Serious Thinking About

Elected officials and tax gurus often condemn Oregon s state and local tax structure as unbalanced. Elsewhere in the United States, state and local governments rely on a wide array of user fees and taxes, with local jurisdictions relying heavily on property taxes, and states on broad-based consumption or sales taxes, supplemented by personal and corporate income taxes and excise taxes on specific items such as gasoline. Tax economists like this system because it spreads the tax take over a large number of sources and thereby leads to lower average rates and minimal dead-weight losses. Oregon has higher than average property and income tax rates, as well as higher user fees, in part because it doesn t have a sales tax. As for elected officials, Republicans like sales taxes and other kinds of taxes on consumption because they are usually less progressive than income and property taxes (which means that their constituents aren t hit with the lion s share of the tax burden). Democrats like sales taxes because they are money machines (which means that there is more money to throw around).

Second only to taxes based on income, consumption taxes taxes levied on purchases of goods and services generate the largest revenue pool used for government finance in the United States. Although not a major factor for the federal government, consumption taxes account for nearly half of the tax revenue collected by the states.

In this article I evaluate a range of consumption tax options in terms of distributional effects and revenue yield. I m starting from the premise that taxes that are neutral or progressive and that generate a large amount of revenue with low rates are better than regressive taxes with high rates.

To carry out this evaluation I developed a microsimulation model that combines information on consumption, income and demographics to show how much tax each of the income groups in Oregon would pay. My model is structured to produce estimates of the extent of vertical equity and the total revenue that would be generated under a variety of sales tax designs. The results show that a neutral or even slightly progressive sales tax can be designed that would generate substantial revenue with fairly low tax rates.

CONSUMPTION TAXES

A consumption-based tax can be applied to receipts anywhere in the production or product delivery process. A gross receipts tax, applied at more than one level in the product transformation process, is called a cascade tax, because the effective rate paid by the final consumer depends on the number of firms touching the product. A net receipts tax charged at each level is called a value-added tax (VAT). VATs tax the increased value of a product at each stage of a distribution channel. In terms of revenue yield and incidence, VATs are practically identical to retail level sales taxes. They are not widely used in the United States, but are common outside the United States.

Consumption taxes at the retail level can be divided into two categories: sales taxes and excise taxes. Sales taxes apply to all retail transactions, except for specifically exempted items, such as food or prescription drugs. Excise taxes apply only to sales of specific items such as tobacco, alcohol or gasoline. A sales tax on receipts at the retail level has several advantages. The most important of these advantages is that administrative expenses tend to be relatively low, at least compared with the tax alternatives in use in this country. General sales taxes in the United States are typically added to the unit price paid by the consumer and transferred to the government by the seller.

All but five states (Oregon, Alaska, Delaware, Montana and New Hampshire) levy general sales taxes. They use rates of 3 to 7.5 percent of sales prices. Most states do not tax purchases of professional services. Many states also exempt purchases of certain tangible goods, usually food and drugs, in an attempt to lighten the burden of the sales tax on low income families. To protect in state retailers from out of state competitors, some states also apply so called use taxes to out of state purchases brought into the state for consumption. But, except where in state registration of the purchased item is required by law, as is the case with automobiles, collection of use taxes is often not practical.

REBATES AND TAX CREDITS

Consumption taxes have one major drawback. Because the poor spend a substantially higher proportion of their income on consumption than do the rich, consumption taxes tend to be regressive. One method that can be used to reduce the regressivity of a sales tax is to give a rebate or tax credit to families with low incomes. The Government of Canada, for example, uses this method to alter the incidence of its federal manufacturers sales tax. It gives a sales tax credit to each family of $290 per adult and $200 per child, less 5 percent of family income over $24,800. By returning a fixed sum to families in the lowest income brackets, rebates can concentrate assistance where it is most needed to decrease the regressivity of a general sales tax.

Of course the cost of tax rebates and their effect on the pattern of tax incidence will depend on the method of financing them, but as I will demonstrate, even if rebates are financed by higher sales tax rates, they still reduce regressivity more cheaply and effectively than do commodity exemptions.

ESSENTIAL ELEMENTS OF SALES TAX DESIGNS

From the preceding discussion it should be clear that there are three significant aspects of the design of a general sales tax program:

1. The tax rate, usually expressed as a percentage of the retail price

2. The tax base, usually described in terms of the commodities exempted from taxation

3. The tax rebate, which has two dimensions: magnitude (how large?)and inci-

dence(who receives it?)

My model has two components. The revenue-yield component estimates the net revenue that would be produced for the state under various general sales tax designs. The tax-incidence component computes a tax-equity score for each design.(For a full description of the microsimulation model, see the story below)

The equity index is useful for comparing tax designs because it shows the relative tax burden on each income group with a single number. If tax payments are proportional to income, that is, if they vary across the population in direct proportion to ability to pay, the equity index will be 1.0. A regressive tax will have an equity index that is less than 1.0; a progressive tax will have an equity index greater than 1.0. In other words, a progressive tax is one in which the ratio of the amount of tax to the ability to pay (the effective rate of taxation) increases as ability to pay increases.

SALES TAX ALTERNATIVES

In the following sections, I first consider various traditional sales tax designs designs that differ from each other in terms of tax rates and tax bases. Then I show how rebates affect the revenue yields and tax incidence for a range of general sales tax programs.

Traditional Designs

In designing a traditional sales tax, there are two questions to answer: What should be taxed? and How much? The revenue yield is simply the product of the tax base and the tax rate. Thus, the broader the tax base, the lower the rate needed to generate a given amount of revenue. Conversely, the narrower the tax base, the higher the tax rate needed to achieve a given amount of revenue.

