VALUE ADDED TAX: CHARACTERISTICS, MODE OF COMPUTATION, MERITS AND WEAKNESSES

5.1 Characteristics[12]

The value added tax or VAT, as it has come to be known, is a method of taxing, by instalments or in stages, final consumer spending in the economy. The method consists of levying a tax on value added to a product or service at each stage of the production and distribution process. For this purpose "Value added" is taken simply as the difference between a business's sales and purchases. Thus, if a firm buys inputs and equipment worth Rs 100 and sells the product or service it produces for Rs 150, its value added is Rs 50.[13] As will be seen presently, the sum of revenues collected from a tax on value added at different stages of production and trade is equivalent to a tax on the aggregate of value added, that is, the price of the product in question at the final or retail point of sale.

To put it differently, the VAT is a multi-stage tax like the turnover tax but with the basic difference that it is levied on the *value added* at each stage and not on the *gross turnover* of the dealer. This difference is crucial in that it ensures that each input going into a final consumer output is taxed *once* and *only once* and not cumulatively as under a cascading turnover tax. Although under a VAT, the tax is realised from producers and sellers of capital goods as well, the base turns out to be only the final consumption, if business firms are allowed to recover the tax paid on capital goods in the same manner as on other business inputs. This is the form in which the tax is levied in most countries. When the base is comprehensive and includes all final goods and services consumed, in the aggregate it is equivalent to the total consumer spending in the economy. This is what is called the consumption type VAT. Commonly, the base of the consumption type VAT comprises all domestically produced goods and services *minus* government services and exports, *plus* imports.[14] An alternative form of VAT is the "income type". Yet another form, rarely used, is the "gross product type".

In the income type, VAT is initially levied on both consumption and capital goods, but the tax on capital goods is then refunded/credited over the economic life of the goods, in accordance with a depreciation schedule similar to the one used for income tax purposes. It is called income type because its base is equivalent to the total income generated during a given period. When no deduction is allowed for purchase or depreciation of capital goods, the base becomes even broader and the tax is called gross product VAT.

5.2 Mode of Computation : Tax Credit vs. Subtraction Method

There are two primary ways of computing a value added tax - the invoice or tax-credit method and the subtraction method. It is also possible to compute the value added at each stage by adding up the factor rewards, viz., wages, interest, depreciation and net profits.

Under the tax-credit or invoice method, the tax is calculated separately for each purchase or sale, included in the sale price at each stage of the production and distribution and shown separately on all invoices (except

12. Description of the characteristics of VAT presented here draws upon, *inter alia*, National Economic Development Office, U.K. (1971), Shoup (1990) and United States General Accounting Office (1989). A lucid account of the basic features of VAT is also given in the Report of the Indirect Taxation Enquiry Committee, Part II (Government of India, Ministry of Finance, 1978).

13. Where the tax is sought to be levied on income, deduction for purchase of equipment is allowed only by way of depreciation, as explained later.

14. In practice, some other domestically produced goods and services are exempted for administrative and other reasons.

in the case of retail sales to final consumers). In determining the tax payable for a given tax period, say a month or quarter, the dealer has only to deduct the total amount of VAT paid from the tax charged by him on his sales. The difference represents the VAT payable to the government for the period.

Under the subtraction method, the tax for a given accounting period is calculated by multiplying the total value of sales minus the total value of purchases by the tax rate. How the two methods operate is demonstrated in the examples given in Table 5.1 below.

It will be seen that, under a VAT, the tax borne on the product works out exactly to what is indicated by the rate of tax applied to the final sale price even though it is collected at various stages. This does not happen under a cascade-type turnover tax or a single-stage first point tax. Also, with a uniform rate of tax, the same result can be achieved using either method. However, there are important differences between the two in advantages and disadvantages.

The subtraction method (also described as accounts method) has the merit of simplicity. Under this, a dealer can calculate the value added tax payable for a given period from the books of accounts normally maintained by him and no additional records are needed. However, the system loses its transparency under this method unless the tax rate is uniform for all commodities. With multiple rates the effective incidence of tax on the final product may not correspond to the tax levied at the last stage. Suppose, in the example, the tax on the wholesalers and retailers was levied at say 5 per cent while that on the producers was 10 per cent, the total tax on the commodity would then come to 25, that is, about 8.3 per cent of the total cost (value added). The tax-credit or invoice method, on the other hand, allows much more flexibility in the design and allows for exemptions and/or variations in rates to accommodate distributional considerations and also to leave out very small dealers, though at the cost of simplicity.

