

An hourglass graphic with a globe inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is centered in the narrow neck of the hourglass. The top bulb is filled with a dark blue color, and the bottom bulb is filled with a light blue color. The globe is centered in the narrow neck of the hourglass.

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*A Value-Added Tax Contrasted With a National Sales Tax*

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**Abstract.** By executive order, President Bush established the President's Advisory Panel on Federal Tax Reform. In November 2005, this panel issued its final report that included analyses of both a national sales tax (NST) and a value-added tax (VAT). In Congress, both a value-added tax and a national sales tax have been proposed by Members in the tax-reform debate as replacement taxes for part or all of the nation's current income tax system. In addition, there is congressional interest in using a consumption tax to finance national health care. Both the VAT and the NST are taxes on the consumption of goods and services and are conceptually similar. Yet, these taxes also have significant differences. This report discusses some of the potential policy implications associated with these differences.

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# CRS Report for Congress

## A Value-Added Tax Contrasted With a National Sales Tax

Updated February 1, 2008

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Prepared for Members and  
Committees of Congress

# A Value-Added Tax Contrasted With a National Sales Tax

## Summary

Both a value-added tax (VAT) and a national sales tax (NST) have been proposed by participants in the tax-reform debate as replacement taxes for all or part of the nation's current income tax system. In addition, there is congressional interest in using a consumption tax to finance national health care.

A firm's value added for a product is the increase in the value of that product caused by the application of the firm's factors of production. A VAT on a product would be levied at all stages of production of that product. VATs differ in their tax treatment of purchases of capital (plant and equipment). The type of VAT used by developed countries — termed a consumption VAT — treats a firm's purchases of plant and equipment the same as any other purchase. A firm's net VAT liability is usually calculated by using the credit method. According to this method, a firm determines its gross tax liability by multiplying its sales by the VAT rate. Then the firm computes its net VAT liability by subtracting VAT paid on purchases from other firms from the firm's gross VAT liability.

In contrast to a VAT, a NST would be a federal consumption tax collected only at the retail level by vendors. A NST would equal a set percentage of the retail price of taxable goods and services. Retail vendors would collect the NST and remit tax revenue to the federal government. Both a VAT and a NST are frequently assumed to be ultimately paid by consumers. For calendar year 2005, it is estimated a broad-based VAT or NST would have raised net revenue of approximately \$50 billion for each 1% levied.

The operating differences between a consumption VAT and a NST have important policy implications. On the one hand, the administrative cost of a VAT would exceed that of a NST because a VAT would require more information to be reported and audited. Also, an opportunity exists for a NST to be collected jointly with state sales taxes, but a federal VAT offers no readily available joint collection possibilities. A VAT would require more time to implement than a NST because a VAT is more complicated, covers more firms, and is a new tax method. On the other hand, a consumption VAT with the credit method more easily excludes inputs from double taxation than does a NST. A consumption VAT would be easier to enforce than a NST. It is in the self-interest of a firm to have accurate purchase invoices so that it can obtain full credit for prior VAT paid. Tax authorities can double check the accuracy of the VAT remitted by any firm because data are collected from producers at all levels of production. For a given year, a VAT could have a broader base than a NST because a VAT is easier to enforce. A VAT may be less visible to consumers than a NST. A VAT is levied at all stages of production, and policymakers have the option of not requiring the amount of VAT to be shown on retail sales receipts. As of February 1, 2008, the following bills concerning a NST or VAT have been introduced: H.R. 25, S. 1025, H.R. 1040, S. 1040, H.R. 4159, S. 1081, H.R. 15, and H.R. 2600.

This report will be updated as issues develop or new legislation is introduced.

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# A Value-Added Tax Contrasted With a National Sales Tax

## Introduction

In Congress, both a value-added tax and a national sales tax have been proposed by Members in the tax-reform debate as replacement taxes for part or all of the nation's current income tax system.<sup>1</sup> In addition, there is congressional interest in using a consumption tax to finance national health care.<sup>2</sup> Both the VAT and the NST are taxes on the consumption of goods and services and are conceptually similar.<sup>3</sup> Yet, these taxes also have significant differences. This report discusses some of the potential policy implications associated with these differences.<sup>4</sup>

## Concept of a Value-Added Tax

The value added of a firm is the difference between a firm's sales and a firm's purchases from all other firms.<sup>5</sup> In other words, a firm's value added is simply the amount of value that a firm contributes to a good or service by applying its factors of production (land, labor, capital, and entrepreneurial ability). A value-added tax is a tax, levied at each stage of production, on a firm's net value added.

