

**IS THE VALUE ADDED TAX A SUPERIOR SALES TAX
IN ALL SALES TAXES?**

Mustafa Ali SARILI^(*)

ABSTRACT

Value Added Tax (VAT) is a tax imposed on the value added to a product at each stage of the production and distribution process. Value added is never taxed twice under VAT and thus cascading (tax on tax) effects do not occur. It is a single tax on goods and services but the tax is collected multiple stages. At each of these stages, the amount of tax payable is computed by subtracting the tax previously paid on purchases from the tax charged on sales by the traders for each taxation period. In last three decades, VAT, a relatively new and better commodity taxation, has been introduced in many countries. It has replaced different types of sales taxes in such countries. This article attempts to evaluate VAT by comparing with other sales taxes.

1. Introduction

In the period of 1965-1995, most developing and less developed countries relied heavily on reform of general consumption taxes because of these taxes' high revenue buoyancy. Accordingly, Value Added Tax (VAT) has been introduced as a general consumption tax to replace different consumption taxes in such countries. All the European Union (EU) and most of the developed countries also introduced VAT in the same period. The main objective for the introduction in these countries was to increase the efficiency of their tax structures rather than increase their tax revenues. Another objective for the EU countries was to harmonise their tax structures with other members of the EU. However, VAT has been a major source of revenue for the governments in many countries.

The purpose of this study is to evaluate VAT. Section two presents a brief theoretical background of VAT; its definition, history, types, methods of computation, how it works and an explanation of zero rating and exemptions. Section three deals with a general evaluation of VAT. This includes its main characteristics, advantages, disadvantages and also the comparison of VAT with other sales taxes. In section four, the major effects of VAT on the economy will be analysed. Finally, section five presents concluding remarks.

2. Theoretical Background of the VAT

2.1. Definition of VAT

Taxes are generally divided into direct taxes on individuals which can be changed depending on personal circumstances and indirect taxes on the goods and services which cannot be changed depending on individual circumstances. Direct taxes involve taxes on individuals' and businesses'

^(*) Research Assistant, Dokuz Eylul University, Department of Public Finance.

incomes as well as social security taxes, payroll taxes and taxes on property and wealth. Indirect taxes involve taxes on the transactions of goods and services such as general sales taxes (e.g. value added and cascade taxes) as well as selective taxes on specific goods (e.g. excise, import duties and export taxes).

VAT can be defined as a tax levied on the value added to a product at each stage of the production and distribution process. What is value added? It is the addition of value by a business to raw materials (or purchases) and services before selling improved (or new) products or services. In other words, it is the difference between the value of the inputs of a firm and its outputs. VAT is imposed on such additions to value at each stage of the production and distribution process and eventually, it all falls on the final consumers who buy the goods and services.

2.2. History of VAT

A kind of VAT, a turnover tax of the value added type, on businesses was first introduced in France in 1954. However, a comprehensive VAT at the national level was first introduced in Denmark in 1967 (Shoup, 1990: 4). France improved her VAT to cover retailing and services in 1968 and also played a significant role in the development of VAT. VAT gained its global popularity in the world during the period of 1967-1973. Not only all six original members of the EU, France (in 1968), West Germany (in 1968), the Netherlands (in 1969), Luxembourg (in 1970), Belgium (in 1971), Italy (in 1973), had introduced VAT by mid - 1973 but also Sweden (in 1969), Norway (in 1970), Ireland (in 1972), Austria (in 1973) and the United Kingdom (in 1973) had introduced it. Amongst developing countries that have introduced VAT are Turkey (in 1985), Portugal (in 1986), and Greece (in 1987). Switzerland was the last country in Western Europe to introduce VAT in 1995 (Due, 1990). Some less developed countries, such as Madagascar (in 1969), Ecuador (in 1970), Costa Rica (in 1975) and Guatemala (in 1983), have also introduced VAT. At present, about seventy countries have added VAT to their tax systems.

2.3. Types of VAT

There are three broad types of VAT namely; consumption, income and gross product type VAT. These are briefly discussed in the following sections.

2.3.1. The Consumption Type VAT

With the consumption type of VAT, taxes cover the value added to only consumer goods not to capital goods. In other words, taxes on all capital goods purchased for use by the firm can be deducted immediately. This type of VAT not only encourages the use of capital goods but also provides cash-flow benefit

to firms by allowing full deduction of taxes paid on capital goods during the period. This is the most common form of VAT and it is adopted by all the EU members and many other countries as well.

2.3.2. The Income Type VAT

The income type of VAT involves levying the tax on the value added to both the consumer and capital goods after the deduction of capital depreciation value; only the net value added is taxed. Clearly, deduction of taxes on capital goods is allowable only on a depreciation basis instead of when capital goods are purchased. The most important difference of this type from consumption type VAT is that it does not allow full deduction of capital goods purchased from other firms. The income type of VAT is used in some developing countries such as Argentina and Peru (Shoup, 1990: 6).

2.3.3. The Gross Product Type VAT

With the gross product type of VAT, taxes are imposed on the value added to both the consumer and capital goods without deduction at all for capital goods. This type of VAT is equivalent to a general consumption tax levied on all goods at the retail stage, because it allows neither deduction of taxes on the full value of capital goods on purchase nor on a depreciation basis. Therefore, this type of VAT does not encourage employment of capital equipment but may encourage employment of labour in an economy. This type of VAT was used in Finland until 1994 (Taipale, 1994) and also it is still used in Morocco and Senegal but Senegal's tax is limited primarily to manufacturers (Shoup, 1990: 7).

2.4. Methods of Computation of VAT Liability

VAT liability can be computed either by the additive or by the subtractive method.

