

FINAL REPORT

**SELECTED ISSUES WITH THE HAWAII
GENERAL EXCISE TAX**

Report Prepared for the 2010-2012 Hawaii Tax Review Commission

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Introduction

This report analyzes selected issues with the Hawaii General Excise Tax (GET).¹ Specifically, the report examines the GET revenue lost because of the inability to collect revenue due because of e-commerce and the revenue that is not obtained because of a set of seven specific exemptions. The paper also considers several related issues, including the legislation currently before Congress to allow states to require remote firms to collect their sales tax and the revenue neutral GET rate that could be levied if the personal and corporate income taxes were eliminated.

I. An Overview of the GET

In this report the GET is analyzed in the context of state sales taxes.² The GET is imposed on a broader set of transactions than any other sales tax, but there is a similar intent to impose a consumption based tax. Nonetheless, state sales taxes differ dramatically from levies on consumption because of the imposition of the taxes on many intermediate purchases (business inputs). The GET is imposed on total gross receipts of businesses, which differs from some but not all states, which generally levy the tax on the total purchase price of consumers.³

The GET collected 51.4 percent of Hawaii's tax revenues in 2011, which is considerably greater reliance on the tax than the average state, which raises 31.5 percent of its revenues with the sales tax (see Figure 1 for all states).⁴ Only Washington, Tennessee, Florida, and South Dakota generate a larger percentage of tax revenues from their sales tax than Hawaii, and South Dakota is the only one of these states that also has a personal income tax.

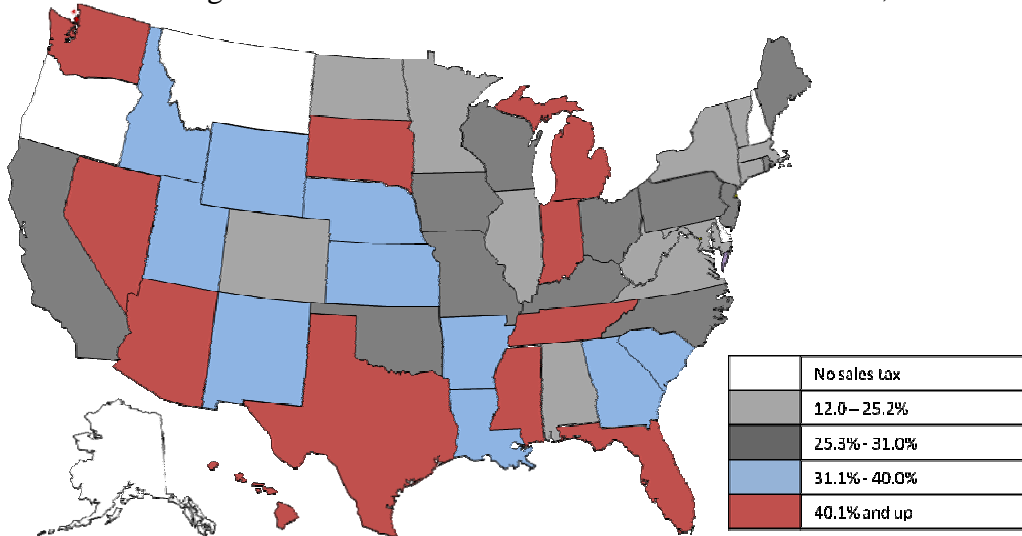
¹ See Hawaii Code 237 for GET legislation.

² Fox (2002) discusses why the GET can be viewed as a retail sales tax, though the base is much broader than in the average state.

³ The GET rate is 4.16 by comparison with the rate levied in many other states. The key difference is that the GET is imposed on gross revenues of a business, including any attempt by the vendor to include the GET in the price, while most other states impose the tax on the gross of tax price. The 4.16 percent rate is generally used in the revenue estimates provided below.

⁴ See. <http://www.taxadmin.org/fta/rate/11taxdis.html>

Figure 1. State Sales Tax Collections as Share of Total, 2011



Source: Federal Tax Administrators

Hawaii imposes the GET at four rates: 4.0, 0.5, 0.15 and 0 percent (see section 18-237-13). The zero rate is levied on exempt sales and the 0.15 percent rate is imposed on insurance producers. The 0.5 percent rate is levied on sales by manufacturers, wholesalers, intermediary services, sugar processing, and pineapple canning. The 4.0 percent rate is imposed on all other taxable sales. The use tax is imposed at similar rates as the sales tax (see section 18-238-2). The use tax is 4.0 percent on purchases by individuals and on retailers, wholesalers, contractors, and service providers on purchases that are not for resale and on manufacturers on purchases where the goods do not become component parts of the final product. Purchases for resale are taxed at 0.5 percent when made by wholesalers or manufacturers who act as a retailer and purchases are taxed at 0.5 percent when the item becomes a component part.

The standard GET rate (4.0 percent) is low compared with other states. The median state levies a 6.0 percent state rate and 35 states have local sales taxes as well.⁵ Five states have no sales tax including Alaska, Delaware, Montana, New Hampshire, and Oregon. Among sales taxing states, only Colorado has a lower *state* sales tax rate (2.9 percent) than Hawaii and six states besides Hawaii also have a 4.0 percent state rate. California has the highest state sales tax rate (7.25 percent). Hawaii's state and local rate is the lowest among sales taxing states when the state rate is combined with the average local sales tax rate.⁶

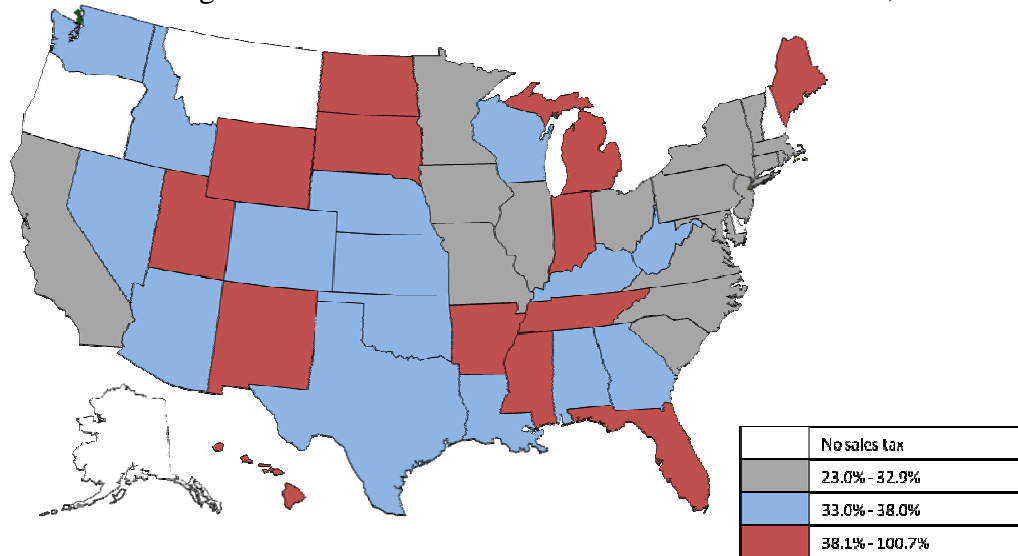
Hawaii obtains a large share of tax revenues from the GET despite the low rate because the GET base is very broad. Hawaii taxes food and nearly all services and grants relatively infrequent exemptions. Dividing states' tax bases by their respective personal

⁵ Alaska has no state sales tax rate but has local tax rates up to 7.0 percent.

