REPORT OF THE

2005 – 2007 TAX REVIEW COMMISSION

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December 5, 2006

To the Honorable Members of the Twenty-Fourth Legislature:

The Tax Review Commission is pleased to submit this report, which contains its review of Hawaii's tax structure and recommendations for change. The review and recommendations are submitted in accordance with Act 218, Session Laws of Hawaii (SLH) 1979, as amended by Act 212, SLH 1983.

Each Commission member supports this report. This does not mean that every Commissioner approved of every recommendation. Some recommendations represent compromises among us and others were made on the basis of a majority vote. Rather, it means that each of us approves of the report as a whole, and we take pride in the overall result of our efforts. We sincerely hope you find our recommendations helpful when you formulate your tax policies in future.

Respectfully Submitted,

TAX REVIEW COMMISSION

Isaac W. Choy, Chair

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ACKNOWLEDGEMENTS

This is the report of the 2005-2007 Tax Review Commission. The Commission is composed of seven unpaid members who have spent their valuable time to help the State evaluate the structure of its taxes.

The Commission wishes to acknowledge the Department of Taxation for technical and administrative assistance. We would like particularly to thank Kurt Kawafuchi, the Director of Taxation, for his active involvement in providing his Department's resources to help the Commission with its work. We would also like to acknowledge the dedicated performance of the Tax Research and Planning Office, which provided technical and administrative support for the Commission. Despite staff shortages and a high rate of turnover during the Commission's tenure, the Tax Research and Planning Office was able to effectively organize and coordinate the Commission's meetings, prepare minutes for its meetings, keep records of its correspondence, arrange travel for its members, solicit proposals for external studies, draft much of the Commission's report, and conduct many of the studies requested by the Commission. We also thank Nelson B. Befitel, Director of the Department of Labor and Industrial Relations, and Georgina K. Kawamura, Director of Budget and Finance, for providing reports and information to the Commission.

The Commission has also been greatly aided in its task by comments and suggestions from people in the tax community and from the public at large. We wish to thank those who have attended its meetings or who offered suggestions or comments. We extend special thanks to Jeff Au, Managing Director, PacificCap Group; Huong Bassford, Senior Resource Allocation System Analyst, Department of Budget and Finance; Ann H. Chung, Vice President, Hawaii Science & Technology Council, Diane Erickson, Deputy Attorney General, Department of the Attorney General; Craig Hirai, Chair of the Tax Review Commission of 2001-2003; Lowell Kalapa, President of the Tax Foundation of Hawaii; Ray Kamikawa, Partner, Chun, Kerr, Dodd, Beaman & Wong; Marilyn Niwao, Principal, Niwao & Roberts, CPA's; Ronald Randall, Taxation Compliance Administrator of the Department of Taxation; Robert Robinson, Convener, UH Angels; Thomas Smyth, Program Manager, Department of Business, Economic Development and Tourism; Bill Spencer, President, Hawaii Venture Capital Association; Pat Sullivan, President and Chief Executive Officer, Oceanit/Hoana Medical; David Watumull, President and Chief Executive Officer, Cardax Pharmaceuticals; and others who have generously availed us of their time and expertise. We also thank Sean Hao of the Honolulu Advertiser and Stewart Yerton of the Honolulu Star Bulletin for helping disseminate important parts of the Commission's work to the public. However, the members of the Commission retain sole responsibility for the recommendations contained in this report.

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REPORT OF THE

2005-2007 TAX REVIEW COMMISSION

I. THE TAX REVIEW COMMISSION'S MANDATE

Section 232E-3 of the Hawaii Revised Statutes, adopted pursuant to the 1978 amendment to the Hawaii State Constitution, directs the Tax Review Commission to "conduct a systematic review of the State's tax structure, using such standards as equity and efficiency." To be systematic, the review should be complete, thorough and well ordered, but the Commission did not have the time or resources to look at every tax the State imposes. Instead, we looked at suggestions and concerns received from the public and at selected topics we felt needed to be reviewed.

It is difficult to design tax policy to meet goals of equity and efficiency, because these goals often conflict. Nevertheless, past Tax Review Commissions were able to come up with many good recommendations. Unfortunately, much of their advice has not been implemented, because elected officials generally weigh the dictates of sound tax policy against other political objectives, including those of organized groups with well-defined goals and strong opinions. This report gives policy officials our views on what constitutes sound tax policy. We hope it will provide a background theme that can be played as political decisions on taxes are made.

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II. PRINCIPLES OF SOUND TAX POLICY

A. FAIRNESS

> *"The expenses of government, having for their object the interest of all, should be borne by everyone, and the more a man enjoys the advantages of society, the more he ought to hold himself honored in contributing to those expenses."*
>
> – *Anne Robert Jacques Turgot*

Standards of tax fairness are hard to set, because what makes taxes fair depends on one's perspective. Two classic criteria used to judge tax fairness are horizontal equity and vertical equity. Horizontal equity means that people in similar economic circumstances are taxed equally. Vertical equity usually is taken to mean that people with higher incomes should face a higher tax rate, that is, that the tax burden should be distributed according to the taxpayer's "ability to pay." Another way this idea is sometimes expressed is that "taxes should impose the same pain on everyone, so the wealthy should pay more than the poor." To satisfy the principle of vertical equity, most income tax codes feature graduated tax rates, with exemptions and deductions to further help the lower income taxpayer. However, the questions of who has the ability to pay, or who is wealthy and who is poor, can be argued forever.

An alternative to the "ability to pay" principle is the "benefits principle," which says that those who benefit from government programs or services should pay for them. The benefits principle cannot always be applied, however, because basic government services often go to people who cannot afford them.

The Commission's mandate is to examine the fairness of the entire tax structure, not of each individual tax. Consequently, it is not necessary for each tax to meet a standard of vertical equity on its own, because one tax can be used to compensate for another tax's shortcomings. For instance, a refundable income tax credit can be used to make the General Excise Tax (GET) less

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regressive.[1] To examine the vertical equity of the tax system as a whole, we looked at the distribution of tax burdens at different income levels. Overall, we believe that Hawaii's tax system represents a good compromise between the requirements of efficiency and fairness.

B. EFFICIENCY

"Any tax is a discouragement and therefore a regulation as far as it goes."

– Oliver Wendell Holmes, Jr.

Most taxes impose a cost on taxpayers over and above the amount of the tax collected.[2] The extra cost is called the excess burden of the tax.[3] The excess burden includes the costs of administering and collecting the tax, and the costs taxpayers incur to comply with the tax and to pay it. The biggest part of the excess burden, however, comes from the effects the tax has on people's economic decisions, such as what to buy, how much to work, or where to invest. When taxes influence economic decisions, they tend to cause people to allocate resources inefficiently. For example, the federal Tax Reform Act of 1986 is credited with eliminating a lot of waste that happened because the prior tax code encouraged people to invest in tax shelters instead of viable productive enterprises.[4]

There are two good rules to minimize economic inefficiencies caused by taxes. First, the tax base should be made as broad as possible so the tax rate can be kept low. Second, the tax

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[1] As broad as it is, the mandate may nevertheless be too narrow. If the efficient way for the rich to help the poor is to combine a regressive tax structure with progressive government spending, the solution should not be put out of reach by arbitrarily requiring that the tax system be non-regressive. Noted economist Milton Friedman once suggested replacing the graduated federal income tax rates and the entire welfare bureaucracy with a flat-rate income tax and automatic payments to people with low incomes.

[2] Some taxes actually provide a benefit, but such taxes typically have relatively low revenue potential. Examples are taxes that reduce negative externalities, such as gasoline taxes that reduce pollution and congestion by discouraging people from driving, or liquor and tobacco taxes that promote health by discouraging people from consuming these commodities. Taxes on liquor, tobacco and fuel account for about 7 percent of all State tax collections in Hawaii.

[3] The excess burden is sometimes called the deadweight loss of the tax.

[4] See C. Eugene Steuerle, *Contemporary U.S. Tax Policy*, Urban Institute Press, 2004, pp. 133-136.

should be applied uniformly to its base to avoid favoring one type of consumption or investment over another.[5] The second rule is sometimes referred to as the principle of tax neutrality.

Tax rates should be kept low, because the inefficiencies caused by taxes tend to grow geometrically, rather than proportionally, as the tax rate rises. Doubling the tax rate typically more than doubles the excess burden. Keeping taxes uniform also promotes efficiency. A non-uniform tax distorts economic decisions, encouraging people to consume more of the lightly taxed items. It also increases the costs of tax compliance and tax administration, because it forces tax authorities and taxpayers to distinguish between taxed and untaxed items.

C. SIMPLICITY

"Tax complexity itself is a kind of tax."

– *Max Baucus*

Simplicity is a desirable trait for taxes. The main benefit from keeping taxes simple is that it reduces costs of tax compliance for taxpayers and of tax administration for the government. Special deductions, exemptions and exclusions complicate a tax and make it less efficient by increasing the costs of tax compliance and tax administration, and by distorting more economic choices. Simple taxes are also easier for taxpayers to understand and comply with, and therefore give them greater confidence in the system.

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[5] The second principle suggests that tax preferences should be avoided, because they result in uneven tax rates.

D. TRANSPARENCY AND ACCOUNTABILITY

> *"The purse of the people is the real seat of sensibility. Let it be drawn upon largely, and they will then listen to truths which could not excite them through any other organ."*
>
> – *Thomas Jefferson*

Taxpayers should be able to see clearly the taxes they are paying, so they can make informed decisions, as voters on how they wish to be taxed and how much they want to spend on government. Transparency also helps keep the tax system functioning smoothly. Voters should know who is responsible for the tax laws, so they know whom to hold accountable. Voters should be given as much information as reasonably possible on who gets preferential tax treatment from the government, and why. The government should make deliberations on tax policy available to the public, so voters can determine whether elected officials are working in the public interest. It should also be clear to taxpayers that noncompliance will be punished; otherwise widespread tax evasion will greatly increase the cost of administering taxes. When taxes are poorly administered or enforced, it increases the chances that they will be applied unevenly and that they will be perceived as unfair.

E. ADEQUACY AND STABILITY

Taxes should raise the appropriate amount of revenue needed for the government services demanded by its citizens, neither more nor less. A tax structure is stable if it automatically provides the right amount of revenue as the economy grows. A tax structure that habitually produces revenue shortfalls or surpluses is inefficient, because it requires frequent changes to the tax law to adjust revenues. This imposes administrative costs on the government, and it also imposes adjustment costs on taxpayers by causing them to change their habits. The Commission

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has addressed the questions of adequacy and stability by examining the rate at which tax revenues grow automatically as personal income in Hawaii grows.[6]

F. COMPETITIVENESS

"There may be liberty and justice for all, but there are tax breaks only for some."

– Martin A. Sullivan

Competitiveness is too often used as a reason to justify encouraging one industry at the expense of others.[7] When considering whether to promote a particular industry, policy makers should first ask themselves why it wouldn't flourish in the natural economic environment, facing the same taxes as other businesses.

A common argument for business tax incentives is that they are needed to attract or keep certain businesses. In theory, some activities are worth subsidizing, but in practice, government attempts to find favorable businesses have caused "picking the winners" to become a term of scorn. Generally, it is not a good idea to raise taxes for everyone in order to provide special treatment for favored industries, regardless of what other states are doing.[8] If government wants to participate in business incentives, it should be able to verify that the chosen ventures provide worthwhile benefits to the people of the state.

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[6] Tax Research and Planning Office, "Study on the Question 'Is Hawaii's Tax Structure Adequate?'" report prepared for the 2005-2007 Tax Review Commission, November 2006. *(See Appendix A.)*

[7] Policies to promote competitiveness have been labeled variously as "industrial policy" and "picking the winners."

[8] Sometimes, industry representatives will approach a jurisdiction to ask for special tax favors, arguing that "we will not come without the tax break, so it will cost you nothing." This line of reasoning fails to recognize that the new industry will compete for resources with other local businesses that don't have the tax advantage. In a variant of the argument, an existing activity may argue that a tax break would allow it to expand, producing more than enough revenue to repay the tax break. This is another misleading argument. The growth of tax-favored activities more often comes at the expense of other activities.

III. RECOMMENDATIONS AND ANALYSIS

The Commission has used the above-listed principles of sound tax policy as a guide in developing its recommendations. To aid in our deliberations, we solicited suggestions from the public and reviewed the recommendations made by all of the past Tax Review Commissions. We also commissioned in-depth studies to evaluate the efficiency and equity of the State's tax structure. The studies examined the following topics: The adequacy of the tax structure; the progressive or regressive nature of the tax structure; the structure of the GET; the revenue costs of various exemptions and deductions from the GET; the costs and benefits of the income tax credit for high-technology investments; the revenue costs of expanding the Individual Income Tax brackets, of providing a State earned income tax credit, and of providing income tax credits for food, medical services and non-prescription drugs; and the effects of eliminating Hawaii's net income and franchise taxes and replacing the revenue with increases in the GET and the Public Service Company Tax (PSCT).

The studies are appended to this report. Based on the results, we believe Hawaii's tax system is basically sound. It provides a relatively stable stream of revenue that tends to grow automatically at a rate slightly greater than the growth of personal income. Overall, the actions of the Legislature have tended to curb the growth in tax revenues, mostly through changes in the provisions of the Individual Income Tax, bringing revenues into closer alignment with the growth in personal income.

Following are our recommendations and a brief explanation for each of them. We begin with recommendations on two topics that we believe are especially important at this time; namely whether Hawaii should join the Streamlined Sales Tax Project, and whether the high technology business investment tax credit is worth what it costs the State. The remaining

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recommendations are divided into the following topics: recommendations that affect tax policy in general, recommendations on the General Excise and Use Taxes, recommendations on Hawaii's net income taxes, and recommendations on the administration of the State's taxes.

A. RECOMMENDATIONS ON THE STREAMLINED SALES TAX PROJECT

Background

The purpose of the Streamlined Sales Tax Project is to prevent states from losing sales or excise tax revenue on imports bought over the Internet from out-of-state sellers.[9] Such imports are causing a growing, economically inefficient, bifurcation of economic activity between sales transactions subject to tax and those transactions that escape taxation solely because of political geography. The tax is often lost on such sales, because the sellers are not obliged to collect tax on behalf of the importing state. Currently, participation in the Project by sellers is voluntary and two of the largest Internet sellers, Amazon.com and eBay, have not joined. The success of the Project is successful depends importantly on whether the U.S. Congress decides to pass legislation that would make the tax collection by out-of-state sellers mandatory. Those espousing the Project hope that by bringing greater uniformity to state sales taxes, Congress will be encouraged to force sellers to collect tax on sales made from one state to another. Such uniformity would also simplify matters and reduce costs for taxpayers that must comply with sales or excise taxes in a number of jurisdictions. At present, however, the five states with the largest economies (California, Texas, New York, Florida, and Illinois) have not joined.

To aid in its deliberations on this subject, the Commission held a special public hearing in which all interested parties were invited to share their views, including people in the Department of Taxation who would be responsible for administering the tax.

[9] The same issues also apply to mail order sales, but the rapid growth of Internet-based commerce is increasing the importance of these issues.

Recommendation

> ***The Commission believes that the goal of coordinating the collection of taxes on interstate sales, such as via the Internet, is desirable. We support the work of the Hawaii Commission on the Streamlined Sales Tax Project and believe Hawaii should remain involved in discussions on the Project. However, we do not think that Hawaii should make a formal commitment yet.***

Discussion

The Commission believes that the costs of joining the Project at this time would exceed the revenue that it will provide, although it recognizes that there is a great deal of uncertainty regarding the amount of the costs and benefits. Dr. Fox, a noted expert on the topic, has estimated that the Project would provide only about $10 million annually in revenue for the State.[10] Kurt Kawafuchi, the Director of Taxation, stated before the Commission that he does not think the added revenue would merit the costs Hawaii would incur in conforming to the project. The Department of Taxation has estimated that the start-up costs of implementing an agreement would be about $15 million and that the ongoing annual cost of administering it would be about $4 million. The Commission notes that the largest states (by economic size) have failed to sign on to the project, jeopardizing its chances of becoming an effective vehicle for collecting the Use Tax. Until the Project shows greater promise of producing results, it is premature for Hawaii to incur the expense to join it.

B. RECOMMENDATIONS ON THE HIGH-TECHNOLOGY BUSINESS INVESTMENT TAX CREDIT

Background

Hawaii has a generous tax credit for investment in qualified high technology businesses, which are defined to include certain activities in the performing arts. The credit allows the

[10] William Fox, "Implications of the Streamlined Sales Tax Agreement for the General Excise Tax Revenues," report prepared for the State of Hawaii Office of the Auditor, April 6, 2006.

investor to recoup the full amount invested (up to $2,000,000 per investment), but it is spread over a period of at least five years. The present form of the credit was enacted in 2001 (Act 221), with alterations in 2004 (Act 215). The credit is provided by section 235-110.9 of the Hawaii Revised Statutes. It may be claimed against Hawaii's net income and franchise taxes and against the tax on insurance premiums. The purpose of the credit is to stimulate investment in Hawaii technology companies and to speed development of a local technology industry. The credit is set to expire on December 31, 2010.

The Commission contracted for a study on the costs and benefits of the credit,[11] but the results were not definitive, mainly because the authors were unable to get current data on either the cost of the credit or on the operations of the qualified high technology businesses. In particular, the data on the amount of the credit claimed and on the employment of the qualified high technology businesses were not available after tax year 2003. Furthermore, the data on operations of the qualified high technology businesses appear to be incomplete for 2003, possibly because companies were confused about filing requirements when the certification requirements for the credit were changed. The information on the operations of the qualified high technology companies comes from Hawaii State tax Form 317. The form is mandatory, but failure to file does not automatically negate the credit. As a result of the data shortcomings, only tentative conclusions could be reached on the cost or the benefits of the credit.

[11] Marcia Sakai and Bruce Bird, "Measuring the Costs and Benefits of Hawaii's Qualified High Technology Business (QHTB) Investment Tax Credit under Act 221 and Act 215," report prepared for the 2005-2007 Tax Review Commission, November 2006. *(See Appendix B.)*

Recommendation:[12]

This Commission shares the view of the 2001-2003 Tax Review Commission,

> ***"A tax incentive program is a potential 'black hole,' because it is a future benefit of unknown proportions, which is determined by the favored taxpayer's interpretation of what the tax credit should be, and is claimed on a tax return which is confidential."***

We believe Act 221/215 raises similar concerns. We recommend that the Legislature avoid using tax credits as an economic development tool. As for the high technology business investment tax credit, the cost of the credit has proven hard to determine in a timely manner. In order to get more control over the program and to curb potential abuses, the Legislature should change it from a tax credit to a program of grants administered by a State Agency. If the credit is kept, this Commission recommends the following changes be adopted, at a minimum:

- ***Increase transparency and timely disclosure so that the credit can be evaluated effectively. Towards this end, we believe the data reporting should be mandatory and expanded to include sales; employment by compensation ranges and status, including full-time, part-time, and seasonal; and number of trademarks, patents, and copyrights obtained during the year.***

- ***The data should be collected by NAICS codes and distributed to the public periodically, but not less frequently than annually.***

- ***To gather the data, a tax confidentiality waiver should be required so that pertinent data can be released to the public.***

- ***The Commission was unable to determine to its satisfaction whether the high technology business investment tax credit has achieved its goals, but we are concerned that the credit imposes a substantial drain on the resources of the State. Consequently, we believe an independent evaluation should be performed prior to any extension of the credit.***

These considerations may well apply to other tax credits. If the requirement for qualified high technology companies to report more data is implemented, the Department of Taxation should review the question of whether there is a continued need for certification.

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[12] One Commissioner notes the undermining effect that could result if there is uncertainty about the credit's future. Stability is important so that investors and companies can plan ahead with confidence. Unfortunately, we do not know the extent of the costs or much about the effectiveness of the credit, because the available data are insufficient to evaluate it. The appropriate data should be assembled and a complete and fair analysis should be done before any action is taken.

Discussion

The authors of the study prepared for the Commission on the high technology business investment tax credit estimated that the credit could cost $600 million over its lifetime,[13] although the Commission recognizes that the estimate is subject to changes in economic conditions. The estimates of the effects on employment in the favored sectors and in the economy as a whole are also uncertain. From the data that are available, it appears that the program is expensive, but it has not produced demonstrable growth in Hawaii's technology sector.

Representatives of the technology industry have argued that if the credit is opened to legislative change, this produces uncertainty among investors, chilling their enthusiasm and contravening the purpose of the credit. The Commission has a certain amount of sympathy for this argument, but it nevertheless finds that changes are needed to allow a good evaluation of the program. In particular, more timely and complete data are needed on the operations of the qualified high technology businesses. Such data would aid in evaluating the success of the program and in identifying possible abuses. The Commission also believes that an effective way to reduce abuses of the program is to convert it from a tax credit to a program of grants made by a State agency.

C. RECOMMENDATIONS ON OVERALL TAX POLICY

Background

Two fundamental principles of good tax policy are to keep the tax base as broad as possible and to apply the tax uniformly to its base. Special exemptions or deductions violate both

[13] See Sean Hao, "Isles' Tech Jobs Drop Despite Tax Credit," *Honolulu Advertiser*, October 7, 2006.

of these principles. The Commission urges the Legislature to weigh the costs and benefits carefully when providing special exceptions to a tax.

Recommendation 1

Minimize all tax exemptions and credits

Discussion

The present Commission notes that every other Tax Review Commission has made this recommendation, but despite this, special exemptions and credits have proliferated. Exemptions and credits shrink the tax base and result in higher tax rates on the remaining tax base. This makes the tax less efficient from an economic standpoint, and frequently makes it less equitable as well.

Recommendation 2

When enacting credits and exemptions, the Legislature should include a sunset date that will trigger a review of whether the credit or exemption should be continued.

Discussion

The State should review tax credits and exemptions to ensure that it is getting its money's worth from them. When the Legislature enacts a new credit or exemption, it should make sure that the tax break will not escape a review.

Recommendation 3

The State's tax rates should be reduced by broadening the tax bases and the overall level of the State's taxes should be lowered by exercising fiscal and political discipline.

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Discussion

The Commission notes that Hawaii is one of the highest taxed states in the nation (it was ranked the fifth most highly taxed State in the nation in 2005 and 2006 by the Tax Foundation)[14] and that such high taxes tend to discourage businesses from operating in the State.[15]

D. RECOMMENDATIONS ON THE GENERAL EXCISE AND USE TAXES

Background

The GET is Hawaii's single most important tax, providing almost half of the State's total tax revenues. An important question that is often asked is "Is the GET better than a retail sales tax?" A retail sales tax is levied on final consumption, that is, on goods and services sold to consumers for their consumption. Sales of goods or service by one business to another (so-called business-to-business sales) are exempt from the tax. Hawaii's GET is levied on the gross receipts of the business, including receipts from sales to other businesses. However, many business-to-business sales are taxed at only ½ percent, instead of the statutory rate of 4 percent that applies to retail sales. Business-to-business sales eligible for the lower tax rate include goods sold at wholesale, goods used as production inputs by a manufacturer, and goods or services that are sold to a business for resale to its customers and that are not part of the business's overhead.

A typical retail sales tax would require a substantially higher statutory tax rate to supply the same revenue as the GET, for two reasons. First, the retail sales tax is applied only once, whereas the GET is applied at multiple stages in the production process, pyramiding on itself.

[14] See their website at http://www.taxfoundation.org/taxdata/show/449.html.

[15] See the report by William Fox, "Hawaii's General Excise Tax: Should the Base Be changed?" report prepared for the 2005-2007 Tax Review Commission, October 2006. *(See Appendix C.)*

Second, the experiences of other states suggest that there are strong pressures to exempt such items as food, drugs and medical care from a sales tax.[16]

The GET pyramids on itself, because businesses are taxed on their sales to other businesses.[17] The amount of pyramiding differs among products and services, so the effective rate of the GET is not uniform, even when the statutory tax rate is applied uniformly.[18] This is inefficient and is the main disadvantage of the GET compared to the retail sales tax. However, other states' sales taxes typically also tax some business-to-business transactions. Furthermore, if adopting a sales tax caused the tax base to shrink to levels typical of other states, the resultant sales tax would be much less efficient than Hawaii's GET.

At a "big picture" level, the Commission is satisfied with the current structure and administration of the GET and we have no major changes to recommend. We believe that the GET is a relatively efficient tax and this efficiency can be maintained as long as exemptions are kept to a minimum. In fact, we believe it is a strong contender for the title as the most efficient substantial tax levied by any state. The GET's chief advantage is that it is applied to a large base, so it can generate a large amount of revenue at a low tax rate. Hawaii's GET has the broadest base of any state sales tax and is tied with several other state sales taxes for the lowest tax rate.[19]

When measured against current income, the GET is somewhat more regressive than its main competitor as a major source of revenue, the Individual Income Tax. However, there is a

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[16] Political platforms in Hawaii suggest that these pressures are present, even with a GET that is imposed at a fairly low rate.

[17] For a good discussion of the effect of the effects of the taxes on business-to-business transactions and a summary of empirical evidence on this question, see *Ibid*, page 8. Excise taxes on capital goods would also need to be covered by the price of final goods, but Hawaii wisely offsets the excise tax on capital goods with a refundable income tax credit.

[18] The GET also discriminates against local businesses that face out-of-state competition, because the Use Tax does not compensate for pyramiding of the GET.

[19] *Ibid.*

tendency to overstate the regressive nature of the GET. The main source of the regressive tendency of the GET is that wealthier households typically save more of their income. However, when it is recognized that current savings usually correspond to past or future spending (i.e., when the overall lifetime impact is considered), the GET becomes much less regressive. Furthermore, the GET has the advantage that a substantially greater part of the burden of the tax can be exported to nonresidents. The study we commissioned estimated that about 38 percent of the GET is borne by nonresidents, whereas only about 23 percent of the Individual Income Tax is shifted to nonresidents.[20]

Recommendation 1

> ***Because the GET is a tax on consumption rather than profits, the Commission urges that consideration be given to eliminating the GET exemption for not-for-profit organizations to ensure that they are treated in the same manner as for-profit entities. (This would not affect the tax exemptions for donations or gifts to nonprofit entities; the issue is the sale of goods or services by nonprofit entities.) In the absence of eliminating this exemption, the Commission recommends that the Legislature consider establishing maximum exemption amounts for not-for-profit organizations.***

Discussion

Many nonprofit entities engage in the sale of goods or services, or in other activities that are subject to the GET when performed by for-profit entities. The exemption amounts to a subsidy for the not-for-profit entities that distorts the allocation of resources, unduly encouraging consumption of their output, especially when they compete directly with for-profit entities. Furthermore, the amount of the subsidy depends on decisions made by the nonprofit entities on how much of their goods or services to provide, not on decisions made by the State. The study prepared for the Commission estimated that the GET exemption for nonprofit organizations cost

[20] Tax Research and Planning Office, Hawaii State Department of Taxation, "Study on the Progressive or regressive Nature of Hawaii's Taxes," report prepared for the 2005-2007 Tax Review Commission, November 2006. *(See Appendix D.)*

$168.7 million in lost revenue in tax year 2006, or about 7.5 percent of total GET collections.[21] Eliminating the exemption would allow a reduction in the statutory rate of the GET from 4 percent to about 3.7 percent. The proposal would not affect the tax exemptions for charitable donations, gifts or bequests. These items would continue to be exempt from the GET.

Recommendation 2

> ***Proposals to exempt transactions from the GET should be weighed carefully. In general, exemption of transactions primarily affecting consumers is undesirable. The Commission therefore cautions against approving proposals to exempt health care services, food, apparel, or shelter, for example. The Commission suggests that if the Legislature finds it desirable to grant such tax relief on equity grounds, that it should pursue those goals either through low-income credits against income taxes or through the appropriation and expenditure process, which enhances transparency and accountability.***

Discussion

It is estimated that exempting food, health care, clothes and shelter from the GET would have cost about $501 million in tax year 2006, or about 22.3 percent of total GET receipts. To keep revenue constant with the exemptions, the statutory rate of the GET would need to be raised from the current level of 4 percent to about 5.1 percent.[22] If such exemptions were to be undertaken to reduce the regressive nature of the GET, it would cause the tax to become more inefficient and it would increase the cost of administering the tax.

Recommendation 3

> ***All nonprofits should be required to obtain a GET license.***

[21] William Fox, "Hawaii's General Excise Tax: Should the Base be Changed?" *Op. cit.*, page 16. The GET exemption for nonprofit organizations is contained in subsections 237-23(a)(3) to (10) of the Hawaii Revised Statutes. Subsection 237-23(b) describes the types of income the nonprofit organizations may exempt.

[22] These calculations are based on estimates in *Ibid*, page 16.

Discussion

Currently, nonprofits are required to file an application for exemption from the GET. The fee for the exemption application ($20) is the same as the fee for a GET license. However, if the nonprofits have a GET license, they would be more inclined to comply with the tax if they occasionally have taxable gross receipts.

Recommendation 4

The GET law should be rewritten to achieve clarity and transparency.

Discussion

The GET law has been enacted in bits and pieces over many years and there has never been a comprehensive review of the statutes. Organizing and rewriting the statutes would reduce compliance costs for taxpayers and the costs of tax administration for the Department of Taxation by making tax obligations clearer.

Recommendation 5

The three-year statute of limitations on assessment of the GET should start from the filing of the last of the periodic GET returns (Form G-45).

Discussion

Currently, the statute of limitations on a GET return runs from the due date of the annual return (Form G-49) or the date the return is actually filed, whichever is later. In some cases, however, taxpayers file the periodic GET returns (Form G-45, which is due monthly, quarterly or semi-annually, depending on the taxpayer's GET liability), but they are unaware that they are also required to file an annual return. The Commission also notes that the Department of Taxation does not automatically notify taxpayers when they fail to file the annual return. The Commission believes it is unfair to penalize taxpayers who file all of their periodic returns,

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merely because they missed the annual return. Generally, the annual return merely repeats information already available on the periodic returns, although it sometimes acts as an amended return for the previously filed periodic returns.

E. RECOMMENDATIONS ON HAWAII'S NET INCOME TAXES

Background

Hawaii's Individual Income Tax and Corporation Income Tax follow closely the federal definitions of taxable income. The Individual Income Tax is the second most important tax for the State, producing just over a third of tax revenue in the State's General Fund. The Corporation income tax is much less important, providing only about 2 percent of the tax revenues in the General Fund. Generally speaking, with the exception of withholding taxes on sales of real property by nonresidents, the Commission recommends closer adherence to the federal individual income tax. This would ease the burden of administering the tax and also make it more progressive. The Administration and the Legislature recently made some changes to move the tax closer to the federal model (by increasing the standard deduction and widening the tax brackets), but more needs to be done.

In addition to its recommendations, the Commission also investigated the effects of eliminating the net income taxes entirely, and of replacing the revenue with increases in the State's taxes on gross income.

Recommendation 1

> ***The State should continue to study and evaluate the option of eliminating the Hawaii Individual Income Tax. It should eliminate the Hawaii Corporation Income Tax.***

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Discussion

The Commission received a suggestion that all Hawaii income taxes (corporate and personal) be eliminated, with the revenue to be replaced by increases in the GET and the portion of the PSCT that is deposited into the General fund. The Commission is not ready to make that recommendation at this time, but believes that the idea deserves further consideration. The Commission requested an internal study on the topic,[23] which concluded that the statutory rate of the GET and PSCT would need to rise from its current rate of 4 percent to a value ranging from 6.7 percent to 6.9 percent, depending on whether the bank franchise taxes and the Tax on Insurance Premiums were eliminated along with the corporate and individual net income taxes. The tax regime change would reduce compliance costs for taxpayers and the costs of tax administration for the Department of Taxation.[24] It would also yield a more stable stream of revenue for the State and shift a greater portion of the total burden of Hawaii's taxes from residents to nonresidents. While not formally recommending this change, the Commission believes that the idea merits further study and consideration.

The Commission recommends eliminating the Corporation Income Tax, on grounds that the tax is too complex. The static effects on the State's tax revenues would be fairly small. From 1972 to 2005, the Corporation Income Tax has provided on average only about 2.3 percent of total revenues paid into the General Fund. Moreover, collections were strongly cyclical, being large when the State's economy was strong and tax revenues were high, and being small when the State's economy was weak and tax revenues were low.

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[23] Tax Research and Planning Office, Hawaii State Department of Taxation, "Study on the Question 'Should Hawaii Replace Its Income and Franchise Taxes With an Increase in the General Excise Tax,'" report to the 2005-2007 Tax Review Commission, November 2006. *(See Appendix E.)*

[24] Businesses and individuals file more than 760,000 tax returns annually and the net income and franchise taxes account for roughly 60 percent of the 230 forms and instructions now issued by the Department of Taxation. See *Ibid*, page 18.

The academic literature on the topic indicates that small open economies, such as individual states, shoot themselves in the foot when they tax corporate income, because in the long run the burden of the tax is borne by local landowners and workers, not, as popularly believed, by the corporate shareholders.[25] Such jurisdictions can improve the competitiveness of their economies and the welfare of their residents by exchanging corporate income taxes for taxes on wages and land.[26] Popular notions of equity may explain why many small jurisdictions continue to apply corporate income taxes.

Recommendation 2

> ***For Hawaii's Individual Income Tax, the standard deduction, the personal exemption and the tax brackets should be indexed for inflation.***

Discussion

The Commission reiterates the recommendations of previous Tax Review Commissions that the Individual Income Tax should be indexed for inflation. In the past, inflation has arbitrarily reduced the value of the standard deduction and the personal exemption, and has caused tax rates to increase by forcing taxpayers into higher tax brackets. The Commission believes that changes in the income tax should be the result of deliberate policy actions, not an arbitrary result determined by inflation. With indexing, the average income tax rates will not be affected by inflation, but income tax revenues will tend to grow automatically with inflation. Without indexing, inflation will cause the average income tax rates to rise and income taxes will tend to rise automatically by more than inflation.

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[25] These arguments are presented in greater detail in Tax Research and Planning Office, Hawaii State Department of Taxation, "Study on the Progressive or regressive Nature of Hawaii's Taxes," *Op. cit*., pages 5 and 6.

[26] In a letter to the 2001-2003 Tax Review Commission (included in the last two pages of the report), Lowell Kalapa, President of the Tax Foundation of Hawaii, argued that the Commission should consider reducing or eliminating the Corporation Income Tax, on grounds that it contributed little to the State's revenue, but that reducing the rate would "go a long way toward improving the attractiveness of Hawaii as a place to invest and do business."

Recommendation 3

> ***Hawaii should conform to the federal tax treatment of retirement income, excluding an annual base amount (e.g. $50,000).***

Discussion

The current tax treatment is not even-handed, as it distinguishes unfairly between different types of retirement income. There is another equity concern, however, in that people have made employment decisions based on the current tax treatment. For example, some may have accepted smaller government pensions on the expectation that they would not be taxed. People have also made decisions on where to live based on the current tax law. Excluding a base amount would ameliorate the effect of this change on those now receiving tax-free pensions, and remove the effect entirely for those with small pensions (i.e., those below the base exclusion). The 2001-2003 Tax Review Commission also recommended taxing all pension income, but found that the effect of the current exemption was declining over time, because more people were moving to taxable retirement vehicles (e.g., individual retirement accounts and 401K plans).

