DISCUSSION PAPER

CRITERIA FOR CHOICE AMONG TYPES OF VALUE-ADDED TAX

By

Carl S. Shoup

September 1986

Development Research Department
Economics and Research Staff
World Bank

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The paper analyses different rules of taxation of value added, and draws up compatible combinations for the various features. The paper concludes that almost universally the type of VAT chosen is that which embodies the following characteristics: consumption type, destination principle, tax-credit method and multiple rates that are tax exclusive. This paper was prepared for the Conference on Value Added Taxation in Developing Countries, sponsored by the Public Economics Division, Development Research Department, The World Bank.
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I. Growth of the Value-Added Tax

The value-added tax (VAT) is a tax on the value added by a business firm, through its own activity, to the goods and services it buys from other business firms.

This tax has enjoyed an explosive growth. Forty years ago it was virtually unknown, existing only in a few theoretical contributions in public finance literature that date back to about 1920. Today, in its comprehensive form, extending down through the retail sector, the VAT is an important part of the fiscal systems of 39 countries: /1

17 in Europe (Austria, Belgium, Denmark, Finland, France, German Federal Republic, Greece (soon to be enacted), Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Turkey, United Kingdom);

14 in Latin America (Argentina, Bolivia, Brazil (States), Chile, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, and Uruguay);

2 in Africa (Madagascar and Niger);

2 in Asia (Korea (South) and Taiwan);

2 in the Caribbean (Dominican Republic /2 and Haiti);

1 in the Middle East (Israel);

1 in Oceana (New Zealand).
The term "value-added tax" refers, in the present paper, to a comprehensive VAT, one that includes producers, wholesalers and retailers. A tax limited to manufacturers that uses the value-added technique will be so described as such. Only the comprehensive value-added tax raises all the important questions of choice that are discussed below. Some twenty countries use the value-added technique for sales taxes that do not extend through the retail sector; these taxes are usually restricted to the manufacturing and extractive industries. Most of these countries are in Africa, but they include India, which is gradually transforming its extensive system of excises (see note 1 above) and Indonesia, which is levying a general manufacturers sales tax.

The chief reason for applying the value-added technique to these limited-scope taxes is to avert cascading, that is, to avert taxing any ingredient of the final product more than once. Such multiple taxation will occur if, for example, the tax is imposed on a sale by a steel manufacturer to an automobile manufacturer and again on the full value of the automobile when it is sold by the manufacturer to a wholesaler or retailer. The steel ingredient is thus taxed twice. Such multiple taxation can, however, be averted, at least for a manufacturers sales tax, in other ways, notably by using the "ring" or "tax-suspension" system. A sale by one manufacturer to another manufacturer is exempt; it lies within a "ring" embracing an exempt area. A sale by a manufacturer to a non-manufacturer is taxable (Shoup, 1969, pp. 234-235).
Apparently no value-added tax has been repealed aside from a short-lived one in South Vietnam early in the 1970s.

In the history of public finance, so rapid a growth is unique, not being matched even by that of the income tax. Countries that have not adopted a VAT are therefore naturally inclined to consider it.

The value-added tax can take any one of many forms. The choice of a particular kind of VAT is an important decision. The present paper outlines the issues encountered in making the choice, giving a wide view of the family of VAT taxes.

The first country to impose the value-added tax in its comprehensive form, extending through retailers, was Brazil. The Brazilian states, in 1967, "abolished the heterogeneous turnover [cascade] taxes that they had levied for 30 years .... The reform was designed to overcome the defects of turnover taxation and to secure a greater degree of tax coordination among the states of the Federation" (Guerard, 118). This tax was of the consumption type (see Section III below). The Brazilian national tax, on sales by manufacturers only, has employed the value-added technique since 1959.

Later in 1967 Denmark became the first to employ a comprehensive value-added tax at the national level (Shoup, March, 1969). France and Germany followed in 1968. These value-added taxes replaced several other types of sales tax: (1) a combination of value-added tax restricted to manufacturing (optional for wholesalers), a separate tax on services, and a
local tax on retail sales (France); (2) a turnover, "cascade" tax (German Federal Republic), and (3) a wholesalers sales tax (Denmark).

The other European Economic Community nations enacted value-added taxes shortly thereafter, replacing their turnover taxes.

All countries of the Community must use the VAT, to comply with the directive of the Commission, which followed, in general, the recommendation of the Community's Fiscal and Financial Committee (Neumark Report, 1963).

Sweden (1969) and Norway (1970) are the only countries to have enacted a VAT that replaced a retail sales tax. These two taxes are generally considered to be about the same in most respects except number of taxpayers (greater under a VAT) and certainty of excluding producers goods (more certain under a VAT).

In the United States, the State of Michigan enacted a value-added tax in 1953 with many exemptions and a high minimum deduction. The tax rate ranged from 0.4 percent to 0.75 percent over the years to 1967, when it was repealed. It was revived, in a somewhat different form, in 1975. The tax is intended to be one on business, not necessarily shifted to the consumer. Michigan is one of only six states in the United States that do not now levy a corporation income tax; that tax was repealed in 1975 when the new VAT was enacted. The rate of this value-added tax is 2.35 percent. (For history, and analysis, see Barlow and Connell, in Brazer (ed.) and Lauren (assistant ed.); for the earlier Michigan VAT, see Sullivan, Appendix C.)
Extensive use of the VAT in Latin America is perhaps traceable to the pioneering steps taken by Brazil. The Andean Common Market may also have stimulated some interest in this tax, even though little explicit mention of tax harmonization is to be found in the Treaty of Cartagena (Gillim, 206; and see Gillim generally for an analysis of Ecuador's VAT against the background of the Andean Common Market).

In 1949 the Shoup Tax Mission to Japan recommended a low-rate value-added tax for the prefectures, to replace one of the three layers of business income tax (national, prefectural, and municipal), which, it was feared, placed too heavy a burden on that tax. The prefectural VAT was enacted, but its application was suspended, and within a few years it was repealed without having been put in operation. (For a history of this VAT project see Sullivan, ch. 3.)