⁶ See <http://thestc.com/SRates.stm>

income is one means of comparing the relative breadth of state tax bases.⁷ Hawaii has the broadest base of any state using this standard, with a base equal to 100.7 percent of personal income.⁸ New Mexico is second broadest, at 79.1 percent, and the average state tax has a base equal to 33.0 percent of personal income (see Figure 2). Hawaii’s tax base breadth, though very high, has been falling over time.

Figure 2. Sales Tax Base as Percent of Personal Income, 2010



Source: Author’s calculations

II. Revenue Losses from Inability to Collect GET on Remote Transactions

This section examines the General Excise Tax (GET) revenue loss because of the inability to collect some revenue associated with remote sales via e-commerce. The section includes six parts. The first is a summary of the findings. Sections on e-commerce in the U.S., e-commerce sales to Hawaiian people and businesses, and the taxability of e-commerce under the GET are next. GET revenues associated with e-commerce sales follow. The final section provides a brief summary of recent bills introduced in Congress that would allow states to require remote vendors to collect their sales tax.

The GET is similar in concept to retail sales taxes that are imposed in other states and is treated as a sales tax in this paper. Hawaii levies a corresponding use tax “on the use in this State of tangible personal property which is imported by a taxpayer in this State whether owned, purchased from an unlicensed seller, or however acquired for use in this State (18-238-2)” and “on the value of services or contracting as defined in section 237-6 that are performed by an unlicensed seller at a point outside the State and imported or purchased for use in this State” (18-238-2.3). Sales tax revenues are generally due on sales of goods and services in Hawaii and use taxes are normally due on goods and services that are purchased (or produced) outside Hawaii for use in Hawaii. This analysis

⁷ Personal income is a broad measure of state economies and includes wages and salaries, rents, interest, dividends, earnings of sole proprietors and farmers, and transfer payments.

⁸ See John Mikesell.

of revenues lost from e-commerce is primarily a study of use tax though the terms use tax, sales tax and GET are used somewhat interchangeably in this paper.

Hawaii is generally unable to require many e-commerce firms to collect and remit the GET because the firms do not have nexus, or taxable presence, in the state.⁹ Hawaii's use tax legislation requires buyers to remit the GET on their own if the vendor did not remit the tax, but voluntary compliance by individuals is generally believed to be very limited. Voluntary compliance by business purchasers is much better than for individuals, though businesses appear to have much lower compliance with the use tax than with the sales tax.¹⁰ In the longer term, GET compliance can be enhanced significantly if remote vendors are required to collect and remit use taxes either because Congress enacts legislation that creates nexus for remote vendors or because the Supreme Court overturns the Quill Case that established sales tax nexus on a physical presence basis.

Findings

Hawaii businesses and people are estimated to make \$30.6 billion in e-commerce purchases in 2012 (see Table 1). Of this amount, an estimated \$19.2 billion is taxable at either the 4.0 or 0.5 percent GET rate, with the considerable majority taxable at the 0.5 percent rate. Approximately \$335.8 million in GET revenues is due on these sales, of which \$62.0 million is due on sales that are taxable at the 0.5 percent rate and \$273.8 million is based on the 4.0 percent rate. An estimated \$144.9 million of the tax due is not being collected either by the vendors or paid in use taxes by the purchasers. The calculations include \$38.6 million that is due on business-to-consumer catalog sales, of which \$31.1 million goes uncollected.

Table 1. Hawaii E-Commerce Purchases (millions)

	2010	2011	2012	2013	2014	2015
B2B	\$22,204	\$24,824	\$27,039	\$29,920	\$34,535	\$39,989
B2C	\$ 1,903	\$ 2,191	\$ 2,452	\$ 2,782	\$ 3,286	\$ 3,886
Total	\$24,107	\$27,015	\$29,491	\$32,702	\$37,821	\$43,876
Mail Order	\$ 998	\$ 1,048	\$ 1,101	\$ 1,156	\$ 1,214	\$ 1,274
Total With Mail Order	\$25,106	\$28,063	\$30,592	\$33,857	\$39,035	\$45,150

Source: Author's calculations

The following sections describe the methodology for estimating the revenue losses associated with the inability to collect GET that is due on transactions consummated through e-commerce. The general approach involves a number of steps including estimation of:

- the total e-commerce sales for the United States

⁹ The U.S. Supreme Court in *Quill, Inc. v. North Dakota* ruled that a state can only require firms with physical presence in the state to collect the sales tax.

¹⁰ For example, in an audit of registered taxpayers Washington State (2010) found 23.0 percent non-compliance with the use tax but only 1.0 percent noncompliance with the sales tax.

- the share of e-commerce sales that is attributable to Hawaii
- the GET due on Hawaii-destined transactions
- the GET that is currently being collected on these transactions
- the currently uncollected GET

E-Commerce in the United States

Total e-commerce sales are first estimated for the U.S. The forecasts are based on U.S. Census Bureau estimates of actual e-commerce for 2000 through 2009 (with some estimates for 1998 and 1999). The Census Bureau provides e-commerce sales by type of vendor, including for manufacturers, wholesalers, retailers and service providers.¹¹ Total e-commerce sales in 2009 were nearly \$2.9 trillion (See Table 2 and Figure 3). The recession caused sales to fall by over \$300 billion from 2008, but e-commerce was still 2.7 times higher than 2000, and represented an 11.8 percent compound annual growth rate. Manufacturers dominate e-commerce sales, being responsible for 64.5 percent of 2009 sales (Table 3). The manufacturing share has fallen significantly since 2000 for three main reasons: slower sales growth by manufacturers, very rapid growth in sales by retailers, and strong growth in sales by wholesalers and service providers. Retailers now provide five percent of total e-commerce sales and 4.0 percent of total retail sales. Together, retailers and service providers are responsible for a little over 10 percent of total e-commerce sales.

