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DOES A FOOD EXEMPTION LEAD TO A HIGHER STATE SALES TAX RATE?

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THE FOOD-FOR-HOME CONSUMPTION EXEMPTION FROM state sales taxes is a political winner: The tax on food is widely perceived as being regressive; all increased costs of exempting food are argued to be negligible; and the exemption provides tax relief to nearly every voter. Food purchases are given preferential tax treatment in 29 states and the District of Columbia, and an exemption has been proposed recently in a number of other states.

Most tax policy analysts see the food exemption as bad public policy that will impose additional compliance costs and not necessarily reduce the regressivity of the sales tax. Further, the exemption will increase existing horizontal inequities, and can confuse intergovernmental fiscal relations within a state and increase the revenue sensitivity to the business cycle.

Who is right? Is the sales tax exemption on food purchases for home consumption sound? Should it continue? Our work suggests that the harm caused by the food exemption may be exacerbated when a state *increases* the sales tax rate to make up for the lost revenue. This policy substitution increases the excess burden of the sales tax, increases the rewards to tax evasion, offsets any improvement in vertical equity, and further increases administrative and compliance costs. When Due and Mikesell (1994) wrote, "In summary, food exemption is perhaps the largest mistake the states have made in their sales tax structures . . .," they may have underestimated the severity of the mistake by not considering rate increases. The empirical evidence on the relationship between food exemptions and sales tax rates is the subject of this paper.

WHY AN EXEMPTION MIGHT LEAD TO A HIGHER RATE

During a budgetary surplus, state policymakers can increase reserve accounts, increase expenditures, or reduce revenue. The revenue reduction

choice is generally between lowering a tax rate and narrowing a tax base. Traditional economic theory advocates reducing the overall tax rate, thereby reducing the excess burden.¹ Other arguments supporting an overall rate reduction include a reduction in the rewards for tax evasion and relatively lower administrative and compliance costs.

Traditional economic theory, however, is not always convincing. Most state taxes give sizable tax preferences. For example, homestead exemptions, special income tax exemptions for senior citizens, and sales tax exemptions for food, utilities, and services are common, and these exemptions all lead to both horizontal inequities and excess burdens.

When state policymakers choose to narrow the sales tax base with respect to food, this policy appears to be irreversible (Due and Mikesell, 1994).² Only North Carolina and Louisiana have ever reversed a food preference in the state sales tax. But in both of these states, grocery purchases enjoy a limited tax advantage today.³ One reason for the irreversibility of the food exemption may be the same reason why policymakers ever reduce a tax base: proponents often argue exemptions on equity grounds or, sometimes, less formal concepts of "fairness." An example of the latter, according to Due and Fairchild (1988), occurred in Nebraska when legislators argued that a tax on food was "immoral." Critics of tax exemptions (e.g., Epstein, 1993) point to public choice models of government decisionmaking where lobbying is the basis for preferential tax treatment. Obviously, if policymakers are convinced that a tax is immoral or if the lobby effort against restoring the tax is strong, an exemption will remain in place.

From the work of Fox and Campbell (1984), Dye and McGuire (1991), Hawkins (1997a), and Bahl and Hawkins (1997), collections from food purchases for home consumption are a stabilizing force in total sales tax revenue. Therefore, when policymakers exempt food, they should expect a

more cyclical sales tax. This combination, an irreversible food exemption and a surprising revenue response to the business cycle, is a potential cause for a state sales tax rate increase following a new food exemption.

FOOD AND SALES TAX REGRESSIVITY

According to Due and Mikesell (1994), sales tax regressivity has been the loudest argument in the debate over exempting food. This argument is based on a decline in the relative size of the food budget as income increases (Table 1). With this decline, one would expect a food exemption to provide a disproportionate benefit to low-income households. Four important assumptions were made in the conclusion that a food exemption provides necessary relief for poorer households:

- (1) Income is assumed to be the appropriate measure of a household’s well-being. This assumption has been questioned over the past couple of years. Arguments for total expenditures (instead of income) can be found in Poterba (1989 and 1991) and Metcalf (1994). Using household expenditures as a proxy for long-run household income, one can question the conclusion that a sales tax is regressive and whether a food preference benefits low-income households.
- (2) It is assumed that poorer households do not receive food stamps. States are required by federal law to exempt food stamp purchases from the general sales tax, and a new food exemption will provide relief to a poor

household only if the household does not qualify, does not participate, or spends more than the food stamp allocation. While eligibility, participation and spending vary across even the low-income groups, Bahl and Hawkins find a dramatically different distributional impact for a food exemption when most poor households use food stamps.