Finally, the VAT bases in the several countries of the European Economic Community are used for computing contributions from the nations to the three European Communities (Coal and Steel, Economic, and Atomic Energy). (There are also other sources of revenue for the Communities.) The Communities impose a "uniform rate of VAT to be assessed on a uniform assessment base which was or should be adopted by the EC member states. The maximum rate of VAT which may be adopted for purposes of financing the Communities will be 1.4 percent as of 1 January 1986 and this rate may be increased to 1.6 percent on 1 January 1988 by unanimous decision of the Council ..." (International Bureau of Fiscal Documentation, Bulletin, July, 1985, 315).
II. Outline of Choice Criteria

We turn now to the choices that must be made, among the types of value-added tax, by any country contemplating enactment of a comprehensive VAT, that is, one that includes the retail stage. Some of these choices also face a country that uses the value-added technique for a sales tax that does not extend down through retailers.

The chief decisions concern:

(1) the three broad types of VAT: the consumption type, the income type, and the gross-product type. The personal-exemption type, a variant of the consumption type, has never been used, and is not covered here (see Treasury I, pp. 35-38);

(2) the regime for international trade: the origin principle (exports taxable, imports exempt) versus the destination principle (exports exempt, imports taxable);

(3) the three methods by which the taxpaying firm may compute its tax liability: subtraction method, tax-credit or "invoice" method, addition method;

(4) products, firms or sectors to be free of VAT;
techniques of freeing from VAT: outright exemption (the firm need not file no VAT return) and "zero-rating" (the firm must file a return, but pays a zero gross tax and gets a refund for prior-stage VAT payments);

the sectors and firms that, though taxable, are thought to require special rules or regimes;

a single-rate VAT versus one with two or more rates (in addition to the zero rate if any);

tax-inclusive VAT rate versus tax-exclusive VAT rate. The former is levied on the complete sum of money transferred, including the tax itself. The latter is levied on the price before tax.

Administrative decisions are not covered separately in the present paper (see Treasury I, chapter 9).

The other papers in this volume deal with all eight of these topics, but give somewhat less attention to (1), (3), (5) and (8) than to the others. These four are consequently treated at some length in the present paper.

How wide a choice, actually, does a country face, in deciding what kind of a VAT to introduce? For the eight classifications above there are three choices in (1), three choices in (3), two choices in four classifications [(2), (5), (7) and (8)], and an indefinite number of choices
with respect to firms and sectors in (4) and (6). Even if we restrict (4) and (6) to two choices ("yes, some", and "no, none"), the number of possible combinations might seem to be $3^2 \times 2^6 = 576$ different kinds of VAT, some of them, of course, differing only slightly from others.

This method of counting, however, is invalid. It is not true that every choice within one category is compatible with any choice whatever in each of the other categories. For example, if the choice in (1) is for the consumption type of value-added tax, it will be found that in (3) the addition method is not feasible for computing the amount of tax.

Moreover, the countries that have introduced the comprehensive VAT have shown a remarkable degree of unity in selecting among the possible combinations. Virtually all of them have opted for the consumption type in (1), employing the destination principle in (2), computing by the tax credit method in (3), levying two or more rates (in addition to the zero rate, if any) in (7), the rates being tax-exclusive (8).

Notable differences among these VAT countries have appeared therefore only with respect to the kinds of sectors or products that are tax-free (4), the technique, exemption versus zero-rating, used to achieve that end (5), and the types and extent of special regimes, short of tax-free status, designed for one or another sector or groups of firms (6).

This high degree of uniformity among existing VAT jurisdictions should not discourage any country from trying to find the particular combination of VAT provisions that best suits its own social, economic and
political characteristics. In part, the uniformity has been imposed by an external circumstance, the European Community. EC Council directives have specified in some detail the choices that member countries, including those most recently admitted (Portugal, Spain), must make in constructing their value-added taxes. Some of the developing countries may have been strongly influenced by the developed countries with which they have historic ties or current trade linkages, e.g. Côte d'Ivoire and France.

We turn now to a more detailed exposition of the choices to be made with respect to the eight topics described above.

III. Consumption Type, Income Type, and Gross Product Type of Value-added Tax

The first decision, and probably the most important one, is whether the VAT shall amount to a tax only on consumer goods, thus not taxing capital goods. This is the consumption type of VAT. The income type of VAT strikes increases in the stock of capital goods; its tax base is equivalent to the total of all income, hence the label, income type. A still broader VAT includes also outlays to replace old capital goods; this is the gross product type (see Shoup, 1956, for these concepts).

We first consider the consumption type of VAT.

A firm adds value to the goods and services that it buys from other firms by using its own labor force and its own capital equipment (buildings, machinery, etc.) The firm may thus produce raw materials (cotton) or, down the line one or more steps, manufactured goods (textiles, and later, clothing) or, down further, the services of wholesaling these goods, moving them into
retailers' stores, where they are sold to consumers (households). The final price, the price paid by consumers, has to cover all the values added at the successive stages.

From this, it might appear that, for any one period, the sum of the values added always comes to the amount of retail sales.

This is true, however, only of a closed and static economy. In an open economy, consumers buy imported goods. The value added in producing such goods arose abroad. It will not be in the census statistics of the value added in the consuming country. This foreign-produced value added will not be directly taxable by the consuming country's government as it arises. It can be reached, of course, by a tax on imports, or by a tax on the product's total value at the next sale after importation -- or at a still later sale. Here, the value of the retail sale exceeds the value added domestically.

Exports pose the converse case: value is added in the producing country that does not appear in that country's retail sales. Now, the sum of domestic values-added exceeds domestic retail sales.

The universal practice of VAT countries is to tax imports and exempt exports. In fact, then, the usual VAT base, in an open economy, is the same as domestic retail sales, but not the same as value added domestically, unless exports happen to equal imports. Nevertheless, the tax is still termed a "value-added" tax.
Exports and imports under VAT are discussed further in Sections IV and V below.

By a static economy we mean here an economy that is (a) maintaining unchanged its stock of inventories and (b) creating capital goods in an amount just equal to the year's depreciation of such goods, so that the stock of capital goods remains constant. Or, if (a) is increasing or decreasing, (b) must be equally decreasing or increasing.

In such an economy, abstracting from foreign trade, the year's economic activity equals the year's sales to consumers (retail sales). None of the year's activity goes to net capital accumulation, and none of the consumption is made possible by net decumulation of capital.

In a growing economy, however, activity represented by growth does not get into the base of the consumption type of VAT. It does not, because the firm can include, in its subtraction from sales, all purchases of capital goods, and purchases of all other goods even though some of them end up as increase in inventory. In a growing economy, therefore, and apart from foreign trade, the base of the consumption type of VAT falls well short of total economic activity but does equal retail sales.