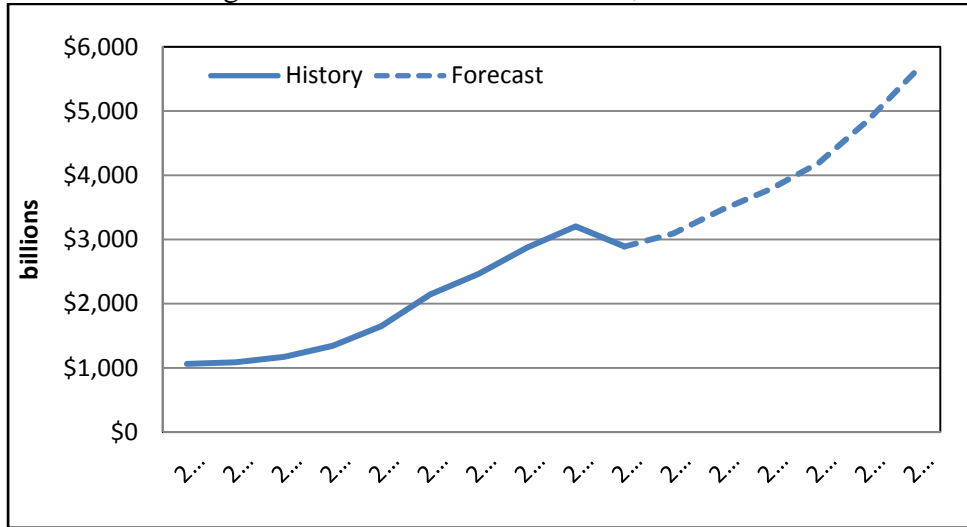
Table 2. U.S. E-Commerce Sales, 2000-2009 (millions \$)

Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Manufacturing	755,807	724,228	751,985	842,666	996,174	1,343,852	1,566,799	1,879,424	2,170,818	1,862,493
Wholesale	277,818	327,693	374,551	441,911	497,961	609,933	669,432	725,141	739,314	728,663
Services	NA	NA	NA	NA	82,103	93,299	110,463	131,553	149,668	153,007
Retail	27,763	34,593	45,212	58,157	74,175	92,804	114,912	138,145	142,281	145,214
Total	1,061,388	1,086,514	1,171,748	1,342,734	1,650,413	2,139,888	2,461,606	2,874,263	3,202,081	2,889,377

Source: U.S. Bureau of the Census

¹¹ The Census did not report manufacturers' sales for 1998 and did not begin reporting service sales using its current methodology until 2004.

Figure 3. U.S. E-Commerce Sales, 2000-2015



Source: Author's calculations

Table 3. U.S. E-Commerce Sales, Percent Distribution, 2000-2009

Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Manufacturing	71.2%	66.7%	64.2%	62.8%	60.4%	62.8%	63.6%	65.4%	67.8%	64.5%
Wholesale	26.2%	30.2%	32.0%	32.9%	30.2%	28.5%	27.2%	25.2%	23.1%	25.2%
Services	NA	NA	NA	NA	5.0%	4.4%	4.5%	4.6%	4.7%	5.3%
Retail	2.6%	3.2%	3.9%	4.3%	4.5%	4.3%	4.7%	4.8%	4.4%	5.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: U. S. Bureau of the Census and author's calculations

Table 4 reports a forecast for U.S. e-commerce sales for 2010 through 2015.¹² E-commerce was estimated for business-to-business (defined here as manufacturers and wholesalers) and business-to-consumer (defined here as services and retailers) transactions. The estimates were prepared by first finding the relationship between e-commerce growth and national GDP growth between 2000 and 2009. Then, a forecast of GDP prepared by Global Insights was used to estimate e-commerce during the forecast period.

Table 4. U.S. E-Commerce Sales, 2010-2015 (millions \$)

Baseline E-Commerce Growth Scenario						
	2010	2011	2012	2013	2014	2015
Total Business-to-Business E-commerce	2,846,701	3,182,517	3,466,547	3,835,835	4,427,560	5,126,858
Total Business-to-Consumer E-commerce	244,000	280,892	314,378	356,684	421,287	498,221
Total E-Commerce	3,090,701	3,463,409	3,780,925	4,192,520	4,848,848	5,625,078

Source: Author's calculations

¹² It is necessary to forecast 2010 and 2011 because the Census data for these years were not reported as of the preparation of this report.

E-Commerce Purchases by People and Firms in Hawaii

The next step is to estimate the portion of national e-commerce transactions where the goods and services will be used in Hawaii. No consistent data provide the geographic distribution of e-commerce purchases by state, so the sales must be distributed based on an assumption about where the buyers of national e-commerce sales are located. Hawaii's share of e-commerce is assumed to be in proportion to its percentage of national aggregate adjusted state and local sales tax revenues collected in each state.¹³ This approach allows the e-commerce share in each state rises with the size of the state's economy, breadth of the adjusted tax base, and level of sales tax rates. The estimated e-commerce share is positively related to the tax rate and base because the incentives for businesses and people to shop online rise with the level of the tax rate and the breadth of the tax base.¹⁴

Estimates of mail order purchases by Hawaii businesses and consumers are also included in Table 1 and in the tax base and tax revenue estimates provided below.¹⁵

Taxability of E-Commerce Purchases

Estimated e-commerce purchases by Hawaii buyers do not directly translate into tax liabilities in part because a number of transactions are exempt. More importantly, the GET rate depends on classification of the type of buyer/seller and how the buyer intends to use the purchased items. As noted above, the GET rate is 4.0 percent for consumer purchases and certain business purchases, such as when the item does not become a component part of a manufactured good or constructed unit or when the good is not for resale. The GET rate is 0.5 percent or 0 for other business purchases. The Census e-commerce data from which Hawaii's sales were developed provide information on the sales by category of business vendors, but do not provide information on who the buyers are or how the goods and services will be used.¹⁶ Thus, the Census classifications do not directly allow the e-commerce data to be translated into the various taxable groupings in

¹³ This approach results in Hawaii buyers being estimated to purchase 0.78 percent of national e-commerce sales, which exceeds the 0.46 percent of national personal income that accrues to Hawaii. Arguments can be made that the approach for allocating e-commerce sales to Hawaii understates or overstates Hawaii's actual share for reasons such as the distance from the mainland and unique elements of Hawaii's economy. Still, the approach is used as a reasonable proxy for the share accruing to Hawaii (and as a methodology that is consistent with the one used for other states). The revenues losses would still be large even if a more conservative approach was used to estimate the share of sales going to Hawaii. For example, estimated 2012 GET revenue losses would still be \$118 million if Hawaii was allocated a one-fourth lower share of e-commerce sales. See Bruce, Fox and Luna (2009) for a complete description of the methodology.

¹⁴ For example, see Goolsbee (2000) and Ellison and Ellison (2009).

¹⁵ National mail order sales are estimated to be \$128.0 billion in 2012.

¹⁶ The Census Bureau provides e-commerce transactions for sales by manufacturing, wholesaling, services and retail businesses. These are summarized as business-to-business (representing manufacturers and wholesalers) and business-to-consumer (representing services and retailers) for preparation of the e-commerce forecast. This B2B and B2C categorizations do not strictly reflect buyers because businesses also purchase from retailers and service providers and consumers make some purchases from manufacturers and wholesalers. Nonetheless, the terminology is maintained to simplify the analysis and discussion.

Hawaii. The remainder of this section briefly describes how the data by type of vendor sale are translated into taxable purchases in Hawaii.

The United States Bureau of the Census also provides limited data on the buyer for certain sales by retail, wholesale and service vendors through the 2007 Economic Census. The data are for all businesses and transactions, not for e-commerce transactions alone, but these are the only generally available data for estimating the tax due at 4.0 percent versus at 0.5 percent or 0 percent. Nonetheless, purchasing patterns may differ between e-commerce and other types of commerce and may have changed over time.

