Chapter 23

Consumption Taxes*

A. Sales Taxes in the U.S. Tax Structure: *Federal Taxes; State Taxes; Local Taxes.* **B. Issues in Sales Taxation:** *Unit versus Ad Valorem Taxes; Scope of Coverage for General Tax; Stage of Imposition.* **C. Value-Added Tax:** *Final Value as Aggregate of Value Added; Types of Value-Added Taxes; An Illustration; Collection Method; Conclusion.* **D. Burden Distribution:** *Selective Taxes; General Sales Tax.* **E. Personal Expenditure Tax:** *Determining Taxable Consumption; Treatment of Bequests; Evaluation.* **F. Summary.**

Sales taxes are like income taxes in that they are imposed on flows generated in the production of current output. But income taxes are imposed on the sellers' side of *factor* transactions (i.e., on the net income received by households) or point 1 in Figure 12-1, whereas sales taxes are imposed on the sellers' side of *product* transactions (i.e., on the sales of business firms) or point 7, with sales measured in terms of product units or of gross receipts. Sales taxes on consumer goods (point 4) may be considered equivalent to taxes imposed on household purchases, i.e., to

**Reader's Guide to Chapter 23:* In this chapter we discuss the conventional forms of sales taxation as well as some novel approaches to the taxation of consumption, including the value-added tax, which has received much attention in recent years, and a personalized approach referred to as the expenditure tax. Consumption taxation in these various forms promises to be an active area of tax reform discussion in the future.

taxes imposed at point 2.[1] While income taxes are based on the sources side of the household account, sales taxes are based on the uses side. For a general tax on consumer goods, all uses except saving are included.

Finally, and most important, sales taxes differ from the income tax in that they are *in rem* rather than *personal* taxes. As such, they do not allow for the personal circumstances of consumers as does the individual income tax with its exemptions, deductions, and progressive rates. Sales taxes are thus inferior on both horizontal and vertical equity grounds. But even though consumption taxes usually take this form, it is not a necessary feature of consumption taxation. As we will see presently, a personal consumption or expenditure tax may be constructed which is not open to this objection.

A. SALES TAXES IN THE U.S. TAX STRUCTURE

We begin with a brief look at the role of sales taxes in the U.S. tax structure. As shown in Table 18-1, sales taxes are of only limited importance at the federal level where they produce only 4 percent of total revenue, more important at the local level with 14 percent, but become the major source of revenue at the state level, where nearly 50 percent of the total is derived from this source.[2] Charges and special assessments, although related to sales taxes in nature, are dealt with at a later point. It will be seen that they are of special and growing importance at the local level.

Federal Taxes

Federal sales taxes, once a major factor in the federal tax structure, have steadily declined in importance, giving way to the rising share of income and later payroll taxes. Also referred to as excises, federal sales taxes are all of the selective type, being imposed on specific products.[3] As may be seen in Table 23-1, the bulk of the revenue comes from a small group of products, including motor fuel, alcohol, and tobacco. Custom duties which were once very important are now a negligible factor in the overall revenue picture. Federal sales taxes are imposed largely at the manufacturer level, the major exceptions being telephone services and air transportation, which are, in effect, charged at retail. Most federal sales taxes (including those on alcohol, tobacco, gasoline, and tires) are levied on a unit basis, while others (including telephone taxes) are of the ad valorem type.[4]

State Taxes

At the state level, sales and excise taxes provide nearly one-half of tax revenue, with the general sales tax being the central item. Being more or less general, a tax on retail sales corresponds to a similar tax on consumer expenditures. Such a tax is

[1] See p. 213.
[2] See p. 318.
[3] The term "excise," as used in the U.S. Constitution (Art. 1, sec. 8), was to distinguish such levies from "capitation and other direct taxes" dealt with in section 9. General as well as selective sales taxes would be "excises" in this sense. See p. 26.
[4] See p. 250 for the distinction between unit and ad valorem taxes.

TABLE 23-1
Sales Taxes in the U.S. Tax System
(Fiscal Year 1983, in Billions of Dollars)

	Federal	*State*	*Local*	*Total*
General sales tax	---	53.6	11.2	64.8
Other, domestic				
Motor fuel	5.8	10.8	0.2	16.8
Motor vehicle and operator license	---	6.3	0.5	6.8
Alcoholic beverages	5.6	2.7	0.2	8.5
Liquor stores	·	2.8	0.5	3.3
Tobacco products	4.1	4.0	0.2	8.3
Other	17.3	7.1	1.3	25.7
Customs	8.7	---	---	8.7
Total	41.5	87.3	14.1	142.9