The opposite result obtains in a declining economy, where inventories are drawn down or depreciation of capital goods exceeds the total of capital goods produced, or at least the net result of these two is negative. Retail sales now exceed economic activity (again abstracting from foreign trade).
The consumption type of VAT is still levied on an aggregate base equal to retail sales, which now exceed the country's total economic activity.

In national income accounting terms, then, there is (for any given year) equivalence between retail sales and the base of a consumption type of VAT. In addition, it has been shown that the two taxes are equivalent in terms of incentives to business firms (Shoup, 1968).

These equivalences suggest that any country considering the consumption type of VAT should first compare it with a retail sales tax (for such a comparison, see Treasury I, p. 14 and chapter 4, and the papers by Due and Shoup in Musgrave (ed.), 1973; for the equality of these two tax bases, see the proof in Shoup, 1956, and 1968.)

At this point we may ask, what relation does the consumption type of VAT bear to a tax on wages? In a two-factor (labor and capital) closed economy, where \( C \) is consumption, \( I \) is gross investment, \( W \) is wages, \( P \) is net profit after depreciation, and \( D \) is depreciation, then, since \( GNP = C + I = W + P + D \), the aggregate base of the consumption type of VAT is \( C = W + P + D - I \). In the same economy, we find that, if gross investment equals profits plus depreciation \( (I = P + D) \), then, since \( W + P + D - I = C \), it follows that \( W = C \). The precise analog of the consumption type of VAT, under these conditions, is a wages tax (Shoup, 1969, pp. 253-254).

The relation, \( I = P + D \), will indeed always hold in all economies, but only in present-value terms. The present value of an investment must
equal the present value of a discounted stream of profits plus depreciation coverage. In incentive terms therefore, that is to say, in present-value terms, a wages tax comes to the same thing as a consumption tax, even though, for any one year, the national income accounts will almost surely show wages not equal to consumption (Shoup, 1969, p. 269). In tax revenue terms, where we do not discount to present values, the two taxes are not the same. Because of this inequality in any one year's revenue, we shall not consider the wages tax as a type of VAT.

The other chief form of value-added tax, the income type, reflects value-added in the conventional sense of total economic activity in the country during the tax period (see Section V (E) below). The aggregate base is the same as that for a comprehensive income tax: VAT income = C + I - D = W + P.

(For numerical examples illustrating the differences between the consumption and income concepts for a VAT, and comparing tax yields on a present-value basis, see Shoup, 1973, pp. 17-25.)

The income type of VAT is used by Argentina and Peru and by the State of Michigan and is approximated by the recently enacted VAT of Turkey (see Appendix A). Otherwise, aside from Finland and Morocco, which employ a modified gross product type, countries adopting the comprehensive VAT have chosen the consumption type. It is much easier to compute: merely subtract from sales all purchases from other firms. No distinction need be drawn between capital goods and other goods. No depreciation need be computed.
Moreover, double taxation of saved income is avoided. This is important in countries that impose substantial income taxes. The income tax strikes saved income, and hence investment, twice: once as the income is being earned, and again as the rewards for saving appear in interest and profit, which are taxed. While such double taxation may be justified on grounds of relative personal ability to pay, it can hardly be accepted for an impersonal tax like the VAT. The consumption-type VAT is neutral as between consumption now and consumption later. It is also neutral as between the use of capital and the use of labor in production.

The gross product type of VAT is computed by subtracting from a firm's sales only purchases of those goods that are used up currently, not purchases of machinery or other capital goods. Depreciation cannot be subtracted. For a parallel treatment of inventories, disallowance should extend to the amounts of purchases by which inventories are increased, with no offset against sales allowed when inventories decrease; in practice, apparently this has not been attempted. So-called value added, under this approach, will normally far exceed the year's retail sales (see Treasury I, 1984, p. 6, and Sullivan, index, "gross product type of tax").

In a closed economy with two factors, labor and capital, the aggregate base of this gross product type of VAT is \( GNP = C + I = W + P + D \).

The gross product concept was employed by France in the period 1936-1953 (Sullivan, pp. 67-73). At the present time, Finland, Morocco and Senegal
impose a modified gross product type of VAT, but Senegal's tax is restricted primarily to manufacturers.

The gross product type of VAT, by disallowing deduction of both capital good purchases and depreciation, discriminates strongly against the use of capital goods. This alone seems enough to explain its restricted use.

IV Origin Principle, Destination Principle

A VAT that taxes value that is added domestically to all goods, including goods that are subsequently exported, but does not tax value that has been added abroad and is embodied in goods that are imported and sold domestically is said to use the origin principle. It taxes all, and only, value that originates within the country. Exports are taxable, imports are exempt. This regime is compatible with the income type of VAT.

In contrast is the destination principle: the country taxes all value added, at home and abroad, of goods that have as their destination the consumers of that country. Exports are exempt, imports are taxable. This is compatible with the consumption type of VAT.

Central governments employing the VAT have always used, and today still use, the destination principle. For the Brazilian states, however, the value-added tax was chosen instead of a retail sales tax partly because the VAT could, and the retail sales tax could not, employ the origin principle (Guerard, pp. 118-119). The origin principle became, however, somewhat diluted. It was restricted to interstate trade; exports to foreign countries were exempted (Guerard, 150).
The preference for the destination principle may be due to the general preference for the consumption type of VAT. Still another reason may be a mercantilistic inclination to emphasize economic activity (employment) more than consumption.

Moreover, untaxed imports must appear to the public to be unfairly favored relative to fully taxed domestic goods for domestic consumption. Even if exchange rates and price levels would alter under the origin principle so that import prices would rise, and export prices fall, the appearance of unfair treatment would persist. These compensating exchange rate and price level changes are part of the "equivalence theorem," which holds that, owing to these changes, the origin principle is equivalent, in its economic effects, to the destination principle. This theorem is of limited use in the real world, since it holds only if, in the equilibrium position before the change from one of the principles to the other, (1) exports from the one country to the other equal imports; (2) there are no capital flows or transfer payments between the two countries (Shoup, 1954, pp. 92-93 and sources there cited; Cnossen and Shoup).

Conceivably, a VAT could tax both imports and exports, or neither, but these hybrid types seem never to have been considered seriously.

The countries forming the European Community always intended eventually to eliminate all border controls within the common market. Hence an origin-principle VAT for trade among the EC countries had gained some support. Customs-type control at the border would then not be needed for
exports; they would be treated just the same as all other domestic output. Imports, to be sure, would have to be valued at the border, if the value added in the exporting country were not to be taxed by the importing country. Recent developments suggest that border controls can be abolished for intra-EC trade even under the destination principle (Cnossen, 1983, and Cnossen and Shoup). If this proves to be so, economic-union considerations may not be enough to let the origin principle get a foot in the door.