## Types of VATs

There are three types of VATs; they differ in their tax treatment of purchases of capital inputs (plant and equipment). The consumption-type VAT treats capital

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<sup>1</sup> For an overview of proposals for tax reform, see CRS Report RL34343, *Tax Reform: An Overview of Proposals in the 110<sup>th</sup> Congress*, by James M. Bickley.

<sup>2</sup> Furthermore, on Dec. 20, 2007, the U.S. Treasury issued a report titled *Approaches to Improve the Competitiveness of the U.S. Business Tax System for the 21<sup>st</sup> Century*. One broad approach outlined in this report was replacing business income taxes with a business activities tax (BAT), a subtraction-method VAT.

<sup>3</sup> In Nov. 2005, The President's Advisory Panel on Federal Tax Reform [established by President Bush] issued its final report that included analyses of both a NST and a VAT. This report is available at [<http://www.taxreformpanel.gov/final-report/>] visited Feb. 1, 2008.

<sup>4</sup> A classic article on this topic is: Sijbren Cnossen, "VAT and RST: A Comparison," *The Canadian Tax Journal*, v. 35, no. 3, May/June 1987, pp. 559-615.

<sup>5</sup> For a comprehensive analysis of the concept of a U.S. value-added tax, see CRS Report RL33619, *Value-Added Tax: A New U.S. Revenue Source?*, by James M. Bickley.

purchases the same way as the purchase of any other input (the equivalent to “expensing” under an income tax). The other two types of VATs are the income VAT and the gross product VAT. Under the income VAT, the VAT paid on the purchases of capital inputs is amortized (credited against the firm’s VAT liability) over the expected lives of the capital inputs. Under the gross product VAT, no deduction for the VAT on purchases of capital inputs is allowed against the firm’s VAT liability. The consumption VAT is the only type of VAT that is used in developed nations and has been proposed for the United States; consequently, the consumption VAT is contrasted with the NST in this report.

## Methods of Calculating VAT

There are three alternative methods of calculating VAT: the credit method, the subtraction method, and the addition method.<sup>6</sup> Under the *credit-invoice method*, a firm would be required to show VAT separately on all sales invoices.<sup>7</sup> 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. The credit-invoice method is calculated on a transactions basis.

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.

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 economists is that the credit-invoice method is superior. 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.

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<sup>6</sup> For a comprehensive explanation and analysis of methods to calculate VAT, see *Value-Added Tax: Methods of Calculation*, by James M. Bickley, a CRS general distribution memorandum available from the author.

<sup>7</sup> An exception is the final retail stage where policymakers have the option of including or excluding the VAT from the retail sales slip.

Also, the credit-invoice method is probably the only feasible method if there are to be multiple tax rates.

## A National Sales Tax

A national sales tax (NST) would be a federal consumption tax collected only at the retail level by vendors. The NST would equal a set percentage of the retail price of taxable goods and services. Retail vendors would collect the NST and remit tax revenue to the federal government. A buyer of intermediate products (that is, inputs used to produce goods and services) would register and receive an exemption certificate. This buyer would present the exemption certificate to the seller and thus would be exempt from paying the retail sales tax.

The retail price of a good or service equals the sum of value added at all stages of production. Consequently, a value-added tax and a national sales tax with the same tax rate and tax base would yield the same amount of revenue. The operating assumption of policymakers and economists is that both taxes are fully shifted forward onto consumers; that is, the price to the consumer increases by the (full) amount of the tax. William G. Gale of Brookings and C. Eugene Steuerle of the Urban Institute estimate that each percentage point of a VAT could generate revenue equivalent to 0.4% of gross domestic product.<sup>8</sup> For calendar year 2005, U.S. gross domestic product was \$12.5 trillion.<sup>9</sup> Thus, for 2005, according to the Gale/Steuerle estimate, a U.S. VAT of 5% would have generated \$250 billion in revenue.

## Policy Implications

The operating differences between a VAT and a NST have many important policy implications in eight areas: administrative cost, joint tax collections, avoiding double taxation of intermediate goods and services, enforcement, broadness of tax base, time required to implement, visibility, and experiences of other nations.