Recommendation 4

> ***Hawaii should adopt withholding rules for all nonresident taxpayers involved in pass-through entities, such as partnerships, S-corporations, and limited liability companies.***

Discussion

There is much anecdotal evidence that nonresidents are not paying their fair share of Hawaii's taxes and the Commission believes that this measure would encourage greater compliance. It is not intended that the new withholding should apply to trusts or estates.

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Recommendation 5

> ***To enforce total tax compliance by nonresidents, the HARPTA withholding rate should be increased and penalties imposed on withholding agents for noncompliance.***

Discussion

Currently, when a nonresident sells real property in Hawaii, 5 percent of the gross receipts from the sale are withheld against the potential income tax liability on the gain from the sale. The withholding is referred to as "HARPTA," which stands for "Hawaii Real Property Tax Act." The maximum rate of tax is 7.25 percent on long-term capital gains and 8.25 percent on short-term capital gains, whereas the HARPTA withholding is 5 percent of the gross selling price. It is therefore possible for the income tax liability to exceed the HARPTA withholding, particularly in cases where the property has been depreciated over a long period and the taxpayer has little basis. Furthermore, in some cases the nonresident seller may have been renting the property and neglected to pay Transient Accommodations Tax (TAT) and GET on the rental income. In such cases, the nonresident taxpayer may fail to file an income tax return.[27] Increasing the rate of HARPTA withholding will encourage greater compliance by those seeking a refund and it will reduce the State's tax loss for those who continue to fail to file an income tax return.

Recommendation 6

> ***An exchange facilitator or intermediary in an Internal Revenue code section 1031 exchange of properties should be required to remit withholding tax on any shortfall of the amount exchanged, at the withholding rate set by Hawaii on sales of real property by nonresidents.***

[27] In some situations, particularly if the taxpayer has failed to file Hawaii tax returns, the taxpayer may decide that simply forfeiting the withheld HARPTA amount is preferable to satisfying Hawaii tax obligations. This creates difficulties in enforcement.

Discussion

Hawaii generally follows the federal tax treatment of the gain from sales of real property, so if the gain from sale of real property in Hawaii is exempt from federal income tax under IRC section 1031 as a tax-free exchange of properties, it generally is also exempt from the State's Individual Income Tax. The Commission believes, however, that sellers occasionally receive taxable amounts from such exchanges, either because the exchange fails and the seller merely sells the property in an ordinary sale, or because the seller receives cash or other consideration in addition to eligible property in the exchange. In such instances, the proposal would require the exchange facilitator or intermediary to remit withholding on the taxable amounts at the rate due on sales of Hawaii real property by nonresidents (the "HARPTA" withholding rate).

The Commission also notes that out-of-state lessors too often fail to comply with the State's GET and TAT. It is suggested that the Department of Taxation do more to educate taxpayers and enforce compliance by the out-of-state lessors.

F. Recommendations on the Administration of Taxes

Background

In its review of the administration of Hawaii's taxes, the Commission has relied on input from taxpayers to augment its own expertise, which many of its members have gained from years of conducting active tax practices. We have tempered and seasoned the suggestions from taxpayers by consulting with those within the Department of Taxation who administer the State's taxes. Thus, recommendations represent compromises between conflicting viewpoints and interests. We have tried to steer a course that respects the rights of individual taxpayers, while recognizing the practical constraints imposed by the costs of tax administration.

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In addition to the following formal recommendations, the Commission wishes to encourage the Department of Taxation to consider ways to make more of its rulings public for the benefit of taxpayers generally.

Recommendation 1

An extension should be allowed for certification for the high technology credit.

Discussion

The deadline for certification is March 30. The Department of Taxation cannot change the deadline by rule, because it is set by statute. The deadline comes at a bad time for taxpayers. The Commission recommends that if the credit is maintained in its current form, the Legislature provide an extension for certification for convenience of taxpayers.

Recommendation 2

The Legislature should consider the needs of the entire Department of Taxation – not just direct revenue-producing positions such as auditors, but all the divisions within the Department – and they should provide adequate funding to the Department as a good investment for the State.

Discussion

The Commission noted in particular that the Tax Research and Planning Office has not been given resources needed to perform tasks deemed essential by the present Commission, as well as by the Tax Review Commission of 2001-2003. These tasks include the following: (a) Updating its economic models and otherwise improving its ability to help the Council on Revenues to accurately forecast future revenue receipts; (b) analyzing the costs and benefits of special tax credits for ethanol production facilities, investments in high technology and energy conservation expenditures, and of special tax treatment of nonprofit organizations; (c) examining the revenue consequences of conforming Hawaii's income tax laws to the federal income tax

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laws; (d) examining the distribution of the burdens of Hawaii's taxes; (e) examining the effects of "bracket creep;" (f) studying the costs of administering Hawaii's taxes; and (g) studying the reasons for fluctuations in the State's Corporation Income Tax.

Recommendation 3

> ***The Legislature should require beneficiaries of tax credits to file truth in disclosure reports in addition to income tax returns.***

Discussion

The requirement should apply to all taxpayers, not just individuals. The reports would provide valuable information needed to evaluate the effectiveness of the credits in achieving their goals.

Recommendation 4

> ***Taxpayers should be allowed to make a deposit against future tax liability to stop continued accrual of interest.***

Discussion

Tax disputes sometimes involve lengthy administrative proceedings. During such disputes, taxpayers should have the option to make a deposit against future tax liabilities to stop the accrual of interest while the matter is open. The federal government provides for such deposits under section 6603 of the Internal Revenue Code. The need for such deposits arises, because the interest rate charged by the State can greatly exceed the risk-free return available on bank deposits.

Recommendation 5

> ***Hawaii should adopt Internal Revenue Code section 7430, to require the Tax Appeal Court to award court fees where the position of the Department of***

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Taxation is found to be "not substantially justified," except that the fees should be the actual cost, subject to court approval.

Discussion

The Commission wants to encourage the Department of Taxation to give due consideration to the taxpayer's position and to encourage the Department to seek resolution of cases at an administrative or appeal level to save the taxpayer the costs of defense. The IRC section has a dollar limit on the award of court costs, to prevent taxpayers or their representatives from drawing out litigation and running up the bill. The Commission believes that the IRC limit is too low, and that any award should cover actual costs, unless the court finds them excessive and unreasonable.

Recommendation 6

The Department of Taxation should establish an Appeals Office trained to settle cases, modeled after the Appeals Office of the Internal Revenue Service.

Discussion

The new Appeals Office should be a completely independent branch of the Department of Taxation, reporting directly to the Director of Taxation. It cannot be part of the audit branch, because it must be freely able to disagree with positions taken by the auditors. Furthermore, it should be adequately staffed, so the resolution of cases is not slowed down. The Commission feels the added costs are worth incurring in the long run, both for the benefit of taxpayers and of the Department of Taxation.

Recommendation 7

Repeal the statement in section 232-7 of the Hawaii Revised Statutes, which says that hearings before the Board of Review are public hearings.

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Discussion

By statute, the Board of Review hearings are public, but in practice they have been secret inasmuch as no one knows about them. There should be some venue for having a case decided where the taxpayer's returns and tax information remain confidential. Under current procedures, the taxpayer typically presents his case and witnesses and the Department then responds. The Board makes its decision in private; its discussion is not public, nor is it published in any minutes.

IV. CLOSING REMARKS

This concludes the formal report of the 2005-2007 Tax Review Commission. We are honored by the task entrusted to us to evaluate the State's tax structure. Our recommendations are the culmination of many hours of careful work and examination, with invaluable input from the tax community and the public. The Commission held 23 public meetings and had eight in-depth studies performed to examine various important tax policy issues. The studies are presented in the appendices. We sincerely hope you find our recommendations useful in your future deliberations on tax policy.

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LIST OF APPENDICES

Appendix A	"Study on the Question 'Is Hawaii's Tax Structure Adequate?'" Tax Research and Planning Office.
Appendix B	"Measuring the Costs and Benefits of Hawaii's Qualified High Technology Business (QHTB) Investment Tax Credit under Act 221 and Act 215," Dr. Marcia Sakai and Dr. Bruce Bird.
Appendix C	"Hawaii's General Excise Tax: Should the Base Be Changed?" Dr. William Fox.
Appendix D	"Study on the Progressive or Regressive Nature of Hawaii's Taxes," Tax Research and Planning Office.
Appendix E	"Study on the Question 'Should Hawaii Replace Its Income and Franchise Taxes With an Increase in the General Excise Tax?'" Tax Research and Planning Office.
Appendix F	"Effects of Increasing the Hawaii Standard Deduction, Expanding the Hawaii Individual Income Tax Brackets, and Enacting a Hawaii Earned Income Tax Credit and Food, Medical Services, and Nonprescription Drug Income Tax Credit," Tax Research and Planning Office.
Appendix G	"Hawaii's Budget Process and Budget Stabilization Funds," Department of Budget and Finance.
Appendix H	"Revenue Costs for Selected General Excise Tax And Use Tax Exemptions and Deductions," Tax Research and Planning Office.
Appendix I	"Summary of Recommendations Made by Tax Review Commissions," Tax Research and Planning Office.

APPENDIX A

STUDY ON THE QUESTION "IS HAWAII'S TAX STRUCTURE ADEQUATE?"

Tax Research and Planning Office
Department of Taxation
State of Hawaii

20 November 2006

STUDY ON THE QUESTION "IS HAWAII'S TAX STRUCTURE ADEQUATE?"

Prepared by the Tax Research and Planning Office, Hawaii Department of Taxation

"The point to remember is that what the government gives it must first take away"
- John S. Coleman

"Taxes grow without rain."
- Jewish Proverb

Executive Summary

In this paper, we have tried to determine whether Hawaii's tax structure is adequate. The first task in this exercise was to determine what "adequate" means, which requires answering the question "How much tax revenue is needed?" The simple answer could be "To provide enough money to run the government." But this answer brings forth the question "How much government services are required?" Lacking a clear answer to this last question, it was decided, based on the treatment in previous studies, that the tax structure would be deemed adequate if the revenue it produces can be counted on to grow at least as fast as personal income. More specifically, it was decided that the tax structure would be deemed adequate if the revenues paid into the General Fund tended to grow as fast as personal income, although the effects of shifting taxes between the General Fund and other, special funds were also examined. The General Fund was chosen for the exercise, because the money dedicated to it is used for general operation of government.

Two kinds of tax adequacy were measured. For the first kind, the tax structure is deemed to be adequate if tax revenues paid into the General Fund tend automatically to grow as fast as personal income, when the tax code, and the part of the total revenue from each tax that is dedicated to the Fund, stay the same. To test if the tax structure satisfies this kind of adequacy, we estimated the taxes that would have been paid into the General Fund in each year from 1972 to 2004 if the tax code and the fraction of revenue from each tax dedicated to the Fund had been the same as they were in 2005. We then looked to see whether these constant-law collections grew as fast as personal income from 1972 to 2005. For the second kind of tax adequacy, the tax structure is deemed to be adequate if tax revenues actually paid into the General Fund tended historically to grow as fast as personal income, after accounting for legislative changes that alter the tax code or the amount of taxes dedicated to the Fund.

To determine whether the tax structure is adequate under the first definition, we constructed a constant-law time series of General Fund tax revenues. The constant-law revenue was calculated as the amount of taxes that would have been paid into the Fund from 1972 to 2005 if the tax code and the fraction of each tax dedicated to the Fund had been the same in each year as they were in fiscal year 2005. We compared the growth in the constant-law revenues with the growth of personal income. To determine whether the tax structure is adequate under the second definition, we simply compared the growth in actual General Fund tax revenues with the growth in personal income.

We found that the current tax structure satisfies both kinds of tax adequacy. According to our calculations, the constant-law General Fund tax revenues tended to grow at a rate about 5 percent greater than personal income since 1972 (see table 4), whereas the actual, unadjusted revenues paid into the Fund tended to grow at a rate about 3 percent greater than personal income (see table 5).

To investigate the effects of shifts in revenues between the General Fund and other special funds, we also measured General Fund tax revenues as they would have been if the fraction of each tax dedicated to the Fund had been kept constant, but other changes in the tax code were allowed to occur. We found that under these circumstances the General Fund tax revenues would have grown at an average rate about 4 percent faster than personal income (see table 6). Thus, the Legislature appears to have taken two types of actions to reduce the automatic growth in General Fund tax revenues. One type of action has been to reduce statutory tax rates or to reduce the tax base, such as the adjustments to the Individual Income Tax made in 1987 and 1998. The second type of action has been to shift tax revenues from the General Fund to other special funds, such as the reallocations of revenues from the Transient Accommodations Tax that occurred in 1992 and 1993 and the reallocations of revenues from the Conveyance Tax that occurred in 1994. Our calculations imply that on average, over the long run, both types of actions have had about the same effect in reducing the growth rate of General Fund tax revenues. That is, each has reduced the long-run elasticity of General Fund tax revenues with respect to personal income by about 1 percent.

Our results are long-run averages for the tax structure as a whole. In the short run, General Fund tax revenues sometimes grew more rapidly and sometimes more slowly than personal income. This was true for the constant-law time series and for the unadjusted collections. Some of the differences indicate rather sharp misalignments. For example, from 1981 to 1982, actual taxes paid into the General Fund shrank by 3.7 percent, whereas personal income grew by 6.7 percent. In most years, however, the revenue growth exceeded the growth in personal income.

Structural changes in Hawaii's economy, such as a change in the relative importance of military spending or tourism, or increased use of tax credits, can alter the relationship between growth in tax revenues and growth in personal income. In other words, tax adequacy in the past is no guarantee of tax adequacy in the future. Nevertheless, if future changes in Hawaii's economy remain within the norm of those that occurred in the recent past, then Hawaii's tax structure should continue to produce revenue growth in line with the growth in personal income.

I. Introduction

The question is often posed "Are Hawaii's taxes adequate?" Those asking the question seldom appreciate how hard it is to answer. The first obstacle is to define what "adequate" means. The answer is usually something like "Taxes are adequate if they provide enough revenue to pay for needed government services," but this answer merely begs the question, as it doesn't tell us what level of government services we need. The amount of government services is not immutable: People agree on how much of them they want to consume at the same time that they agree on how much they want to pay in taxes. In fact, the amount of government services people want to consume depends importantly on the tax system. For example, a poorly designed tax system inflicts more pain on taxpayers per dollar of revenue and causes people to choose to pay less in taxes and to provide less of government services. Also, as anyone who has

watched a budget cycle knows, government spending can be strongly influenced by the amount of revenue the existing taxes have generated.

The present study avoids answering directly the question of whether taxes are adequate, and considers instead a simpler, more tractable question. It asks how tax revenue dedicated to the General Fund would have grown relative to personal income in Hawaii in the recent past if there had been no legislated changes in the taxes (that is, if there had been no changes in statutory tax rates or in the definition of any tax base) and if the share of each tax dedicated to the General Fund had remained constant. This is the same exercise done by previous authors who have examined the adequacy of Hawaii's taxes.[1] Although subject to shortcomings (as discussed below), the exercise is intended to provide useful information on the question of whether the tax structure will tend to provide the right amount of revenue if people happen to want spending on government services to grow at the same rate as their personal income.[2] We also compare how tax collections actually varied with income, after legislated changes in tax laws. This second exercise tells us if the tax structure generates adequate revenue, after allowing for legislative responses to changes in the economy. For purposes of the study, the tax structure will be considered adequate if the revenue it generates tends to grow at a rate at least as great as the growth in total personal income.

The presumption is sometimes made that, without legislative interference, tax revenues will at least keep pace with growth in personal income, because the personal income tax, which is an important component of the tax structure, is imposed at rates that escalate as income increases - the taxpayer moves to a higher rate of tax as his or her income rises. However, a variety of other factors can cause tax revenues to grow more slowly than personal income. In fact, tax collections do not grow at exactly the same rate as tax liabilities, due to such factors as tax audits, delinquent collections, a change in compliance, or a change in the number of tax payment dates in the calendar year.

Some caveats are in order for those who would use the results of the study to predict how tax collections will grow with personal income in the future. For one thing, some taxes are only loosely connected to personal income, so it would be unreasonable to expect them to grow at the same rate relative to income in the future as they have in the past. For example, the Conveyance Tax depends on transfers of real property, the Estate and Transfer Tax (before its recent effective repeal) depended on transfers of estates, and what happens to revenues from taxes on tobacco and liquor depends more on changes in population and consumption trends than on changes in income.

Even if the tax is closely tied to income, growth in collections can depend on the reason for the income growth. For example, suppose growth in total personal income will come less from population growth and more from growth in per capita income in the future than has been the case in the past. Then, one might expect revenue from the Individual Income Tax to grow by more than the historic norm, because the tax rates are graduated. Or, compare what happens if future personal income growth comes about as a result of increased tourism with what happens if the same growth were to occur as a result in an increase in military personnel residing in the State. Neither tourists nor military personnel stationed in Hawaii are likely to be subject to the State's Individual Income Tax, but the income of the military personnel is included in the State's

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[1] See James Mak and Shamsuddin Ahmad, "Is Hawaii's Tax system Adequate?" *Report of the 1989 Tax Review Commission*, and Bruce W. Kimzey and Brent D. Wilson, "Tax Adequacy in Hawaii." *Report of the 2001-2003 Tax Review Commission.*

[2] It is reasonable to suppose that they do. In recent years, there has been no clear secular trend in the portion of their total income that people in Hawaii have chosen to consume in the form of government services provided by the State. See Figure 1 below.

personal income. Also tourists pay the Transient Accommodations Tax on their lodging and they pay General Excise tax on their purchases, whereas military personnel do not pay tax on their lodging or on their purchases from military commissaries.

Changes in taxpayer behavior can also change collections. For example, the high technology business investment tax credit is an open-ended credit that depends on how much taxpayers decide to invest in qualified high technology businesses. The credit is important: it amounted to $38.9 million in fiscal year 2003, which was about 1.2 percent of total collections deposited into the General Fund. It is certainly possible that the credit could grow much faster than income in the future.

From these examples, it is clear that the past behavior of tax collections relative to the growth in total personal income does not necessarily provide a good guide for the future. Stated another way, tax adequacy in the past is no guarantee of tax adequacy in the future.

The next section describes the role played by the General Fund in the State's overall budget and presents data on the major taxes levied by the State. Section III describes the methodology used to gauge the adequacy of taxes dedicated to the General Fund and provides the results of our calculations.

II. Hawaii's State Budget – An Overview

The State's total budget is divided into several categories of funds, called Governmental Funds, Proprietary Funds, and Fiduciary Funds. Governmental Funds contain the accounts for most of the State's activities that are supported principally by taxes and by intergovernmental transfers. The General Fund is one of the Governmental Funds. Proprietary Funds contain the accounts for activities of the State that are more like commercial enterprises. Proprietary Funds include the Unemployment Compensation Fund and funds to account for the operations of highways, airports, harbors, and other business-like activities. The Fiduciary Funds are used to account for resources held for the benefit of parties outside the State.

Although the General Fund comprises only a part of the State's total budget, it is appropriate to evaluate tax adequacy by looking at tax revenues dedicated to the Fund, because the Proprietary Funds are virtually all self-supporting and the Fiduciary Funds are quite minor. Also, the bulk of tax revenues are dedicated to the General Fund and taxes typically account for about 90 percent of all General Fund Revenues. In fiscal year 2005, tax revenues dedicated to the General Fund were $3,998 million, out of total State tax revenues of $4,597 million. Total revenues for the General Fund (including non-tax revenues[3]) were $4,486 million, total revenues for all Governmental Funds were $6,475 million, and total revenues for all types of the State's funds were $7,095 million.

Table 1 shows total revenues and expenditures in the Governmental Funds and in the General Fund for each fiscal year since 1970, along with total personal income.

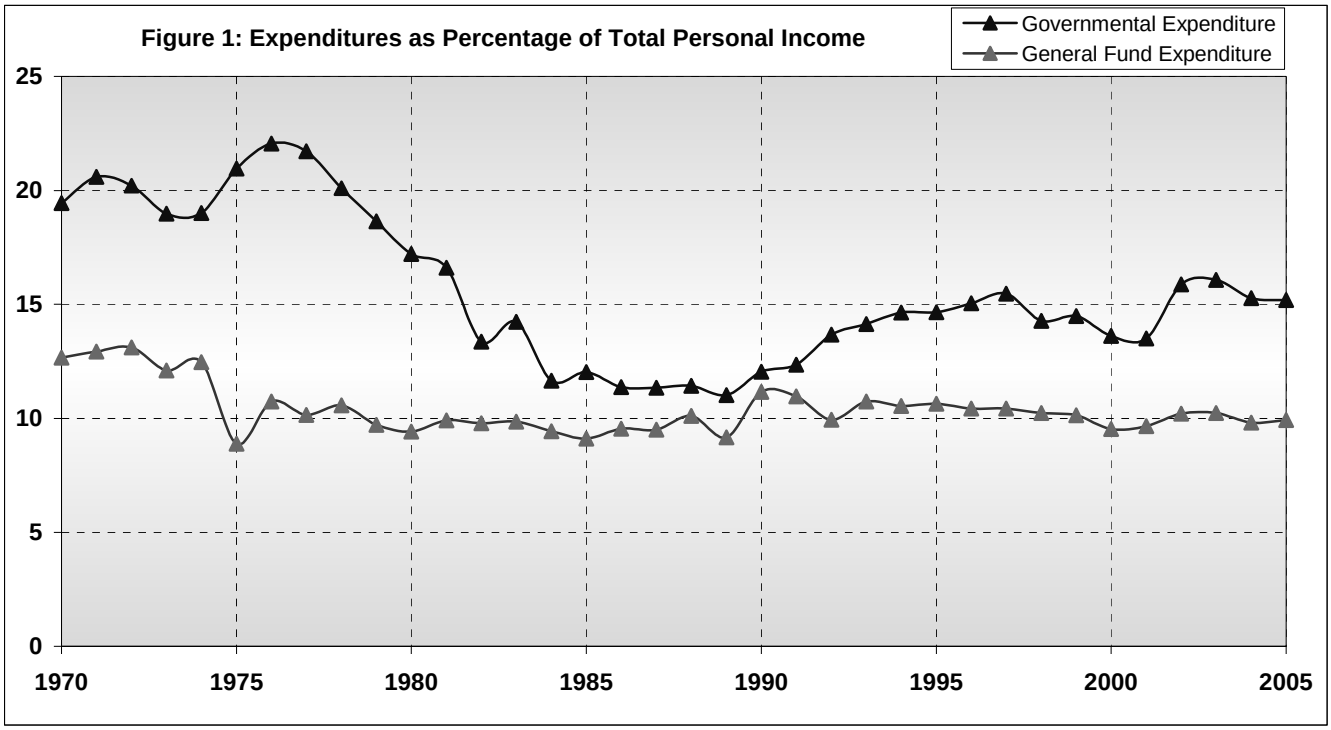
[3] This includes non-tax receipts and charges, such as federal grants, fines and forfeitures, charges for services, and revenues from investments of State funds.

Table 1: General Fund and Governmental Funds Revenue and Expenditures (in $Millions)

Year	General Fund Revenue	General Fund Expenditure	Governmental Revenue	Governmental Expenditure	Total Personal Income
1970	464	463	596	710	3,653
1971	511	526	665	838	4,069
1972	547	576	723	888	4,396
1973	608	598	814	936	4,933
1974	708	686	940	1,045	5,499
1975	626	557	1,115	1,312	6,258
1976	685	726	1,310	1,491	6,759
1977	737	744	1,388	1,591	7,325
1978	816	849	1,505	1,613	8,026
1979	943	878	1,624	1,683	9,030
1980	1,085	973	1,728	1,775	10,319
1981	1,199	1,146	1,801	1,918	11,557
1982	1,186	1,208	1,669	1,648	12,330
1983	1,253	1,333	1,754	1,923	13,515
1984	1,355	1,379	1,772	1,702	14,610
1985	1,476	1,451	1,880	1,914	15,918
1986	1,605	1,598	2,050	1,901	16,728
1987	1,890	1,688	2,353	2,012	17,742
1988	2,076	1,944	2,590	2,197	19,220
1989	2,341	1,953	2,905	2,349	21,309
1990	2,452	2,624	3,182	2,832	23,511
1991	2,690	2,799	3,510	3,153	25,531
1992	2,708	2,681	3,671	3,686	26,968
1993	2,953	3,063	3,902	4,028	28,502
1994	3,086	3,059	4,163	4,245	29,004
1995	2,969	3,169	4,166	4,364	29,793
1996	3,194	3,124	4,550	4,505	29,947
1997	3,161	3,186	4,567	4,722	30,543
1998	3,232	3,214	4,590	4,485	31,411
1999	3,286	3,251	4,651	4,641	32,048
2000	3,284	3,201	4,840	4,573	33,588
2001	3,442	3,365	5,150	4,703	34,822
2002	3,441	3,656	5,100	5,685	35,816
2003	3,789	3,806	5,370	5,972	37,172
2004	3,908	3,840	5,790	5,972	39,123
2005	4,486	4,185	6,475	6,400	42,135

Sources: Data on the Governmental Funds are from Hawaii Department of Accounting and General Services. Data on the General Fund are from Hawaii Department of Budget and Finance. Data on total personal income are from Bureau of Economic Analysis, U.S. Department of Commerce.

Figure 1 shows how the ratio of expenditures in each type of fund to total personal income has varied since 1970. From 1970 to 1974, General Fund spending varied from about 12 percent to 13 percent of total personal income. Since 1975, however, it has remained fairly



Source: Calculated from Table 1

steady at about 10 percent of total personal income, varying only between a low of about 9 percent (in 1975, 1985 and 1989) to a high of about 11 percent (in 1990, 1991 and 1993), and it reveals no secular trend upward or downward.

Total spending in all Governmental Funds varied more widely relative to total personal income. The ratio to total personal income was between about 18 percent and 22 percent from 1970 to 1979, but then it declined rapidly, reaching a low of about 11 percent in 1989. Since 1980, it does not appear to have followed any strong secular trend, although it has moved up from a cyclical low experienced from 1984 through 1990, a period of unusually strong growth and low unemployment insurance payments. The figure implies that the share of total income that people in Hawaii want to devote to State government services has declined since 1970, but has shown no strong secular tendency to increase or decrease since 1980.

Table 2 shows tax revenues, total revenues, expenditures, the surplus or deficit, and the balance for the General Fund, by fiscal year, since 1972. It also shows the constitutionally mandated ceiling for spending from the General Fund.[4] Each year's ceiling is based on the ceiling in the prior year. From these data, it is clear that the ceiling has not been binding in recent years.

[4] The spending ceiling is imposed by Article VII, Section 9 of the 1978 Hawaii State Constitution. The ceiling limits the growth in appropriations from the General Fund (exclusive of the federal funds it receives) to the estimated growth in total personal income in the State.

Table 3 shows total collections for each of the State's taxes and the percentage of the tax that was dedicated to the General Fund in each fiscal year since 1972. The following are the major taxes that contribute to the General Fund: the General Excise and Use Taxes (GE), the Individual Income Tax (Iinc), the Corporation Income Tax (Cinc), the Public Service Company Tax (PSC), the Tax on Insurance Premiums (Ins), the Tax on Liquor (Liq), Taxes on Cigarettes and Tobacco (Tob), the Tax on Banks and Other Financial Corporations (Fin), the Transient Accommodations Tax (TAT), the Conveyance Tax (Con), and the Estate and Transfer Tax

Table 2: General Fund Revenues, Expenditures and Expenditure Ceilings (in $Millions)

Year	Tax Revenue	Total Revenue	Total Expenditure	Surplus or Deficit	Balance*	Expenditure Ceiling
1972	379	547	576	-30	-30	
1973	425	608	597	11	-19	
1974	490	708	686	23	4	
1975	572	626	557	70	74	
1976	628	685	726	-42	32	
1977	676	737	744	-7	25	
1978	737	816	849	-33	-8	
1979	864	942	878	64	57	919
1980	989	1,085	973	112	169	1,005
1981	1,082	1,199	1,146	53	222	1,109
1982	1,048	1,186	1,207	-22	200	1,234
1983	1,135	1,253	1,333	-81	119	1,421
1984	1,233	1,355	1,379	-24	95	1,560
1985	1,359	1,476	1,451	24	119	1,691
1986	1,474	1,605	1,598	8	127	1,804
1987	1,654	1,890	1,688	202	329	1,881
1988	1,850	2,076	1,944	132	461	2,001
1989	2,116	2,378	2,220	159	619	2,170
1990	2,136	2,452	2,624	-173	456	2,230
1991	2,375	2,690	2,799	-110	347	2,568
1992	2,411	2,708	2,681	28	374	2,825
1993	2,519	2,953	3,063	-110	264	3,109
1994	2,622	3,086	3,059	27	291	3,327
1995	2,592	2,969	3,169	-201	90	3,591
1996	2,758	3,194	3,124	71	161	3,778
1997	2,772	3,161	3,186	-25	136	3,920
1998	2,849	3,232	3,214	18	154	4,032
1999	2,854	3,286	3,251	35	189	4,091
2000	2,973	3,284	3,201	83	272	4,185
2001	3,158	3,442	3,365	77	349	4,170
2002	3,049	3,441	3,656	-215	134	4,310
2003	3,182	3,789	3,806	-17	117	4,462
2004	3,447	3,908	3,840	67	185	4,680
2005	3,998	4,486	4,185	302	486	4,899

* Cumulative balance since 1972.
Sources: Hawaii Department of Taxation and Hawaii Department of Budget and Finance

Table 3: Tax Revenues (in $Millions) and the Percentage of Each Tax Dedicated to the General Fund

Year	GE	%	Iinc*	Fin	%	Tob	%	TAT	%	Con	%	Misc	%	Cinc*	Inh*	Ins*	Liq*	PSC*	Fuel**	MV**	Emp**	Total	%
1972	186	100	120	3.1	100	6.5	100	13.0	100	0.6	100	0.2	100	11.8	3.6	8.3	9.4	15.7	28.3		18.3	412	89
1973	211	100	135	3.7	100	7.1	100	15.0	100	0.9	100	0.2	100	12.9	2.1	9.2	10.2	18.3	29.8		24.0	464	89
1974	244	100	152	3.6	100	8.3	100	17.5	100	1.0	100	0.3	100	18.2	2.7	9.5	11.4	21.2	29.6		25.2	527	90
1975	287	100	169	3.3	100	8.7	100	20.8	100	0.7	100	0.3	100	31.5	3.5	9.9	12.8	24.7	31.6		30.1	613	90
1976	310	100	185	2.5	100	9.6	100	24.5	100	0.8	100	0.3	100	32.9	3.3	16.1	15.0	28.6	41.5		49.0	694	87
1977	341	100	203	4.9	100	10.3	100	27.7	100	0.9	100	0.3	100	22.7	4.1	13.3	16.2	31.2	44.2		61.4	754	86
1978	367	100	227	5.2	100	11.0	100	30.1	100	1.3	100	0.3	100	23.8	4.0	15.7	18.0	33.4	46.1	6.9	73.7	834	85
1979	431	100	265	7.6	100	11.9	100	37.7	100	1.9	100	0.4	100	32.3	4.1	18.5	20.4	33.9	48.3	8.0	75.5	958	87
1980	498	100	312	7.8	100	12.8	100	41.8	100	2.3	100	0.4	100	42.4	4.3	22.2	13.0	32.5	51.1	8.4	67.5	1075	89
1981	549	100	335	5.8	100	13.8	100	43.9	100	2.0	100	0.4	100	47.0	4.6	24.0	7.0	50.2	53.1	8.4	58.8	1158	90
1982	577	97	283	3.9	100	14.0	100	48.1	100	1.5	100	0.4	100	39.3	5.1	27.8	7.7	57.0	52.6	8.5	58.3	1136	88
1983	601	97	347	-2.4	100	17.6	100	52.6	100	1.5	100	0.4	100	24.5	6.4	26.4	9.3	66.4	53.6	8.9	67.6	1228	89
1984	639	98	403	0.6	100	20.0	100	55.0	100	1.8	100	0.4	100	36.4	6.7	26.6	-0.2	59.6	54.9	9.3	76.3	1335	89
1985	684	98	429	3.9	100	19.7	100	65.9	100	1.9	100	0.4	100	44.8	12.3	28.7	20.6	62.3	58.5	9.6	68.7	1444	90
1986	747	98	467	4.9	100	19.7	100	67.6	100	2.0	100	0.4	100	39.6	6.0	34.6	29.9	70.3	67.5	15.3	67.0	1571	90
1987	818	99	543	15.3	100	19.1	100	67.7	100	3.6	100	0.4	100	61.5	5.2	36.0	34.6	61.8	73.3	17.8	76.1	1832	90
1988	920	98	626	12.0	100	21.3	100	67.3	100	4.2	100	0.5	100	66.0	7.3	38.0	38.2	63.6	85.2	18.7	77.4	2045	90
1989	1025	99	768	15.8	100	24.4	100	76.0	100	5.2	100	0.5	100	72.3	6.7	33.4	38.6	64.9	91.1	19.4	53.1	2294	92
1990	1177	91	695	19.9	100	23.5	100	82.4	100	8.1	100	3.4	100	74.9	16.3	36.9	40.3	69.6	107.2	20.3	79.0	2454	87
1991	1279	91	873	20.4	100	26.3	100	79.2	21	5.7	100	0.9	94	95.9	11.9	45.1	40.8	74.9	108.5	21.2	84.0	2766	86
1992	1295	93	907	24.0	100	27.4	100	80.0	5	4.0	100	0.7	100	43.8	16.4	60.4	41.5	82.3	128.3	40.7	44.7	2796	86
1993	1303	100	923	23.8	100	32.2	100	80.3	5	3.8	100	0.7	100	29.3	11.8	66.9	39.3	86.2	130.5	59.5	65.6	2856	88
1994	1332	100	963	29.4	100	32.7	100	76.5	5	7.7	50	0.7	100	39.0	28.1	63.7	39.0	92.3	137.4	57.8	88.6	2988	88
1995	1363	100	926	17.0	100	35.4	100	98.0	4	7.0	50	0.7	100	30.2	16.4	62.3	38.4	100.5	136.0	61.5	122.8	3015	86
1996	1432	100	1000	17.1	100	39.6	100	115.7	4	5.7	50	0.7	100	48.4	17.5	59.2	37.8	104.1	139.9	61.5	183.5	3263	85
1997	1457	100	976	9.7	100	36.4	100	125.5	4	6.0	50	0.6	100	57.8	22.2	55.8	38.3	114.4	138.6	62.6	170.0	3272	85
1998	1425	100	1084	15.5	100	36.1	100	127.1	4	6.9	50	0.5	100	46.2	19.6	59.4	38.9	120.3	136.0	63.6	155.1	3334	86
1999	1447	100	1069	9.8	100	42.3	100	136.5	21	7.7	64	0.6	50	42.6	28.7	52.5	38.5	121.1	136.0	65.3	149.0	3347	85
2000	1536	100	1065	7.1	65	42.3	100	168.6	0	9.5	63	0.8	93	68.2	22.8	68.7	39.0	119.5	136.4	78.1	150.0	3512	85
2001	1640	100	1105	-0.3	na	55.1	100	177.2	17	10.5	63	0.7	100	60.8	17.5	72.1	37.8	134.6	143.0	83.4	141.2	3678	86
2002	1612	100	1072	7.2	73	65.5	98	157.6	17	9.8	50	0.6	100	45.5	16.6	67.9	39.1	93.4	144.7	80.6	112.0	3525	87
2003	1793	100	1038	22.3	91	72.3	99	170.9	1	11.1	50	0.7	100	8.3	15.5	73.2	41.2	114.1	148.7	88.4	136.0	3734	85
2004	1900	100	1169	1.5	na	79.4	99	181.8	3	15.8	50	0.7	100	56.7	9.8	78.1	41.3	99.5	160.1	92.0	158.3	4044	85
2005	2137	100	1381	38.5	95	85.2	99	198.8	6	24.6	50	0.8	100	85.6	12.7	83.1	43.7	108.7	162.9	100.3	134.5	4597	87

Notes: * 100% went to General Fund throughout the period from 1972 to 2005. ** None went to General Fund . "na" denotes not applicable.
Source: Hawaii Department of Taxation

(Inh).[5] A miscellaneous category (Misc) is used to summarize all other State taxes that go into the General Fund, and includes charges for fuel retail dealer permits, fuel tax penalty and interest payments, general excise license fees and transient accommodation license fees. The major taxes dedicated entirely to Proprietary Funds are the taxes on liquid fuels (Fuel), taxes on motor vehicles (MV), and the employment security contributions (Emp).

