APPENDIX C

HAWAII'S GENERAL EXCISE TAX:
SHOULD THE BASE BE CHANGED?

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Hawaii's General Excise Tax: Should the Base Be Changed?

Report Prepared for the 2005-2007 Hawaii Tax Review Commission

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Introduction[1]

This report is an assessment of whether the Hawaii General Excise Tax (GET) structure should be altered by granting additional exemptions or by eliminating some existing exemptions. The report was prepared for the 2005-2007 Hawaii Tax Review Commission.

The GET has many strengths, not the least of which is its ability to generate large amounts of revenue at a low tax rate. Hawaii is to be congratulated for keeping its tax base so broad while many other states have continually whittled away significant portions of their sales tax base, making their taxes much less productive and much more distorting of behavior. As a result, essentially every other state has raised its sales tax rate during the past 25 to 30 years in the face of tax bases that have been eroded through a combination of legislative decisions, changing consumption patterns, growing remote sales, and business tax planning. Thus, the median state sales tax rate rose from 3.25 percent in 1970, to 4.0 percent in 1980, and to 5.0 percent in 1990. Today, 21 of the 45 sales taxing states use a rate at or above 6.0 percent. Hawaii does not want to fall into the spiral of narrowing the base and raising the rate, but this does not preclude reconsideration of the degree to which exemptions are granted, since the appropriateness depends on a series of issues including fairness, revenues, and effects on the economy. As a general rule, additional exemptions of business-to-business transactions are appropriate while additional exemptions of business-to-household transactions should only be granted to the extent that there is a compelling reason.

An assessment of any tax must begin with a perspective of the economic activity that is the target for taxation. In this report, the GET is evaluated as a sales tax even though it is imposed as a privilege tax on vendors. Further, the presumption is that sales taxes are intended as taxes on consumption. These baseline assumptions are important to the analysis and findings that are reached here and can be justified using several grounds. First, the legal distinction between a tax on vendors and on consumers tells little of the legislative intent or the economic effects of the GET, and these are the most important factors for categorizing the tax. An important conclusion of economics is that the economic effects, in terms of whose income ultimately is reduced through payment of the tax and the tax's effects on the product's price and quantity demanded, are the same regardless of whether the tax is legally incident on the seller's receipts or the buyer's purchase. Indeed, legislators probably expect that much of the tax is paid in higher prices for consumers. As a result, legal incidence provides little guidance for measuring the intent. Second, Hawaii is not unique in creating its sale tax through a vendor levy. Thirteen states including Hawaii levy their sales tax on the privilege of engaging in business as a vendor (Due and Mikesell, 1995, p. 28-29). Fifteen states and the District of Columbia levy their tax as a hybrid between a tax on vendors and on consumers. Only 17 states have a legally specified consumer levy.

[1] The author thanks Joan Snoderly for many important contributions to this report. The author also thanks Dr.Tu Pham and Dr. Donald Rousslang of the Hawaii Department of Taxation for many helpful suggestions and insights.

This report is an evaluation of some specific potential changes in exemptions from the GET base, rather than a study of the overall base. The intent is not to make recommendations per se on what changes should be made in the base, but instead to provide an evaluation of the considerations that should go into decisions on the specific set of potential changes.

The report is divided into five chapters after this introduction. The first chapter is a brief review of the GET in Hawaii's tax structure and a description of how the GET compares with other state sales taxes. The second chapter describes the key factors to consider when undertaking an analysis of a tax or tax structure. Chapter 3 examines what economists know about how different base structures affect the economy. This section is used to provide a framework for considering the efficiency effects of granting the various exemptions discussed here. The final two chapters evaluate specific sets of exemptions. A series of eight current exemptions are examined to determine whether they represent good tax policy for Hawaii or whether the GET should be extended to these transactions. Then a series of seven currently taxable classes of goods and services are examined to determine if exempting them would be good tax policy. These potential exemptions are evaluated in terms of the economic, revenue, and distributional effects.

Chapter 1.
The GET in Hawaii's Tax System

The GET is Hawaii's largest tax source and has grown at very rapid rates in recent years. The GET collected $2.136 billion in fiscal year 2004/2005, a 12.4 percent increase from fiscal year 2003/2004. The tax had already collected $1.768 billion through March of fiscal year 2005/2006, an increase of 11.8 percent over the same time during the previous year. Together, the past two years have resulted in GET growth of over 25 percent.

The GET generates 39.5 percent of total state and local tax revenues in Hawaii (see Figure 1). This is much larger than the 24.2 percent share raised in the average state. Much of the difference is because Hawaii collects such a small share of revenues from the property tax, and to a lesser extent from the corporate income tax. Only Tennessee, Washington, Louisiana, and Arkansas use sales taxes to collect a higher proportion of their state and local taxes.[2]

Similarly, the GET provides 48.2 percent of total Hawaii *state* tax revenues. This is about one and one-half times the intensity of sales taxation that exists in the average state, where the sales tax provides 32.7 percent of tax revenues. Indeed, Hawaii has the greatest reliance on the sales tax of any state that also has a broad-based income tax. Only Washington, Tennessee, Florida, South Dakota, and Texas raise a larger share of their tax revenues from their sales tax, but none of these states also has a broad based income tax.[3] Not surprisingly, all other major tax groups besides the sales tax raise a lower share of Hawaii's taxes than they do in other states.

Hawaii is able to raise the large amount of revenue from the GET using a low tax rate. Hawaii's 4.0 percent GET rate is tied with seven other states for the second lowest state sales tax rate, as only Colorado at 2.9 percent has a lower rate (among the 45 states with a sales tax)[4] (see Figure 2). Hawaii has the lowest combined state and local sales tax rate, since Colorado and all other states with a 4.0 percent rate also have a local sales tax.

[2] See http://www.taxadmin.org/fta/rate/slsource.html
[3] See http://www.taxadmin.org/fta/rate/05taxdis.html
[4] See http://www.taxch.com/STRates.stm

Figure 1: STATE AND LOCAL GOVERNMENT TAX COLLECTIONS, 2004

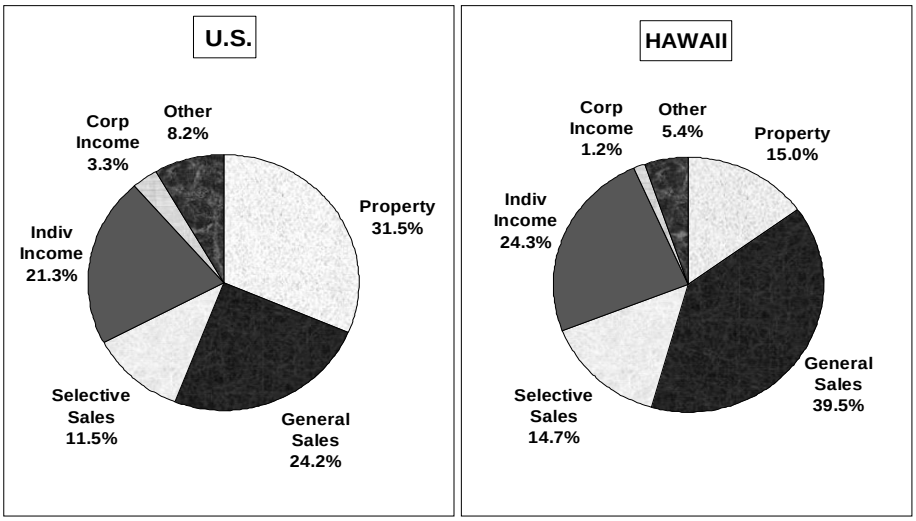
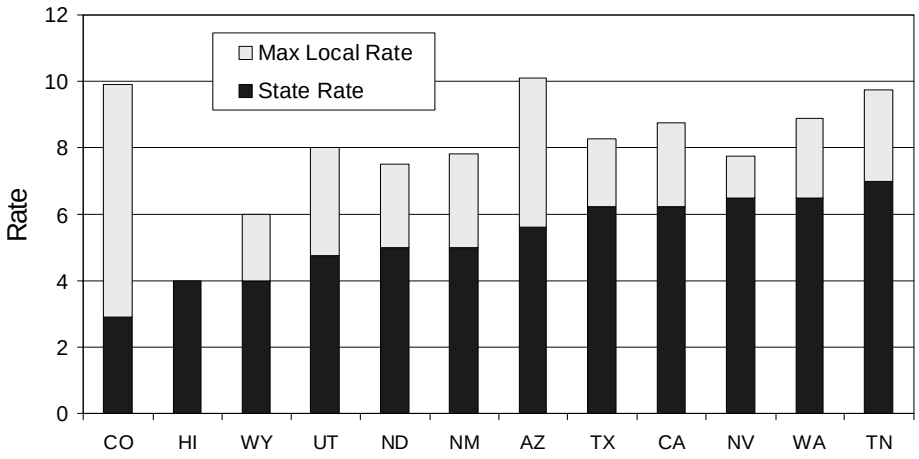


Figure 2: SALES TAX RATES, 2006



The key factor in collecting so much revenue is that Hawaii has the broadest sales tax base of any state. There is no single way to measure the breadth of sales tax bases, but one means is to compare the base in each state with the state's gross state product (GSP). Hawaii has the broadest tax base of any state using this gauge for comparison (see Table 1). Hawaii's base is 90.0 percent of GSP. Arkansas, the state with the second broadest base, has a base that is only 50.7 percent of personal income, which is only a little more

than one-half as broad as Hawaii's. Georgia has the median state's breadth of base, with a base equal to 36.0 percent of GSP, which is only about 40 percent as large as Hawaii's.

Table 1: Sales Tax Base as a Percent of Gross State Product

State	Percent
Hawaii	90.03
Arkansas	50.71
New Mexico	49.39
Wyoming	48.03
Florida	47.83
Louisiana	46.35
Mississippi	46.08
South Dakota	44.36
Maine	42.41
South Carolina	41.80
Arizona	40.98
Nebraska	40.59
West Virginia	40.01
Idaho	39.72
Utah	39.69
North Dakota	39.06
Tennessee	38.52
Washington	38.09
Vermont	37.95
Wisconsin	37.58
Kansas	36.87
Kentucky	36.28
Georgia	35.96
Alabama	35.79
Michigan	35.42
Minnesota	35.29
Nevada	35.14
Indiana	34.57
Missouri	33.92
Texas	32.90
Colorado	32.69
Maryland	32.40
Oklahoma	32.16
Virginia	31.97
Ohio	30.90
North Carolina	29.85
Iowa	29.35
California	29.08
Connecticut	28.57
Pennsylvania	27.94
Rhode Island	27.56
New Jersey	25.44
New York	24.86
Massachusetts	23.94
Illinois	21.71

Source: Author's calculations.

Chapter 2.
Designing the GET Tax Base for Hawaii

Designing the tax base to achieve the intended objectives is the most important step in developing any tax structure. This requires a clear understanding of the goals used in structuring the tax and of the type of economic activity that is to be taxed. Levies are generally imposed on some aspect of one of three types of economic activity: income, consumption, or wealth. This analysis of the GET follows from the premise that the GET is intended to tax *consumption*, which allows the analysis of possible exemptions to be considered in the context of a consumption tax.

Taxes are normally structured after considering the implications in terms of several competing goals. Raising the required amount of revenues is frequently the most important objective of taxation, but revenues can be collected with a wide range of different tax base and rate combinations. The best combination should be determined in the context of the broader goals of taxation. Goals identified for the tax system normally include:

- **Economic efficiency**. A tax system is generally seen as efficient if it imposes the smallest possible distortions on behavior, or to the extent that it distorts behavior, that these effects are in the desired direction. Distortions in behavior make people worse off, since by definition they cause people to behave in ways they otherwise would not. Thus, it is best to limit distortions as much as possible. Of course, essentially every tax alters behavior, so judgment must be used in selecting taxes that cause the least harm to the economy.

  The GET (like sales taxes in general) can influence such decisions as how much and where taxable expenditures are made. For example, the GET might reduce the amount of total consumption, or the consumption of specific goods or services. The GET might encourage people to buy in ways where the tax is difficult to collect, such as via remote means. The GET might also discourage people from working, since it raises the costs of buying things with wages (thereby lowering the real return to working). A broad tax base with low rates is generally the best option for limiting the distortions of taxation.

- **Fairness**. Tax fairness is normally evaluated using two benchmarks, horizontal equity and vertical equity. *Horizontal equity* refers to the relative tax liability of taxpayers with the same capacity to pay taxes; a tax is considered to be horizontally equitable if two taxpayers with the same capacity to pay taxes bear the same tax liability. Thus, the GET might be evaluated in terms of whether two taxpayers with the same income have the same amount of GET built into the goods they purchase. *Vertical equity* refers to the relative tax liability of taxpayers with different capacities to pay taxes. Here the issue is how fast the GET liability should rise as taxpayers' incomes increase. People often have different perceptions of vertical equity depending on their own feelings about fairness and their desire to transfer income from one group of people to another. Progressive,

proportional, and regressive taxation are terms used to describe vertical equity when tax liabilities rise, remain constant, or fall as a percent of income as income rises. Note that actual tax revenues almost always rise with income, even with regressive tax structures.

- **Low compliance and administrative burdens**. Compliance refers to the costs imposed on the private sector to fill out tax returns, comply with other aspects of the tax structure, and remit tax payments. Administration refers to the costs that government bears in collecting taxes, including the hiring of staff, design of tax systems, preparation of documents, identification of taxpayers, and so forth. A good tax system has low compliance and administrative costs. The resources used in these endeavors are necessary to ensure a fair tax system that can collect the necessary revenues, but these resources are not available either to obtain private goods and services or to finance government-provided goods, the outputs that are sought by residents of Hawaii. Thus, administrative and compliance costs must be kept low.

