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AN ANALYSIS OF ALTERNATIVE SALES TAX EXEMPTION PLANS

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Much of the dissatisfaction with a sales tax stems from the fact that the tax is regressive - that low income families spend a higher proportion of their income on taxable purchases than do higher income families. In addition, even within the same income classifications, the larger the family the more it spends on taxable purchases. Thus, contrary to current income tax practices which allow personal exemptions for each dependent, the sales tax discriminates against large families.

In the past, the approach taken by most states who wished to reduce the effect of these characteristics has been to exempt certain commodities from taxation; the most typical exemptions being for food consumed in the home and drugs.

In recent years, the idea of substituting a "sales tax credit" has been proposed as an alternative to exempting specific classes of commodities. The 1959 report of the Indiana Commission on State Tax and Financing Policy recommended consideration of the credit if a sales tax were adopted.

The credit system of sales tax exemption can be most efficiently administered in those states which also have an income tax and can thus administer the credit through the income tax mechanism. The Indiana Gross Retail Sales Act adopted in 1963 included a $6.00 sales tax credit against income tax liability for a taxpayer and for each of his dependents. For example, when a taxpayer with three dependents arrives at the amount of income tax he owes the state under the Adjusted Gross Income Tax Act, he then subtracts $24 from his income tax bill. If he owes no income tax, the state refunds the $24 to the taxpayer. The benefit from the $6 credit is included in the withholding tables distributed to employers throughout the state, thus the taxpayer receives it weekly or monthly and does not have to wait until the end of the year.

Advocates of the sales tax credit point out that it offers several advantages over exempting specific items from the tax. These include:

(1) The amount of the exemption is dependent upon family size. This

eliminates, to a greater extent than does a food exemption, the discrimination against large families which is inherent in the sales tax.

(2) The credit provides the same amount of exempt purchases no matter how a family chooses to spend its income. Thus persons who wish (or are required) to spend less on food and more on other commodities are not penalized for this choice.

(3) There is no question about the taxability of particular purchases or commodities. Thus, tax administration is simplified.

(4) No split of items taxable or exempt is required at the grocery checkout lanes.

(5) The credit is available only to Indiana residents, while a direct food exemption is also available to nonresidents.

(6) There is an incentive to file an income tax return regardless of the amount of tax due. Thus, more names will be added to the tax rolls for future reference.

(7) The credit provides an easy mechanism for adjusting sales tax liabilities and revenues without the necessity of complicating administrative and compliance procedures.

(8) The use of a sales tax credit reduces the regressivity of a sales tax to a greater extent than does a straight food exemption. This feature arises from the fact that the tax credit is for a fixed dollar amount. Thus as incomes rise, the credit constitutes a smaller and smaller proportion of income. On the other hand, dollar expenditures for food tend to increase (although at a decreasing rate) with increases in income.

On the negative side, disadvantages of the sales tax credit system include:

(1) The sales tax credit is less obvious than commodity exemptions and thus lacks voter appeal.

(2) Persons who do not file income tax returns do not receive the benefit of the credit; unless special effort is made.

(3) Taxpayers who are self employed, on social security, or for other reasons do not come under state withholding laws, must wait until the end of the year before receiving their tax credit reimbursement.

Dr. John F. Due makes the following points in his discussion of direct food and drug exemptions. [1]

> "Food
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> As of January 1, 1963, eight of the 33 states--California, Connecticut, Florida, Maine, Maryland, Ohio, Pennsylvania, and Rhode Island, plus Texas and Wisconsin--exempted food from the sales tax. North Carolina eliminated the exemption in 1961. Again, an interesting regional concentration appears, six of the 10 states being on the Atlantic seaboard. No state between Ohio and California provided the exemption until the Texas tax came into effect in 1961. Eight of the 10 introduced their sales taxes after 1945. In general, the exemptions cover all foods but exclude candy and soft drinks. In Florida, only candy of price in excess of 25¢ is taxable. The exemptions do not extend to meals, except those under 51¢ in Pennsylvania and under $1.00 in Connecticut and Maryland.
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> Food exemption greatly reduces the regressiveness of the sales tax, and in fact apparently eliminates it for most income levels. Exemption also greatly reduces the tax burden on lower income groups and the relatively heavy burden on large families. These results have been noted and demonstrated many times and will not be discussed in detail at this point. On the other hand, food exemption reduces revenue from the sales tax by 15 to 20 per cent. The exact amount depends on the breadth of coverage of the remainder of the tax. From the standpoint of enforcement and administration, food exemption gives rise to two types of problems:
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> 1. Problem one is that many vendors do not maintain correct records of sales of taxable and exempt commodities. The result is loss of revenue, since there is a tendency to overstate the exemption. Virtually all stores that sell food also sell taxable goods; most of them use low-paid help, there is a high rate of personnel turnover, and time pressure at the counters, especially in rush hours is severe. Thus, entirely correct application of tax is practically impossible. Because of these difficulties several states permit grocery stores to ascertain tax liability each month on the basis of a formula. ...