Source: Tax Foundation, *Facts and Figures on Government Finance*, Washington, D.C., 1986, p. A13.

now imposed by all but five states. Rates range from 2 to 7 percent, and the comprehensiveness of base varies. Moreover, the states also make substantial use of selective taxes. As shown in Table 23-1, the primary objects of selective taxation are again gasoline, liquor, and tobacco. These and most other selective sales taxes are imposed on a unit basis, although ad valorem taxes are also used. The general sales tax is imposed at the retail level, as are most selective taxes. However, manufacturers' taxes are used as well. As will be noted later, the choice between taxation at the retail level (involving taxation at destination of the product) and taxation at the manufacturer level (involving taxation at the origin) has important bearing on the size of the tax base available to any jurisdiction as well as the distribution of the tax burden between jurisdictions.[5]

Local Taxes

Sales and excise taxes in 1983 provided 14 percent of local tax revenue. Two-thirds came from general sales taxes, now imposed by thousands of municipalities, usually as a surcharge to the state tax and at rates ranging up to over 4 percent. Selective sales taxes are of minor importance at this level.

B. ISSUES IN SALES TAXATION

Sales taxation, as seen by the preceding survey, may take different forms, including definition of base, coverage, and point of collection.

Unit versus Ad Valorem Taxes

A further distinction is between taxes which are imposed by unit of product and others which are assessed on their value. Most excise or sales taxes on particular products take the former approach, which includes taxes on fuel, tobacco, and liquor. Others, such as taxes on airline tickets, are imposed on an ad valorem basis.

[5] See p. 469.

Also, and more important, the general sales tax takes the latter form. Of the two bases, the ad valorem form is clearly the more meaningful one. In the case of the general sales tax, it also has the advantage that relative prices remain unchanged and thus it interferes less with consumer choice.[6] Further differences between the unit and ad valorem approach which arise in the context of incidence analysis were considered previously and need not be reexamined here.[7]

Scope of Coverage for General Tax

Sales taxes of a more or less general type (as distinct from taxes on particular products) may differ with regard to scope of coverage. In particular, should such a tax cover all transactions as in the case of the turnover tax, should the base be set equal to GNP, or should only consumption be included?

Inferiority of Total Transaction Base To begin with, the turnover tax which applies to the total of all transactions may be eliminated because it is least desirable. Under this tax, a product is taxed repeatedly as it moves through the stages of production. Thus, the sale of iron ore is taxed when it moves from mine to steel mill; the sale of steel is taxed when it moves from the mill to a rolling plant; sheet metal is taxed when it is sold to an automobile body plant, and so on until the final tax is imposed on the retail sale of the car. As a result, the tax base is a multiple of GNP and high yields can be obtained at very low rates. With a GNP of $4,000 billion, a comprehensive 1 percent turnover tax could yield $156 billion, or about half the yield of the income tax. Such a procedure has political appeal and in the past has been advocated at various stages of the fiscal debate. Inclusion of total transactions would do no harm if each product went through the same number of transactions, so that the combined turnover tax liabilities as a percentage of value at final sale would be the same. But they are not. A turnover tax, therefore, imposes arbitrary discrimination against products which involve many stages of production and distribution. Moreover, in order to avoid the tax, firms will attempt to join with their suppliers, thus encouraging vertical integration and reducing competition. Further inequities are introduced as the tax is "pyramided" from stage to stage, by entering into the base of each successive stage. For these reasons, the turnover tax is considered an inferior form of taxation, and the recent replacement of the turnover tax by the value-added tax in European countries reflects a belated recognition of this fact. The United States, fortunately, has never suffered from a turnover tax.

GNP Base versus Income or Consumption Base Granted that such double-counting should be avoided, there remains a choice about whether to base the tax on gross national product, national income, or consumption. Most general sales taxes are, or at least aim to be, of the consumption type.

The GNP type would impose a sales tax on both consumer and capital goods. Thus, its base would be equivalent to that of a tax on gross income, i.e., an income

[6] Note that the ad valorem base remains relevant even if concern is with minimizing dead weight loss. See p. 292.

[7] See p. 213.

tax which does not allow for depreciation. Such a tax would be objectionable on both equity and efficiency grounds. With regard to equity, it would offend the basic dictum of income taxation which says that income from all sources should be taxed fully, but on a net basis. With regard to efficiency, it would compound the discrimination against saving which even a tax on net income involves.

These objections do not apply if the tax is limited to a base which in fact equals national income or GNP minus indirect taxes and depreciation. Such a tax would be similar in base to a general income tax and (as will be noted later) may be implemented via an income-type value-added tax. Since the income base is already drawn upon in the form of personal taxation under the income tax, the consumption base is left as the most likely candidate for taxation. This base is thus the one most generally used and must thus be considered more closely.