III. Measuring "Tax Adequacy"

As we have already said, we gauge tax adequacy by comparing the growth rate of total personal income with the growth rate of tax revenues dedicated to the General Fund, where the annual tax collections are adjusted to reflect the revenues that would have been produced by the structure of the taxes in place for fiscal year 2005. More specifically, we calculate the "income elasticity" of the "constant law" tax collections for each tax and for the aggregate of all taxes dedicated to the General Fund. The income elasticity of a tax is measured as the percent growth in tax collections divided by the percent growth in personal income. An elasticity of unity means that revenue from the tax tended to grow at the same rate as income; an elasticity greater than one means that the revenue tended to grow faster than income; and an elasticity less than one means that the revenue tended to grow more slowly than income.

The constant-law collections for a tax is a time series of the annual collections of the tax that would have occurred if there had been no changes in the statutory tax rate, or in the definition of the tax base. To create the constant-law collections for the aggregate of all taxes dedicated to the General Fund, it is also necessary to adjust collections of each tax to remove the effects of any changes in the share of the tax dedicated to the General Fund.

Our constant-law tax collections are based on the tax law in place in fiscal year 2005, so to produce them we had to estimate the contributions to the General Fund that each tax would have generated in each year other than 2005 if the tax rate, the tax base, and the share dedicated to the General fund had been the same as they were in fiscal year 2005. The actual adjustments made to achieve the constant-law tax collections are described in the appendix.

The constant-law collections for each tax and the elasticity with respect to the growth in personal income are displayed in Table 4. The final row in the table shows the income elasticity of the tax, calculated by regressing the logarithm of the adjusted tax collections against the logarithm of total personal income. The Individual Income Tax (Iinc) has income elasticity greater than one, just as one might expect. The General Excise and Use Taxes (GE) and the Public Service Company Tax (PSC) were combined for the purpose of calculating the constant-law tax collections, because an important part of the PSC tax (ground transportation services) was shifted to the General Excise Tax in 2001. The combined taxes have elasticity greater than one. Likewise, the Tax on Insurance Premiums (Ins), the Conveyance Tax (Con), and the Estate and Transfer Tax (Inh) have elasticities greater than one. The income elasticity for the Tax on Banks and other Financial Corporations (Fin) is close to one. The Transient Accommodations Tax (TAT), the Corporation Income Tax (Cinc), and the basket of taxes in the miscellaneous category (Misc) all have elasticities substantially less than one. The income elasticities for the Tax on Liquor (Liq) and the Taxes on Cigarettes and Tobacco (Tob) are less than one, as

[5] A number of other taxes are paid into the General Fund, but they are minor and together account for less than one-fourth of one percent of the General Fund revenues. Hawaii's Estate and Transfer Tax is included in the analysis, even though it has been effectively repealed for the estates of people who died after December 31, 2004. The Conveyance Tax was increased substantially for real estate transfers recorded after June 30, 2005, and part of the revenue was dedicated to a new special fund that was established to make rental housing more affordable.

Table 4: Long-run Elasticities of Adjusted Individual Taxes Dedicated to the General Fund ($ in Millions)

Year	GE+PSC	Iinc	Cinc	TAT	Ins	Liq	Tob	Inh	Fin	Con	Misc	Total
1972	197.7	91.3	8.7	2.9	6.7	9.4	15.4	3.6	2.5	0.3	0.8	339
1973	224.0	102.4	9.6	3.1	7.4	10.2	16.8	2.1	3.0	0.4	0.2	379
1974	259.7	114.9	13.5	3.2	7.7	11.4	19.6	2.7	2.9	0.5	0.3	436
1975	305.1	132.7	23.4	3.4	8.0	12.8	20.5	3.5	2.7	0.4	0.3	513
1976	330.4	145.1	24.4	3.6	13.0	15.0	22.6	3.3	2.0	0.4	0.3	560
1977	363.7	158.7	16.9	3.8	10.8	16.2	24.3	4.1	3.9	0.4	0.3	603
1978	391.6	178.2	17.8	4.0	12.7	18.0	25.9	4.0	4.2	0.7	0.3	657
1979	455.2	206.5	24.1	4.4	15.0	20.4	28.0	4.1	6.2	0.9	0.4	765
1980	521.9	242.0	31.7	4.7	18.0	23.4	30.1	4.3	6.4	1.1	0.4	884
1981	585.4	260.7	35.1	4.8	19.4	25.7	32.5	4.6	4.8	1.0	0.4	974
1982	618.3	285.3	29.5	5.0	22.5	27.4	33.0	5.1	3.3	0.7	0.4	1,031
1983	649.4	289.0	18.4	5.3	21.3	29.1	41.5	6.4	-1.9	0.8	0.4	1,060
1984	693.2	316.7	27.2	5.5	21.5	31.4	47.0	6.7	0.5	0.9	0.4	1,151
1985	731.6	337.1	33.5	6.1	23.2	28.5	46.5	12.3	3.2	0.9	0.4	1,223
1986	784.4	366.1	29.8	6.2	28.0	33.5	46.5	6.0	4.2	1.0	0.4	1,306
1987	862.4	421.1	45.8	6.2	29.1	36.8	44.9	5.2	12.3	1.8	0.4	1,466
1988	966.0	509.8	49.2	6.2	30.8	38.2	50.3	7.3	9.7	2.1	0.5	1,670
1989	1,072.2	621.6	54.2	6.7	27.0	38.6	57.5	6.7	12.7	2.6	0.5	1,900
1990	1,246.3	660.6	56.8	7.1	29.9	40.3	55.4	16.3	16.0	4.0	3.4	2,117
1991	1,358.6	763.6	72.6	6.8	36.5	40.8	61.9	11.9	16.5	2.8	0.8	2,352
1992	1,372.0	751.8	33.9	6.9	48.9	41.5	64.6	16.4	19.4	2.0	0.7	2,336
1993	1,389.1	768.6	23.3	6.9	54.1	39.3	76.0	11.8	19.2	1.9	0.7	2,367
1994	1,424.5	779.7	30.4	5.4	51.6	39.0	76.0	28.1	23.9	3.8	0.7	2,438
1995	1,463.8	765.8	23.9	6.9	50.4	38.4	82.4	16.4	13.9	3.5	0.7	2,439
1996	1,550.9	778.9	37.1	8.1	47.9	37.8	92.1	17.5	13.9	2.8	0.7	2,559
1997	1,556.6	788.9	44.5	8.8	45.2	38.3	84.8	22.2	8.1	3.0	0.6	2,570
1998	1,545.7	842.9	51.5	8.9	48.1	38.9	80.5	19.6	15.6	3.5	0.5	2,623
1999	1,568.4	897.5	50.6	9.0	42.5	38.5	59.2	28.7	11.0	3.8	0.6	2,680
2000	1,655.8	956.6	66.4	10.1	55.7	39.0	59.3	22.8	8.6	4.8	0.7	2,850
2001	1,794.6	1,008.6	77.1	10.6	58.8	37.8	77.1	17.5	5.1	5.3	0.7	3,060
2002	1,740.2	1,040.6	60.3	9.5	60.1	39.1	91.8	16.6	13.3	4.9	0.6	3,077
2003	1,876.8	1,048.2	28.8	10.3	70.2	41.2	84.3	20.7	4.7	5.6	0.7	3,191
2004	1,999.9	1,176.1	65.3	10.9	77.0	41.3	85.5	19.7	17.9	7.9	0.7	3,502
2005	2,245.3	1,381.5	85.6	11.9	83.1	43.7	85.2	50.8	36.6	12.3	0.8	4,037
Elasticity	**1.03**	**1.18**	**0.68**	**0.56**	**1.05**	**0.64**	**0.79**	**1.12**	**0.98**	**1.37**	**0.46**	**1.05**

Source: Elasticities computed from Hawaii Department of Taxation data

expected. The overall income elasticity for the aggregate of all taxes dedicated to the General Fund is 1.05.

The Estate and Transfer Tax was effectively eliminated for decedents dying after December 31, 2004. Therefore, we also calculated the overall income elasticity for the aggregate of all taxes dedicated to the General Fund excluding this tax. The resultant elasticity (1.05) is the same as when the tax is included.

We have examined the adequacy of the current structure of taxes dedicated to the General Fund by examining past behavior of the revenue produced by the structure, after removing the

effect of legislative changes. Another way to view tax adequacy is to define the tax structure more broadly to include legislative changes that are made from time to time. In other words, instead of asking whether the tax structure automatically provides the needed revenue, we ask whether the government has proven adept at making necessary adjustments when revenues were deemed to be either overabundant or insufficient. There are two ways such adjustments can be made. One way is to change the tax code, either by changing tax rates or by changing the definition of what is subject to tax. The other way is to move tax revenues into, or out of the General Fund, for example, by "earmarking" revenues previously dedicated to the General Fund to a special-purpose fund.[6] As before, the question of how much revenue is needed is answered by arbitrarily assuming that revenue needs grow at the same rate as total personal income. In this case, adequacy of taxes dedicated to the General Fund can be measured by looking at the income elasticity of the taxes actually paid into the General Fund.[7]

Table 5 shows the income elasticities of the taxes actually paid into the General Fund. As shown in the table, the income elasticity of the aggregate of the taxes is 1.03. Because it is lower than the constant-law income elasticity, our calculations imply that the Legislature has tended to adjust the General Fund taxes, or the proportions of the taxes dedicated to the Fund, to reduce the automatic growth in the Fund's tax revenues.

The income elasticity of the aggregate of the taxes excluding the Estate and Transfer Tax is 1.02. The aggregate elasticity for the unadjusted taxes dedicated to the General Fund is close to the corresponding income elasticity of the constant-law collections, but there are some rather large differences for the individual taxes. For example, the income elasticity of the unadjusted Individual Income Tax collections (Iinc) is substantially lower than that of the constant-law collections (1.09, compared with 1.18 for the constant-law collections). The difference arises, because important changes were made to the income tax rates in 1986 and in 1998.[8] Other large differences show up in the income elasticities for the Transient Accommodations Tax, the Tax on Cigarettes and Tobacco, and the Conveyance Tax. There were important changes to the rates of all three taxes over the period, and there were also important changes in the shares of the Transient Accommodations Tax and of the Conveyance Tax that are dedicated to the General Fund.

Finally, we calculated how revenues from taxes used for the General Fund have tended to grow, without regard to the proportions of the taxes that are dedicated to the Fund. That is, the General Fund tax revenues were measured as if each tax used for the Fund was dedicated entirely (100 percent) to the Fund. The calculations show how changes in the proportions of taxes dedicated to the Fund have affected growth in its revenues. The calculations are displayed in table 6. The long-run elasticity with respect to personal income is 1.04, which is higher than that for the unadjusted series but lower than that for the constant-law series. This implies that, over

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[6] Lowell Kalapa has described the practice in various articles. For a recent example, see his article "If Earmarking Proposal is Adopted, Hawaii Tax Increase Is Guaranteed," *Hawaii Reporter*, July 15, 2006.

[7] If legislated changes are allowed, it is reasonable to suppose that moneys may be transferred among the various State funds as the need arises. This suggests that tax adequacy should be measured for the aggregate of all tax collections, as well as for those dedicated to the General Fund. However, the main tax not included in the General Fund is the employment security contributions (Emp). Revenues from this tax tend to grow with income, but the need for the revenues does not, and is actually countercyclical. Therefore, it would be hard to justify the arbitrary assumption that the need for total tax revenues grows at the same rate as income if this tax is included in the total. Lacking a usable definition for revenue needs, we cannot construct a meaningful measure of tax adequacy for the aggregate of all tax collections.

[8] See the discussion in the appendix.

Table 5: Long-Run Elasticities of Unadjusted Individual Taxes Dedicated to the General Fund ($ in millions)													
Year	**GE**	**Iinc**	**Cinc**	**TAT**	**Ins**	**Liq**	**Tob**	**PSC**	**Inh**	**Fin**	**Con**	**Misc**	**Total**
1972	186.4	120.1	11.8		8.3	9.4	6.5	15.7	3.6	3.1	0.6	0.8	366
1973	210.7	134.9	12.9		9.2	10.2	7.1	18.4	2.1	3.7	0.9	0.2	410
1974	244.3	151.7	18.2		9.5	11.4	8.3	21.2	2.7	3.6	1.0	0.3	472
1975	287.2	168.7	31.5		9.9	12.8	8.7	24.7	3.5	3.3	0.7	0.3	551
1976	309.6	184.9	32.9		16.1	15.0	9.6	28.6	3.3	2.5	0.8	0.3	603
1977	341.0	203.0	22.7		13.3	16.2	10.3	31.2	4.1	4.9	0.9	0.3	648
1978	367.3	227.2	23.8		15.7	18.0	11.0	33.4	4.0	5.2	1.3	0.3	707
1979	430.5	264.6	32.3		18.5	20.4	11.9	33.9	4.1	7.6	1.9	0.4	826
1980	498.3	311.4	42.4		22.2	13.0	12.8	32.5	4.3	7.8	2.3	0.4	947
1981	548.9	334.4	47.0		24.0	7.0	13.8	50.2	4.6	5.8	2.0	0.4	1,038
1982	560.4	282.7	39.3		27.8	7.7	14.0	57.0	5.1	3.9	1.5	0.4	1,000
1983	585.6	347.0	24.5		26.4	9.3	17.6	66.4	6.4	-2.4	1.5	0.4	1,083
1984	624.1	402.4	36.4		26.6	-0.2	20.0	59.6	6.7	0.6	1.8	0.4	1,178
1985	669.6	428.7	44.8		28.7	20.6	19.7	62.3	12.3	3.9	1.9	0.4	1,293
1986	732.5	466.8	39.6		34.6	29.9	19.7	70.3	6.0	4.9	2.0	0.4	1,407
1987	805.3	543.3	61.5	67.7	36.0	34.6	19.1	61.8	5.2	15.3	3.6	0.4	1,654
1988	905.5	625.6	66.0	67.3	38.0	38.2	21.3	63.6	7.3	12.0	4.2	0.5	1,850
1989	1,010.9	767.3	72.3	76.0	33.4	38.6	24.4	64.9	6.7	15.8	5.2	0.5	2,116
1990	1,066.1	694.6	74.9	82.4	36.9	40.3	23.5	69.6	16.3	19.9	8.1	3.4	2,136
1991	1,164.8	872.3	95.9	16.4	45.1	40.8	26.3	74.9	11.9	20.4	5.7	0.8	2,375
1992	1,199.7	906.5	43.8	4.2	60.4	41.5	27.4	82.3	16.4	24.0	4.0	0.7	2,411
1993	1,297.9	922.5	29.3	4.2	66.9	39.3	32.2	86.2	11.8	23.8	3.8	0.7	2,519
1994	1,326.7	962.2	39.0	3.9	63.7	39.0	32.7	92.3	28.1	29.4	3.8	0.7	2,622
1995	1,358.3	925.3	30.2	4.1	62.3	38.4	35.4	100.5	16.4	17.0	3.5	0.7	2,592
1996	1,426.8	999.6	48.4	4.8	59.2	37.8	39.6	104.1	17.5	17.1	2.8	0.7	2,758
1997	1,452.3	976.0	57.8	5.2	55.8	38.3	36.4	114.4	22.2	9.7	3.0	0.6	2,772
1998	1,420.4	1,083.4	46.2	5.3	59.4	38.9	36.1	120.3	19.6	15.5	3.5	0.5	2,849
1999	1,442.3	1,068.5	42.6	2.5	52.5	38.5	42.3	121.1	28.7	9.8	4.8	0.6	2,854
2000	1,536.3	1,064.3	68.2	0.0	68.7	39.0	42.3	119.5	22.8	4.6	6.0	0.7	2,973
2001	1,640.0	1,104.6	60.8	30.6	72.1	37.8	55.1	134.6	17.5	-2.8	6.6	0.7	3,158
2002	1,612.3	1,071.2	45.5	27.3	67.9	39.1	64.5	93.4	16.6	5.2	4.9	0.6	3,049
2003	1,792.7	1,037.7	8.3	1.5	73.2	41.2	71.3	114.1	15.5	20.3	5.6	0.7	3,182
2004	1,900.4	1,168.6	56.7	5.6	78.1	41.3	78.4	99.5	9.8	-0.5	7.9	0.7	3,447
2005	2,136.6	1,381.1	85.6	12.4	83.1	43.7	84.1	108.7	12.7	36.5	12.3	0.8	3,998
Elasticity	**1.02**	**1.09**	**0.45**	**-3.55**	**1.01**	**0.81**	**1.01**	**0.86**	**0.99**	**0.44**	**1.04**	**0.46**	**1.03**

Source: Elasticities Computed from Hawaii Department of Taxation data

the long run, changes in the proportions of taxes dedicated to the General Fund have been used to reduce the automatic growth in the Fund's tax revenues.

So far, we have examined the question of tax adequacy by comparing the secular trends in growth of tax collections with the growth of income. However, the trends mask some large short-run variations in the relationship between changes in tax collections and changes in income. Table 7a shows the short-run income elasticities for the constant-law collections for

each of the taxes dedicated to the General Fund, and table 7b shows the short-run income elasticities for each of the taxes actually paid into the Fund. Both the constant-law and the unadjusted collections show substantial changes in the short-run income elasticities from year to year. This is true for the individual taxes as well as for their aggregate. It appears that none of the taxes grows consistently in close tandem with total personal income in the short run.

IV. Comparisons With Results From Previous Studies

Two earlier studies examined the adequacy of Hawaii's tax structure, using methodologies similar to those used in the present study. James Mak and Shamsuddin Ahmad[9] computed a long-run elasticity of General Fund tax revenues with respect to personal income equal to 1.09 for the period from 1973 to 1988. They also calculated long-run elasticities over this period of 1.07 for the General Excise Tax and of 1.14 for the Individual Income Tax, which are quite similar to the elasticities reported in table 4.

Bruce W. Kimzey and Brent D. Wilson[10] computed an overall long-run elasticity of General Fund tax revenues equal to 1.16 for the period from 1990 to 2002. After adjusting for changes in the Tax on Banks and Other Financial Corporations, and the Transient Accommodations Tax, the elasticity declined to 1.11. They also calculated long-run elasticities over this period of 1.04 for the General Excise and Use Taxes and of 1.47 for the Individual Income Tax. The latter elasticity is quite different from that reported in table 4, probably because the authors did not adjust for important changes in the Individual Income Tax that occurred after 1998, when new tax brackets and tax rates were phased in over a period of years.

[9] Mak and Ahmad, *Op. Cit*.
[10] Kimzey and Wilson, *Op. Cit*.

Table 6: Long-run Elasticities of Actual Individual Taxes Collected ($ in Millions)

Year	GE	Iinc	Cinc	TAT	Ins	Liq	Tob	PSC	Inh	Fin	Con	Fuel	MV	ESC	Misc	Total
1972	186	120	11.8		8.3	9.4	6.5	15.7	3.6	3.1	0.6	28.3		18.3	0.2	412
1973	211	135	12.9		9.2	10.2	7.1	18.3	2.1	3.7	0.9	29.8		24.0	0.2	464
1974	244	152	18.2		9.5	11.4	8.3	21.2	2.7	3.6	1.0	29.6		25.2	0.3	527
1975	287	169	31.5		9.9	12.8	8.7	24.7	3.5	3.3	0.7	31.6		30.1	0.3	613
1976	310	185	32.9		16.1	15.0	9.6	28.6	3.3	2.5	0.8	41.5		49.0	0.3	694
1977	341	203	22.7		13.3	16.2	10.3	31.2	4.1	4.9	0.9	44.2		61.4	0.3	754
1978	367	227	23.8		15.7	18.0	11.0	33.4	4.0	5.2	1.3	46.1	6.9	73.7	0.3	834
1979	431	265	32.3		18.5	20.4	11.9	33.9	4.1	7.6	1.9	48.3	8.0	75.5	0.4	958
1980	498	312	42.4		22.2	13.0	12.8	32.5	4.3	7.8	2.3	51.1	8.4	67.5	0.4	1075
1981	549	335	47.0		24.0	7.0	13.8	50.2	4.6	5.8	2.0	53.1	8.4	58.8	0.4	1158
1982	577	283	39.3		27.8	7.7	14.0	57.0	5.1	3.9	1.5	52.6	8.5	58.3	0.4	1136
1983	601	347	24.5		26.4	9.3	17.6	66.4	6.4	-2.4	1.5	53.6	8.9	67.6	0.4	1228
1984	639	403	36.4		26.6	-0.2	20.0	59.6	6.7	0.6	1.8	54.9	9.3	76.3	0.4	1335
1985	684	429	44.8		28.7	20.6	19.7	62.3	12.3	3.9	1.9	58.5	9.6	68.7	0.4	1444
1986	747	467	39.6		34.6	29.9	19.7	70.3	6.0	4.9	2.0	67.5	15.3	67.0	0.4	1571
1987	818	543	61.5	67.7	36.0	34.6	19.1	61.8	5.2	15.3	3.6	73.3	17.8	76.1	0.4	1832
1988	920	626	66.0	67.3	38.0	38.2	21.3	63.6	7.3	12.0	4.2	85.2	18.7	77.4	0.5	2045
1989	1025	768	72.3	76.0	33.4	38.6	24.4	64.9	6.7	15.8	5.2	91.1	19.4	53.1	0.5	2294
1990	1177	695	74.9	82.4	36.9	40.3	23.5	69.6	16.3	19.9	8.1	107.2	20.3	78.9	3.4	2453
1991	1279	873	95.9	79.2	45.1	40.8	26.3	74.9	11.9	20.4	5.7	108.5	21.2	83.9	0.8	2766
1992	1295	907	43.8	80.0	60.4	41.5	27.4	82.3	16.4	24.0	4.0	128.3	40.7	44.7	0.7	2796
1993	1303	923	29.3	80.3	66.9	39.3	32.2	86.2	11.8	23.8	3.8	130.5	59.5	65.6	0.7	2856
1994	1332	963	39.0	76.5	63.7	39.0	32.7	92.3	28.1	29.4	7.7	137.4	57.8	88.6	0.7	2988
1995	1363	926	30.2	98.0	62.3	38.4	35.4	100.5	16.4	17.0	7.0	136.0	61.5	122.8	0.7	3015
1996	1432	1000	48.4	115.7	59.2	37.8	39.6	104.1	17.5	17.1	5.7	139.9	61.5	183.5	0.7	3263
1997	1457	976	57.8	125.5	55.8	38.3	36.4	114.4	22.2	9.7	6.0	138.6	62.6	170.0	0.6	3272
1998	1425	1084	46.2	127.1	59.4	38.9	36.1	120.3	19.6	15.5	6.9	136.0	63.5	155.1	0.5	3334
1999	1447	1069	42.6	136.5	52.5	38.5	42.3	121.1	28.7	9.8	7.7	136.0	65.4	149.0	0.6	3347
2000	1536	1065	68.2	168.6	68.7	39.0	42.3	119.5	22.8	7.1	9.5	136.4	78.1	150.0	0.7	3512
2001	1640	1105	60.8	177.2	72.1	37.8	55.1	134.6	17.5	-0.3	10.5	143.0	83.3	141.2	0.7	3678
2002	1612	1072	45.5	157.6	67.9	39.1	65.5	93.4	16.6	7.2	9.8	144.7	80.6	111.9	0.6	3524
2003	1793	1038	8.3	170.9	73.2	41.2	72.3	114.1	15.5	22.3	11.1	148.7	88.4	136.0	0.7	3734
2004	1900	1169	56.7	181.8	78.1	41.3	79.4	99.5	9.8	1.5	15.8	160.1	92.0	158.3	0.7	4044
2005	2137	1381	85.6	198.8	83.1	43.7	85.2	108.7	12.7	38.5	24.6	162.9	100.3	134.5	0.8	4597
Elasticity	**1.03**	**1.09**	**0.45**	**1.45**	**1.01**	**0.84**	**1.01**	**0.86**	**0.99**	**0.55**	**1.37**	**0.84**	**1.92**	**0.72**	**0.59**	**1.04**

Source: Elasticities calculated from Hawaii Department of Taxation data

Table 7a: Short-Run Income Elasticities by Type of Tax Dedicated to the General Fund (Constant-Law Collections) ($ in Millions)

Year	GE+PSC	Elcty	Iinc	Elcty	Cinc	Elcty	TAT	Elcty	Ins	Elcty	Liq	Elcty	Tob	Elcty	Inh	Elcty	Fin	Elcty	Con	Elcty	Misc	Elcty	Total	Elcty
1972	198		91		8.7		2.9		6.7		9.4		15.4		3.6		2.5		0.3		0.8		339	
1973	224	1.1	102	1.0	9.6	0.8	3.1	0.3	7.4	0.9	10.2	0.7	16.8	0.8	2.1	-3.5	3.0	1.8	0.4	3.5	0.2	-5.9	379	1.0
1974	260	1.4	115	1.1	13.5	3.6	3.2	0.4	7.7	0.4	11.4	1.0	19.6	1.4	2.7	2.3	2.9	-0.3	0.5	1.7	0.3	0.8	436	1.3
1975	305	1.3	133	1.1	23.4	5.3	3.4	0.4	8.0	0.3	12.8	0.9	20.5	0.4	3.5	2.2	2.7	-0.6	0.4	-2.3	0.3	0.6	513	1.3
1976	330	1.1	145	1.2	24.4	0.5	3.6	0.8	13.0	7.8	15.0	2.2	22.6	1.2	3.3	-0.8	2.0	-3.1	0.4	2.1	0.3	0.9	560	1.2
1977	364	1.2	159	1.1	16.9	-3.7	3.8	0.6	10.8	-2.1	16.2	1.0	24.3	0.9	4.1	3.1	3.9	11.4	0.4	0.9	0.3	0.8	603	0.9
1978	392	0.8	178	1.3	17.8	0.5	4.0	0.4	12.7	1.9	18.0	1.2	25.9	0.7	4.0	-0.2	4.2	0.7	0.7	4.9	0.3	1	657	0.9
1979	455	1.3	207	1.3	24.1	2.9	4.4	0.9	15.0	1.4	20.4	1.1	28.0	0.6	4.1	0.2	6.2	3.9	0.9	3.4	0.4	0.5	765	1.3
1980	522	1.0	242	1.2	31.7	2.2	4.7	0.4	18.0	1.4	23.4	1.0	30.1	0.5	4.3	0.3	6.4	0.2	1.1	1.5	0.4	0.6	884	1.1
1981	585	1.1	261	0.6	35.1	0.9	4.8	0.2	19.4	0.6	25.7	0.8	32.5	0.7	4.6	0.5	4.8	-2.1	1.0	-1.0	0.4	-0.4	974	0.9
1982	618	0.9	285	1.4	29.5	-2.4	5.0	0.8	22.5	2.4	27.4	1.0	33.0	0.2	5.1	1.7	3.3	-4.7	0.7	-4.1	0.4	-0.8	1031	0.9
1983	649	0.6	289	0.1	18.4	-3.9	5.3	0.5	21.3	-0.5	29.1	0.6	41.5	2.7	6.4	2.6	-1.9	-16.3	0.8	0.4	0.4	0.3	1060	0.3
1984	693	0.8	317	1.2	27.2	5.9	5.5	0.3	21.5	0.1	31.4	1.0	47.0	1.6	6.7	0.4	0.5	-15.8	0.9	2.4	0.4	0.7	1151	1.1
1985	732	0.6	337	0.7	33.5	2.6	6.1	1.3	23.2	0.9	28.5	-1.0	46.5	-0.1	12.3	9.4	3.2	58.1	0.9	0.4	0.4	1.2	1223	0.7
1986	784	1.4	366	1.7	29.8	-2.2	6.2	0.3	28.0	4.0	33.5	3.4	46.5	0.0	6.0	-10.1	4.2	5.6	1.0	1.0	0.4	0.5	1306	1.3
1987	862	1.6	421	2.5	45.8	8.9	6.2	0.0	29.1	0.6	36.8	1.6	44.9	-0.6	5.2	-2.2	12.3	32.4	1.8	14.1	0.4	-0.4	1466	2.0
1988	966	1.4	510	2.5	49.2	0.9	6.2	0.0	30.8	0.7	38.2	0.5	50.3	1.4	7.3	4.9	9.7	-2.5	2.1	2.0	0.5	1.1	1670	1.7
1989	1072	1.0	622	2.0	54.2	0.9	6.7	0.8	27.0	-1.1	38.6	0.1	57.5	1.3	6.7	-0.8	12.7	2.8	2.6	2.1	0.5	0.8	1900	1.3
1990	1227	1.4	661	0.7	56.8	0.5	7.1	0.5	29.9	1.0	40.3	0.4	55.4	-0.4	16.3	14.0	16.0	2.5	4.0	5.4	3.4	56.5	2117	1.1
1991	1338	1.0	764	1.8	72.6	3.2	6.8	-0.5	36.5	2.6	40.8	0.1	61.9	1.4	11.9	-3.2	16.5	0.4	2.8	-3.5	0.8	-8.9	2352	1.3
1992	1350	0.2	752	-0.3	33.9	-9.5	6.9	0.2	48.9	6.0	41.5	0.3	64.6	0.8	16.4	6.8	19.4	3.1	2.0	-5.1	0.7	-1.5	2336	-0.1
1993	1366	0.2	769	0.4	23.3	-5.5	6.9	0.1	54.1	1.9	39.3	-0.9	76.0	3.1	11.8	-5.0	19.2	-0.1	1.9	-1.1	0.7	-0.7	2367	0.2
1994	1399	1.4	780	0.8	30.4	17.5	5.4	-12.7	51.6	-2.7	39.0	-0.5	76.0	0.0	28.1	78.9	23.9	13.7	3.8	59.0	0.7	-3.9	2438	1.7
1995	1436	1.0	766	-0.7	23.9	-7.9	6.9	10.3	50.4	-0.8	38.4	-0.6	82.4	3.1	16.4	-15.3	13.9	-15.4	3.5	-3.4	0.7	5.2	2439	0.0
1996	1523	11.5	779	3.3	37.1	107.4	8.1	34.9	47.9	-9.7	37.8	-2.8	92.1	22.9	17.5	13.0	13.9	1.0	2.8	-35.7	0.7	-14.7	2559	9.6
1997	1525	0.2	789	0.6	44.5	10.0	8.8	4.2	45.2	-2.8	38.3	0.7	84.8	-4.0	22.2	13.3	8.1	-21.1	3.0	3.0	0.6	-3.3	2570	0.2
1998	1513	-0.2	843	2.4	51.5	5.5	8.9	0.5	48.1	2.3	38.9	0.5	80.5	-1.8	19.6	-4.0	15.6	32.6	3.5	5.4	0.5	-5.6	2623	0.7
1999	1538	0.7	898	3.2	50.6	-0.8	9.0	0.8	42.5	-5.7	38.5	-0.5	59.2	-13.1	28.7	22.8	11.0	-14.4	3.8	5.5	0.6	3	2680	1.1
2000	1626	1.2	957	1.4	66.4	6.5	10.1	2.5	55.7	6.4	39.0	0.3	59.3	0.0	22.8	-4.3	8.6	-4.6	4.8	5.0	0.7	4.5	2850	1.3
2001	1761	2.3	1009	1.5	77.1	4.4	10.6	1.4	58.8	1.5	37.8	-0.8	77.1	8.2	17.5	-6.3	5.1	-11.2	5.3	2.8	0.7	0.2	3060	2.0
2002	1740	-1.1	1041	1.1	60.3	-7.6	9.5	-3.9	60.1	0.8	39.1	1.2	91.8	6.7	16.6	-1.8	13.3	56.6	4.9	-2.3	0.6	-4.9	3077	0.2
2003	1877	2.1	1048	0.2	28.8	-13.8	10.3	2.2	70.2	4.5	41.2	1.4	84.3	-2.1	20.7	6.5	4.7	-17.0	5.6	3.5	0.7	2.5	3191	1.0
2004	2000	1.2	1176	2.3	65.3	24.1	10.9	1.2	77.0	1.8	41.3	0.0	85.5	0.3	19.7	-0.9	17.9	53.5	7.9	7.9	0.7	0.4	3502	1.9
2005	2245	1.6	1381	2.3	85.6	4.0	11.9	1.2	83.1	1.0	43.7	0.8	85.2	0.0	50.8	20.5	36.6	13.6	12.3	7.3	0.8	2	4037	2.0

Source: Elasticities calculated from Hawaii Department of Taxation data

Table 7b: Short-Run Elasticities by Type of Tax Dedicated to the General Fund (Actual Collections) ($ in Millions)