- **Revenues.** There are three components to the revenue performance of a tax system: sufficiency, adequacy, and stability. A tax system is *sufficient* if it generates the required revenues during the current budget period. But, Hawaii must finance services year after year, so a tax that is sufficient during a single year may fail to provide the revenues in future years, either by producing too much or too little revenue. In this longer-term sense, the tax system might fail in revenue terms; thus, assessment of the tax system requires that its dynamic performance over time be considered as well. *Adequacy* refers to whether the tax system provides enough revenues to continue providing services over the long term. A tax's adequacy is often evaluated in terms of the buoyancy or elasticity, which is defined as the percent growth in tax revenues divided by the percent growth in the economy.[5] A tax system is normally regarded as good when the growth in tax revenues keeps pace with the growth in expenditure demands. *Stability* refers to the tax system's cyclical performance. All tax systems have some degree of instability, but states normally prefer tax systems with low volatility because the demand for most state and local government public services (such as education) does not fall when the economy slows. Indeed, the demand for some public services (such as public health and welfare) is likely to grow when the economy slows.

This report examines changes in exemptions from the GET in terms of three main goals: economic efficiency, revenue, and distributional effects; administration and compliance are given much less attention.

[5] The term elasticity is normally used when the effects of rate and base changes are excluded from the calculation and the term buoyancy is used when revenues from all sources are used in the calculation.

Chapter 3.
What We Know About Economic Effects of Tax Base Structures

The specific design of the GET structure, including both the base structure and the rates, can have a wide range of economic effects. One possible dichotomy is to separate the effects into those on business behavior versus those on individual consumers. This is an important distinction because the effects of extending or retracting exemptions for various transactions can differ depending on whether the items are purchased by consumers for final consumption or by businesses as intermediate inputs. The distinction can also have important implications for whether the exemption is good policy, because as a general rule business purchases should be exempt and consumer purchases should be taxable. This section provides a general overview of the types of behavioral changes that result from imposition of the GET and of what economists know about how sales taxes affect incentives, behavior, the size of state economies, and the overall wellbeing of state residents. The following discussion is based on the presumption that a given level of revenue is to be raised using the GET and does not address the issue of how the economy is affected by altering the size of government with balanced budget increases or decreases in taxes and spending.

Economic Effects of Taxing Business-to-Business Transactions

Consider first the effects of taxing business purchases. A considerable portion of GET revenue arises from taxing business-to-business transactions in both Hawaii and in all other sales taxing states. This portion of the GET is a tax on business inputs and as a result has the potential to impact how firms behave. One estimate for Hawaii is that $600 million of 2005 GET revenue was collected on business-input purchases, representing about 28.1 percent of collections.[6] This is small relative to the share that has been estimated for other states in other studies but is similar to the Hawaii estimate.[7] Nonetheless, the tax on these transactions represented nearly 1.2 percent of Hawaii Gross State Product (GSP).[8] This section describes the types of distortions in business behavior that can arise and what we know about the likely magnitude of the influences, though the empirical work on the effects is limited.

Economists almost uniformly oppose taxes on business-to-business transactions. One reason is that the GET is intended as a tax on consumption, but businesses do not consume, they produce.[9] It is reasonable to presume that everything businesses purchase

[6] See Cline, Neubig, Phillips, and Fox (2005).

[7] For example, see Ring (1999) who estimated that instate consumers pay 59 percent of the sales tax in the average state. Ring finds consumers pay only 28 percent of Hawaii's GET, though much of the tax is also paid by out-of-state tourists.

[8] Hawaii Gross State Product 2006 is from the Hawaii Department of Business, Economic Development, and Tourism (DBEDT), *Outlook of the Economy, Actual and Forecast Key Economic Indicators for Hawaii: 2004 to 2009*, http://www.hawaii.gov/dbedt/info/economic/data_reports/qser/outlook-economy

[9] This statement ignores any propensity to use a company to make purchases of goods that are intended for personal consumption. This can be a form of tax evasion that is intended to lower GET and income tax liabilities, and does not represent the firm operating as a business and producing.

is necessary to produce and sell their product (regardless of whether the firm is a manufacturer, wholesaler, or retailer) and does not fit within the conceptual framework of a tax on consumption.

The other reason is that taxes on business inputs have the potential to alter business behavior and to harm the state's economy. First, taxing business-to-business transactions can change the way that businesses operate as firms seek to limit the amount of tax they pay. Firms can substitute non-taxable inputs for taxable ones, to the extent that taxability differs and input substitution is possible. Alternatively, firms can vertically integrate and bring more production within a single company. For example, a firm can hire its own accountants and lawyers to avoid a tax on hiring the service from outside. Firms should be less profitable to the extent that taxes alter the way that business is done, since firms would bring the lawyers and accountants into the firm without the tax, if this were generally the lowest cost way to operate.[10] No evidence exists on the extent to which firms vertically integrate to lessen their tax burdens, but the largest responses would be expected from big firms, which are in the best position to vertically integrate. Not only are smaller businesses less able to vertically integrate but also they are probably less profitable as larger companies outsource less in response to taxation on transactions between firms.

Second, input taxes raise the cost of producing in Hawaii, which can cause some firms to locate their production in states that impose lower tax burdens on business transactions. There is no empirical research that directly examines the extent to which taxes on business inputs harm a state's economy, though some research does consider whether higher sales taxes (measured by the tax rate) generally harm a state's economy. For example, Bruce, Deskins, and Fox (forthcoming) find that Gross State Product falls as states increase their sales tax rates. They argue that the effects of taxes on location are growing because technology makes it increasingly easy for firms to geographically separate their production from their markets. Carroll and Wasylenko (1994) study how a number of fiscal variables, including the sales tax, affect total employment and manufacturing employment in a state. They observe no relationship between sales taxes and total employment. However, they found that states with higher sales tax rates had lower manufacturing employment in the years between 1967 and 1983, but the effects were no longer present when they studied 1984 to 1988. This suggested that the effects of taxes on business location are diminishing, the opposite conclusion of Bruce, Deskins, and Fox. But, the Carroll and Wasylenko study entirely predates recent technology and the Internet and may be less applicable to today's more mobile economy.

The studies find the effects of taxes on the economy, including all of the implications for both consumers and businesses. Unfortunately, none of the research examines the key issue of whether firms move their production activity in response to decisions by states to broaden or narrow their bases to include various business-to-business transactions or to tax these transactions at higher rates. Still, it is reasonable to presume that bigger taxes on business purchases reduce the propensity for firms to locate

[10] Of course, vertical integration is the best business model for some activities in some firms even without the encouragement from taxes.

or produce in a state. Further, these effects are likely largest for those firms purchasing the greatest amount of taxable inputs and those firms that can most easily separate their point of production and their markets (such as many firms producing for national or international markets). Thus, the effects are likely to vary across industries and sizes of firms.

Third, taxation of business purchases cascades into higher taxes on the final product. The extent of cascading depends on the complexity of the production process (how many levels of production a good or service goes through), the tax treatment of the various business transactions, and the propensity to vertically integrate in the industry. As a result, the amount of cascading can vary significantly across economic sectors. Assuming that business purchases of capital equipment, communications equipment, utilities, and office supplies are taxable, Hawkins (2002) finds that the sales tax is imposed on inputs equal to 14.7 percent of the revenues of electric producers, 11.2 percent for firms taking fees and admissions, and 11.5 percent for firms providing non-shelter lodging. The cascading can have important economic effects as it raises the relative price of some goods and causes people to purchase less of these goods. Hawkins finds that the loss in wellbeing in a state as a result of differential effective tax rates because of cascading is small in states with broad based taxes, and the losses are much larger if states adopt narrow tax bases. [11] This conclusion follows because the sales tax distortions, other than from cascading, are smaller for states with broad based sales taxes. While the Hawkins' cascading estimates are for an average state and do not necessarily fit Hawaii, the results suggest the problems from cascading may have small implications for wellbeing in Hawaii because of the GET's broad base. On the other hand, Hawaii may tax more inputs, raising the degree of cascading.

While taxing business-to-business transactions causes the perverse effects previously described, it allows a lower tax rate to raise a specific amount of revenue, given the resulting larger tax base. The base is broader simply because a series of intermediate transactions (purchases by one business from another) are taxable in addition to taxes imposed on final sales. Lower tax rates reduce the disincentives described above, such as for purchasing untaxed items relative to taxed items (for both businesses and consumers) and for vertically integrating. Lower rates also lessen the disincentive to work caused by the tax being imposed on purchased items.[12] Thus, the net effect on a state's economy from taxing business inputs depends on the relative size of benefits from the lower tax rate versus costs from altering business behavior. Russo (2005) finds that eliminating the tax on business inputs results in a small increase in the size of the state's economy and an improvement in a state's wellbeing, even though the tax rate must be higher. Hawaii may benefit more than most states from narrowing the base to eliminate taxes on business inputs because the required increase in the GET rate cannot increase most consumption distortions since almost all consumption is taxed. The effects on consumer behavior are discussed in the next section.

[11] Effects on a state's wellbeing are measured by changes in the excess burden of the tax.
[12] Specifically, the GET is not imposed on leisure time but is imposed on most goods and services purchased by consumers.

Economic Effects of Taxing Consumer Purchases

The GET and sales taxes more generally can also diminish people's wellbeing and harm state economies because of effects on individual consumers. Key effects include encouraging consumers to buy untaxed goods and services versus taxed ones and altering where people shop. Thus, granting exemptions (or not) can potentially affect decisions to purchase taxed items relative to untaxed items and to purchase items in Hawaii versus remotely. One important issue is who pays the tax—that is, are sales taxes ultimately paid by consumers through higher prices or are they borne by other possible groups–such as business owners, workers, or landowners–through lower earnings. Presumably, the GET should have larger effects on consumer behavior if it is borne by consumers rather than borne by others, such as business owners.

Relatively little empirical research is available on who bears the state sales tax, but a significant article by Besley and Rosen (1999) provides some keen insights. The authors use data from 155 cities to examine whether the tax results in higher gross of tax consumer prices (price plus tax) for 12 specific commodities. The research suggests that the tax is normally forward shifted to consumers, and in a number of cases the price paid by consumers rises more than the amount of the tax (that is, the tax is overshifted). In another key study, Poterba (1996) finds that sales taxes are fully shifted to consumers. The bottom line is that Besley and Rosen's and Poterba's research provides support for the conclusion that the sales tax is paid by the consumer.

The conclusion that consumers pay the sales tax, however, is reached for a series of standard consumer items that are likely to be purchased locally and does not necessarily apply to goods or services sold across state lines or for the tax imposed on business inputs. Further, the tax on consumer purchases can have ramifications for business operations in at least two ways. First, the research does not indicate that the tax on business inputs is borne by consumers, only that the final levy is paid by consumers.[13] Thus, the tax may raise the cost of doing business. Second, the higher gross of price tax paid by consumers could cause them to shop more out of state or to buy more untaxed items. These issues are discussed more below.

The sales tax can affect consumer behavior in two key ways, given that consumers bear the tax on local purchases. First, sales taxes can change what consumers buy since the relative price of exempt items is lower than for taxable items. The effects on behavior and tax revenues depend on how responsive consumers are to the price of the exempt versus the taxable goods. Merriman and Skidmore (2000) indirectly investigate this question as they studied how the sales tax rate has affected the allocation of expenditures between retail activity and service activity between 1982 and 1992. This is a reasonable test of the effect that sales taxes have on exempt versus non-exempt purchases since many services are exempt in most states and many goods are taxable in most states. Merriman and Skidmore find evidence that the share of the economy in the retail sector fell, and the share in the service sector rose in high sales tax rate states. This suggests, as

[13] Of course, Besley and Rosen's finding of overshifting may be the result of forward shifting of the tax on inputs.

would be expected, that sales taxes alter consumption behavior by increasing the quantity demanded for exempt items compared with taxable items. Thus, new exemptions in Hawaii can be expected to shift the amount of purchases, at least to some extent.

Russo (2005) also studied the effects of having a broad based versus narrow based sales tax on economic activity. He finds no relationship between the size of the state's economy and the breadth of the base, but a broader base results in a small improvement in the overall wellbeing in the state. The broader base increases wellbeing by permitting a smaller tax rate (which lessens incentives to buy those remaining exempt items) and by allowing for a relatively small set of exempt items. Hawaii already has a tax on almost all consumption so it stands to gain relatively little from base broadening (and, there are relatively few opportunities since the base is so broad), but enactment of inappropriate exemptions could harm the overall wellbeing in the state. Further, Hawaii should regularly evaluate its tax system to ensure that base erosion is not occurring because of changes in the kinds of goods and services being purchased, changes in the way goods and services are obtained, or changes arising through legislative action. It should be noted that Russo observes an even larger gain for states when they combine taxing all consumption with eliminating taxation of business inputs.

Second, sales taxes can change where consumers choose to make purchases. Many goods can be bought outside of Hawaii as people purchase online, via mail order, when they travel to the mainland or other places, and so forth. In some cases the remote vendor collects the tax on behalf of Hawaii, and the GET has no effect on decisions of where to purchase since the tax is imposed regardless. Fox (2006) reports that just over one-half of the top e-commerce vendors require consumers to remit the GET when they order. The tax creates no differential burden in such cases and will not alter where people shop, but Hawaii residents and businesses still have a tax incentive to look for the vendors that do not collect the GET for Hawaii.[14] The use tax is owed when items are purchased remotely or brought into Hawaii for consumption, but compliance with the use tax is very poor, particularly for individuals.[15] Thus, consumers may seek to avoid the GET by shopping outside of Hawaii for at least some items.

