back as Proposal to Solve Revenue Ills," *Washington Times*, vol. 28, no 238, pp. A1, A9.

[5] Bipartisan Policy Center, "Bipartisan Policy Center Launches Debt Reduction Task Force," Press Release, January 25, 2010, p. 1.

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former President Bill Clinton's chief of staff, and former U.S. Senator Alan K. Simpson. Alice Rivlin and Representative Paul Ryan were also selected as members of the Commission.

On Tuesday, April 6, 2010, Paul Volcker, economic adviser to President Obama, reportedly said that

> a VAT was not as toxic an idea as it has been, and that both a VAT and some kind of tax on energy need to be on the table. If at the end of the day we need to raise taxes, we should raise taxes.[6]

In reaction to Volcker's comments, three nonbinding resolutions were introduced by Republican Members of the House of Representatives that expressed opposition to the imposition of a value-added tax. Furthermore, Senator John McCain introduced S.Amdt. 3724 to H.R. 4851, which expressed the sense of the Senate that the value-added tax (VAT) is "a massive tax increase that will cripple families on fixed income and only further push back America's economic recovery; and the Senate opposes a value-added tax." This amendment passed by a vote of 85 to 13 and is Section 11 in P.L. 111-157, *Continuing Extension Act of 2010.*

On May 20, 2010, 154 Members of the House sent a letter to the National Commission on Fiscal Responsibility and Reform.[7] This letter stated the following:

> we urge the Commission to focus on spending reductions, not tax increases. We must avoid the mistake Europe made when it tried to pay for bigger government with new taxes— namely the Value Added Tax (VAT).[8]

On November 10, 2010, the co-chairs of President Obama's Fiscal Commission issued their proposal.[9] On December 1, 2010, the full Fiscal Commission issued its report, which was very similar to the co-chairs' proposal.[10] On December 3, 2010, the members of the Commission cast 11 votes for and six votes against the report, which was not enough positive votes to approve the report. Neither report recommended the levying of a value-added tax.

On November 17, 2010, the Bipartisan Policy Center's Debt Reduction Task Force issued its final report titled *Restoring America's Future*. One of the recommendations was the levying of a value-added tax, which it referred to as a "Debt Reduction Sales Tax" or DRST.[11] The DRST would be set at a rate of 3% in 2012 and 6.5% from 2013 onward.[12] Approximately 75% of personal consumption expenditures would be subject to the DRST.[13] The DRST would generate estimated new revenue of $3.048 trillion from 2012-2020, $8.764 trillion from 2012-2030, and $17.333 trillion from 2012-2040.[14]

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[6] "Volcker on the VAT," *The Wall Street Journal*, WSJ.com, April 8, 2010, p. 1.

[7] Congressional letter to co-chairs of National Commission on Fiscal Responsibility and Reform, May 20, 2010, 12 p.

[8] Ibid., p. 1.

[9] National Commission on Fiscal Responsibility and Reform, *Co-Chairs' Proposal*, November 2010, 50 p.

[10] National Commission on Fiscal Responsibility and Reform, *The Moment of Truth*, December 2010, 64 p.

[11] Bipartisan Policy Center's Debt Reduction Task Force, *Restoring America's Future*, November 17, 2010, pp. 40-43.

[12] Ibid., p. 41.

[13] Ibid., p. 42.

[14] Ibid., p. 32.

Arguably, the primary reason for congressional interest in the VAT is its high potential revenue yield.[15] For 2011, the Urban-Brookings Tax Policy Center estimates that a 5% broad-based VAT would yield $277.2 billion ($55.44 billion per 1%).[16] This estimate assumes a 15% non-compliance rate; a 25% revenue offset from lower income and payroll taxes; and a VAT base that excludes education expenditures, rent, housing, and religious and charitable services.[17] This assumed tax base is more comprehensive than the actual VAT base in most developed nations.[18]

CBO estimated that a broad-based VAT as an add-on revenue source would yield $240 billion in FY2014 ($48 billion per 1%).[19]

> Because their value is difficult to measure, certain items—such as financial services, existing housing services, primary and secondary education, and other services provided by government agencies and non-profit organizations for a nominal or no fee—would be excluded from the base. (Existing housing services encompass the monetary rents paid by tenants and rents imputed to owners who reside in their own homes.)[20]

CBO would also exclude government-reimbursed expenditures for health care from the VAT base.[21]

Other aspects of a VAT that often raise interest or concern include revenue performance, international comparison of composition of taxes, VAT rates, equity, neutrality, inflation, balance-of-trade, national saving, administrative costs, compliance, VAT registration thresholds, time required for VAT implementation, intergovernmental relations, and size of government.

This report considers the experiences of the 29 nations with VATs in the 30-member Organization for Economic Cooperation and Development (OECD), relevant to the feasibility and operation of a possible U.S. VAT. Currently, the OECD consists of 22 European nations, Turkey, the United States, Canada, Australia, New Zealand, Japan, Mexico, and South Korea. In order to examine different aspects of a VAT, it is important to understand the concept of a value-added tax, the different methods of calculating VATs, exemption, and zero-rating.

Concept of a Value-Added Tax

A value-added tax is a broad-based consumption tax, levied at each stage of production, on the value added by each firm at that stage of production. The value added of a firm is the difference between a firm's sales and a firm's purchases of inputs from other firms. In other words, a firm's value added is simply the amount of value a firm contributes to a good or service by applying its

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[15] The revenue for a VAT would vary depending on the tax base. For a discussion of this issue, see CRS Report RS22720, *Taxable Base of the Value-Added Tax*, by James M. Bickley.

[16] Urban-Brooking Tax Policy Center, "5 Percent Broad Based Value Added Tax (VAT) Impact on Tax Revenue ($ billions), 2010-19," November 12, 2009, p. 1.

[17] Ibid.

[18] For further information, see CRS Report RS22720, *Taxable Base of the Value-Added Tax*, by James M. Bickley.

[19] U.S. Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options*, March 2011, pp. 189-190.

[20] Ibid., p. 189.

[21] Ibid.

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factors of production (land, labor, capital, and entrepreneurial ability).[22] Another method of calculating a firm's value added is to total the firm's payments to its factors of production.

Methods of Calculating VAT

There are three alternative methods of calculating VAT: the credit-invoice method, the subtraction method, and the addition method.[23] Under the *credit-invoice method,* a firm would be required to show VAT separately on all sales invoices.[24] Each sale would be marked up by the amount of the VAT. A sales invoice for a seller is a purchase invoice for a buyer. A firm would calculate the VAT to be remitted to the government by a three-step process. First, the firm would aggregate VAT shown on its sales invoices. Second, the firm would aggregate VAT shown on its purchase invoices. Finally, aggregate VAT on purchase invoices would be subtracted from aggregate VAT shown on sales invoices, and the difference remitted to the government.

Under the *subtraction method*, the firm calculates its value added by subtracting its cost of taxed inputs from its sales. Next, the firm determines its VAT liability by multiplying its value added by the VAT rate. Most flat tax proposals are modified subtraction method VATs. Under the *addition method*, the firm calculates its value added by adding all payments for untaxed inputs (e.g., wages and profits). Next, the firm multiplies its value added by the VAT rate to calculate VAT to be remitted to the government.[25]

The credit-invoice method is used by 28 of 29 OECD nations with VATs. Tax economists differ in their classifications of the Japanese VAT. Both the credit-invoice and the subtraction methods have been discussed for the United States. The prevailing view of tax economists is that the credit-invoice method is superior.[26] This method requires registered firms to maintain detailed records that are cross indexed with supporting documentation. A VAT shown on the sales invoice of one firm is the same as the VAT shown on the purchase order of another firm. Hence, the credit-invoice method allows tax auditors to cross check the records of firms. Also, each firm has a vested interest in insuring that the VAT shown on its purchase orders is not understated so the firm can receive full credit against VAT liability for VAT previously paid. Thus, the credit-invoice method would seem to be easier to enforce. Also, the credit-invoice method is probably the only feasible method if there are to be multiple tax rates.

Supporters of the subtraction method maintain that it would have low compliance costs because all necessary data could be obtained from records kept by a firm for other purposes. The subtraction method does not require invoices.[27] Still, a firm would have to make calculations

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[22] These factors of production have specific meanings to an economist. Labor consists of all employees hired by the firm. Land consists of all natural resources including raw land, water, and mineral wealth. Capital is anything used in the production process that has been made by man. The entrepreneur is the decision maker who operates the firm.

[23] Numerical examples of the credit-invoice method and the subtraction method of calculating VAT are shown in **Appendix A**.

[24] An exception is the final retail stage where policymakers have the option of including or excluding the VAT from the retail sales slip.

[25] No developed national uses the addition method; consequently, if receives no further discussion in this report.

[26] For a comparison of the credit-invoice method and the subtraction method as a partial replacement VAT, see Itai Grinberg, "Where Credit is Due: Advantages of the Credit-Invoice Method for a Partial Replacement VAT, presented at the American Tax Policy Institute Conference, Washington, DC, February 18, 2009, 41 p.

[27] Ibid., p. 9.

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based on these data. For example, deductible expenses would have to be separated from nondeductible expenses, and some data expressed on an accrual basis would have to be converted to a cash flow basis.

The credit-invoice method would have substantial compliance costs because the amount of VAT would have to be shown on every sales invoice (and, conversely, on every purchase invoice). On the plus side, however, the credit-invoice method would yield an additional data base to firms. Some firms might find these additional data useful in decision making. For example, records of purchase invoices and sales invoices may improve some firms' control over their inventories. Compliance costs of the credit-invoice method might be partially offset by the value of the VAT data base to firms, but this value has never been quantified.

The credit-invoice method would have greater administrative costs than the subtraction method because of its requirements for additional data, computations, and record-keeping. Although there are data on the administrative costs of a VAT calculated by the credit-invoice method, empirical data are not available on the subtraction method; consequently, a quantitative comparison of cost currently is not feasible. The subtraction method would not work administratively if many goods are exempt or if multiple tax rates are levied. As will be explained in a subsequent section on the balance of trade, under the destination principle, a VAT using the credit-invoice method is border adjustable, but a standard subtraction method VAT is origin based and thus not border adjustable. Unless specified otherwise, this report will assume that the credit-invoice method is used.