2.4.1. Additive Method

The additive method is used by building up the component parts of value added which are the payments made by the firm to all factors of production it employs. In this method, the components of value added represent wages, profits, rents and interests. The additive method can be divided into two different methods, direct and indirect. With the additive direct method VAT liability is calculated by adding all together the returns to the labour and capital (including land) employed in the firms to find the value added and applying tax rate on total found amount. It is sometimes referred as *the accounts method*. This method of calculating the VAT is shown in formula (1);

$$T = r (W + P) \quad (1)$$

$$T = r W + r P \quad (2)$$

where

T is firm's net VAT liability,

W is wages return to labour,

P is profits return to capital,

r is the VAT rate.

With the additive indirect method VAT liability is calculated by applying tax rate separately on wages (i.e. the return to labour) and on profits (i.e. the return to capital). This method of calculating the VAT is shown in formula (2). The additive method is not used to calculate VAT liability in any country, but it can be operated successfully where a single rate is used in VAT systems.

2.4.2. Subtractive Method

Alternatively, VAT liability can be computed by subtraction of the value of input (represents purchases from other firms) from that of output (represents sales). With the subtractive method, VAT liability can be calculated in two ways, the direct and indirect. With the subtractive direct method, VAT liability can be computed by subtraction of the value of input from that of output to find net value added and then applying tax rate on the found net total value added. Subtractive direct method is sometimes called *the business transfer tax*. This method of calculating the VAT is shown in formula (3);

$$T = r (O - I) \quad (3)$$

$$T = r O - r I \quad (4)$$

where

T is firm's net VAT liability,

I represents value of purchases from other firms,

O represents value of sales to other firms,

r is the VAT rate.

With the subtractive indirect method VAT liability can be calculated by subtracting the tax previously paid on purchases from the tax charged on sales by the firm for each tax period. In other words, this method requires traders to charge tax on their individual sales (outputs) and pay tax on their individual purchases (inputs) and pay to the tax office the difference between the tax charged and the tax paid for each tax period. The subtractive indirect method is used to calculate just VAT liability rather than value added. It is sometimes referred to as *the credit (or invoice) method* since the credit is allowed for the taxes earlier paid on purchases. This method of calculating the VAT is shown

in formula (4). This method is used in almost all the countries which have adopted VAT. The main advantages of using the subtractive indirect method are its greater possibilities for detecting tax evasion, simplicity both for traders to operate and for tax office to audit, possibilities for using multiple rates and possibilities to calculate tax liability in any tax period (i.e. weekly, monthly, quarterly) (For further discussion see Tait, 1988).

2.5. How VAT Works

Let us assume that a supplier produces a good without any inputs, and a single tax rate of 10 percent is levied at each stage of production and distribution (see Table 1). If the supplier creates the amount of TL100 value added, he will sell this product to the manufacturer for TL 110 (including VAT). After selling, he has to pay TL 10 ($10 - 0 = 10$) as VAT to the tax office. If the manufacturer creates the amount of TL 200 value added on this product, the selling price of the product (including VAT) will be TL 330. In this case, the manufacturer has to pay TL 20 ($30 - 10 = 20$) as VAT to the tax office. Then, if the wholesaler creates the amount of TL 100 value added, the selling price of the product (including VAT) will be TL 440. In this case, the wholesaler has to pay TL 10 ($40 - 30 = 10$) as VAT to the tax office. Thereafter, if the retailer creates the amount of TL 200 value added, the selling price of the product (including VAT) will be TL 660 and also his VAT receipt will be TL 20 ($40 - 20 = 20$). Lastly, the retailer will sell this product for (including VAT) TL 660 to the customer. Consumer will pay TL 600 and TL 60 for the product and VAT respectively. As shown the table, VAT is levied as a single tax on goods and services but the tax is collected multiple stages. Moreover, it can be easily seen from the table that if this product is zero-rated at the retail level, the retailer does not have to charge output tax to his customer and he can recover the tax paid earlier on his inputs. Clearly, the retailer has a tax credit (TL 40) which represents the difference between the zero-rate VAT liability on his sales and the VAT liability on his inputs.

On the other hand, the retailer who sells exempt goods has to pay the tax (TL 40) on his inputs and he cannot get any tax credit. Moreover, it can be seen from the table that the total tax revenue of the exempt good at retailer level is TL 40 but that of zero-rated good at retailer level is nil. In other words, exemptions are more advantageous for the government than zero-rating. Conversely, zero-rating is more advantageous for taxpayers than exemptions. These terms are discussed more extensively in the following sections.

M.Ali Sarılı

2.6. Zero Rating and Exemptions

Almost all countries have some exclusions from tax base in their VAT systems because of administrative reasons and distributive objectives. There are two different kinds of exclusions which are namely; zero-rating and exemptions.

2.6.1. Zero - Rating

The trader who sells zero-rated goods has to be registered with the VAT system and can thus receive tax credits for taxes earlier paid on his purchases. Therefore, zero-rating is sometimes called *exemption with tax credit*. The main reason for using zero-rating is to remove VAT on the particular goods for social and economic objectives. Zero-rating may be applied on necessities such as basic food and clothing to reduce the VAT burden on the poor. Moreover, zero-rate is applied on exported goods in the most countries' VAT systems to keep the relatively competitive power of their exports in the world market. On the other hand, a large number of goods and services taxed at zero rate narrows the tax base and distorts resource allocations, because resources of production may move from production of the goods taxed to that of zero-rated goods. For this reason, the number of goods and services taxed at zero rate should be restricted as much as possible.