Two sets of evidence are available on the effects of taxes on where people shop. Goolsbee (2000) examined the effects of sales taxes on Internet shoppers and found that higher sales tax rates increased the incentive to shop online. His analysis relied on 1997 data, which was early in the e-commerce buying age, making the results less applicable than if a more recent study were available. Nonetheless, he demonstrates that efforts to evade the tax were a significant factor in people shopping online. Also, research has been conducted on the effects that tax differentials along state borders have on where people shop, though much of the work is getting old. This literature has less relevance to Hawaii because of the larger distances involved between Hawaii and other states, but the research

[14] Based on the U.S. Supreme Court ruling in *Quill, Inc. v. North Dakota*, firms can only be required to collect the tax in states where they have physical presence. Firms can choose to voluntarily collect and remit the tax for states.

[15] The low GET collections from the use tax are one evidence. Use taxes are responsible for only 1.7 percent of GET collected at the 4.0 percent rate; though the use tax does collect 31.2 percent of GET imposed at 0.5 percent.

generally finds that people respond to tax differentials by doing relatively more of their shopping on the low tax side of the border. Each study concludes that high tax rates have a large effect on shifting consumers to the other side of the state border (see Fox (1986) and Walsh and Jones (1988) for examples).

Russo (2005) also examined effects of extending the sales tax to Internet sales. He finds that state economies would be slightly larger and the level of wellbeing higher if all Internet sales could be taxed. Presumably this is because the incentives to avoid the tax by purchasing out of state via the Internet are eliminated. The result is also consistent with the conclusion that a lower GET rate is better for the state's economy because it reduces the incentive to buy outside of Hawaii.

Chapter 4.
Assessment of Eliminating Exemptions from the GET

The Tax Review Commission identified a series of eight types of transactions that are currently exempt but could be considered for taxation. This section provides a comprehensive investigation of the implications of eliminating these exemptions. These currently exempt transactions include:

1. Gross receipts of non-profit organizations

2. Sales of prescription drugs and prosthetic devices by a hospital, infirmary, medical clinic, health care facility, pharmacy, or practitioner licensed to administer the drug or prosthetic device

3. Amounts received by hotel operators from hotel owners equal to and disbursed for employee wages, salaries and benefits

4. Amounts received as rent for the leasing of aircraft or aircraft engines used by the lessee for interstate air transportation of passengers and goods

5. Materials, parts or tools imported or purchased by a person with a GET license and which are used for certain types of aircraft service and maintenance, or for the construction of a qualified aircraft service and maintenance facility

6. Gross proceeds arising from the manufacture, production or sale of tangible personal property shipped to out-of-state purchasers for resale or use out of state

7. Amounts paid for services or contracting performed in Hawaii that are exported outside of Hawaii for resale, consumption, or use

8. Offset deductions that a prime contractor is allowed to take from gross income for payments to another contractor or specialty contractor

The first two exemptions are for items commonly purchased by final consumers and the last six are for items that are commonly purchased as business-to-business transactions (whether the firms are for profit or not-for-profit). Thus, the first two must be evaluated in terms of broadening the base to other consumption transactions, and the other six must be evaluated in terms of broadening the base to business inputs.

All revenue estimates provided below are given for fiscal year 2005/2006, though the underlying data sources are for various earlier years.[16] Estimates for earlier years are

[16] Estimates of General Fund Tax Revenue, Hawaii Department of Taxation, Council on Revenues, General Fund Forecast, May 30, 2006, http://www.state.hi.us/tax/cor/2006gf05.pdf

adjusted to 2006 terms by assuming the tax base grows at the same rate as Hawaii Gross State Product. This has the advantage of placing all estimates in comparable terms, but the actual growth rates will differ by type of exemption. Thus, some error is introduced to the extent that the growth rate for a particular category diverges from the overall economic growth.

Eliminating all eight exemptions would have raised $494 million in 2006 **if** buyers and sellers did not respond to taxation of these groups by buying/selling less of them (see Table 2). Alternatively, the GET rate could have been reduced to 3.28 percent and the same revenue raised. As is emphasized in the discussion below, efforts to avoid the tax are very likely to occur as non-taxable ways are found to engage in the transactions or businesses and consumers shift to non-taxable purchases, so this much revenue would not be raised if all the exemptions were eliminated.

Table 2: Revenue Effects of Removing Selected Exemptions, 2006

	Revenue Gain (millions)	Gain/ Total Tax Collections (Percent)	Gain/ GET Collections (Percent)	Tax Rate for Revenue Neutral
Nonprofits	$ 168.73	3.86	7.52	3.72
Subcontracts	$ 91.65	2.09	4.08	3.84
Export Goods	$ 88.02	2.01	3.92	3.85
Hotel Wages, Etc.	$ 63.34	1.45	2.82	3.89
Prescriptions/Prosthetics	$ 33.79	0.77	1.51	3.94
Aircraft Leasing	$ 26.44	0.60	1.18	3.95
Export Services	$ 20.34	0.46	0.91	3.96
Aircraft Maintenance	$ 1.78	0.04	0.08	4.00
Combination of All Listed Exemptions	$ 494.09	11.29	22.01	3.28

Source: Author's calculations.

Consumer Exemptions

As described above, base broadening to consumer goods and services is generally beneficial to the economy since it eliminates distortions in the consumption of taxable versus non-taxable transactions. It also permits a lower tax rate on all taxable transactions (given that the base is broader), which should lessen the extent of remote purchases and the incentive to purchase remaining non-taxable items. But, the desirability of eliminating the exemptions must be judged in the context of the entire set of goals for the tax system. Exemptions 1 and 2 will be considered separately in the following discussion.

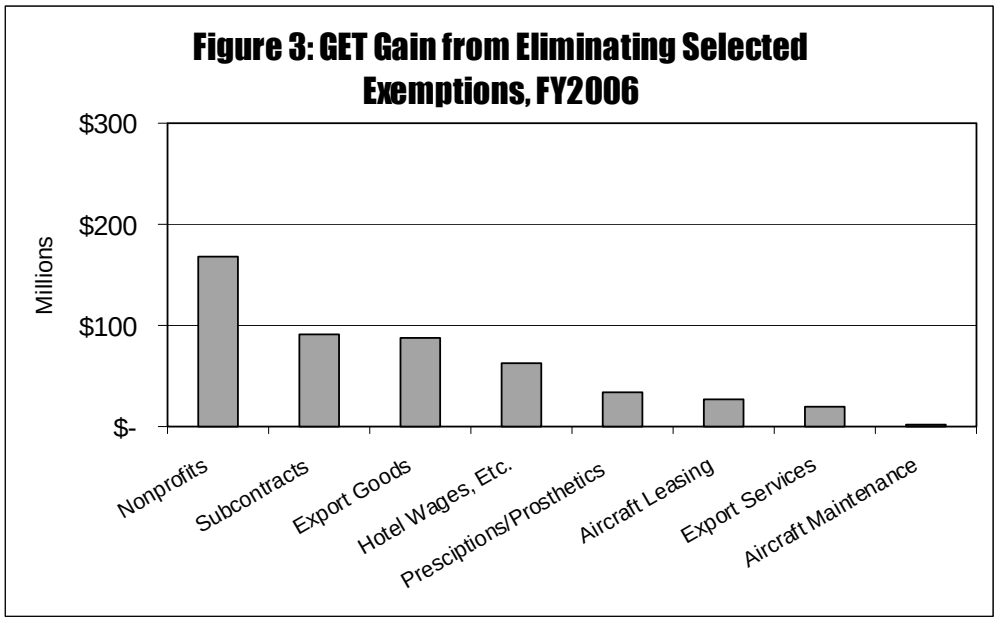
Exemption 1: Gross Receipts of Not-For-Profit Organizations

Exemption of non-profit organizations is usually justified by the presumption that the non-profit organizations are providing goods and services that meet some broad societal goal such as serving low-income individuals or providing services that otherwise must be delivered through the public sector, such as education. The tax exemption can be thought of as a subsidy to the not-for profit organizations. The desirability of subsidizing not-for-profits through the tax system in the current way can be brought into question on several grounds, even if there is general support for the services being provided by the not-for-profit enterprises. The public sector could, for example, assist the not-for-profits in other ways, such as through direct subsidies.

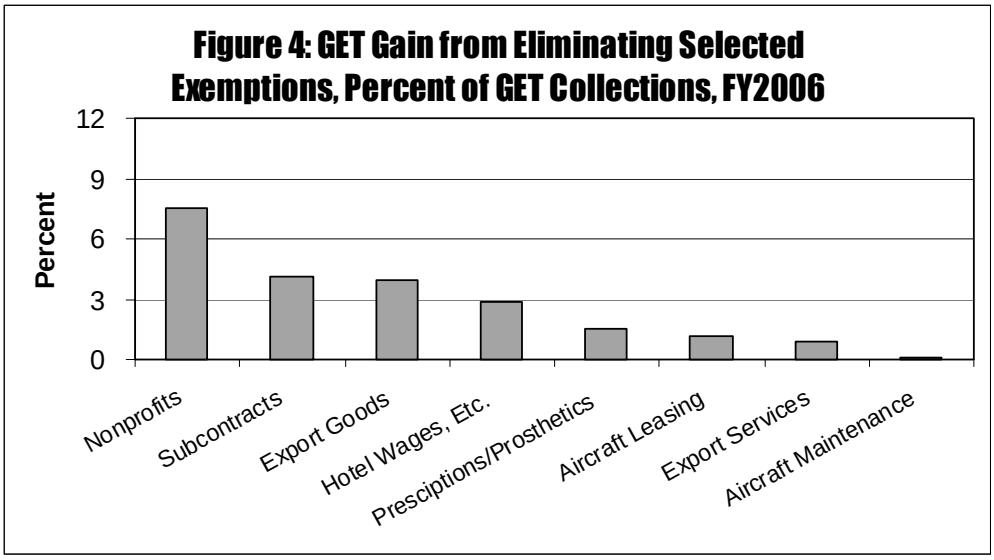
First, the not-for-profit organizations often compete directly with for-profit firms and the tax subsidy advantages the former. This is likely one reason that the not-for-profit sector is growing much faster than the for profit sector in the U.S. Second, the extent of the subsidy is determined by the size selected by the not-for profit firms, not by the State of Hawaii. That is, the subsidy equals 4 percent of the not-for profit's revenues regardless of the size that the organization achieves. Third, the services provided by the not-for-

profit firms may not be valued by Hawaii residents and policymakers—or at least not valued to the extent that they are provided. Nonetheless, the not-for-profit firm receives the subsidy. Fourth, as described above, consumers benefit from the exemption through a lower price for the goods and services since the evidence is that the tax is forward-shifted to the consumers. Thus, the not-for-profits only benefit to the extent that they sell more to consumers than they would if the tax was imposed. Finally, the GET is intended as a tax on consumption, not on profits, so the not-for-profit status does not suggest that exemption is appropriate.

Taxing the not-for-profits the same as for-profit organizations would generate additional revenue that would allow a lower tax rate and would place for-profit and not-for-profit entities on a level playing field, both of which would advantage the economy. The ability to purchase competing services, such as health care and education, remotely is probably lower than for many types of expenditures, so there should be a small distortion in whether the services are purchased in Hawaii or outside the state. The potential GET base from taxing not-for-profit sales was estimated to be approximately $4.0 billion. Taxation of all of these transactions would generate $168.7 million, or would allow the tax rate to be reduced to 3.72 percent (see Table 2 and Figures 3 and 4). The estimate is drawn from the assumption that the GET could be extended to the revenues raised from net special events, program services and contracts, and dues and net sales.[17] The estimates are based on the presumption that the tax would not be levied on items such as gifts and contributions.



[17] See The Urban Institute, National Center for Charitable Statistics Core File 2004, http://nccsdataweb.urban.org. Calculations were based on the IRB Business Master file 12/2004.



In practice, if the blanket exemption were reconsidered, the State of Hawaii may choose to tax some not-for-profits and to exempt others depending on the services being provided. The potential revenue falls to the extent that some not-for-profits continue to be exempt. Over 84 percent of the total estimated potential base is from organizations that are defined in the data sources as public charities, but the not-for profits also include private foundations, chambers of commerce, and childcare centers. More than one-half of the tax base is health care organizations including hospitals and mental health centers, and nearly 20 percent is educational institutions. Hawaii may determine that some or all of these organizations, and perhaps some others, should be exempt, and this would significantly reduce the revenue potential. Still, there are likely to be some cases where the public purpose of the organizations can be questioned, and Hawaii may want to impose a tax in these cases. Alternatively, Hawaii could institute a maximum value for the tax exemption that any firm could receive or could require that a certain percentage of the organization's activities must be for narrowly defined public purposes before exemption would be permitted. Of course, decisions of these types would require Hawaii to establish a policy for which not-for-profit activities should be exempt and would require additional administrative expenses.

Taxation of not-for-profit revenues should raise the revenue elasticity, that is, the growth in revenues relative to the growth in the economy. The main reason is that not-for-profit organizations, and particularly health care organizations, are generally growing fast relative to the economy.

There are no direct data on expenditures by income group for not-for-profit firms. However, data are available on the purchases of health care and education by income bracket—services provided by two of the largest groups of not-for-profits. The health care category includes both insurance and medical services. Insurance is included assuming that higher vendor payments by insurance costs would be reflected in higher insurance rates. Table 3 shows the distribution of expenditures by income bracket for

these categories.[18] Imposition of the tax on either health care or education appears to be regressive, though it is roughly proportional for middle-income groups. (Expenditures on prescription drugs will be discussed in the next section.)