Exemption Versus Zero-Rating

Two alternative special treatments of a product or a business are exemption and zero-rating.

Exemption

A VAT may exempt either a product or a business from taxation.[28] An exempt business would not collect VAT on its sales and would not receive credit for VAT paid on its purchases of inputs. An exempt business would not register with tax authorities, and, consequently, would not be part of the VAT system. Hence, an exempt business would not have the usual VAT compliance costs and would not impose administrative costs on the government (except verification of its exemption). An exempt business's costs, however, include any tax paid on inputs, because it receives no credit for previously paid taxes. A business might be exempt because it only produces an exempt product. Also a business might be exempt because its total sales fell below some threshold. A business that sells both exempt and non-exempt products would be required to allocate its tax payments between the two kinds of sales.

Exemption breaks the VAT chain and, consequently, causes problems. First, if exemption occurs as some intermediate stage, the value added prior to the exempt stage is effectively taxed more than once; that is, cascading of the VAT occurs.[29] Second, the exemption of inputs will induce

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[28] For a current examination of exemptions, see Walter Hellerstein and Harley Duncan, "VAT Exemptions: Principles and Practice," *Tax Notes*, August 30, 2010, pp. 989-999.

[29] Liam Ebrill, Michael Keen, Jean-Paul Bodin, and Victoria Summers, *The Modern VAT*, International Monetary Fund, Washington, DC, 2001, p. 85.

producers to substitute away from those inputs; that is, input choices are distorted.[30] Third, businesses have an incentive to self-supply rather than purchase an exempt input.[31] Fourth, exemptions may create pressures for additional exemptions.[32] For example, in some countries, the exemption of basic foodstuffs has created pressure for the exemption of agricultural inputs.[33]

Some goods and services are usually exempt because they are difficult to tax.[34] Other products are exempt on equity grounds. Products and services that are usually exempt are in the following categories: free public sector services, education, health, financial services, and real estate.[35] Free public services are usually exempt because "it is hard to tax output that is given away."[36] The standard practice is "to exempt basic education services, and to tax ... more specialist training provided on a commercial basis."[37] Usually basic health services are exempted including professional services of registered doctors and dentists and the supply of prescription drugs.[38] Financial services are usually exempt because "it is difficult to distinguish between the provisions of a service (consumption) and return on investment."[39] "The United Kingdom estimated the exemption of financial services and insurance reduced net VAT revenues collected by approximately 5 percent for 2006."[40]

Many real estate services are self-supplied and have no observable market value.[41] For example, services enjoyed from owner occupation are exempt for VAT. "To avoid distorting the choice between house ownership and renting, the commercial leasing of residential property is commonly also exempt."[42]

Zero-Rating

A business or product could be zero-rated. A zero-rated business would not collect VAT on its sales but would receive credit for VAT paid on its inputs. This is equivalent to the business being charged a zero tax rate. A zero-rated business would be a registered taxpayer and, consequently, would involve the usual compliance and administrative costs. A zero-rated business, however, would receive a refund of any VAT paid on its inputs; therefore, its costs would not include VAT paid at earlier stages. The producer of a zero-rate product would neither pay VAT on the inputs used to produce that product nor charge VAT on the sale of that product.

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[30] Ibid., p. 86.

[31] Ibid., pp. 86-87.

[32] Ibid., p. 89.

[33] Ibid.

[34] Ibid.

[35] Ibid., pp. 91-99.

[36] Ibid., p. 92

[37] Ibid., p. 93.

[38] Ibid., p. 94.

[39] U.S. Government Accountability Office, *Value-Added Taxes: Lessons Learned from Other Countries on Compliance Risks, Administrative Costs, Compliance Burden, and Transition*, Report no. GAO-08-566, pp. 23-24.

[40] Ibid., p. 24.

[41] Ebrill et al., p. 98.

[42] Ibid.

Revenue Yield

In estimating a VAT's revenue yield, economists and public officials use the operating assumption that a VAT would be fully shifted to final consumers in the form of higher prices of goods. A VAT (or any other major tax increase) would have a contractionary effect on the economy unless offset by other economic policies. Consequently, a revenue estimate is generally made under the assumption that the Federal Reserve would use an expansionary monetary policy to neutralize the contractionary effects of a VAT. Also, a revenue estimate does not take into account the possible shifts in consumption patterns that might be expected if some items are taxed and others are excluded from taxation.

There are three primary justifications for excluding (zero-rating or exempting) specific items from taxation under a VAT.[43] First, the VAT would be difficult to collect because sellers of some types of goods and services could easily avoid reporting their sales. For example, VAT would be difficult to collect on expenditures for domestic services and expenditures abroad by U.S. residents. Second, some goods are excluded on equity grounds, since these goods claim disproportionately large percentages of the incomes of lower-income families. (Data on spending patterns do not, however, suggest that exclusions can have a very powerful effect on the distribution of a VAT.)[44] Third, some goods may be excluded because they are merit goods, that is "goods the provision of which society (as distinct from the preferences of the individual consumer) wishes to encourage."[45] Some items may be justified for exclusion for more than one reason.

Revenue Performance

Countries' VATs have different exemptions, zero-rated products, thresholds, single rates or multiple rates, levels of compliance, and degrees of administrative efficiency. In order to measure different countries' revenue "efficiency," the OECD developed a tool called the VAT Revenue Ratio (VRR). "The VAT Revenue Ratio" is defined as the ratio between the actual VAT revenue collected and the revenue that would theoretically be raised if VAT was applied at the standard rate to all final consumption.[46] This is shown by the following formula:

VAT Revenue Ratio = (VAT revenue)/([consumption – VAT revenue] x standard VAT rate)[47]

Appendix B shows VAT revenue ratios of the 29 OECD countries with VATs. The VRR is not a precise measure of revenue performance. For example, cascading from exempting a product and levying the VAT on investment goods could raise the VRR to over 1.0.[48] Nevertheless, the VRR is

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[43] This classification of justifications for exclusion from VAT taxation was derived from the following source: Alan A. Tait, *Value-Added Tax: International Practice and Problems* (Washington, International Monetary Fund, 1988), p. 56.

[44] Congressional Budget Office, *Effects of Adopting a Value-Added Tax* (Washington: GPO, February 1992), pp. 22-26.

[45] Richard A. Musgrave and Peggy B. Musgrave, *Public Finance in Theory and Practice*. 4th ed. (New York: McGraw-Hill, 1984), p. 78.

[46] OECD, *Consumption Tax Trends 2008: VAT/GST and Excise Rates, Trends and Administrative Issues*, (Paris: OECD Publishing, 2008), p. 67.

[47] Ibid.

[48] Ibid.

generally considered to be a useful indicator of revenue performance. In 2005, 22 of the 29 OECD had VRR between 0.46 and 0.68. The unweighted average VRR was 0.58. The lowest VRR was 0.33 for Mexico, and the highest VRR was 1.05 for New Zealand. From 1996 through 2005, the VRR rose for 21 countries, was constant for three countries, and declined for five countries.

International Comparison of Composition of Taxes

One argument frequently made for a U.S. VAT is the relatively heavy reliance on consumption taxes by other developed countries. For 2007, for taxes on general consumption (e.g., VATs and sales taxes), the United States (federal, state, and local governments) had a lower reliance (7.7%) of total tax revenues than any other OECD nation.[49] Also for 2007, the United States' (federal, state, and local governments) general consumption taxes as a percentage of gross domestic product (2.2%) were lower than any other nation in the OECD.[50]

This lower reliance on consumption taxes may result from all other developed nations having a VAT at the national level. A VAT is a requirement for membership in the European Union (EU).[51] Sweden, Norway, Iceland, and Switzerland had retail sales taxes at the national level but eventually switched to a VAT.[52] According to the OECD,

> The spread of Value Added Tax (also called Goods and Services Tax—GST) has been the most important development in taxation over the last half-century. Limited to less than 10 countries in the late 1960s it has now been implemented by about 136 countries; and in these countries (including OECD member countries) it typically accounts for one-fifth of total tax revenue. The recognized capacity of VAT to raise revenue in a neutral and transparent manner drew all OECD member countries (except the United States) to adopt this broad based consumption tax.[53]

Currently, approximately 150 countries have VATs.

Policy insights can be obtained by examining the experiences of other nations; however, simply because other nations have enacted a specific tax policy does not necessarily mean that it is appropriate for the United States to adopt this policy. Economic analysis of optimal taxation suggests that those choices depend on issues of efficiency, equity, and administrative and compliance costs, and should be made in the context of the overall tax and spending structure. These considerations may vary from one country to another.

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[49] OECD, *Revenue Statistics: 1965-2008* (Paris: OECD Publishing, 2009), p. 89. For data by country, see **Table C-1** in **Appendix C**.

[50] Ibid. For data by country, see **Table C-1** in **Appendix C**.

[51] Sijbren Cnossen, "VAT and RST: A Comparison," *Canadian Tax Journal*, vol. 35, no. 3, May/June 1987, p. 583.

[52] Cnossen, *VAT and RST: A Comparison*, p. 585 and OECD, *Consumption Tax Trends* (OECD, March 2005), p. 11.

[53] OECD, *International VAT/GST Guidelines* (OECD, February 2006), p. 1.

VAT Rates in Other Countries

As shown in **Table C-2**, VAT rates vary substantially among the 29 countries with VATs in the OECD and Chile, which will become the 31st member of the OECD in 2011. Japan and Canada have the lowest rate of 5%. Iceland has the highest rate of 25.5%, and four nations have a 25% rate. The unweighted average of standard VAT rates has risen from 16.0% in 1976 to 18.0% in 2010. This high average rate is one reason for the robust revenue yield of VATs. Most countries have reduced VAT rates on certain goods and services.