Once the imported goods are circulating within the country, further value added to them domestically is of course taxable under both principles, origin and destination, since that part of the good's value-added that is both added domestically and consumed domestically has nothing to do with foreign trade.

A retail sales tax, the common form of general sales tax levied by states or provinces in federations, uses the destination principle. No tax is imposed until the retail sale to the consumer, and sales to consumers are by definition destination sales. If, however, the consumer imports the good directly, the destination principle can be maintained only if the consumer is taxed by a "use tax" or if the exporting firm collects the tax on behalf of the importing country.

The choice between the destination and origin principles will influence the choice, now to be discussed, between the several methods of computing the tax due: the credit method, the subtraction method, and the addition method.
V. Computation of Tax: Credit Method, Subtraction Method, Addition Method

We have seen that the value that a firm adds to the goods and services it buys from other firms can be found by subtracting their cost from its sales. A tentative, gross tax on the firm can be computed by applying the VAT rate to those sales. The net tax is then found by subtracting from this gross tax the sum of the VAT taxes already paid at earlier stages on those goods and services. The result, the net tax, is the tax on the value that has been added by the firm.

The sum of the VAT taxes already paid at earlier stages is shown on the purchase invoice; each invoice will give, separately, the price and the seller's gross tax on that price. This gross VAT on the supplier's invoice must be the sum of value-added taxes paid at the supplier's level and all earlier stages, at least if there has been no break in the credit chain (see (A) below).

For any one period, say a month, the firm assembles all such purchase invoices and aggregates the value-added gross taxes shown on them. This is the amount to be credited against that firm's own gross tax, to reach the net VAT payable.

This tax-credit method (sometimes called the "invoice method") is the one almost universally preferred, at least for the comprehensive VAT. The reasons for this will become clear in the sub-sections to follow. Finland, which uses a modified form of gross product tax, employs the subtraction method (International Bureau of Fiscal Documentation, Taxation of Companies in Europe, vol. I, pp. 75-78, April 1985).
The subtraction method of computing a firm's VAT calls simply for subtraction of total purchases from the sales of the firm in question. The balance, the value added by this firm, is then subject to the VAT rate. This is the simplest computational method, and at first sight looks just like the tax-credit method. There are, however, significant differences, shown in the sub-sections below.

The addition method sums the factor payments made by the firm during the period, including profits. It is used only with the income type of VAT.

A. **Intermediate Firm Exempt**

Under certain conditions the tax-credit method will increase the cumulative VAT unduly, to a figure greater than the gross VAT on the final sale to the consumer. This occurs whenever there is a break in the chain of tax credits, owing to the exemption of an intermediate firm.

Suppose that A sells to B, which adds value and sells to C, which adds further value and sells to D. Suppose that B is exempt, perhaps because it is a very small firm. Being exempt, it does not have to file a VAT return. Its vendee firm, C, gets invoices from B, but these invoices of course show no tax, B being exempt. Firm C therefore has no tax credit usable against its own gross tax on its sales to D. The gross tax on C is also, unhappily for it, the net tax payable. An earlier-stage VAT has indeed been collected, on A's sale to B, but there is no record of it on C's purchase invoice from B. C therefore gets no credit for this tax paid on A's sale to
B. The tax-credit chain has been broken by the non-filing of a return by B, the exempt firm. Total cumulated VAT will therefore be larger than a tax at the same rate applied to aggregate value-added (or to retail sale value). Excusing an intermediate firm from filing a VAT return therefore creates a tax penalty (see Treasury I, pp. 39-42).

Under the subtraction method, precisely the opposite defect appears when an intermediate firm is legally exempt. Firms A, C, and D pay tax on the values they respectively create, computed by the subtraction method. Firm B pays no tax. The cumulative VAT is now less than the VAT rate on the total value, the value shown at the retail sale. The same result occurs under the addition method, if the intermediate firm is exempt.

The tax-credit chain will not be broken if Firm B is required to file a return. B's gross tax is computed, at a zero rate: zero tax. B subtracts from this zero tax the tax credit it has by virtue of the invoice from A. The resulting minus tax on B is refunded to it by the Treasury. This refund offsets the tax that had been paid earlier by A. The VAT tax-credit chain is now continued. Total VAT will be the sum of (1) a tax on sale by C to D, no tax credit being available, and (2) a tax on the value added by D, which uses as a tax credit the tax shown on C's invoice to D. The values added by the firms prior to C will have been untaxed to them, net, by the refund to B. But these values are of course caught by taxing C on its sales, with no credit.

Zero-rating is further analyzed in Section VII below.
The subtraction method affords no such relatively easy means of doing the opposite, that is, of recouping the tax lost by exemption of the intermediate firm, firm B. Neither does the addition method.

B. **Exports**

Under the destination principle the tax-credit method assures complete exemption of an export, if the tax-credit chain has not been broken. This method refunds, upon proof of export, all prior-stage VAT payments. The export sale itself is zero-rated. The exporter submits a tax return and subtracts from his zero gross tax the sum of the gross taxes shown on his purchase invoices. Thus the exporter gets a cash refund from the Treasury of that cumulated tax from earlier stages.

Perhaps the exporting firm engages also in domestic sales that are taxable. Then it can credit against the gross tax on those domestic sales the total tax shown on all invoices to it, including invoices for goods that it buys for export, or for use in producing exports. If these domestic sales of the exporting firm are a large enough part of its total sales, a tax refund on its export sales becomes unnecessary. The refund is entirely replaced by a lower-than-normal net tax on the firm's value-added for the domestic market. If the firm's domestic sales are not large enough for this, the result is a zero tax on such sales, plus a tax refund, which is, however, smaller than if the firm had no domestic sales.

Accordingly, there is no need to divide the exporting firm's purchases into those that do and those that do not enter the firm's export sales. There is no tracing problem.
In contrast, the subtraction method offers no such means of computing an exact refund of all VAT paid at stages previous to export. If indeed one could assume that all prior stages of the exported good had paid VAT, and at just one rate, that rate could be applied to the sales figures on the invoices to the exporter, and a refund easily computed. But these assumptions are not always correct. The tax credit method, in contrast, automatically wipes out all vertical differences in rates; it produces a VAT, on the full value-added, at the rate applicable to the last transaction (see Section IX below), provided, again, that the tax-credit chain has not been broken by a non-filing firm. It is this full VAT that is refunded. The addition method is unsuitable, too, for exempting exports by tax refunds. The tax, under this method, does not appear on the firm's sales invoices, since it is not computed as a percentage of sales.