Zero rate was first applied in the Netherlands (Tait, 1988: 53). Particularly, zero rate is applied to relieve the food sector from taxation in some countries. For example, basic food is zero rated in Ireland, Italy, Portugal, Turkey (until 1988), the United Kingdom (UK) and Mexico (see Table 2). Agricultural inputs, books and newspapers are also zero rated in some countries, and children's clothing are zero rated in Ireland and the UK. As shown Table 2, the UK, Ireland and Portugal use zero rating extensively to relieve some particular goods and services from the tax.

2.6.2. Exemptions

The trader who sells goods exempt from VAT is not required to register and cannot receive any tax credit for taxes previously paid on his purchases. The exempt trader pays input tax on products previously purchased but his value added to the product is exempt from the tax. The tax paid at previous stages and entering in this way into the price of exempt products is therefore a hidden tax.

Exemptions simplify the VAT administration because the exempt trader does not register in the VAT system nor keep records, and also the tax office does not have to follow up the exempt trader. Although exemptions reduce administrative cost¹ and compliance cost² of the tax, they narrow the tax base and distort resource allocations like zero-rating. For these reasons, exemptions should be kept a minimum level to achieve neutrality between resource allocations. Almost all countries, having VAT, usually provide exemptions on medical, educational, financial and housing (rented) services (see Table 2).

Zero-rating is more favourable for taxpayers than exemptions because they can receive tax credits for taxes earlier paid on their purchases. The disadvantage of zero-rating for taxpayers is to increase their compliance costs. On the other hand, exemptions are more favourable for the tax offices than zero-rating since they neither have to follow up the exempt trader nor pay refund to taxpayers. Zero-rating can be considered to be inconvenient for developing countries because it requires tax refunds. Conversely, exemptions are convenient for such countries because due to existence of a large number of small traders. In practice, most countries prefer to use exemptions rather than zero-rating. Both of them, if imposed on basic food and clothing, reduce inequity between individuals but they narrow the tax base and distort resource allocations. Accordingly, the number of zero-rated and exempt goods and services should be limited as much as possible.

¹ Administrative costs are costs incurred by the revenue authorities during the taxation process.

² Compliance costs are costs that are borne by the taxpayers or by the third parties to meet all requirements in relation to the taxes.

Value Added Tax

3. General Evaluation of VAT

3.1. Main Characteristics of VAT

(1) VAT is a multiple stage tax rather than a single stage, because it is collected as a proportion of the value added at each stage of the production and distribution process instead of at a single stage. Eventually, it all falls on the final consumer of the goods and services except for those that are explicitly exempt.

(2) It is an ad valorem tax because the amount of tax is calculated as a percentage of the value of goods and services, not as a certain sum per unit of quantity.

(3) The VAT can be applied either on the basis of destination or on the basis of origin principle. The origin principle implies that VAT is levied where the value added originates and not according to where final consumption occurs. The destination principle of taxation is currently used as the regime for international trade in VAT. VAT covers almost all the value added, either produced within the country or imported, of the goods and services that have as their destination the consumers of that country. Under the destination principle of VAT, while imports are taxed at the same rate as domestic goods, exports are exempt (with the credit for the tax paid on inputs) from the tax.

(4) It is considered a complicated and costly tax to operate because the operation of VAT requires the use of an extensive system of record keeping and, thus, leads to loss of considerable amounts of time for the taxpayers in each stage of the production and distribution process.

(5) VAT is a comprehensive tax which covers almost all goods and services, including imported goods and services, except for those which are specifically exempt.

(6) It contributes significantly to many countries' total tax revenues.

(7) The tax credit (or invoice) method is used to calculate VAT liability. As mentioned earlier, this method involves subtracting the tax previously paid on purchases from the tax charged on sales by the business. It is generally simple for the business to operate and for the tax office to audit. Also, the use of the tax credit method provides cash-flow benefits to firms. The tax credit method enables the traders to hold net VAT until it is paid to the tax office. They can use the money in their businesses until remittance date of the tax is due (For further discussion see Sandford and others, 1981).

(8) Single or multiple rates can be used in VAT. If it is imposed at not more than two rates, the operation of the tax both for the tax authority and the taxpayers is simplified.

Value Added Tax

(9) On the other hand, if VAT is levied at one or two rates, it is regressive. To minimise regressivity, it may be levied at differential rates on different classes of the goods and services.

3.2. Advantages of VAT

(1) It is a reliable source of revenue to meet governments' spending requirements. The most significant advantage of VAT is its ability to raise much more revenue than other sales taxes. A small change in the rate of VAT provides a big yield because it covers almost all transactions of goods and services, including imported goods and services, in the economy.

(2) It can be used as an effective instrument of fiscal policy to achieve a more equitable income distribution between individuals. To achieve this objective, higher rates should be levied on luxury goods with low rates on basic necessities. One of the main reasons of the use of multiple rates in VAT is to redistribute income between individuals by taxing luxuries such as cars, jewellery and caviar more heavily and by taxing necessities such as food and clothing at a lower rate. Another reason for the use of a higher rate on luxuries is to restrict excessive luxury consumption. Particularly, this policy can be used to control consumption of luxury imported goods.

(3) If a comprehensive, covering all domestic and imported goods and services, single rate type of VAT without any exemptions and zero-rating is used, neutrality can be achieved between different consumer goods and services as well as between different methods of production and distribution. A comprehensive uniform rate without any exemptions can simplify administration of VAT and thus minimise administrative costs. This also broadens the tax base on the goods and services and therefore increases total tax revenue coming from VAT. On the other hand, employing a single rate of VAT without any exemptions and zero rating leads to inequity between low income and high income people.