Table 3: Annual Expenditures by Category per Person

	Less than $14,400	$14,400 to $27,400	$27,400 to $45,000	$45,000 to $70,000	$70,000 and Over
Education	$ 376	$ 386	$ 302	$ 505	$ 1,709
as a Percent of Income	3.5%	1.5%	0.7%	0.7%	1.1%
Health Care	$ 1,459	$ 2,594	$ 2,026	$ 2,949	$ 2,974
as a Percent of Income	13.7%	10.3%	4.7%	4.3%	1.9%
Prescription Drugs	$ 205	$ 473	$ 193	$ 248	$ 237
as a Percent of Income	1.9%	1.9%	0.4%	0.4%	0.2%

Source: Author's calculations.

Exemption 2: Sales of prescription drugs and prosthetic devices

Hawaii and all other sales taxing states except Illinois exempt prescription drugs from the sales tax. Illinois levies a 1 percent rate on the sales of prescription drugs.[19] A comprehensive list is not available of sales tax treatment for prosthetic devices, but they are likely exempt in essentially every state as well. Hawaii could choose to eliminate exemptions for these transactions, in keeping with the generally broad tax base imposed in the state. Expanding the base to drugs and prosthetics would allow additional revenue or a lower tax rate. The potential tax base from drugs and prosthetics is estimated to be at least $845 billion in 2006, which would generate $33.8 million if fully taxable.[20] Taxation of these transactions would allow the GET rate to be reduced to 3.94 percent and still raise the same revenue.

As with other exemptions, taxation would eliminate the incentive to purchase these goods rather than other currently taxed items. However, the distortion in consumption is probably very small because people are likely to buy nearly the same quantities of drugs and prosthetic devices even with reasonable levels of taxation because of the limited degree of substitutes and the view that many of these are necessities. On the other hand, there are opportunities to purchase some drugs remotely, and taxation could encourage some additional remote purchases.

The argument for exemption lies mainly in equity, with many people believing that it is unfair to sales tax necessities such as drugs and prosthetics. The perception is

[18] The data for prescription drugs do not include the recent changes in prescription drugs benefits for the elderly.
[19] See http://www.taxadmin.org/fta/rate/sales.html
[20] No comprehensive data were found for expenditures for prosthesis, so the data are primarily for prescription drugs.

that a tax on drugs and prosthetics is a tax on suffering. Of course, some other necessities, such as food, are sales taxed in Hawaii and in many states, and all prescriptions may not be viewed as necessities depending on one's perception.[21] Thus, the case for exemption presumes that drugs and prosthetics devices are more worthy of exemption than many other possible candidates.

The distribution of prescription costs across income brackets is illustrated in Table 3. This demonstrates the burden that would be imposed on various income brackets for out of pocket costs if the GET was imposed on prescription drugs, but does not include the effects on insurance costs. Effects on insurance are included in the health care portion of Table 3. Again, the tax is regressive against current income.

Business Input Exemptions

Six business exemptions were identified as possible candidates for elimination. As described above, taxation of business-to-business transactions can cascade into higher effective tax rates on final goods consumption, alter the specific inputs that firm's purchase, cause firms to vertically integrate, and lead firms to relocate some production outside of Hawaii. Generally, these effects argue for exemption of business inputs and these points apply to each of the six exemptions described below. At the same time, elimination of the exemptions allows a lower GET rate. Also, exemption requires the vendor either to separate sales into those to businesses (exempt) versus consumers (taxable) or to separate transactions into taxable and exempt transactions. Either of these adds to compliance costs and raises the costs of audit and other administrative functions. This section addresses the effects from eliminating exemptions 3 through 8 above.

Exemption 3: Amounts Received by Hotel Operators from Hotel Owners Equal to and Disbursed for Employee Wages, Salaries and Benefits

Exemptions for business inputs are generally warranted but are particularly appropriate in cases where specific forms of business operations are likely to be affected by imposition of the tax. In such cases, the tax may prevent firms from using a particular approach to operations, so that no revenue is raised and good approaches to structuring businesses can be precluded. Taxes on the purchase of temporary employment agency services, which have been subject to the sales tax in Ohio and Pennsylvania, are an example. Imposing the GET on receipts provided to hotel operators by hotel owners for the purpose of paying employee compensation is another example. Levying the GET on these transactions would likely force hotel owners/operators to find another, non-taxable means to pay employee compensation without generating any new tax revenue. For example, hotel operators and owners may be able to renegotiate their agreements so that revenue to pay employees goes directly to the operators.

The potential revenue from eliminating this exemption is difficult to estimate, even assuming that hotel owners do not change their compensation techniques. The

[21] Some might think, for instance, that certain prescriptions, such as Viagra and birth control pills, are not necessities.

revenue will be affected by two key factors, but little data are available on either of these factors. The first is the extent to which owners operate hotels; the second is the extent to which owners provide revenues to operators to pay employee compensation. It appears that owners operate a relatively small share of Hawaii hotels,[22] so most hotel operations could be structured so that the owners would pass employee compensation to the operators. Based on the assumption that 85 percent of employee compensation is paid by owners who provide the funding to operators, total wages paid to employees at hotels operated by someone other than the owner are estimated to be $1.58 billion in 2006. This would generate $63.3 million in GET revenue if all wages were passed from the owners to the operators. This would allow the GET rate to be reduced to 3.89 percent. However, new arrangements between owners and operators may prevent much of this revenue from ever being realized.

Exemption 4: Amounts received as rent for the leasing of aircraft or aircraft engines used by the lessee for interstate air transportation of passengers and goods, and

Exemption 5: Materials, parts or tools imported or purchased by a person with a GET license and which are used for certain types of aircraft service and maintenance, or for the construction of a qualified aircraft service and maintenance facility

Exemptions 4 and 5 relate to operation of air service in Hawaii. Eliminating the exemptions for leasing of aircrafts or aircraft engines (exemption 4), like most taxes on business-to-business transactions, has the potential to distort business behavior. One option is to reduce the amount of leasing by purchasing the equipment outright. Another option is to lease the property through offices in another state. Each of these has the potential to discourage economic activity in Hawaii or to cause firms to operate in a way that is not advantageous. Similarly, eliminating the exemption for materials and parts used for aircraft maintenance and servicing (exemption 5) could lead firms to do more of the servicing and maintenance outside of Hawaii. Of course, a certain amount of servicing and maintenance must be conducted in Hawaii in order to keep planes in good condition so firms are limited in the amount of tax planning/avoidance measures that they can take. But, such a tax could lessen the likelihood that a firm would locate its major maintenance facilities in Hawaii, if it has the option of choosing a site in alternative states or countries.

In all likelihood, taxes on these air service related activities would be mostly forward shifted to consumers and users because there are no close substitutes for air shipment or travel, so elimination of the exemptions would raise the cost of travel and shipment of goods. Much of the tax would be borne by businesses (who would build the cost into prices to the extent possible) as they pay for shipment of goods and employee travel. The consumer portion of the tax would probably be borne most heavily by higher income individuals, who do more air travel. Further, the tax will cascade to the extent that final use of the service is also taxed.

[22] Based on a conversation with the Hawaii Hotel and Lodging Association, only about 15 percent of Hawaii hotels are owner/operated.

Taxes on activities that cross state boundaries can be difficult to enforce in many cases because firms are able to report the transaction in several different states. Such a problem arises with a tax imposed on aircraft or aircraft engines, which can probably be easily evaded as firms choose to lease the equipment at offices and locations in other states. The tax would be more easily enforceable if Hawaii required firms to apportion the tax base across states based on a proxy for the proportion of use in each state. For example, the tax could be apportioned based on the number of passengers or amount of goods departing from each location. Firms could also avoid this tax by taking ownership of the aircraft and engines rather than by leasing them.

Hawaii could potentially collect $26.4 million more in GET by taxing the leasing of aircraft and aircraft engines (exemption 4), assuming firms do not plan their tax liabilities in response to the tax (see Table 2). The degree to which firms will respond to the tax by leasing outside Hawaii will depend on factors such as the specific approach to taxing the transactions and the Hawaii Department of Taxation's ability to administer the tax.

Elimination of the exemption for material, parts and tools (exemption 5) is estimated to raise about $1.8 million, assuming that no tax planning occurs to avoid the tax.[23] No attempt was made to estimate the potential revenue from the tax on materials used for construction of facilities because construction will be discrete rather than continuous events.

Exemption 6: Gross proceeds arising from the manufacture, production or sale of tangible personal property shipped to out-of-state purchasers for resale or use out of state, and

Exemption 7: Amounts paid for services or contracting performed in Hawaii that is exported outside of Hawaii for resale, consumption, or use

Exemptions 6 and 7 pertain to goods and services produced in Hawaii for sale outside of Hawaii. Exemption 6 allows Hawaii businesses to manufacture, produce and sell tangible personal property to out-of-state purchasers without incurring a GET liability. Exemption 7 allows Hawaii businesses to perform or produce services for out-of-state users without tax. Continuance of exemptions 6 and 7 is essential to maintaining a consumption tax structure in Hawaii.

Five reasons can be given for exempting sales to out-of-state buyers. First, these exemptions are consistent with the GET's presumed intent of taxing consumption in Hawaii, since the sale to out-of-state buyers indicates that the goods are not for consumption in Hawaii.[24] The notion is that the GET should be imposed on all Hawaii consumption through a combination of collecting the tax on Hawaii-based sales and collecting the use tax on outside sales to Hawaii consumers, not on the value of Hawaii production. Second, imposition of the GET on exports from Hawaii raises the underlying

[23] See U.S. Bureau of Transportation Statistics, www.bts.gov, and Hawaii Income Patterns, Business, 2002.
[24] Businesses could avoid the tax by selling goods or services to out-of-state buyers and having them shipped back to instate buyers. But, only a small set of transactions could benefit from such practices.

costs of producing in Hawaii by 4.0 percent, and this makes Hawaii firms less competitive in outside markets. Indeed, many other states will impose their sales tax and many countries their Value Added Tax (VAT) on the goods shipped from Hawaii so that the items will be taxed twice if they are also taxed by Hawaii. Third, production taxes provide incentives for firms to move their production location, or at least some of their production, to lower tax jurisdictions. These incentives do not exist if sales taxes are imposed on all consumption, regardless where the goods and services are produced, and not on production. Interestingly, states are prohibited from imposing a higher tax on goods produced outside the state for sale inside the state because such a tax would violate the dormant commerce clause. However, the courts have not ruled against states imposing a higher tax on goods produced in the state for sale outside the state, which interferes with interstate commerce in the reverse direction.

Fourth, all other sales-taxing states and essentially every VAT country impose the tax only on domestic consumption, not on sales outside the borders.[25] In practice, all states use a destination basis for goods, though not necessarily for all services. But, as emphasized below, most states tax very few services. Fifth, imposition of the tax on sales to out-of-state purchasers would be inconsistent with the Streamlined Sales and Use Tax Agreement (SSUTA), which requires that sales taxes be applied on a destination basis. Thus, under the SSUTA Hawaii would only be permitted to levy the tax on sales to in-state buyers.

The likely scenario is that a tax on production of goods and services for consumption outside the state cannot be forward shifted into prices paid by buyers since other sources of the goods (other states and countries) are not imposing similar taxes on production in their borders. Thus, a tax on sales outside Hawaii is probably borne through lower earnings by Hawaii workers and business owners (and land to the extent that land is an important input in production). The relative burden will depend in part on the mobility of workers versus business investment, and given that people are less mobile than capital investments, the tax will probably be borne mostly by Hawaii workers through lower earnings.

Eliminating the exemptions reduces administration and compliance costs since vendors would no longer be required to identify their customers and their location. In principle, administration and compliance of a destination tax on goods should not pose a major difficulty since all of the goods must be shipped outside the state. Administration and compliance is much more difficult for services which can often be delivered over the Internet where there is no certainty of location for many of the buyers.

The exemption for goods (exemption 6) is estimated to cost $88.0 million in foregone revenues based on existing levels of sales to buyers outside the state (see Table 2). Eliminating the exemptions would allow the GET rate to be reduced to 3.85 percent if revenues were held constant. The amount raised from taxing these transactions would fall

[25] Sales taxing states allow exemptions for goods sold for delivery outside their borders and VAT countries provide for rebating of the tax for goods and services sold for consumption outside the country.

to the extent that firms engage in planning by reducing their out-of-state sales through steps such as producing more of their goods and services outside of Hawaii.

The exemption for services sold outside Hawaii (exemption 7) is estimated to cost $20.3 million, assuming that there is no response in the location of service production or in the demand for services produced in Hawaii. Firms are often better able to produce services than goods remotely, so there is a much greater potential to move production of services in response to imposition of the GET. Thus, the relative additional revenue that can be obtained will be smaller for services than for goods.

Exemption 8: Offset deductions that a prime contractor is allowed to take from gross income for payments to another contractor or specialty contractor

Prime contractors are permitted to deduct payments to other contractors as they calculate their GET liability. This exemption is intended to lessen the extent of tax cascading for construction activities. As noted above, taxes impose the greatest costs on the economy when their imposition on transactions has a large potential to distort behavior. Tax structures that cascade substantially are one example where behavior is most likely to be distorted. First, the tax cascading means that the effective tax rate would be higher than the legislated 4.0 percent rate because tax would be collected from both prime contractors and subcontractors. Thus, the effective tax rate on construction will be higher than on many other transactions, which will discourage both new construction and renovations, relative to other purchases with lower implicit tax included in the price. Eliminating the exemption would also harm horizontal equity since the tax liability would be higher for people who purchase more construction services (in which there would be more cascading) than people who purchase many other items. Second, the tax would encourage firms to vertically integrate by bringing subcontractors inside the prime contractor to lessen the extent of tax paid. The vertical integration will tend to offset the incentive to undertake less construction because of the cascaded tax but will cause the construction industry to be less efficient. Further, the tax will harm small businesses since they will be less able to vertically integrate and will have fewer opportunities to do outsourced work.