Tax credit is also more helpful in relieving the burden of taxes totally when felt necessary, e.g., on goods exported internationally. The method adopted for this purpose is called zero-rating. It is possible to provide relief for a given product or sector (e.g., small scale producers or farmers) also by granting exemption, that is, refraining from charging any tax on the products or the sales of the sectors in question. The exemption method, however, results in only a partial relief equal to the tax rate times the value added by the vendor: what is forgone is the net tax that the vendor would have to remit, had he been taxable. The zero-rating method results in complete removal of all taxes whether collected at previous stages of production and distribution or otherwise payable by the vendor at the point of sale. It is this mechanism that facilitates providing complete relief for exports from domestic consumption taxes under the destination principle of VAT (see Section 6.1.2). While the exemption route can be used under both the methods of VAT computation, zero-rating is much simpler with the tax-credit method.

Primarily because of its flexibility, most countries in the world have gone in for the invoice method of VAT. Only Japan preferred to follow the subtraction method when it introduced VAT at a 3 per cent rate in 1989.

The tax base for VAT can be computed also by totalling up the payments to factors of production, including wages, interest and profits, during the tax period. The so-called addition method, however, cannot be used for levying a destination-basis consumption type VAT because of difficulties mentioned above in identifying factor payments for exports and imports, and consumption and capital goods. Besides, it entails all the complexities that arise in the computation of profits for income tax purposes. Thus, the effective options are: either the subtraction or the tax credit method.

5.3 Attributes of VAT

5.3.1 Merits

A striking feature of the change in the tax systems that has occurred in the world in the last four decades is the emergence of VAT as the principal instrument for taxing domestic consumption, sweeping away the cobweb of

Table 5.1

Methods of Calculating a Value Added Tax

	Primary producer (say, steel manufacturer)	Car maker	Wholesale dealer	Retailer	Total
A. Subtraction Method					
Sales	100	200	250	300	
Purchases	0	100	200	250	
Net receipts (value added)	100	100	50	50	
VAT @ 10%	10	10	5	5	30
B. Tax-Credit or Invoice Method					
VAT due on sales	10	20	25	30	
Less: VAT paid on purchases	0	10	20	25	
VAT @ 10%	10	10	5	5	30

taxes on production and trade. VAT is now operating in over sixty countries including many developing countries. In the EU adoption of VAT is compulsory for its membership. The attributes which impel countries to turn to VAT as the best among the instruments of taxing consumption and made it into the "quintessential" tax of this century primarily are: its neutrality, transparency, certainty and self-policing mechanism.

5.3.2 Neutrality[15]

The greatest virtue of VAT lies in its neutrality, that is, non-interference with the choices of decisions of economic agents and equal treatment of products, producers and consumers. Because of its anti-cascading effect, the number of times a product is traded before reaching the final consumer or how much of the value is added at what stage in the production-distribution process are of no consequence under a VAT. It is also neutral regarding choice of production technique as well as business organisation. Other things remaining the same, the tax liability does not vary as between corporate and non-corporate entities, or between integrated or specialised units. With a cascading turnover tax, there is a strong incentive for firms to integrate vertically to the detriment of economies of scale in a given line of production. This is totally absent under a VAT. In short, the

15. The discussion in this and the subsequent subsections draws liberally on Cnossen (1992) and Tait (1991).

allocation of resources is left to be decided by the free play of market forces and competition.

A significant factor in the importance attached to VAT in the EU is its ability to treat intra-community trade as also trade with other countries with complete neutrality that is without any distortion by taxation. This is possible when the VAT is applied according to the destination principle, whereby the tax is levied by the jurisdiction where the product is consumed and not by origin or where it is produced. This was not possible under the cascade-type turnover taxes that operated earlier. A VAT facilitates precise identification and rebate of the tax on exports and thus ensuring that exports bear no tax, while imports are taxed exactly on the same footing as domestic products. A common market cannot function properly without this form of neutrality of the tax system. The principle of border adjustment of taxes (i.e., removing all taxes when goods leave the borders of a given country and subjecting imports to domestic taxes like local products) also accords with the tax provisions of the GATT.

VAT scores over income tax too from the angle of neutrality to incentives to work and save. The disincentive to work is less under VAT because the same amount of revenue can be raised with lower marginal rates for any given average rate, unlike under an income tax that has an element of progression. Also the discrimination against saving inherent in income tax is avoided when the tax is levied only on consumption.