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[1] Due, John F., State Sales Tax Administration, June, 1963, pp. 188-191.

2. Problem two is that of interpretation. Food is easier to define than many potential exemptions, but borderline cases raise problems when candy, soft drinks, and meals are taxable. These can be noted briefly:

a. Candy and candied products shade off into chocolate-covered cookies, nuts, and the like. Very arbitrary rules are necessary.

b. It is not easy to distinguish between soft drinks and fruit drinks, which have become increasingly popular in recent years; and tablets that produce soft drinks when dropped into water are a nuisance.

c. The line between meals and food is very troublesome, particularly with the growth of drive-ins, ready-to-eat food sold in delicatessens and supermarkets, take-out food from Chinese restaurants, and the like. The general intent is to exempt from sales tax food for home consumption, whether precooked or not. But sometimes the vendor does not know whether the food will be eaten on the premises or taken home. (For example, which will happen when hamburgers are purchased at a drive-in?) The wording of the rulings designed to provide the desired separation between meals and food is very difficult. The approach is usually that anything sold in bulk in the original package is exempt as food if it is to be taken away--but this does not solve the problem of taking out from a Chinese restaurant a gallon of food that clearly is designed for home consumption.

When meals below a certain cost are exempt, as in Pennsylvania and Connecticut, there are nuisance problems in determining the cost of meals when several persons eat together and are issued one check. Administratively, the only feasible method is to make the tax status depend on the total size of the check. When the tax status is affected by the check system, restaurants will tend to issue separate checks for each customer, but this is not too serious a matter. Pennsylvania attempts to establish taxability on the basis of the amount paid at one time.

Even though food is taxed, a serious question can be raised about the desirability of taxing soft drinks, candy, and meals. The attempt to tax them is based upon the notion that these items represent "luxury" food consumption. But candy and soft drinks are very widely used items. There are far more significant forms of luxury food spending ($2.50-a-pound steaks, exotic imported foods, fruit and vegetables out of season, etc.) that no attempt is made to reach. It is scarcely worthwhile to single out candy and soft drinks. Much the same reasoning applies to meals. Most restaurant eating is anything but luxury eating, many persons being required by circumstances to take many of their meals in restaurants. If it is considered desirable to reach what may legitimately be regarded as luxury eating, the meal exemption should be set at perhaps $2.50. A policy of exempting all foods and taxing all meals is grossly discriminatory. Incidentally, Arizona follows the reverse policy. Food is fully taxable; meals are taxed at half the basic rate (under the

assumption that half the cost is for nontaxable service).

Medicine

The states have been reluctant to provide any exemption for medicine, even though in terms of policy this exemption would have substantial justification. The incidence of illness is very unevenly distributed among the population. Expensive drugs and medicines can place a very heavy drain on the resources of lower income groups; it is unfortunate to add a sales tax burden.

As of January, 1963, three states--Florida, Maryland, and Rhode Island--exempted all medicines and drugs, while eight--California, Connecticut, Maine, North Carolina, North Dakota, Ohio, Pennsylvania, and Texas--exempted prescription medicines. California and Ohio added the exemption in 1961. Most of these states also exempt certain types of medical appliances. It will be noted that all of these states except North Dakota also exempt food, and that California, North Dakota, and Texas are the only Western states to provide the exemption. In several other states, medicines compounded by a pharmacist are taxed only on the basis of the purchase price of the ingredient drugs when bought by the pharmacist, whose work is considered to involve the rendering of services.