Comprehensive versus Narrow-Based Consumption Tax The so-called general or retail sales tax aims at a comprehensive coverage of consumption. With consumption expenditures of \$3 trillion (1987), a truly comprehensive 10 percent tax might thus yield \$300 billion, as compared with about \$400 billion for the federal income tax. The consumption base thus offers a very major revenue potential. However, the amount of the base is reduced because certain consumption items are typically excluded by state sales taxes, with most of the slippage accounted for by omission of housing (rent payments and imputed rent of owner-occupiers), home-consumed food, utilities, and medical services. Consequently, the revenue from state retail taxes typically includes only one-half of the full-base amount.[8]

Stage of Imposition

We now turn to the stage at which the tax is to be imposed. This decision involves the choice of the best stage for single-stage taxes, as well as the choice between a single- and a multiple-stage approach. Whereas setting the scope of coverage is a substantive issue in determining what kind of tax is to be applied, choosing the stage or stages of collection is essentially a matter of administrative efficiency in implementing a tax on the chosen base.

Manufacturing versus Retail Level In dealing with single-stage taxes, we must ask whether the tax should be imposed at the manufacturing, the wholesaler, or the retail level.

If the tax is to be general, the retail base is preferable because it permits the imposition of a uniform ad valorem rate. Equal-rate ad valorem taxes imposed on various products at the manufacturing level result in dissimilar equivalent rates at the retail level, because the ratio of retail to manufacturer's prices differs among products. Imposition of differential rates to allow for this diversity would be a dif-

[8] State revenue from retail sales taxes in 1984, imposed on an average of 5 percent, amounted to \$62 billion. With total consumption of \$2.4 trillion, the full yield would have been \$120 billion. See also Charles E. McLure, Jr., *The Value Added Tax, Key to Deficit Reduction*: Washington, D.C., American Enterprise Institute, 1987.

ficult and clumsy way to approximate what can be done better with a uniform tax at the retail level.

If the tax is to be selective, the answer to our question is less evident. If the product is identified at the manufacturing stage, e.g., low- or high-priced cars or television sets, it will be advantageous to tax at that level, since selective retail taxation may be more difficult. In other situations (e.g., fabrics which may be made into low- or high-priced garments), selection may not be possible. Differentiation here may have to be related to the nature of the final product at retail. Nevertheless, the general presumption in favor of retail, applicable to the case of the general tax, is weakened for the selective case.

In developing countries in particular, a good argument can be made for taxation at the manufacturing level, because it reduces the number of taxpayers from whom the tax must be collected and thus facilitates administration. Moreover, manufacturing establishments as opposed to retail establishments tend to be larger, more permanent, and conducted on a more sophisticated basis, with better bookkeeping methods. These characteristics improve their quality for assessment purposes. Developing countries may do better with a set of manufacturers' taxes, where the number of collection points is smaller, even though this may result in differentials in the implicit retail rates.

Retail Level versus Valued Added The further question is whether the tax should be collected in one swoop and at the final point of sale only or whether it should be collected in slabs as under the value-added procedure. With the latter approach, the value of the product is divided into slices or slabs (the value added at each stage) to which the tax is applied at successive stages in the production process. Notwithstanding the difference in technique, the base of a value-added tax of the consumption type is the same as that of a retail sales tax; only the method of collection differs. A choice between the two, therefore, must be made in terms of administrative convenience.

Use of the multiple-stage approach in the value-added context must be distinguished sharply from its previously noted use in connection with the turnover tax. Since the value-added tax has come to be the basic instrument of tax coordination among Common Market countries, where it has replaced widespread use of turnover taxes, it has also received increasing attention in the United States. The old debate over whether there should be a federal retail sales tax has been revised in this form. A more detailed examination of the value-added approach is therefore in order.

C. VALUE-ADDED TAX

From the economists' point of view, a properly implemented value-added tax is equivalent to a corresponding single-stage tax. Unlike the expenditure tax, the value-added tax is not a genuinely new form of taxation but merely a sales tax administered in a different form. Yet the value-added tax has come to be generally adopted by European countries and is also advocated for U.S. use. It thus deserves closer consideration.

Final Value as Aggregate of Value Added

Consider a finished product, such as shoes. Tracing it through the various stages of production, we begin with the rancher selling the hides to the tanner, the tanner selling the leather to the shoe manufacturer, the manufacturer selling the shoes to the wholesaler, the wholesaler selling them to the retailer, who finally sells to the customer. At each stage the value of the product is increased and the sales price rises accordingly. Each increment in price reflects the value added at that stage, with the value or price of the final product equal to the sum of the increments or values added at the various stages. A tax imposed on the increments is thus identical in its base to a tax imposed on the final value of the product.