Under the origin principle these export problems vanish, since exports are taxable just as are domestic sales. Consequently, with the origin principle, the credit, subtraction, and addition methods are all as suitable for exports as for sales to residents.

C. Imports

Under the destination principle, the tax-credit method automatically taxes the full value of the import, because no tax credit is allowed for a VAT collected by another country. There will be no such tax anyway, if the other country exempts exports.
The importing country's VAT will be collected at the moment of importation, or, under an alternative system, at a subsequent sale within the country. In either case there will be no tax credit available.

The subtraction method is really no more complicated. Imported products must be taxed on the full proceeds of the first domestic sale, no subtraction being allowed for the cost of the imports. (For the choice of methods as related to international trade generally, and specifically GATT, see Tait, pp. 15-18).

The addition method, destination principle, requires that the import be valued, since there is no way of adding the factor payments made abroad; in this sense the pure addition method cannot be used at all for imports, destination principle; some valuation of product must occur.

Under the origin principle, which taxes only value added after importation, a starting point must be found by ascertaining import value, and this may be difficult, if there is no sale at that moment to help fix the value, as in intra-firm transfers. To this import value, under the tax-credit method, there is applied the importing country's VAT rate (not the VAT rate of the exporting country), to get a notional, or shadow tax to credit against the gross tax on the first domestic sale after importation.

The subtraction method takes from the value of the first domestic sale the value established at importation.
Under the addition method, which adds the factor rewards for domestic activity, valuation upon importation again plays a role, since it must be known, to compute profit from activity after importation.

In general, imports can be handled somewhat more readily under the destination principle than under the origin principle.

D. Evasion

The tax-credit method has been said to carry a built-in incentive to the seller (or the buyer) not to allow the buyer (or the seller) to cheat by mis-stating the amount on the invoice. This is true, but the same can be said for the subtraction method. Under either method, it is to the buyer's advantage to have the invoice overstate the value of the transaction, while understatement is what the seller aims at, to reduce the amount of VAT payable. These opposing aims may deter both buyer and seller from using a false figure. Collusion may lead to the production of two false invoices for the one transaction, but this trickery might be discovered by comparing, for every transaction, the invoice submitted to the tax administration by the seller with that submitted by the buyer. To accomplish such matching for all transactions for every VAT firm is an enormous task, even with computers. Probably, only selective checking is feasible.

The addition method lacks this built-in safeguard, since the income recipients (workers, investors) are not subject to VAT.
E. Consumption Type Versus Income Type of VAT, as to Methods

For the consumption type of VAT, both the tax credit method and the subtraction method are appropriate. No distinction need be drawn between invoices for capital goods sold to the taxpaying firm and current-use goods, and no account need be taken of depreciation, or of inventory accumulation or decumulation. There is full subtraction of all purchases, or full credit for all gross VAT on incoming invoices.

The addition method is obviously not suitable for the consumption type. For example, if a firm employs part of its labor force to create a capital good for its own use, the value thus added by those workers should not appear in the firm's taxable value-added of that year. Using the addition method, the firm would have to divide its total wage bill in two parts, non-taxable (paid to workers creating either a capital good or an increase in inventory) and taxable (the rest of the wages).

The income type of VAT can be implemented most directly by the addition method: adding the payments made to factors of production, the labor and capital employed by the firm. However, the income type can also be implemented by changing somewhat the subtraction method (or credit method) as used in computing the consumption type, and this is probably more convenient than the addition method. Subtraction is allowed, not of the cost of a capital good purchased during the year, but, over the years of life of the good, depreciation. The net effect of deducting depreciation instead of the cost of the capital good in the year of purchase is, in general, the same as that obtained from adding payments to factors under the addition method (Shoup, 1956, and Shoup 1969, p. 252).
F. Numerical Illustration of Tax-Credit Method

As an aid to understanding the tax-credit method, we reproduce here a numerical illustration of that credit (under West German tax law) from *The Taxation of Companies in Europe* (vol. 2, p. 105, April 1986):

<table>
<thead>
<tr>
<th>Manufacturer A</th>
<th>Goods etc.</th>
<th>VAT at 14%</th>
<th>Total billings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase of goods, etc.</td>
<td>94</td>
<td>13.16</td>
<td>107.16</td>
</tr>
<tr>
<td>Manufacturing costs and profits, exclusive of VAT</td>
<td>44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A's selling price to B</td>
<td>DM 138</td>
<td>19.32</td>
<td>157.32</td>
</tr>
<tr>
<td>VAT payable by A</td>
<td>(14% on 44 DM)</td>
<td>6.16</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manufacturer B</th>
<th>Goods etc.</th>
<th>VAT at 14%</th>
<th>Total billings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase price</td>
<td>138</td>
<td>19.32</td>
<td>157.32</td>
</tr>
<tr>
<td>Manufacturing costs and profits, exclusive of VAT</td>
<td>42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B's selling price</td>
<td>DM 180</td>
<td>25.2</td>
<td>205.20</td>
</tr>
<tr>
<td>VAT payable by B</td>
<td>(14% on 42 DM)</td>
<td>5.88</td>
<td></td>
</tr>
</tbody>
</table>

One feature of this numerical illustration merits particular attention. The selling price, A to B, on which A's gross VAT will be computed, is 138 DM, not 151.6 DM, that is, not 138 DM plus the gross VAT on A's purchase invoices, which is 13.16 DM (14% of 94).

A's selling price, before VAT on that selling price, is therefore not supposed to recoup the VAT shown on its purchase invoices. That recoupment
will occur when A adds tax at the VAT rate to its selling price, thus getting 19.32 DM tax from B, while it turns over to the Treasury only 6.16 DM. The remaining 13.16 DM is recoupment of the tax shown on the purchase invoices.

The taxpayer, A, does not have to work through this reasoning. It simply does what the tax regulations say it must do: multiply its sales, before VAT on those sales, by 14 percent, subtract the VAT shown on its purchase invoices, and turn the balance over to the Treasury.

One reason for requiring the VAT to be stated separately on all invoices is now evident. The firm, in computing the costs it must recoup through its price exclusive of the VAT on that price, must not include in the price the VAT on the things it has purchased from other firms. Separate statement of the tax on all invoices facilitates reaching the proper cost figures.