### Administrative Costs

Under a VAT, all firms would have to report tax information and collect taxes. Under a NST, firms without retail sales would not report or collect taxes. But the substantial majority of all firms would collect the NST since they have some retail sales. Under a VAT with a credit method of collection, each firm must keep invoices on all sales and purchases from other firms, and these invoices would be subject to audit by tax authorities. Hence, the value-added tax would require more information

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<sup>8</sup> William G. Gale and C. Eugene Steuerle, "Tax Policy Solutions," p. 113. Available at [<http://www.brook.edu/ES/research/projects/budget/fiscalsanity/2005chapter5.pdf>] visited Feb. 1, 2008.

<sup>9</sup> Bureau of Economic Analysis, U.S. Department of Commerce, [<http://www.bea.gov/bea/dn/dpga.txt>] visited Feb. 1, 2008.

to be reported and audited than a national sales tax, and, consequently, a VAT would likely be more expensive to administer than a NST.<sup>10</sup>

## Joint Tax Collection

Since 45 states and the District of Columbia have general sales taxes, an opportunity exists for a NST to be collected jointly with state sales taxes.<sup>11</sup> A federal VAT could not be jointly collected with state sales taxes. States could convert their sales taxes to a VAT with the federal tax base, but this is unlikely since it would require that the states establish entirely new tax systems. Consequently, no administrative costs saving would be expected from a VAT; therefore, the collection costs of a VAT can be expected to be higher than a NST.

## Avoiding Double Taxation of Intermediate Goods and Services

Double taxation occurs if an input is taxed at the time of purchase and then a tax is levied on the same input again when it becomes part of the output of the firm. A consumption VAT, with the credit method of tax computation, easily excludes inputs from taxation. The exclusion of inputs from a NST would be more difficult. Usually, firms buying inputs would have to provide sellers with exemption certificates before making their purchases. At the state level, procedures to exempt input purchases from state retail sales taxes have worked imperfectly. It is therefore reasonable to expect that excluding inputs from taxation would be more difficult with a NST than with a VAT.

## Enforcement

With a VAT, a firm would have a financial interest in ensuring that amounts of VAT paid on input purchases are accurately reported on its purchase invoices since the firm could receive credits against its VAT liability. In addition, the VAT would provide the tax authorities with an opportunity to cross-check the amount of VAT collected because data are gathered from producers at different stages of production. Nonetheless, some enforcement problems do exist with a VAT. For example, firms at different stages of production could collude to falsify invoices. But the NST lacks both the self-enforcing procedure and the cross-checking opportunity of the VAT. Hence, better compliance is expected from a VAT than with a NST.<sup>12</sup>

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<sup>10</sup> For an examination of the administrative costs of a VAT, see Sijbren Cnossen, "Administrative and Compliance Costs of the VAT: A Review of the Evidence," *Tax Notes*, vol. 62, no. 12, June 20, 1994, pp. 1,609-1,626.

<sup>11</sup> For a list of states with retail sales taxes and corresponding revenue yields, see Tax Foundation, "State General Sales Tax Collections by State, Fiscal Year 2006," available at [<http://www.taxfoundation.org/publications/show/286.html>] visited Feb. 1, 2008.

<sup>12</sup> Cnossen, *VAT and RST: A Comparison*, pp. 609-611.



## Breadth of Tax Base

Because of the potential for better enforcement of a VAT, it may be possible to levy a VAT on more goods and services than a NST.<sup>13</sup> This view is supported by the fact that VATs of European nations, on the average, are levied on more goods and services than most state sales taxes in the United States.<sup>14</sup> For a given revenue yield, tax economists prefer a broad tax base because the tax rate, needed to raise a given amount of revenue, is lower. Lower tax rates reduce economic distortions and thus raise economic efficiency. Thus, if a VAT has a broader base than a NST, then it would be more efficient because a lower tax rate would be needed to raise a given amount of revenue.

## Time Required to Implement

A VAT would take more time to implement than a NST because a VAT is more complicated and would cover more firms than a NST. Also, business executives are not familiar with this form of taxation, hence, the U.S. government would face the need to conduct an educational campaign.