(4) VAT has a positive effect on the balance of payments on current account. Exporters can receive the tax credit for taxes previously paid on their inputs because of the fully rebated tax system under VAT. The use of the fully rebated tax system on exports helps a country to keep the relatively competitive power of her exports in the world market and may also increase exporter firms' profits from exports. On the import side, VAT also ensures that imports are taxed the same as domestic goods. Thus, VAT achieves neutrality between domestically produced and imported goods.

(5) Under the tax credit method of VAT, it is relatively difficult for taxpayers to evade the payment of the tax because of the possibility of detection of evasion by employing the cross-checking mechanism of VAT between traders. Clearly, this method enables the tax office to cross-check both their purchases and sales invoices. Moreover, with this method there is an automatic self-checking between the traders. Let us assume that a trader sells a product to another trader. The purchaser has to receive an invoice on his purchases from the sellers, and he

wants to record larger amounts to maximise his tax credit. Although the seller wants to record smaller amount of his sales to minimise tax liability, he has to give the invoice on his sales to the purchaser. Under these circumstances, tax evasion will be minimised. If the tax credit method were not used in the VAT system, the seller and the purchaser would collude and record smaller amount of sales to minimise their tax liability. It was assumed in the above example that the product is not sold to the final customer. The tax credit method does not provide self-checking at the retail level because the final customer cannot reclaim VAT.

(6) The consumption type VAT, imposed under the credit method, encourages investment in an economy, if capital goods were previously subject to sales taxes. This type of VAT may encourage the use of capital intensive methods in production because it allows full deduction for taxes paid on capital goods during the period. It can be claimed that it has negative effects on employment since capital intensive production methods would be more favoured than the labour intensive methods. On the contrary, employing capital intensive method may create new employment opportunities such as making, operating and repairing the new equipment.

3.3. Disadvantages of VAT

(1) It appears to be a more complicated and costly tax to operate for both the tax office and taxpayers than other sales taxes, because the system of VAT requires extensive record keeping at each stage of production and distribution of goods. Employing multiple rates with a large number of exemptions makes its administration more complicated. Complicated VAT administration increases administrative and compliance costs. Moreover, a large number of exemptions and zero-rating narrows the tax base and thus reduces the tax revenue.

(2) Another disadvantage of the use of multiple rates in VAT is that it distorts consumption patterns and producer resource allocations. The use of different rates in various commodities leads some commodities to become more expensive relative to others. In the long run, this also distorts resource allocations since production resources may move to production of the goods taxed at lower rates.

(3) VAT tends to be regressive because it taxes a relatively higher proportion of low income people's consumption than high income people's consumption. Clearly, low income people spend proportionately higher amounts of their income on goods and services than high income people. Particularly, a uniform rate of VAT without any exemptions has a more distorting effect on income and wealth distribution between individuals. To reduce the regressiveness of VAT, a lower rate should be applied on basic necessities, such as food and clothing and higher rates should be applied on luxuries such as caviar, jewellery. In this case, there is a problem of defining luxury goods because the luxury goods of today may be the necessities of tomorrow. For example, a refrigerator was a luxury good in Turkey thirty years ago but it is now a necessity. Defining luxury

goods changes depending on the level of development of the country, therefore, they should be adjusted accordingly.

4. The Effects of VAT on the Economy

Taxes are levied by the governments not only to meet their spending requirements, but also for achieving income and/or wealth distribution objectives and resource allocation. Particularly, indirect taxes have significant effects on the resource allocations and income distribution because they may lead some commodities to become more expensive relative to others and to reduce some individual's disposable incomes. Thus, they may distort economic choices of both consumers and producers in the economy.

4.1. The Effect of VAT on Prices

The effect of VAT on prices is different depending upon the taxes which the VAT replaces or supplements. If VAT is introduced as a substitute for another general consumption tax (i.e. cascade turnover tax) and to provide equal yield, it cannot create a continuing increase in the general price level; however, it may cause changes in relative prices.

If VAT is designed to increase revenue, it may have an anti-inflationary effect because of reducing consumption and total demand for goods and services. In addition, increased revenue can be used by the government to finance a budget deficit so that the government does not need to borrow and/or print money. In fact, the real reason for inflation is not that the government collects taxes, but that the government makes expenditures. If the government increases total expenditure, other things being equal, the aggregate demand will increase more than the aggregate supply in the economy. Eventually, this causes inflation. Despite this general economic principle, it can be argued whether VAT is partially responsible for the inflation or not. However, it is really difficult to determine how much of the change in inflation rate is attributable to the introduction of VAT or the changes in the tax rates.

Tait (1988, 1990, 1991) collected empirical evidence about the effect of VAT on consumer price index (CPI) in several countries before and after the introduction of VAT. He tested four hypotheses: (1) little or no price effect ; (2) shift in the CPI trend line (a one time price effect); (3) acceleration ; and (4) shift plus acceleration. He examined the movements in consumer price indices, credit and wages to show the price effects of VAT: the effect on prices of the introduction of VAT for thirty five countries, and the price effects of the changes in VAT rates for six countries (Tait, 1988: 212). His results for thirty five countries in relation to the introduction of VAT showed the following.

(1) There was little effect of the introduction of VAT on the CPI in twenty two countries;

(2) The VAT caused a shift in the trend of CPI (a one time price effect) in seven countries;

(3) The VAT contributed to an acceleration in the rate of inflation in five countries; however this was associated in each case with expansionary wage and credit policies;

(4) The VAT created a shift and an acceleration in only one country.