VI. Products, Firms or Sectors to Be Free of VAT

Certain products and services are often freed from the value-added tax, either because they are to be exported (destination principle) or because they are important in the budgets of low-income families (food) or create benefits for society in general (education).

Certain firms are commonly freed from VAT on all their sales, because the administrative and compliance costs are large, relative to the tax revenue to be obtained. An example is all firms with annual sales less than a specified amount. All farmers are free of VAT in some countries for this reason.
Financial firms, especially banks and insurance companies, are commonly free of VAT because the value they add cannot be readily defined and computed. In certain other service industries, all firms are free of tax for the same reason.

Whole sectors of the economy, retailing, for instance, may be left outside the scope of the VAT, chiefly for administrative reasons.

VII. Exemption versus Zero-Rating

Two strikingly different techniques are available for freeing from VAT either (a) a given type of firm, on all its sales, e.g., a small firm, in whatever industry, or (b) a certain good or service sold by any firm whatever. These techniques are: exemption, and zero-rating.

Exemption of an entire firm on all its sales is allowed for administrative or compliance reasons, usually because the firm is below a certain size. This exemption has been noted in Section V (A) above, with the problem encountered when that firm is not a retail establishment.

Exemption of a particular good or service, not of an entire firm, raises some questions. The firm is selling the exempt good along with some taxable goods (if it sold only exempt goods, it would be an exempt firm, just described). Commonly, VAT countries do not allow the firm to take credit for the tax it paid when purchasing taxable inputs into the exempt good. This restriction limits the effective exemption in this case to the value added by
the firm in question. The value that has been added at previous stages, in producing the input that go to make the exempt good, remains taxed. The question then arises, why exempt that good at all?

Exemption is not needed for administrative or compliance reasons, since the firm is deemed able to pay tax on the other things it sells. And if freeing from tax is desired for social ends, why restrict it to the stages at and after which the exempt good takes its final form? Moreover, the restriction may cause compliance or administrative difficulties of its own, chiefly in allocating a certain input, say, total steel bought by the firm, between the firm's exempt product and all its taxable products that absorb steel. (For this reason the table of "incompatibilities" in Table B-1 below lists the exemption, as commonly practiced, of a particular good as being "inconvenient" when used with the tax-credit method or the subtraction method).

Zero-rating follows quite a different philosophy from that of exemption. Here, the freeing from VAT is not based on administrative or compliance difficulties. If it were, zero-rating should not be used, if only because it does require the filing of a return. The aim of zero-rating is to lift the entire VAT, including that already collected at earlier stages, from a particular good or service. This is accomplished by allowing full credit for the tax shown on the invoices for purchases of the good in question, or of inputs into it (see the description above, for exports, in Section V (B)).

Broadly speaking, exemption should be granted where the lawmakers would rather not free the firm, but feel compelled to do so, owing to
administrative and compliance difficulties. Zero-rating is to be given, in contrast, when the deliberate purpose is to lift the VAT completely from a good or service, for social or economic ends.

Zero-rating is often said to be unsuitable for developing countries just because it often requires tax refunds. Yet refunds give any government's tax administration an opportunity to establish a reputation for fairness. Tax refunds are a powerful instrument for establishing the credibility of the tax administration.

In the European Community the question of exemption versus zero-rating is still undergoing examination, with some strong differences of opinion. The United Kingdom Government recently announced that "it does not accept the view of the EC Commission that the zero-rating of many supplies in the U.K. is contrary to the Sixth VAT Directive. The EC Commission has applied to the European Court of Justice for a declaration confirming its point of view. The case is expected to be heard at the end of 1986 at the earliest". (International Bureau of Fiscal Documentation, Tax News Service, April 15, 1986, p. 55; see also TNS, 1985, p. 148.)

In conformity with the Commission's view, most of the EC countries use exemptions rather than zero-rating (aside from exports). Zero-rating is used extensively in the U.K. and Ireland.

The lists of exemptions and zero-ratings in the VAT law of the U.K. are as follows.
Exempted are

(1) real estate (including leases) and inclusive rents for residential accommodation;
(2) insurance;
(3) postal service;
(4) certain financial services;
(5) education and health services; and
(6) firms with taxable turnover (including zero-rated sales) of not more than 19,500 pounds sterling per year (exemption optional).

Zero-rated are

(1) cold food (other than confectionery or food supplied in the course of catering as widely defined);
(2) books, newspapers and periodicals, printed music, maps, etc.;
(3) fuel (other than petrol and road fuels) and power;
(4) construction of buildings;
(5) prescription medicine;
(6) public passenger transport by air, land (excluding taxis) or sea;
(7) the supply, repair or maintenance of a ship or aircraft (subject to certain limits);
(8) the provision of freight services to or from a place outside the United Kingdom;
(9) safety helmets and boots and children's clothing and footwear;
(10) exports and certain international services


VIII. Special Regimes for Taxable Firms

Some industries, not freed from VAT, are given special regimes for computing the amount due. These are covered by other papers in this volume, and include construction, government non-profit institutions, housing (as distinct from construction in general), used durable goods, and fringe benefits (see also Treasury I, pp. 70-83). Financial institutions may fall in this group rather than being freed from VAT.
IX. **Multiple Rates**

Many VAT countries employ multiple rates (apart from a zero rate). Multiple rates offer a greater opportunity to fit the VAT to various social and political ends. A low rate, rather than exemption or a zero rate, is sometimes granted to necessities, and luxuries may be subject to a rate higher than the standard rate.

Under the tax-credit method, however, this commodity differentiation of rates can be achieved only at the retail level. It is the final sale to the consumer that must be given the lower or higher rate. If commodity-differing rates are imposed only at earlier stages, the effects of the differencing are wiped out, through the tax-credit mechanism, by the uniform retail rate. A low wholesale rate on Commodity X merely means that (1) the wholesaler pays less tax per dollar of value-added and (2) the retailer has a correspondingly smaller tax credit to offset against the standard rate on his sales.

Under the subtraction method, on the other hand, commodity differentiation can be made effective at any stage without being cancelled at a later stage. A low VAT rate on wholesalers of Commodity X does not increase the amount of tax the retailer of X pays on his subtraction-computed value-added.