For 2009, **Table D-1** lists the standard VAT rate and the year of VAT introduction for 145 countries. Approximately two-thirds of these countries introduced their VATS in 1990 or later.[54] Countries without VATs include the United States, the nations in the Gulf Cooperation Council, and nations in portions of Africa.[55] The Gulf Cooperation Council consists of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.[56] The IMF (International Monetary Fund) has contributed to the global expansion of the VAT through general tax advice and normally requiring a country to implement a VAT in order to receive an IMF loan.[57]

Equity

A major topic concerning any proposed tax or tax change is the distribution or equity of the tax among households. There are two types of equity: vertical and horizontal. Vertical equity concerns the tax treatment of households with different abilities-to-pay. Horizontal equity concerns the degree to which households with the same ability-to-pay are taxed equally. Both vertical and horizontal equity may be affected by the measure of ability-to-pay and the tax period.

Ability-to-Pay

The most common measure of ability-to-pay is income.[58] Proponents of income as a measure of ability-to-pay argue that saving yields utility by providing households with greater economic security. Federal data are more readily available on different measures of income than different levels of consumption. For example, the federal government reports levels of disposable income, which equals consumption plus saving. Thus, tax economists can more easily calculate tax incidence if income instead of consumption is the measure of ability-to-pay.

Some arguments for the consumption tax base suggest that personal consumption is the best measure of ability-to-pay because consumption is the actual taking of scarce resources from the economic system. Some economists argue that consumption may be a better proxy for permanent income than is current income (see discussion below).

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[54] Leah Durner, Bobby Bui, and Jon Sedon, "Why VAT Around the Globe?," *Tax Notes*, November 23, 2009, p. 929.

[55] Ibid.

[56] Ibid.

[57] Ibid., p. 930.

[58] For an overview of the incidence of the VAT using income as a measure of ability-to-pay, see U.S. Congressional Budget Office, *Effects of Adopting a Value-Added Tax* (Washington: February 1992), pp. 31-47.

Time Period

Tax incidence usually is measured by using a one-year period. Data on consumption and income are readily available in one-year increments and the concept of a one-year period is easily understood. But many economists believe tax incidence is more accurately determined by measuring consumption and income over a household's lifetime. Lifetime income and consumption are affected by the life cycle concept and transitional components of income. According to this life cycle concept, a household makes current consumption decisions based on its expected future flow of income, averaging its consumption over its lifetime.

For example, a common life cycle is low income in the household's early years, high income in the household's middle years, and low income in the household's retirement years. A young household may save a small percentage of its income in order to acquire consumer durables. In its middle years, this household may save a high percentage of its income while its income is highest. Finally, during its retirement years, this household may save a small percentage of its income in order to maintain its consumption level. Thus, annual consumption tends to be more stable than annual income over the household's life cycle.

Although many economists prefer the concept of lifetime income, federal data are not collected on a lifetime basis. Consequently, economists have developed life-cycle models in an attempt to measure equity, but the distributional results from these models are subject to widespread debate.

Vertical Equity[59]

If disposable income over a one-year period is the measure of ability-to-pay, then a VAT would be viewed as extremely regressive; that is, the percentage of disposable income paid in VAT would decrease rapidly as disposable income increases. In most discussions of tax policy, both a one-year period and annual disposable income (or some other annual income measure) are used; consequently, the VAT is viewed as being extremely regressive. For example, CBO calculated the annual incidence of a 3.5% broad-based VAT for 1992. CBO found that all families would have paid 2.2% of their income in VAT. The burden on family income was 4.8% on the lowest quintile, 3.2% on the second quintile, 2.8% on the middle quintile, 2.3% on the fourth quintile, and 1.5% on the highest quintile.[60]

If disposable income over a lifetime is the measure of ability-to-pay, a VAT would be mildly regressive. For lower- and middle-income households, it appears that nearly all savings are eventually consumed.[61] Thus, it may be that for the vast majority of households, lifetime consumption and lifetime income are approximately equal. High-income households tend to have net savings over their lifetimes; consequently, they would pay a lower proportion of their

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[59] For a comprehensive analysis of the vertical equity of a VAT, see Erik Caspersen and Gilbert Metcalf, "Is a Value-Added Tax Progressive? Annual Versus Lifetime Incidence Measures," *National Tax Journal*, vol. 47, no. 4, December 1994, pp. 731-746; and U.S. Congressional Budget Office, *Effects of Adopting a Value-Added Tax*, pp. 31-47.

[60] U.S. Congressional Budget Office, *Effects of Adopting a Value-Added Tax*, p. 35.

[61] Franco Modigliani, a Nobel Laureate in economics, estimated that at least 80% of all savings by households are eventually spent on consumption. See Franco Modigliani, "The Role of Intergenerational Transfer and Life Cycle Saving in the Accumulation of Wealth," *Journal of Economic Perspectives*, vol. 2, no. 2, spring 1988, pp. 15-23.

disposable incomes in VAT than would lower-income groups. But these highly stylized life-cycle models are controversial.[62]

If consumption is used as a measure of ability-to-pay, a single-rate VAT with a broad base would be approximately proportional regardless of the time period. In other words, the percentage of consumption paid in VAT by households would be approximately constant as the level of household consumption rises.

Another equity issue concerns the burden of a VAT on different age groups. If older individuals on the average consume more out of savings than younger individuals, then a VAT would fall more heavily on the old than the young. Most of the elderly are covered by Social Security, which is indexed for changes in the cost-of-living. Thus most of the elderly poor would be largely protected from a rise in the price level due to the levying of a VAT.

Policy Options to Alleviate Regressivity

Some supporters of progressive taxation oppose the VAT primarily because they believe that it is regressive. No mechanism is likely to introduce progressivity at higher income levels. But critics are especially concerned about the absolute burden of a VAT on low-income households. The degree of regressivity on lower-income households, however, can be reduced by government policy. Three often-mentioned policies are exclusions and multiple rates, income tax credits, and earmarking of some revenues for increased social spending (including indexed transfer payments).

Exclusions and Multiple Rates

The incidence of the VAT depends on its tax base; therefore, the regressivity of the VAT can be reduced or eliminated by excluding (zero-rating or exempting) those goods that account for a disproportionately high percentage of the incomes of lower-income households. The exclusion of many necessities on equity grounds from retail sales taxes has been politically popular at the state level. All members of the European Union (EU) exclude some goods from VAT on equity grounds. Also, most EU nations have multiple tax rates on equity grounds. Reduced rates are applied to necessities and premium rates are levied on luxuries.

Despite the existing policies in the EU, most tax economists oppose exclusions and multiple rates to reduce regressivity for three reasons. First, the administrative costs, compliance costs, and neutrality costs are substantial.[63] If a VAT is to raise a given amount of revenue, then revenue lost from excluding goods must be offset by higher VAT rates. These higher rates increase the distortion in relative prices, and consequently, reduce the neutrality of the tax system. Second, the

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[62] For examples of life-cycle models, see Don Fullerton and Diane Lim Rogers, "Lifetime Effects of Fundamental Tax Reform," in *Economic Effects of Fundamental Tax Reform*, Henry J. Aaron and William G. Gale, eds. (Washington: Brookings Institution Press, 1996), pp 321-352; and David Altig, Alan J. Auerbach, Laurence J. Kotlikoff, Kent A. Smetters, and Jan Walliser, "Stimulating Fundamental Tax Reform in the United States," *The American Economic Review*, vol. 91, no. 3, June 2001, pp. 574-595. For an overview of the literature on life-cycle models, see Marin Browning and Thomas F. Crossley, "The Life-Cycle Model of Consumption and Savings," *Journal of Economic Perspectives*, vol. 15, no. 3, Summer 2001, pp. 3-22.

[63] For an examination of increased administrative and compliance costs resulting from exclusions and multiple rates, see Liam Ebrill et al., pp.78-79.

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possible reduction in regressivity from exclusion and multiple rates is declining because consumption patterns for different income levels are becoming more similar.[64] Third, for a one-year time period, the reduction in regressivity is limited, particularly for low-income households. Money saved for exclusions is largely offset by higher tax rates (needed for revenue neutrality) on taxed goods.[65]

Tax Credits

The federal government could allow either a flat tax credit or a credit that diminishes as income rises, in order to overcome the regressivity of a VAT. This credit method could be operated in two ways. First, an individual could apply the credit against his federal income tax liability, thus lowering his liability on a dollar-for-dollar basis. If the tax credit exceeded the individual's tax liability, he could apply for a refund of the excess credit. A taxpayer already due a tax refund could increase the size of his refund by the amount of the tax credit. A household not subject to income taxation could apply for a tax refund equal to the credit. An income tax credit that declines as income increases could reduce regressivity more sharply than a flat income tax credit.

Second, a stand-alone credit system could be established which would not require an eligible household to file an income tax return in order to obtain a refund for VAT paid. An eligible household would have to submit a simple form in order to receive a refund. A stand-alone credit system may be more effective than the income tax credit in encouraging low-income households to file for a refund, but administrative and compliance costs would be higher.

But a federal credit system would incur some administrative costs, which would increase the total administrative costs of a VAT. Furthermore, households incur implicit taxes if their credits are phased out (or income tested transfers reduced).

At the federal level, studies have concluded that the refundable earned-income tax credit (EITC) has had "a significant positive impact on participation in the labor force."[66] But compliance with EITC provisions has been an ongoing issue.[67]

Earmarking of VAT Revenues

A third option to reduce or eliminate regressivity is to earmark some of the revenue from a VAT to finance an increase in income tested transfers. Henry J. Aaron estimated that an increase in benefits of approximately $5 billion for a VAT yielding $100 billion could fully protect low-income families from paying the VAT.[68]

> For example, a 10 percent increase in food stamp entitlements would approximately offset the effect on households eligible for the full food stamp allotment of a VAT that raised $100 billion in revenue. This estimate is based on the fact that $100 billion will be approximately

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[64] Tait, p. 218.

[65] Edith Brashares, Janet Furman Speyrer, and George N. Carlson, "Distributional Aspects of a Federal Value-Added Tax," *National Tax Journal*, vol. 41, no. 2, June 1988, p. 165.

[66] CRS Report RL31768, *The Earned Income Tax Credit (EITC): An Overview*, by Christine Scott, pp. 14-15.

[67] Ibid., pp 16-17.

[68] Henry J. Aaron, "The Political Economy of a Value-Added Tax in the United States," *Tax Notes*, vol. 38, no. 10, March 7, 1988, p. 1,113.