Types of Value-Added Taxes

Three major types of value-added taxes (corresponding to the gross national product, net national product, and consumption bases) may be distinguished, although only the consumption type is up for practical consideration.

GNP Type Suppose now that *all* final goods and services produced and sold during a given period, i.e., the entire gross national product, were subject to a general sales tax. The tax would be applicable to both consumer and capital goods. It would be paid by the seller when the product was sold to its last purchaser, whether a consumer, a firm which adds to its inventory, or a firm which purchases capital goods. With a GNP of $4 trillion, an all-inclusive 5 percent tax would yield $200 billion. The same would be accomplished by using the value-added approach, taxing each seller at a rate of 5 percent on value added, i.e., gross receipts minus the cost of purchasing intermediate goods from prior producers in the production line. The tax base at each stage would thus equal depreciation, wages, interest, profits, and rent. It would be the most comprehensive form of value-added tax, and may be referred to as a value-added tax of the GNP type. As noted before, it is equivalent to a sales tax applicable to both consumer and capital goods, with its impact point (in terms of Figure 12-1) at 7 or, which is the same, at 8.[9]

Income Type This value-added approach, as previously noted, may also be used to implement a sales tax on *net* product. Suppose that the intent is to tax net national product, equal to GNP minus capital consumption allowances or depreciation. Such a tax may be imposed in multiple-stage form by taxing the *net* value added by each firm, with net value added defined as gross receipts minus purchases of intermediate goods and depreciation.[10] The same result may also be accomplished by a general income tax, since the bases of a net product and an income tax are in fact the same. The value-added tax of the income type thus differs from that of the consumption type in that the former permits the firm to deduct depreciation

[9] See p. 213.

[10] Such a tax could not be imposed as a tax on the total *net* value of the product when the last sale is made, since this procedure would require the recording of depreciation costs incurred by all producers further down the line. Thus, only the value-added approach is feasible if a sales tax is to be imposed on net product.

while the latter permits it to deduct gross investment, i.e., purchase of capital goods.[11]

Consumption Type Next consider a tax which is to be imposed on consumption only, in any of three ways, namely, a flat-rate consumer expenditure tax inserted at point 2 in Figure 12-1; a retail sales tax inserted at point 4; or a tax on the incremental value added in the production of consumer goods. The last method is referred to as the consumption type of value-added tax.

The base of the value-added tax is now defined as the firm's gross receipts minus the value of all its purchases of intermediate products (materials and goods in process) as well as its capital expenditures on plant and equipment. By permitting each firm to deduct its capital expenditures, we are left with the value of consumer goods output only. Such a tax is therefore equivalent to a general retail sales tax on consumer goods, the two differing in administrative procedure only.

An Illustration

An illustrative computation of the various types of value-added tax is given in Table 23-2.

The consumption base, shown in line 10, is computed for each firm by taking total sales receipts (line 4) and deducting the purchase of intermediate and capital goods (lines 6 and 9).[12] The income base, shown in line 11, is computed for each firm as sales (line 4) minus the cost of intermediate goods and depreciation (lines 6 and 7). The GNP base, shown in line 12, finally equals total sales (line 4) minus the purchase of intermediate goods (line 6). Adding the bases for the three firms, we obtain the base for the entire economy, as shown in the last column. The total

[11] The base of the income-type tax therefore exceeds that of the consumption-type tax by the difference between gross investment I_g and depreciation D, i.e., by net investment I_n. Disregarding governmental purchases, indirect business taxes, and net exports, we find that this relationship is brought out by the following identities:

$$\begin{aligned} \text{GNP} &= I_g + C \\ I_g &= D + I_n \\ \text{NNP} &= I_n + C \\ \text{NY} &= \text{NNP} \end{aligned}$$

where NNP = net national product
NY = national income
I_g = gross investment
I_n = net investment
D = depreciation
C = consumption

Note that GNP − D, equal to NNP or NY, is the base of the income-type value-added tax; and that GNP − I_g, or GNP − $(I_n + D) = C$, is the base of the consumption-type value-added tax.

[12] The table shows derivation of the three bases in line with the so-called deduction method. Alternatively, an "addition method" may be used. For the income base, this simply involves the addition of various factor payments included in line 5. The GNP base is determined by adding factor payments and depreciation (lines 5 and 7). The consumption base is determined by adding factor payments and depreciation (lines 5 and 7) while deducting the purchase of capital goods (line 9). Thus, the addition method is readily applicable to the income type but clumsy for the consumption type of value-added tax.