Year	GE	Elcty	Iinc	Elcty	Cinc	Elcty	TAT	Elcty	Ins	Elcty	Liq	Elcty	Tob	Elcty	PSC	Elcty	Inh	Elcty	Fin	Elcty	Con	Elcty	Misc	Elcty	Total	Elcty
1972	186		120		11.8				8.3		9.4		6.5		15.7		3.6		3.1		0.6		0.8		366	
1973	211	1.1	135	1.0	12.9	0.8			9.2	0.9	10.2	0.7	7.1	0.8	18.4	1.4	2.1	-3.5	3.7	1.8	0.9	3.5	0.2	-5.9	410	1.0
1974	244	1.4	152	1.1	18.2	3.6			9.5	0.4	11.4	1.0	8.3	1.4	21.2	1.3	2.7	2.3	3.6	-0.3	1.0	1.7	0.3	0.8	472	1.3
1975	287	1.3	169	0.8	31.5	5.3			9.9	0.3	12.8	0.9	8.7	0.4	24.7	1.2	3.5	2.2	3.3	-0.6	0.7	-2.3	0.3	0.6	551	1.2
1976	310	1.0	185	1.2	32.9	0.5			16.1	7.8	15.0	2.2	9.6	1.2	28.6	2.0	3.3	-0.8	2.5	-3.1	0.8	2.1	0.3	0.9	603	1.2
1977	341	1.2	203	1.2	22.7	-3.7			13.3	-2.1	16.2	1.0	10.3	0.9	31.2	1.1	4.1	3.1	4.9	11.4	0.9	0.9	0.3	0.8	648	0.9
1978	367	0.8	227	1.2	23.8	0.5			15.7	1.9	18.0	1.2	11.0	0.7	33.4	0.7	4.0	-0.2	5.2	0.6	1.3	4.9	0.3	1.0	707	1.0
1979	431	1.4	265	1.3	32.3	2.8			18.5	1.4	20.4	1.1	11.9	0.6	33.9	0.1	4.1	0.2	7.6	3.8	1.9	3.4	0.4	0.5	826	1.3
1980	498	1.1	311	1.2	42.4	2.2			22.2	1.4	13.0	-2.6	12.8	0.5	32.5	-0.3	4.3	0.3	7.8	0.2	2.3	1.5	0.4	0.6	947	1.0
1981	549	0.8	334	0.6	47.0	0.9			24.0	0.6	7.0	-3.9	13.8	0.7	50.2	4.5	4.6	0.5	5.8	-2.2	2.0	-1.0	0.4	-0.4	1038	0.8
1982	560	0.3	283	-2.3	39.3	-2.4			27.8	2.4	7.7	1.6	14.0	0.2	57.0	2.0	5.1	1.7	3.9	-4.9	1.5	-4.1	0.4	-0.8	1000	-0.6
1983	586	0.5	347	2.4	24.5	-3.9			26.4	-0.5	9.3	2.2	17.6	2.7	66.4	1.7	6.4	2.6	-2.4	-16.9	1.5	0.4	0.4	0.3	1083	0.9
1984	624	0.8	402	2.0	36.4	6.0			26.6	0.1	-0.2	-12.6	20.0	1.6	59.6	-1.3	6.7	0.4	0.6	-15.1	1.8	2.4	0.4	0.7	1178	1.1
1985	670	0.8	429	0.7	44.8	2.6			28.7	0.9	20.6	*	19.7	-0.1	62.3	0.5	12.3	9.4	3.9	67.6	1.9	0.4	0.4	1.2	1293	1.1
1986	733	1.8	467	1.7	39.6	-2.3			34.6	4.0	29.9	8.8	19.7	0.0	70.3	2.5	6.0	-10.1	4.9	5.3	2.0	1.0	0.4	0.5	1407	1.7
1987	805	1.6	543	2.7	61.5	9.1	67.7		36.0	0.6	34.6	2.6	19.1	-0.6	61.8	-2.0	5.2	-2.2	15.3	34.6	3.6	14.1	0.4	-0.4	1654	2.9
1988	906	1.5	626	1.8	66.0	0.9	67.3	-0.1	38.0	0.7	38.2	1.3	21.3	1.4	63.6	0.3	7.3	4.9	12.0	-2.5	4.2	2.0	0.5	1.1	1850	1.4
1989	1011	1.1	767	2.1	72.3	0.9	76.0	1.2	33.4	-1.1	38.6	0.1	24.4	1.3	64.9	0.2	6.7	-0.8	15.8	2.8	5.2	2.1	0.5	0.8	2116	1.3
1990	1066	0.5	695	-0.9	74.9	0.3	82.4	0.8	36.9	1.0	40.3	0.4	23.5	-0.4	69.6	0.7	16.3	13.9	19.9	2.5	8.1	5.5	3.4	56.1	2136	0.1
1991	1165	1.1	872	3.0	95.9	3.3	16.4	-9.3	45.1	2.6	40.8	0.1	26.3	1.4	74.9	0.9	11.9	-3.1	20.4	0.3	5.7	-3.4	0.8	-8.9	2375	1.3
1992	1200	0.5	907	0.7	43.8	-9.7	4.2	-13.2	60.4	6.0	41.5	0.3	27.4	0.7	82.3	1.8	16.4	6.7	24.0	3.1	4.0	-5.3	0.7	-2.2	2411	0.3
1993	1298	1.4	923	0.3	29.3	-5.8	4.2	0.0	66.9	1.9	39.3	-0.9	32.2	3.1	86.2	0.8	11.8	-4.9	23.8	-0.1	3.8	-0.9	0.7	0.0	2519	0.8
1994	1327	1.3	962	2.4	39.0	18.8	3.9	-4.1	63.7	-2.7	39.0	-0.4	32.7	0.9	92.3	4.0	28.1	78.4	29.4	13.4	3.8	0.0	0.7	0.0	2622	2.3
1995	1358	0.9	925	-1.4	30.2	-8.3	4.1	1.9	62.3	-0.8	38.4	-0.6	35.4	3.0	100.5	3.3	16.4	-15.3	17.0	-15.5	3.5	-2.9	0.7	0.0	2592	-0.4
1996	1427	9.8	1000	15.5	48.4	116.6	4.8	33.0	59.2	-9.6	37.8	-3.0	39.6	23.0	104.1	6.9	17.5	13.0	17.1	1.1	2.8	-38.7	0.7	0.0	2758	12.4
1997	1452	0.9	976	-1.2	57.8	9.8	5.2	4.2	55.8	-2.9	38.3	0.7	36.4	-4.1	114.4	5.0	22.2	13.5	9.7	-21.7	3.0	3.6	0.6	-7.2	2772	0.2
1998	1420	-0.8	1083	3.9	46.2	-7.1	5.3	0.7	59.4	2.3	38.9	0.6	36.1	-0.3	120.3	1.8	19.6	-4.1	15.5	21.0	3.5	5.9	0.5	-5.9	2849	1.0
1999	1442	0.8	1069	-0.7	42.6	-3.8	2.5	-26.1	52.5	-5.7	38.5	-0.5	42.3	8.5	121.1	0.3	28.7	22.9	9.8	-18.1	4.8	18.3	0.6	9.9	2854	0.1
2000	1536	1.4	1064	-0.1	68.2	12.5	0.1	-20.0	68.7	6.4	39.0	0.3	42.3	0.0	119.5	-0.3	22.8	-4.3	4.6	-11.0	6.0	5.2	0.8	6.9	2973	0.9
2001	1640	1.8	1105	1.0	60.8	-3.0	30.6	8302	72.1	1.3	37.8	-0.8	55.1	8.2	134.6	3.4	17.5	-6.3	-2.8	-43.8	6.6	2.7	0.7	-3.4	3158	1.7
2002	1612	-0.6	1071	-1.1	45.5	-8.8	27.3	-3.8	67.9	-2.0	39.1	1.2	64.5	6.0	93.4	-10.7	16.6	-1.8	5.2	-100.1	4.9	-9.0	0.6	-5.0	3049	-1.2
2003	1793	3.0	1038	-0.8	8.3	-21.6	1.5	-25.0	73.2	2.1	41.2	1.4	71.3	2.8	114.1	5.9	15.5	-1.8	20.3	76.7	5.6	3.8	0.7	4.4	3182	1.2
2004	1900	1.1	1169	2.4	56.7	111.1	5.6	52.1	78.1	1.3	41.3	0.0	78.4	1.9	99.5	-2.4	9.8	-7.0	-0.5	-19.5	7.9	7.8	0.7	0.0	3447	1.6
2005	2137	1.6	1381	2.4	85.6	6.6	12.4	15.8	83.1	0.8	43.7	0.8	84.1	0.9	108.7	1.2	12.7	3.8	36.5	-961.2	12.3	7.2	0.8	1.9	3998	2.1

Source: Elasticities calculated from Hawaii Department of Taxation data, * greater than 1000

V. Conclusions

Hawaii's tax structure produces revenues for the general operations of government (General Fund revenues) that have tended to grow at a rate slightly faster than personal income. If the structure of Hawaii's economy remains what it is today, or if changes stay within the norm of those experienced in the recent past, then the current structure of its taxes should continue to produce General Fund revenues that tend to grow at least as fast as personal income. The actions taken by the Legislature have, on average, tended to reduce the growth in General Fund tax revenues. It has changed taxes (for example, by changing statutory tax rates, by changing the definition of the tax bases, or by enacting tax credits) and the proportions of the taxes dedicated to the General Fund to accomplish this purpose.

These conclusions are for long-run average tendencies. In a single year, General Fund tax revenues can, and have, grown much more rapidly or more slowly relative to personal income. From 1972 to 2005 the tax revenues grew more rapidly than personal income about 58 percent of the time. The growth in the tax revenues was negative in only three years during this period.

Appendix
Calculating the Constant-Law Tax Collections for the General Fund

This appendix describes the adjustments that were made to actual tax collections to account for major legislative changes to the State's taxes from 1972 to 2005. Collections for each tax were adjusted to the tax law in effect for fiscal year 2005. In addition to changes in the tax law, the actual tax collections were adjusted to account for the fact that tax collections may not match tax liabilities for the year, because the collection date may fall in a different year. When calculating the aggregate General Fund revenues, it was also necessary to adjust for changes in the proportion of the tax that is dedicated to the General Fund. The changes in proportions dedicated to the General Fund are reported in Table 3. In most cases, the tax collections were adjusted using calculations performed for the Department of Taxation's revenue forecasting exercise.

Individual Income Tax

Individual Income Tax rates were reduced by Hawaii's tax reform in 1986. Beginning in 1987, the top rate was reduced from 11 percent to 10 percent, the tax brackets were expanded and the standard deduction was increased. Beginning in 1998, the Individual Income Tax was reduced over a four-year period, during which time the top rate fell from 10 percent to 8.25 percent and the tax brackets were again expanded.

To adjust for changes in credits that may be claimed against Individual Income Tax and for tax rebates, all such credits and rebates were added back to the series of actual income tax collections. The constant-law series was then calculated by assuming that, absent any legislative changes, tax credits would have been the same proportion of the Individual Income Tax in each year as they were in fiscal year 2005.

General Excise and Use Taxes and the Public Service Company Tax

Collection from the General Excise and Use Taxes for various years were adjusted to account for the fact that frequently tax liabilities incurred in one fiscal year were actually collected and reported in another fiscal year. Also, $20 million was added to collections in fiscal year 2002 to account for the increase in filing thresholds that were established by Act 8 in 2001.

Act 9, also enacted in 2001, moved gross income from transportation services out from under the Public Service Company Tax and placed it under the General Excise Tax. To account for the move, we calculate the constant-law collections for both taxes combined. In addition to shifting the tax collections from one tax to the other, the move reduced collections from both taxes combined by about $4.5 million in fiscal year 2002. Thus, $4.5 million was added to the amount collected from both taxes that year.

Estate and Transfer Tax

As a result of Hawaii's conformance with the federal Tax Relief Act of 2001, it is estimated that collections of the State's Estate and Transfer Tax were reduced by 25 percent in fiscal year 2003, by 50 percent in fiscal year 2004 and by 75 percent in fiscal year 2005. The State's tax was eliminated for decedents dying after December 31, 2004.

Tax on Liquor

Four large liquor distributors challenged the liquor tax law in 1980. The distributors paid the tax, but the amount was placed in an escrow account pending the resolution of their case. When they lost the case, the monies were paid into the General Fund.

Taxes on Cigarettes and Tobacco

The rate of tax per cigarette was established at 3 cents in 1993. Prior to that (since 1939) the tobacco tax had been at 40 percent of the wholesale price. It was raised from 3 cents to 4 cents in 1997, from 4 cents to 5 cents in 1998, from 5 cents to 6 cents in 2002, from 6 cents to 6.5 cents in 2003 and from 6.5 cents to 7 cents in 2004.

Tax on Banks and other Financial Corporations

Banks and other financial corporations litigated against claims for tax liabilities of $16.5 million. The litigation resulted in taxes being reported in 2003 that properly belonged to 2004. In addition to this adjustment, collections were adjusted by adding back tax credits claimed by these corporations in each year prior to 2005. The constant-law collections for the earlier years were then imputed by assuming that, absent legislative changes, the credits would have been the same proportion of the tax as they were in fiscal year 2005.

Transient Accommodations Tax

The Transient Accommodations Tax was imposed in 1987 at 5 percent of gross rental income. The rate was increased to 6 percent in 1994 and to 7.25 percent in 1999. In that same year, the tax was also expanded to apply to time-share units. Since 1990 the bulk of the tax has been allocated to the counties and to special funds, with only a small share of the total collections going into the General Fund.

Tax on Insurance Premiums and the Corporation Income Tax

The collections of the Tax on Insurance Premiums and the Corporation Income Tax were adjusted to account for changes in tax credits by first adding back tax credits claimed in each year prior to 2005 and then adjusting the collections by assuming that, absent legislative changes, the credits would have been the same in proportion to the taxes as they were in fiscal year 2005.

Conveyance Tax

The conveyance tax rate was changed from 5 cents per hundred dollars of value to 10 cents per hundred dollars of value in 1993. The rate was again increased for conveyances recorded after July 1, 2005, but this change was not effective for fiscal year 2005, which is the base for creating the constant-law collections.

APPENDIX B

MEASURING THE COSTS AND BENEFITS
OF HAWAII'S
QUALIFIED HIGH TECHNOLOGY BUSINESS (QHTB)
INVESTMENT TAX CREDIT

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Final Report
Prepared for the Hawaii State Tax Review Commission
October 20, 2006 FINAL

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Measuring the Costs and Benefits of Hawaii's Qualified High Technology Business (QHTB) Investment Tax Credit

Introduction

In recent years, the State of Hawaii has enacted legislation to encourage the growth of high-technology business in Hawaii. Act 221 (of 2001)[1] provides eligible taxpayers a nonrefundable tax credit of up to $2,000,000[2]. Act 221applies to those taxpayers subject to Hawaii's income, franchise, and/or gross premiums tax who invest in a qualified high technology business (QHTB). [3] Act 215 (of 2004) amended HRS Chapter 235, Section 110.9 and extended the investment tax credit program until 2010.[4]

The purpose of this report is to measure the costs and benefits of Hawaii's qualified high technology business (QHTB) investment tax credit. For purposes of this report, please note that the terms "Act 221 credit", "QHTB tax credit", and "high technology business investment tax credit" will be used interchangeably.

Literature Review

Over the last three decades, state and local taxation has comprised an increasing body of tax research. Hoffman (2002) observes: "50 states with taxing regimes that are in many ways so similar, and yet in many ways very different, provide a ready field laboratory for testing theories about taxation in general".[5]

Fox and Luna (2002) investigated a number of factors that may have influenced the decline in state corporate income tax revenues relative to gross state product since the mid-1980s.[6] Some of these factors include 1) cyclical declines in profits; 2) changes in the federal corporate tax base; 3) state policy actions and 4) corporate tax planning strategies.[7]

State policy actions include: 1) discretionary concessions designed to recruit firms – typically large manufacturers—to the state and 2) incentives built into the tax code.[8] Tax incentives include investment tax credits, property tax credits, and/or employment tax credits.[9]

The debate over the extent to which tax incentives influence a firm's decision to locate in a given state can be summarized as follows: "Legislators often argue there is no lost revenue from these incentives because the states are giving away revenue they would not have otherwise had. Others argue that the businesses are doing what they would have done anyway, and that tax incentives have done nothing to attract new businesses but have contributed to a significant decline in state tax revenues." [10] In another study, Wasylenko (1997) found that taxes had an effect –albeit a small one-- upon a firm's decision to locate in a given state. [11]

In "The Disappearing State Corporate Income Tax", Cornia, Edminston, Sjoquist, and Wallace (2005) examined alternative explanations for the decline in state corporate income taxes relative to the state economy.[12] The authors surveyed state tax administrators, examined individual tax returns from Georgia and Utah, and examined tax panel data.[13] The authors found that corporate tax planning and economic factors account for much of the relative decline, and that state tax policy changes are important factors.[14] However, federal tax changes had only a modest effect on state corporate income taxes during this period.[15]

In 2003, the Multistate Tax Commission (MTC) published a study, "Corporate Tax Sheltering and the Impact on State Corporate Income Tax Revenue Collections".[16] This study contended that, in 2001, corporations sheltered between $8 billion and $12 billion in state corporate income taxes.[17]

However, the Council of State Taxation criticized the MTC study in an article entitled "Abusive Tax Shelters Should Be Curtailed, but the Multistate Tax Commission's Exaggerated Numbers Aren't Helpful to the Debate".[18] The Council on State Taxation accused the MTC study of "1) misapplying the [prior] research findings used to estimate the amount of discretionary state legislative reductions in corporate income taxes; and 2) attributing all of the unexplained reduction in corporate income tax collections to 'tax sheltering'".[19]

The Council on State Taxation article also noted that, in 2002, businesses paid $391 billion in total state and local business taxes.[20] Of this amount, corporate income taxes represented only 9%. [21] To focus solely upon state corporate income taxes is, in the Council's view, "to miss the forest for the trees". [22]

In "Managing Annual Accounting Reports to Avoid State Taxes: An Analysis of Property-Casualty Insurers", Petroni and Shakleford (1999) examined the influence of state tax rates --such as premium taxes and income taxes—on the accounting allocation of income by multistate property/casualty insurers. [23] By examining the premium-loss ratios that multistate insurers report to state tax authorities, the authors' findings suggest that these insurers shift premiums to states with lower premium (income) taxes and/or shift losses to states with higher income taxes. [24]

"Business Climate" Studies[25]

A number of studies rank the ability of a state to encourage economic development in today's economy. The Development Report Card (2006) graded all states according to three indexes: performance, business vitality, and development capacity.[26] The State of Hawaii received the grades of "C", "F" and "F", respectively.

In 2002, the Milken Institute State Technology and Science Index ranked Hawaii 42nd in the nation for its "ecosystem of economic development and sustainability".[27] In both 2004 and 2005, the Milken Institute's Cost of Doing Business Index ranked Hawaii as the most expensive state in the nation in which to do business.[28] Hawaii's business costs exceeded the national average by 43 percent.[29]

In a study on business climate by Forbes magazine, Hawaii ranked 42nd in the nation.[30] Its rankings in six individual categories are:

1) business costs……..…….50th;
2) labor…….....11th;
3) regulatory environment……38th;
4) economic climate……5th;
5) growth prospects……..37th;
6) quality of life……44th.

However, it should be noted that Hawaii has improved its ranking when compared with prior Forbes magazine studies.[31]

Tax Incentive Programs Designed to Attract Venture Capital

Many states have enacted tax incentive programs. The goals of these programs typically include creating jobs, nurturing certain industries, and diversifying the economy.

Reviews of tax incentives for business development note the adverse consequences that can result from the use of tax incentives.[32] They include: 1) erosion of the tax base resulting from qualifying investments that would otherwise have been undertaken and from abuse of provisions in the relevant laws and regulations; 2) distortion of

resource allocation by encouraging some activities over others as a result of their special tax advantages (which also works against the efficiency principles of having a broad tax base and having low tax rates); and 3) encouragement of corruption and rent-seeking activity. Increased administrative resources are also needed to administer tax incentives.

There is consensus that government intervention in the market is justifiable in the presence of market failure. An investment that generates a positive externality for the economy may be underprovided by the market. A tax incentive would work to encourage more investment. But, there is an offsetting efficiency loss whenever government intervenes in the market this way. For there to be a welfare gain, the benefits from rectifying the suboptimal provision of investments would have to offset the distortions created by the tax incentives themselves. Thus, while poorly operating capital markets have been identified as a market failure,[33] it has also been argued that a first best solution would be to implement the macroeconomic policies or structural reforms to remove impediments to investment.[34]

Empirical results of the literature studying the effect of tax variables on business investment are mixed, leading to the conclusion that these studies provide no clear policy guidance. Instead, Zee, Stotsky and Ley[35] and Buss[36] argue that tax incentives are unlikely to be abandoned by jurisdictions as policy tools and that ground rules should be adopted to minimize the economic distortions of the incentives.

These ground rules presume that tax incentives be treated as tax expenditures and bear the burden of proof. They are primarily based on the principles of cost-effectiveness and transparency. They include: 1) conducting cost-benefit studies prior to beginning new tax incentive programs or making awards to firms in targeted sectors, taking into account not just fiscal, but social costs and the cost of public opportunities foregone; 2) conducting periodic evaluations of all tax incentive programs; 3) requiring sunset provisions; 4) requiring transparency in all aspects--legal basis, economic consequences, and administrative procedures; and 5) utilizing simple, objective qualifying criteria to minimize discretionary application and to ease enforcement and monitoring.[37]

In its 2001-2003 report, The Tax Review Commission to the State of Hawaii noted: "A tax incentive program is a potential 'black hole', because it is a future benefit of unknown proportions, which is determined by the favored taxpayer's interpretation of what the tax credit should be, and is claimed on a tax return which is confidential." [38]

The Corporation for Enterprises Development (CFED) has observed: "While the public sector plays only one part in economic performance, state and local governments can influence the pace of economic development. Indeed, there is much they can do to increase competitiveness – ensuring good schools, investing in physical and human capital, making sure that economic benefits are shared widely across communities.

Despite these conclusions, state and local economic development efforts today focus almost exclusively on a single tool: tax incentives to influence the site selections and investments of private companies. Certain incentives, when properly structured with sufficient transparencies and safeguards, may provide some real benefit to communities. However, often they represent zero-sum strategies that divert public dollars to private companies without creating net new jobs and without demonstrating effective return on investment. State and local governments rely on incentives because the benefits are visible while the costs are hidden; they lead to good headlines ('State lures new manufacturing plant...'); and because other, more positive-sum strategies are long-term, difficult and don't easily translate into headlines, bumper stickers or re-election slogans."[39]

Most of the existing research involving tax incentive programs designed to attract venture capital is descriptive in nature. Typically, start-up and early-stage businesses must seek out equity capital from many sources. Dr. Daniel Sandler, Professor of Law at the University of Ontario, classifies the U.S. venture capital industry as "informal" and "formal".[40] Informal sources include "love capital" and "angel capital".[41] Formal sources include "venture capital".[42]

"Love capital" consists of equity provided to a business by either the owner or by the friends and family of the owner.[43] "Angel capital" consists of equity provided to a business by "accredited investors" unrelated to the owner.[44] Angel investors often take a "hands-on" approach towards nurturing the business.[45] "Venture capital" commonly refers to equity provided by venture capital funds.[46] These funds typically invest in a number of early-stage businesses.[47]

Venture capitalists provide a significant share of the total pool of risk capital for new business formations. Florida and Smith (1993)[48] note that venture capitalists are short-to-medium term investors holding their stake in the start-up company for 5-7 years, at which point the company is brought to market, merged, or sold off to another company. Venture capitalists have a range of business organizational forms. In the U.S., private limited partnerships, with general partners and limited partners, represent the largest share of the industry, followed by subsidiaries of large financial institutions.

In an analysis of venture capital formation and regional industrialization, Florida and Smith (supra) find that venture capital is characterized by 1) high degrees of capital mobility, 2) investment flows to areas of greatest opportunity and return, and 3) development of specialized sources of venture capital supply around established financial centers and centers of the high-technology industry. They also argue that geographic proximity reduces uncertainty, that investment pooling facilitates capital flow, and that capital mobility occurs through the network structure of the venture capital industry.

Many states have tax credit programs designed to attract equity capital. In examining state income tax credit programs, Dr. Sandler recommends that states impose certain requirements upon businesses receiving such credits. They include: "a description of

the business and the industry in which it operates; the amount of capital raised through the tax credit and all other capital that the business raised (i.e. did the program leverage other investment?); and the use of capital, in terms of the number of new employees, wage rates, capital expenditures, etc.)" [49]

In 2004, the Community Development Venture Capital Alliance ("CDVCA") published a report examining tax credit programs offered in 19 states.[50] This study categorized such programs as follows:

"Direct Tax Credit: Tax credit for an institutional or individual investor for an equity investment directly into a qualified business.

Seed capital credit: Tax credit for an institutional or individual investor for an investment in into a qualified investment fund making equity investments.

Contingent tax credit: Tax credit given to investors only in the event that a state-sponsored fund of funds is unable to fulfill the financial returns contractually defined by its investors." [51]

As of May, 2004, 19 states had in place some form of direct, seed capital and/or contingent tax credit program. The following table summarizes the CDVCA's findings on state tax credit programs: [52]

State	Direct	Seed Capital	Contingent
Arkansas	X		X
Colorado		X	
Hawaii	X		
Indiana	X		
Iowa		X	X
Kansas	X		
Kentucky		X	
Maine	X		
Michigan			X
Missouri	X	X	X
New York	X		
No.Carolina	X		
No. Dakota	X	X	
Ohio	X		X
Oklahoma	X		X
So. Carolina		X	X
Utah			X
West Virginia		X	
Wisconsin	X	X	
Total Programs	12	8	8

In its report, the CDVCA noted that most of the above 19 states are located in the Midwest or Mississippi Valley. Using 2003 data compiled by the Bureau of Economic Analysis, 14 out of 19 of the states had per capita GDP below the national median. [53] All but 3 of the 19 states had difficulty attracting private venture capital. The 3 exceptions --New York, Colorado, and North Carolina-- ranked 5th, 6th, and 10th in the nation in 2003 in attracting private venture capital. In addition, 8 of the 19 states offer more than one tax credit incentive program. Missouri offers all three programs.

The PriceWaterhouseCoopers MoneyTree report summarizes venture capital investments in the United States from 1995-2005 by private institutional venture capital firms.[54] In 2005, private institutional venture capitalists invested $21.7 billion in the United States. Two states, California and Massachusetts, accounted for more than 58% of this total. Taken together, eight states --California, Massachusetts, Texas, New York, New Jersey, Washington, Colorado, and North Carolina--accounted for more than 80% of the total invested. The average venture capital fund investment –or "deal size"—in 2005 was $7.4 million.[55]

Overview of Hawaii's Qualifying High Technology (QHTB) Investment Tax Credit

Act 221 (of 2001) provides eligible taxpayers a nonrefundable tax credit of up to $2,000,000 for an investment in a qualified high technology business (QHTB).[56] Act 221 applies to those taxpayers subject to Hawaii's income, franchise, and/or gross premiums tax.

Definition of QHTB

HRS Section 235-110.9(e) provides that a QHTB means "a business, employing or owning capital or property, or maintaining an office, in this State; provided that:

More than fifty percent of its total business activities are qualified research; and provided further that the business conducts more than seventy-five percent of its qualified research in this State ("the activity test"); or

More than seventy-five per cent of its gross income is derived from qualified research; and provided further that this income is received from: (A) Products sold from, manufactured in, or produced in this state; or (B) Services performed in this State (the "gross income test")." [57]

Measuring Activities under the Activity Test

For purposes of determining QHTB status, either the "activity test" or the "gross income test" must be satisfied. Business activities are measured by the cost of these activities, the time spent on these activities, or other consistently applied reasonable basis (based upon general principles in the income tax and general excise tax law).

What Constitutes "Qualified Research"?

"Qualified research" consists of one or more of the following activities:
1) research and development (as defined in IRC Section 41(d)); 2) development and design of computer software[58]; 3) biotechnology; 4) performing arts products; 5) sensor and optic technologies; 6) ocean sciences; 7) astronomy; or 8) non fossil fuel energy-related technology.

"Development and Design of Computer Software" Under Act 221 and Act 215

For an activity to constitute "development and design of computer software", Act 221 (of 2001) required the business to "develop and design computer software using fourth generation or higher software development tools or native programming languages to design and construct unique and specific code to create applications and design databases for sale or license".

However, Act 215 (of 2004) changed this definition. The term "development and design of computer software" now means the "development and design of computer software for ultimate commercial sale, lease, license or to be otherwise marketed, for economic consideration. With respect to the software's development and design, the business shall have substantial control and retain substantial rights to the resulting intellectual property." [59]

The Term "Qualified Research" is a Term of "Art"

It should be stressed that the term "qualified research" is defined by statute. As such, it is a term of "art", which at times, can be a bit of a "misnomer". To be a QHTB, a business must be engaged in a "qualified research" activity. A business conducts "qualified research" by conducting any one of the above-listed eight activities.

A business primarily engaged in research and development activity can be a qualified high technology business; so, too, can a business devoid of research and development activity. "Performing arts" businesses, such as film production, can qualify for the QHTB tax credit. Most other states that offer technology tax credits do not classify the act of making movies as a high technology activity.

Computation of QHTB Investment Tax Credit

The Act 221 credit is allowable for each year during a five-year period. It declines from 35% to 10% from the date of investment for investments made through year 5. The credit percentages are as follows:

Year 1…….35%
Year 2…….25%
Year 3…….20%
Year 4…….10%
Year 5…….10%

Example: In 2001, a Taxpayer forms a solely owned Qualified High Technology Business (QHTB) by investing $2,000,000. The projected non-refundable Act 221 credit is as follows:

Year 2001…….$700,000
Year 2002…….$500,000
Year 2003…….$400,000
Year 2004…….$200,000
Year 2005…….$200,000

Over a five-year period, the $2,000,000 investment in the QHTB in 2001 can generate a total of $2,000,000 in nonrefundable QHTB investment tax credits.

Example: Same facts as above, except that the taxpayer forms a solely owned QHTB by investing $2.5 million. Under these facts, the maximum total Act 221 nonrefundable credits the QHTB can generate to the taxpayer from 2001-2005 remains $2,000,000.

QHTB Tax Credit Amount is Based upon Amount Invested in QHTB

The term "Qualified High Technology Business Investment Tax Credit" is a bit of a misnomer in another respect. At the federal level, the "investment tax credit" that existed under prior law was based upon the cost of certain assets placed in service by a trade or business in a given year. However, the QHTB investment tax credit in Hawaii is based upon the amount of cash invested as equity in a QHTB.

Example: In 2001, a Taxpayer forms a solely-owned Qualified High Technology Business (QHTB) by investing $2,000,000. Each year, the QHTB spends $100,000 on assets and $50,000 on operating expenses.[60] The projected non-refundable Act 221 credit for each of the next five years is as follows:

Year 2001…….$700,000
Year 2002…….$500,000
Year 2003…….$400,000
Year 2004…….$200,000
Year 2005…….$200,000

Over five years, the $2,000,000 investment in the QHTB can generate $2,000,000 in nonrefundable QHTB investment tax credits. Although the QHTB paid out $750,000 for assets and expenses over this period, the QHTB credit is based upon the entire $2,000,000 equity investment.

Credit Recapture

An investment in a QHTB can generate an Act 221 credit over a 5-year period. However, under certain situations, a portion of the credit may be recaptured. These situations include: 1) the business no longer qualifies as a qualified high technology business; 2) the business –or an interest in the business—has been sold by the taxpayer investing in the qualified high technology business; 3) the taxpayer has withdrawn the taxpayer's investment wholly or partially from the qualified high technology business.

In each of the above situations, the credit recapture shall be equal to 10% of the amount of the total tax credit claimed in the preceding two years. The recaptured tax credit shall be added to the taxpayer's tax liability for the year in which the recapture occurs.

Example: In 2001, a Taxpayer forms a solely owned Qualified High Technology Business (QHTB) by investing $2,000,000. However, on 1/1/2003, the Taxpayer sells his entire interest in the QHTB. In 2003, the Taxpayer's state income tax liability will increase by an additional $120,000.[61] The Taxpayer cannot claim an Act 221 credit on his investment for 2003, 2004, or 2005.

Example: Same facts as in above example, except that the Taxpayer sells his entire interest in the QHTB on 1/1/2005. In 2005, the Taxpayer's state income tax liability will increase by an additional $60,000.[62] The Taxpayer cannot claim an Act 221 credit on his investment for 2005.

As noted earlier, in the year in which a QHTB ceases to qualify as a QHTB, a taxpayer may be faced with credit recapture. More significantly, the taxpayer may be faced with the loss of Act 221 credits in the year in which the QHTB ceases to qualify as a QHTB and in later years.

Example: In 2001, a Taxpayer forms a solely owned Qualified High Technology Business (QHTB) by investing $2,000,000. However, on 1/1/2002, the business ceases to qualify as a QHTB. In 2002, the Taxpayer's state income tax liability will increase by an additional $70,000.[63] Of more importance, the Taxpayer cannot claim an Act 221 credit on his investment for 2002, 2003, 2004, or 2005.[64]

Definition of "Investment"

In order to qualify for the Act 221 credit, "an 'investment' must be made in the QHTB. An investment will only be respected if the taxpayer has a reasonable expectation of (1) a return of capital and (2) a reasonable return on capital at the time the investment is made".[65]

Special Allocations

According to Tax Information Release No. 2003-01, Act 221 "allows partnership investors the flexibility of allocating the high technology business investment tax credit among the partners without regard to the substantial economic effect tax rule" of I.R.C. Section 704(b)(2). [66]

Example: Assume that Hawaii Taxpayers A and B form the AB Partnership in which Taxpayer A invests $2.5 million and Taxpayer B, $500,000. The partnership is a QHTB. Under the terms of the partnership agreement, over a five-year period, $2,000,000 in total Act 221 credits will be allocated to Taxpayer A and $1,000,000 to Taxpayer B. On an investment of $500,000, Taxpayer B is eligible for $ 1,000,000 in total Act 221 credits.

Example: Taxpayers A is a Hawaii Taxpayer. Taxpayer B is a Mainland Taxpayer. In 2001, Taxpayers A and B form the AB Partnership. The AB Partnership is a QHTB. Taxpayer A invests $500,000 and Taxpayer B, $1.5 million. The Partnership agreement contains a special allocation whereby Taxpayer A is allocated 100% of the Act 221 nonrefundable credit. In exchange for this special allocation, Taxpayer B receives an 80% profits and capital interest in the partnership. Under these facts, the maximum total Act 221 nonrefundable credits the QHTB will generate from 2001-2005 is $2,000,000 to Taxpayer A (the Hawaii investor) and $ 0 to Taxpayer B (the Mainland investor).[67]

Ray Kamikawa[68] has stated: "Act 221 was specially designed to attract capital from mainland, foreign, and tax-exempt persons that do not have Hawaii tax liability. This is through the mechanism of transferring unneeded tax credits from one investor to a Hawaii taxpayer investor by allocation of credits utilizing a special purpose pass thru entity. Indeed, in most of the transactions that I and other practitioners structure, they do involve mainland or foreign investors trading tax credits to Hawaii taxpayers for additional equity or profits interest in the QHTB. This marriage of Hawaii and non-Hawaii investors makes for new sources of capital, and helps spread the word outside of Hawaii about the good news of Act 221."