## Visibility

The value-added tax may be less visible to consumers than a national sales tax. Policymakers and economists assume that 100% of both the VAT and the NST are passed onto consumers. But the perceptions of many consumers may be different about a VAT. Many consumers may believe that a VAT tax would at least partially fall on firms because the VAT is collected at each stage of production. Since the NST is levied only at the retail level, consumers may more readily believe that they would pay the entire tax. Furthermore, policymakers have the option as to whether the amount of a VAT should be stated on retail sales receipts.<sup>15</sup> New Zealand gives each retailer the option of whether or not to explicitly state the amount of VAT on its retail sales receipts.<sup>16</sup> The amount of a NST would be explicitly stated on sales receipts.

The lower visibility of the VAT relative to the NST may be either desirable or undesirable depending on one's political ideology. It can be argued that taxes should be visible so that the costs of taxation may be compared with the benefits of government spending. Conversely, it can be argued that people generally do not like the idea of paying taxes; consequently, in this view, to finance public sector responsibilities, it is better to have taxes seem as painless as possible.

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<sup>13</sup> For an analysis of the tax base for a value-added tax, see CRS Report RS22720, *Taxable Base of the Value-Added Tax*, by Maxim Shvedov.

<sup>14</sup> Cnossen, *VAT and RST: A Comparison*, pp. 593-595.

<sup>15</sup> Alan A. Tait, *Value-Added Tax: International Practice and Problems* (Washington: International Monetary Fund, 1988), p. 357.

<sup>16</sup> *Ibid.*

## Experiences of Other Nations

Currently, all developed nations except the United States have a VAT at the national level. A VAT is a requirement for membership in the European Union (EU).<sup>17</sup> Sweden, Norway, Iceland, and Switzerland had retail sales taxes at the national level but eventually switched to a VAT.<sup>18</sup> According to the Organization for Economic Co-Operation and Development (OECD)<sup>19</sup>

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.<sup>20</sup>

Policy insights can be obtained by examining the experiences of other nations, however, just because other nations exhibit a specific tax policy does not necessarily mean that it is appropriate for the United States to adopt this policy.

## Legislation in the 110<sup>th</sup> Congress

As of February 1, 2008, eight bills have been introduced in the 110<sup>th</sup> Congress concerning the value-added tax or the retail sales tax.<sup>21</sup> Representative John Linder's proposal (H.R. 25) and Senator Saxby Chambliss's proposal (S. 1025) would replace our current income-based tax system and estate/gift taxes with a national retail sales tax. Representative Michael Burgess's proposal (H.R. 1040) would allow taxpayers to select a flat tax, a modified VAT based on the concepts of Robert E. Hall and Alvin Rabushka, as an alternative to the current income tax system.<sup>22</sup> Senator Richard C. Shelby's proposal (S. 1040) and Senator Arlen Specter's proposal (S. 1081) would replace individual and corporate income taxes and estate and gift taxes with a flat tax based on the Hall-Rabushka concept. Representative Phil English's

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<sup>17</sup> Cnossen, *VAT and RST: A Comparison*, p. 583.

<sup>18</sup> Cnossen, *VAT and RST: A Comparison*, p. 585 and OECD, *Consumption Tax Trends* (OECD, March 2005), p. 11.

<sup>19</sup> The OECD is an international organization dedicated to promoting international trade, economic growth, and economic stability. The OECD consists of 22 European nations, Turkey, the United States, Canada, Mexico, Australia, New Zealand, South Korea, and Japan.

<sup>20</sup> OECD, *International VAT/GST Guidelines* (OECD, Feb. 2006), p. 1. Available at [http://www.oecd.org] visited Feb. 1, 2008.

<sup>21</sup> For the most current information about pending legislation including copies of bills, please consult the Legislative Information System (LIS) at [http://www.congress.gov].

<sup>22</sup> For an analysis of the Hall-Rabushka concept, see CRS Report 98-529, *Flat Tax: An Overview of the Hall-Rabushka Proposal*, by James M. Bickley.

proposal (H.R. 4159) would replace the corporate income tax with a cash-flow business tax (a subtraction-method VAT) and the individual income tax with a tax on consumed-income.

In addition, in the 110<sup>th</sup> Congress, Representative John Dingell introduced H.R. 15, which would levy a VAT to finance national health insurance. Also, Representative Bill Pascrell Jr. introduced H.R. 2600, Border Tax Equity Act of 2007, which would “authorize the imposition of a tax on imports from any country that employees indirect taxes [particularly value-added taxes] and grants rebates of the same upon export and to authorize compensatory payments to eligible United States exporters.”