If the exemption is confined to prescriptions, its administration involves relatively little difficulty, since there is a clear-cut line of demarcation and evidence of exemption. To extend the exemption to all drugs and medicines, as do Florida, Maryland, and Rhode Island, is to invite difficulties because of the lack of a clear-cut border between these items and related products such as dentifrices and cosmetics. Lengthy interpretative lists are necessary, and correct application is difficult.[5] Furthermore, many household remedies are handled not only by drug stores, which do virtually all prescription work, but also by supermarkets, variety stores, and numerous others. The control problems are increased tremendously.

In general, while the exemption of medicine is warranted in terms of social policy, the objective can be largely attained and with very much less difficulty if exemption is confined to prescriptions; plus perhaps a few major standard items to be mentioned by name, such as insulin and cortisone."

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[5] Rhode Island permits use of a formula based on proportion of total purchases.

Comparative Sales Tax Liabilities for Selected Income Groups Under Alternative Exemption Plans

Table I demonstrates the effect of exemptions on the regressivity of a sales tax. Effective tax rates (sales tax paid divided by after tax income) are presented for four alternative plans. Alternative #1 is a sales tax

having no exemptions, alternative #2 is a sales tax exempting food consumed in the home, alternative #3 is allowing a $6 credit per person, and alternative #4 is a sales tax utilizing a system of diminishing tax credits. The diminishing credit alternative operates in the same manner as the flat $6 credit and claims the same advantages. However, instead of allowing a fixed dollar exemption as does the current Indiana law, the dollar amount of credit per person in each family is contingent upon the adjusted gross income of the family. In the example used in this analysis the following credit pattern was assumed although any number of systems could be designed depending upon equity evaluations and revenue requirements:

Diminishing Credit Assumption

Adjusted Gross Income Class	Sales Tax Credit Per Dependent
less than $2,000	$10.00
$2,000 less than $4,000	8.00
$4,000 less than $8,000	6.00
$8,000 less than $10,000	4.00
$10,000 less than $15,000	2.00
over $15,000	0.00

Data Characteristics

There are certain characteristics of the data used in this study which should be mentioned prior to discussing the results of the analysis of exemption alternatives.

The data on consumer expenditures used to estimate total expenditures subject to the Indiana sales tax were taken from the Bureau of Labor Statistics study for Urban Areas in the North Central Region of the United States (which includes Indiana). While expenditure patterns in this region are similar to those in Indiana, they can be expected to differ in certain respects. In addition, the expenditure data were only classified by income and not by income and size of family. Thus we do not have expenditure patterns (and therefore sales

tax liabilities) for alternative family sizes at various income levels. The sales tax liabilities estimated below are based on the actual number of persons in the average family in each income class. Since the income classes above $4,000 have more members per family, the progressivity of the effective sales tax rates over the entire income distribution differs from that which would result if the tax rates were calculated for the same size family in all income classes.*

The upshot of the data characteristics cited above is that the effective tax rates calculated cannot be completely relied upon as an accurate presentation of the actual effective rates resulting from the Indiana sales tax. On the other hand, since the purpose of this study is to compare the relative differences between alternative exemption schemes, no great violence is done to the analysis since the expenditure data remain fixed. Any changes in effective tax rate progressivity among the various alternatives are solely a result of varying exemptions.

Results of Analysis

As can be seen from Table I, which presents the data, and figure I which portrays the effective tax rates graphically, all three exemption alternatives significantly alter the classically regressive shape of the sales tax curve. Under alternative #1 (no exemptions) the effective tax rates drop from 2.12% at the lowest income level to .92% at the top of the income scale. Furthermore, the slope of the curve is continuously downward. When food consumed in the home is exempted from the tax, the effective tax rates become much less regressive except at the extreme ends of the income scale. With the food exemption, the effective rate of the lowest income level drops from 2.12% to 1.39%. However, the effective rate at the highest income level drops from .92% to .73%, the lowest rate under any of the four alternatives.

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*Figure II shows the alternative slope characteristics for a four person urban family using 1950 consumption pattern data for the United States.

The introduction of a flat $6 per person sales tax credit reduces the regressivity of the sales tax even more than does the exemption from taxation of food consumed in the home. Under the credit, the effective tax rate of the less than $1,000 income group is decreased by about 20% from what the rate would be under the food exemption. The over $15,000 class has its tax bill increased by about 10%.