Furthermore, examination of changes in VAT rates for six countries does not suggest any automatic connection between VAT rates and the rates of CPI: There is only one country associated with an acceleration of inflation and one country with a shift in the CPI and another four countries with little or no effect on prices (Tait, 1988; 1991). Tait (1991) concluded that there seems to be no precise relationship between the introduction of VAT and inflation since there was a shift and little or no effect of VAT in thirty three out of forty one cases (over 80 percent).

If the wages or salaries are increased in co-ordination with the prices and if the prices continue to increase following the upgrading of the wages, there will be a price-wage spiral. Tait (1991: 9) suggested that “price controls can be used effectively to dampen the potential price-wage acceleration of inflation after the introduction of VAT as the examples of Austria, France, Korea, the Netherlands and Norway show”.

4.2. The Effect of VAT on Resource Allocation

Use of multiple rates in VAT distorts consumption patterns and producer resource allocations. The use of different rates in various commodities leads some commodities to become more expensive relative to others. In the long run, this also distorts resource allocations since production resources may move to production of the goods taxed at lower rates. Furthermore, a large number of goods and services taxed at zero rate narrows the tax base and distorts resource allocations, because resources of production may move from production of the goods taxed to that of zero-rated goods. Use of a large number of exemptions in the VAT narrows the tax base and distorts resource allocation. To minimise distortion effects of VAT on the resource allocation, single rate with limited exemptions should be used.

4.3. The Effect of VAT on Income Distribution

VAT tends to be regressive because it taxes a relatively higher proportion of low income people’s consumption than high income people’s consumption. In other words, low income people spend proportionately higher amounts of their income on goods and services than high income people. Especially, a uniform rate of VAT without any exemptions has a more distorting effect on income and wealth distribution between individuals. To reduce the regressiveness of VAT, a lower rate should be applied on basic necessities, such as food and clothing and higher rates should be applied on luxuries such as caviar, jewellery.

Multiple rates and exemptions can be used in the VAT systems to redistribute income between individuals by taxing luxury goods more heavily and

by exempting or taxing necessities at a lower rate. Most countries, having VAT, apply more than one positive rate and exemptions for some goods and services to achieve more equitable income distribution. However, it is difficult to say that all luxury goods are purchased by the rich and all necessities are purchased by the poor. The rich can purchase some necessities and the poor can purchase some luxuries. Furthermore, to achieve more equitable income distribution with the tax system is likely to conflict with other objectives such as economic efficiency. The use of multiple rates with exemptions in the VAT systems contributes to a fairer income distribution but this distorts resource allocation in the economy.

4.4. The Effect of VAT on International Trade

Exporters can receive the tax credit for taxes previously paid on their inputs because of the fully rebated tax system under VAT. The use of the fully rebated tax system on exports helps a country to keep the relatively competitive power of her exports in the world market and may also increase exporter firms' profits from exports. On the import side, VAT also ensures that imports are taxed the same as domestic goods. Thus, VAT achieves neutrality between domestically produced and imported goods.

The use of a fully rebated tax system on exports encourages exporters to export more, thereby improving the balance of payments on current account. On the other hand, imports are subject to VAT just as domestically produced goods therefore neutrality between domestic and imported goods is achieved.

4.5. The Effects of VAT on the Savings and Investment

A broad based VAT without any exemptions taxes present and future consumption. Therefore, neutrality can be achieved between consumption and saving. VAT that simply increased revenue would be potentially deflationary, would reduce the profitability of future investment. At the same time, such an increase in revenue might be used to reduce the public sector borrowing requirement, allow interest rates to fall, and thus stimulate investment. In general, VAT does not distort saving and investment behaviour, if it replaces taxes that are distorting, economic efficiency should be improved.

The consumption type VAT, under the credit method, encourages investment in an economy and thus contributes to economic development. Additionally, VAT reduces consumption whereas it increases savings. Increased savings lead the interest rate to reduce and thus this encourages investment. If such savings can be used in investment, economic development can be improved.

5. The Comparison of VAT with Other Sales Taxes

5.1. Alternative General Consumption Taxes

Consumption taxes are generally distinguished between selective and general consumption taxes. While selective consumption taxes are imposed on specific goods such as alcoholic drinks and tobacco products, general consumption taxes are levied on a large number of goods and services.

General consumption taxes are applied by employing single stage taxes where tax is levied at only one stage of production and distribution or multiple stage taxes where tax is levied at each stage of the production and distribution. Single stage general taxes are imposed on sales whether from manufacturers to wholesalers (Manufacturing Sales Tax) or from wholesalers to retailers (Wholesale Tax) or from retailers to consumers (Retail Sales Tax). Multiple stage general consumption taxes, such as cascade and value added taxes, are those imposed at each stage of the production and distribution of goods. In the following sections, alternative general consumption taxes will be briefly explained and compared with VAT.

5.2. Manufacturing and Wholesale Sales Taxes

Manufacturing Sales Tax (MST) is a single stage tax which is imposed only on manufacturers goods. If a product does not pass through the manufacturing stage, the tax cannot be imposed on this product. Some imported goods, especially consumer goods, do not pass through the manufacturing stage and therefore imported consumer goods cannot be taxed under MST. In this case, there will be a distortion on domestically produced consumer goods. MST cannot include services, but capital goods and intermediate products are not usually exempt from the tax. A tax excluding services narrows the tax base and thus reduces tax revenues collected by the government or requires higher rates. Moreover, economic activities will shift from the taxable manufacturing sector to the non-taxable sector and thus there will be a distortion on resource allocation. For example, transportation services are not taxed under MST and therefore resources can move from manufacturing sector to transportation service sector to avoid the tax. MST had been used in Canada (at the federal level only), Hungary, Greece and Poland until VAT was introduced (see Table 3).