E-commerce and mail order sales are assumed to be distributed across consumer purchases, business inputs, and other business purchases in the same manner as total retail sales reported in the Census. The Economic Census data indicate that on average 86.6 percent of retail sales are to final consumers, 4.9 percent are to businesses to use as inputs that become part of the final product and 8.5 percent are to businesses for other uses.¹⁷ Thus, 86.6 percent of e-commerce sales by retailers are assumed to be taxable at 4.0 percent and 13.4 percent to be taxable at 0.5 percent.

Very limited data are available from the 2007 Census for selected services.¹⁸ For example, individuals purchase 29.6 percent of legal services, various business and farm users buy 65.7 percent and miscellaneous and government users procure 4.7 percent. Businesses purchase 41.1 percent of repair and maintenance services, individuals purchase 52.9 percent and miscellaneous and government users purchase 6.0 percent. These data are for a small set of services but are suggestive that individuals purchase about one-half as large a percentage of the sales by service providers as the sales by retailers. Therefore, individuals are assumed to purchase 43.3 percent of services that are taxable at 4.0 percent, businesses purchase 51.8 percent of services and the remaining 4.9 percent is non-taxable services. Three-fourths of business services are assumed to be taxable at 4.0 percent and one-fourth at 0.5 percent.

The 2007 United States Economic Census also includes data on the type of purchases and how the goods are used for sales by wholesalers. The Economic Census estimates that 34.3 percent of wholesale sales are for uses that would be taxable at 0.5 percent, such as retailers for resale, restaurants and hotels, and repair shops.¹⁹ An estimated 24.0 percent is taxable at 4.0 percent, including business purchases for their end use and purchases by households. The other 41.7 percent is exports, manufacturers for use as inputs, and wholesalers for resale, all of which are exempt. Data are not available in the Economic Census by type of purchaser for manufacturing vendors. Manufacturers are presumed to sell only one-half as great of a percentage of goods that

¹⁷ U.S. Bureau of the Census, U.S. Department of Commerce, 2007 Economic Census, Retail Trade, Table 2, Class of Customer by Kind of Business.

¹⁸ U.S. Bureau of the Census, U.S. Department of Commerce, 2007 Economic Census, Professional, Scientific and Technical Services, Receipts by Class of Consumers for Selected Professional, Scientific and Technical Services. <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

¹⁹ U.S. Bureau of the Census, U.S. Department of Commerce, 2007 Economic Census, Wholesale Trade. http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_42SXS B01&prodType=table

are taxable at 4.0 percent as do wholesalers. Manufacturers are also assumed to make 41.7 percent of sales to wholesalers, other manufacturers and exports that are subject to a 0 tax rate and the remaining 46.3 percent is assumed to be taxable at 0.5 percent.

GET Revenues and E-Commerce

This section estimates the tax revenue that is due on remote e-commerce purchases, the degree to which these taxes are already being collected, and the amount that is currently uncollected. The GET tax base is estimated using the methodology described above to separate sales for each type of vendor into purchases taxable at 4.0 percent and purchases taxable at 0.5 percent. The narrative focuses on the taxes for 2012, but the Tables provide annual estimates for 2010 through 2015. Revenue losses are estimated to grow rapidly across these years because of the significant forecast growth in e-commerce during this period. Also, estimates for mail order sales are included in the tables.²⁰

Table 5 shows estimates of GET revenues based on forecasts of taxable purchases by consumers and businesses at the 4.0 percent GET rate. The combined taxable base for consumers and businesses is \$6,682.5 million, which is 21.8 percent of the total estimated value of e-commerce purchases for use in Hawaii.²¹ A total of \$273.8 million in GET is due on these transactions in 2012.²²

Table 5. Tax Revenues for Transactions Taxable at 4.0 Percent (millions)

	2010	2011	2012	2013	2014	2015
Tax Due	\$ 190.62	\$ 214.91	\$ 235.95	\$ 263.04	\$ 305.74	\$ 356.34
Mail Order	\$ 34.34	\$ 36.06	\$ 37.86	\$ 39.76	\$ 41.74	\$ 43.83
Total With Mail Order	\$ 224.97	\$ 250.97	\$ 273.82	\$ 302.80	\$ 347.49	\$ 400.17
Compliance	\$ 120.93	\$ 135.09	\$ 147.24	\$ 162.89	\$ 187.62	\$ 216.83
Uncollected Revenues	\$ 104.04	\$ 115.88	\$ 126.58	\$ 139.91	\$ 159.87	\$ 183.34

Source: Author's calculations

The next step is to estimate compliance with the taxes that are due. Taxes are almost always collected when the selling vendor remits GET to Hawaii but use tax compliance by the buyer is considerably worse. First consider consumer compliance. Consumer use tax compliance is very weak, and little revenue is collected unless it is remitted by the seller. Seller compliance was estimated by examining the website of

²⁰ Mail order sales are analyzed similarly to retail sales.

²¹ A total of 95.4 percent of transactions are estimated to be taxable at either 4 percent or 0.5 percent.

²² The estimate is much higher than that prepared by Bruce, Fox and Luna (2009). Several explanations for the differences are offered. The analysis presented here is based on more current forecasts of e-commerce. But, a major reason for the difference is that the Bruce, Fox and Luna report determined taxability of e-commerce transactions based on the results of a survey sent to Departments of Taxation in every state. Thirty states complied, but Hawaii did not. For states that did not comply, the authors assume the taxability equals the average of all reporting states. The methodology was used consistently for all non-responding states. This methodology probably works acceptably for most states, but does not work as well for Hawaii because the GET base is so much broader than any other state sales tax. Also, Bruce, Fox and Luna (2009) do not include mail order in their estimates. The estimates provided here are based on very careful Hawaii specific analysis of taxable transactions.

approximately 100 large firms identified by the Internet Retailer Top 500 to determine whether the firms collect GET for Hawaii. Overall, large vendors can be expected to collect tax on 45.4 percent of sales to Hawaii buyers, based on a sales weighted average of the 100 firms. Smaller firms, which represent about 62 percent of e-commerce retail sales,²³ have very limited sales tax compliance since they will seldom have taxable presence in Hawaii. Overall, compliance for sales to individual consumers will only average about 20 percent.

Businesses comply in two ways. First, they comply when the vendor from which they purchase collects and remits the GET. Second, they comply through the use tax remittance system, which they do much more readily than individuals. A report by the Washington State Department of Revenue estimates that businesses remit 77.0 percent of the use tax due on their purchases. Thus, vendors selling to Hawaii firms are assumed to collect about 20 percent of the revenue that is due (this assumes that vendors are as likely to collect the tax due on sales to businesses as to individuals) and Hawaii firms are assumed to remit 77 percent of the amount not collected and remitted by vendors.

In total, compliance is expected to be \$147.2 million in 2012, which means Hawaii collects about 55 percent of the taxes that are due at 4.0 percent. This still leaves \$126.6 million in uncollected revenues this year.

Table 6 shows that another \$62.0 million is due in 2012 on business purchases that are taxable at the 0.5 percent rate. Compliance is much better for these transactions and approximately \$43.7 million is collected. Approximately \$18.3 million of the tax due at 0.5 percent is uncollected.