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three percent of consumption in 1989 and that food is estimated to absorb about 30 percent of the budget in estimates of poverty thresholds.[69]

Many households with low taxable incomes do not currently receive transfers and would not be protected by Aaron's proposal.

Before the passage of the *Patient Protection and Affordable Care Act*, Leonard E. Burman proposed that a VAT be levied with the revenue dedicated to paying for a new universal health insurance voucher. "The health care voucher would offset the inherent regressivity of a VAT, since the voucher would be worth more than the VAT tax paid by most households."[70]

Horizontal Equity

If disposable income is the measure of ability-to-pay, the horizontal equity of a VAT would depend on the time period. For a one-year period, a VAT would be very inequitable because households with the same level of disposable income would have widely differing levels of consumption and, consequently, payments of VAT.

For a lifetime period, the VAT would have a high degree of horizontal equity. For low- and middle-income households, almost all income is consumed over these households' lifetimes; consequently, households with the same lifetime incomes would have the same levels of consumption and the same VAT payments.[71] Over their lifetimes, high-income households with equal incomes differ in their levels of consumption and, consequently, VAT payments. For example, assume that two households have $10 million in lifetime income, but the first household spends $4.5 million on consumption and the second household spends $9 million on consumption. The second household would pay twice as much in VAT as the first household. Thus, for a lifetime period, the VAT is not horizontally equitable for high-income households.

Neutrality

In public finance, the more *neutral* a tax is, the less the tax affects private economic decisions and, consequently, the more efficiently the economy operates. Conceptually, a VAT on all consumption expenditures, with a single rate that is constant over time, would be relatively neutral compared to other major revenue sources.

For households, two out of three major decisions would not be altered by this hypothetical VAT. First, this VAT would not alter choices among goods because all would be taxed at the same rate. Thus, *relative* prices would not change. In contrast, other taxes, such as excise taxes, which change relative prices, would distort household consumer choices by encouraging the substitution of untaxed goods for taxed goods. But a hypothetical income tax on all income would be neutral in this respect.

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[69] Ibid.

[70] Leonard E. Burman, "A Blue print for Tax Reform and Health Reform," Urban Institute, p. 1. Available at http://www.urban.org, January 6, 2011.

[71] Henry J. Aaron, "The Value-Added Tax: Sorting Through the Practical and Political Problems," *The Brookings Review*, summer 1988, p. 13.

Second, a VAT does not affect the relative prices of present and future consumption. In contrast, the individual income tax affects the relative prices of present and future consumption because the income tax is levied on income which is saved, and then the returns on saving are taxed.

A household's work-leisure decision, however, would be affected by a VAT or any other tax on either consumption or income.[72] Since leisure would not be taxed, any tax increase would fall on the returns to work.

A VAT would have conflicting effects on the number of hours worked by each household. A household would have an incentive to substitute leisure for work because of the relative rise in the value of leisure to work (substitution effect). Conversely, a household would have an incentive to increase its hours worked in an attempt to maintain its current living standards (income effect). Thus, a VAT could decrease, increase, or not change a household's hours worked.

For a firm, the VAT would not affect decisions concerning method of financing (debt or equity), choice among inputs (unless some suppliers are exempt or zero-rated), type of business organization (corporation, partnership, or sole proprietorship), goods to produce, or domestic versus foreign investment. Other types of taxes may affect one or more of these types of decisions.

But a VAT cannot be levied on all consumer goods; consequently, prices of taxed goods will rise relative to untaxed goods. Furthermore, most nations with VATs have more than one rate. Multiple VAT rates alter relative prices of taxed goods. Finally, VAT rates in most nations have tended to rise over time. Despite these deviations from a pure form of VAT, a broad-based VAT is relatively neutral compared to most other taxes. This neutrality is greater if the tax rate is relatively low. But the relative neutrality of a VAT compared to an increase in the personal income tax is uncertain.[73]

Inflation

If the Federal Reserve implemented an expansionary monetary policy to offset the contractionary effects of a VAT, then there would be a one-time increase in the price level. For example, an expansionary monetary policy to accommodate a 5% VAT on 60% of consumer outlays might directly cause an estimated one-time increase in consumer prices of approximately 3%. There would also be some secondary price effects. Some goods would rise in price because their factors of production, especially labor, are linked to price indexes. Yet, if the Federal Reserve disregarded these secondary price increases in formulating monetary policy, these secondary price increases would tend to be offset by price reductions in other sectors of the economy.

An examination of VATs in the OECD has found only an initial effect of a VAT on the price level. But it is difficult to empirically isolate the effect of a VAT from other possible causes of a change in the price level.

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[72] In economics, leisure is any time spent not working.

[73] See U.S. Congressional Budget Office, *Effects of Adopting a Value-Added Tax*, pp. 56-60; and Jane G. Gravelle, "Income, Consumption, and Wage Taxation in a Life-Cycle Model: Separating Efficiency from Redistribution," *American Economic Review*, vol. 81, no. 4, September 1991, pp. 985-995.

It has been suggested that the federal government exclude the VAT from price indexes. Hence, existing indexing would not have an inflationary effect.[74] But such an approach might prove unpopular and it might be contested in court.

In summary, the proper monetary accommodation for a VAT would probably cause a one-time increase in the price level but not affect the subsequent rate of inflation (i.e., cause continual increases in the general price level).

Balance-of-Trade

Currently, all nations with VATs zero-rate exports and impose their VATs on imports. This procedure for taxing trade flows is referred to as the *destination principle* because a commodity is taxed at the location of consumption rather than production. An alternative would be to apply the *origin principle* that would levy a tax at the location of production. Thus, under the origin principle, nations would levy their VATs on exports but not imports. All leading experts on the VAT recommend that nations adopting a VAT use the destination principle, which would be consistent with existing practices of other countries.

The destination principle creates a level playing field because imported commodities rise in price by the percentage of the VAT, but exported commodities do not increase in price. For a particular nation, the VAT rate on domestically produced and imported products would be the same. The VAT rate on a particular good would still vary among nations.

A simple example demonstrates this concept of a level playing field. Assume nation A has a 10% VAT and nation B has a 20% VAT. Exports from nation A to nation B would not be taxed by nation A. But nation B would levy a 20% VAT on imports from nation A. Thus, consumers in nation B would pay a 20% VAT regardless of whether their purchased goods were domestically produced or imported. Furthermore, exports from nation B to nation A would not be taxed by nation B. Nation A would levy a 10% VAT on imports. Hence, consumers in nation A would pay a 10% VAT on both domestically produced and imported commodities.

In 1962, the rules applicable to taxation were included in the General Agreement on Tariffs and Trade (GATT). Under these GATT rules, indirect taxes were rebatable on exports but direct taxes were not rebatable. Taxes which are not shifted but borne by the economic entity on which they are levied are classified as direct taxes. From 1962 through 1972, a fixed exchange rate system prevailed and the United States ran deficits in its balance-of-payments. U.S. officials complained that the GATT rules favored nations with VATs because their exports were zero-rated. In contrast, corporate income taxes were not rebated on exports.

In early 1973, the United States and its major trading partners formally shifted to a flexible exchange rate system. Under this system, the supply and demand for different currencies determine their relative value. If a country has a deficit in its balance-of-trade, this deficit must be financed by a net importation of foreign capital. But net capital inflows cannot continue indefinitely. Thus, over time, this country's currency will tend to decline in value relative to the currencies of other nations. Consequently, this country's balance-of-trade deficit will eventually decline as its exports rise and imports fall. Hence, economic theory indicated that a VAT offers no

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[74] Aaron, "The Political Economy of a Value-Added Tax in the United States," p. 1,113.

advantage over other major taxes in reducing a deficit in the balance-of-trade. Thus, U.S. officials ended their complaints about the effects of GATT tax rules on international trade.

Since early 1973 there have been periods when exchange rates have been "managed" by mutual agreement among governments. Central banks have coordinated purchases and sales of different currencies in order to stabilize their relative values to promote international economic stability.

Even if there were a fixed exchange rate, a U.S. VAT would have slight impact on the balance-of-trade because the proposed VAT rate of 5% or less is a low tax rate. During the last 25 years the value of the dollar has fallen relative to an index of major currencies, yet a serious U.S. balance-of-trade deficit persists. In summary, economic theory indicates that a U.S. VAT offers no major advantage over other major tax increases in reducing the U.S. balance-of-trade deficit.

Any large U.S. tax increase, which reduces the federal deficit, could reduce the U.S. balance-of-trade deficit. The U.S. Treasury would reduce its borrowing on financial markets, interest rates would decline, and foreign capital would flow out of the United States. This capital outflow would reduce the demand for dollars relative to other currencies. This decline in the value of the dollar would raise exports, reduce imports, and, consequently, reduce the U.S. balance-of-trade deficit.

As indicated previously, under the destination principle, a VAT using the credit-invoice method is border adjustable. Exports are zero-rated and imports are taxed. A standard subtraction method VAT is origin based and thus is not border adjustable.

> Border adjusting a subtraction-method VAT may elicit a challenge under WTO [World Trade Organization] rules. Under those rules (as originally developed under the General Agreements on Tariffs and Trade ("GATT"), a border tax adjustment applied to a "direct" tax is a prohibited trade subsidy. In contrast, WTO rules allow countries to border-adjust "indirect taxes." Further, WTO rules require that imported products be accorded treatment no less favorable than like products of national origin. Lastly, WTO rules require that border adjustments for indirect taxes not exceed the tax levied on similar products sold in the domestic market. A subtraction-method VAT might be challenged as a direct tax under WTO rules.[75]

National Saving

National saving consists of government saving, business saving, and personal saving.[76] A VAT or any other tax that reduces the budget deficit would be expected to reduce government dissaving, and, consequently, raise national saving.

A second issue concerns the effect on the personal savings rate of levying a VAT compared to increasing income taxes. A VAT would tax savings when they are spent on consumption, allowing savings to compound at a pre-tax rate. But an income tax is levied on all income at the time it is earned, regardless of whether the income is consumed or saved. The income tax is also levied on

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[75] Ibid., p. 32.