In a teleconference on October 12, 2006, Kurt Kawafuchi, Director of Taxation, State of Hawaii, indicated that, in reviewing comfort ruling requests, the amount of non-Hawaii capital flowing into Hawaii as a result of Act 221 is significant. Mr. Kawafuchi referred to the inflow of non-Hawaii capital into Hawaii as in the millions, maybe tens of millions, maybe hundreds of millions if you include movie deals.[69]

Abusive Transactions

T.I.R. No. 2003-01 also contains interim guidance including a discussion of certain common law doctrines that may be raised against so-called "abusive transactions". Specifically, the "economic substance", "business purpose" and "sham transaction" doctrine may be raised (in addition to any other doctrine that may apply).[70]

Economic Substance Doctrine

This doctrine denies tax benefits in transactions that do not result in a meaningful change to the taxpayer's economic position other than a purported reduction in tax. The Department of Taxation has stated that it will be reviewing transactions to determine if they have economic substance.[71] Under this doctrine, the taxpayer must establish that "(1) the transaction changes, or reasonably be expected to change, in a meaningful way (apart from State income tax consequences) the taxpayer's economic position, and (2) the taxpayer has a substantial non-tax purpose for entering into such transaction and the transaction is a reasonable means of accomplishing such purpose."[72]

Further, the transaction "must result in 'change in a meaningful way' in the taxpayer's economic position or have a 'substantial non-tax purpose'.[73] For example, it is intended that a 'reasonable possibility of profit', when interpreted to mean a minimal amount of profit, would not be sufficient to establish that the transaction has economic substance".[74]

Business Purpose Doctrine

The business purpose doctrine examines the taxpayer's intent. A taxpayer must have a substantial non-tax purpose for entering into a transaction that bears "a reasonable relationship to the taxpayer's normal business operations or investment activities".[75]

Special Rules for Movie and Television and Entertainment Projects

Tax Information Release No. 2003-01 contains numerous rules relating to investments in movie businesses. The Department of Taxation is developing and implementing an audit program to review investments into "single movie" QHTBs to determine whether they 1) satisfy the "activity test" or "gross income" test; and 2) are a "business" with the meaning of HRS Section 235-110(e).[76]

To satisfy the "activity test" the QHTB must actively produce the movie. To satisfy the "gross income" test, the QHTB must receive income from the sale of products of the QHTB.[77] For purposes of the "gross income" test, income will not include:

"Predetermined payments structured over the five year period that are not received from the sale of the products or services of the QHTB;

Payments from amounts that were set aside for the specific purpose of being distributed to the QHTB as 'income' in years two through five of the period during which the credit is claimed, for example, escrow accounts; and

Any other insubstantial amount received by the QHTB in years two through five of the period during which the credit is claimed where the Department determines the payment is made for the purpose of qualifying for the credit or not having a credit recaptured." [78]

Tax Information Release No. 2003-01 then gives detailed examples of the "income test" and/or "activity test" in the context of movie production. In addition, one of the examples illustrates what it means to be a "business" within the meaning of HRS Section 235-110(e).[79] Basically, the QHTB has to be actively involved in the production of the movie in Hawaii and the activities must be "sufficiently substantial and regular". This means that a business involved in a "one shot" movie deal –by making a film in Hawaii and then leaving Hawaii after the filming is completed-- is not a QHTB.

Act 215 (of 2004)

Act 215 (of 2004) extended the Act 221 credit for an additional five-year period (through year 2010). Act 215 (of 2004) became incorporated into the Hawaii Revised Statutes in Chapter 235, Section 110.9.

Selected provisions of Act 215 include: 1) allowing the Department of Taxation to assess and collect a fee for any comfort letter it issues; 2) changing the definition of "qualified research" with respect to the development and design of computer software; 3) requiring businesses to provide the Department of Taxation with certain information; 4) requiring the Department of Taxation to maintain certain taxpayer records, and to verify, total and certify certain taxpayer information; and 5) removing the "liberal construction" language found in prior legislation. Act 215 also codified certain common law doctrines, including economic substance and business purpose, as they relate to the investment, along with a presumption involving special allocations of the high technology business credit.

Fees for Comfort Rulings

Act 215 has established a new "Tax Administration Special Fund" and has authorized the Department of Taxation to charge fees for issuing high tech comfort rulings (comfort rulings); certifying credit amounts for the high technology business investment tax credit (investment credit) and the tax credit for research activities (research credit). The fees involved can be found in Department of Taxation Announcement No. 2005-19.

"Development and Design of Computer Software" Under Act 215

The 2004 legislation changed the definition of qualified research with respect to the development and design of computer software. The new definition is contained in the section of this report entitled " 'Development and Design of Computer Software' Under Act 221 and Act 215".

Information Reporting Requirements – Prior to Act 215

In the State of Hawaii, the confidentiality requirements of Act 221 –and of other Acts--restrict access to certain individual taxpayer information. Specifically, identifying information relating to the names of individual firms and investors claiming the credit, the amount invested, the number and types of jobs created, and the amount of credit claimed are not available to the general public.

In conjunction with the publication of Tax Information Release No. 2003-1, the Department of Taxation revised existing tax forms and developed new tax forms for the QHTB tax credit for tax year 2002. [80] The Department of Taxation revised Form N-318,[81] and developed Form N-317 [82] and Form N-318A[83]. In addition, the

Department of Taxation announced the implementation of an audit program involving the QHTB tax credit.

Information Reporting Requirements Under Act 215

In extending the QHTB tax credit for an additional five years, Act 215 requires investors claiming the credit to disclose more information to the Department of Taxation. Each taxpayer shall submit a written, certified statement to the Director of Taxation identifying 1) qualifying investments and 2) the amount of QHTB tax credits claimed. This information, contained on Form N-318A, is generally not available to the public.

Example: In Year 1, Taxpayer invests $500,000 in a QHTB. For Year 1, she is eligible to claim a nonrefundable tax credit of $175,000 (35% x $500,000). Before March 31, Year 2, she is required submit a written certified statement to the Director of Taxation.

Department of Taxation QHTB Investment Tax Credit Information Maintenance Requirements

Under Act 215, the Department of Taxation shall: "1) maintain records of the names and addresses of the taxpayers claiming the credits under this section and the total amount of the qualified investment costs upon which the tax credit is based; 2) verify the nature and amounts of the qualifying investments; 3) total all qualifying and cumulative investments that the Department certifies; and 4) certify the amount of the tax credit for each taxable year and the cumulative amount of the tax credit."[84]

Presumption Relating to Doctrines of Economic Substance and Business Purpose

Act 215 codifies the economic substance and business purpose doctrines as they relate to investments in a QHTB. A presumption exists that these doctrines are satisfied to the extent that the special allocation of the QHTB tax credit has an investment tax credit ratio of 1.5 or less of credit for every dollar invested. Where this ratio is greater than 1.5, but no more than 2.0, such transactions may be reviewed by the Department of Taxation for purposes of applying these doctrines. Where this ratio is greater than 2.0, the affected business must substantiate economic merit and business purpose.

While the Department of Taxation reviews information for purposes of issuing comfort rulings, the Department of Taxation has indicated that it does not know how many QHTBs exist "in the universe of QHTBs".[85] The reason is that a business does not have to obtain a comfort ruling in order to be a QHTB. While the credit multiple for QHTBs that do not seek a comfort ruling can be determined upon audit, for certain years, the audit rate is less than 2%, and for some years, less than 1%. (See "Audit Rate" section of this Final Report).

Removal of "Liberal Construction" Language

Act 215 removed the so-called "liberal construction" language contained in Act 221. According to Ted Liu, Director of the Hawaii State Department of Business, Economic Development and Tourism, "Liberal construction has not achieved its purpose, rather it's done the opposite by overloading the Department of Taxation in reviewing proposals they shouldn't be".[86] Rather than being liberally construed, the provisions of Act 215 are to be construed in a manner consistent with its intent.

Measuring the Costs and Benefits of Hawaii's QHTB Investment Tax Credit[87]

At the outset, it should be noted that analyzing the tax policy implications of a given tax incentive is a process about which reasonable minds can differ. In the area of state tax policy, much remains unknown or unknowable. In part, this is due to a lack of access to usable taxpayer data.

In analyzing the effect of Act 221 upon high technology investment in Hawaii, the logical place to start would be an analysis of individual Qualified High Technology Business (QHTB) investments and corresponding expenditures, jobs and other metrics of performance.

For purposes of our analysis, the Hawaii Department of Taxation has given us access to certain data consistent with maintaining the confidentiality of individual taxpayer's information. In some cases, the Department of Taxation has aggregated certain taxpayer data. In others, the Department of Taxation has declined our requests in order to preserve the confidentiality of taxpayer information.

The Department of Taxation would not provide the authors with any individual firm data (including individual firm data redacted to protect taxpayer confidentiality). In at least one case, the Department of Taxation was not able to provide the authors with certain aggregate information.[88]

In the absence of firm-level data, the authors' study examined a range of indicators that could yield useful information about the performance of the high technology tax credit program. At the macroeconomic level, measures that compare Hawaii's performance with that of the U.S. as a whole could be useful. These include the relative performance of such measures as the amount of private institutional venture capital raised and the net number of high technology jobs created. Thus, this Final Report presents information derived from publicly available data sources and data made available to the authors by the Department of Taxation.

Comparison of Act 221 to Credits Offered by Other States

Hawaii's QHTB investment tax credit is, by far, more generous than the technology tax credits offered by other states. Simply put, no other state offers an investor a 100% credit based upon up to $2,000,000 contributed as an investment to a qualified high technology business.[89]

In fact, Hawaii's QHTB Investment Tax Credit shares more features in common with so-called "angel", "seed capital", and "venture capital" tax incentives programs than with the technology tax credit programs by those states offering technology tax credit programs.

In analyzing such tax credit incentives for private direct investment, the National Association of Seed and Venture Funds (NASVF) noted:

"The Wisconsin Angel Investment Tax Credit Program has a particularly good method for attracting, vetting, and selecting applicants. A typical credit is 20% of the amount invested."[90]

In analyzing Hawaii's tax credit incentives for private direct investment, the National Association of Seed and Venture Funds (NASVF) stated:

"Hawaii has the most generous credit—100% of the amount invested over five years. This program has drawn criticism from some in the state as being so overly generous as to 'tilt' the playing field". [91]

With respect to the private institutional venture capital industry, we have access to publicly available data.[92] In our first table, we compared Hawaii's share of private institutional venture capital firms' total U.S. investment for the period 1994-2005. Hawaii ranked 38th.[93] Hawaii companies received less than 1/10th of 1% of the total.[94]

The Act 221 credit became law in 2001. From 2001-2005, private institutional venture capital firms invested the following amounts in Hawaii:

2001…….$ 37.8 Million
2002…….$ 2.9 Million
2003…….$ 16.6 Million
2004…….$ 25.6 Million
2005…….$ 15.3 Million

For the period 2001-2005, Hawaii also ranked 38th. However, on a percentage basis, Hawaii's relative share of the total actually decreased during this period. [95]

As mentioned earlier, in 2004, 19 states offered some form of tax credit incentive program. [96] Using data from 2001-2005, we computed both the amount of venture capital raised in each of these 19 states and each state's venture capital ranking. The

top 7 states received more than 90% of the total venture capital funding received by these 19 states from 2001-2005. Hawaii ranked 13th out of 19 states. On a percentage basis, Hawaii's relative share of the total was approximately 6/10th of 1%.

In light of the above, on a *relative* basis, for the period 2001-2005, Act 221 and 215 have not led to increased institutional private venture capital investment in Hawaii.

In an article in the Honolulu Advertiser, Barry Weinman, Managing Director and Co-Founder of Allegis Capital,[97] made this observation:

"Act 221…discourages the formation of a large pool of capital here. Why? Because most of the venture capital money in the United States –about 50 percent-- comes from pension funds." [98] Pension funds, endowments, and trusts are willing "to support the better companies, not on their tax deals but on the quality of their companies." [99]

Proponents of the Act 221 tax credits argue that capital formation is encouraged by increasing the pool of investment funds from smaller, more risk-averse investors, who can participate in the non-institutional private venture capital market by becoming equity owners in such funds, albeit with small shares.[100]

In response to the authors' presentation before the Tax Review Commission on October 6, 2006, several members of the high technology industry have publicly criticized the authors' use of publicly available private institutional venture capital data. In addition, several members of the industry have requested that the authors of this Final Report primarily focus upon taxpayer data.

Publicly available data indicate that $2.9 million of private institutional venture capital investment took place in Hawaii in 2002. Department of Taxation data reported that $81.8 million of Act 221/215 investments took place in 2002. Members of the high technology industry draw the inference that the authors' findings with respect to Hawaii's share of private institutional venture capital must somehow be "flawed" because these findings are inconsistent with the Department of Taxation data.

The authors of this Final Report respectfully disagree with such members of Hawaii's high technology industry. It should be noted that the $2.9 million represents *private institutional venture capital*. While this figure represents about half of the venture capital raised in the United States –from pension funds, endowments and the like— it does not include so-called "*seed capital*" or "*angel investment*".

At some point in time, a growing and vibrant technology sector should attract growing and significant amounts of *private institutional venture capita*l. At this time, Hawaii is not there.

Tracking Current Program Costs (and Projecting Future Costs)

The following table tracks the total Act221/Act 215 credits claimed (used to offset taxes): [101]

Tax Year	Credits Claimed-- All Taxes (in millions)
2000	$ .4 [102]
2001	$ 9.6
2002	$ 26.2
2003	$ 38.9
2004	Not Yet Available
2005	Not Yet Available
Total[103]	$ 75.0

Credits Claimed, Future Claimable Credits, and Credit Carryovers

The Act Section 221 credit is based upon the amount invested. A $2,000,000 investment in a QHTB by a taxpayer in 2001 can generate claimable credits totaling $2,000,000 over the next five years. Thus, some of the credits claimed in 2002 relate to amounts invested both in 2001 and 2002. The distinction between "credits claimed" and "future claimable credits" can be illustrated by as follows:

Example: From 2001-2005, a single QHTB is set up each year. Taxpayer A forms a solely owned QHTB by investing $2,000,000 in 2001. Taxpayers B-E form solely owned QHTBs in years 2002-2005, respectively. Assume further that each taxpayer can fully utilize whatever credit is generated in a given year.

The following table presents the hypothetical amount of credit claimed for each year from 2001-2005 (in thousands).

	2001	2002	2003	2004	2005
A	$700				
AB	$500	$700			
ABC	$400	$500	$700		
ABCD	$200	$400	$500	$700	
ABCDE	$200	$200	$400	$500	$700

Adding across, the total credit claimed for each year will be as follows:

Year	Total Credit Claimed (in 000's)
2001	$ 700
2002	$1,200
2003	$1,600
2004	$1,800
2005	$2,000
Total (01-05)	$7,300

In our hypothetical example, a level amount of investment during 2001-2005 results in an increasing amount of "credit claimed" each year. This is due to the credit being claimed over a 5-year period.

In addition, in our hypothetical example, for years after 2005, significant "future claimable credits" exist. These can be shown as follows:

Taxpayer	Future Claimable Credits (For Years After 2005)
A	$ 0
B	$ 200
C	$ 400
D	$ 800
E	$ 1,300
Total	$ 2,700

Thus, the structure of Act 221 creates future claimable credits.

The Effect of Credit Carryovers

In the above example, we assumed that each taxpayer had enough tax liability in a given year to fully utilize the taxpayer's share of the Act 221 credit. However, in the event the credit exceeds the taxpayer's tax liability for a given year, a credit carryover is created.

Example: In 2001, Taxpayer A invests $2,000,000 in a solely owned QHTB. In year 2001, The Act 221 credit is $700,000 (35% x $2,000,000). However, Taxpayer A's tax liability before the credit in 2001 is such that only $150,000 of the $700,000 credit can be utilized in 2001. The remaining $550,000 will be "carried over" to offset tax liability in future years.

To What Extent Do Future Claimable Credits -- and Carryovers of Current Unused Credits-- Represent Future Tax Expenditures to the State of Hawaii?

Act 221 will likely result in significant future tax expenditures by the State of Hawaii. Table 1 contains data for tax year 2001-2002 and preliminary data for tax year 2003. This table indicates that total cumulative credits claimed during this period exceeded $75 million. The Department of Taxation estimates that total cumulative credits available, including those claimed, as of the end of 2003 is approximately $185.1 million.[104]

The preliminary data for 2003 also indicate that credit carryovers have increased significantly. The credits carried forward amount is $25.2 million. This amount is presumably part of the $185.1 million total cumulative credit amount mentioned above. It should be noted that, in 2003, both individuals and insurers generated significant credit carryovers.

In light of the above, the ultimate cost of the program is difficult to determine without having access to more data from the Department of Taxation. Table 1 estimates the current and future cost of the Act 221 program from 2001-2003 to be about $185.1 million. However, the total current and future cost of the Act 221 program from 2004-2005 is not currently available to the public. In 2004, Act 215 extended the credit program for another 5 years, thereby increasing total potential future credit program costs.

Utilization of QHTB Credit to Offset State of Hawaii Individual Income Tax/Corporate Income Tax/Bank Tax/Hawaii Insurance Premium Tax

As mentioned earlier, the high technology investment tax credit available under Act 221 can be used to offset a variety of taxes. The following table, based upon data provided to us by the Department of Taxation, examines the percentage of the total QHTB investment tax credit claimed by category of taxpayer claiming the credit.

	2000	2001	2002	2003*	2004--2005
Individual Income	97%	35%	43%	34%	Not yet available
Insurance Premium	0%	63%	50%	50%	Not yet available
Corporate Income	0%	2%	7%	10%	Not yet available
Financial Institution	3%	0%	0%	5%	Not yet available
Fiduciary	0%	0%	1%	0%	Not yet available
Total QHTB Credit Claimed (%)	100%	100%	100%	100%	Not yet available

* preliminary

Act 221 was enacted into law in 2001. This data suggests that the insurance industry is a major beneficiary of this credit. Given that the Act 221 credit is claimed over a five-year period, a reasonable inference can be drawn that this will continue to be the case.

The Department of Taxation's website contains selected information relating to 2002.[105] In that year, insurance underwriters claimed $13.518 million in tax credits. Of this amount, the Act 221 credit comprised $13.058 million. Stated alternatively, the Act 221 credit comprised over 96 percent of the total reported credits that insurance underwriters claimed in 2002.[106]

Individuals are also major beneficiaries of the Act 221 credit. Some individuals invest directly, while others invest indirectly through the use of flow-through entities. In 2002, individuals claimed $11.2 million in Act 221 credits. This credit comprised about 14.9 percent of the total credits that individuals claimed in 2002.[107]

Of the $11.2 million in Act 221 credits claimed by individuals in that year, taxpayers living in the 1st Taxation District of Hawaii claimed $9.5 million (approximately 85 percent , proportionally more than the district's share of state population)[108] and taxpayers living in the 2nd Taxation District of Hawaii, $1.5 million (approximately 13.8 percent).[109] Taxpayers in these two districts benefit relatively more than taxpayers in the remaining two tax districts.

Cost-Benefit Analysis of Hawaii's Qualifying High Technology Business Tax Credit

Basis for Program Assessment

Act 221 (SLH 2001) encourages the continued growth and development of high technology businesses in Hawaii. Act 215 (SLH 2004) adds that "A need exists to increase the availability of venture equity capital for emerging, expanding, relocating, and restructuring enterprises in the State." Neither Act, however, makes a reference to measures of program evaluation, other than the statements noted here.

What is the desired change in economic behavior? In the case of Hawaii's QHTB tax credit program, some have argued it is an increase in the supply of capital to inherently

high-risk high technology ventures in Hawaii. Others have argued that outcome measures should focus on jobs and salaries. An analysis of both is needed.

Table 1 provides estimates of QHTB investments and tax credit claims for Tax Years 2000 through 2003. They are based on data derived from the Form N-318s filed by individual, corporate, insurance company, financial institution and fiduciary investors in QHTBs for the respective tax years. As noted earlier, the data show that insurance companies are major taxpayer beneficiaries of the QHTB tax credit to date. The data also show that annual amounts of QHTB investments have leveled off and appear to be declining.

Program Audit Assessment of Effectiveness

The most direct assessment of the QHTB tax credit program effectiveness requires access to data at the micro level. Given measurable program outcomes, an audit of individual QHTB performance covering a specified period of time could be aggregated to develop an assessment of the QHTB tax credit program. QHTB data annually reported on the Department of Taxation's Form N-317 would reveal the amount of investment received, the number of jobs created and salaries paid by each QHTB. At the same time, investment funds flowing to the QHTB in each year can be independently derived from the Department of Taxation's Form N-318 and N-318A. Gross revenues for each QHTB can be determined from General Excise Tax/ Use Tax filings.

As has been noted earlier, however, the Department of Taxation has declined access to individual QHTB data, in deference to taxpayer confidentiality. This precludes those outside the Department from this audit avenue of analysis.

Cost Effectiveness Ratio and Elasticity Assessment of Effectiveness Approaches are Generally not Identified with Sufficient Data

In the absence of a direct audit, one approach to assess the effectiveness of tax credit incentives is the use of simple cost effectiveness ratios.[110] These ratios are derived as the change in desired economic behavior, divided by the amount of tax credits awarded during the period. For the review purposes here, this approach suffers from several deficiencies: 1) reliable data on total investment in Hawaii-based high technology firms is not publicly available, 2) macroeconomic effects of induced investment substitution to Hawaii-based high technology firms from other Hawaii firms are not taken into account, 3) the time-value of QHTB tax credits received is not taken into account.

Another approach utilizes elasticity measures to quantify the responsiveness of technology investment with respect to the user cost of capital. Elasticity is the percentage change response in the target variable, divided by the percentage change response in the policy variable. Review studies of the elasticity of investment to user

cost of capital effects of tax incentives in the U.S. indicate elasticities in the range between -0.5 and -1.0; they are reported to be unitary for U.S. R&D tax credits.[111] Elasticities of this size have been deemed to have significant impact on the measured outcomes. As in the case above, this second approach requires reliable data on total investment in Hawaii-based high technology firms.

Table 2 shows the profile of QHTBs who filed Form N-317s for 2002 and 2003, the only two years for which this aggregate data is available from the Department of Taxation. Only a few generalizations can be made about the profile of QHTBS. Performing arts products QHTBs have a consistently large share of jobs; computer software product QHTBs and performing arts QHTBS represent one third and one sixth of the QHTBs, respectively.

These aggregate data are used to determine point elasticity responses to changes in QHTB investment generated by the existence of the QHTB tax credit program. The QHTB tax credit elasticity of QHTB spending, for example, may be measured by the percentage change in QHTB spending, divided by the percentage change in QHTB investments received. While not typically used to assess effectiveness, these elasticities can be illustrative.

The point elasticities are all less than one and suggest weak responsiveness of these economic measures among QHTBs (Table 3). In terms of additional QHTB spending, measured by "Costs Incurred," the relative stimulation effect of the QHTB tax credit program appears to be small. In terms of the additional salaries paid to QHTB employees, the relative stimulation effect of the QHTB tax credit program is larger. This likely reflects the heavier investment in human capital in high-technology companies and the accrual of economic rents by labor in a tight labor market.

The usefulness of these calculated point elasticities is limited, however. It is not clear that the data provided by the Department of Taxation captures the activity of all QHTBs. The number of QHTBs reporting in 2003 (n=77) is substantially lower than the number reporting in 2002 (n=131). Without review of individual firm filings, it cannot be determined whether a significant number of QHTBs reporting in 2002 ceased operation as QHTBs in 2003, whether a number of the QHTBs who reported in 2002 simply did not report in 2003, or whether another reason explains the reduction in filings.

Cost-Benefit Assessment of Effectiveness

Another approach to assess the cost effectiveness of QHTB tax credits is to treat the statutory provision as if it represents an ongoing program or project. Hereafter the terms "program" and "project" are used interchangeably. Programs are typically assessed utilizing cost-benefit analysis on identifiable cost and benefit streams over time. The present value of the cost stream, C, is equal to the sum of the costs from each future period, discounted to its present value. Similarly the present value of the benefit stream, B, is equal to the sum of the benefits from each future period,

discounted to its present value. The benefit-cost ratio, B/C, and the benefit-cost differential, B – C, provide policy guidance in the selection of projects. They are measures indicating whether the project should be conducted at all, that is when B/C > 1 or B – C > 0, or whether one project may be preferred to another.

What is the appropriate rate of discount in cost benefit analysis? For private projects, the appropriate discount rate is represented by the private opportunity cost of funds, or the cost of capital for firms. For public projects, the appropriate discount rate is lower than the private cost of capital.

Funds for public sector projects usually reduce both private sector investment and consumption. The appropriate discount rate reflects both opportunity costs of private investment and private consumption foregone. If financing of public projects come entirely at the expense of investment, then the public project cost of capital would be the opportunity cost of private investment foregone, or the private cost of capital. If financing of public projects come entirely at the expense of consumption, then the public project cost of capital would be the opportunity cost of consumption foregone, measured by the household rate of return from saving. In an income tax regime, the household's return from saving, otherwise the same as the private cost of capital, is reduced by the household's income tax rate.

Alternatively, it may be observed that private project cost of capital is the market return on investment, whereas, public project cost of capital, as in the case of debt financing, is generally tax exempt but at rates lower than the market return on investment.

In 2003 QHTBs reported $51.6 million in gross revenues (Table 4). Most of the QHTBs that filed the General Excise (GE)/Use tax returns remitted GE/Use tax payments ranging up to $50,000. Five QHTBs were reported to have no revenue. Another thirty three QHTBs were reported to have no information, suggesting that they did not file GE/Use tax returns for the year.

Revenues are classified by qualified research activity, some aggregated to preserve taxpayer confidentiality. Computer software design and performing arts product activities are separately identified. IRC section 41(d), biotechnology, sensor and optic technologies, ocean sciences, ocean science, astronomy, and non-fossil fuel energy related technology activities are combined to form an aggregate research and development activity. The activity labeled 'Multiple' corresponds to those QHTBs who reported participation in more than one of the statutory activities. This data predates Act 215 and represents computer software design and development as defined by Act 221.

Benefit-Cost Ratio Methodology

A benefit-cost ratio analysis, utilizing multipliers from the 2002 State Input/Output Study for Hawaii, is performed under two operating scenarios. The first assumes that

activities of other public programs are foregone in the amount of the tax credits. It compares the cost of public sector activities foregone, to the benefits of the increased private sector activities in high technology. The second assumes that activities of public programs are maintained at pre-tax credit levels but that other taxes (income tax, for example) need to be raised in order to support the tax credit expenditures. It compares the cost of consumption activities foregone, to the benefits of the increased private sector activities in high technology, and assumes that the increase in taxes comes entirely at the expense of consumption. If some of the increase in taxes comes at the expense of saving and investment flows, then the multiplied cost effects of the tax credit program would be higher. Both approaches assume that that an increase in sales by the various high technology sectors corresponds to an increase in final demand.

Because QHTB investment and tax credit data is publicly available only for Tax Years 2000, 2001, 2002, and 2003, the benefit-cost ratio analysis will only examine the relative costs and benefits for investments made in these years. Investments made during these years identify a credits claimed cost stream. This stream is developed from actual credits claimed, the tax credit aging schedule developed from these investments, and historical amounts of tax credit carryover. Investments made in any of the tax years generate credits claimed over a five year period, and longer with credit carryover. At a minimum, the cost stream of credits claimed in this study covers the period from Tax Year 2000 through Tax Year 2007. Under the first scenario, the cost of the QHTB tax program represented by this tax credit stream is the multiplied effect of government activity foregone, measured in output, earnings and jobs. Under the second scenario, the cost of the QHTB tax credit program is the multiplied effect of personal consumption foregone.

Only for the purpose of the benefit-cost ratio analysis, Tax Year 2003 is chosen as the base year. This is because QHTB gross income or sales data is available only for this year from the Department of Taxation. For all other purposes, the relevant year of comparison is 2001, the year in which Act 221 was promulgated.

QHTB gross revenue data from the Department of Taxation for tax year 2003 identify the sales of QHTBs who reported, by qualified research activity. This study categorizes the qualified research activities to align, as best possible, with NAICS type industry sectors. The assignment process facilitates use of DBEDT's multiplier values that are defined in terms of NAICS type industry sectors. Computer software design sales, performing arts sales, and an aggregated R&D sector, composed of IRC section 41(d), biotechnology, sensor and optic technologies, ocean sciences, ocean science, astronomy, and non-fossil fuel energy related technology sales, represent three of the NAICS type industry sectors. Revenues reported under a Multiple category are allocated to the three prior sectors (publishing, motion picture, and R&D) by business unit count share.

The analysis assumes that the 2003 level of QHTB sales activity remains constant in real terms. This identifies the future benefit stream, or the multiplied effect of future

QHTB sales, measured in output, earnings and jobs. No further investment in QHTBs established as of 2003 is assumed to occur. The absence of QHTB firm data precludes estimates of sales activity growth financed by retained earnings or other sources of investment funds.

Whether the QHTB investment tax credit affects incremental investment and firm sales above what would have occurred without the credit is an unanswered question. The kinds of activities and sales that would have occurred without the credit include: sales that a firm would have produced without the credit, sales by QHTBs that are "drop down" subsidiaries of an existing firm, and sales by QHTBs that replace or displace sales by non-QHTB technology firms.

"Displacement" Defined

The reported 2003 Hawaii QHTB sales likely include effects of the phenomenon described above. The term "displacement" is used here to describe the amount of activities and sales that would have occurred without the credit and are over-counted by measured QHTB investment tax credit activities. Sensitivity analysis for various levels of displacement, 10 percent, 20 percent, and 40 percent, are examined. Two discount rates are utilized: a ten percent rate represents pre-tax long term return on U.S. equities; a seven percent discount rate represents after tax return.

Benefit-Cost Ratio Results[112]

Benefit-cost ratios in each year from 2003 through 2007 are illustrated in Tables 5 and 6. Alternative metrics, including output, earnings, jobs and taxes generated, are utilized and the effects of alternative rates of displacement are simulated.

Ratios for the operating scenario in which government activity is foregone as a result of the QHTB tax credits are more often close to or less than one, especially when displacement of existing non-QHTB high technology activities is considered. This suggests that the economic benefits are less than the costs. Benefit-cost ratios for the operating scenario in which personal consumption is foregone as a result of the QHTB tax credits indicate better performance outcomes for the QHTB credits.

It is helpful to note that reported benefit-cost ratios for the tax effects represent the ratio of state taxes generated by the activities of the QHTBs to state taxes that would have been generated by public sector activities foregone in one instance, and by the private consumption activities foregone in the other instance. A ratio of 1.0, for example, means that the amount of state taxes generated by high technology businesses financed by the QHTB tax credit is the same as the amount of state taxes generated by the state spending on its public programs in the amount of the tax credit.

To see what the tax return would be on tax credits claimed, a different ratio needs to be examined. Estimated state tax revenues as a percent of QHTB tax credits claimed

are reported in Table 7. The data represent a tax return on a tax credit "investment" and range from 4 percent to 11 percent.

Taken together, these results cannot conclusively determine whether or not the QHTB tax credits have been cost effective. However, when additional efficiency costs of distortion and rent seeking behavior and additional administrative costs are considered, but not measured here, the results are likely to be more negative than positive.

Limitations to Benefit-Cost Ratio Analysis

Limitations to this approach should be noted. Some considerations would suggest that the benefits of the QHTB investment tax credit are undercounted. For example, firms in the targeted industry sectors will not produce revenue in the early years of the pre-revenue, pre-profit and profit stages of the venture capital life cycle. In other words, an analysis based on data ending in 2003 may be premature.

An opinion piece by Mike Fitzgerald[113] cites as additional benefits the development of venture capital markets and financial flows to Hawaii from out-of-state. However, these benefits would eventually be captured in the downstream performance of the QHTBs.

Other considerations are more neutral. The benefit-cost ratio approach, based on multipliers derived from an input/output model, is static rather than dynamic. It does not provide for substitution effects and does not capture shifts in the environment of high technology firms that can affect their productivity and input mix. It is difficult to predict what a more dynamic model for high technology in Hawaii would demonstrate without constructing such a model.

The particular analysis performed here focuses only on the high technology sectors that benefit from the QHTB investment tax credit. To be comprehensive, the potential negative effects on other types of investment need to be considered. If the targeted sector is the not the optimal one, then the outcome could be a reduction in net investment in the state, as more investment is discouraged by the revenue-replacing tax increase than is encouraged by the tax incentive.

Other considerations would suggest that the costs of the QHTB investment tax credit are not sufficiently represented. The benefits and costs measured here do not measure the efficiency loss of market failure or the net efficiency gains, if any, from the tax incentive policy solution. For a nominal 100 percent tax credit, resource waste arising from tax policy intervention in the capital market may not be warranted by the market failures therein.

Finally, the benefit-cost ratio approach does not measure equity effects of the QHTB investment tax credit on the distribution of benefits, relative to the distribution of the costs. It may well be that the beneficiaries of the tax credit are not the same as those who bear the burden of the tax credit's cost.

Table 1 Investment in Qualified High Technology Businesses (QHTBs) and Tax Credits Claimed

	Investments in QHTB ($million)	Credits Claimed ($million)	Credits Carried Forward ($million)	Future Claimable Credits ($million)
2000	3.94	0.39	0.0	
2001	30.79	9.58	2.2	
2002	81.87	26.19	13.1	
2003*	68.49	38.87	25.3	
2004	not yet available	not yet available	not yet available	
2005	not yet available	not yet available	not yet available	
Total	185.08**	75.03**		110.05**

* Preliminary data

** Total only through Tax Year 2003

Source: Department of Taxation

Table 2 Qualified High Technology Business (QHTB) By Activity - Form N-317
Tax Year 2002 and Tax Year 2003

Tax Year 2002

	QHTBs	Jobs	Salaries Paid		Costs Incurred	Investments Received
Activity	Share	Share	Share	Average	Share	Share
Computer Software	32.1%	40.6%	62.1%	$47,997	67.7%	60.7%
Performing Arts	15.3%	37.6%	8.5%	$7,132	13.9%	19.6%
Biotechnology & Ocean Science	3.8%	2.5%	3.8%	$47,742	2.4%	2.8%
Sensor and Optic & Nonfossil Fuel Energy	5.3%	15.9%	22.6%	$44,475	13.3%	10.7%
Astronomy		0.5%	0.4%	$25,209	0.7%	1.3%
IRC section 41D	43.5%	2.9%	2.7%	$29,199	2.0%	4.9%
TOTAL	131	2209	$69,381,937	$31,409	$144,843,921	$118,237,560

Tax Year 2003

	QHTBs	Jobs	Salaries Paid		Costs Incurred	Investments Received
Activity	Share	Share	Share	Average	Share	Share
Computer Software	29.9%	11.1%	15.1%	$29,760	10.6%	12.0%
Performing Arts	13.0%	39.3%	4.2%	$2,329	6.2%	7.3%
Multiple Activity	44.2%	45.3%	76.4%	$36,916	76.6%	75.7%
Others *	13.0%	4.3%	4.3%	$21,912	6.6%	5.0%
TOTAL	77	1980	$43,300,583	$21,869	$118,342,458	$68,529,705

Source: Department of Taxation
Includes IRC Section 41(d), Ocean Sciences and Non Fossil Fuel Technology.
Data suppressed to protect taxpayer confidentiality.