Table 6. Tax Revenues for Transactions Taxable at 0.5 Percent (millions)

	2010	2011	2012	2013	2014	2015
Tax Due	\$ 50.17	\$ 56.18	\$ 61.28	\$ 67.90	\$ 78.47	\$ 93.63
Mail Order	\$ 0.67	\$ 0.70	\$ 0.74	\$ 0.77	\$ 0.81	\$ 0.85
Total With Mail Order	\$ 50.84	\$ 56.88	\$ 62.01	\$ 68.67	\$ 79.28	\$ 94.48
Compliance	\$ 35.88	\$ 40.12	\$ 43.72	\$ 48.38	\$ 55.85	\$ 66.65
Uncollected Revenues	\$ 14.96	\$ 16.75	\$ 18.30	\$ 20.29	\$ 23.43	\$ 27.84

Source: Author's calculations

In total, Table 7 evidences that \$335.8 million in GET revenues are due on e-commerce purchases by Hawaii residents and businesses in 2012. The state collects 57 percent of these revenues, but this still leaves \$144.9 million in non-compliance with the GET.

²³ See Bailey, et al (2008).

Table 7. Total Tax Revenue Effect (millions)

	2010	2011	2012	2013	2014	2015
Tax Due	\$ 240.80	\$ 271.09	\$ 297.23	\$ 330.94	\$ 384.21	\$ 449.97
Mail Order	\$ 35.01	\$ 36.76	\$ 38.60	\$ 40.53	\$ 42.56	\$ 44.69
Total With Mail Order	\$ 275.81	\$ 307.85	\$ 335.83	\$ 371.47	\$ 426.77	\$ 494.65
Compliance	\$ 156.82	\$ 175.22	\$ 190.96	\$ 211.27	\$ 243.47	\$ 283.47
Uncollected Revenues	\$ 119.00	\$ 132.63	\$ 144.88	\$ 160.20	\$ 183.30	\$ 211.18

Source: Author's calculations

The estimates contained in Table 7 are considerably higher than those prepared by Fox in 2006. Several reasons can be given for the difference. First, Table 1 shows that e-commerce has risen dramatically since 2006. Second, data from the Economic Census indicate that a larger share of e-commerce is likely to be taxable at both the 4.0 or 0.5 percent tax rate than was seen in data available for the earlier analysis.

Federal Legislation and E-Commerce

Three bills to require remote vendors to collect state sales taxes were introduced in the U.S. Congress during 2011: the Main Street Fairness Act,²⁴ the Marketplace Fairness Act,²⁵ and the Marketplace Equity Act of 2011.²⁶ All of the bills allow states that simplify and harmonize their sales taxes to require certain remote vendors to collect their sales tax. Differences between the bills arise mainly in the simplification and harmonization criteria and the small seller exception that determines the sales that a firm must make before it can be required to collect the tax. Much of the current discussion of the legislation focuses on the appropriate small seller exception, and the amount listed in any bill is readily subject to change. But, it is nearly certain that such an exception will be allowed whenever the legislation passes Congress.

The **Main Street Fairness Act** determines that simplification and harmonization have occurred when states become full members of the Streamlined Sales and Use Tax Agreement (SSUTA).²⁷ Thus, states must comply with provisions of the SSUTA in order to require remote vendors to collect their sales tax.

The **Marketplace Equity Act** develops a unique set of criteria that must be met before states can require remote firms to collect the sales tax. The criteria have some similarities to the SSUTA, but are not precisely the same. Among the criteria are that a state:

- must develop a small seller exception, which would exempt firms with \$1 million or less in national sales or \$100,000 or less in sales to the state which would require the collection responsibility.

²⁴ S. 1452, 112th Cong., 1st Sess. (2011); H.R. 2701, 112th Cong., 1st Sess. (2011).

²⁵ S. 1832, 112th Cong., 1st Sess. (2011).

²⁶ H.R. 3179, 112th Cong., 1st Sess. (2011).

²⁷ See <http://www.streamlinedsalestax.org/> for information on the Streamlined Sales Tax Governing Board, Inc. and its provisions.

- must have a remote seller tax return and a single tax authority for remote sellers.
- must have a single set of definitions for taxable items across the state.
- must impose either a blended state and local tax rate, a maximum state rate, or an applicable destination tax rate for each local jurisdiction into which sales are made. The first and second of these alternative rates are not permitted to exceed the average state and local rate applicable to non-remote sellers.
- must publish detailed information about the collection requirements about six months before the collection requirements can be imposed on remote sellers.

The **Marketplace Fairness Act** mixes the approaches of the other two bills by allowing states to either be in compliance with the SSUTA or to comply with a set of other criteria. The alternative criteria include:

- providing a single state agency to administer all sales and use tax legislation, a single audit for all state and local taxing jurisdictions, and a single sales tax return for remote sellers.
- developing a uniform sales tax base for state and local governments.
- requiring remote vendors to collect a destination tax for every jurisdiction.
- providing software and services to facilitate collection by remote sellers.
- relieving sellers from liability for tax collection error resulting from information provided by the state.
- providing at least 30 days notice for local tax rate changes.

State Efforts to Expand Collection of Taxes due on E-Commerce

States have implemented a number of policy changes to enhance their ability to collect revenues due on remote sales. None of these mechanisms is likely to be very effective, though they may collect some revenues and are ways of increasing pressure for federal legislation. But, federal legislation (or a reversal of *Quill v. North Dakota*) is the only effective means of significantly altering states' ability to collect on remote sales, and the impact of federal legislation will depend on the details of the legislation and specifically the size of the small seller exception.

States have taken two broad approaches to increasing collection of sales tax on remote sales: broadening nexus definitions and imposing reporting requirements. Nexus definitions have been expanded to claim affiliate nexus through ownership of related parties, affiliate nexus by relationship with a contractor, and click through nexus. Nexus through ownership of related companies is asserted when the state argues that one component of an overall firm has nexus because another firm under the same corporate umbrella has nexus. For example, Arkansas asserts nexus over a remote firm if a related business using the same name has physical presence in the same state (such as could be true with Walmart and Walmart.com). Nexus is asserted in some cases for a firm that is represented by a contractor in the state that does activities on its behalf, such as repairing and maintaining equipment.

Click through nexus provisions assert nexus in a state to a remote firm when affiliated Internet-based firms with physical presence in the state direct sales to the remote firm. The legislation normally requires in state buyers to click through from the affiliated firm's website to the remote firm's website to make purchases. The affiliate is normally paid a commission for the sale. A small seller exception of some type might exist for the requirement to come into effect. Arkansas, Connecticut, Illinois, New York, North Carolina, Pennsylvania, Rhode Island, and Vermont assert some version of click through nexus. Most states, such as New York, passed legislation to enact click through nexus legislation, but the Pennsylvania Department of Revenue presumes that click through nexus exists under its existing sales tax statutes. New York prevailed in an initial court challenge on the legislation and the ruling has been appealed.

Several states, including Colorado and Oklahoma, enacted legislation that requires remote vendors (those without physical presence) to report certain broad information about sales into the state and to alert buyers that they may be responsible for use taxes. The Direct Marketing Association sued Colorado arguing that the statute is unconstitutional and the DMA position was upheld in Federal Court. Colorado is appealing the ruling.