- (3) The absence of behavioral responses to sales taxation is implied. First, most sales tax analysis assumes that consumers bear the entire burden of the sales tax (an exception can be found in Cline and Wilson (1995), but a portion of the food-exemption relief may fall on suppliers. Second, the price elasticity of demand may vary across income classes. In this case, high-income households could make larger adjustments to purchases, increasing their tax relief by eating at home more often (and reducing their tax liability on restaurant meals) while low-income households were eating at home. This variation in behavior is considered by Hawkins (1997b) and could reduce the efficiency of a food exemption tax cut intended to benefit or low-income households.
- (4) If the general sales tax rate does not remain constant, the benefits toward the low-income households in Table 1 can be misleading. Bahl and Hawkins consider the joint tax policy of a food exemption and an increase in the general sales tax rate. With traditional vertical equity calculations and a comparison between a 5 percent Georgia sales tax

Table 1
Profile of U.S. Food-for-Home-Consumption Spending in 1995

<i>Maximum Household Income</i>	<i>Number of Households</i>	<i>Income before Taxes</i>	<i>Food-for-Home Consumption</i>	<i>Food Spending as a Share of Total Income</i>
\$5,000	4693	\$1,769	\$1,705	0.96
10,000	9827	7,543	1,823	0.24
15,000	8744	12,417	2,208	0.18
20,000	7729	17,342	2,732	0.16
30,000	12658	24,603	2,612	0.11
40,000	10652	34,604	2,907	0.08
50,000	8200	44,409	3,359	0.08
70,000	10375	58,365	3,598	0.06
Unlimited	10577	104,590	4,142	0.04

Source: U.S. Department of Labor. Bureau of Labor Statistics.

rate (with a food exemption) and a 4 percent Georgia sales tax rate (where food remains in the tax base), the sales tax with a higher rate and a food exemption is no less regressive. This finding does not mean an exemption is bad policy, rather, it is difficult to justify a food exemption based on the regressivity of the general sales tax.

RELATIONSHIP BETWEEN STATE RATES AND FOOD EXEMPTIONS

Four of the 29 states (and DC) that exempt food purchases use a partial sales tax rate reduction (Federation of Tax Administrators, 1997). For the 16 states with a sales tax and no preferential treatment of food purchases, we find an average state sales tax rate of 4.78 percent on January 1, 1997 (Table 2). For the 29 states with preferential sales tax treatment of food, we find an average rate of 5.38 percent. A statistical test reveals that these values are significantly different. Generally, one can expect to pay a 0.6 percent sales tax premium for the privilege of purchasing food at a lower rate. A higher tax rate in food-preference states is not a new phenomenon; Table 2 also includes averages for earlier years. We find that the food exemption "premium" varies between 0.6 in 1997 and 1.1 in 1985.

State rate differences are emphasized in Figure 1, allowing the distribution of rates to be compared for the two types of states. The distribution of rates is skewed to the low end in non-preference states and toward high rate levels in preference states. Currently, seven states have a sales tax rate greater

than 6 percent. Six of the seven, Mississippi being the exception, give preferential treatment to food purchases.

Could a Rate Increase Cause a Food Exemption?

From the above data, it is likely that the sales tax rate will be higher in a state with a food exemption. The issue of whether the exemption *caused* the rate increase, however, is more problematic. In fact, a change in the tax rate in North Carolina was accompanied by relief for food purchases. For this tax policy change, the food exemption could be viewed as a political compromise in order to gain legislative approval for the rate increase.

To investigate the relationship between food exemptions and state sales tax rates further, we examined the exemption enactment dates (see Due, 1971; Due and Mikesell, 1983 and 1994; and the U.S. Bureau of the Census). For Indiana, Iowa, Kentucky, and Michigan, representatives from the state revenue authority provided the information. Table 3 contains these enactment dates and a brief history of rate changes around those dates. Seven of the 13 states did not have a state sales tax rate increase for the ten years prior to the food exemption. Nine states did not have a rate increase within five years. Conversely, seven of 12 states *raised* the sales tax rate within five years of the food exemption date, and eight of 11 states raised the rate within ten years.⁴

For Indiana, Illinois, and West Virginia, the sales tax rate was remarkably constant before the exemption and increased shortly after. For Iowa and North Carolina, the exemption *could* be a result of

Table 2
Average State Sales Tax Rates by Food Exemption Status
Selected Years from 1971 to 1997