5.3.3 Transparency and certainty

By virtue of the method of computation, the incidence of tax under a VAT can be seen readily from the tax paid on the final point sale. This is not possible when taxes are levied on inputs or intermediate stages of sale without any relief at the subsequent stages. Because of its transparency, under a VAT, it is possible to quantify at any stage precisely the tax borne at the earlier stages. This ensures that exports bear no tax when they leave the border of a country and imports are taxed on equal footing with domestic products.

The transparency is greater when the VAT is levied by the tax-credit invoice method and on a tax exclusive base. Under an ad valorem system of taxation, the same amount of revenue can be raised through a rate of tax in either tax-exclusive or tax-inclusive form. When it is tax-inclusive the rate will obviously be lower than when levied on a tax-exclusive base. (A tax-exclusive rate of 10 per cent is equivalent to a tax-inclusive rate of 9.09 per cent). The tax-exclusive rate is obviously more transparent.

Because it is based simply on transactions and not on a base that calls for complicated definition like income or wealth, the VAT has the merit of certainty and is relatively easy to understand. Also, since it is broad based and applicable to all sales in business, there is little room for differing interpretations. The scope of disputes, tax avoidance and evasion is much less than in, say, taxes on income or wealth.

5.3.4 Self-policing and revenue stability

The invoice method of VAT in particular is believed to be "self-enforcing" in that it induces businesses to demand invoices from their suppliers to obtain credit for the tax paid on their purchases against their total tax liability. This merit is sometimes contested, given the experience of various forms of evasion reported in the EU countries. However, compared to a single-stage tax, the VAT seems to provide better chances of tracking down evasion because of the audit trail it creates. The application of tax at each point of sale means that if the tax is evaded at one stage, the full tax may be realisable at the subsequent point. The tax can be evaded completely only when all firms in a production and distribution chain act in collusion to conceal their sale.

Another attribute of VAT is that it is an exceptionally stable and flexible source of government revenues. In OECD, every 1 percentage point of VAT rate adds roughly 0.4 per cent of GDP in revenue. The stability of VAT as a revenue source stems from the fact that consumption is less volatile than income. Moreover, since it is collected on a

current basis, it provides a flexible instrument of taxation. Revenue varies directly with a change in the rates.

5.3.5 VAT vs. Retail Sales Tax

The consumption type of value added tax scores also over taxes on income in that it is not biased against saving. However, this virtue is shared by the Retail Sales Tax (RST) too and one may legitimately ask, why, if a VAT is in essence identical to RST then would it not be simpler to collect the tax only at the retail stage? VAT offers several advantages not available with RST.

First, services cannot be taxed effectively under RSTs since it is the small firms which mostly cater to the services purchased by consumers in the economy. Failure to tax services creates a bias in favour of services over goods and thereby distorts economic choices of both consumers and producers and accentuate the regressive impact of the tax, the latter arising from the fact that services are consumed more by the rich and demand for services is more income elastic than goods. Also, if services are not to be taxed, arbitrary distinctions have to be drawn between goods and services delivered in combination.

Second, certain commodities can be used both for consumption as well as production (e.g., sugar can be used in making tea as well as sweetmeat). RST cannot easily distinguish between the two. As a result, many producer goods may get taxed. Similarly, an RST cannot easily distinguish taxable consumer services from services to business which should bear no tax. This does not happen in VAT as the seller always charges tax for which credit cannot be claimed by the buyers unless they happen to be registered for VAT.

Since RST cannot easily distinguish between producer and consumer goods, many producer goods (like fuel, computers, etc.) get taxed. Apart from discouraging the use of efficient technology, this encumbers exports as the tax gets into the costs. For the same reason that is the price of domestic products may include some tax on producer goods, apart from the RST, imported goods from which the tax on inputs (goods and services included) is rebated get an advantage over domestic products.

VAT is also a more robust form of consumption tax. While spreading the collection process over large segments of industry and trade, it partly transfers the burden of proof for tax liability to the taxpayers as the onus lies on them to establish their claim to tax credit. It also helps to penalize dishonesty more than RST, as every invoice coming out of the process of production and distribution amounts to a "public declaration" regarding the tax liability.

Administratively, RST carries a greater risk to revenue as it places the entire weight of collection on the weakest link in the chain - the retailers, who are often small and numerous. The weight is greater when the rates are high. Under VAT, retailers remit only a portion of the total tax. As a result, revenue loss that takes place when retailers evade the tax is likely to be less under a VAT. The audit and invoice trail is also weaker than under VAT. In the case of imports, RST leaves out taxation at the easiest point, that is, the customs border.

In any case, if the retail tax option is ruled out for administrative reasons, then the best alternative for taxing consumption is VAT of the invoice operated type described earlier.