III. Assessment of Eliminating Exemptions from the GET

This section of the report examines the revenue consequences associated with a series of exemptions that are allowed for the General Excise Tax (GET). The GET base is very broad compared with other state sales taxes, so the set of exemptions is not as lengthy as those that exist in other states. The report examines a specific set of exemptions that was identified in discussions with the Tax Review Commission.

The section updates estimates that were prepared for the 2006 Tax Commission, but using much better data.²⁸ The 2007 Economic Census and the Product Line surveys provide much improved and more consistent data for making estimates than was available six years ago. In the past it was often necessary to obtain information from a divergent and less reliable set of sources than is necessary now. The improved data explain much of any differences in the results.

The Tax Review Commission articulated seven types of transactions to identify the revenue consequences of exemption. 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. Health insurance premiums paid to Health Maintenance Organizations (HMO) and mutual benefit societies.
4. Amounts received by hotel operators from hotel owners equal to and disbursed for employee wages, salaries and benefits.
5. Amounts received as rent for the leasing of aircraft or aircraft engines used by the lessee for interstate air transportation of passengers and goods.
6. 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.
7. Offset deductions that a prime contractor is allowed to take from gross income for payments to another contractor or specialty contractor.

The first three exemptions are for items commonly purchased by final consumers and the others are for items that are commonly business-to-business transactions. The consumer purchases should be evaluated in terms of broadening the GET to more consumption items, and the latter four in terms of taxing more business inputs.

²⁸ See Fox (2006).

All revenue estimates provided below are given for fiscal year 2012, though the underlying data sources are for various earlier years. Estimates for earlier years are adjusted to 2012 terms by assuming the tax base grows at the same rate as Hawaii Personal Income.²⁹ This places all estimates in comparable terms, but does not account for differences in growth rates across the types of exemptions. Thus, some error is introduced to the extent that the growth rate for a particular exemption diverges from the average economic growth.

The estimates are based on the revenues that Hawaii does not collect given the gross receipts of business transactions for the particular exemption. The estimates are not what the Department of Taxation would collect if these exemptions were eliminated. First, people would respond to the tax by changing their consumption pattern and businesses would alter their practices to avoid the tax. Also, some non-compliance would exist. Nonetheless, the estimates are described as revenue losses in the text.

Revenue estimates are provided in several different ways, including the specific dollar value of the exemption, the revenue neutral GET rate that could be levied if the estimated revenue were collected, and revenues relative to total tax collections and total GET collections. Broadening the base to include all seven exemptions would raise \$541.1 million, assuming that there is no behavioral response on the part of buyers and sellers to purchase less of these items (see Table 8 and Figure 4). Alternatively, the revenue neutral GET rate would be 3.46 percent. Together these exemptions represent about one-sixth of current GET collections. As previously noted, the estimates are likely upper bounds to the amount that would actually be collected because both buyers and sellers would alter their behavior to some extent if the transactions were taxable and some non-compliance would occur. On the other hand, the estimates are generally based on data from 2009 and 2010, in the depths of the recession. Estimates are forecast forward to 2012, but the revenue consequences of these exemptions could grow rapidly over time as the economy begins to recover robustly again. This has the effect of making the estimates lower relative to a fully functioning economy. Asterisks are placed next to categories where the revenues are most likely to come in lower than the estimates if the exemption was eliminated because of changes in behavior to avoid the tax.³⁰

²⁹ Tax bases are assumed to rise at the compound annual growth rate in state personal income from 2007 through 2011.

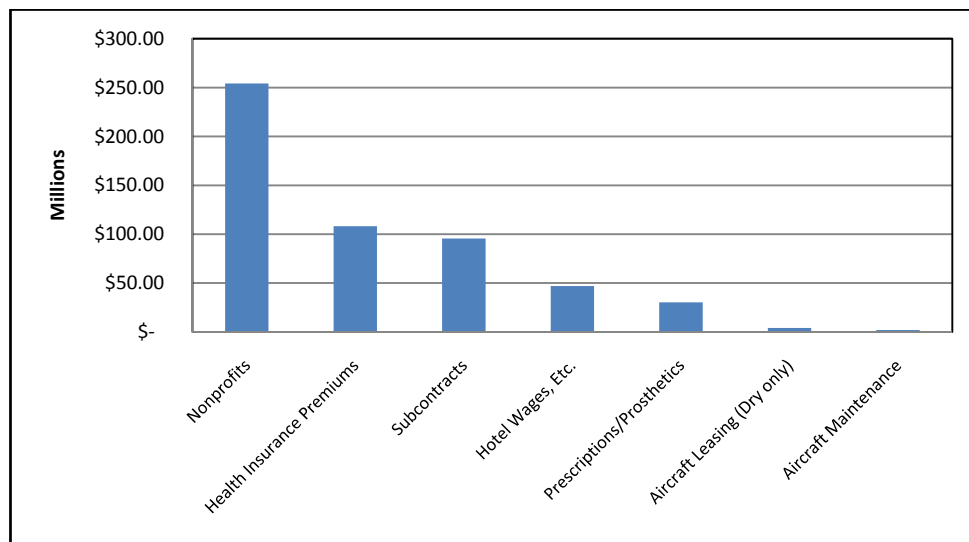
³⁰ Act 105, SLH 2011, on General Excise Tax Liability of Mobile Telecommunications Service Providers has generated much less revenue than anticipated because of behavioral responses to imposition of the GET and provides an example of how revenues can be lower than a static estimate of the type prepared here.

Table 8. Revenue Effects of Removing Selected Exemptions, 2012

	Revenue Gain (millions)	Gain/Total Tax Collections (Percent)	Gain/GET Collections (Percent)	Tax Rate for Revenue Neutral
Nonprofits	\$ 254.13	5.23	7.62	3.72
Health Insurance Premiums	\$ 108.19	2.23	3.24	3.24
Subcontracts*	\$ 95.63	1.97	2.87	3.89
Hotel Wages, etc.	\$ 46.29	0.97	1.41	3.95
Prescriptions/Prosthetics	\$ 30.27	0.62	0.91	3.97
Aircraft Leasing (Dry only)*	\$ 4.05	0.08	0.12	4.00
Aircraft Maintenance*	\$ 1.95	0.04	0.06	4.00
Combination of all Listed Exemptions	\$ 554.98	11.14	16.22	3.46

Source: Author's Calculations

Figure 4. GET Gain from Eliminating Selected Exemptions, 2012



Source: Author's calculations

Consumer Exemptions

Broadening the base to more consumer goods and services is generally beneficial to the economy because it (i) eliminates distortions in the consumption of taxable versus non-taxable transactions and (ii) permits a lower tax rate on all taxable transactions because the base is broader, which lessens incentives to shop online and to purchase other non-taxable items. The first three exemptions are considered in this section.