[76] For an analysis of the U.S. savings rate, see CRS Report RS21480, *Saving Rates in the United States: Calculation and Comparison*, by Craig K. Elwell. For an analysis of saving Incentives, see CRS Report RL 33482, *Saving Incentives: What May Work, What May Not*, by Thomas L. Hungerford.

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the earnings from income saved. Consequently, some proponents of the VAT have argued that choosing a VAT, rather than an income tax, to raise revenue would increase the return from saving and, consequently, raise the savings rate.

The rate of return on savings, however, has never been shown to have a significant effect on the savings rate because of two conflicting effects. First, each dollar saved today results in the possibility of a higher amount of consumption in the future. This relative increase in the return from saving causes a household to want to substitute saving for consumption out of current income (substitution effect).

But a higher rate of return on savings raises a household's income; consequently, the household has to save less to accumulate some target amount of savings in the future (income effect). Thus, this income effect encourages households to have higher current consumption and lower current saving.

A CRS study compared the long-run effects on the capital stock and consumption of a $60 billion VAT and a $60 billion increase in individual income taxes. This study's results suggest that selecting a VAT instead of an increase in individual income taxes would raise the capital stock by less than 2% and consumption by only a quarter to a third of a percent after 50 years.[77]

An empirical study by the Congressional Budget Office analyzed the economic effects of replacing a quarter of the current income tax with a 6% VAT on all consumption. CBO estimated that this tax substitution would, in the long-run, increase the saving rate by 0.5%, raise the capital stock by 7.9%, increase output by 1.5%, and raise consumption by 1.2%.[78] These CBO findings of only slight economic effects in the long-run are consistent with the estimates of the CRS study.

Administrative Costs

A value-added tax would require the expansion of the Internal Revenue Service. But the high revenue yield from a VAT could cause administrative costs to be low measured as a percentage of revenue yield. The administrative expense per dollar of VAT collected would vary with the degree of complexity of the VAT, the amount of revenue raised, the national attitude towards tax compliance, and the level of the small business exemption.

For tax year 1995, the Government Accountability Office (GAO) estimated the cost of administering a U.S. VAT at $1.221 billion if the VAT had a single rate, a broad base, and an exemption for businesses with gross receipts of less than $100,000.[79] For tax year 1995, Professor Sijbren Cnossen estimated that the overall administrative cost of a hypothetical single rate U.S. VAT at $1 billion.[80] He assumed that "the administration of the VAT would be fully integrated with the administration of the federal income taxes."[81]

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[77] CRS Report 88-697 S, *Economic Effects of a Value-Added Tax on Capital Formation*, by Jane G. Gravelle, p. 2. (Archived report; available on request).

[78] CBO, *Effects of Adopting a Value-Added Tax*, pp. 52-53.

[79] U.S. General Accounting Office, *Value-Added Tax: Administrative Costs Vary with Complexity and Number of Businesses*, Washington, May 1993, p. 63.

[80] Sijbren Cnossen, "Administrative and Compliance Costs of the VAT: A Review of the Evidence," *Tax Notes*, (continued...)

In 2008, GAO examined the administrative costs of a VAT. GAO stated that "according to European Commission officials, VATS in Europe cost between 0.5 percent and 1 percent of VAT revenue collected to administer."[82]

Compliance

Although considerable research has been conducted over the past 15 years on income tax compliance, research on VAT compliance has been limited.[83] For tax year 1995, Professor Sijbren Cnossen estimates the compliance costs of a single rate U.S. VAT would equal approximately $5 billion.[84] He emphasizes that compliance costs "can be reduced by broadening the base of the VAT, imposing a single rate, and increasing the threshold for registration."[85] Agha and Haughton summarized estimates of VAT evasion for five European countries.[86] These five countries and their percentage of revenue lost through evasion were Belgium (8%), France (3%), Italy (40%), Netherlands (6%), and United Kingdom (2%-4%).[87] In comparison to other broad-based consumption taxes such as the retail sales tax, a VAT has produced relatively good compliance for four reasons.

First, a VAT collected using the credit-invoice method offers the opportunity to cross-check returns and invoices. For example, VAT shown on a sales invoice of a wholesaler will appear on the purchase invoice of a retailer. A tax auditor can examine both invoices to cross-check the accuracy of the tax returns of both the wholesaler and the retailer.

Second, each firm has an incentive not to allow suppliers to understate VAT on their sales invoices. A firm is able to credit VAT paid on inputs against VAT collected on sales; consequently, a firm's net VAT liability will increase if VAT shown on its purchase invoices was understated by suppliers.

Third, tax auditors can compare information about a VAT with information about business income taxation, which will increase compliance with both types of taxes. For example, the sales revenue figure reported on business income tax forms may be checked for consistency with gross VAT collected as shown on VAT forms. Also, a check of cash receipts during a VAT audit may identify the under reporting of sales. Firms may attempt not only to evade the VAT but also to evade the business income tax.[88]

(...continued)

vol. 62, no. 12, June 20, 1994, p. 1,610.

[81] Ibid.

[82] U.S. Government Accountability Office, *Value-Added Taxes: Lessons Learned from Other Countries on Compliance Risks, Administrative Costs, Compliance Burden, and Transition.* pp. 15-16.

[83] For a current examination of VAT compliance from the approach of behavior economics, see Paul Webley, Caroline Adams, and Henk Elffers, "Value Added Tax Compliance," in *Behavioral Public Finance*, eds. Edward J. McCaffery and Joel Slemrod (New York: Russell Sage Foundation, 2006), pp. 175-205.

[84] Sijbren Cnossen, "Administrative and Compliance Costs of the VAT: A Review of the Evidence," p. 1,609.

[85] Ibid., p. 1,615.

[86] Ali Agha and Jonathan Haughton, "Designing VAT Systems: Some Efficiency Considerations," *Review of Economics and Statistics*, vol. 78, no. 2, May 1996, pp. 304-305.

[87] Ibid., p. 305.

[88] Organization of Economic Co-Operation and Development, *Taxing Consumption*, pp. 199-200.

Fourth, some firms legally required to remit VAT may not register. But these firms receive no credit for VAT paid on inputs. Hence, these firms are only partially able to evade the VAT because of the compliance with the VAT by suppliers.

Although compliance with a VAT is higher than other broad-based consumption taxes, the level of noncompliance is significant. As previously discussed, some firms legally required to remit VAT may not register.

Furthermore, firms may evade VAT by altering or omitting information as indicated in the following 10 major types of evasion. First, a registered firm may not record resales of goods purchased from unregistered suppliers. Second, a seller of both exempt and taxable goods may divert purchased inputs on which VAT is claimed against taxed sales to help produce and sell exempt goods. Third, a firm may claim credit for purchases that are not creditable. For example, a firm's owner may claim credit for VAT paid on an automobile but then use it for nonbusiness purposes. Fourth, a firm may illegally import goods, charge VAT on their sale, but not report this VAT. Fifth, a firm may simply under-report sales, which is the most common type of evasion. Retailers are the most frequent users of this type of evasion. Sixth, a firm may collect VAT on sales and then disappear. This type of evasion is particularly common to small firms in the construction industry. Seventh, in those nations with multiple rates, a firm may illegally reclassify goods into categories with lower tax rates. Eighth, the owners of some small firms, particularly retailers, may consume part of their firms' production but not record their consumption. Ninth, a firm may submit completely false export claims in order to obtain illegal VAT refunds. And tenth, two firms may barter goods in order to evade the VAT.[89]

VAT Registration Thresholds

"Experience has taught, sometimes harshly, that a critical decision in designing a VAT is the threshold level of firm size above which registration for the tax is compulsory."[90] The threshold level is important in reducing administrative and compliance costs. "Most countries, but not all, allow those below the VAT threshold to register voluntarily."[91] Thus a small business with gross receipts below the threshold could decide whether or not to register and collect the VAT or to be exempt. "Despite significant variation, a useful rule of thumb is that the largest 10 percent of all firms commonly account for 90 percent or more of all turnover."[92] Many nations adopting VATs have set threshold level below that recommended by the Fiscal Affairs Department of the International Monetary Fund.[93] Tax authorities must consider the tradeoff between lower administrative and compliance costs versus reduced revenue and costs of distortions due to differential treatment.[94]

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[89] For a detailed discussion of these 10 types of evasion, see Tait, pp. 308-314.

[90] Ebrill et al., p. 113.

[91] Ibid., p. 116.

[92] Ibid., p. 117.

[93] Ibid., p. 113.

[94] **Table C-3** has data on annual turnover concessions for VAT registration and collection, which includes registration thresholds.

Time Required for VAT Implementation

Since a U.S. VAT would be a new tax, the time to implement a VAT is important. In a 2008 study, GAO examined the time to implement VATs in three nations with relatively new VATs and preexisting consumption tax administrative structures.

> The amount of time tax administrations in Australia, Canada, and New Zealand had to implement a VAT ranged from 15 to 24 months due to the varying circumstances leading up to initial implementation in each of these countries. Australia and its states and territories reached agreement on a VAT in April 1999, 15 months prior to the effective implementation date of July 1, 2000. In Canada, much of the planning and early efforts to prepare for VAT implementation occurred before legislation was actually passed. According to one Canadian official involved in implementation, planning began nearly 2 years in advance, but Canadian tax authorities had only 2 weeks between final passage of legislation and implementation. However, because of delays in education activities, implementation was delayed an additional 6 months.[95]

An IMF official formulated a "chronological schedule of work to be done to introduce a VAT in about eighteen months."[96] This schedule lists actions required of tax officials on a month by month basis.

Intergovernmental Relations

For the United States, a federal VAT raises two primary intergovernmental issues: the federal encroachment of the state sales tax, and the joint collection of a VAT.[97]

Encroachment on a State Tax Source

It has been claimed that broad-based consumption taxation has traditionally been a state source of revenue while income taxation has been a federal revenue source; consequently, a federal VAT would encroach on a primary source of tax revenue for the states.[98]

Most states, however, adopted their individual income taxes before they adopted their general sales taxes. Thirty-nine states levy both individual income taxes and general sales taxes. Twenty-three of these states adopted their individual income taxes in an earlier year then they adopted their general sales taxes. Three states adopted both taxes in the same year. Thirteen states adopted their general sales taxes in an earlier year than they adopted their individual income taxes.[99]

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[95] U.S. Government Accountability Office, *Value-Added Taxes: Lessons Learned from Other Countries on Compliance Risks, Administrative Costs, Compliance Burden, and Transition*, p. 41.