Wholesale Tax (WST) is a single stage tax which is levied on wholesalers' sales and also manufacturers' sales directly to retailers or consumers. Like MST, it is not imposed on services and a tax excluding services in WST narrows the tax base and therefore reduces tax revenue collected by the government or requires higher rates. It had been used in Denmark, Ireland, New Zealand, Portugal and the UK (as Purchase Tax) until VAT was introduced and Australia is still applying this tax (see Table 3).

Disadvantages of MST and WST compared with VAT are that;

(1) They have a more distorting effect on the economy than VAT because of being levied at a single stage and the exclusion from the tax base of services.

(2) The tax base of MST or WST is narrower than that of VAT because of the exclusion from the tax base of services. If the same rates are applied, the tax revenue coming from MST or WST will be lower than that of coming from VAT.

(3) Investment is not encouraged under MST or WST since capital goods are not usually exempt from the tax. Alternatively, a consumption type VAT may

Value Added Tax

encourage investment by allowing full deduction for taxes previously paid on capital goods.

(4) It is relatively easy for taxpayers to evade and avoid the payment of MST or WST. For example, MST taxes only manufacturing sectors but some activities which manufacturers would have undertaken (like research, transportation, advertising) can be pushed outside the manufacturing stage to avoid the tax.

On the other hand, the main advantage of MST and WST over VAT is that they are simpler and cheaper to operate than VAT because they are levied at a single stage and unlike VAT, there is no need to use an extensive system of record keeping for all traders.

5.3. Retail Sales Taxes

A retail sales tax is the most popular single stage tax which is levied on the final consumption at the final retail stage. Under the Retail Sales Tax (RST), manufacturers, wholesalers and retailers are usually required to register for the tax on just their sales of goods and services to consumers and the goods can be purchased and sold between each other without the payment of the tax. In that case, the payment of the tax is postponed (*suspensive mechanism*) until the goods and services are sold by the registered traders to the final customers. Under VAT those traders are required to register for the tax on their purchases and sales of goods and services in order to receive the tax credit. In other words, VAT systems require the registered traders to keep detailed records of purchases as well as sales while RST systems deal only with their sales. Moreover, under VAT systems, all traders have to pay the tax on their value of purchases and charge the tax on their value of sales, RST systems do not require the tax to be paid at each transactions of goods until the goods are sold to the final customers. Accordingly, VAT is more efficient to combat tax evasion than RST. RST is not usually applied at a high rate because of its wide tax base, which includes capital goods as well as services. It is generally agreed that both RST and VAT have similar economic effects since both are imposed on the final consumption in the economy. RST had been used in Canada (at the provincial level only), Iceland, Ireland, Korea, Norway, Sweden and Switzerland until VAT was introduced and also it is still used in Canada (at the provincial level only) and the United States (at the state and local level) (see Table 3).

The main difference between RST and other single taxes is that it can include services as well as goods. RST seems to be a good alternative to other single stage sales taxes levied at earlier stages. It is generally agreed that RST and VAT are the best kinds of broad-based general consumption taxes. However, VAT is preferred to RST for the following reasons ;

(1) Under RST there may be a problem in distinguishing between consumption and production goods because some goods can be used both for consumption and production purposes. Furthermore, consumers can purchase

directly from manufacturers or wholesalers in order to evade payment of the tax. Conversely, VAT is levied on sales at each stage of production and distribution and thus even if consumers buy goods from manufacturers, they have to pay VAT on their purchases.

(2) A consumption based VAT, imposed under the credit method, may encourage businesses to employ the capital intensive methods of production by allowing full deduction for taxes paid on capital goods. But RST taxes intermediate products as well as capital goods. Accordingly, VAT is more favourable to encourage investment in the economy than RST.

(3) With the credit method of VAT, exporters can receive tax credit for taxes previously paid on their inputs, but under the suspensive mechanism of RST, they cannot get any tax credit. In this case, VAT has more advantageous for exporters than RST. On the import side, VAT on imports has to be paid at the time of importation but RST on imports is postponed until the goods are sold to the final consumer. Accordingly, VAT may restrict imported goods whereas RST does not. For example, if a country has a serious deficit problem on its balance of trade, RST is not suitable for that country since it neither encourages exports nor restricts imports. Under these circumstances, VAT is more favourable than RST for both developing and less developed countries, having extreme deficit problems on their trade balance.

(4) VAT is more efficient to combat tax evasion than RST because it employs the cross-checking mechanism between traders. While RST systems require the traders to keep records regarding only their sales, VAT systems require the traders to keep records about both their sales and purchases. Moreover, RST cannot be applied at high rates since it is relatively easy for taxpayers to evade tax payment. On the other hand, VAT may be applied at higher rates than RST because of employing the cross-checking mechanism of VAT between traders.

(5) Services are more difficult to tax under RST than VAT since there is the need to check on the end use of the service under RST while this is not the case with VAT. For example, some services can be sold for intermediate use as well as final use. Therefore, services are rarely taxed with the RST system whereas they are comprehensively taxed under VAT. Accordingly, the tax base of VAT is much wider than that of RST.

The main advantages of RST over the VAT is that ;

(1) Government administrative costs appear to be lower under RST than VAT because RST inspectors do not have to check purchase records and there is no need to calculate the tax credit under RST. Under VAT systems, inspectors have to check both the traders' purchases and sales records.

(2) RST is easier to understand and implement than VAT because of being levied at a single stage. Also, VAT requires the use of an extensive system of record keeping and therefore leads to the loss of extra time as well as money for

Value Added Tax

the taxpayers. Under RST, the traders are only required to keep records of their purchases. In this respect, VAT appears to be more complicated and costly to operate for the taxpayers than RST.