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

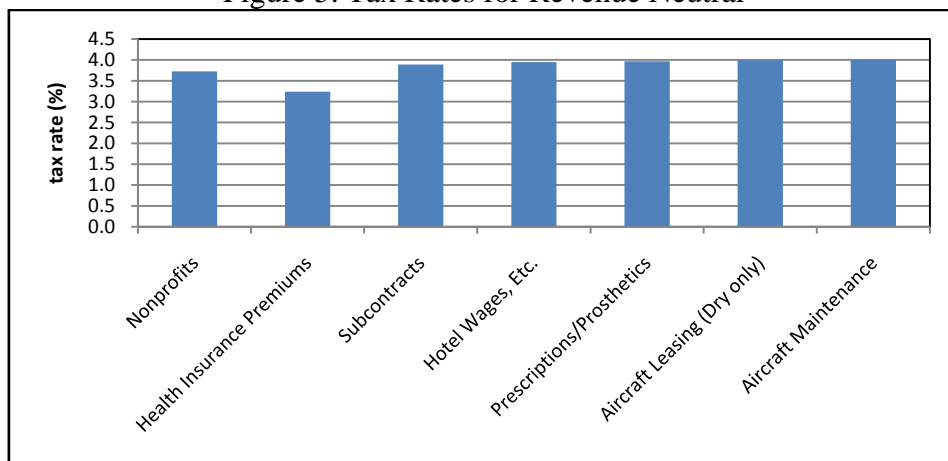
Exemption of non-profit organizations is usually based on the expectation that non-profit organizations provide goods and services that serve the broader good, such as helping low-income individuals or delivering services that the public sector would otherwise provide. The tax exemption is effectively a subsidy to not-for-profit organizations which can be questioned despite the benefits that many not-for-profits offer. First, direct cash subsidies could be provided by the public sector rather than the indirect subsidies through the tax system, which would allow the legislature to more carefully evaluate the benefits of each subsidy.

Second, the subsidies advantage not-for-profits in their direct competition with for-profit firms. This explains part of the rapid expansion of the not-for-profit relative to the for-profit sector in the U.S. Third, the not-for-profit firms determine the size of the subsidy by their level of activity rather than Hawaii determining the size of any subsidies through its budget process. Specifically, not-for-profits have a four percent subsidy on their sales and the more the sales the bigger the subsidy. Fourth, not-for-profit firms receive the subsidies even if the local population does not value the services since no direct evaluation is taking place of the benefits of the not-for-profits. Finally, purchasers of goods and services from not-for-profits probably receive most of the benefits through lower prices since the evidence is that and GET is reflected in higher consumer prices.³¹ So, the not-for-profits may see only modest additional revenues.

The revenue implications of exempting non-for-profits entities are based on the assumption that the tax would be imposed on sales by not-for-profits, which include revenues associated with net special events, program services and contracts, and dues and net sales. These items account for about 75 percent of the revenue for nonprofit organizations. (see Arnsberger and Graham, 2008). Presumably, no tax would be imposed on gifts, contributions or investment earnings. The estimated GET base from taxing not-for-profit sales would be about \$6.4 billion, so taxing these transactions would raise \$254.1 million (Table 8 and Figure 4). Alternatively, the GET rate could be lowered to 3.72 percent (Figure 5). The revenue appears to be growing relatively fast since this estimate has risen at a compound annual 7.1 percent since Fox's 2006 estimates.

³¹ See Fox (2006).

Figure 5. Tax Rates for Revenue Neutral



Source: Author's calculations

A policy decision could be made that some of these organizations should remain exempt, and this would significantly reduce the revenue potential from changes in the exemption. Health care organizations including hospitals and mental health centers receive 70.3 percent of program service revenues of non-profits around the U.S. (Arnsberger and Graham, 2008); educational institutions obtain 15.8 percent; and human service organizations 10.4 percent. So, the decision to keep any of these groups exempt would have significant implications for the revenues. Alternatively, a maximum amount could be placed on the exemption that is available for nonprofits or Hawaii could limit the exemption to the portion of the organization's activities that meet narrowly defined definitions of public purposes.

Exemption 2: Sales of prescription drugs and prosthetic devices

Many health care related purchases are exempt across the states. Sales of prosthetic devices are surely exempt in most states, though no comprehensive cross state list is available. By comparison, all states except Illinois exempt prescription drugs from the sales tax and Illinois only levies a 1 percent rate on the sales of prescription drugs.³² As with any base broadening, taxation of drugs and prosthetics would either collect more revenue or allow a lower tax rate. The potential tax base from drugs and prosthetics is estimated to be around \$800 million at the 4.0 percent tax rate which would generate \$30.3 million.³³ Taxation of these transactions would allow the GET rate to be reduced to 3.97 percent and still raise the same revenue. The estimates are based on taxing retail prescription drugs and prosthetic devices at 4.0 percent.

Consumption of most drugs and prosthetics likely changes relatively little if a 4.0 percent tax is imposed because of the limited substitutes for these items that are often regarded as necessities. 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. On

³² See <http://www.taxadmin.org/fta/rate/sales.pdf>

³³ No comprehensive data were found for expenditures for prosthesis, so the data are primarily for prescription drugs.

the other hand, Hawaii taxes some other necessities, such as food. Further, not all prescriptions may be viewed as necessities. Thus, the case for exemption presumes that drugs and prosthetics devices are more worthy of exemption than many other possible candidates.

Exemption 3: Health Insurance Premiums paid to HMOs and Mutual Benefit Societies

Health insurance premiums paid to HMOs and mutual benefit societies are exempt from the GET. Three different taxes can be envisioned for health insurance premiums, and estimates are provided for each. First, the GET could be imposed on the premiums. This would be questionable policy because payment of premiums creates a pool to finance health care expenditures; it is not the purchase of health care. Consumption of health care only occurs when the services are provided and paid for with the health insurance revenues. Any tax on health care consumption is better undertaken when the actual services are obtained.

Second, the GET could be levied on the health insurance service. Health insurance companies provide a service when they collect premiums and pay for health care services. The value of this service can be approximated as the difference between total revenues of the insurance firms and the total hospital and medical claims paid by these companies. Third, the insurance premiums tax, currently 3.34 percent, could be imposed on the premiums paid to HMOs and Mutual Benefit Societies.

Data for the six mutual benefit societies and two HMOs are available in the annual Report of the Insurance Commissioner of Hawaii.³⁴ These eight firms had \$3.1 billion in total revenue in 2010. If the GET was imposed on the entire value of premium, tax revenues would have been \$135.0 million in 2012 based on the expected growth since 2010. In 2010, HMOs and mutual benefit societies had revenues that were 7.1 percent above the costs for hospital and medical claims. The tax on insurance services would have been \$9.7 million in 2012, assuming the value of the service is the revenue above health care costs. Finally, the premium tax would raise \$108.2 million in 2012. Only the premium tax, rather than GET revenue, is included in Table 8.

Business Input Exemptions

This section examines eliminating five business input exemptions. Economists generally believe that taxation of business inputs is poor policy and argue against eliminating these exemptions. For example, taxing 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. These perverse effects argue for retaining the exemptions. On the other hand, retaining the exemptions requires vendors to separate sales into those to businesses (exempt) versus consumers (taxable), which adds to compliance costs and raises the costs of audit and other administrative functions. This section addresses the effects of eliminating exemptions 3 through 7 above.