There is considerable tax revenue potential from imposing the GET on proceeds used by prime contractors to pay sub-contractors. Approximately $91.7 million would be raised if the exemption was eliminated and there was no reduction in construction or no additional vertical integration.[26] The foregone revenue represents 4.1 percent of expected 2006 GET collections and would allow the GET rate to be reduced to 3.84 percent if revenues were to be held constant. Significant changes in behavior can be expected, so less revenue would be raised than is given by the estimate. But, the lower GET rate would have some positive effects since it would reduce the incentives to buy non-taxed versus taxed activities.

Little information is available to assess the distributional effects of eliminating this exemption. On the sources of income side, the likelihood is that both large and small

[26] 2002 Economic Census, Sector 23: General Statistics for Establishments by State, 2002.

contractors would bear some of the tax in lower earnings. On the uses of income side, businesses purchase a large share of construction, so the tax would be reflected in higher prices for the products sold by purchasers of construction services. Finally, some of the tax would be borne by consumer purchasers of construction activity.

Economic Effects of Broadening the Base

Quantifying the economic effects of base changes is complicated by the sparse literature on the economic effects of sales taxes.[27] Two approaches are adopted here to study how tax base changes (as illustrated in Table 2) affect the economy, one for effects of changes in taxation of business-to-consumer sales and the other for changes affecting business-to-business sales. First, the impacts are measured for business-to-consumer sales (sales by not-for-profits and sales of prescription drugs/prosthetic devices). Bruce, Deskins, and Fox (forthcoming) estimated the effect that sales tax rates, state expenditures, and a series of other variables have on Gross State Product (GSP).[28] The approach here is to use their elasticity estimates to calculate the increase in GSP that results from the rate decreases that could accompany base expansions. Then, these impacts are converted to employment assuming that the GSP to employment ratio is fixed. The analysis conducted in this section is made in a revenue neutral environment, so that the effects result only from lower tax rates and a tax on additional activities and not from changes in the size of government. The estimated employment effects should not be anticipated to occur immediately but should be viewed as the long term impact after all of the consumer and business responses have worked through the economy.

The results of sales tax base expansions can be presumed to come from the net of the encouraging impacts of lower tax rates on most activities and the discouraging effects of additional tax on a particular industry or activity. These can be decomposed into three parts. First, the lower tax rate encourages more consumption of now lower taxed goods and services and decreases consumption of the remaining untaxed industries (since the relative price of the former is decreased). A related effect is that the lower tax rate decreases the incentive to shop online and thereby increases activity in Hawaii. Second, the tax paid on business inputs is decreased by the lower rate and this reduces the cost of doing business in Hawaii (unless the now taxed good is used more intensively in production than the remaining taxable goods). As a result, businesses are expected to respond with a greater probability of locating and producing in the State. Third, there will be less production and sales in the formerly exempt and now taxed industry but greater incentive to produce and sell in other industries. The approach assumes that effects on the now taxed industry or activity operate as the average response to taxing a sector.

Bruce, Deskins and Fox find an elasticity of 0.17 on the sales tax rate, meaning a one percent change in the tax rate causes about one-sixth of one percent reduction in

[27] Development of a full fledged model to investigate the effects that tax bases and rates have on consumer spending and business production across taxed and untaxed sectors is beyond the scope of this project.
[28] Bruce, Deskins and Fox estimate the effects of sales tax rates given state expenditures. Assuming balanced state budgets, the base is an omitted variable from an identity so it is reasonable to assume that the combination of the expenditures and rate variables accounts for the base changes required to hold the identity in place.

GSP.[29] The GSP calculations were converted to employment by assuming a constant GSP to employment ratio. The resulting estimates are that just over 2,700 jobs would be created in Hawaii if not-for-profits are taxed so that the overall GET tax rates could be reduced to 3.7 percent (see Table 4). This represents a little less than a 0.5 percent increase in employment. A much smaller 587 jobs would be created if prescriptions and prosthetic devices were taxed and the rate reduced correspondingly.[30] It is important to remember that these calculations are made assuming no change in the services provided by government.

Second, the other six exemptions listed in Tables 2 and 4 are for business inputs. Taxation of additional business inputs has the same three effects listed above, plus causing further distortions in how businesses operate and raising taxes significantly in the specifically affected industries.

The effect of eliminating these exemptions is best examined using Russo's estimates of how economies are influenced by altering the taxation of business inputs. Russo determined that eliminating the tax on business-to-business inputs would increase GSP by approximately 0.5 percent. The approach here assumes that decisions to tax additional business inputs have symmetrical effects to decisions to tax fewer business inputs (the case studied by Russo), so taxing more business inputs reduces GSP. Also, the effects are assumed to be proportional to the relative change in tax rates. The tax rate rose by 18 percent in response to reduced taxation of business inputs in the Russo analysis, and the effects in Table 2 are all smaller in magnitude. Eliminating the specific exemptions is found to reduce employment by between 15 and 369 jobs (see Table 4). For example, relatively few jobs would be lost because of the expected effects of imposing the tax on aircraft maintenance, but of course, relatively little revenue would be collected. On the other hand, many more jobs would be lost by taxing exports.[31]

Table 4: Employment Effects of Eliminating Exemptions, 2006

Exemption	**Effect on Jobs of Eliminating Exemptions**
Nonprofits	2,769
Subcontracts	(369)
Export Goods	(355)
Hotel Wages, Etc.	(258)
Prescriptions/Prosthetics	587
Aircraft Leasing	(110)
Export Services	(84)
Aircraft Maintenance	(15)

Source: Author's calculations.

[29] The elasticity estimate contained in Bruce, Deskins and Fox is surprisingly large so for this report the effects were assumed to be one third those implied by the elasticity estimate.
[30] Econometric estimates, such as those used here, are most reliable for small changes near the average, so estimates of effects of large rate changes are much less reliable.
[31] This approach does not account for the specific problems of trying to impose a tax on sales to people outside Hawaii, but only the effects of taxing inputs.

Estimating economic effects is precarious business, even with a fully developed econometric model that takes all influences across the economy into account. Thus, these results should be regarded as suggestive rather than precise measures of how the Hawaii economy would be impacted. The econometric estimates used here are for the average state and the average reaction to rate changes. Cross border effects are presumably smaller for Hawaii than for the average state and job losses from additional cross border shopping are expected to effect diminishing the economy. Of course, the Internet raises the opportunities for cross border shopping. Further, the Hawaii GET rate is lower than the average sales tax rate and the economic effects may be smaller as the GET rate is increased towards the average, as opposed to the effects that would be expected from raising rates above the average.

Summary

This section evidences that the GET would generate nearly $500 million more annually if the base were broadened to include the 8 exempt transactions. Taxing these transactions would allow the GET rate to be lowered to approximately 3.3 percent if the same revenue was to be raised. However, extending the GET to the six business-to-business transactions discussed in this section is likely to hurt the Hawaii economy, as it raises the costs of producing and selling in Hawaii and alters good business practices. The result will be fewer jobs and less production in Hawaii. Further, the tax on business inputs would likely be reflected in higher product prices for consumers.

Broadening the tax base to include more transactions involving sales to final consumers would allow the GET rate to be lowered (with the same revenue being collected) while increasing economic activity and employment in Hawaii. Hawaii taxes the broadest set of consumer purchases of any state, which is an important reason why the GET rate is already low, but also means there are relatively few untaxed sales to consumers. Revenues of not-for-profit organizations and sales of prescription drugs and prosthetic devices are the two examples considered in this chapter. Decisions to tax these currently exempt sales involve making judgments using a broader set of criteria than the revenue and economic consequences considered here, including fairness. An important lesson from this chapter is that Hawaii should guard closely against allowing its broad taxation of consumer transactions to be eroded by legislative decisions or changing technologies. Such erosion could result in a higher GET rate without generating more revenue, a vicious cycle into which many other states have fallen. Hawaii's approach of a broad tax rate with low rates is ultimately best for the economy.

Chapter 5.
Assessment of Granting New Exemptions:
Structuring the GET Like Other State Sales Taxes

This section examines the revenue, distributional, and efficiency effects of narrowing the GET base by exempting a series of currently taxable transactions. A wide range of potential exemptions could be examined, but the basic thought process is to consider the implications of the GET base being similar to the sales tax structure that operates in other states. However, the sales tax structure in every state is based on decisions by that state's legislature as a result of the political, historical, economic, demographic, and other influences in that state. Thus, it is not surprising that tax bases differ widely across states (see Table 1). For example, 29 states exempt food for consumption off the premises, 5 tax food at special rates, and 11 tax food at the state rate (see Table 5).[32] Eleven states exempt non-prescription drugs, 1 state taxes non-prescription drugs at a special rate, and 33 tax non-prescription drugs at the general state rate. The taxation of services also differs widely across states (see Table 6). Hawaii taxes 160 of 168 services that were identified by the Federation of Tax Administrators, the largest number of any state. Washington[33], New Mexico, and South Dakota also tax more than 140 of the services. At the other end of the spectrum, Colorado, Illinois, and Massachusetts tax fewer than 20 of the services.

[32] See http://www.taxadmin.org/fta/rate/sales.html

[33] Some of the Washington taxes are imposed through the state's Business and Occupations Tax rather than the sales tax.

Table 5: Selected Sales Tax Exemptions by State

		Taxation Status				Number of Services Taxed	
	Taxable Services	Food	Clothing	Phys & Dentists		Utility Service(4)	Const(5)
AL	37	T	T	E		12	0
AZ	58	E	T	E		12	4
AR	72	T	T	E		16	0
CA	23	E	T(2)	E		4	0
CO	14	E	T	E		4	0
CT	80	E	E(3)	E		10	4
FL	62	E	T	E		7	0
GA	36	E	T	E		10	0
HI	160	T	T	4.0%		16	4
ID	30	T	T(2)	E		0	0
IL	17	T(1)	T	E		12	0
IN	23	E	T	E		7	0
IA	94	E	T	E		13	3
KS	71	T	T	E		7	3
KY	29	E	T	E		11	0
LA	55	LT	T	E		10	0
ME	24	E	T	E		9	0
MD	39	E	T	E		5	0
MA	19	E	E(3)	E		9	0
MI	26	E	T	E		12	0
MN	67	E	E	E		13	0
MS	74	T	T	E		10	4
MO	28	T(1)	T	E		8	0
NE	76	E	T	E		14	3
NV	15	E	T	E		0	0
NJ	55	E	E	E		10	0
NM	156	E	T	5.0%		16	4
NY	56	E	E	E		4	0
NC	30	LT	T	E		10	0
ND	27	E	T	E		6	0
OH	68	E	T	E		8	0
OK	32	T	T	E		8	0
PA	55	E	E	E		9	0
RI	29	E	E	E		10	0
SC	34	T	T	E		4	0
SD	146	T	T	E		14	4
TN	67	T(1)	T(2)	E		11	0
TX	81	E	T	E		12	3
UT	58	T	T	E		7	0
VT	29	E	E(3)	E		6	0
VA	18	T(1)	T	E		1	0
WA	157	E	T	1.5%		16	4
WV	110	T(1)	T	E		10	1
WI	74	E	T	E		11	0
WY	62	T	T	E		10	0

Source: Sales Taxation of Services. Federation of Tax Administrators, and State Tax Guide. CCH Publishing.
Notes: E—Exempt; T—Taxable; LT—Local Tax Only: (1)—Taxable at reduced rate: (2)—Exemption allowed on some clothing transactions for non-profit orgs.; (3)—Exemption only applies to clothing costing less than a certain amount; (4)—Services Included: Both Industrial and Residential Use for intrastate telephone and telegraph, interstate telephone and telegraph, cellular telephone, electricity, water, natural gas, other fuels, sewer, and refuse; (5)—Services include gross income of construction contractors, carpentry, painting, plumbing and similar trades, construction service, grading, excavating, etc., water well drilling.

Thus, there is no single tax structure that is representative of state sales taxes and that can serve as a basis for comparison with the GET. Instead, the approach is to accept seven basic categories of transactions that are exempt in a number of states and examine the implications of granting the same exemptions in Hawaii. These potential exemptions include: food for consumption at home, apparel, utilities, shelter, health care, construction, and professional services. The goods and services on the list are purchased both by consumers and businesses. For example, both businesses and individuals use utilities and construction services heavily. The following items are assumed to be exempted within each group:

- Utilities: Electric and telephone services.
- Construction: Currently taxable construction services. The cost of exempting subcontractor services, which is accommodated with a deduction for prime contractors, is not taken into account, since it is already in statute. Construction materials are assumed to remain taxable.
- Health Care: Physicians services, dental services, prescription glasses, non-prescription drugs, etc. Prescription drugs, hospital services, and services of not-for-profits are exempt by other statutes so they are not included in the estimated cost of the exemption.
- Professional Services: All non-medical professional services including legal, accounting, business, architectural and others.
- Food: Food for consumption at home, excluding take out meals sold at restaurants.
- Shelter: Value of rental housing.
- Apparel: Clothing.