5.4. Cascade Tax

Like VAT, Cascade Tax (CT) is a multiple stage tax imposed on all transactions of goods and services. However, it is a tax imposed on the total value of the product, including taxes previously paid, not just the value added by each trader at each stage of production and distribution. Like VAT, it can be imposed on services as well as goods.

Furthermore, under CT there is no credit given to traders for taxes previously paid on the purchases of their inputs. Thus it is generally known as a *multi-stage cumulative tax*. All the original six members of the EU had adopted various forms of cascade taxes (see Table 3), France with elements only, until VAT was introduced (OECD, 1988 and Tait, 1988).

Disadvantages of CT compared with VAT are that ;

(1) Under CT, the more transactions there are in the production and distribution of a product, the more the product will be taxed. Accordingly, there will be distortions on the economic organisations by promoting vertical integration in order to reduce the number of transactions in the production process. In other words, different effective tax rates will be paid by the consumer according to the number of times the goods have been purchased and sold. On the other hand, the tax burden of VAT is independent of the number of transactions of the product.

(2) CT makes imports more favourable than domestically produced goods since the former imports pass through fewer taxable stages within the country, especially if they are consumer products. Under VAT, imported goods are taxed the same tax as domestic goods.

(3) It is not possible to separate the tax from the prices of products in the CT systems and thus the tax is imposed on taxes previously paid as well as the value added of the product. VAT is imposed on just the value added of the product.

(4) It is comparatively more difficult to apply a higher rate in CT than VAT systems because of the cumulative effect of the rate of CT. If it is applied at a higher rate, its tax burden will be heavier since it is imposed on the total value added of the product at each stage of production and distribution. CT was applied at low rates in all the original six members of the EU. For example, Germany, Italy and Luxembourg applied the tax rates as 4.17, 4, 3.1 percent respectively on March 1967 (OECD, 1988).

(5) A consumption type of VAT, employed under the tax credit method, is more favourable to encourage investment in the economy than CT because it allows full deduction for taxes paid on capital goods. Moreover, zero-rated VAT

M.Ali Sarılı

on exports gives advantages to exporters since they can receive tax credit on taxes previously paid on their inputs but under CT they cannot get any tax credit.

The advantages of CT over VAT are that ;

(1) If the same rates are applied both in CT and VAT, tax revenue of CT will be much higher than that of VAT because CT is imposed on taxes previously paid as well as goods. VAT is imposed on just value added by each firm.

(2) CT is relatively easier to administer than VAT since there is no need to calculate the tax credit at each stage of production and distribution process. Conversely, VAT requires the calculation of the tax credit as well as the amount of the tax at each stage of production and distribution process.

Value Added Tax

Table 3. General Consumption Tax Systems in the OECD Countries in 1967 and 1999

Countries	1 st January 1967	1 st January 1999	Date VAT introduced
Australia	WST	WST	No VAT
Austria	CT	VAT	January 1973
Belgium	CT	VAT	January 1971
Canada	MST ¹ + RST ²	VAT ¹ + RST ²	January 1991
Czech Republic	None	VAT	January 1992
Denmark	WST	VAT	July 1967
Finland	VAT ³	VAT	October 1990
France	VAT ⁴	VAT	January 1968
Germany	CT	VAT	January 1968
Greece	MST	VAT	January 1987
Hungary	MST	VAT	January 1988
Iceland	RST	VAT	January 1990
Ireland	WST + RST	VAT	November 1972
Italy	CT	VAT	January 1973
Japan	None	VAT	April 1989
Korea	RST	VAT	July 1977
Luxembourg	CT	VAT	January 1970
Mexico	CT	VAT	January 1980
Netherlands	CT	VAT	January 1969
New Zealand	WST	VAT	May 1986
Norway	RST	VAT	January 1970
Poland	MST	VAT	January 1993
Portugal	WST	VAT	January 1986
Spain	CT	VAT	January 1986
Sweden	RST	VAT	January 1969
Switzerland	RST ⁵	VAT	January 1995
Turkey	None	VAT	January 1985
United Kingdom	WST	VAT	April 1973
United States	RST ⁶	RST	No VAT
Single-stage taxes	Number of countries ⁷	Number of countries ⁸	
MST	4	0	
WST	6	1	
RST	8	2	
Multi-stage taxes			
CT	8	0	
VAT	2	27	
No general consumption tax	3	0	

Notes:

¹ At federal level only.

² At provincial level only.

³ Partial only. Full VAT in 1990.

⁴ Partial only. Full VAT in 1968.

⁵ Wholesale tax in certain cases.

⁶ At state and local level only.

⁷ Canada and Ireland counted twice.

⁸ Canada counted twice.

Sources: Derived from OECD, 1993: 77; Tait, 1988:10-14; Tait, 1991: 2-3; Due, 1994: 1295; Mieszkowski and others, 1993: 92-111.

6. Concluding Remarks

VAT is a tax imposed on the value added to a product at each stage of the production and distribution process. Value added is never taxed twice under VAT and thus cascading (tax on tax) effects do not occur. In other words, VAT is a single tax on goods and services but the tax is collected multiple stages. There are three types of VAT namely, consumption, income and gross product type VAT. The consumption type VAT, which allows for a deduction of full VAT on capital goods purchased by the firm, is more favourable than the other two types of VAT because it encourages investment. All the EU countries and many other countries use the consumption type VAT. VAT liability can be computed either by additive (direct or indirect) method or by subtractive (direct or indirect) method. Subtractive indirect (the credit or invoice) method is the most widely used. With the subtractive indirect method, VAT liability can be calculated by subtracting the tax previously paid on purchases from the tax charged on sales by the firm for each tax period. The main advantages of using the subtractive indirect method are its greater possibilities for detecting tax evasion, simplicity both for traders to operate and for tax office to audit, possibilities for using multiple rates and possibilities to calculate tax liability in any tax period (i.e. weekly, monthly).