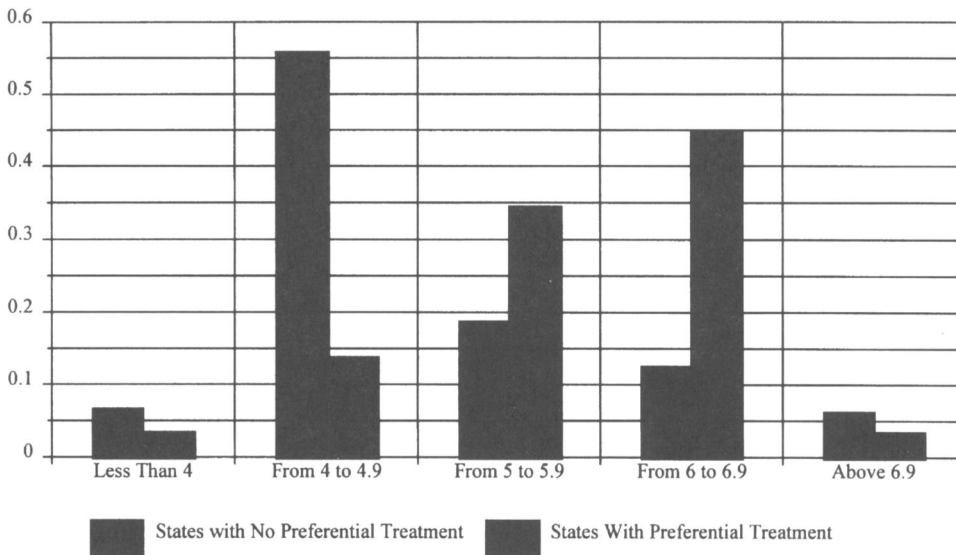
Year	Number of States where Food is at Least Partially Exempt	Average State Sales Tax Rate	
		Food is Subject to the Full Retail Sales Tax	Food is at Least Partially Exempt
1971	16	3.39	4.01*
1978	18	3.51	4.51*
1981	25	3.49	4.34*
1985	26	3.92	5.02*
1997	29	4.78	5.38*

* Denotes averages are significantly different values at the 95 percent confidence level (t test for small, unequal samples).

Note: Excludes the District of Columbia. Alaska, Delaware, Montana, Oregon, and Vermont do not have a state general sales tax and are also omitted.

Sources: Due and Mikesell (1994) and Federation of Tax Administrators (1997).

Figure 1: Probability Distribution of Sales Tax Rates July 1, 1997



Source: Federation of Tax Administrators (1997).

the rate increase. Rate increases followed food exemptions in 64 percent of the states examined, but one cannot rule out the possibility of reverse causality. Therefore, we turn to a time period when sales tax rate increases were common and food exemptions were not enacted; trying to establish whether states with new food exemptions were more likely to increase the sales tax rate.

Food Exemptions and Rate Increases in the Early 1980s

The recent history of food exemptions is summarized in Figure 2. Seven states added a rate reduction between 1978 and 1980,⁵ raising the total from 19 to 26. The new food exemptions are interesting given the dramatic changes that began in 1981. A combination of national recession and new fiscal federalism policies under the Reagan administration helped produce a significant round of sales tax rate increases between 1981 and 1985. During that period, 26 states plus the District of Columbia increased the sales tax rate (Due and Mikesell, 1983) and five of the seven states with new food exemptions increased the rate.

Table 4 compares states with new food exemptions, established exemptions, and no exemption. In the first group, the likelihood of a rate increase

appears to support our claim that new food exemptions lead to rate increases, but the difference is not statistically significant. However, an interesting question is whether one can conclude that, after holding everything else constant, states with a new food exemption (even a partial exemption) in 1981 were more likely to increase the sales tax rate over the next four years.

We performed an empirical probability analysis on data for all states with a general sales tax during the early 1980s.⁶ With a probit model, one can test the hypothesis that the probability of an event is related to other factors. In this case, the model is used to examine the effect of a new food exemption on the likelihood of a sales tax rate increase.⁷ The model estimates, reported in Table 5, are disappointing in that none of the coefficients are significant. With this model, no systematic determinants of these rate increases can be identified.