Table 6: State Taxation of Services, Number of Taxable Services by Category, 2004

	Utilities	Personal Services	Business Services	Computer Services	Admissions/ Amusements	Professional Services	Fabrication, Repair & Installation	Other Services	Total
AL	12	2	6	3	10	0	1	3	37
AR	16	7	12	1	12	0	11	13	72
AZ	12	2	5	1	11	0	2	25	58
CA	4	2	7	2	1	0	3	4	23
CO/1	4	0	2	1	2	0	3	2	14
CT	10	9	20	6	10	0	11	14	80
FL/r	7	4	8	0	14	0	16	13	62
GA	10	4	5	2	8	0	1	6	36
HI	16	20	34	8	14	9	18	41	160
IA	13	15	18	1	13	0	14	20	94
ID	0	3	5	0	11	0	6	5	30
IL	12	1	1	1	0	0	1	1	17
IN	7	4	3	2	3	0	0	4	23
KS	7	10	9	1	13	0	16	15	71
KY	11	2	4	2	6	0	3	1	29
LA	10	8	5	3	9	0	13	7	55
ME	9	1	6	0	2	0	4	2	24
MD	5	3	13	1	11	0	4	2	39
MA	9	1	4	0	1	0	2	2	19
MI	12	2	7	1	1	0	1	2	26
MN	15	7	12	2	14	0	6	11	67
MS	10	5	8	3	11	0	14	23	74
MO	8	1	2	2	11	0	0	4	28
NE	14	8	15	3	12	0	13	11	76
NV	0	1	3	0	7	0	1	3	15
NJ	10	2	10	0	6	0	14	13	55
NM	16	20	32	8	14	9	18	39	156
NY	4	4	13	1	5	0	14	15	56
NC	10	5	5	0	8	0	1	1	30
ND	6	1	4	2	11	0	1	2	27
OH	8	12	14	5	3	0	12	14	68
OK	8	3	4	2	10	0	0	5	32
PA	9	6	16	1	1	0	14	8	55
RI	10	1	6	3	4	0	3	2	29
SC	4	6	6	4	10	0	1	3	34
SD	14	19	28	8	13	5	18	41	146
TN	11	10	7	3	12	0	13	11	67
TX	12	10	14	8	12	1	11	13	81
UT	7	8	6	0	10	0	15	11	57
VT	6	2	5	2	11	0	2	1	29
VA	1	3	4	0	1	0	4	5	18
WA/2	16	20	33	8	12	9	16	43	157
WV/1	10	17	26	4	13	1	13	26	110
WI	11	11	7	3	14	0	14	14	74
WY	10	6	7	3	7	0	16	13	62
Total	**16**	**20**	**34**	**8**	**15**	**9**	**19**	**47**	168

Source: Federation of Tax Administrators, Sales Taxation of Services, 2004./1 1996 data. /2 Includes the business occupation tax in Washington. /r data revised.

This section begins with a brief discussion of the economic efficiency implications of exempting the transactions. Then, estimates of the total revenue consequences of exempting each of these items, comparisons between the revenues losses and current revenues, and the GET rate increase that would be necessary to replace the revenue are provided. The final section provides the distributional consequences across income brackets of the exemptions, where possible.

Economic Efficiency Consequences of Potential New Exemptions

The economic efficiency effects of the seven exemptions are summarized together in this section since the implications are often similar. The discussion is based on the general concept of exempting these transactions and is not an analysis of specific proposed legislation. Additional effects that would arise from legislative or administrative approaches to exemption could also be important but are not addressed in this section.

First, the economic effects and desirability of exempting these specific transactions may differ depending on who the buyer is, and not just the particular goods or services being sold. Specifically, the economic effects differ radically for individual versus business buyers. As a result, it may be appropriate to exempt revenue raised when one set of buyers is involved and continue to tax the revenue when other buyers are involved. Of course, this would impose the administrative and compliance costs associated with distinguishing between types of buyers.

As previously described, exempting business-to-business sales generally lessens the degree of distortions caused by taxes, so the seven exemptions are likely to be beneficial when they apply to business buyers.[34] Having said this, a number of exemptions have already been granted for transactions that might lead to the most egregious distortions in business behavior. For example, services used in producing other services are often taxed at 0.5 percent. This reduces the cascading relative to imposition of a 4.0 percent tax on all services and lowers the incentives to vertically integrate. Also, prime contractors can frequently deduct payments made to sub-contractors. As with the services case, the deduction should lessen incentives to vertically integrate and lessen cascading. Still, many business-to-business transactions are taxable and further exemptions would continue to lower the distortions that arise as business inputs are taxed. For example, most utility and construction services are taxable when sold to businesses, giving firms the incentive to produce the inputs themselves or to use less of these inputs.[35] Exempting these transactions should lessen the perverse effects on production decisions and lower the costs of producing in Hawaii. Of course, taxing utilities and construction services purchased by businesses allows for a lower GET rate, which is

[34] Examples could exist where taxing business-to-business transactions might be the best policy given other conditions. For example, it may be best to tax other inputs that are close substitutes in the production process if some other business-to-business transactions are going to be taxed.

[35] Of course, it may be difficult for many firms to substitute for electricity or construction, so the perverse effects on production and input choice may be limited. But, taxes on these inputs still cascade into higher prices and thus distort other decisions.

generally beneficial. But, as described above, the available research indicates that exempting business inputs is preferred even though it requires a higher tax rate.

Greater taxation of consumer purchases is generally preferred since granting more exemptions increases the distortions in how people behave. Thus, granting these new exemptions for consumer buyers is likely to harm efficiency in the economy. The distortions happen as consumers shift some of their purchases of taxable goods and services to non-taxable ones. For example, people have a greater incentive to eat at home if restaurant food is taxable and food for consumption at home is not. People also have incentives to buy more apparel if it is exempt, but go to the movie less or buy fewer cars as they remain taxable. The problem is exacerbated because more exemptions mean that the GET rate must be higher to raise the same revenue. The narrower base results in a higher GET rate, which enhances the incentives to purchase fewer taxed items, thereby narrowing the base more. This perverse cycle characterizes many states' sales taxes over the past three decades but has not affected the GET as much because Hawaii has kept the base very broad.

Revenue Implications of Narrowing the Base

Base Breadth Equal to the Median State. This section examines the revenue implications of the base exemptions, focusing on the seven exemptions listed above. However, it is interesting first to estimate the implications of Hawaii moving to a GET base with the same breadth as the median state before examining the effects of the seven specific exemptions. The revenue effects of a median state base are calculated by assuming Hawaii has a base with the same breadth as Georgia, but without identifying the specific exemptions that would be necessary to narrow the base to the required extent. Hawaii's tax base was equal to 90.0 percent of GSP in 2005 and Georgia, the median state, had a tax base equal to 36.0 percent of GSP.

Hawaii GET revenue would have been $1.21 billion less in 2006 if a Georgia-sized base was used and if the 4.0 percent rate was applied for all taxable transactions (see Table 7).[36] The revenue losses associated with the narrower base could be avoided if the rate was increased to 10.51 percent, assuming consumers and business purchasers do not change their behavior in response to a tax rate increase from 4.0 percent to 10.51 percent. But, the higher tax rate means that consumers pay a 6.51 percent higher price for goods and services (assuming the tax is forward shifted to the consumer), and the likely scenario is that buyers will respond to the higher tax inclusive price by purchasing fewer taxed items and more untaxed items. The rate would need to be 11.33 percent assuming a price elasticity of –1.0 (meaning a 1 percent reduction in the purchase of taxable items for every 1 percent increase in the rate).

[36] Most states do not impose a tax comparable to Hawaii's 0.5 percent rate, so in order to compare to a median state, the required rate is calculated assuming that the *revenues* currently taxable at 0.5 percent are also raised using the 4.0 percent rate. The calculation is based only on the revenues collected at 0.5 percent and not on the total size of the base.

Table 7: Revenue Effects of Selected Exemptions, 2006

	Revenue Loss (millions)	Total Tax Collections (Percent)	GET Collections (Percent)	Tax Rate Necessary to Replace Revenue Loss
Utilities	$ 202.97	4.64	9.04	4.40
Construction	$ 128.06	2.93	5.70	4.24
Health Care	$ 124.45	2.84	5.54	4.23
Food	$ 118.91	2.72	5.30	4.22
Professional Services	$ 103.08	2.36	4.59	4.19
Apparel	$ 79.73	1.82	3.55	4.15
Shelter	$ 74.88	1.71	3.34	4.14
Combination of All Listed Exemptions	$ 832.08	19.02	37.06	6.36
Median State Tax Structure	$1,208.56	27.63	53.83	10.51—11.33

Source: Author's calculations.

Seven Exemptions. Estimating the revenue consequences of exempting the seven specific transactions allows for consideration of actual alternatives for narrowing the base. The effects of exempting each type of transaction are provided in Table 7. The results are also provided graphically in Figures 5 through 7, which illustrate the total revenue loss, the revenue loss as a percent of GET collections, and the GET rate increase necessary to replace the lost revenue.[37] The combined exemptions would have lowered GET revenue by $832.1 million in 2006 and would have represented erosion of 37.1 percent of the GET base. Note that the GET base would still equal 72.3 percent of personal income if these exemptions were enacted, so the GET base would remain slightly broader than any other state in the U.S.[38] The base could have been narrowed and the same revenue raised as in 2006, if the GET rate was increased to 6.36 percent, a 2.36 percentage point increase from the existing rate. As noted above, increases of this magnitude could cause significant changes in the propensity to buy taxable versus non-taxable items or to shop online to avoid the higher tax. The rate would need to be 6.52 percent assuming a price elasticity of –1.0.

[37] Estimates for individual exemptions are not adjusted for the 0.5 percent rate.

[38] Hawaii's very broad base results partly from a large tourism-based economy where much of the GET is paid by non-residents and in this sense is exported. The base remains broad despite the many exemptions discussed here because the taxation of tourists remains mostly unchanged. Thus, the propensity to export taxes to tourists would remain significant.

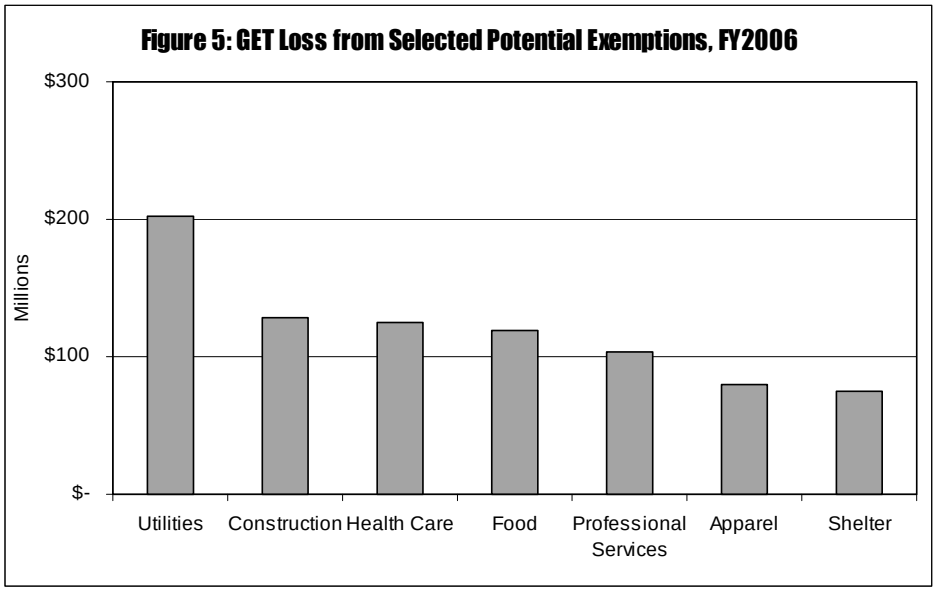


Figure 5: GET Loss from Selected Potential Exemptions, FY2006
$300
$200
$100
$-
Millions
Utilities
Construction
Health Care
Food
Professional Services
Apparel
Shelter

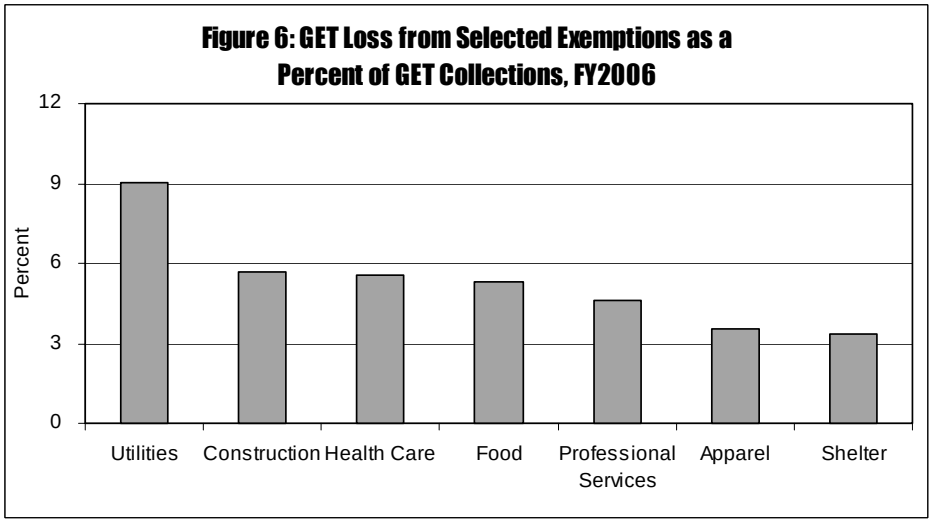


Figure 6: GET Loss from Selected Exemptions as a Percent of GET Collections, FY2006
12
9
6
3
0
Percent
Utilities
Construction
Health Care
Food
Professional Services
Apparel
Shelter

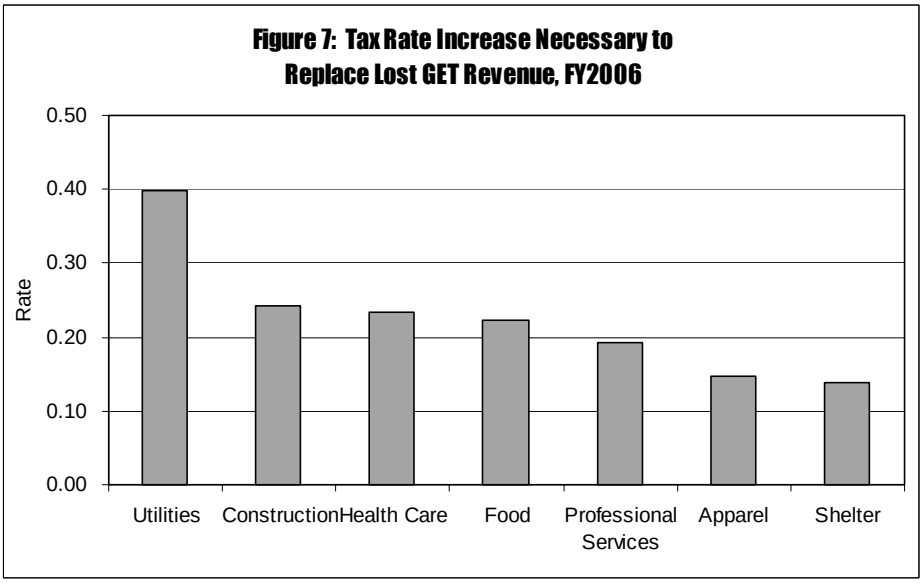


Figure 7: Tax Rate Increase Necessary to Replace Lost GET Revenue, FY2006
0.50
0.40
0.30
0.20
0.10
0.00
Rate
Utilities
Construction
Health Care
Food
Professional Services
Apparel
Shelter

The breadth of base also has implications for the adequacy of the tax base, that is, for the long-run income elasticity of the tax. An appropriately elastic tax base is important so that Hawaii has revenue growth to match its growth in expenditures. Bruce, Fox, and Tuttle (2006) find that state sales tax revenue elasticities are generally higher in states with broader tax bases, and this suggests that GET revenue growth will probably slow relative to the Hawaii economy if significant narrowing of the base is legislated. The likely explanation for the Bruce, Fox, and Tuttle paper is that states with broader bases are taxing more services and the sales of services are generally growing more rapidly than the sales of goods. Thus, the effects on long-run revenue growth depend on which exemptions are allowed. For example, revenue growth would slow much more radically if health and professional services were exempted than if food and apparel were exempted.