Commodity differentiation at the retail stage imposes a compliance burden on the retailer who sells both favored or penalized goods and standard-
rated goods. The retailer must keep accurate records of the amounts of each of the types of sale. But, under the tax-credit method, this is the extent of the problem. The retailer need not allocate his purchases between the two types of good, for reasons noted above in Section V (B) (zero-rating of exports) and Section VII.

On the whole, commodity differentiation of VAT rates may be less troublesome than some VAT observers have implied, at least under the tax credit method. In any case, many countries have decided that it is worth whatever trouble it causes. Cnossen's tabulation as of 1977 (Cnossen, 1977, Table B: 1, pp. 134-146) shows 18 out of the 22 VAT countries using more than one positive rate: 11 out of 12 in Europe, 6 out of 9 in Latin America, and the one country in the Middle East (Israel). Ten of the 18 used two rates, 5 used three rates, 2, four rates, and 1, five rates (Italy; but as of 1984, Italy is reported as using seven positive rates (Treasury I, vol. 3, p. 44)). As of 1985, the following numbers of rates (aside from the zero rate if any) existed in the EC countries, according to a tabulation in Cnossen and Shoup:

One rate: Denmark, Ireland, United Kingdom
Two rates: Germany, Netherlands
Three rates: Luxembourg
Four rates: France, Italy
Five rates: Belgium

In place of a lower rate on a particular good, the taxable amount of that good, its tax base, can be set at a fraction of the actual value. The standard rate is then applied to that fractional value. Writing in 1972, Tait
(p. 62) notes that "In Sweden, this is the method adopted to lower the rate of VAT on buildings. The tax base for buildings is reduced to 60 percent of the market price, and similarly the base for services, for example, water supplies, roads, bridges, harbours, etc. is reduced to 20 percent of normal. France uses the same system to reduce the tax impact on books (70 percent of the market price) and land (33.33 percent of the market price)". The Brazilian states, too, have used percentage deductions from the tax base in lieu of rate differences (Guerard, 138).

Again, under the tax-credit method this base reduction must be made at the last stage, otherwise it will be negated by the standard rate on the full base, at that stage.

X. Tax-Exclusive Rate, Tax-Inclusive Rate

The rate of any ad valorem sales tax can be stated in either its tax-exclusive form or its tax-inclusive form, to yield the same revenue. The rate will be lower in the tax-inclusive form, since this rate is applied to the price as swollen by the tax itself.

For example, if the good would sell for $10 without any tax, and a 20 percent tax-exclusive rate is levied on it, it now sells for $12, i.e. $10 plus 20 percent of $10, or $2. (This abstracts from any change in the pre-tax price that might occur just because of the tax.) We ask, what lower rate is needed to yield the same $2 tax if that tax itself is included in the tax base? In that case, the tax is a tax both on the sale price of the product ex-tax and on the tax itself.
If $t_i$ represents the tax-inclusive rate, we have $2 = t_i (10 + 2)$, or $12 t_i = 2$, and $t_i = 2/12 = 16.67$ percent, instead of the 20 percent, tax exclusive rate.

More generally, if $t_e$ is the tax-exclusive rate, which must yield the same tax revenue per one dollar of pre-tax sales as does $t_i$, then, assuming one dollar of pre-tax sales, we have that

$$1 (t_e) = t_i (1 + t_e),$$

so that, solving first for $t_e$, we have

$$t_e = t_i + t_e t_i, \text{ or } t_e - t_e t_i = t_i, \text{ or } t_e (1 - t_i) = t_i$$

that is,

$$t_e = \frac{t_i}{1 - t_i}, \text{ or, as in the example above,}$$

$.2 = .1667/.8333$

Alternatively, we may use $t_e = t_i + t_e t_i$ to find $t_i$ in terms of $t_e$:

$$t_i (1 + t_e) = t_e; \text{ and so } t_i = \frac{t_e}{1 + t_e} = \frac{.2}{1.2} = .1667$$

Since the two rates come to exactly the same thing, there might appear to be no grounds for choosing between them. But they differ at least in the way the customer perceives them, and in ease of compliance.
The tax-inclusive rate is of course always lower, as noted above, than the equal-revenue tax-exclusive rate. To a public that does not understand, or forgets, why the two rates seem to differ, the tax-inclusive rate appears less burdensome than the other.

It might at first seem that most sellers, at least most retail shops, would find it easier to compute the tax under the tax-exclusive rate. That rate, 20 percent, above, is applied to a price that the firm thinks of as representing its own money, not the government's. We might say it represents what the firm would charge in absence of the tax, but this may be erroneous; with no tax, the firm might get a slightly higher price, at least in an imperfect market -- and even in a perfect market; if there was a fall in the demand under the higher price caused by the tax, the new price ex-tax might be lower than was the old no-tax price. In the example above, we might start with the good selling for $10.50 before the tax was imposed, while the higher price with the tax would result in an ex-tax price of $10. This consideration suggests that the tax-inclusive rate would be easier for the firm to handle. The firm prices the good at what it thinks is optimum for its profit, considering that 1/6 (16.67 percent) goes to the government, and applies the 16.67 percent tax to that amount. Or, in a perfect market, it must be content with what the market says it can get, and again applies the 16.67 percent tax rate to that amount.

If the imperfection of the market is such that the retailer sets its price by using a customary mark-up on the cost, say 30 percent, it finds the
tax-exclusive rate simple to apply to this marked-up price: 20 percent on:
cost plus 30 percent markup. Under a tax-inclusive rate, say 16.67 percent,
the retailer may think it a formidable problem in arithmetic to find the price
to the customer that will yield an after-tax revenue that will give exactly a
30 percent markup.

This inconclusive analysis reflects what is perhaps a fact, that one
cannot say, for firms in general, whether the tax-inclusive or the tax-
exclusive rate is the easier to use, in trying to reach certain before-tax
pricing goals.

A third consideration is the relative feasibility of stating the
amount of the tax to the customer, thus showing it separately from the price
before tax. Most customers, at least at retail, probably comprehend better
what is meant by "$10 plus $2 tax (20 percent)" than by "$12 including $2 tax
(16-2/3 percent)".

A fourth consideration has to do with the use of the tax-credit
method, explained in Section V (F) above. As shown in the example there, the
business firm, in computing the costs it must recoup through its price,
exclusive of the VAT on that price, must not include in that price the VAT on
the things it has purchased from other firms. Separate statement of the tax
on all invoices facilitates reaching the proper cost figures, though of course
it is not essential for that.