CONCLUSION

There are some fairly obvious reasons why the food-for-home-consumption exemption from the general sales tax is popular today. The exemption benefits nearly every household, it is easily administered in automated supermarkets, and it responds

Table 3
Sales Tax Rate Changes and Food Exemption Enactment Dates in 13 States

Rate Increase Prior to the Food Exemption?		State (Exemption Date)	Rate Increase after the Food Exemption?	
<i>5 to 10 Years Prior</i>	<i>Within 5 Years</i>		<i>Within 5 Years</i>	<i>5 to 10 Years</i>
N	Y	Kentucky (1972)	N	N
N	N	Indiana (1973)	Y	N
N	N ¹	Washington (1978)	Y	Y
N	N	Michigan (1978)	N	N
N	N	Nevada (1979)	Y	N
N	N	West Virginia (1979)	Y	Y
Y	N	Arizona (1980)	Y	N
N	N	Colorado (1980)	N ²	N
N	N	Illinois (1980)	Y	Y
Y	Y	Nebraska ³ (1984)	Y	Y
N	Y	Iowa (1985)	N	Y
N	Y	North Carolina (1992)	N	N/A
Y	N	Georgia (1997)	N/A	N/A
3	4	Totals	7	5

¹ Omits a 0.1 percent rate increase in Washington.

² A Colorado sales tax rate increase in 1984 only lasted one year.

³ Nebraska decreased the state rate in 1969, increased the state rate in 1971, 1977, and 1983, increased the rate and enacted a food exemption in 1984, lowered the rate in 1985, and increased the rate in 1987 and 1991.

Source: Authors' calculations based on Due (1971), Due and Mikesell (1983 and 1984), and U.S. Bureau of the Census (various years).

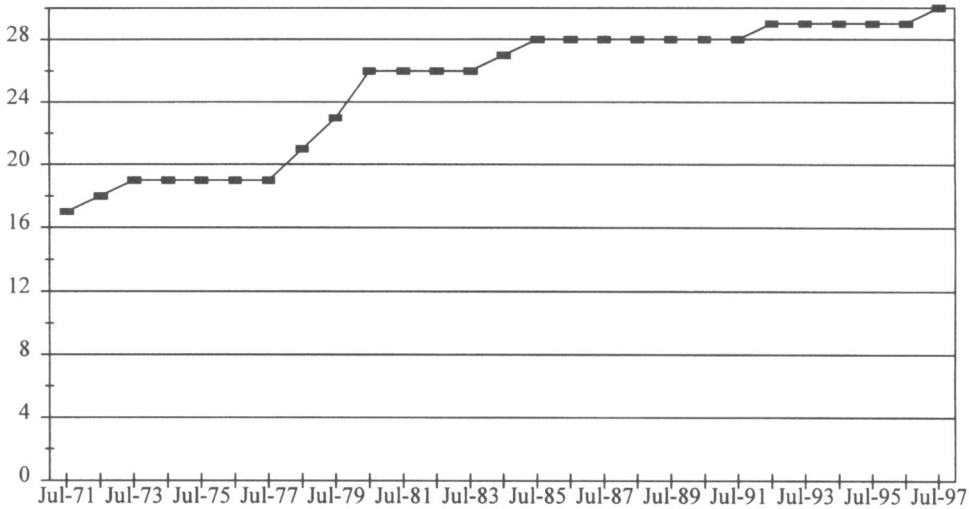
to a public concern over taxing necessities. Before one endorses the grocery exemption, one must consider arguments against this tax preference.

Common arguments against the food exemption include the possibility that it does not necessarily reduce the regressivity of the sales tax. But there are some other important questions. Should a state force local governments also to exempt food or should local governments have a choice? In terms of compliance costs, are all grocery stores effected equally by the exemption or do smaller stores face a competitive disadvantage? Is the excess burden,

or the tilt of consumer purchases towards food-for-home consumption, acceptable? Finally, is the state ready for new revenue shortfalls in the next recession when stable food purchases are exempt?

We have examined the hypothesis that the food exemption leads states to raise the sales tax rate. We believe the evidence is consistent with this hypothesis. The state tax rate data indicate that states with a food exemption have a higher rate today, and this relationship can be observed over the past 25 years. In fact, nearly all of the states with the

Figure 2: Total Number of States with Preferential Food Treatment in the Sales Tax July 1971 through July 1997



Note: Total includes District of Columbia. These data ignore a short increase in the Illinois state sales tax rate (not accompanied by an increase on food) and a short removal of preferential treatment of food in Louisiana in 1996. Sources: Due (1971), Due and Mikesell (1983 and 1994), State Tax Notes (1997), Louisiana Department of Revenue and Taxation (1997), and telephone interviews with state revenue authorities in Indiana, Iowa, Kentucky, and Michigan.

highest tax-rates have at least a partial food exemption.