[96] Tait, pp. 409-416.

[97] For an overview of state tax officials' concerns related to the enactment of a broad-based federal consumption tax, see U.S. General Accounting Office, *State Tax Officials Have Concerns About a Federal Consumption Tax*, Washington, March 1990, 77 p.

[98] For an examination of this issue, see Robert P. Strauss, "Administrative and Revenue Implications of Federal Consumption Taxes for the State and Local Sector," *State Tax Notes*, vol. 16, March 15, 1999, pp. 831-868.

[99] For data on the dates of adoption of major state taxes by state, see *Facts and Figures on Government Finance*, Washington: Tax Foundation, 2010.

No constitutional restriction prevents the federal government from levying a VAT. Precedents exist for the federal government to levy a new tax that many states already levy. For example, the federal government levied the personal income tax after many states had already imposed this tax. Also, both the federal government and the states impose many of the same excise taxes.

The federal government relies primarily on income taxes, but taxation of income by states has risen steadily over the years.[100] For 2009, 34.4% of state tax collections consisted of individual income taxes and 5.6% consisted of corporation income taxes.[101] Thus, total state taxes on income accounted for 40.0% of all state taxes collected. In comparison, for 2009, general sales taxes accounted for 31.9% of state taxes collected.[102] Hence, it can be argued that the states have encroached on the primary source of revenue of the federal government.

States could continue to levy their retail sales taxes while the federal government levies a VAT. In Canada, the federal government levies a VAT, and the provinces continue to collect their retail sales taxes.

Joint Collection

States could piggy-back on a federal VAT. To do this, states would have to replace their retail sales taxes with a VAT and adopt the federal tax base. Because a federal VAT would probably have a broader base than any state sales tax, more revenue would be yielded for each 1% levied. Also, the VAT would eliminate duplication of administrative effort, permit the taxation of interstate mail order sales, permit the taxation on Internet sales, and lower total compliance costs of firms.

But, states may decline the opportunity for joint collection because of their desire to maintain greater fiscal independence from the federal government. In 1972, federal legislation permitted states to adopt the federal individual income tax base and have the federal government collect its state income tax, without cost to the states.[103] No state delegated collection of its income tax to the federal government. The law was repealed in 1990.[104]

In a 2008 VAT study, GAO found that "Canada's experience demonstrates that, while multiple consumption tax arrangements in a federal system are possible, such arrangements create additional administrative costs and compliance burden for governments and businesses."[105]

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[100] For historical data on state tax collection by source, see *Facts & Figures on Government Finance*, Washington: Tax Foundation, 2010. Historical data on federal receipts by source is available from the following source: Office of Management and Budget, *Budget of the U.S. Government, Historical Tables, Fiscal Year 2011* (Washington: GPO, 2010), pp. 30-35.

[101] Tax Policy Center, "State Tax Collection Shares by Type, 1999-2009," July 14, 2010, p. 1.

[102]Ibid.

[103] The Federal-State Tax Collection Act was enacted as Title II of the legislation that created the federal revenue sharing program. U.S. Congress, Joint Committee on Internal Revenue Taxation. *State and Local Fiscal Assistance Act and the Federal-State Tax Collection Act of 1972, H.R. 14370, 92d Congress, Public Law 92-512*, JCS-1-73, February 12, 1973, Washington, GPO, 1973, pp. 51-72.

[104] Provisions of the Federal-State Tax Collection Act of 1972 (subchapter 64(E), sec. 6361 through 6365 of the Internal Revenue Code) were repealed by the Omnibus Budget Reconciliation Act of 1990, P.L. 101-508, sec. 11801(a)(45).

[105] U.S. General Accountability Office, *Value-Added Taxes: Lessons Learned from Other Countries on Compliance Risks, Administrative Costs, Compliance Burden, and Transition*, p. 5.

Size of Government

In the public policy debate over a VAT, one of the more divisive issues concerns the size of the public sector.[106] There is widespread debate among economists and public policy expert concerning the variables that determine the size of government. These variables include urbanization, the growth of income, the age distribution of the population, technological change, relative costs of public services, social philosophy, rates of voter turnout, perceived need for defense spending, tax structure, and the size of a nation.[107]

There is an hypothesis that a VAT is a "money machine" because the higher revenue yield per 1% levied could allow the government to finance a growing public sector by periodically raising the VAT rate. It can be argued that the VAT is a partially "hidden" tax because consumers pay a small amount of VAT with each purchase and are not fully cognizant of the aggregate VAT paid for a year. Furthermore, the tax authorities have the option of prohibiting the VAT from being shown on retail sales slips.

Most experts generally agree that these concerns are unproven. After all, the tax rate for any tax can be increased at the margin. Furthermore, there is no proof that taxpayers are any less cognizant of a tax paid in small amounts than in one lump sum. (Although, even if taxes are visible, for taxpayers to compare the cost of the tax with the benefits from the tax, the benefits would have to be similarly visible).

Some empirical studies have found that tax increases lead to increased spending, but other empirical studies have found that public demands for a larger public sector lead to tax increases. The President's [George W. Bush] Advisory Panel on Federal Tax Reform found:

> sophisticated statistical studies that control for other factors that may affect the relationship between the size of government and the presence of a VAT yield mixed results. The evidence neither conclusively proves, nor conclusively disproves, the view that supplemental VATs facilitate the growth of government.[108]

Conclusions

A VAT has numerous positive characteristics such as a robust revenue yield, relative neutrality, good enforcement, border-adjustability, and reasonable administrative costs. Some critics are concerned about the VAT's regressivity; proponents say policies are available to reduce or eliminate this regressivity. The prevailing view of tax professionals is that an optimal VAT would have the following characteristics: a broad base, a single rate, the credit-invoice method of collection, the application of the destination principle, and a significant sales threshold for registration. The United States is the only developed nation without a VAT. In conclusion, the

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[106] The optimal size of government is a value judgment. A larger public sector is neither inherently better nor worse than the existing size of the public sector. For a comprehensive examination of this issue, see Joseph E. Stiglitz, *Economics of the Public Sector*, 3rd edition (New York: W. W. Norton & Company, 2000), pp. 3-22.

[107] For a discussion of variables that may affect the size of Government, see Richard A. Musgrave and Peggy B Musgrave, *Public Finance in Theory and Practice*, 4th ed. (New York: McGraw-Hill, 1984), pp. 146-153.

[108] President's Advisory Panel on Federal Tax Reform, *Simple, Fair, & Pro-Growth: Proposals to Fix America's Tax System* (Washington: U.S. Department of the Treasury, November 1, 2005), p. 203.

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option of levying of VAT may warrant inclusion in the debate over the solution to the nation's long-term fiscal problems.

Appendix A. Credit-Invoice, Subtraction, and Addition Methods

This appendix provides numerical examples of the two methods of calculating a VAT: credit-invoice and subtraction methods. The tax rate for a VAT may be *price inclusive* (included in the sales price) or *price exclusive* (added to the sales price). Most developed nations levy their VAT rates on a price exclusive basis.

Table A-1. Credit-Invoice Method

(Price-exclusive VAT rate assumed at 10%)

Stage of Production	Sales	VAT	VAT on Purchases	Net VAT
Raw Materials	$100 x 10%	$10	$0	$10
1st processor	$120 x 10%	$12	($10)	$2
Distributor	$140 x 10%	$14	($12)	$2
Retailer	$180 x 10%	$18	($14)	$4
Total				**$18**

Source: Annette Nellen, "How the VAT works," *Consumption Tax Information*, pp. 6, available at http://www.cob.sjsu.edu/nellen_a/ConsumptionTax.html, January 18, 2011. The author is Professor, Department of Accounting and Finance, San Jose State University.

Note: There would be no need to separately state the VAT on the invoice because the customer would not be entitled to a credit for the VAT paid.

Table A-2. Subtraction Method

(Price-exclusive VAT rate assumed at 10%)

Stage of Production	Sales	Less Purchases	Calculation	VAT
Raw Materials	$100	$10	$100 x 10%	$10
1st processor	$120	$12	$20 x 10%	$2
Distributor	$140	$14	$20 x 10%	$2
Retailer	$180	$18	$40 x 10%	$4
Total				**$18**

Source: Annette Nellen, "How the VAT works," *Consumption Tax Information*, pp. 6-7, available at http://www.cob.sjsu.edu/nellen_a/ConsumptionTax.html, January 18, 2011. The author is Professor, Department of Accounting and Finance, San Jose State University.

Note: Taxpayer's records will likely show purchases including the VAT. Thus, an alternative calculation would be to use the tax-inclusive rate of 9.0909%, rather than the tax-exclusive rate of 10% (rate applied to sales amount exclusive of the VAT):

Raw materials: ($110 - $0) x 9.0909% = $10

1st processor: ($132 - $110) x 9.0909% = $2

Distributor: ($154 - $132) x 9.0909% = $2

Retailer: ($198 - $154) x 9.0909% = $4

Appendix B. VAT Revenue Ratios in OECD

Table B-1. OECD VAT Revenue Ratios, 1996-2000

Country	Standard VAT Rate (2005)	1996	2000	2005	Difference 1996-2005
Australia[a]	10.0		0.47	0.57	0.10
Austria	20.0	0.58	0.60	0.60	0.02
Belgium	21.0	0.47	0.51	0.50	0.03
Canada[b]	7.0	0.48	0.52	0.52	0.04
Czech Republic	19.0	0.44	0.44	0.59	0.15
Denmark	25.0	0.58	0.60	0.62	0.04
Finland	22.0	0.54	0.61	0.61	0.06
France	19.6	0.51	0.50	0.51	0.00
Germany	16.0	0.60	0.60	0.54	−0.06
Greece	18.0	0.42	0.48	0.46	0.04
Hungary	25.0	0.43	0.53	0.49	0.05
Iceland	24.5	0.54	0.58	0.62	0.08
Ireland	21.0	0.53	0.64	0.68	0.15
Italy	20.0	0.40	0.45	0.41	0.00
Japan	5.0	0.72	0.70	0.72	0.00
Korea	10.0	0.62	0.65	0.71	0.10
Luxembourg	15.0	0.57	0.68	0.81	0.24
Mexico	15.0	0.26	0.31	0.33	0.07
Netherlands	19.0	0.57	0.60	0.61	0.04
New Zealand	12.5	1.00	1.00	1.05	0.04
Norway	25.0	0.60	0.67	0.58	−0.03
Poland	22.0	0.41	0.42	0.48	0.07
Portugal	19.0	0.57	0.62	0.48	−0.10
Slovak Republic[c]	19.0		0.46	0.53	0.07
Spain	16.0	0.45	0.53	0.56	0.11
Sweden	25.0	0.50	0.52		0.05
Switzerland	7.6	0.70	0.78	0.55	0.05
Turkey	18.0	0.55	0.59		-0.02
United Kingdom	17.5	0.50	0.50	0.76	-0.02
Unweighted average	17.7	0.54	0.57	0.53	0.04

Source: OECD, Consumption Tax Trends 2008: VAT/GST and Excise Rates, Trends and Administrative Issues, Paris, 2008, p. 69.