My analysis of traditional sales tax designs starts with total Oregon personal consumption. Because personal consumption is inherently regressive in nature, my model produces a weighted equity index for this tax base of a little less than 0.7. Traditional sales tax programs in the United States typically exempt outlays for personal insurance, professional services, pensions and rents. When these consumption items are excluded from Oregon s sales tax base, the potential base falls from $77 billion to about $50 billion. In addition, the equity index slides to 0.68, and the revenue yield falls $250 million for each percent of the tax rate. (For instance, if the sales tax rate was 3 percent revenue would decrease by $750 million.)

The conventional wisdom regarding sales taxes is that regressivity can be significantly reduced by exempting purchases of necessities from the tax base. But according to my model, removing items from the tax base does not have much impact on the equity index. Excluding the following commodities: groceries, utilities, fuel, household services and medical expenses from Oregon s potential tax base reduces it to about $32 billion, at a cost of $150 million for each percent of the tax rate. The equity index is improved by about 2 percent, to a little more than 0.7. Exempting food alone from the tax base would improve the overall equity index by only a slight margin. Exempting medical

THE MICROSIMULATION MODEL

I evaluated eight distinct traditional designs (two different tax bases and four different tax rates, from 3 percent to 6 percent) and eighty nontraditional designs (five different rebate levels, from $85 to $500 per family, and two different rebate structures, multiplied by eight).

Revenue-yield Component

In my model, revenue yield is estimated by multiplying the total tax base by the tax rate. The total rebate, if any, is then subtracted from this sum to obtain net revenue. I assume that the sales tax base is equal to total personal consumption in Oregon-which I estimate to be $77 billion-less any relevant exemptions. For the purposes of this report, I used two figures for the tax base: $52.5 billion and $32 billion. The former reflects total personal consumption less personal outlays for shelter (including imputed rents), $14 billion; retirement, pensions, and social security, $7 billion; and other consumption, $3.5 billion ($77 billion less $24.5 billion). The latter reflects the further exemption of groceries, $8 billion; utilities, fuel and household services, $7 billion; and health care $5.5 billion ($52.5 billion less $20.5 billion).

I assume that the total rebate will equal the rebate amount multiplied by the number of families eligible for the rebate. Where eligibility is contingent upon family income, I used information on the percentage of all households in Oregon in the appropriate income group (or groups) to estimate the number of eligible families.

Tax-incidence Component

In my model, vertical equity is measured by a tax-equity score (or index). The tax equity score shows the relationship between tax burdens under a given sales tax plan and ability to pay. To compute a tax equity score, one must make some assumptions about the incidence of the tax burden and the measurement of ability to pay. My findings reflect the following assumptions:

1. Consumers bear the full burden of the sales tax.
2. Families (households) earn income, consume commodities, and pay taxes.
3. Current income satisfactorily measures a family s ability to pay.

The equity index, a concept that was developed in the sixties to evaluate vertical tax equity, is calculated by measuring how tax payments vary with current family income. The first step in making this calculation involves classifying families into different income groups. The second step is to determine the annual taxable consumption of the average family in each income group. Next, the annual tax payment of the average family in each income group is calculated by multiplying the tax rate by its taxable consumption and by subtracting from this sum any relevant sales tax rebate. The equity index then is calculated like any other measure of elasticity: the logarithm of average family income in each income group is regressed against the logarithm of the group s average annual tax payment. A further refinement of the equity index is to weigh the ability to pay measurement by the percentage of each group in the population.

expenses would actually make the equity index worse.

Nontraditional Designs

The easiest rebate structure to visualize is an across-the-board rebate, where every household gets a fixed amount. Across-the-board rebates provide a tax shield for consumption expenditures below a specified floor. Consequently, they are similar in effect to the income tax deduction. I also tested a simple income-contingent rebate, where the household would receive the sales tax rebate only if its disposable annual income was less than $50,000.

Since I have assumed that the rebate will be supported by sales tax revenue, it follows that the revenue yield will be reduced by the total amount given back to taxpayers in the form of rebates, which is equal to the rebate times the number of households eligible for the rebate. In traditional sales tax designs exemptions greatly reduce revenue, yet they have an insignificant effect on tax equity. Rebates also substantially reduce revenue. What is their effect on tax equity? An income-contingent tax rebate of $300 per family increases the equity index by over 30 percent, from .68 to over 1.00! Given a sufficiently broad tax base, sales tax rebates make it possible to obtain high revenue yields from low sales tax rates, without imposing high tax burdens upon those who are least able to bear the burdens.

CONCLUSIONS

All traditional sales tax designs are regressive in their incidence, some more than others. Exempting certain categories of purchases from the tax base can reduce the regressivity of a sales tax, but only marginally. Sales tax rebates are a far more cost-effective means of pursuing vertical equity than are exemptions. Of course, the larger the rebate, the more progressive the sales tax plan.

I have limited my attention in this report to the simplest kinds of rebate schemes, but the design possibilities are endless. It should not be difficult for state officials to design a sales tax plan that would generate a substantial amount of revenue, and would be fair and efficient at the same time.

Finally, one last observation. If Oregon officials give serious consideration to the adoption of a broad-based consumption tax, they should perhaps also consider substituting a value-added tax for a tax on retail sales. VATs are generally less costly to administer and to police than are retail sales taxes. They may be more politically palatable, as well. Polls tell us that one of the more objectionable elements of sales taxes is that they are added on to list prices. VATs are usually incorporated into list prices. Moreover, Oregonians have repeatedly rejected sales taxes; they have never rejected a VAT.

Turtle McBride is the pen name of Michelle Howard, a former managing editor of Oregon's Future, and adjunct professor of policy analysis at the Atkinson Graduate School of Management, Willamette University, who was murdered in October, 1998 while driving a cab in Salem. This essay was written as a tribute to her.