³⁴ See http://hawaii.gov/dcca/ins/reports/2011_ICRPT_.pdf

Exemption 4: Amounts Received by Hotel Operators from Hotel Owners Equal to and Disbursed for Employee Wages, Salaries and Benefits

Exemption of business inputs is generally particularly appropriate in cases where the way in which business is conducted can be altered through imposition of the tax. In such cases, the tax may cause firms to change the way they operate, so that little or no revenue is raised and businesses do not produce their goods and services in the most efficient manner. 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. Two key factors will influence the revenues, but little data are available to estimate these two influences. 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,³⁵ 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 \$1.13 billion in 2012. This would generate \$46.9 million in GET revenue if these transactions became taxable. The GET rate could be lowered to 3.95 percent. But avoidance by owners and operators could likely eliminate much of the tax that would be due.

Exemption 5: 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 6: 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

Both, exemptions 5 and 6 relate to operation of air service in Hawaii. These exemptions are likely to encourage economic activity in Hawaii and prevent taxes from altering the way in which business occurs. Elimination of the exemption for leasing equipment could result in more equipment being purchased or could result in the leasing of aircraft through locations outside Hawaii. Similarly, firms would have the incentive to do more servicing and maintenance outside of Hawaii if the exemption for materials and parts used for aircraft maintenance was eliminated. These changes in behavior and tax

³⁵ A conversation with the Hawaii Hotel and Lodging Association during preparation of the 2006 report indicated that only about 15 percent of Hawaii hotels are owner/operated.

planning might be relatively modest because of the importance of keeping planes in good condition. But, such a tax could lessen the likelihood that a firm would locate important maintenance facilities in Hawaii, if it has the option of choosing a site in alternative states or countries that do not tax the same transactions.

In all likelihood, taxes on 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 other 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.

Enforcement may be difficult because some firms can report transactions associated with aircraft in more than one state. For example, equipment can be leased in other states. A tax base apportioned across states using a proxy for the proportion of use in each state could be easier to enforce. The tax could be apportioned with the number of passengers or amount of goods departing from each location. Still, firms could also avoid this tax by taking ownership of the aircraft and engines rather than by leasing them.

Hawaii could collect \$4.1 million 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. Elimination of the exemption for material, parts and tools (exemption 5) is estimated to raise about \$2.0 million, assuming that no tax planning occurs to avoid the tax. No attempt was made to estimate the potential revenue from the tax on materials used for facility construction.

Exemption 7: Offset deductions that a prime contractor is allowed to take from gross income for payments to another contractor or specialty contractor

Payments to contractors are deductible as prime contractors calculate their GET liability. The extent of tax cascading for construction activities is reduced by this exemption. Tax cascading can impose significant costs on the economy as it distorts how business takes place and what people purchase. Tax cascading raises the effective tax rate above the legislated 4.0 percent rate when tax is collected from both prime contractors and subcontractors. The effective tax rate on construction could be higher than on many other transactions, which would discourage both new construction and renovations relative to purchases where less tax has cascaded. Tax cascading encourages vertical integration (bringing subcontractors inside the prime contractor) to lessen the effective tax. Vertical integration reduces cascading and offsets incentives for less construction to be purchased but also is less efficient if businesses would not otherwise operate in this way. Vertical integration also harms small businesses since they will have fewer opportunities for outsourced work.

An estimated \$95.6 million would be raised if the exemption was eliminated and there was no reduction in construction or no additional vertical integration. The foregone

revenue represents 2.9 percent of 2011 GET collections and would allow the GET rate to be reduced to 3.89 percent if the base expansion was revenue neutral. Significant behavioral changes can be expected, so eliminating the exemption would raise less revenue than 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.

IV. Elimination of the Corporate and Personal Income Taxes

This section examines the GET tax rate that would be necessary if the personal and corporate income taxes were eliminated and the revenues were replaced with a higher GET rate. The policy changes would represent movement away from the taxation of income and towards taxation of consumption. A series of dynamic, general equilibrium changes in the economy would result from the policy changes and these cannot be fully accounted for in this paper. For example, elimination of the personal income tax could expand work effort and savings and elimination of the corporate income tax could shift firms from the unincorporated to the incorporated sector in Hawaii, and could increase investment. On the other hand, the higher GET rate could alter consumption by encouraging people to purchase items on which the GET cannot always be collected, such as many remote sales. As discussed above, this could lower tax revenues. Also, the GET is imposed on many business purchases and the higher GET rate raises the costs of many input purchases, making it more expensive to do some types of business in Hawaii. Fully accounting for these effects requires a general equilibrium model that is not available for this paper but it is important to consider these effects in assessing the impacts on the rates of altering the mix of tax rates. In total, a shift from income to consumption taxation has been estimated to raise economic output by 2 to 9 percent,³⁶ but changes to a GET with significant taxation of inputs should lessen the gains.

Five separate policy changes are examined here, each involving elimination of different aspects of the individual income and corporate income taxes. These policies include:

- Eliminating the corporate and personal income taxes entirely
- Eliminating the corporate income tax alone
- Eliminating the personal income tax alone
- Eliminating the personal income tax for people with incomes below the poverty level
- Eliminating the personal income tax for the bottom 90 percent of taxpayers

The revenue neutral rate of undertaking these policy changes and replacing the revenues with a higher GET rate was calculated using actual 2011 revenues.³⁷ The GET generated \$2.496 billion in 2011, the personal income tax raised \$1.247 billion and the corporate income tax collected \$68.3 million (including the tax on banks). The scenarios involve replacing different aspects of these revenues.

³⁶ See Sullivan, 2012.

³⁷ The revenues can be obtained either from the Department of Taxation's website or the data reported to the U.S. Census Bureau. Small differences exist. For example, the Department of Taxation reports corporate income tax collections of \$68.3 million and the Census reports \$67.9 million. The Department of Taxation revenues are used for the estimates.

Table 9 reports the results from calculation of the revenue neutral tax rates.³⁸ For example, the GET rate would need to be 6.11 percent to replace both the corporate and personal income tax revenues if no behavioral changes occurred. This scenario involves the largest rate changes because it entails the greatest revenue replacement. A separate set of calculations was made allowing for some response of the GET base to an increase in the rate, which could be a combination of an expansion in the economy but more difficulty in collecting the GET revenues or a reduction in consumption. The GET rate would need to be 6.24 percent if the purchase of items taxable under the GET were to fall 1.0 percent for every 1.0 percentage point increase in the tax rate. Eliminating the corporate income tax alone involves the smallest rate change because of the modest revenues collected by the tax. The rate would only need to rise to about 4.1 percent to replace the lost revenues. Other estimates are contained in Table 9.

Table 9. Tax Replacement Scenarios

	Eliminate Corporate and Personal	Eliminate Corporate	Eliminate Personal	Eliminate Individual Below Poverty	Eliminate Personal Bottom 90%
Required GET Rate	6.108%	4.109%	5.999%	4.156%	4.999%
Behavioral Response	6.240%	4.114%	6.121%	4.162%	5.050%

Source: Author's calculations

³⁸ The revenues that must be replaced for the last two scenarios are based on estimates prepared by the Department of Taxation on how income tax revenues would be affected by the policies. The Department estimates that eliminating tax on households with incomes below poverty would reduce individual income tax collections by 7.8 percent and for the lowest 90 percent of households would lower collections by 50 percent.

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