As might be expected, the diminishing credit scheme has a greater effect on the regressivity of the sales tax than either of the other alternatives. In fact, except for the $15,000 and over income class, the use of the diminishing credit converts the sales tax into a relatively progressive tax (given accurate expenditures data). This can be seen clearly by examining the slope of the diminishing credit curve in figure I. The most significant difference from the other two alternatives, of course, occurs in the under $5,000 groups and the over $10,000 income groups.

Revenue Impact

Alternative revenue impacts for each of the three exemption plans were calculated for the period fiscal 1963-1965. The most current estimates of Indiana population for 1964 (4,844,000) and 1965 (4,894,000) were used to compute the revenue loss from the two credit plans. It was estimated that 5% of the population would fail to claim the credit in each of these years. (In 1961, 6.3% of the Indiana population was "unclaimed" as income tax exemptions).

Given the above population figures, it was estimated that the $6 credit, had it been in effect for the entire 1963-1965 biennium, would have cost the state $55.5 million (this is about $2 million less than earlier estimates due to the availability of more current population data).

Since Indiana has not yet had a full year's experience with the sales tax, it is difficult to estimate the loss we would incur from exempting purchases of food to be consumed in the home. Collections from the Michigan sales tax

(which is very similar to Indiana's) indicate that about 24% of the collections came from grocery stores. Applying this figure to Indiana's initial sales tax forecast of $223 million, the loss would be in the neighborhood of $53.5 million. Assuming sales tax revenues of $235 million (which now seems more likely), the cost would be $56.3 million.

The revenue loss resulting from the adoption of diminishing credit used in this analysis is also difficult to estimate accurately. The estimate was made by projecting the 1961 distribution of exemptions among adjusted gross income classes to 1964 and 1965. It is likely that the revenue loss calculated from this procedure, $57.1 million, is slightly high since we can expect that there will be fewer families in the low income groups in 1964 and 1965 than there were in 1961.

By way of summary, Table II presents expected sales tax yields under each of the four alternatives considered above.

Table II

	Sales Tax Yield	Loss from Exemption
Alternative #1 (no exemptions)	$235 million	$0
Alternative #2 (food exemption)	178.7 "	56.3 million
Alternative #3 ($6 credit)	179.5 "	55.5 "
Alternative #4 (diminishing credit)	177.9 "	57.1 "

Summary

It is fairly apparent from this analysis that if a state wishes to modify its sales tax so as to reduce the burden on the low income classes, the diminishing credit offers the most effective means of accomplishing this goal. In addition, the credit alternatives appear to be superior administratively, if the state has both an income tax and a sales tax.

On the other hand, if the value determination is made that no person, whatever his income, should pay sales tax on certain commodities (i.e., food), then the obvious solution is to simply exempt these commodities from taxation.

As far as the impact on state revenues is concerned, the differences between the three alternatives are relatively insignificant.

TABLE I - Effective Sales Tax Rates Under Alternative Exemption Plans

0	1,000<2,000	2,000<3,000	3,000<4,000	4,000<5,000	5,000<6,000	6,000<7,500	7,500<10,000	10,000<15,000	15,000 and Over
	1.6	2.4	2.5	3.0	3.4	3.7	4.0	4.3	3.7
0	1,532.00	2,510.00	3,480.00	4,487.00	5,476.00	6,700.00	8,557.00	11,510.00	21,567.00
	Alternative #1 - No Exemptions								
0	1,151.00	1,769.00	2,294.00	3,028.00	3,576.00	4,287.00	5,302.00	6,734.00	9,951.00
0	23.02	35.38	45.88	60.56	71.52	85.74	106.04	134.68	199.02
2	1.50	1.41	1.32	1.35	1.30	1.28	1.24	1.17	0.92
	Alternative #2 - Exempting Food Prepared in the Home								
0	695.00	1,160.00	1,552.00	2,129.00	2,520.00	3,089.00	3,953.00	5,228.00	7,921.00
6	13.90	23.20	31.04	42.58	50.40	61.78	79.06	104.56	158.42
9	.91	.92	.89	.95	.92	.92	.92	.91	.73
	Alternative #3 - $6.00 Sales Tax Credit Per Person								
00	1,151.00	1,769.00	2,294.00	3,028.00	3,576.00	4,287.00	5,302.00	6,734.00	9,951.00
90	23.02	35.38	45.88	60.56	71.52	85.74	106.04	134.68	199.02
20	9.60	14.40	15.00	18.00	20.40	22.20	24.00	25.80	22.20
70	13.42	20.98	30.88	42.56	51.12	63.54	82.04	108.88	176.82
09	.88	.84	.89	.95	.93	.95	.96	.95	.82