The most critical disadvantage of VAT compared to other sales tax is its requirement of a complicated system of record keeping, leading to relatively high administrative and compliance costs. On the other hand, VAT appears to be a superior tax as compared to other sales taxes. Its main advantages are its lower distortion effects on the economy, wider coverage and more technical efficiency, ability to raise more revenue, positive effects on the balance of payments on current account, lower incentive to avoid and evade, neutrality with respect to economic choices and more incentive to invest. These advantages of VAT have contributed to its popularity and therefore, it has replaced other sales taxes in many countries; of the 29 member countries of OECD, 27 have adopted the VAT as their main consumption tax. Australia and the United States are the only OECD countries that have not introduced VAT yet (see Table 3).

Like any other consumption tax, VAT has some effects on prices, resource allocations, income distribution, international trade, savings and investment. It is difficult to attribute the change in prices to VAT since prices are affected more by many other variables (i.e. large budget deficit, excessive money supply) than VAT.

If a single rate without any exemptions is applied on all goods and services, VAT tends to be regressive, because it takes a relatively higher proportion of poor people's incomes than that of rich people's incomes.

Multiple rates with exemptions can be used to minimise regressivity by taxing luxuries more heavily and by exempting or taxing necessities at a lower rate. However, they not only distort resource allocations but also increase administrative and compliance costs because of the need of separate records for the sales of differentially taxed products. There should be as few rates as possible so that distortion effects of the tax and administrative and compliance costs can be minimised. Moreover, frequent changes in the VAT rates cause administrative difficulties. These changes should be minimised to reduce the operation costs of VAT. It can be concluded that VAT has provided many advantages and possibilities, therefore, it is a superior sales tax.

ÖZET

Katma Değer Vergisi (KDV), bir ürünün üretilmesi ve dağıtılmasının her aşamasında oluşan katma değer üzerine konulmuş bir vergidir. KDV'de, katma değer asla iki kez vergilendirilmez ve bundan dolayı da şelale (vergi üzerine konan vergi) etkisi de olmaz. KDV, mal ve hizmetler üzerine konan tek bir vergi olmasına rağmen toplanması bir çok aşamada gerçekleşir. Her bir vergilendirme döneminde ödenecek olan vergi, bu aşamaların her birinde satılan mallar üzerinden kesilen vergilerden satın alınan mallar üzerinden ödenen vergilerin çıkarılmasıyla hesaplanır. Son otuz yıl içinde KDV oldukça yeni ve daha üstün bir satış vergisi olarak bir çok ülkede uygulanmaya başlanmıştır. KDV, bir çok ülkede uygulanan çeşitli satış vergileri yerine konmuştur. Bu makale, KDV'yi diğer satış vergileriyle karşılaştırarak değerlendirmeye çalışacaktır.

REFERENCES

- CNOSSEN, S. (1993), "Issues in Adopting and Designing A Value Added Tax", in C. T. SANDFORD (ed.), *Key Issues in Tax Reform*, Chapter 4, Fiscal Publications, Bath
- DUE, J. F. (1994), "The Enactment of a Value Added Tax in Switzerland" in *Canadian Tax Journal*, Vol. 42, no.5, pp. 1294-1305
- GILLIS, M. (1989), "Tax Reform: Lessons from Post-war Experience in Developing Nations", in M. GILLIS (ed.) *Tax Reform in Developing Countries*, Chapter 14, Duke University Press, London
- GOTTFRIED, P. AND WIEGARD, W. (1991), "Exemption Versus Zero Rating: A Hidden Problem of VAT", in *Journal of Public Economics*, Vol. 46, No. 3, December 1991, pp. 307-328

- HOLCOMBE, R. G. AND MILLS, J. A. (1994), "Is Revenue - Neutral Tax Reform Revenue Neutral?", in *Public Finance Quarterly*, Vol. 22, No. 1, January 1994, pp. 65-85
- MIESZKOWSKI, P., BOLKOWIAK, I., LUBICK, D., SOCHACKA, H., (1993) "Tax Reform" in H. KIERZKOWSKI, M. OKOLSKI, and S. WELLISZ (eds), *Stabilisation and Structural Adjustment in Poland*, pp. 92-111, Routledge, London
- OECD (1988), *Taxing Consumption*, Paris
- OECD (1993), *Taxation in OECD Countries*, Paris
- SANDFORD, C. T., GODWIN, M. R., HARDWICK, P. J. W., BUTTERWORTH, M. I.(1981), *Costs and Benefits of VAT*, Heinemann Educational Books Limited., London
- SHOUP, C. S. (1990), "Choosing Among Types of VATs," in M. GILLIS, C.S. SHOUP, AND G. P. SICAT (eds.), *Value Added Taxation in Developing Countries*, Chapter 1, The World Bank, Washington, D.C.
- TAIPALE, H. (1994), "Finland's Consumption Tax Reform: From Sales to Value Added Tax", in *Bulletin Bank of Finland*, Vol. 61, May
- TAIT, A. A. (1988), *Value Added Tax: International Practice and Problems*, International Monetary Fund, Washington, D.C.
- TAIT, A. A. (1991), *Value Added Tax: Administrative and Policy Issues*, International Monetary Fund, Washington, D.C.