TABLE 23-2
Illustration of Value-Added Tax Bases

	FIRMS			
	A	*B*	*C*	*Economy*
Current receipts				
1. Sale of consumer goods	---	70	151	221
2. Sale of intermediate goods	120	45	---	165
3. Sale of capital goods	---	100	---	100
4. Total	120	215	151	
Current costs				
5. Wages, interest, profits, etc.	100	80	90	270
6. Purchase of intermediate goods	---	120	45	165
7. Depreciation	20	15	16	51
8. Total	120	215	151	
Capital costs				
9. Purchase of capital goods	---	---	100	100
Tax bases				
10. Consumption base (line 4 minus line 6 minus line 9)	120	95	6	221
11. Income base (line 4 minus line 6 minus line 7)	100	80	90	270
12. GNP base	120	95	106	321
National accounts				
13. Consumption	---	---	---	221
14. Plus investment	---	---	---	100
15. GNP	---	---	---	321
16. Minus depreciation	---	---	---	51
17. National net product (NNP) or national income (NY)	---	---	---	270

bases in turn equal the values of consumption, national income, and GNP as defined in the national income accounts.

Collection Method

Taking the consumption type of value-added tax, we have seen that each firm computes its tax base as sales minus purchases of intermediate and capital goods. When it has done so, there are two possibilities for collecting the tax. One, the so-called accounts method, is to ask each firm to pay its tax on the base thus determined. Another, the so-called invoice method, is to have the firm compute its gross tax by applying the tax rate to total sales and then to credit against this tax an amount equal to the tax already paid by the suppliers from which the firm has purchased intermediate and capital goods. By making the tax credit for each firm contingent on presentation of the tax receipt made out to the preceding supplier, the invoice method includes a self-enforcing element because each buyer will demand copy of such a receipt. The invoice method is used generally in European countries and constitutes an advantage of the value-added approach, especially in countries where tax compliance is otherwise poor.

Conclusion

We have seen that the value-added tax of the consumption type has the same base as a retail sales tax with corresponding coverage. Such being the case, why should there be such a strong difference of opinion regarding which of the two taxes is preferable?

One difference relates to the politics of the matter. Proponents of the value-added tax feel that it ''looks'' different and thus may not share the traditional disrepute of a retail sales tax, which may or may not be the case. If the retailer's gross tax is shown as a separate part of the consumer's price, the consumer should be equally aware of his or her tax under either approach. Beyond this political consideration, there are some technical differences in implementation which are of importance.

Under the retail tax, the number of taxpayers is less than that under the value-added tax, thereby facilitating administration provided that retailers can be reached effectively. In the U.S. setting, this procedure is quite feasible, but in other countries (especially in developing countries where retail establishments are small), it might not be. Under the value-added tax, on the other hand, exclusion of capital goods may be accomplished more effectively than under the retail sales tax, where it is difficult to trace the use of items purchased from the retailer. Furthermore, under the invoice method of collection, the value-added tax has an element of self-enforcement which the retail sales tax lacks.

These and other points may be cited in favor of one or the other approach, but most important is the question of how a federal consumption tax, if it were to be introduced, would relate to the existing consumption taxes at the state level. Since these taxes are in retail form, their integration with a federal consumption tax would be much easier if the latter were also imposed at the retail level. In this case, state taxes could be levied as supplements to the federal tax and the duplicative administrative costs of a federal value-added tax could be avoided. Just as in the income tax field, we are now in the process of using the federal income tax as a base for state income tax collection, so an integrated system of consumption taxation would be preferable to a set of separate tax administrations. Since it would be exceedingly difficult to integrate a federal value-added tax with retail taxes at the state level, the conclusion is that a federal consumption tax, if it were to be imposed, should also take the retail form.

D. BURDEN DISTRIBUTION

Imposed as a personal tax, seeking to meet the taxpayer's ability to pay, the income tax was ranked highly in equity terms. The same cannot be said for sales and excise taxes. Imposed in an impersonal fashion, it makes no such allowance for ability to pay.

Selective Taxes

In our earlier discussion of sales tax incidence, we concluded that the burden distribution by income groups is dominated from the uses side, i.e., by the pattern of consumer expenditures on the taxed product. The incidence of a tax on necessities will thus tend to be regressive, whereas that of a tax on luxuries tends to be progressive. With the bulk of selective sales taxes being derived from items of mass consumption, such as liquor, tobacco, and gasoline, incidence tends to be highly regressive. Moreover, such taxes discriminate among consumers of equal income but with different preferences. They thus rank poorly on grounds of both horizontal