TABLE I - Effective Sales Tax Rates Under Alternative Exemption Plans

Income Class	Under $1,000	1,000<2,000	2,000<3,000	3,000<4,000	4,000<5,000	5,000<6,000	6,000<7,500	7,500<10,0
Average family size	1.2	1.6	2.4	2.5	3.0	3.4	3.7	4.0
Average annual income after taxes	$704.00	1,532.00	2,510.00	3,480.00	4,487.00	5,476.00	6,700.00	8,557.00
Alternative #1 - No Exemptions								
Expenditures subject to tax	$745.00	1,151.00	1,769.00	2,294.00	3,028.00	3,576.00	4,287.00	5,302.00
Sales tax at 2%	14.90	23.02	35.38	45.88	60.56	71.52	85.74	106.04
Effective tax rate (sales tax divided by income after taxes)	2.12	1.50	1.41	1.32	1.35	1.30	1.28	1.24
Alternative #2 - Exempting Food Prepared in the Home								
Expenditures subject to tax	$488.00	695.00	1,160.00	1,552.00	2,129.00	2,520.00	3,089.00	3,953.00
Sales tax at 2%	9.76	13.90	23.20	31.04	42.58	50.40	61.78	79.06
Effective tax rate	1.39	.91	.92	.89	.95	.92	.92	.92
Alternative #3 - $6.00 Sales Tax Credit Per Person								
Expenditures subject to tax	$745.00	1,151.00	1,769.00	2,294.00	3,028.00	3,576.00	4,287.00	5,302.00
Sales tax at 2%	14.90	23.02	35.38	45.88	60.56	71.52	85.74	106.04
Sales tax credit	7.20	9.60	14.40	15.00	18.00	20.40	22.20	24.00
Sales tax minus $6 credit	7.70	13.42	20.98	30.88	42.56	51.12	63.54	82.04
Effective tax rate	1.09	.88	.84	.89	.95	.93	.95	.96

TABLE I - Effective Sales Tax Rates Under Alternative Exemption Plans (Page 2 of 2 pages)

der 000	1,000<2,000	2,000<3,000	3,000<4,000	4,000<5,000	5,000<6,000	6,000<7,500	7,500<10,000	10,000<15,000	15,000 and Over
			Alternative #4 - Diminishing Credit						
	$10 credit	$8 credit		$6 credit			$4 credit	$2 credit	no credit
45.00	1,151.00	1,769.00	2,294.00	3,028.00	3,576.00	4,287.00	5,302.00	6,734.00	9,951.00
14.90	23.02	35.38	45.88	60.56	71.52	85.74	106.04	134.68	199.02
12.00	16.00	19.20	20.00	18.00	20.40	22.20	16.00	8.60	0.00
2.90	7.02	16.18	25.88	42.56	51.12	63.54	90.04	126.08	199.02
.41	.46	.64	.74	.95	.93	.95	1.05	1.09	.92

TABLE I - Effective Sales Tax Rates Under Alternative Exemption Plans (Page 2 o

Alternative #4 - Diminishing Credit

	Under $1,000	1,000<2,000	2,000<3,000	3,000<4,000	4,000<5,000	5,000<6,000	6,000<7,500	7,500<10,000
	$10 credit		$8 credit		$6 credit			$4 credit
Expenditures subject to tax	$745.00	1,151.00	1,769.00	2,294.00	3,028.00	3,576.00	4,287.00	5,302.00
Sales tax at 2%	14.90	23.02	35.38	45.88	60.56	71.52	85.74	106.04
Sales tax credit	12.00	16.00	19.20	20.00	18.00	20.40	22.20	16.00
Sales tax minus diminishing credit	2.90	7.02	16.18	25.88	42.56	51.12	63.54	90.04
Effective tax rate	.41	.46	.64	.74	.95	.93	.95	1.05