Utility Services. Exemption of utility services would account for the largest revenue loss, at $203.0 million in 2006. The revenue could be replaced if the GET rate were increased nearly 0.5 percentage points, to 4.4 percent.[39] The assumption is that all electric and telephone services would be exempt.[40] The estimate is large at least in part because the revenue effects are calculated using the 5.885 percent rate that is set for utility services to account for property tax treatment of utilities.

Utility services are taxed differently across the states, both in terms of which utility services are taxed and how business versus residential use is taxed. For example, Texas exempts electricity for residential use but taxes it for industrial use.[41] This is the reverse of appropriate treatment on economic efficiency grounds but is probably justified by Texas on the basis of equity. Thus, there is likely precedent in at least one state for utility tax treatment that lies anywhere between full taxation, no taxation, different treatment by type of user, and different treatment by type of utility service. But, exempting utility services purchased by businesses and taxing utility services purchased by individuals is good policy based on economic efficiency criteria, regardless of what other states do.

Construction Services. Exemption of construction services is the second highest cost exemption, at $128.1 million in 2006. The revenue could be replaced with a rate increase of nearly 0.3 percent. The analysis was conducted assuming that all sub-contractor services are taxable only once, at either the prime contractor or sub-contractor level. Also, materials, equal to about one-third of the value of construction, are assumed to remain taxable. The structure assumed here would be consistent with the practice of many states that exempt construction services and tax the materials.

Health Care Services. Exemption of health care services would represent a loss that is similar in magnitude to construction services, at $124.5 million. The estimate includes the GET imposed on services such as doctors, dentists and other health care providers plus prescription optical devices. These services are exempt in most other states. Non-

[39] The rate increases necessary to replace the revenue are not adjusted for changes in the consumption of taxable versus non-taxable items in the individual exemption calculations.
[40] Water services (and other utilities) are exempt when delivered by State or county governments.
[41] See http://www.taxadmin.org/fta/pub/services/services2004.xls

prescription drugs, currently exempt in 11 states,[42] are also included in the estimate. Services provided by hospitals and not-for-profit health care institutions are not included in this estimate since they are already exempt by virtue of their not-for-profit status.

Food for Consumption at Home. Exemption of food for consumption at home is expected to reduce GET collections by $118.9 million. This includes all sales of food for consumption off the premises as provided in the Merchandise Line Sales Data Base.[43] Specific definitions would be necessary for what constitutes food if the exemption were enacted, and the specific decision could alter the estimate to some extent.[44] As noted above, only about one-out-of-four sales taxing states currently tax food at the full state tax rate, so adoption of this exemption would be consistent with the norm in the U.S. However, there are many disadvantages to exempting food including the lost stability of the revenue system (food sales do not vary widely across a business cycle), high compliance costs for defining food, lost horizontal equity, and greater distortions in decision making.

Professional Services. Exemption of professional services is estimated to cost $103.1 million, an amount that could be replaced with a 0.2 percentage point GET rate increase. Professional services include a wide range of legal, accounting, business, information, and other services. Health care and construction services are not included here since they are in other categories. Also, services produced for delivery out of Hawaii are exempt as exports from the state and are omitted from the estimate. Finally, services sold by one provider to another for sale to a final user are taxed at 0.5 percent, and the estimated loss on these sales is based on the 0.5 percent rate.

Apparel. Exemption of apparel would lower tax revenues about $79.7 million, or about 4 percent of GET receipts. Few states exempt apparel broadly, but 13 states grant exemption for some apparel during tax holidays.[45]

Shelter. Exemption of shelter would reduce GET revenue by $74.9 million, or 3.6 percent of collections. Shelter refers to the tax on rental housing. Rental of long-term housing units is seldom taxed in other states.

Distributional Effects of Base Narrowing

Data from the 2004 Consumer Expenditure Survey (CES) can be used to estimate the effects of exemptions on tax liabilities for households with different incomes.[46] The CES provides information on the different amounts of expenditures for residents of Honolulu. The Honolulu data were adjusted to reflect the entire State of Hawaii and to reflect expenditures by income bracket.

[42] See http://www.taxadmin.org/fta/rate/sales.html
[43] See 2002 Economic Census, Product Lines by Kind of Business, U.S. Bureau of the Census.
[44] Definitions have been developed as part of the SSUTA.
[45] See http://www.taxadmin.org/fta/rate/sales_holiday.html
[46] 2004 Consumer Expenditure Diary Survey, Public Use Microdata, U.S. Bureau of Labor Statistics.

Current and Lifetime Incidence of the GET. The incidence of the GET was estimated for the taxes directly imposed on sales to consumers, based on the expenditures made on various categories of goods across income brackets. These estimates do not include the incidence of taxes on business-to-business transactions that cascade into the final product price. The GET is estimated to be regressive against current income, which means the tax falls as a share of income as consumers' incomes rise (see Table 8 and Figure 8). The tax is regressive both because low-income consumers spend so much relative to their income and because most of their spending is on taxable items. For example, households with incomes under $14,400 annually spend 186 percent of their income for goods and services while households with incomes above $70,000 only spend 51 percent of their income.

Economists have defined the concept of lifetime income as an alternative way of analyzing the incidence of taxes. Lifetime income seeks to measure a household's capacity to purchase across their lifetime as opposed to during the current year. This is an important distinction because households with low income in the current year are often composed of students or retirees, who have larger incomes over their lifetime. The consumption of these households is high relative to their income because many are borrowing against their future ability to earn (such as many students) or they are spending from savings (such as many retirees). Thus, their tax liability looks much greater against current income than against lifetime income. Similarly, many higher income individuals earn greater incomes during the current year than is the norm over their lifetime. Thus, their tax liability looks much smaller against current income than against lifetime income. This could be because people have very erratic income as a result of capital gains or earnings that vary significantly from one year to the next, and they do not spend all of the unusually high income they earn during a particular year of period of their life. Also older households in their peak earning years have higher current income than lifetime income. The result is that the GET is much less regressive when measured against lifetime income than against current income (see Table 8 and Figure 8).[47]

[47] Lifetime income is proxied using current expenditure levels, which are much more stable across households' life cycles than is current income.

Table 8: Equity Implications as a Result of Exemptions, 4% Tax Rate

Sales Tax as a Percent of Current Income					
	Less than $14,400	$14,400 to $27,400	$27,400 to $45,000	$45,000 to $70,000	$70,000 and Over
Existing Structure	5.95	3.63	2.31	1.66	1.05
No Tax on Food at Home	4.88	2.99	1.96	1.44	0.90
No Tax on Shelter	4.46	2.82	1.95	1.38	1.00
No Tax on Utilities	5.36	3.30	2.08	1.50	0.96
No Tax on Apparel	5.80	3.52	2.25	1.59	1.00
No Tax on Health Care	5.83	3.54	2.27	1.61	1.03
Narrow Definition	2.53	1.62	1.08	0.82	0.58
Sales Tax as a Percent of Lifetime Income					
	Less than $14,400	$14,400 to $27,400	$27,400 to $45,000	$45,000 to $70,000	$70,000 and Over
Existing Structure	3.21	2.99	2.21	2.53	2.07
No Tax on Food at Home	2.63	2.47	1.88	2.20	1.78
No Tax on Shelter	2.40	2.32	1.87	2.10	1.98
No Tax on Utilities	2.89	2.72	1.99	2.28	1.89
No Tax on Apparel	3.13	2.90	2.15	2.43	1.97
No Tax on Health Care	3.15	2.92	2.17	2.46	2.04
Narrow Definition	1.37	1.33	1.03	1.26	1.15

Source: Author's calculations.

Figure 8: GET as a Percent of Current and Lifetime Income

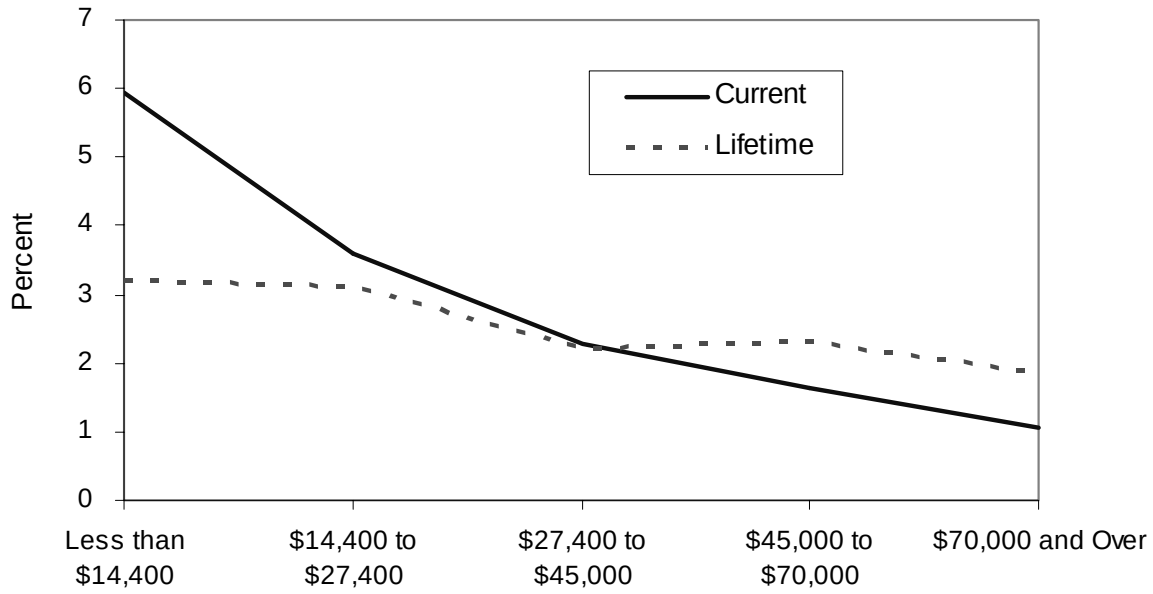
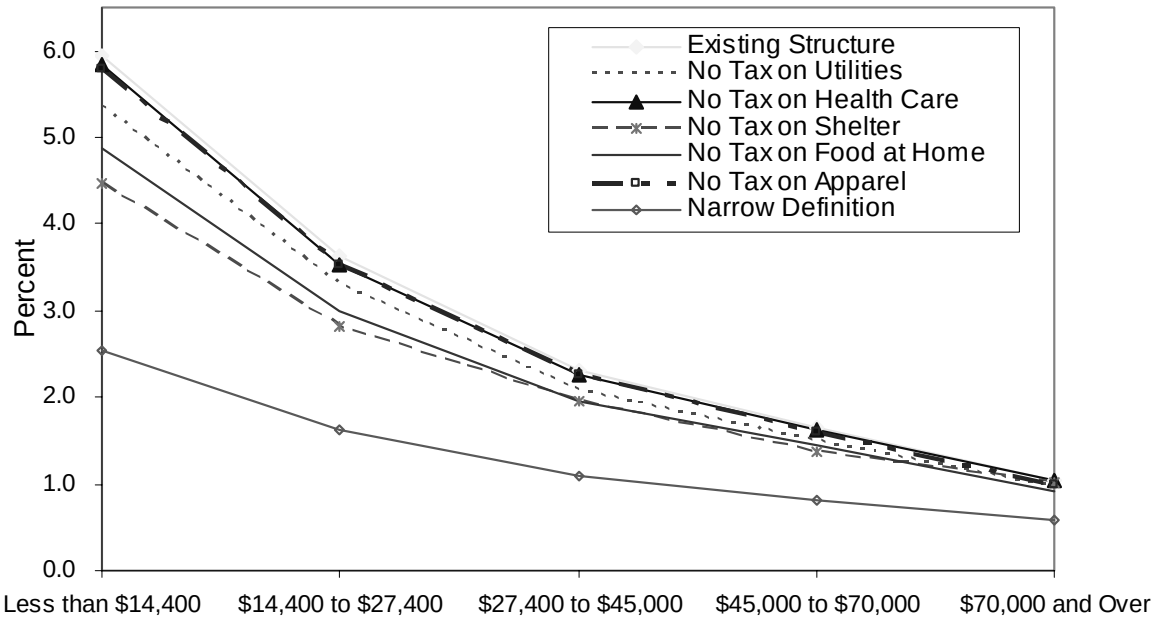