Table 3 Responsiveness to Changes in Investments in QHTBs
2003 over 2002

	Point Elasticity
Change in QHTB Total Jobs	N/A[114]
Change in QHTB Spending	0.38
Change in QHTB Salaries Paid	0.87

Table 4 Gross Income and GE/USE Tax Returns of Qualified High Technology Businesses 2003

Activity	Gross Income	General Excise/Use Tax Returns*					
	($)	$0	$0 to $50,000	$50,000 to $100,000	$100,000 and over	No Info	Total
Computer Software	$16,944,160	4	17		1	15	37
Performing Arts	1,091,940		5			6	11
Multiple	28,048,135	1	3		1	5	10
Others**	5,541,523	0	12	1	0	7	20
Total	$51,625,758	5	37	1	2	33	78

* After exemptions
** Includes IRC Section 41(d), Ocean, Nonfossil fuel energy, Sensor & Optics, Astronomy.
Data suppressed to protect taxpayer anonymity.
Department of Taxation special tabulation of gross income, gross income/use taxes paid, 2003

Table 5 Benefit-Cost Ratios Calculated for QHTB Tax Credit Program
2000 – 2003 Investments in QHTBs
Scenario: Tax Credits Reduce Other Government Spending

		No Displacement Existing High Tech Sales		10% Displacement		20% Displacement		40% Displacement	
		Discount Rate		Discount Rate		Discount Rate		Discount Rate	
		10%	7%	10%	7%	10%	7%	10%	7%
Final Demand	2003	1.03	1.05	0.93	0.94	0.82	0.84	0.62	0.63
Output Effect	2004	1.09	1.10	0.98	0.99	0.87	0.88	0.65	0.66
	2005	1.11	1.13	1.00	1.01	0.89	0.90	0.67	0.68
	2006	1.20	1.22	1.08	1.10	0.96	0.97	0.72	0.73
	2007	1.36	1.39	1.22	1.25	1.08	1.11	0.81	0.83
Final Demand	2003	0.79	0.81	0.71	0.73	0.63	0.65	0.48	0.48
Earnings Effect	2004	0.84	0.85	0.75	0.76	0.67	0.68	0.50	0.51
	2005	0.86	0.87	0.77	0.78	0.69	0.69	0.51	0.52
	2006	0.92	0.94	0.83	0.84	0.74	0.75	0.55	0.56
	2007	1.04	1.07	0.94	0.96	0.84	0.85	0.63	0.64
Final Demand	2003	1.22	1.24	1.05	1.07	0.89	0.91	0.60	0.62
State Tax Effect /1	2004	1.28	1.30	1.12	1.14	0.97	0.98	0.68	0.69
	2005	1.31	1.33	1.16	1.17	1.01	1.02	0.72	0.73
	2006	1.42	1.44	1.25	1.27	1.09	1.11	0.79	0.80
	2007	1.60	1.64	1.42	1.45	1.24	1.27	0.90	0.93
Final Demand Jobs Effect /2	2003	0.79		0.71		0.63		0.47	

1/ Tax costs represent only taxes foregone from reduced public sector expenditure;
Tax expenditures not included in cumulative cost
2/ Job count not subject to discount rate

Table 6 Benefit-Cost Ratios Calculated for QHTB Tax Credit Program
2000 – 2003 Investments in QHTBs
Scenario: Tax Credits Offset by Increased Personal Income Tax

		No Displacement Existing High Tech Sales		10% Displacement		20% Displacement		40% Displacement	
		Discount Rate		Discount Rate		Discount Rate		Discount Rate	
		10%	7%	10%	7%	10%	7%	10%	7%
Final Demand	2003	1.35	1.38	1.22	1.24	1.08	1.10	0.81	0.83
Output Effect	2004	1.43	1.45	1.29	1.30	1.14	1.16	0.86	0.87
	2005	1.46	1.48	1.32	1.33	1.17	1.18	0.88	0.89
	2006	1.58	1.60	1.42	1.44	1.26	1.28	0.95	0.96
	2007	1.78	1.82	1.60	1.64	1.43	1.46	1.07	1.09
Final Demand	2003	1.77	1.81	1.60	1.63	1.42	1.44	1.06	1.08
Earnings Effect	2004	1.87	1.90	1.68	1.71	1.50	1.52	1.12	1.14
	2005	1.92	1.94	1.73	1.75	1.53	1.55	1.15	1.16
	2006	2.07	2.10	1.86	1.89	1.66	1.68	1.24	1.26
	2007	2.34	2.39	2.10	2.15	1.87	1.91	1.40	1.43
Final Demand	2003	1.37	1.40	1.06	1.08	0.80	0.82	0.41	0.42
State Tax Effect /1	2004	1.45	1.47	1.14	1.16	0.88	0.89	0.46	0.47
	2005	1.48	1.50	1.18	1.19	0.91	0.92	0.49	0.50
	2006	1.60	1.62	1.27	1.29	0.99	1.00	0.54	0.54
	2007	1.81	1.85	1.44	1.48	1.12	1.15	0.61	0.63
Final Demand Jobs Effect /2	2003	1.47		1.32		1.18		0.88	

1/ Tax costs represent only taxes foregone from reduced public sector expenditure;
Tax expenditures not included in cumulative cost
2/ Job count not subject to discount rate

Table 7 State Taxes Generated as Percent of QHTB Tax Credits Claimed

Cumulative from Tax Year 2000 through Each Year

	Displacement of Existing Technology Sales			
	None	10%	20%	40%
2003	8.4%	7.2%	6.0%	4.0%
2004	8.2%	7.1%	6.1%	4.2%
2005	8.5%	7.5%	6.5%	4.6%
2006	9.6%	8.5%	7.4%	5.3%
2007	11.2%	9.9%	8.7%	6.3%

Table 8 2002 State Input-Output Study for Hawaii, Multipliers

	Type II Final Demand Multipliers			
	Sector	Output	Earnings	Jobs (2003)
Computer Software(Publishing)	29	1.71	0.68	14.93
Performing Arts	30	1.73	0.48	22.67
Research & Development Services	47	1.96	0.67	17.51
State and Local Government	67	1.98	0.94	27.74
Personal Consumption Expenditures	na	1.49	0.42	14.83

Source: Department of Business, Economic Development and Tourism, 2006

Some Thoughts on Analyzing the Benefits and Costs of the QHTB Investment Tax Credit

The goals of Acts 221 include creating technology jobs, nurturing certain businesses, and diversifying the economy. In a number of respects, these acts fall well short of being structured with sufficient transparencies and safeguards to determine whether these goals have been met.

Ann Chung of the Hawaii Science & Technology Council[115] stated that the intent of Act 221 is broader than the above goals. In an e-mail to the authors, Ann Chung wrote:

"Obviously, the long-term goal was to build a viable tech industry in Hawaii that would give us high-paying valuable jobs and diversify our economy. But the specific intent of 221 was to stimulate investment into our local companies… This is the reason we worked so hard on [Act] 221. There was a lot of wealth in Hawaii - but none of it was being invested in local tech companies. Without local investors, it was extremely difficult to attract mainland/outside investors. [Act] 221 was intended to stimulate both. Since we were trying to change behavior - something bold was needed - and this also had the added desired effect of generating positive global visibility for Hawaii."

Ann Chung also indicated that many intangible benefits accrue as a result of the Act 221 credit program:

"An interesting and important result of 221 [is] the increasing numbers of kama'aina that have been able to come back home because of expanding local tech companies. For decades, Hawaii has experienced a huge "brain drain", which everyone is always bemoaning. When you call some of these companies, you'll find that many of their employees are those who were brought back home - people who always wanted to come back and never thought they'd be able to. One year, we had over a hundred of these repatriates wearing t-shirts with "HiTech Hawaii Brought Me Back Home" at the legislature."

Bill Spencer, President of the Hawaii Venture Capital Association, suggested that more time is needed before measuring the benefits and costs of Act 221:

"…it is too early in the life of the program and the lives of the companies that have received funding to attempt to draw meaningful conclusions about the effectiveness of Act 221/215. Most companies that succeed beyond the first couple of years (as you know, most do not) do not reach their stride until 5-10 years out, when most of the jobs, sales and economic impact will be felt. This program was designed to last until December 31, 2010."

Technology Job Creation and the QHTB Investment Tax Credit

In the State of Hawaii, a number of figures have been reported involving the number of jobs created. For example, a 2006 article in the Honolulu Advertiser stated, ”Hawaii’s high technology sector grew by nearly 10 percent between 2001 and 2004 ”.[116] This article implied that 1,321 technology jobs had been created during this period. [117]

The researchers of this study have been given access to data compiled from Form N-317s by the Hawaii Department of Taxation. According to this data, in 2003, 131 QHTBs reported 2,209 jobs created since business inception. By contrast, in 2002, 78 QHTBs reported 1,980 jobs created since inception.

In contrast, preliminary data prepared by the Hawaii Department of Business and Economic Development (DBEDT) show an overall decline in the total number of jobs designated as technology jobs between 2001 and 2004 (Table 9). The relative share of technology sector jobs with respect to all private sector jobs and the relative share of technology sector wages with respect to all private sector wages have also declined.

In using these data to make an inference about the relative performance of the high technology sector in Hawaii, it is important to look at external benchmarks. If the technology sector performance is strong at the national level, regional or local technology sector performance is buoyed by overall sector strength. Using Bureau of Economic Analysis data from 2001-2004, technology jobs as a share of private sector jobs in Hawaii has not changed, when compared with the performance of other states, over the period from 2001-2004.

There are pockets of strength, reflected by job and wage performance in the R&D and Testing sub-sector of the technology sector. For those who held jobs in the technology sector in 2004, the average wage increase from 2001 exceeded that of the private sector. Nevertheless, the QHTB investment tax credit has been made available to QHTB firms in the Hawaii technology sub-sectors that have under-performed the Hawaii private sector benchmark.

Using technology job data prepared by the Department of Business, Economic Development, and Tourism, however, is not without controversy. An October 15, 2006, opinion piece in the Honolulu Advertiser stated:

“…the DBEDT data erroneously included non-Act 221/215 industry sectors. A closer analysis of DBEDT’s data showed a more than 23 percent increase in tech jobs in qualified Act 221/215 sectors”.[118]

One of the sectors in the DBEDT technology job data is “technology manufacturing”. The authors eliminated this category from the DBEDT data for 2001 to 2004 –a “non-Act 221/215 industry sector” and re-ran the numbers using DBEDT data. The technology jobs also declined during this period.[119]

The authors of this study cannot stress enough that the DBEDT's technology job creation data uses the widely accepted NAICS coding classification system. The term "performing arts products" is generally not classified as a "technology" activity for this purpose. We agree with this approach. For purposes of counting "technology" job growth, we contend that most "performing arts products" jobs should not be counted as "technology" jobs.

In this regard, what is characterized as an internal contradiction in an opinion piece in the Honolulu Advertiser (October 15, 2006) is simply not so. For example, the critics incorrectly cite a figure of 4,000 jobs reported by the Department of Taxation. Since the jobs figures reported for tax years 2002 and 2003 are jobs created since inception, by adding these figures together, the critics "double count" some of the jobs.

Many of the jobs reported by the Department of Taxation under Act 221/215 are "performing arts products" jobs. For example, for tax year 2003, 39.3% of these reported Act 221/215 jobs related to the "performing arts products" sector. The high technology investment sector often claims "performing arts products" jobs as "tech" jobs by using the phrase "tech jobs in qualified Act 221/215 sectors". [120]

A separate analysis of technology job creation uses publicly available data from the Hawaii Department of Labor and Industrial Relations (DLIR). It compares Hawaii job performance for the following sectors against the performance of total private jobs: telecommunications, professional/scientific/technical services, and a part of the information sector that includes motion picture and sound recording jobs. It generally supports the conclusions derived from the special, more detailed technology sector tabulation performed by DBEDT (Figure 1).

The authors of this report draw the inference that, when counting technology jobs, most of the difference between the DBEDT data (which uses the widely accepted NAICS system) and the Department of Taxation data (which uses taxpayer responses) is explained by the fact that DBEDT data measures "net" technology jobs[121], while the Department of Taxation measures "gross" jobs (most of which are "technology" jobs under the NAICS system). Moreover, the DBEDT and DLIR data measure "net" technology jobs creation over time while the Department of Taxation information reflects "gross" jobs at several points in time.[122]

The authors contend that the increase in "net" technology jobs is an important metric by which to measure the extent to which a vibrant and lasting technology community is being built in Hawaii.

There is no uniform definition, across states, of what constitutes a "high technology" job. Several organizations classify jobs according to SIC (now NAICS) codes. As of 2000, they included the American Electronics Association (AEA), RFA, One Source Information Systems, and Bureau of Labor Statistics (BLS). While some sectors are classified as "high technology" by all four organizations, other sectors are classified as "high technology" by less than all four organizations. As a result, the growth in high

technology employment from 1989-1999 was 24%, 26%, 14% and 15% by AEA, RFA, One Source and BLS, respectively.[123] Accordingly, the authors deferred to the expertise of the Hawaii DBEDT in classifying and counting "technology" jobs in Hawaii during this period.

Some Thoughts on Other Reasons for the Net Change in Hawaii's Technology Jobs

By its terms, Act 221 does not require a QHTB to create new technology jobs (or any new jobs, for that matter) in order for the taxpayer/investor to claim the Act 221 credit.

Example: In 2005, Taxpayer B works as an employee in Hawaii in the Information Technology (IT) department of Company C. Taxpayer B has a net worth of several million dollars from investing in Hawaiian real estate dating back to the 1970s. These real estate investments now generate significant taxable income. In 2006, Taxpayer B decides to form his own IT consulting business. Company C becomes Taxpayer B's first client. Taxpayer B borrows $800,000 against his home and contributes the money to a QHTB of which he is the sole owner. In 2006, Taxpayer B's non-refundable QHTB credit is $280,000. However, as a result of this transaction, no net new technology jobs have been created.

In 2003, the Department of Taxation attempted to verify with the Department of Labor the number of new jobs created by certain businesses claiming the QHTB credit. The Department of Taxation was roundly criticized for disclosing confidential tax information data to the Department of Labor.

It should be noted that certain investments in which no (or few) new jobs are created -- but in which Act 221 credits are claimed-- arguably represent transactions designed primarily to generate QHTB credits rather than to "encourage the continued growth and development of high technology businesses and associated industries in Hawaii". Kurt Kawafuchi, Director of Taxation, State of Hawaii, indicated that the Department of Taxation audit rate for Act 221 --taken as a whole—was less than 2%.[124]

A related issue involves companies creating so-called "drop down" subsidiaries. A company might transfer its existing IT department to a wholly owned subsidiary, which, as a QHTB, would generate Act 221 credits. Although controversial, this technique, when properly structured, is arguably legal and can result in considerable tax savings.

A March 27, 2004 article in the Honolulu Advertiser reported that a major Hawaii insurance company spun off its 17 technology employees into its wholly owned subsidiary. The subsidiary added another 10 employees. The parent company received $1.9 million in Act 221 credits.

The above example illustrates some of the challenges involved in measuring the costs and benefits of the Act 221 & Act 215 credits. How many new technology jobs have actually been created? 10? 27?

According to Kurt Kawafuchi, Director of Taxation, Act 215 has substantially reduced the use of “drop down” subsidiaries. Mr. Kawafuchi mentioned that he knew of one comfort ruling issued after the enactment of Act 215 to a business involved in a “drop down” subsidiary transaction. While this technique remains in use after Act 215, its use has been substantially reduced by Act 215.

It is also possible for a QHTB to hire employees, begin business, and then, at some later date, reduce its payroll. This could account for some of the difference between the “net” total technology jobs created during a period versus the “gross” total Act 221 jobs claimed.

With respect to the creation of new technology jobs under Act 221--now Act 215, the words “high-paying”, “full time”, “quality” and/or “permanent” are sometimes used. A number of Act 221/215 “success stories” exist in which jobs fitting the above descriptions have been created[125].

The Department of Taxation data indicate that some decent paying jobs are being created in Hawaii under Act 221. For example, in 2002, the average wage for the computer software activity sector was $47,997, and for the biotechnology and ocean sciences combined activity sector $47,742.[126]

Table 9

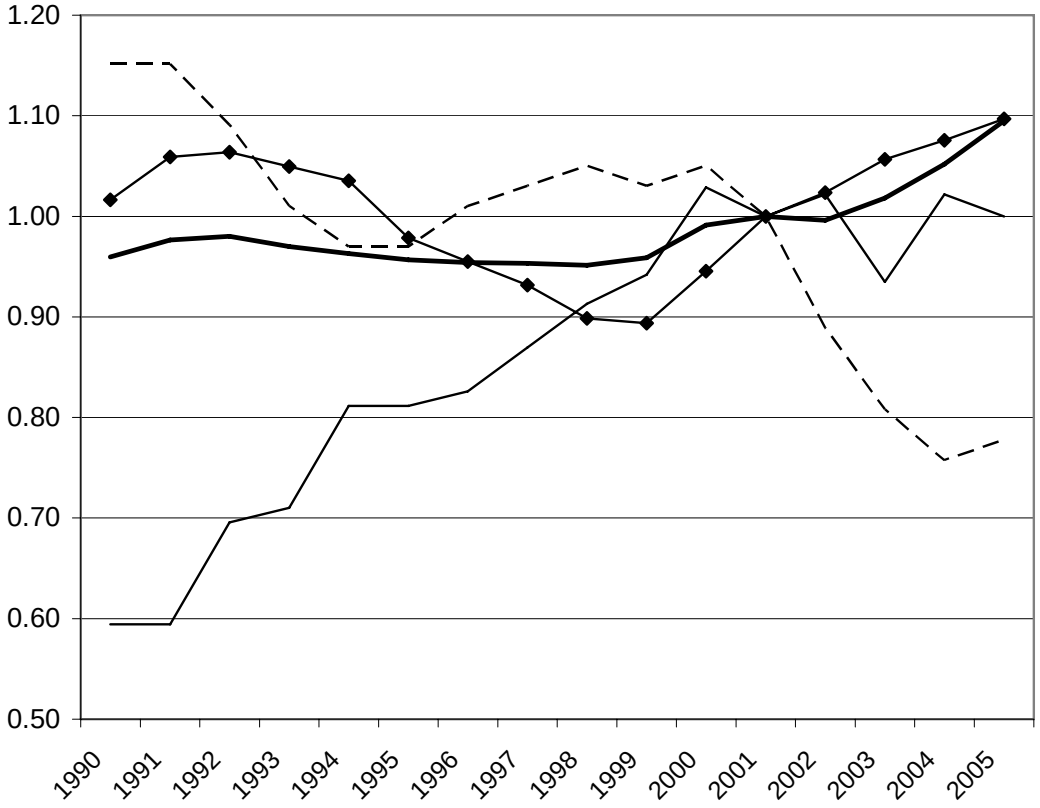
Technology Sector Job Counts and Wages: 2001-2004 (DBEDT preliminary, Sept 2006)

Major Sectors	Measure	Year				% Change
		2001	2002	2003	2004	2001-04
Scientific and Technology R&D	Jobs	3,189	3,442	3,770	3,948	23.8%
	Wages ($million)	136	151	179	195	44.0%
	Ave Wage ($)	42,500	43,911	47,383	49,429	16.3%
Manufacture of Technology Products	Jobs	653	468	342	334	-48.8%
	Wages ($million)	36	20	12	12	-66.7%
	Ave Wage	54,967	42,706	35,075	35,811	-34.9%
Technology Services	Jobs	9,622	9,466	8,991	8,823	-8.3%
	Wages ($million)	500	509	506	522	4.3%
	Ave Wage ($)	51,993	53,823	56,269	59,119	13.7%
All Private Technology	Jobs	13,463	13,376	13,104	13,106	-2.7%
	Wages ($million)	672	681	697	729	8.5%
	Ave Wage ($)	49,889	50,883	53,159	55,606	11.5%
All Private Sector		3.0%	3.0%	2.9%	2.8%	
		5.1%	4.9%	4.8%	4.6%	

Note: Unofficial, preliminary tabulation; until officially released, data are subject to change.

Source: Hawaii Department of Business, Economic Development & Tourism
Data from the Hawaii Department of Labor and Industrial Relations, Unemployment Insurance Division.

Figure 1
Job Count by Industry
2001 Base Year



Source: Hawaii Dept of Labor and Industrial Relations, Job Count by Industry

- Telecommunications
- Prof., Scientific, & Tech. Svcs.
- Non Telecomm Info (incl motion picture/sound recording)
- Total Private

Administration and Enforcement Issues

In its 2001-2003 report, The Tax Review Commission to the State of Hawaii stated: "Audit is a very labor-intensive form of enforcement. Less than 2% of all returns are audited. Tax incentives may effectively give money away through a tax collection system that is not particularly well equipped to enforce compliance with these laws".[127]

The following appeared in an article in The Honolulu Advertiser:

"State tax officials are questioning whether they should grant one-third of the $60 million in high-technology credits claimed in 2001 and 2002". The article noted: "the Department of Taxation is auditing 23 taxpayers that claimed a total of $19.95 million worth of credits". This information came to light after the Honolulu Advertiser filed a request for records under the state's Uniform Information Practices Act." [128]

In a teleconference on October 12, 2006, Kurt Kawafuchi, Director of Taxation, State of Hawaii, disputed the above quote. Mr. Kawafuchi stressed that the news coverage did not properly reflect his comments and lacked context. He indicated that he had been referring to the refundable research and development credit rather than to the audit rate for Act 221 in general.[129]

The Director of Taxation provided the authors with the following data concerning the Act 221 audit rates:

YEAR	2001	2002	2003	2004	TOTAL
Total No. of Credit Claims	386	646	828	1309*	3,169
Number of Actual Audits	23				23
17 New Cases Selected for Audit By Year	5**	10**	16**	15**	46
Percentage Selected For Audit	7%	2%	2%	1%	2%

* - Actual claims number being finalized (2004)
** - Selected for audit

Upon audit, the "liberal construction" language contained in Act 221 tilts the playing field in favor of taxpayers for those years in which the Act 221 credit is claimed. The

Department of Taxation has indicated that the "liberal construction" language has hampered its audits.[130] In 2004, Act 215 deleted the "liberal construction" language contained in Act 221. It remains to be seen to what extent this change will have upon the number of taxpayers audited by the Department of Taxation.

A number of possibilities exist. A taxpayer claiming the Act 221 credit may or may not be entitled to claim it. A taxpayer claiming the credit may or may not be audited. If audited, depending upon the facts, the taxpayer may or may not be able to rely upon the "liberal construction" language of Act 221. If the claim is disallowed, the taxpayer may or may not litigate the issue.

In addition, audit resources may be needed to determine the extent to which, for a given year, investors in QHTBs that have either ceased to exist –or are "barely" operational —continue to claim QHTB credits.

Example: In 2001, a Taxpayer forms a solely owned Qualified High Technology Business (QHTB) by investing $2,000,000. He hires several employees. However, by 1/1/2002, the business has no employees and a business telephone that does not work. The Taxpayer works at the business but does not draw a salary. Let's assume that it is an open question whether the business satisfies the "activity" test under Act 221.
If the business ceases to be a QHTB, the Taxpayer's state income tax liability will increase by an additional $70,000.[131] Of more importance, the Taxpayer cannot claim an Act 221 credit on his investment for 2002, 2003, 2004, or 2005[132].
However, if the business is a QHTB, the taxpayer can receive $500,000 in Act 221 tax credits for tax year 2002 (and possibly in later years).

Other Act 215 Administration Information Relating to the Department of Taxation

At a teleconference on October 12, 2006, the Department of Taxation made available certain information, the highlights of which are as follows:

The number of comfort rulings issued each year by the Department of Taxation through 2005:

1) 2001 Not known.
2) 2002 Not known (Pacific Business News, Sept 12, 2003, reported 80 issued in 2002).
3) 2003 Not known (Pacific Business News reported 20 issued as of 9/2003.
4) 2004 21 (?)[133] requests/ unknown number of comfort rulings issued.
5) 2005 58 requests/ 47 issued.
6) 2006 22 requests/ 20 issued (as of 10/2006).

According to the Director of Taxation, the number of QHTBs in the universe of Hawaii QHTBs is not known. In part, this is because not every business that receives

investment that qualifies for the Act 221 investment tax credit obtains a comfort ruling from the Department of Taxation.

From reviewing non-public comfort ruling requests, the Director of Taxation stated that the amount of non-Hawaii investment in Hawaii due to Act 221 is significant.

Regarding the drop-off in QHTBs reporting in 2003, compared to 2002, there is no clearly identified reason apparent to the Department of Taxation. It is possible that some QHTBs who filed in 2002 did not do so in 2003. It is possible that some QHTBs ceased to be QHTBs.

The Department of Taxation does not estimate the number of jobs created by the QHTBs. The Department of Taxation is of the opinion that the data being provided by a subset of the universe of QHTBs in Hawaii that report data to the Department of Taxation is spotty.

With regard to the discrepancy in the 'jobs reported' number, according to the Department of Taxation, there is no clear reason why the number of jobs reported by different (State) agencies is different.

Recommendations

In an attempt to measure the costs and benefits of the Act 221 investment tax credit, the authors of this study have gathered selected data from the Department of Taxation and from certain publicly available sources.

The purpose of our study is **not** to recommend whether the Act 221 credit should be continued in its present form, continued with legislative/administrative modifications, or eliminated altogether. Rather, it is to share with the Tax Review Commission our findings based upon data to which we have been given access.

It should be noted that we have made numerous requests for taxpayer data from the Department of Taxation. The Department of Taxation has provided us with certain aggregated taxpayer information. However, in our opinion, we have not received the type and amount of timely and usable taxpayer data necessary to measure the costs and benefits of the Act 221 credit in the manner in which we had originally anticipated.

The Act 221 tax credit program has raised significant capital for investment in high technology companies. However, this is an intermediate outcome. Due to the large public subsidy involved, the test of the effectiveness of the statute should include whether new –as in not otherwise operated—high technology enterprises are formed, and, as viable entities, increase the State of Hawaii's economic base.

As a general proposition, if we are to assume that tax incentives are unlikely to be abandoned by the State of Hawaii as an economic policy tool, then we recommend that certain ground rules be adopted to minimize the economic distortions created by this tax incentive. At a minimum, the Act 221 credit program should be treated as tax expenditures and should bear the burden of proof in order to justify their continued existence. These ground rules should be based upon the principles of cost-effectiveness and transparency.

These ground rules should also include: "1) conducting cost-benefit studies prior to beginning new tax incentive programs or making awards to firms in targeted sectors, taking into account not just fiscal, but social costs and the cost of public opportunities foregone; 2) conducting periodic evaluations of all tax incentive programs; 3) requiring sunset provisions; 4) requiring transparency in all aspects--legal basis, economic consequences, and administrative procedures; 5) utilizing simple, objective qualifying criteria to minimize discretionary application and to ease enforcement and monitoring."[134]

In order to more properly measure both the costs and benefits of the Act 221 investment tax credit and/or to increase transparency, we recommend the following:

1) The Department of Taxation should collect –and make public-- more extensive and timely taxpayer data relating to the Act 221 investment tax credit.

2) The Department of Taxation should examine its internal processes to better automate the process of collecting the information contained on Forms N-317, N-318 and N-318A. [135]

3) To maintain QHTB status, Form N-317 should be timely filed on an annual basis. Currently, a QHTB that receives no new cash investment in a given year may refrain from filing Form N-317 for that year.

4) Forms N-317, N-318, and N-318A should be re-designed.

5) The names, addresses, and telephone numbers of QHTBs receiving the Act 221 investment tax credit should be made publicly available.

6) The amount of Hawaii investment and non-Hawaii investment in Hawaii should be tracked at the QHTB level and reported yearly.

7) Significant audit resources should be devoted towards verification of QHTB status for purposes Act 221/215 compliance.

8) We recommend that the Department of Taxation be given additional resources to administer and enforce the Act 221 credit program.

Appendix A

At the October 6, 2006, presentation of the draft report on "Measuring the Costs and Benefits of Hawaii's Qualified High Technology Business (QHTB) Investment Tax Credit," Commissioner Grandy requested that additional tables be developed to:

1) illustrate the dollar amount of the costs and benefits of the QHTB investment tax credit
2) illustrate the rate of return for investments that qualify for the QHTB investment tax credit

The tables are appended here, with documentation for their development.

Cost – Benefit Analysis of Hawaii's QHTB Investment Tax Credit

Cost Data

Investments made during Tax Years 2000, 2001, 2002, and 2003 identify a corresponding future credits claimed stream. This stream is developed from actual credits claimed, the tax credit aging schedule developed from these investments, and historical amounts of tax credit carryover. Investments made in any of the tax years generate credits claimed over a five year period, and longer with credit carryover. At a minimum, the cost stream of credits claimed in this study covers the period from Tax Year 2000 through Tax Year 2007.

To determine the present value, as of tax year 2003, for tax credits claimed in any of the tax years covered in this analysis, the amount of tax credits claimed in each tax year is normalized to the year 2003. Tax credits claimed before 2003 are adjusted forward, and tax credits claimed after 2003 are adjusted backward to 2003, using the same discount rate. The present value of the tax credits through 2003 is the sum of the annual adjusted tax credits from 2000 through 2003. The present value of the tax credits through 2007 is the sum of the annual adjusted tax credits from 2000 through 2007.

The present value of the tax credits through a given tax year is modified by multiplier values (output, earnings, state tax, jobs), to arrive at a measure of the economy-wide present value cost of the QHTB investment tax credit. DBEDT's 2002 State Input-Output Study for Hawaii publishes multiplier values for 67 industry sectors. Multiplier values representing the State and Local government sector are used to measure the cost impact of the QHTB investment tax credit, when it is assumed that public program spending, in the amount of the tax credits claimed, is the foregone opportunity cost. Multiplier values representing Personal Consumption Expenditure

for the household sector are used to the measure the cost impact of the investment tax credit, when it is assumed that public programs are maintained at pre tax credit levels, but that other taxes (income tax, for example) need to be raised in order to support the tax credit expenditures.

DBEDT's published multipliers are of two general types: Type I multipliers and Type II multipliers. The study utilizes Type II multipliers as the broadest measure of the cost impact of the QHTB investment tax credit program. Type I multipliers represent direct and indirect (inter-industry) effects as a multiple of the direct effects. Type II multipliers represent direct, indirect, and induced (income-induced household spending) as a multiple of the direct effects.

Benefit Data

QHTB gross revenue data from the Department of Taxation for tax year 2003 identify the sales of QHTBs who reported, by qualified research activity. This study categorizes these qualified research activities to align, as best possible, with NAICS type industry sectors. The assignment process facilitates the use of DBEDT's multiplier values that are defined in terms of these industry sectors. Computer software design sales are assigned to the Publishing (including Internet) sector. Performing arts sales are assigned to the Motion Picture and Sound Recording sector. IRC section 41(d), biotechnology, sensor and optic technologies, ocean sciences, ocean science, astronomy, and non-fossil fuel energy related technology sales are combined to form an aggregate and assigned to the R&D in the Physical, Engineering and Life Sciences sector. Revenues reported under a Multiple category are allocated to the three prior sectors (publishing, motion picture, and R&D) by business unit count share. Allocation by dollar sales did not yield very different results and are not reported here.

The analysis assumes that the 2003 level of QHTB sales activity remains constant in real terms. This identifies the base of the future benefit stream. No further investment in QHTBs established as of 2003 is assumed to occur. The absence of QHTB firm data precludes estimates of sales activity growth financed by retained earnings or other sources of investment funds.

Economy wide QHTB benefits in 2003 are derived by applying sectoral multiplier values for the computer software design, performing arts and an aggregate R&D sectors, including amounts allocated from the Multiple category, to their respective sales in 2003. Benefits occurring prior to 2003 are estimated, using a two year average of estimated QHTB investments and a proportionality factor derived from 2003 data, and are adjusted forward. Benefits after 2003 are held constant in real terms and are adjusted backward to 2003. Both adjustments use the same discount rate. The present value of QHTB benefits through 2003 is the sum of the annual adjusted benefits from 2000 through 2003. The present value of QHTB benefits through 2007 is the sum of the annual adjusted benefits from 2000 through 2007.

Whether the QHTB investment tax credit affects incremental investment and firm sales above what would have occurred without the credit is an unanswered question. The kinds of activities and sales that would have occurred without the credit include: sales that a firm would have produced even without the credit, sales by QHTBs that replace or displace sales by non-QHTB technology firms, sales by QHTBs that are "drop down" subsidiaries of an existing firm.

The reported 2003 Hawaii QHTB sales could include effects of the phenomenon described above. The term "displacement" is here used to describe the amount of activities and sales that would have occurred without the credit and are "displaced" by QHTB investment tax credit activities. Sensitivity analysis for various levels of displacement, 10 percent, 20 percent, and 40 percent, are examined. Two discount rates are utilized: a ten percent rate represents pre-tax long term return on U.S. equities; a seven percent discount rate represents after tax return.

Estimates of the benefit-to-cost ratio appear in the main body of the report. Estimates of the underlying present value (2003 base year) benefits and costs in each of the years 2003 through 2007 appear in Table A1 through Table A4.

Rate of Return Illustrations

The authors interviewed three individuals who participate in Hawaii's venture capital market in order to better learn how venture capital markets operate, both here in Hawaii and on the U.S. Mainland.[136] We asked all three to identify the typical rate of return on venture capital investments. Since venture capital typically finances high risk business start-ups, rate of return estimates are based on capital gains realized after a period of time, which varies from five to ten years, when the venture capital investor exits the investment through the sale of equity.

Rough industry experience suggests that during this phase, 80 to 90 percent of good quality high risk business startups fail, but that the 20 percent that succeed will return some high multiple of the original investment. This multiple is reported to range from 5-times investment in 3 years, to 8-times in 5 years, to 10-times in 10 years. Early stage venture capital investment returns are also reported to range from 15 percent to 25 percent annual rates.

An October 15, 2006, article by Mike Fitzgerald, notes that "one goal specifically contemplated by the Legislature was to attract capital from the Mainland, foreign, and tax-exempt sources by permitting the allocation of credits from their investments to Hawaii taxpayers. Act 221/215 has fostered these new sources of capital."[137]

While there have been no published data of the extent to which outside capital is flowing to Hawaii to finance QHTBs or other non-QHTB high technology businesses, Jeffrey Au has suggested this amount may be as much as 40 percent of the total QHTB investment.[138]

The illustrations developed in Table A5 and Table A6, utilize the following assumptions:

1) Venture capital exits at the end of five years
2) Eighty percent of high technology business startups fail during this five year period
3) Capital gains on the twenty percent of the high technology business startups that survive this period range from multiples of 8-times investment to 4-times investment
4) Non Hawaii investment to Hawaii investment ratios are examined across two ratio values: 40 percent non-Hawaii to 60 percent Hawaii sourced investment; 50 percent non-Hawaii to 50 percent Hawaii sourced investment.
5) On an illustrative $100 investment, $1 or 1% of equity is traded for each $1 of QHTB tax credit, in arrangements where Hawaii investors trade their equity for the QHTB tax credit.