Given the relationship between rates and exemptions, as well as the relative popularity of new exemptions in the late 1970s, we have attempted to establish whether states with a new food exemption were more likely to increase the sales tax rate between 1981 and 1985. Causality in this rate-exemption relationship could not be established. Numerous states did increase the sales tax in the early 1980s, but the role of food exemptions cannot be confirmed empirically.

Four policy conclusions can be drawn from this study. First, if the sales tax base is narrowed by providing preferential tax treatment of food, there is pressure to increase the state sales tax rate. Most states that exempt food do have higher rates. Second, if a food exemption is being considered, analysis should address whether an overall rate reduction is more desirable in accomplishing the policy goal. Third, food stamp recipients may be hit hardest by a food exemption followed by a rate increase because food stamp purchases cannot be taxed. Finally, if a new food exemption is enacted,

Table 4
Likelihood of a State Sales Tax Increase by Food Exemption Status, 1981-1985

Food Exemption Status	Total Number of States	Number of States with a Sales Tax Increase	Share of States with a Sales Tax Increase
No Food Exemption	20	10	50.0%
Established Food Exemption ^a	18	9	50.0
New Food Exemption ^{a,b}	7	5	71.4

^a Totals include states with a partial exemption. The District of Columbia has been omitted.

^b New food exemption is defined as enacted between 1978 and 1980.

Source: Authors' calculations based on Due (1971), Due and Mikesell (1983 and 1984), and U.S. Bureau of the Census (various years).

Table 5
Probit Results for Determinants of a Sales Tax Rate Increase between 1981 and 1985
(Standard Errors in Parenthesis)

<i>Independent Variable</i>	<i>Estimate^a</i>	<i>Estimate^a</i>
Constant	0.1484 (2.2669)	-0.2384 (2.3269)
Established Food Exemption	-0.0773 (0.4331)	0.0394 (0.4499)
New Food Exemption	0.3441 (0.6219)	0.3941 (0.6418)
Federal Intergovernmental Revenue Reliance	1.0357 (4.8024)	1.829 (4.8557)
Income Tax Reliance	-2.2111 (2.7525)	-2.0237 (2.8144)
Sales Tax Reliance	2.0861 (3.9744)	2.1804 (3.9702)
Tax Level	-7.4517 (16.9010)	-4.0857 (17.2475)
Share of State Legislators in 1982 that Belonged to the Democratic Party	— —	-0.0024 (0.0064)
Log-Likelihood	-29.38	-28.69
Sample Size	45	44 ^b

^a None of the coefficients are statistically significant at the 90-percent confidence level, two-tailed test.
^b Legislators were elected without party designation in Nebraska and the observation was omitted.

contingencies for potential revenue shortfalls should be established to help reduce the possibility of a future sales tax rate increase.

Notes

¹ The excess burden of these exemptions is considered to be dependent on the price elasticity of the compensated demand curve for the commodities. It is possible that with perfect information on price elasticities, a lower tax rate on a particular (price elastic) commodity is optimal (see Tresch, 1980; or Sandmo, 1976, for an introduction to the optimal taxation literature).

² The exemption of many services from the sales tax base is a slightly different phenomenon in that services generally were never taxed. Therefore, states have experienced a *formal* policy debate in the case of food and often have not in the case of services.

³ In Louisiana, a portion of the preferential treatment was returned in 1997; in North Carolina, the sales tax rate on grocery purchases remained at 3 percent when the general state rate increased to 4 percent in 1992.

⁴ North Carolina and Georgia enacted the food exemption in 1992 and 1996, respectively. Rate increase data is therefore incomplete.

⁵ According to the sources mentioned above, the states with new food-tax reductions during that period were Arizona, Colorado, Illinois, Michigan, Nevada, Washington and West Virginia.

⁶ Due to its unique fiscal structure, the District of Columbia has been omitted from this model.

⁷ The dependent variable is whether the sales tax rate increased between 1981 and 1985. The independent variables are whether the state had a recent food exemption, whether the state had a food exemption prior to 1978, general sales tax revenue as a share of total general revenue in 1981, total state-tax revenue as a share of per-

sonal income (also in 1981), intergovernmental revenue from the federal government as a share of general state government revenue and the share of the state legislature in 1982 which reported Democratic Party membership (obtained from Council of State Governments, 1983, and not available for Nebraska). The results are disappointing, as none of the coefficients are significant. The model also performs poorly in terms of predicting which states would increase the sales tax rate between 1981 and 1985, with an incorrect outcome for 17 of the 44 states.

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