Figure 9: Tax Burden as a Percent of Current Income



Effects of Specific Exemptions on the Distribution of Tax Burden. The reduction in taxes from granting the various exemptions can be measured for those expenditure categories where the CES provides information on spending by household income. Data are available to measure the effects of exempting food for consumption at home, shelter, utilities, apparel, and health care. Data are not available for examining construction spending or professional services across income levels. Table 8 illustrates the change in tax burdens that results from providing each of these exemptions, plus the combined effects of all five exemptions (termed narrow definition) and Figure 9 illustrates the tax incidence relative to current income.[48]

Several conclusions can be gained from evaluating the effects on equity. First, the tax remains regressive against current income, regardless which of these specific exemptions are allowed or if they are all allowed. This follows because the regressivity depends mostly on the propensity for lower income households to spend more relative to their income, and the propensity of higher income households to save more, buy more insurance, put more into pensions, and other non-taxable uses of the funds. The tax is much closer to proportional against lifetime income, particularly when all five exemptions are allowed. Second, low-income households almost always save a larger share of their income from exemption of the various items. So, for example, the lowest income households save 1.49 percent of their income (5.95 percent minus 4.46 percent) if rental housing is exempt from the tax while the highest income households save only 0.05 percent of their income (1.05 percent minus 1.00 percent). Nonetheless, higher income households often save more *dollars* of tax, even though it may be a smaller share of their income. Third, the largest relative savings occur for the same types of exemptions, regardless of the income bracket. Specifically, exemptions for rental housing and food for consumption at home offer the greatest tax reductions. This occurs both because of the amount of income that households spend on the items and because of the degree to which the items are currently taxable. For example, much of health care expenditures are already exempt so there are fewer savings from additional exemptions.

The effects on distribution in Table 8 assume the GET is reduced by the exemptions without any replacement of the revenues. Thus, the results are consistent with a corresponding reduction in the size of government in Hawaii. This may not be a reasonable assumption about policy in Hawaii. Therefore, the results were re-estimated by assuming that the tax revenue lost through exemptions is replaced with a GET rate increase that is just sufficient to hold revenues neutral. These results are reported in Table 9. The regressiveness of the tax, measured by the highest income burden relative to the lowest income burden, is unchanged in the revenue neutral results relative to the Table 8 results.

Households appear to receive a significant reduction in tax liabilities even if a revenue neutral tax rate is set, since the tax liability as a share of income is lower for all income groups. These results are slightly misleading since the higher tax rate is imposed on business-to-business transactions. Much of the increased taxes on businesses are probably reflected in higher consumer prices but this effect is not included in the table.

[48] Consumers are presumed to bear the GET in this analysis.

Also, tourists, who see little benefit from new exemptions, pay some of the tax rate increase, making these exemptions beneficial to Hawaii residents.[49] This evidences some capacity to shift taxes to tourists and away from Hawaii residents by allowing exemptions for items mostly purchased by residents and then raising the tax rate that is paid by everyone (residents, tourists, and businesses) on the remaining taxable transactions. However, as demonstrated in the following section, the higher tax rates are likely to reduce employment in Hawaii as businesses produce and sell less in the State because of the higher rate. Also, the higher tax rates will cause greater distortions in residents' behavior such as encouraging more purchases of exempt goods and greater online shopping.

[49] This conclusion assumes that higher GET rates would have no effect on the amount of tourism in Hawaii.

Table 9: Equity Implications as a Result of Granting Exemptions, Revenue Neutral

Sales Tax as a Percent of Current Income					
	Less than $14,400	$14,400 to $27,400	$27,400 to $45,000	$45,000 to $70,000	$70,000 and Over
Existing Structure	5.95	3.63	2.31	1.66	1.05
No Tax on Food at Home	5.17	3.17	2.08	1.53	0.96
No Tax on Shelter	4.62	2.92	2.03	1.43	1.04
No Tax on Utilities	5.94	3.66	2.31	1.66	1.06
No Tax on Apparel	6.00	3.64	2.33	1.65	1.03
No Tax on Health Care	6.21	3.76	2.41	1.72	1.10
Narrow Definition	3.92	2.50	1.67	1.27	0.90
Sales Tax as a Percent of Lifetime Income					
	Less than $14,400	$14,400 to $27,400	$27,400 to $45,000	$45,000 to $70,000	$70,000 and Over
Existing Structure	3.21	2.99	2.21	2.53	2.07
No Tax on Food at Home	2.79	2.62	1.99	2.33	1.89
No Tax on Shelter	2.49	2.41	1.94	2.18	2.06
No Tax on Utilities	3.20	3.01	2.21	2.53	2.10
No Tax on Apparel	3.24	3.00	2.23	2.52	2.04
No Tax on Health Care	3.35	3.10	2.31	2.62	2.17
Narrow Definition	2.11	2.06	1.60	1.94	1.78

Source: Author's calculations.

Economic Effects of Narrowing the Base

Employment is expected to fall as the tax base is narrowed on business to consumer sales and the rate is increased to offset any revenue loss. The analysis is symmetrical to the case of broadening the base to consumer purchases and lowering the rates that was provided in the previous chapter. Here the consideration is reversed to analyzing the effects of exempting certain consumer purchases and raising the GET rate to replace the revenue. The same three effects described on page 39 will work in reverse with the higher tax rates and narrower base. As would be expected, the outcome is to harm the economy by ultimately reducing the number of jobs in Hawaii. The estimated job losses are reported in Table 10. Each example of narrowing the base would result in the loss of more than 1000 jobs because of the rate increase (see Table 10). The largest effect, for exempting utilities, would result in a 0.6 percent loss in employment.[50]

[50] This analysis does not consider the effects of exempting utility purchases by businesses.

Table 10: Employment Effects of Eliminating Exemptions, 2006

	Effects on Jobs from Adding Exemptions
Utilities	(3936)
Construction	(2396)
Health Care	(2324)
Food	(2215)
Professional Services	(1906)
Apparel	(1458)
Shelter	(1367)

Source: Author's calculations.

Summary

This chapter considers the effects of narrowing the GET base by enacting a series of additional exemptions. The results demonstrate that the GET rate would need to be increased significantly if a broad set of exemptions were enacted, such as for utility services, construction, services, and health care. The GET rate would need to be 6.4 percent if the seven exemptions considered in this section were all granted. The higher tax rates would generally be harmful to the Hawaii economy since they would reduce employment and production in the state without generating any additional tax revenue.

The GET is shown to be regressive when compared to people's current income, but to be much less so when compared to people's lifetime income. Granting the seven exemptions considered in this chapter would not significantly affect the relative tax burden for the various income groups, as the overall tax burden would remain regressive. Further, low-income households would save a greater share of their income from not paying tax on the transactions, but higher-income households receive the larger actual dollar savings. On net, these exemptions result in some apparent tax savings for Hawaii residents as more taxes are shifted to tourists and businesses. But, much or all of the higher business taxes will be reflected in higher product prices (much of which will be paid by Hawaii residents) and jobs will be lost in the economy. Hawaii should consider whether there are ways that cause fewer perverse effects on the economy if there is a goal of reducing the taxes paid by low-income households.

Chapter 6.
0.5 Percent GET Surcharge for Oahu

A 0.5 percent GET surcharge is being imposed in Oahu to finance part of the costs of a rapid transit system. The surcharge is expected to last for approximately 15 years. This section examines effects of eliminating or adding exemptions in the context of this higher tax rate. Specifically, the effects on tax rates of base expansions and exemptions, as given in Tables 2 and 7, are estimated here using baseline rates of 4.5 percent in Oahu and 4.0 percent in the rest of Hawaii.

The 0.5 percent surcharge would have generated approximately $196 million if it had been in place in 2006.[51] The average tax rate in Hawaii would be approximately 4.35 percent with the surcharge, since Oahu is responsible for approximately 70 percent of total GET collections.[52] Tables 11 and 12 evidence that the effects of base expansions or reductions would have a larger dollar effect if the surcharge was in place. For example, taxation of not-for-profits would generate $183.5 million in additional revenue, which would allow the weighted average GET rate to be reduced from 4.35 to 4.05 percent if total revenues were held constant (see Table 11). Other exemptions would have an approximately proportionate effect. Similarly, exemption of all utilities would reduce revenues by $215.1 million, which would require the weighted average rate to rise to 4.77 percent to hold revenues constant (see Table 12). The GET rate would need to be about 7.0 percent if all of the exemptions in Table 7 were granted and Oahu imposed the surcharge. The GET rates were calculated by assuming that the current GET revenues plus the $196 in Oahu surcharge revenues must be raised by the new GET rate.

The surcharge differs from the other analysis throughout the report in that the surcharge would not be revenue neutral, but instead involves raising additional tax revenues to finance the rapid transit system. In this context, the analysis could be extended to examine the effects of imposing a tax and then spending the revenues plus other possible funding sources (such as federal grants). However, estimating the economic effects of a rapid transit system is beyond the scope of this report. Indeed, decisions on a rapid transit system should be made after a careful evaluation of the range of expected effects and this paper is not an appropriate venue to analyze the range of benefits and costs. Thus, the analysis here can be thought of as studying the effect of the GET versus some alternative revenue source for the rapid transit.

Still, some general guidelines can be provided on the net effects of raising the GET rate and spending the proceeds. First, employment multipliers for spending by state and local governments are generally higher than employment multipliers for spending in

[51] Hawaii state GET collections could fall by approximately $5 million as the higher sales tax rate slightly reduces the purchase of taxable goods and services.

[52] Department of Taxation data show Oahu collecting approximately 82 percent of total Hawaii GET revenues. However, some of this likely comes from firms that operate across Hawaii and report all of their tax receipts in Oahu, so a lower 70 percent share is used in these calculations.

the private sector.[53] A key reason is that government production of services such as police, fire, education, and so forth is very labor intensive. Also, state and local governments have a bigger impact on local employment (for example, by hiring more employees) than individuals who are prone to purchase many goods and services that are often produced outside Hawaii. Thus, as a general rule taxing people and having the revenues spent by state and local governments will increase employment in the state economy *unless* the higher tax rates discourage private sector activity so much that the offsetting loss in the overall economy reduces net employment. Of course, people want an appropriately chosen combination of publicly provided services and privately purchased goods so taxing people to produce more local public services should only be done if people want more of the services, not because it might create more jobs.

The rapid transit system is a much more complicated case of imposing a tax to finance additional services. First, the project allows for some matching federal funding. Access to federal funding increases the potential for positive economic effects from the rapid transit system, though it does not guarantee that the project is good for Hawaii. However, the matching funding is independent of the specific way in which Hawaii's share of revenues is generated, so this is not a GET issue per se. Second, the project involves significant construction activity in the early years followed by an operation phase once the system is in place. Thus, the economic effects are somewhat front-loaded, with the economy stimulated by the construction phase. But, the project likely requires subsidies during the operation phase, which presumably lower economic activity in later years. Thus, construction and operation of the project stimulates the economy in the early years and slows it in the later years. Third, the real issue is the desirability and economic effects of the project in terms of the economic and social benefits and costs of the rapid transit system. This includes consideration of the impacts on Hawaii's economy of reducing transportation time and costs, the costs of the system, and the environmental and other impacts as the facility is operated. The net economic effect of the rapid transit system on the economy is the combination of the employment effects of constructing the facility, the effects of operating the rapid transit system, and the effects of the system's operation on the economy and on people's lives.

[53] This means that the employment multiplier for a balanced budget policy would be positive even if both people and the government spend the same amount.

Table 11: Revenue Effects of Removing Selected Exemptions, 2006
(Includes additional 1/2% Oahu Tax)

	Revenue Gain (millions)	Total State Tax Collections (Percent)	Gain / GET State & Local Collections (Percent)	Tax Rate for Revenue Neutral
Nonprofits	$ 183.49	4.19	7.52	4.05
Subcontracts	$ 99.67	2.28	4.08	4.18
Export Goods	$ 95.73	2.19	3.92	4.19
Hotel Wages, Etc.	$ 68.88	1.57	2.82	4.23
Prescriptions/Prosthetics	$ 36.74	0.84	1.51	4.29
Aircraft Leasing	$ 28.75	0.66	1.18	4.30
Export Services	$ 22.12	0.51	0.91	4.31
Aircraft Maintenance	$ 1.93	0.04	0.08	4.35
Combination of All Listed Exemptions	$ 537.32	12.28	22.01	3.57

Source: Author's calculations.

Table 12: Revenue Effects of Selected Exemptions, 2006
(Includes additional 1/2% Oahu Tax)

	Revenue Loss (millions)	Total State Tax Collections (Percent)	Loss / GET State & Local Collections (Percent)	Tax Rate Necessary to Replace Revenue Loss
Utilities	$ 215.05	4.91	8.81	4.77
Construction	$ 139.26	3.18	5.70	4.61
Health Care	$ 135.33	3.09	5.54	4.61
Food	$ 129.31	2.96	5.30	4.59
Professional Services	$ 113.23	2.59	4.64	4.56
Apparel	$ 86.71	1.98	3.55	4.51
Shelter	$ 81.43	1.86	3.34	4.50
Combination of All Listed Exemptions	$ 900.32	20.58	36.88	6.89

Source: Author's calculations.

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