Table A1
Benefit and Costs of QHTB Tax Credit Program
2000 - 2003 Investments in QHTBs
Tax Expenditures Reduce Other Government Spending
Discount Rate = 10 %

		Cumulative Costs	Cumulative Benefits Displacement of Existing High Tech Sales			
			None	10%	20%	40%
Final Demand	2003	156.39	160.87	144.78	128.69	96.52
Output Effect	2004	225.12	244.47	220.02	195.57	146.68
($million)	2005	288.11	320.47	288.42	256.37	192.28
	2006	324.57	389.56	350.60	311.65	233.74
	2007	335.07	452.37	407.13	361.90	271.42
Final Demand	2003	75.00	59.42	47.53	53.47	35.65
Earnings Effect	2004	107.97	90.29	72.23	81.26	54.18
($million)	2005	138.18	118.36	94.69	106.53	71.02
	2006	155.66	143.88	115.11	129.49	86.33
	2007	160.06	167.08	133.66	150.37	100.25
Final Demand	2003	6.94	8.44	7.27	6.17	4.19
State Tax Effect 1/	2004	9.99	12.82	11.21	9.68	6.82
($million)	2005	12.79	16.80	14.80	12.87	9.22
	2006	14.41	20.43	18.06	15.76	11.39
	2007	14.81	23.72	21.02	18.40	13.37
Final Demand	2003	1,078	847	762	678	508
Jobs Effect /2						

1/ Tax costs represent only taxes foregone from reduced public sector expenditure; Tax expenditures not included in cumulative cost

2/ Job count not subject to discount rate

Table A2
Benefit and Costs of QHTB Tax Credit Program
2000 - 2003 Investments in QHTBs
Tax Expenditures Reduce Other Government Spending
Discount Rate = 7 %

		Cumulative Costs	Cumulative Benefits Displacement of Existing High Tech Sales			
			None	10%	20%	40%
Final Demand	2003	153.54	160.87	144.78	128.69	96.52
Output Effect	2004	224.21	246.81	222.13	197.45	148.09
($million)	2005	290.78	327.13	294.42	261.71	196.28
	2006	330.38	402.20	361.98	321.76	241.32
	2007	340.62	472.36	425.12	377.89	283.41
Final Demand	2003	73.64	59.42	53.47	47.53	35.65
Earnings Effect	2004	107.53	91.16	82.04	72.93	54.70
($million)	2005	139.45	120.82	108.74	96.66	72.49
	2006	158.45	148.55	133.70	118.84	89.13
	2007	163.36	174.46	157.02	139.57	104.68
Final Demand	2003	6.82	8.44	4.19	6.17	7.27
State Tax Effect 1/	2004	9.95	12.94	6.90	9.78	11.32
($million)	2005	12.91	17.15	9.43	13.15	15.11
	2006	14.66	21.09	11.79	16.29	18.66
	2007	15.12	24.77	13.99	19.24	21.97
Final Demand	2003	1,078	847	762	678	508
Jobs Effect /2						

1/ Tax costs represent only taxes foregone from reduced public sector expenditure; Tax expenditures not included in cumulative cost

2/ Job count not subject to discount rate

Table A3
Benefit and Costs of QHTB Tax Credit Program
2000 - 2003 Investments in QHTBs
Tax Credits Offset by Increased Personal Income Tax
Discount Rate = 10 %

		Cumulative Costs	Cumulative Benefits Displacement of Existing High Tech Sales			
			None	10%	20%	40%
Final Demand	2003	118.89	160.87	144.78	128.69	96.52
Output Effect	2004	171.14	244.47	220.02	195.57	146.68
($million)	2005	219.02	320.47	288.42	256.37	192.28
	2006	246.74	389.56	350.60	311.65	233.74
	2007	253.71	452.37	407.13	361.90	271.42
Final Demand	2003	33.51	59.42	53.47	47.53	35.65
Earnings Effect	2004	48.24	90.29	81.26	72.23	54.18
($million)	2005	61.74	118.36	106.53	94.69	71.02
	2006	69.55	143.88	129.49	115.11	86.33
	2007	71.51	167.08	150.37	133.66	100.25
Final Demand	2003	6.14	8.44	6.54	4.94	2.52
State Tax Effect 1/	2004	8.84	12.82	10.09	7.74	4.09
($million)	2005	11.32	16.80	13.32	10.29	5.53
	2006	12.75	20.43	16.25	12.61	6.83
	2007	13.11	23.72	18.92	14.72	8.02
Final Demand Jobs Effect /2	2003	1,078	847	762	678	508

1/ Tax costs represent only taxes foregone from reduced public sector expenditure; Tax expenditures not included in cumulative cost

2/ Job count not subject to discount rate

Table A4
Benefit and Costs of QHTB Tax Credit Program
2000 - 2003 Investments in QHTBs
Tax Credits Offset by Increased Personal Income Tax
Discount Rate = 7 %

		Cumulative Costs	Cumulative Benefits Displacement of Existing High Tech Sales			
			None	10%	20%	40%
Final Demand	2003	116.72	160.87	144.78	128.69	96.52
Output Effect	2004	170.44	246.81	222.13	197.45	148.09
($million)	2005	221.05	327.13	294.42	261.71	196.28
	2006	251.16	402.20	361.98	321.76	241.32
	2007	258.94	472.36	425.12	377.89	283.41
Final Demand	2003	32.90	59.42	53.47	47.53	35.65
Earnings Effect	2004	48.04	91.16	82.04	72.93	54.70
($million)	2005	62.31	120.82	108.74	96.66	72.49
	2006	70.80	148.55	133.70	118.84	89.13
	2007	72.99	174.46	157.02	139.57	104.68
Final Demand	2003	6.03	8.44	6.54	4.94	2.52
State Tax Effect 1/	2004	8.81	12.94	10.19	7.82	4.14
($million)	2005	11.42	17.15	13.60	10.52	5.66
	2006	12.98	21.09	16.79	13.04	7.07
	2007	13.38	24.77	19.77	15.39	8.40
Final Demand	2003	1,078	847	762	678	508
Jobs Effect /2						

1/ Tax costs represent only taxes foregone from reduced public sector expenditure; Tax expenditures not included in cumulative cost

2/ Job count not subject to discount rate

Table A5
Illustrative Expected Return over 5 Years on a $100 QHTB Investment in a QHTB /1
50% Hawaii - 50% Non Hawaii Investment

	QHTB Investment Tax Credit Multiple			Investment without Tax Credit
	2.0	1.5	1.0	
Expected Return Before Tax – 5 Year Capital Gains $800				
Hawaii Investor	$50	$65	$80	$40
Non-Hawaii Investor	$120	$80	$40	$40
State QHTB Tax Credits	-$100	-$75	-$50	$0
Hawaii Investor	100%	130%	160%	80%
Non-Hawaii Investor	240%	160%	80%	80%
Expected Return Before Tax – 5 Year Capital Gains $600				
Hawaii Investor	$50	$55	$60	20
Non-Hawaii Investor	$80	$50	$20	20
State QHTB Tax Credits	-$100	-$75	-$50	0
Hawaii Investor	100%	110%	120%	40%
Non-Hawaii Investor	160%	100%	40%	40%
Expected Return Before Tax – 5 Year Capital Gains $400				
Hawaii Investor	$50	$45	$40	$0
Non-Hawaii Investor	$40	$20	$0	$0
State QHTB Tax Credits	-$100	-$75	-$50	$0
Hawaii Investor	100%	90%	80%	0%
Non-Hawaii Investor	80%	40%	0%	0%

1/ Average firm failure rate of 80% over 5 year venture capital phase

Table A6
Illustrative Expected Return over 5 Years on a $100 QHTB Investment in a QHTB /1
60% Hawaii – 40% Non Hawaii Investment

	QHTB Investment Tax Credit Multiple			Investment without Tax Credit
	1.67	1.5	1.0	
Expected Return Before Tax – 5 Year Capital Gains $800				
Hawaii Investor	$40	$46	$96	$48
Non-Hawaii Investor	$128	$112	$32	$32
State QHTB Tax Credits	-$100	-$90	-$60	$0
Hawaii Investor	67%	77%	160%	80%
Non-Hawaii Investor	320%	280%	80%	80%
Expected Return Before Tax – 5 Year Capital Gains $600				
Hawaii Investor	$40	$42	$72	$24
Non-Hawaii Investor	$88	$76	$16	$16
State QHTB Tax Credits	-$100	-$90	-$60	$0
Hawaii Investor	67%	70%	120%	40%
Non-Hawaii Investor	220%	190%	40%	40%
Expected Return Before Tax – 5 Year Capital Gains $400				
Hawaii Investor	$40	$38	$48	$12
Non-Hawaii Investor	$48	$40	$0	$8
State QHTB Tax Credits	-$100	-$90	-$60	$0
Hawaii Investor	67%	63%	80%	20%
Non-Hawaii Investor	120%	100%	0%	20%

1/ Average firm failure rate of 80% over 5 year venture capital phase

Appendix B

DBEDT issued a 2001-2005 report on technology job counts and wages on October 23, 2006 (Table B1),[139] after the date of our Final Report. The total job count grows by 350, with the only growth occurring in the Scientific and Technology R&D sector. Of this increase, one third is accounted for by seed corn research in 2005. This is quite understandable given that a business can get a refundable Hawaii R&D credit based upon a portion of R&D expenditures. If the business is a QHTB, its investors can also qualify for a nonrefundable Act 221 credit based upon the amount invested in a QHTB. Under Act 215, the business has to be a QHTB in order to get the refundable "R&D" credit.

The body of our report looks at DBEDT 2001-2004 preliminary data. These data show a decrease in "technology jobs" using NAICS codes. The DBEDT 2001-2005 technology jobs data just released show a mild increase.

Specifically, the new DBEDT data show a 2.6 percent increase in "all private technology" jobs in Hawaii from 2001-2005. It is important to note that growth in "all private sector jobs" in Hawaii is 9.2 percent for this period. Stated alternatively, the rate of growth in "all private technology" jobs in Hawaii is about one-fourth of the growth in "all private sector jobs." Thus, the relative share of technology sector jobs and technology sector wages with respect to those of the private sector still decline over the period from 2001 to 2005, the same as was reported using earlier data for 2001-2004.

In using these data to make an inference about the relative performance of the high technology sector in Hawaii, it is important to look at external benchmarks. If the technology sector performance is strong at the national level, regional or local technology sector performance is buoyed by overall sector strength. Using Bureau of Economic Analysis data from 2001-2004, technology jobs as a share of private sector jobs in Hawaii have fared no better than the performance of other states, over the period from 2001-2004. Federal data for the 2001-2005 period are not yet publicly available

Table B1
Technology Sector Job Counts and Wages: 2001-2005 (Oct 2006)

Major Sector	Measure	Year 2001	2002	2003	2004	2005 est	% change 2001-2005
Scientific and Technology R&D	Jobs	1,911	2,045	2,243	2,379	2,600	36.1%
	Wages ($million)	87	96	115	130	148	70.4%
	Ave. Wage ($)	45,485	46,847	51,461	54,616	56,942	25.2%
Manufacture of Technology Products	Jobs	653	468	342	334	391	-40.1%
	Wages ($million)	36	20	12	12	17	-53.6%
	Ave. Wage ($)	54,967	42,706	35,075	35,811	42,552	-22.6%
Technology Services	Jobs	10,900	10,863	10,518	10,393	10,822	-0.7%
	Wages ($million)	549	565	569	587	629	14.6%
	Ave. Wage ($)	50,357	51,995	54,109	56,468	58,120	15.4%
All Private Technology	Jobs	13,463	13,376	13,104	13,106	13,813	2.6%
	Wages ($million)	672	681	697	729	794	18.2%
	Ave. Wage ($)	49,889	50,883	53,159	55,606	57,458	15.2%
All Private Sector	Share of Tech Jobs	3.0%	3.0%	2.9%	2.8%	2.8%	
	Share of Tech Wages	5.0%	4.9%	4.8%	4.6%	4.7%	

Source: Hawaii Department of Business, Economic Development & Tourism, Oct 2006
Data from the Hawaii Department of Labor and Industrial Relations, Unemployment Insurance Division

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Endnotes

[1] Act 221 (of 2001) became incorporated into the Hawaii Revised Statutes in Chapter 235, Section 110.9 . In Hawaii, each year a "Bill" becomes an "Act" when passed by the legislature and signed into law by the governor. The "Act" is then incorporated into the Hawaii Revised Statutes. Thus Act 221 (of 2001) refers to different subject matter than Act 221 (of 2002). (An informative and entertaining treatment of this subject – along with links to the Hawaii Revised Statutes— can be found at http:hawaiifilmoffice.blogspot.com).

[2] The instructions to State of Hawaii—Department of Taxation Form N-318 indicate that, in the year in which the investment in a QHTB is made, the taxpayer's Act 221 credit is 35% of investment up to a maximum credit of $700,000 per each qualified high technology business. On a $2,000,000 investment, over 5 years, a taxpayer can receive a total of $2,000,000 in Act 221 credits. See also HRS 235-110.9.

[3] For purposes of this report, "Act 221 (of 2001)" will be referred to as "Act 221". "Act 221" is also often used when referring to the high technology business investment tax credit program.

[4] Act 215 (of 2004) is sometimes referred to as Act 221/215 or Act 221/ Act 215. Even after the passage of Act 215 (of 2004), the high technology business investment tax credit remains commonly known as "Act 221". The Honolulu Advertiser sometimes refers to it as "Act 221 (now known as Act 215)." See HRS 235-110.9.

[5] Hoffman, Mary Ann, "The State Corporate Income Tax: A Synthesis of Student Research," Journal of Accounting Literature 21 (2002): 76-119.

[6] Fox, William F., and LeAnne Luna, "State Corporate Tax Revenue Trends: Causes and Possible Solutions," National Tax Journal 55 No. 3 (September, 2002): 491-508.

[7] Fox and Luna (2002).

[8] Id.

[9] Id.

[10] Id.

[11] Wasylenko, W., "Taxation and Economic Development: The State of the Economic Literature," New England Economic Review (March/April 1997): 37-52.

[12] Cornia, Gary, Kelly D. Edmiston, David L. Sjoquist and Sally Wallace, "The Disappearing State Corporate Income Tax," National Tax Journal 58 No. 1 (March, 2005): 115-38.

[13] Cornia, et al. (2005).

[14] Id.

[15] The authors examined corporate tax panel data from 44 states. Of these, 30 states have trends reflecting the divergence between Gross State Product (GSP) and state corporate income tax (SCIT) revenues. For 23 of these 30 states, the divergence between GSP and SCIT revenues is continuous. While some of these 30 states show

relatively minor divergence between GSP and SCIT revenues, 5 states show very large divergences over the past two decades. Hawaii is 1 of these 5 states. Cornia, et al (2005).

[16] Multistate Tax Commission, "Corporate Tax Sheltering and the Impact on State Corporate Income Tax Revenue Collections," State Tax Notes 20 No. 3 (July 21, 2003): 237-41.

[17] Multistate Tax Commission (2003).

[18] Council on State Taxation. "Abusive Tax Shelters Should Be Curtailed, but the Multistate Tax Commission's Exaggerated Numbers Aren't Helpful to the Debate." *State Tax Notes 19 No. 4* (July 28, 2003): 309-14.

[19] Council on State Taxation (2003).

[20] Id.

[21] Id.

[22] Id.

[23] Petroni, K. and D. Shackelford, "Managing Annual Accounting Reports to Avoid State Taxes: An Analysis of Property-Casualty Insurers," The Accounting Review 74(3) (1999): 371-393.

[24] Petroni and Shakleford (1999).

[25] Jeff Au, Managing Director, PacifiCap Group, LLC, questioned the authors' decision to search the Internet for relevant "business climate" studies relating to Hawaii and to include the results of such studies in the Draft Report. Mr. Au shared the following: "You might want to interview Act 221 investors to measure the extent that negative politics and press spin surrounding Act 221 has affected the "Business Climate" in Hawaii and our state's grade of "F" for "business vitality" and "development capacity." This also can be well documented by comparing the numerous press articles with negative "press spin" on Act 221 over the past 5 years with empirical data subsequently released by the Department of Taxation to date. If there is a large discrepancy between them, then the question is what and who are the sources of these discrepancies and why. Out of curiosity, are the press articles and secondary sources you quote ones that you independently found from your own research, or were they provided to you by someone?"

[26] The "Development Report Card for the States" (2006) is available at the website www.cfed.org (the official website for the nonprofit organization founded as the Council for Economic Development).

[27] The Milken Institute State Technology and Science Index (2002) is available at www.MilkenIstitute.org .

[28] The Milken Institute's Cost of Doing Business Index (2005) is also available at www.MilkenIstitute.org .

[29] "This index measures wage costs, taxes, electricity costs and real estate costs for industrial and office space. Each state is measured on the five individual categories, and those weighted scores are compiled to make the overall index". See Milken (2006)

[30] See "Forbes Ranks Hawaii Low for Doing Business" in the Pacific Business News (Honolulu), (August 17, 2006).

[31] See "Trouble in Paradise: Why Doing Business in Hawaii Has Become Nearly Equivalent to Suicide" (2002) available on the website www.forbes.com .

[32] Zee, Howell H., Janet G. Stotsky, and Eduardo Ley, "Tax Incentives for Business Investment: A Primer for Policy Makers in Developing Countries," World Development Vol. 30 No. 9 (2002): 1497-1516; Christopher Grandy, "Tax Incentives and the Public/Private Boundary," Unpublished manuscript, University of Hawaii Public Administration Program. (2003); Joseph Toy and James Mak, "Tax Incentives in Tourism: Hawaii's Hotel Remodeling and Construction Tax Credits," Unpublished manuscript, University of Hawaii Economics Program (July, 2003).
[33] Buss, Terry F., "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions: An Overview of the Literature," Economic Development Quarterly 15 No. 1 (February, 2001): 90-105.
[34] Zee, Stotsky and Ley (2002), p.1499.
[35] Id. p.1498.
[36] Buss (2001), p. 101.
[37] Zee, Stotsky and Ley (2002), p.1510; Buss (2001), p.101.
[38] The Report of the 2001-2003 Tax Review Commission (State of Hawaii), p.8.
[39] The "Development Report Card for the States" (2006).
[40] Sandler, Daniel, "Tax Incentives and Informal Venture Capital: Of Love and Angels," NASVF- NetNews 9255. Vol. 8, No. 28 (2004). Reproduced as "Tax Incentives and Informal (Angel) Capital: Federal & State Incentive Review and Commentary" in VC Experts, The Encyclopedia of Private Equity and Venture Capital, Book 3: Angels/Founders Round, section 3.5.5. http://www.nasvf.org
[41] Sandler (2006).
[42] Id.
[43] Id.
[44] Id.
[45] Id.
[46] Id.
[47] Id.
[48] Florida, Richard and Donald F. Smith, Jr., "Venture Capital Formation, Investment, and Regional Industrialization," Annals of the Association of American Geographers, vol. 83, No. 3. (Sept., 1993), p. 437.
[49] Sandler (2006)
[50] State Credit Incentives for Equity Investments: A Study of Current Practices. National Association of Seed and Venture Funds. p.4 (2004).
[51] State Credit Incentives for Equity Investments: A Study of Current Practices. National Association of Seed and Venture Funds. p.4 (2004).
[52] State Credit Incentives for Equity Investments: A Study of Current Practices. National Association of Seed and Venture Funds. p.4 (2004).
[53] In 2003, Hawaii's GDP per capita of $30,913 exceeded the national median.
[54] See Appendix C, 1995-2005 PriceWaterhouseCoopers MoneyTree Survey, in (NASVF) Fostering Innovation Capital, Seed and Venture Capital, State Experiences and Options (May, 2006).
[55] 1995-2005 PriceWaterhouseCoopers MoneyTree Survey.
[56] Act 221 (of 2001) became incorporated into the Hawaii Revised Statutes in Chapter 235, Section 110.9.

[57] HRS Section 235-110.9(e).
[58] Act Section 215 changed the definition of "qualified research" as it relates to the "development and design of computer software."
[59] The 2004 legislation removed the Act 221 language "using fourth generation or higher software development tools or native programming languages to design and construct unique and specific code to create applications and design databases for sale or license."
[60] This assumes that all applicable sources of Hawaiian state tax law –including Act Section 221 and Act Section 215-- are satisfied.
[61] In Year 3, the credit recapture amount is computed as follows: 10% ($700,000 + $500,000).
[62] In Year 5, the credit recapture amount is computed as follows: 10% ($400,000 + $200,000).
[63] In Year 2, the credit recapture amount is computed as follows: 10% ($700,000).
[64] The total "lost" Act 221 credit over these 4 years (Years 2-5) will be $1.3 million.
[65] Tax Information Release No. 2003-01 (March 17, 2003).
[66] Id.
[67] In this example, Taxpayer A has an Act 221 credit multiple of 4:1. Act 215 (of 2004) codifies the economic substance and business purpose doctrines. (See also "Presumption Relating to Doctrines of Economic Substance and Business Purpose" section of the Final Report). Please note that credit multiples of 1.5 or greater --but less than 2.0-- may be reviewed by the Department of Taxation for purposes of applying these doctrines. Where the credit multiple rate is greater than 2.0, the QHTB must substantiate economic merit and business purpose.

While the Department of Taxation reviews information for purposes of issuing comfort rulings, the Department of Taxation has indicated that it does not know how many QHTBs exist "in the universe of QHTBs". The reason is that a business does not have to obtain a comfort ruling in order to be a QHTB. While the credit multiple for QHTBs that do not seek a comfort ruling can be determined upon audit, for certain years, the audit rate is less than 2%, and for some years, less than 1%. (See "Audit Rate" section of this Final Report).
[68] Ray Kamikawa, former Tax Director and currently an attorney in Honolulu, Hawaii, is often referred to as the architect of Act 221.
[69] This last sentence came from contemporaneous notes taken by one of the authors of this Final Report. For this reason, the authors did not include it in quotes.
[70] Id.
[71] Id.
[72] Id.
[73] Id.
[74] Id.
[75] Id.
[76] Tax Information Release No. 2003-01 (2003).
[77] Id.
[78] Id.

[79] Id.
[80] Department of Taxation Announcement No. 2003-01 (April 8, 2003).
[81] Form N-318 is entitled "High Technology Business Investment Tax Credit".
[82] Form N-317 is entitled "Statement by a Qualified High Technology Business".
[83] Form N-318A is entitled "Statement of Investment in a Qualified High Technology Business".
[84] Act Section 215 (2004).
[85] October 12, 2006, teleconference between authors and members of the Department of Taxation. The Director of Taxation presumably uses the term "universe of QHTBs" to refer to all QHTBs (those for which comfort rulings have been made and have not been made). It should be possible for the Department of Taxation to track QHTBs for certain years – especially after the enactment of Act 215 (2004)—but the Department of Taxation could not make this information available to the authors.
[86] Ted Liu quoted in "Tax Incentive Issues Still Tops At Legislature" by Terrence Sing. Pacific Business News (Honolulu). February 6, 2004.

In an e-mail dated October 11, 2006, Jeffrey Au, Managing Director, PacifiCap Group, LLC shared the following thoughts: "Regarding the quote from DBEDT Director Ted Liu that 'Liberal construction has not achieved its purpose, rather it's done the opposite by overloading the Department of Taxation in reviewing proposals they shouldn't be.' Have you asked Mr. Liu what empirical data supports this assertion and how he obtained it, given that requests to the Tax Department are confidential and should not be accessable to DBEDT? Have you asked Tax Director Kawafuchi if he agrees with this conclusion, and if so, what empirical evidence there is to back it up, e.g., how many proposals had to be reviewed that shouldn't have been, but for 'liberal construction?'."
[87] Jeffrey Au, Managing Director, PacifiCap Group, LLC, shared the following thoughts: "The RFP for your study expressly required the analysis of several different tax credits. Such an analysis would provide a comparative perspective in evaluating the Act 221 Investment Tax Credit. Yet, your study only analyzes one credit. Why is this? Did you independently decide to study just this one credit, or were you instructed to do so, and if so, by whom and why? Is this in violation of the RFP, and more broadly, state procurement laws?"
[88] The authors had difficulty obtaining certain aggregate information from the Department of Taxation. For example, the authors made several e-mail requests asking for a "count" of the total number of QHTBs in existence for each of the years 2001-2005. Due to changes in the tax forms –and the way in which certain tax forms are constructed—the Department of Taxation was not able to provide us with this information at a telephone conference on Thursday, October 12, 2006.

In some cases, the Department of Taxation provided us with aggregate information after numerous requests. The authors sent a number of e-mails to the Department of Taxation. One of the items requested was a "count" of the total number of comfort rulings issued from 2001-2005 by the Department of Taxation. Six days after the Draft Report presentation was made to the Tax Review Commission, the authors learned the

answer to this question at a teleconference with members of the Department of Taxation.

[89] By way of contrast, the State of Maine is known for the generous incentives it offers through its Seed Capital Tax Credit program. Maine offers tax credits equal to 40% of the investment (60% for investments made in businesses located in high unemployment areas).

[90] National Association of Seed and Venture Funds (NASVF), Fostering Innovation Capital, Seed and Venture Capital, State Experiences and Options (May, 2006), p 14-15.

[91] (NASVF) Fostering Innovation Capital, Seed and Venture Capital, State Experiences and Options (May, 2006).

[92] 2003 PriceWaterhouseCoopers MoneyTree Survey. See also State Credit Incentives for Equity Investments: A Study of Current Practices. National Association of Seed and Venture Funds (2004), p.5.

[93] Hawaii ranked 38th out of 53. The study ranked all 50 states along with "DC," "Puerto Rico," and "Undisclosed/Other."

[94] 0.098%.

[95] Hawaii's relative share of private institutional venture capital investment from 1995-2005 was 0.098%. Its relative share from 2001-2005 was .08%.

[96] It should be noted that, over time, the number of states offering such programs is subject to fluctuation.

[97] Allegis Capital is a $500 million venture capital fund based in California.

[98] "Allegis Capital Director Says Act 221 Needs Fixing," by David Butts, The Honolulu Advertiser, (June 30, 2003) posted on the website HonoluluAdvertiser.com . It should be noted that the NASVF estimates that, in 2005, total private institutional venture capital was $21 billion and total angel investment was $23 billion.

[99] Id. In response to Barry Wienman's quote, Jeffrey Au, Managing Director, PacifiCap Group, LLC, shared the following thoughts in an e-mail to one of the authors: "Could you clarify the logic of Mr. Weinman's quote that 'Act 221. . .discourages the formation of a large pool of capital here. . . ' Pension funds, endowments and trusts are primarily nonprofits that pay no tax and for whom tax credits have no impact. How do you distinguish the 'better companies' from the 'tax deals' in Hawaii when most Act 221 investments included BOTH investors receiving tax credits AND investors receiving ZERO CREDITS, investing in the SAME COMPANY at the SAME TIME? How can the SAME COMPANY be BOTH a 'better company' and (an implicitly 'bad') 'tax deal' at the SAME TIME? Hypothetically, how does the existence of 'tax deals' discourage investment in "non-tax deals" by nonprofit pension funds, endowments and trusts, for whom tax credits are irrelevant and have no impact, either positive or negative? Logically, how would tax credit investors investing in lousy deals in any way affect or prevent tax exempt investors from investing in completely unrealated 'better company' nontax deals? Is there any empirical evidence to show that these nonprofit institutional investors are in fact so philosphically opposed to the preferential tax treatment of Act 221, and if they are, why don't they give up their own tax exempt status? What has a greater negative impact on Hawaii tax revenues--Act 221, or the tax exempt status of

pension funds, endowments and trusts? Should the same cost-benefit analysis and metrics be applied to both?"

[100] Phone interview between Jeffrey Au, Managing Director, PacifiCap Group, LLC, and Dr. Marcia Sakai, September 28, 2006.

[101] Information provided to the authors by the Department of Taxation. See also Table 1 of this report.

[102] The actual total amount of credits claimed is $ .393633 million. Accordingly, the authors of this report rounded the number .3 million to .4 million. See also Table 1 of this report.

[103] Rounding error of .1 million occurs because the credits claimed figure for each tax year are first rounded and then added together to determine total figure.

[104] According to Dr. Sakai, the $75 million claimed during this period is part of the $185.1 million amount.

[105] This information is available on the Department of Taxation's website.

[106] Computed as follows: High Technology Credit/ GRAND TOTAL for insurance underwriters or $13,057,896/ $13,518,439. See "Table 1:Dollar Amounts of Tax Credits Claimed by Type of Credit and Type of Taxpayer–2002".

[107] Computed as follows: High Technology Credit/ GRAND TOTAL for individual taxpayers or $11,191,036/ $75,178,425. See "Table 1:Dollar Amounts of Tax Credits Claimed by Type of Credit and Type of Taxpayer–2002".

[108] Computed as follows: High Technology Credit claimed by individuals in First Taxation District is $9,485,330. Total claimed by individuals is $11,191,036. $9,485,330/ $11,191,036 = 84.76%. See "Table 2: Number of Returns Claiming Selected Tax Credits by Type of Credit and by Taxation District–2002" available on the Hawaii Department of Taxation's website.

[109] Computed as follows: High Technology Credit claimed by individuals in Second Taxation District is $ 1,541,859. Total claimed by individuals is $11,191,036. $1,541,859/ $11,191,036 = 13.78%.

[110] Russo, Benjamin, "A cost-benefit analysis of R&D tax incentives," Canadian Journal of Economics Vol. 37 No. 2 (May, 2004), p. 320.

[111] Zee, et al. (2002), p.1508.

[112] The benefit-cost ratios presented are the result of calculations, using a scenario approach. The use of scenarios arises from the absence of information from which to build a reasonable model of the venture capital market, both supply of funds as well as the demand for funds, in Hawaii. As such, there is no explicit calculation of the change in net welfare.

[113] "Tech credit's value lost in flawed analysis," commentary by Mike Fitzgerald, President of Enterprise Honolulu, and Bill Spencer, President of Hawai'i Venture Capital Association, the Honolulu Advertiser (October 15, 2006).
Fitzgerald, et al. (2006), pp. B1,B3.

[114] After the Draft Report was submitted, the authors were informed by Mr. Donald Roussling, Tax Research and Planning of the Department of Taxation, that the jobs count reported in Tables 2 and 3 do not necessarily measure the same thing. Data reported in these tables are derived from N317s submitted by QHTBs in Tax Year 2002 and Tax Year 2003. The N317, or equivalent form, was modified in 2003 to ask

for data regarding jobs created since inception, while the form for 2002 asked for data regarding anticipated job creation. We had initially calculated the point elasticity for jobs created by QHTBs in response to changes in investment to be 0.21, on the basis that data from both years were comparable. However, since this does not now appear to be case, we draw no inferences from the above .21 point elasticity statistic.

[115] Ann Chung is Vice President Government and Community Relations for the Hawaii Science & Technology Council.

[116] "Tech sector tiny but teeming," by Sean Hao (February 20,2006), the Honolulu Advertiser, posted on the website http://the.honoluluadvertiser.com .

[117] Id.

[118] Fitzgerald et al. (2006).

[119] See the Table 9 "Technology Sector Job Counts and Wages, 2001-2004." In 2004, of the 13,106 total technology jobs reported by the DBEDT, only 334 related to the category "Technology Manufacturing."

[120] In an opinion piece in the Honolulu Advertiser, spokespersons for the Hawaii high technology industry claimed that for 2002 and 2003 more than 4,000 jobs were created according to Department of Taxation data. When calculating "technology jobs", the spokespersons for the technology industry counted "performing arts products" jobs as "technology" jobs. Fitzgerald et al. (2006).

[121] The DBEDT data classify "technology" jobs by using the widely-accepted NAICS system.

[122] It should also be noted that some of the "net" technology jobs collected by the DBEDT are not jobs for which an Act 221 credit is claimed. Some of the "gross" jobs reported by the Department of Taxation are susceptible to "double counting".

[123] See "High Tech: A Product, A Process, or Both?," In Context: The Indiana Economy, Vol 1, Issue 6 (June, 2000).

[124] See section of Final Report entitled "Department of Taxation's Act 221 Audit Rate".

[125] For example, according to the Honolulu Advertiser, "Hoku Scientific, a Kapolei-based fuel cell technology company, has added about 15 jobs since 2002 and has become a publicly-traded company." See "Tech sector tiny but teeming," by Sean Hao, (February 20, 2006).

[126] The Department of Taxation reported these two activities in combined form.

[127] 2001-2003 Report, The Tax Review Commission to the State of Hawaii, p. 8.

[128] $20 M in Act 221 tax credits audited by state," by Sean Hao, the Honolulu Advertiser (June 13, 2004), posted on the website http://the.honoluluadvertiser.com .

[129]Mr. Kawafuchi sometimes refers to the refundable research and development credit as the "research credit" and the non-refundable QHTB credit as the "investment tax credit". This can lead to no small amount of confusion. A business can qualify for a refundable research and development credit based upon a percentage of research and development expenditures under I.R.C. Section 41(d). In 2004, Act 215 required a business to be a QHTB to qualify for the refundable research and development credit.

"Research and development under 41(d)" is one of the "activities" through which a business can qualify as a QHTB in order to claim an Act 221 investment tax credit. Investors in a QHTB –under both Act 221 and 215—can qualify for the

nonrefundable QHTB investment tax credit. The Act 221 credit is based upon the amount invested in the QHTB.

In his comments to the authors of this report, Mr. Donald Roussling, Tax Research and Planning of the Department of Taxation, stated, "Investments in QHTBs presumably bring forth increases in the R&D credit. Is this accounted for in the tax consequence calculation?"

The authors of this report were provided with aggregated taxpayer data by the Department of Taxation for 2001, 2002, and 2003. When comparing DBEDT data with Department of Taxation data, most of the R&D-related expenditures reported for 2001-2003 did not occur through QHTBs. Moreover, using Department of Taxation data, for those QHTBs claiming the Act 221 investment tax credit, the "R&D under 41(d)" activity represented a small portion of the total activities.

An inference that can be drawn from the above data is that, for 2001-2003, most of the increase in R&D expenditures during this period is related to the availability of the refundable R&D research credit rather than to the availability of the combination of the refundable research credit and non-refundable investment tax credit.

[130] $20 M in Act 221 tax credits audited by state, by Sean Hao, the Honolulu Advertiser (June 13, 2004).

[131] In Year 2, the credit recapture amount is computed as follows: 10% ($700,000).

[132] The total "lost" Act 221 credit over these 4 years (Years 2-5) will be $1.3 million.

[133] The Department of Taxation is not sure of this number.

[134] Zee, Stotsky and Ley (2002), p 1499.

[135] For example, these forms could be put on a secured Website maintained by the Department of Taxation. The information would be entered automatically by the taxpayer. Information contained on the form contains would be transferred electronically to the Department of Taxation. Certain data fields –those not containing taxpayer identifier information-- would simultaneously be transferred to a separate secured website. This website, after being reviewed by the Department of Taxation, would be available to the public. The website would keep a running total of certain information of which, by law, the Department of Taxation is already required to track on a timely basis. The Department of Taxation would send a confirmation to the taxpayer that the information had been received.

[136] Telephone interviews with Gregory Kim, Partner, Vantage Counsel LLC and Dragonbridge Capital, September 5, 2006; John Chock, Hawaii Strategic Development Corporation, September 5, 2005; Jeffrey Au, Managing Director, Pacificap Group LLC, September 28, 2006.

[137] Ibid.

[138] Phone interview, September 28, 2006.

[139] See DBEDT website http://www.hawaii.gov/dbedt/info/economic/data_reports/technology_reporthttp://www.hawaii.gov/dbedt/info/economic/data_reports/technology_report.