Notes: VAT Revenue Ratio = (VAT revenue)/([consumption - revenue] x Standard VAT rate)

a. For Australia the differential VRR is calculated on the period 2000-2005 since GST was introduced in 2000.

b. Calculation for Canada is for federal VAT only.

c. For Slovak Republic, the differential VRR is calculated on the period 2000-20005 since data is not available for 1996.

Appendix C. General Consumption Taxes in OECD Countries

Table C-1. Data on General Consumption Taxes in OECD

(All levels of government)

Country	Total Tax Revenue as a % of GDP[a] at Market Prices (2007)	General Consumption Taxes as a % of GDP (2007)	General Consumption Taxes as a % of Total Tax Revenues (2007)
Australia	30.8%	4.0%	13.0%
Austria	42.3	7.7	18.3
Belgium	43.9	7.1	16.3
Canada	33.3	4.5	13.6
Czech Republic	37.4	6.6	17.6
Denmark	48.7	10.4	21.4
Finland	43.0	8.4	19.5
France	43.5	7.4	17.0
Germany	36.2	7.0	19.4
Greece	32.0	7.5	23.4
Hungary	39.5	10.3	26.0
Iceland	40.9	10.6	25.9
Ireland	30.8	7.4	24.1
Italy	43.5	6.2	14.2
Japan	28.3	2.5	8.8
Korea	26.5	4.2	15.8
Luxembourg	36.5	5.7	15.7
Mexico	18.0	3.7	20.4
Netherlands	37.5	7.4	19.8
New Zealand	35.7	8.4	23.5
Norway	43.6	8.3	19.1
Poland	34.9	8.2	23.5
Portugal	36.4	8.8	24.1
Slovak Republic	29.4	6.7	22.9
Spain	37.2	6.0	16.2
Sweden	48.3	9.3	19.3
Switzerland	28.9	3.8	13.1
Turkey	23.7	5.1	21.3
United Kingdom	36.1	6.6	18.2
United States	28.3	2.2	7.7

Source: Adapted by CRS from OECD, *Revenue Statistics 1965-2008*, Paris, 2009.

a. GDP is an abbreviation for gross domestic product, which is a measure of total domestic output of goods and services.

Table C-2. VAT/GST Rates in OECD Member Countries

Country	Year Implemented	Implemented[a]																	Reduced Rates[b]	Specific Rates in Specific Regions
		1976	1980	1984	1988	1990	1992	1994	1996	1998	2000	2002	2004	2006	2007	2008	2009	2010		
Australia	2000	-	-	-	-	-	-	-	-	-	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	-
Austria[c]	1973	18.0	18.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	10.0/12.0	19.0
Belgium	1971	18.0	16.0	19.0	19.0	19.0	19.5	20.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	0.0/6.0/12.0	-
Canada[d]	1991	-	-	-	-	-	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0	5.0	5.0	5.0	0.0	13.00
Chile[e]	1975	20.0	20.0	20.0	20.0	16.0	18.0	18.0	18.0	18.0	18.0	18.0	19.0	19.0	19.0	19.0	19.0	19.0	-	-
Czech Republic	1993	-	-	-	-	-	-	23.0	22.0	22.0	22.0	22.0	22.0	19.0	19.0	19.0	19.0	20.0	10.0	-
Denmark	1967	15.0	22.0	22.0	22.0	22.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	0	-
Finland	1994	-	-	-	-	-	-	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	0.0/8.0/13.0	-
France[f]	1968	20.0	17.6	18.6	18.6	18.6	18.6	18.6	20.6	20.6	20.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	2.1/5.5	See note[f]
Germany	1968	11.0	13.0	14.0	14.0	14.0	14.0	15.0	15.0	16.0	16.0	16.0	16.0	16.0	19.0	19.0	19.0	19.0	7	-
Greece[g]	1987	-	-	-	16.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	19.0	19.0	19.0	19.0	19.0	4.5/9.0	3.0/ 6.0/13.0
Hungary	1988	-	-	-	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	20.0	20.0	20.0	20.0	25.0	18.0/5.0	-
Iceland	1989	-	-	-	-	22.0	22.0	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	25.5	0.0/7.0	-
Ireland	1972	20.0	25.0	23.0	25.0	23.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.5	21.0	0.0/4.8/13.5	-
Italy	1973	12.0	15.0	18.0	19.0	19.0	19.0	19.0	19.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	0.0/4.0/10.0	-
Japan	1989	-	-	-	-	3.0	3.0	3.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-	-
Korea	1977	-	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	0	-
Luxembourg	1970	10.0	10.0	12.0	12.0	12.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	3.0/6.0/12.0	-
Mexico[h]	1980	-	10.0	15.0	15.0	15.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	16.0	0.0	11
Netherlands	1969	18.0	18.0	19.0	20.0	18.5	17.5	17.5	17.5	17.5	17.5	19.0	19.0	19.0	19.0	19.0	19.0	19.0	6.0	-

Country	Year Implemented	Implementeda																	Reduced Ratesb	Specific Rates in Specific Regions
		1976	1980	1984	1988	1990	1992	1994	1996	1998	2000	2002	2004	2006	2007	2008	2009	2010		
New Zealand	**1986**	-	-	-	10.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	0	-
Norway	**1970**	20.0	20.0	20.0	20.0	20.0	20.0	22.0	23.0	23.0	23.0	24.0	24.0	25.0	25.0	25.0	25.0	25.0	0.0/8.0/14.0	-
Poland	**1993**	-	-	-	-	-	-	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	0.0/7.0	-
Portugali	**1986**	-	-	-	17.0	17.0	16.0	16.0	17.0	17.0	17.0	17.0	19.0	21.0	21.0	21.0	20.0	20.0	5.0/12.0	4.0/8.0/14.0
Slovak Republic	**1993**	-	-	-	-	-	-	25.0	23.0	23.0	23.0	23.0	19.0	19.0	19.0	19.0	19.0	19.0	10	-
Spainj	**1986**	-	-	-	12.0	12.0	13.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	4.0/7.0	See note
Sweden	**1969**	17.65	23.46	23.46	23.46	23.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	0.0/6.0/12.0	-
Switzerland	**1995**	-	-	-	-	-	-	6.5	6.5	6.5	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6	0.0/2.4/3.6	-
Turkey	**1985**	-	-	-	10.0	10.0	10.0	15.0	15.0	15.0	17.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	1.0/8.0	-
United Kingdom	**1973**	8.0	15.0	15.0	15.0	15.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	15.0	17.5	0.0/5.0	-
Unweighted Average		16.0	16.9	17.9	17.3	16.7	16.5	17.6	17.8	17.9	17.8	17.9	17.8	17.7	17.8	17.7	17.6	18.0		

Source: OECD from national delegates, January 2010.

a. In order to summarize these data, all years are not included.

b. A number of countries apply a domestic zero-rate (or an exemption with right to deduct input tax) on certain goods and services. This is shown as 0.0% in this table. This does not include zero-rated exports.

c. A standard rate of 19% applies in Jungholz and Mittelberg.

d. The provinces of Newfoundland and Labrador, New Brunswick, and Nova Scotia have harmonized their provincial sales taxes with the federal Goods and Services Tax and levy a rate of GST/HST of 13,0% . The provinces of Ontario and British Columbia have proposed to harmonize their provincial sales taxes with the federal Goods and Services Tax effective July 1, 2010, the proposed rates of GST/HST for the provinces is 13.0% and 12.0%, respectively. Other Canadian provinces, with the exception of Alberta, apply a provincial tax to certain goods and services. These provincial taxes apply in addition to GST.

e. In June 1988, the VAT rate was decreased from 20.0% to 16.0%; In July 1990, the VAT rate was increased from 16.0% to 18.0%; In October 2003, the VAT rate was increased from 18.0% to 19.0%.

f. Rates of 0.9%; 2.1%; 8.0%; 13.0% apply in Corsica; rates of 1.05%; 1.75%; 2.1%; 8.5% apply to overseas departments (DOM). There is no VAT in French Guyana.

g. Rates of 3.0%; 6.0%; 13.0% apply in the regions Lesbos, Chios, Samos, Dodecanese, Cyclades, Thassos, Northern Sporades, Samothrace, and Skiros.

h. A VAT rate of 10.0% applies in the border regions (the border zone is usually up to 20 kilometers south of the U.S.- Mexico border).

i. The standard VAT rate in the Islands of Azores and Madeira is 14.0%; reduced VAT rates in these areas are 4.0% and 8.0%.

j. Rates of 2.0%; 5.0%; 9.0%; 13.0% apply in the Canary Islands. The standard VAT rate will be increased from 16.0% to 18.0% and the reduced rate from 7.0% to 8.0% on 1st July 2010.