In practice, the tax-exclusive rate is the heavy favorite (see the
1977 compilation of Cnossen's Table B.1, pp. 134-146). Only two of the 22
jurisdictions imposing a VAT were using the tax-inclusive rate: the Brazilian states, 12.3 percent - 17.6 percent, and Sweden, 17.6 percent. By the formula above, the equivalent tax-exclusive rates for these two were 14.03 to 21.36 percent and 21.36 percent, respectively.

Interestingly enough, many of the manufacturers and production sales taxes listed in this 1977 compilation were using tax-inclusive rates: 19, out of a total of 44 such taxes. Perhaps the typical customer here, a business firm rather than a consumer, does not ask, and the legislature does not care if the customer does not ask, what the tax element is in the total paid over to the manufacturer or other producer. To be sure, the tax-inclusive rate can be stated separately on the invoice just as well as the tax-exclusive rate, but separate statement, as shown above, is a little more convenient under the tax-exclusive rate. Moreover, the "fourth consideration" just noted does not apply to these taxes unless they use the value-added technique.

XI. Compatible Combinations

We have seen (Section II) that the most common, indeed almost universal, type of VAT in use today is that which embodies the following characteristics: consumption type, destination principle, tax-credit method, multiple rates that are tax-exclusive, with exemptions rather than zero-rating (but there is some divergence on this last characteristic).

If the EC countries changed to the origin principle, in an attempt to eliminate border controls (Sec. IV), at least two incompatibilities would arise.
One would be between the origin principle and the consumption base. Not all domestic consumption would now be taxed, since imports would be exempt. In addition, a country's VAT would now reach the consumption and gross investment in other countries represented by their imports from this country, since the latter would be taxing its exports. The VAT would be a mixture of consumption type and gross product type. To be sure, in most industrial countries domestic consumption would be by far the largest element in the origin-principle tax base. The degree of incompatibility of the consumption base and the origin principle is therefore indicated in Table B-1 by the intermediate ranking "I" (inconvenient to link the consumption base and the origin principle) rather than by "D" (difficult, if not infeasible to use these two together). The "D" grading may nevertheless be appropriate for those developing countries where exports and imports are large, relative to gross domestic product.

Another, minor, incompatibility concerns the use of the tax-credit method with the origin principle (Sec. V, C).

An example of a strong incompatibility would be the use of the addition method with the consumption type of VAT.

Evidently there is some need to consider the effects that any one decision will have on other choices.

Table B-1 shows the possible conflicts to be encountered among choices in different categories (seven categories here, i.e., excluding the
special-regime problem). Three relationships are distinguished: compatible, inconvenient, and difficult (maybe infeasible).
Finland imposes a comprehensive sales tax, enacted in 1978, which allows deduction of purchases of goods intended for resale or embodied in goods sold by the firm, but not the purchase of fixed assets, fuel and other goods intended to be used up within the firm. There are, however, important relief provisions for purchase of new buildings and machinery used in production (International Bureau of Fiscal Documentation, Taxation of Companies in Europe, vol. I, pp. 75-78, December 1985).

Effective January 1, 1985, Turkey introduced a comprehensive value-added tax at a rate of 10 percent. It departs from the pure consumption concept by requiring that the credit for VAT on the purchase invoice of a capital good be credited against the gross VAT, not all at once in the year of purchase, but equally over a five-year period. It thus approaches the income type of VAT, which allows deduction only of depreciation. Retailers have the option, for ten years, of paying instead a tax of 13 percent of the total cost of their purchases. Small business firms pay this 13 percent compensatory tax, with the proviso that it shall not be less than 10 percent of their taxable net income. Small farmers are excluded from the VAT system. Food sales are zero-rated for non-farm firms, and no compensatory tax is levied on farmers (Price-Waterhouse, Turkey, pp. 77-80.)
COMPATIBILITY TABLE FOR VARIOUS FEATURES OF A VAT

The accompanying Table B-1 is designed to warn tax planners against incompatibilities among certain choices regarding the various features of a value-added tax.

For example, suppose that the tax policy planners of a certain country, drawing a blueprint for the kind of VAT that they think would be most suitable, decide in favor of the consumption type (to encourage industrialization), using the destination principle (to encourage exports) and the addition method (they already have an income tax), exempting certain goods and services (for social purposes) and all small firms (for administrative reasons), with a lower-than-standard rate for certain goods, the rates to be on a tax-exclusive basis.

To ascertain whether their preferences are in any way incompatible, they start with the first line in Table B.1 (consumption type) and work across the table, noting the cells where this first line intersects with a column they have chosen (here, intersection with columns for destination principle, addition method, exempting certain goods and services, exempting small firms, with multiple rates, tax-exclusive formula). They find one "I" (inconvenient) and one "D" (difficult, perhaps infeasible). This gives them pause, but they persist, going onto the next group of lines, selecting the third line (destination principle) and again working across the table. They find that
the destination principle is difficult, if not infeasible, to use with the
addition method and inconvenient if exempting certain goods and services or
employing multiple rates.

Going on to the third group of lines, and taking the line,
"Addition", they encounter two more Ds, for exempting certain goods and
services, and for using multiple rates, under the addition method.

In view of the several incompatibilities revealed, the tax planners
may decide to try another combination, perhaps substituting the tax-credit
method of computation for the addition method.
Table B.1: COMPATIBILITY TABLE FOR VARIOUS FEATURES OF A VAT

C: Compatible
I: Inconvenient
D: Difficult, perhaps infeasible

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<th>Ori</th>
<th>Crd</th>
<th>Sub</th>
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<td>C</td>
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ENDNOTES

1. For Africa, the Caribbean, and Latin America, from Casanegra, this volume, Table 1. For other areas, various sources. For world-wide developments by country, up to date, see the semi-monthly journal, Tax News Service (International Bureau of Fiscal Documentation). An earlier world-wide survey is in Cnossen, 1977. For the history of the VAT (a) in Europe, see Aaron (ed.), and (France), Sullivan, Ch. 2; (b) generally, Due, 1972; Due and Friedlaender, 406; and Tait, 6-9, 144-164. India, in 1986, imposed a "modified value added tax" that applies, initially, "to products of chemical and allied industries, paints and packaging materials, plastics, glass, rubber products and base metals, etc., as specified in the Central Excise Tariff Act of 1985" (Tax News Service, March 31, 1986, p. 46; June 15, 1986, p. 81; September 15, 1986, pp. 132-133). China levies a value-added tax on 14 selected industrial commodities.

REFERENCES