5.3.6 Weak points

A persistent criticism of VAT from many economists has been that it tends to be regressive since the proportion of income spent on consumption is larger for the poor than for the rich. This weakness inheres in all forms of consumption tax such as the current sales taxes. The regressivity would, however, appear to be less significant if taxes on consumption are compared with those on income over a lifetime, rather than annually. Besides, it is possible to moderate the distributional impact of VAT in several ways, e.g., by taxing necessities at a lower rate or by granting refund or a tax credit for the VAT paid against income taxes for lower income taxpayers. Experience with taxes which are on paper progressive also shows that

distributional considerations are better accommodated through expenditure programmes of the government, rather than through concessions or exemptions which create complications for administration and compliance with uncertain results. Multiple rates create more problems than they solve while opening up opportunities for abuse. It must be acknowledged that the issue of regressivity is more relevant in less developed countries where social security and income support mechanism for the poor either do not exist or have a limited coverage. When the distributional mechanism is weak, avoiding regressivity in taxation assumes importance and so a single uniform rate may not be acceptable. Even so the need for avoiding multiplicity of rates and redressing regressivity through other means should be kept in mind because of the problems associated with multiple rates.

Another issue that is usually raised in discussions on VAT is the likely impact on prices. VAT, it is often said, is inflationary. There is, however, no intrinsic reason why VAT should have any inflationary impact if it merely replaces an existing equal- yield tax. Relative prices may change but general prices need not. The impact on the overall price index will, no doubt, depend on the weights of the commodities in the basket affected by the price change. A survey of the price effect of introducing VAT in 35 countries suggested that in the majority of the cases (29) it did not alter the rate of inflation.[16]

A major worry about VAT centres around the question of administration and compliance costs. Studies have shown that the costs of administration can increase significantly under a VAT. Accounting costs can go up particularly for smaller firms. These costs have, however, to be weighed against the likely gains. Besides, the burden on small firms can be relieved with a reasonably high exemption limit and simplified structure.

It is sometimes argued that it is collected partly at the pre-retail stages, a VAT entails larger working capital requirement and interest burden of firms than RST. This argument is not tenable since the purchasing firm's claim to a tax credit (and refund) arises simultaneously with the liability of the supplier to account for it. The tax credit on the purchases and the tax liability on the sales become due on the same date, that is, the date of the invoice. There is no need for a taxable firm to bear any carrying charges for inventory accumulation or purchase of capital equipment either, as the tax paid on such items is refunded if the tax on purchases exceed that due on sales. While the position may differ from firm to firm, on the whole the levy of VAT like the RST is likely to bring a cash flow benefit to taxable firms because of the fact that consumers usually pay more in cash than businesses do and payment terms for taxes are often more generous than normal business transactions.

5.3.7 Merits on balance

All in all, VAT has many points in its favour and advantages clearly outweigh the disadvantages. As the EU experience shows, VAT has a special advantage for countries in large economic groupings. It facilitates flow of inter-country or inter-regional trade unhindered by taxes and thereby serves to promote competition and efficiency. EU's decision to make adoption of VAT compulsory for its members was motivated primarily to promote trade and growth of output by removing distortions caused by inter-country trade taxes and thereby providing incentives for competition and increased productivity and industrialization. Latin American countries also have introduced VAT and they too are likely sooner or later to have a harmonized form of VAT in the region.

The need for a harmonized system of commodity taxation is recognised also in federal countries. Brazil and Canada have introduced VAT, and the issues of harmonization of the central and state taxes are under consideration by policy makers. A debate is going on in USA too on the desirability of introducing a federal VAT. It should be noted, however, that the problems of disparate inter-State taxation are much less acute in Canada and USA than in India because of the fact that the sales tax is levied

16. See Tait (1991).

by the provinces/States there mostly at the retail stage on the basis of destination principle. The primary concern in those countries is the cascading that occurs even under the retail sales tax systems.

For countries seeking to reform their tax system and at the same time find ways of raising more revenue VAT provides an attractive instrument. It has helped many countries to move towards a broad-based tax on consumption which can raise large amounts of revenue at relatively low rates, clean up the tax structure by doing away with the cobwebs of multiple levies and introduce a clean, new system with the merit of economic neutrality and a built-in check against evasion. In the Indian context the attraction of VAT lies in the promise it holds for providing a solution to many of the ills of the present system. A move towards VAT is predicated strongly as the only way to cut through the jungle of laws and procedures that govern the system of commodity taxation in the country at present and provide a structure that does not act as a drag on growth.