Table C-3. Annual Turnover Concessions for VAT/GST Registration and Collection 2010

| | Registration/Collection Thresholds[a] | | | | | | | |
| | General Threshold | | Reduced Threshold for Suppliers of Services Only | | Special Threshold for Non-Profit and Charitable Sector | | Registration/ Collection Allowed Prior to Exceeding Threshold[b] | Minimum Registration Period[c] |
Country	National Currency	USD	National Currency	USD	National Currency	USD		
Australia	AUD	75,000	51,197			150,000	102,393	Yes	1 year
Austria[d]	EUR	30,000	33,783					Yes	5 years
Belgium[d]	EUR	5,580	6,119					Yes	None
Canada	CAD	30,000	25,172			50,000	41,953	Yes	1 year
Chile	CLP	none							
Czech Republic[e]	CZR	1,000,000	68,389					Yes	1 year
Denmark[f]	DKK	50,000	5,923					Yes	None
Finland	EUR	8,500	8,803					Yes	None
France[g]	EUR	80,000	87,265	32,000	34,906			Yes	2 years
Germany	EUR	17,500	20,473					Yes	5 years
Greece	EUR	10,000	13,519	5,000	6,760			Yes	5 years
Hungary	HUF	5,000,000	36,914					Yes	2 years
Iceland	ISK	500,000	3,733					Yes	2 years
Ireland	EUR	75,000	80,071	37,500	40,036			Yes	None
Italy[h]	EUR	30,000	35,302					Yes	None
Japan[i]	JPY	10,000,000	86,969					Yes	2 years
Korea	KRW	none							
Luxembourg	EUR	10,000	10,800					Yes	5 years
Mexico	MXN	none							

Country	General Threshold			Reduced Threshold for Suppliers of Services Only		Special Threshold for Non-Profit and Charitable Sector		Registration/ Collection Allowed Prior to Exceeding Threshold[b]	Minimum Registration Period[c]
	National Currency		USD	National Currency	USD	National Currency	USD		
Netherlands[j]	EUR	1,345	1,548					No	None
New Zealand	NZD	60,000	37,891					Yes	None
Norway	NOK	50,000	5,755			140,000	16,114	Yes	2 years
Poland	PLN	100,000	50,702					Yes	1 year
Portugal[k]	EUR	10,000	14,962					Yes	None
Slovak Republic	EUR	49,790	90,311					Yes	1 year
Spain	EUR	none							
Sweden	SEK	none							
Switzerland	CHF	100,000	61,450			150,000	92,175	Yes	1 year
Turkey	TRY	none							
United Kingdom	GBP	68,000	102,808					Yes	None

The title row above the table reads: **Registration/Collection Thresholds[a]**

Source: OECD, data from national delegates, January 1, 2010.

a. Registration/collection thresholds identified in this chart are general concessions that relieve suppliers from the requirement to register and/or to collect for VAT/GST until such time as they exceed the threshold. Except where specifically identified, registration thresholds also relieve suppliers from the requirement to charge and collect VAT/GST on supplies made within a particular jurisdiction. Relief from registration and collection may be available to specific industries or types of traders (for example non resident suppliers) under more detailed rules, or a specific industry or type of trader may be subject to more stringent registration and collection requirements.

b. "Yes" means a supplier is allowed to voluntarily register and collect VAT/GST where their total annual turnover is less than the registration threshold.

c. Minimum registration/collection periods apply to general concessions. Specific industries, types of traders, or vendors that voluntarily register/collect may be subject to different requirements.

d. In these countries, a collection threshold applies. All taxpayers are required to register for VAT/GST, but will not be required to charge and collect VAT/GST until they exceed the collection threshold.

e. The registration threshold does not apply to fixed establishments in the Czech Republic of non-resident businesses.

f.   A higher threshold of DKK 170 000 (EUR 22 840) applies to the blind, and a threshold of DKK 300 000 (EUR 40 300) applies to the first sale of works of art by their creator or his successors in title. For the purposes of the latter exemption, the threshold of DKK 300 000 must not have been exceeded in the current or preceding year."

g.   Specific thresholds apply for certain activities. EUR 41 700 for lawyers, writers and artists; EUR 32 000 for providers of services other than hotel accommodations and restaurants.

h.   "Self-employed that have an income lower than EUR 30,000 can choose the Lower Taxpayer Regime (regime dei contribuenti minimi). It involves IRAP (Regional tax on productive activities), VAT exemption and a 20% tax rate in place of the ordinary PIT."

i.   Businesses (companies and individuals) are not required to register and account for Consumption Tax (VAT) during the first two years of establishment (except for companies whose capital is of JPY 10 000 000 or more. In this case they should be registered for Consumption Tax from the beginning). After this two year period, whether businesses should be registered as a taxable person is determined every year based on their annual taxable turnover for the accounting period/tax year two years before the current accounting period/tax year. If that turnover has exceeded JPY 10 000 000, the business should be registered. Businesses can opt for a voluntary registration for Consumption Tax, even if their turnover is below the threshold. In that case, the businesses have to remain registered for two years.

j.   The amount of EUR 1 345 is based on the special scheme for small businesses. It is not a threshold based on turnover but on net annual VAT due. If the net annual VAT due (VAT on outputs minus VAT on inputs) is EUR 1 345 or less, the taxpayer gets a full VAT rebate and no VAT is due to the Tax Authorities. In this case, the taxpayer has no obligation to file VAT returns. However, businesses under the small business scheme must still register as VAT taxpayers. In that sense, there is no threshold for registration for VAT purposes. If the net annual VAT due is more than EUR 1 345 but less than EUR 1 883, the taxpayer gets a partial VAT rebate. In this case, the taxpayer must file a VAT return.

k.   The collection threshold does not apply to commercial legal entities; for small retailers that fulfill some specific conditions the collection threshold is EUR 12 500.

Appendix D. VAT Rates by Country

Table D-1. Standard VAT Rates by Country

(Tax-exclusive rate in percentage for 2009)

Country	Year VAT Introduced	Standard Rate (Goods/Services 2009)
Albania	1996	20%
Algeria	1992	17
Antigua and Barbuda	2007	15
Argentina	1975	21
Armenia	1992	20
Australia	2000	10
Austria	1973	20
Azerbaijan	1992	18
Bangladesh	1991	15
Barbados	1997	15
Belarus	1992	18
Belgium	1971	21
Benin	1991	18
Bolivia	1973	13
Bosnia and Herzegovina	2006	17
Botswana	2002	10
Brazil	1967	19
Bulgaria	1994	20
Burkina Faso	1993	18
Cambodia	1999	10
Cameroon	1999	19.25
Canada	1991	5
Cape Verde	2004	15
Central African Republic	2001	19
Chad	2000	18
Chile	1975	19
China	1994	17
Colombia	1975	16
Congo	1997	18
Cook Islands	1997	10
Costa Rica	1975	13
Cote d'Ivoire	1960	18

Country	Year VAT Introduced	Standard Rate (Goods/Services 2009)
Croatia	1998	22
Cyprus	1992	15
Czech Republic	1993	19
Denmark	1967	25
Djibouti	2009	7
Dominica	2006	15
Dominican Republic	1983	16
Ecuador	1970	12
Egypt	1991	10
El Salvador	1992	13
Equatorial Guinea	2004	15
Estonia	1992	18
Ethiopia	2003	15
Fiji	1992	12.50
Finland	1994	22
France	1968	19.60
French Polynesia	1998	16/10
Gabon	1995	18
Georgia	1992	18
Germany	1968	19
Ghana	1998	12.50
Greece	1987	19
Grenada	2010	10
Guatemala	1983	12
Guinea	1996	18
Guinea-Bissau	2001	15
Guyana	2007	16
Haiti	1982	10
Honduras	1976	12
Hungary	1988	20
Iceland	1990	24.50
India	2005	12.50
Indonesia	1985	10
Ireland	1972	21.50
Israel	1976	15.50
Italy	1973	20

Country	Year VAT Introduced	Standard Rate (Goods/Services 2009)
Jamaica	1991	16.50
Japan	1989	5
Kazakhstan	1992	12
Kenya	1990	16
Kosovo	2001	15
Kyrgyzstan	1992	12
Laos	2009	10
Latvia	1992	21
Lebanon	2002	10
Lesotho	2003	14
Liberia	2009	7
Lithuania	1992	19
Luxembourg	1970	15
Macedonia	2000	18
Madagascar	1994	20
Malawi	1989	16.50
Mali	1991	18
Malta	1995	18
Mauritania	1995	14
Mauritius	1998	15
Mexico	1980	15
Moldova	1992	20
Mongolia	1998	10
Montenegro	2003	17
Morocco	1986	20
Mozambique	1999	17
Namibia	2000	15
Nepal	1997	13
Netherlands	1969	19
New Zealand	1986	12.50
Nicaragua	1975	15
Niger	1986	18
Nigeria	1994	5
Norway	1970	25
Pakistan	1990	16
Panama	1977	5

Country	Year VAT Introduced	Standard Rate (Goods/Services 2009)
Papua New Guinea	1999	10
Paraguay	1993	10
Peru	1973	19
Philippines	1988	12
Poland	1993	22
Portugal	1986	20
Romania	1993	19
Russia	1992	18
Rwanda	2001	18
Senegal	1980	18
Serbia	2005	18
Singapore	1994	7
Slovak Republic	1993	19
Slovenia	1999	20
South Africa	1991	14
South Korea	1977	10
Spain	1986	16
Sri Lanka	1998	12
Sudan	2000	15
Suriname	1999	10/8%
Sweden	1969	25
Switzerland	1995	7.60
Tajikistan	1992	20
Tanzania	1998	20
Thailand	1992	7
Togo	1995	18
Tonga	2005	15
Trinidad and Tobago	1990	15
Tunisia	1988	18
Turkey	1985	18
Turkmenistan	1992	15
Uganda	1996	18
Ukraine	1992	20
United Kingdom	1973	15
Uruguay	1968	22
Uzbekistan	1992	20

Country	Year VAT Introduced	Standard Rate (Goods/Services 2009)
Vanuatu	1998	13
Venezuela	1993	9
Vietnam	1999	10
Zambia	1995	16
Zimbabwe	2004	15

Source: Leah Durner, Bobby Bui, and Jon Sedon, "Why VAT Around the Globe?," *Tax Notes*, November 23, 2009, pp. 5-7. The authors compiled data for this table from a variety of sources.

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