APPENDIX C

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

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The University of Tennessee

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

Report Prepared for the 2005-2007 Hawaii Tax Review Commission

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FINAL DRAFT
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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

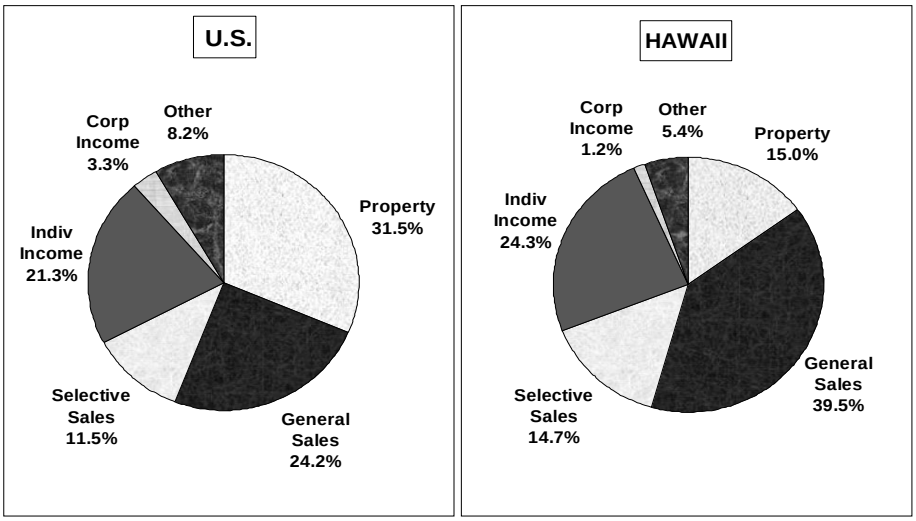
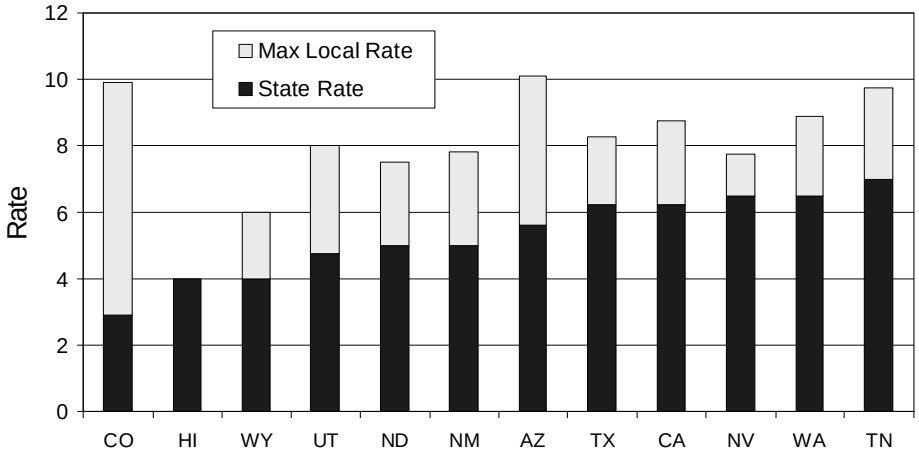


Figure 2: SALES TAX RATES, 2006



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

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[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.

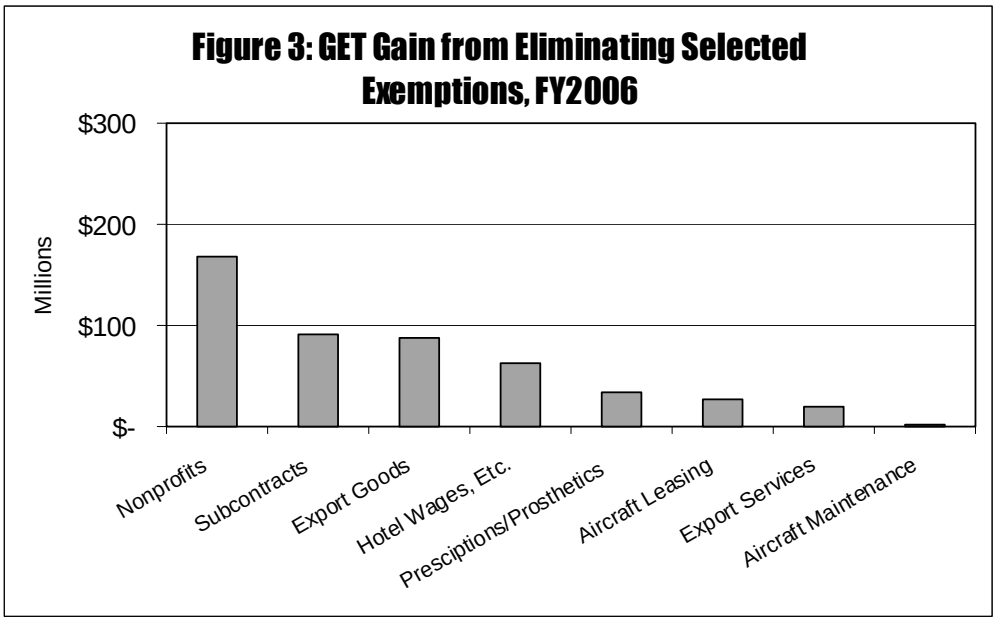
Exemption 1: Gross Receipts of Not-For-Profit Organizations

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.

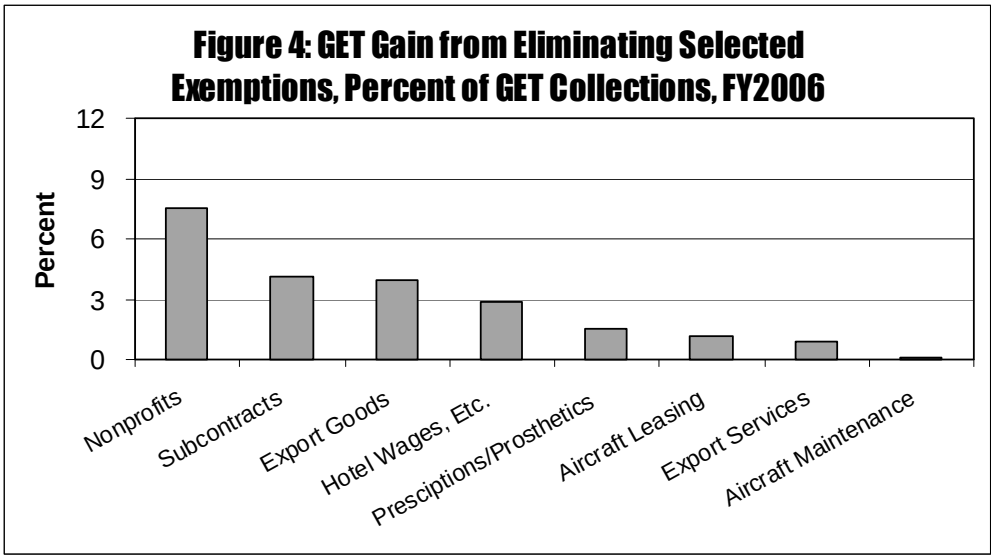
First, the not-for-profit organizations often compete directly with for-profit firms and the tax subsidy advantages the former. This is likely one reason that the not-for-profit sector is growing much faster than the for profit sector in the U.S. Second, the extent of the subsidy is determined by the 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.

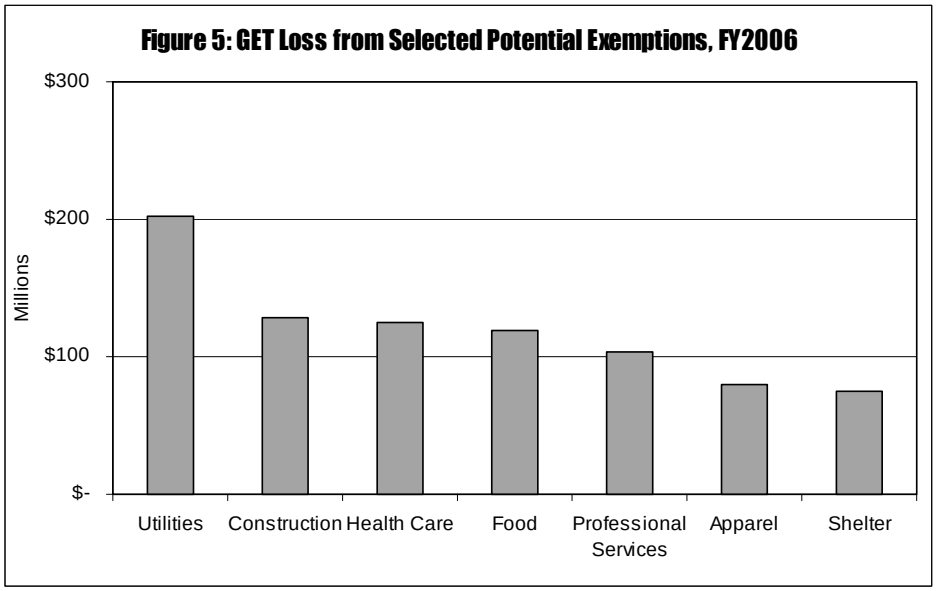


Figure 5: GET Loss from Selected Potential Exemptions, FY2006
$300
$200
$100
$-
Millions
Utilities
Construction
Health Care
Food
Professional Services
Apparel
Shelter

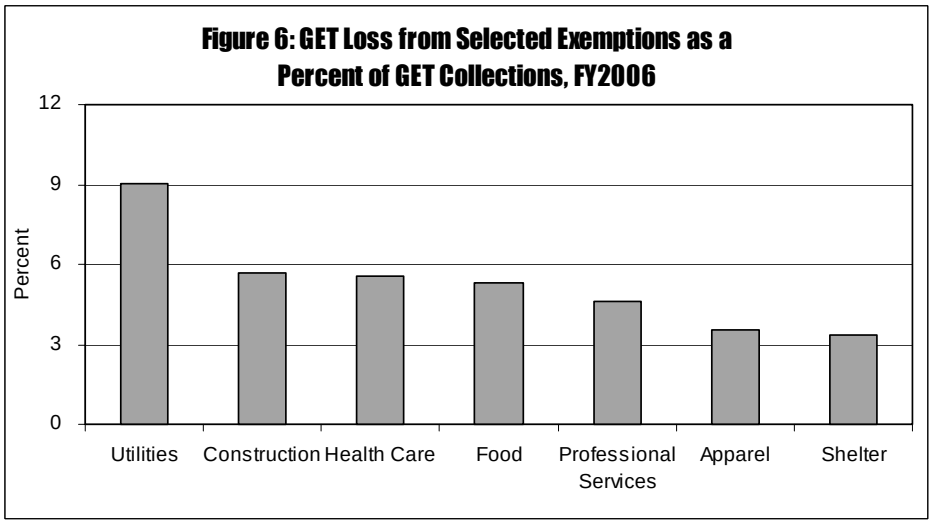


Figure 6: GET Loss from Selected Exemptions as a Percent of GET Collections, FY2006
12
9
6
3
0
Percent
Utilities
Construction
Health Care
Food
Professional Services
Apparel
Shelter

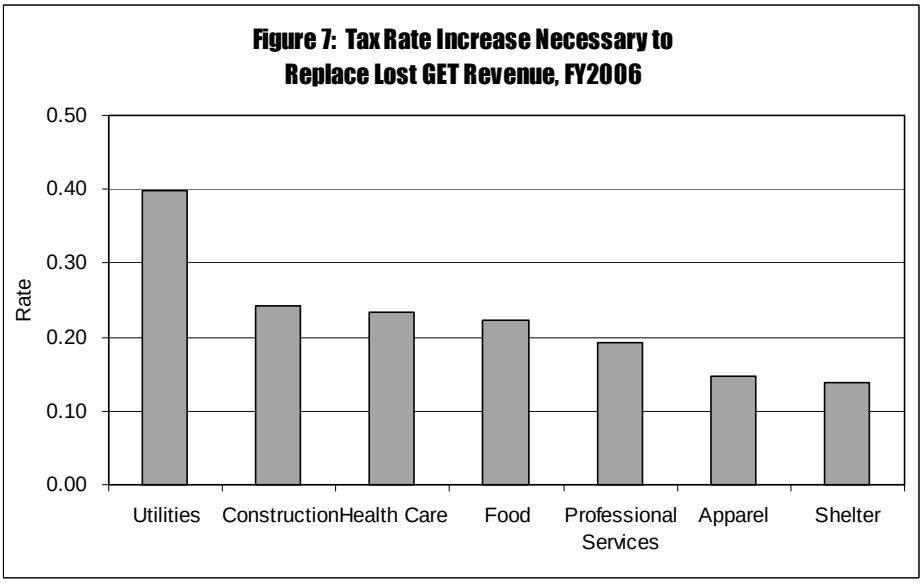


Figure 7: Tax Rate Increase Necessary to Replace Lost GET Revenue, FY2006
0.50
0.40
0.30
0.20
0.10
0.00
Rate
Utilities
Construction
Health Care
Food
Professional Services
Apparel
Shelter

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.

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[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.

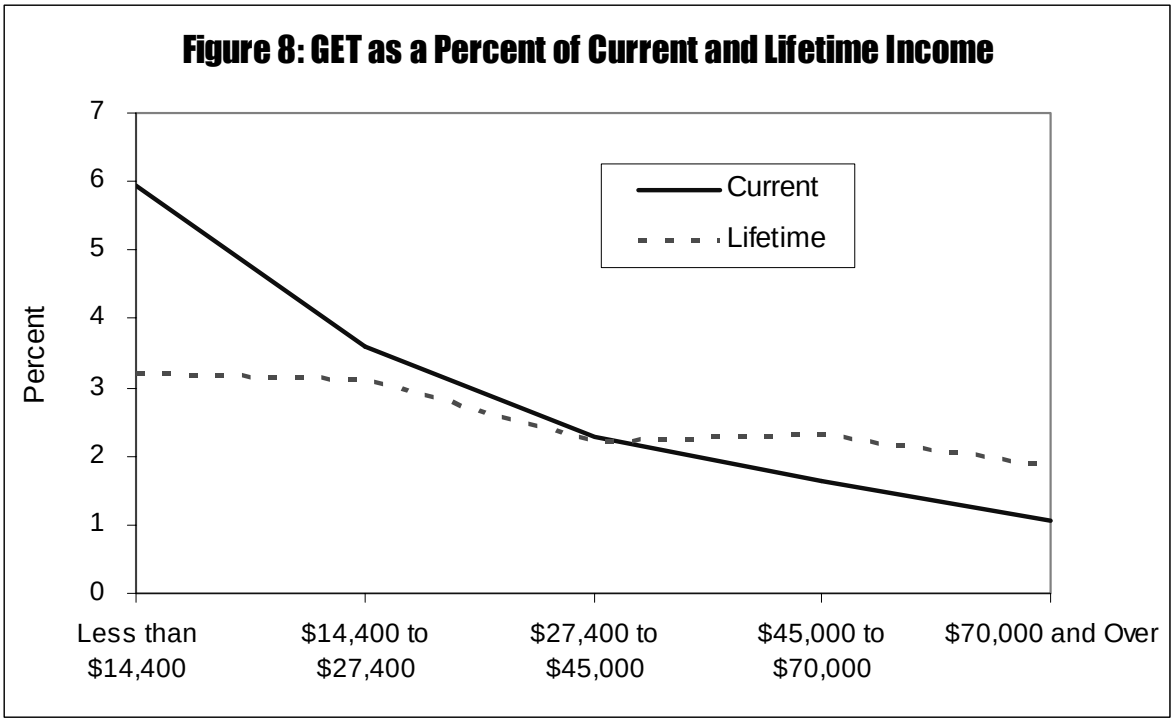
Figure 8: GET as a Percent of Current and Lifetime Income
Percent
7
6
5
4
3
2
1
0
Current
Lifetime
Less than $14,400
$14,400 to $27,400
$27,400 to $45,000
$45,000 to $70,000
$70,000 and Over

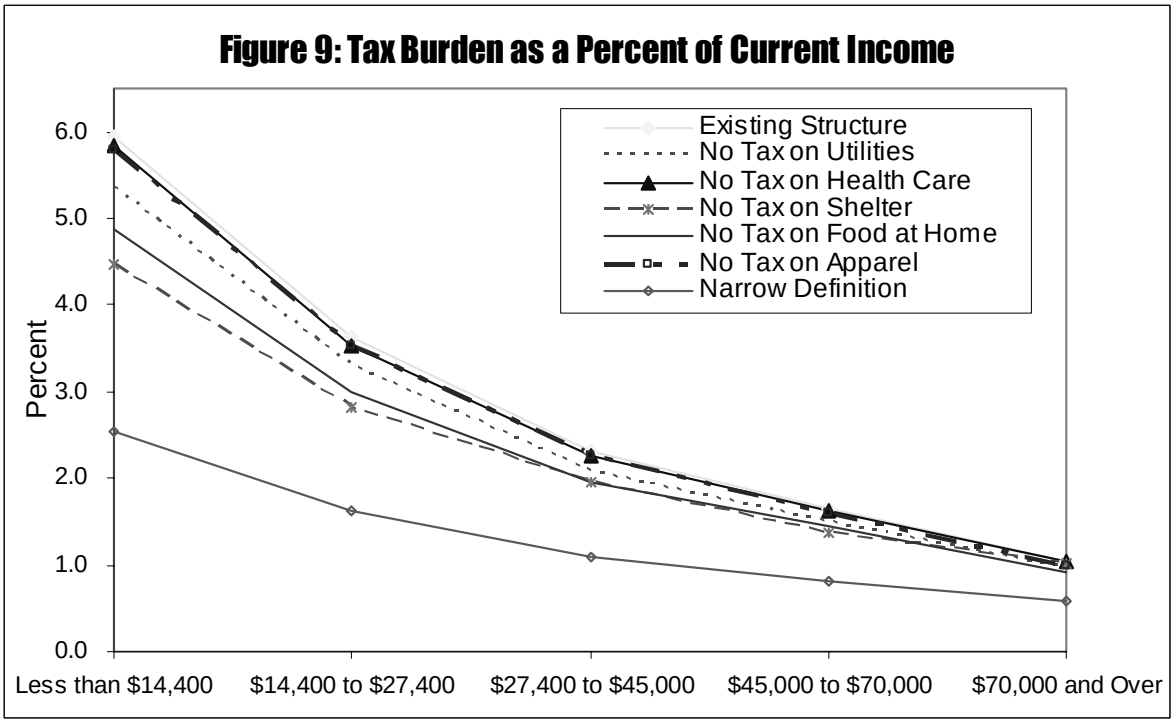
Figure 9: Tax Burden as a Percent of Current Income
Percent
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Existing Structure
No Tax on Utilities
No Tax on Health Care
No Tax on Shelter
No Tax on Food at Home
No Tax on Apparel
Narrow Definition
Less than $14,400
$14,400 to $27,400
$27,400 to $45,000
$45,000 to $70,000
$70,000 and Over

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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APPENDIX D

STUDY ON THE PROGRESSIVE OR REGRESSIVE NATURE OF HAWAII'S TAXES

Tax Research and Planning Office
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State of Hawaii

20 November 2006

STUDY ON THE PROGRESSIVE OR REGRESSIVE NATURE OF HAWAII'S TAXES

Prepared by the Tax Research and Planning Office, Hawaii Department of Taxation

Executive Summary

Hawaii's taxes are regressive when measured against income. Hawaii's biggest source of revenue is the General Excise Tax (GET), which accounted for 38 percent of total revenues from all State and county taxes in fiscal year 2005. The GET is regressive when measured against income, because taxable items are a smaller part of the total budgets of higher-income individuals and because higher-income individuals save a bigger part of their income. The State's second largest tax, the Individual Income Tax, is roughly proportional to income for single individuals and slightly progressive for a family of four. One thing that makes the State's income tax less progressive is that high-income individuals tend to shift more of the burden to the federal government when they deduct their State income taxes on their federal income tax return.

Overall, when measured against income, the rate of the State and local tax burden drops steadily as income rises. It is about 14 or 15 percent (depending on whether the burdens are measured for a single individual or a family of four) for those with annual income of $25,000 and it is about 10 percent for those with annual income of $150,000. However, when measured against lifetime income the tax burden is more evenly distributed, dropping by less than half as much over the same income range. The burden of taxes measured against lifetime income is less regressive than the burden measured against current income, because the burden measured against current income ignores the GET that is paid when savings are spent.

Nonresidents (mainly tourists and military personnel stationed in the State) and the federal government shoulder a large part of the burden of Hawaii's taxes. The part of the total burden that is borne by nonresidents or otherwise shifted out of the State was highest for the Estate and Transfer Tax (100 percent was borne by the federal government before it eliminated the credit for state death taxes and Hawaii effectively repealed the tax), second highest for the Transient Accommodations Tax (69 percent is borne by tourists), third highest for the General Excise Tax (38 percent is born by tourists, nonresident military personnel and the federal government), and fourth highest for the county Real Property Taxes (34 percent is borne by nonresident owners and the federal government). Overall, we estimate that 32 percent of the total burden of Hawaii's taxes is borne by nonresidents or is otherwise shifted out of the State. The estimates for tax shifting are in rough agreement with those in previous studies of Hawaii's taxes.

I. Introduction

In this study we try to determine how progressive or regressive are Hawaii's taxes. More exactly, we compare the tax burden for taxpayers with different incomes, where the tax burden is defined as the reduction in disposable income caused by taxes. If the ratio of the tax burden to income increases as income rises, taxes are said to be progressive. If the ratio declines as income

rises, taxes are said to be regressive. If the ratio stays the same as income rises, taxes are proportional. The exercise seems simple, but the results are subject to substantial error and are easy to misinterpret.

The study is organized as follows. The next section identifies the taxes that are considered in the study. Section III describes how we measure the taxpayer's income. Section IV describes how we determine who bears the burden of Hawaii's taxes. Section V describes the taxpayers for whom we estimate tax burdens. Section VI contains our estimates of how the tax burdens are distributed. Section VII compares the results to those of earlier studies and Section VIII contains our conclusions.

II. What Are Taxes?

"Taxes, after all, are dues that we pay for the privileges of membership in an organized society"
- Franklin D. Roosevelt

"A fine is a tax for doing something wrong. A tax is a fine for doing something right"
- Anonymous

A tax is a payment required by the government that is not tied to a direct benefit to the taxpayer. Income taxes and sales taxes are common examples of taxes. User fees, such as green fees to play golf at a municipal golf course, or airport landing fees, usually are not considered to be taxes, because they are tied to a direct benefit to the user: The green fees help pay for maintaining the golf course, and the landing fees help pay for operating the airport. Payments such as contributions to the employment security fund (unemployment insurance) are gray areas. If the contributions are used only to fund unemployment benefits, then they are insurance payments rather than taxes. On the other hand, if they are spent on other government functions, then they can be regarded as taxes. We exclude the contributions, because they appear to be more like payments for insurance than taxes. They are experience-rated, meaning they are based on the employer's past record for employment stability, and the fund is self-supporting.[1] Table 1 lists the taxes included in the study and shows the revenue for each in fiscal year 2005. The Tax Review Commission has asked that local taxes be included in the analysis, so the list includes taxes imposed by the counties, as well as those imposed by the State.

III. How Should We Measure Income?

"There are three kinds of lies: lies, damn lies and statistics."
- Mark Twain

The reason for comparing tax burdens for people with different incomes is to see if taxes are distributed in line with the ability to pay them in a manner deemed fair. A simple measure of money income is not altogether satisfactory for this purpose. For example, money income

[1] The employment security contributions were also excluded in an earlier study by Walter Miklius, James Moncur and PingSun Leung, "Distribution of State and Local Tax Burden by Income Class," report to the Tax Review Commission of 1989.

understates the resources available to people who get public assistance. A better measure of the ability to pay taxes would include in-kind transfers from government (such as Medicare and Medicaid, housing subsidies and food stamps), unreported or illegal income, the imputed rental value of owner-occupied housing, and capital gains as they are accrued (not merely when they are realized). The measure of ability to pay that economists favor is called Haig-Simons income, defined as consumption plus the change in net worth.[2] Economists at the U.S. Department of Treasury have produced a measure of income, which they call "total income," in an attempt to account for the factors omitted in simple measures of money income.[3]

Owing to the paucity of resources available for the present study, we do not try to calculate total income. In our opinion, the sacrifice is not great, because such calculations are inexact and often misleading. Allocating unreported income among taxpayers is particularly problematic. Some people have low reported income simply because they don't report all of it, but much of the unreported income belongs to sole proprietors who are in the higher income classes even when their income is underreported. Furthermore, if the purpose of the exercise is to inform the public about relative tax burdens, then using measures of total income is not a good idea. People know their adjusted gross income computed for federal income tax purposes (AGI) and their "expanded income" (AGI plus other items of income that are reported on the federal income tax return even though they are not subject to tax, such as interest on state and local bonds), but many would be surprised to learn the amount of total income that is imputed to them.

Our strategy in the present study is to compare tax burdens of taxpayers at various levels of federal AGI. The main disadvantage of the approach is that it does not allow us to calculate the share of the total tax burden borne by different income classes. For example, we are unable to show the share of the total tax burden that is born by the people with income greater than 90 percent of all taxpayers. On the other hand, our approach avoids some of the problems that arise when taxpayers are assigned to income classes. In such exercises, the taxpayer unit usually is defined as the family and all units with incomes in a given range are lumped together. This means, for example, that a single individual with annual income of $50,000 is put on a par with a family of four that has the same income.

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[2] Sometimes even this 'ideal' income measure needs to be adjusted. For example, pension income is earned while the worker is employed but is available for consumption only after retirement. Haig-Simons income does not include pension payments, because the payments are matched by a reduction in the taxpayer's net worth as the pension assets are drawn down. If contributions to the pension are not voluntary, it is probably better to include the pension income when it is received, rather than when it is earned.

[3] To get total income, they begin with federal adjusted gross income (AGI) and then adjust it as follows. First, add unreported income that arises when people do not file an income tax return, underreport their income, or overstate their deductions; unrealized capital gains (including appreciation of owner-occupied housing), net of depreciation and inflation; deductions for payments to tax deferred retirement plans; income earned in foreign countries that is excluded from U.S. taxable income; health payment deductions of self-employed individuals; fringe benefits provided by the employer (including military benefits); tax-exempt interest; the imputed value of rents on owner-occupied housing, less expenses of homeownership that are not paid directly by renters, such as mortgage payments, property taxes, depreciation, and maintenance and repairs; food stamps, benefits from Medicare and Medicaid, and other transfer payments from the government; and losses carried over from a prior year. Then, subtract costs of earning income that are disallowed as deductions from AGI (such as employee commuting costs); and income carried over from a prior year. For an example of total income calculations, see Julie-Anne Cronin, U.S. Department of Treasury, *OTA Paper 85*, September 1999.

TABLE 1
State and County
Tax Revenues in Fiscal Year 2005

Tax	Revenue (In $thousands)	Percent of Total
Hawaii State Taxes		
1. General Excise and Use Taxes	$2,136,603	37.7
2. Individual Income Tax	1,381,480	24.4
3. Transient Accommodations Tax	198,774	3.5
4. Public Service Company Tax	108,686	1.9
5. Corporation Income Tax	85,605	1.5
6. Tax on Insurance Premiums	83,077	1.5
7. Tax on Banks and Other Financial Corporations	38,520	0.7
8. Estate and Transfer Tax [a]	12,712	0.2
9. Conveyance Tax	24,583	0.4
10. Taxes on Fuel	106,521	1.9
11. Tax on Liquor	43,737	0.8
12. Taxes on Cigarettes and Tobacco	85,245	1.5
13. Motor Vehicle Taxes [b]	100,278	1.8
Total, State Taxes	$4,405,821	77.8
County Taxes		
1. Real Property Taxes	$968,326	17.1
3. Fuel Tax	76,310	1.3
2. Motor Vehicle Weight Tax	60,311	1.1
4. Public Utility Franchise Tax	41,539	0.7
5. Public Service Company Tax	42,506	0.8
6. Licenses and Permits	63,930	1.2
Total, County Taxes	$1,252,922	21.2
Total, State and County Taxes	$5,658,743	100.0

[a] Hawaii's Estate and Transfer Tax has been effectively repealed for decedents dying after December 31, 2004.
[b] Includes the State's Motor Vehicle Weight Tax and the surcharge on rental and tour vehicles.

Source: State taxes are from Department of Taxation data files. County taxes are from the Comprehensive Financial Annual Reports for Maui, Kauai, Hawaii and the City and County of Honolulu.

Lumping together single-member and multi-member families in the same income class can be misleading, because lower income classes typically contain more single-member families. For example, in 2003, single taxpayers accounted for 74 percent of Hawaii State income tax returns with AGI of $20,000 or less, but for only 24 percent of those with AGI of $40,000 or more. This means that comparing tax burdens of different income classes confounds the effects of changes in income with the effects of changes in family size. We avoid this problem when comparing the burden of the Individual Income Tax and some other taxes but, as explained below, we cannot avoid the problem when comparing burdens of the General Excise Tax.

A problem common to both approaches is that the income classes usually contain people at different stages of their lives. Most people follow a lifetime pattern in which consumption is less than income during their working years (because they save) and exceeds income after they retire.[4] Income and earnings are lower at the beginning of the worker's career and grow as the worker gains experience and seniority, and starts getting returns from saving. Many people also borrow at the beginning of their careers, to pay for school or to buy consumer durables, and pay off their loans by saving in later years. Thus, differences in tax burdens at different income levels do not always imply differences in lifetime tax burdens of individuals.[5] For most people lifetime earnings and lifetime consumption are about the same, so a consumption tax is proportional to lifetime income. It is improper to draw conclusions about the equity of a consumption tax based on temporary differences in rates of saving. Another way to describe the problem is that it is improper to look only at the burden of a consumption tax on current expenditures, because savings usually are matched with expenditures that have already been taxed or that will be taxed in future.[6]

IV. Who Bears the burden of a Tax?

"Taxes are paid in the sweat of every man who labors."
- Franklin D. Roosevelt

The question of who bears the burden of a tax (sometimes referred to as the incidence of the tax) is an economic question that is entirely different from the question of who bears legal liability for the tax. The person who actually pays the tax to the government often is able to shift the burden of the tax to another. Tax burdens become fragmented, and where they ultimately come to rest usually is hard to determine. For example, the burden of the General Excise Tax usually is presumed fully passed on to the customer if it is included in the bill. To know how much of the burden actually is shifted to the customer, however, we would need to know what the price would have been absent the tax. If the tax causes the business to lower its pretax price, then the business bears part of the burden, even if it adds the full amount of the tax to its bill. The counterfactual cannot be observed, so we can never be certain how the tax burden is distributed. Standard supply and demand analysis tells us, however, that the business generally bears part of the burden.

This study presents estimates for the long-run effects of taxes, which usually are different from immediate effects. To see how tax burdens can be shifted, and the differences between the immediate effects and the effects in the long run, consider as an example what would happen if Hawaii eliminated the Corporation Income Tax. In the short run, current shareholders would

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[4] See the classic study by Albert Ando and Franco Modigliani, "The Life Cycle Hypothesis of Saving: Aggregate Implications and Tests," *American Economic Review*, March 1963, pp. 55-84.

[5] For more complete discussions of this and similar issues, see R. Glenn Hubbard, James Nunns and William Randolph "Household Income Mobility During the 1980's: A Statistical Assessment Based on Tax Return Data," *Tax Notes*, June 1, 1992; and R. Glenn Hubbard and David F. Bradford "Distributional Analysis of Tax Policy," Washington, D.C.: *AEI Press*, 1995. A study by the Joint Committee on Taxation lays bare many of the shortcomings of the distributional analyses. It concluded "Income categories may be a convenient way of presenting snapshots of income data for a group of people at a certain point in time. Nonetheless, the notion of a quintile as a fixed economic class or social reality is a statistical mirage." See Joint Committee on Taxation, "A Guide to Tax Policy Analysis: Problems with Distributional Tax Tables," United States Congress, January 2000, page 13.

[6] This issue was also recognized in the Report of the 2001-2003 Tax Review Commission.

benefit most, but to find out who ultimately would benefit we need to know the effects on all prices (including wages and land rents) and corporate profits after all the economic actors have had the chance to fully respond. If we could see these things, we probably would find that the tax raises prices to consumers, that it reduces local land rents, that it reduces earnings of local workers, and that it increases the rate of pretax corporate profit. When the tax reduces pretax incomes of workers and landowners, it also reduces federal individual income taxes.[7] In short, we would find that the burden of the tax is strewn over consumers, landowners, workers and the federal government.

In the long run, little if any of the tax burden is borne by the shareholders. The conventional economic wisdom holds that in the long run a small taxing jurisdiction, such as a state, cannot export any part of a tax on corporate income to external shareholders. The reason is that the tax causes the investors to demand a higher pretax profit on local investment to compensate for the tax.[8] Even the local shareholders escape the burden of the tax. The conclusions are based on the simple logic that investors look to get the highest after-tax return they can on their investments and that a single jurisdiction contains only a small part of the available investment opportunities. If something happens to reduce the after-tax rate of return in the local jurisdiction, investors will go away and local investment will suffer until scarcity brings the local after-tax rate of return to new investment back up to the level investors can get elsewhere.

Part of the burden of Hawaii's Corporation Income Tax is exported indirectly, because the tax raises prices for tourists as well as local residents. However, if the corporation's output competes with imports, little of the burden can be passed on to consumers as higher prices. Instead, the burden of the tax is passed back to landowners and local labor. These conclusions are valid, whether or not other jurisdictions tax corporate income. We are looking only at the effect of Hawaii's Corporation Income Tax, holding constant things that would not change automatically with a change in the tax. Unless other jurisdictions respond to a change in Hawaii's taxes, their taxes are irrelevant for the exercise. For the same reason, it does not matter if local producers have a strong price advantage owing to transportation costs.

In most cases, the evidence on tax incidence is weak and leaves ample room for error when calculating tax burdens. The errors can affect the denominator as well as the numerator of the tax burden ratio because, as explained above, taxpayers sometimes bear the burden of a tax as foregone earnings rather than as a payment from income. Ideally, all income should be measured before the effect of taxes, regardless of how the burden is borne. However, we observe only the actual income without foregone earnings, so that is what we use for the denominator of the tax burden ratio. This causes the calculations to overstate the burden ratio for workers who pay taxes implicitly in the form of foregone earnings.

Another source of error in measuring the tax burdens is that the tax-induced reduction in income exceeds the amount of taxes actually collected, because taxes influence peoples' economic decisions (for example, by discouraging them from working) and because people

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[7] Because the required increase in pretax profits is the amount of the State tax, even though this tax is deductible from the federal corporate income tax, the deduction does not reduce in the federal corporate income tax liability. Thus, there is no direct federal offset for the State's Corporation Income Tax.

[8] In the argot of economists, the supply of capital is perfectly elastic at the externally set rate of return, so local factors of production must bear the entire burden of the tax. For a rigorous academic treatment of this notion, see Roger Gordon "Taxation of Investment and Savings in a World Economy," *American Economic Review*, vol. 76(5), December 1986, pages 1086-1102. For empirical research verifying the notion, see Aparna Mathur and Kevin Hassett, "Taxes and Wages," AEI Working Paper #128, American Enterprise Institute, June 2006.

spend time or money on tax planning and tax compliance. The extra costs, referred to variously as the excess burden or the deadweight loss of taxes, are important, but our study does not account for them.

We eschew involved modeling of the tax incidence. Instead, simple economic reasoning is used to distribute the tax burdens. In what follows, we describe how we distribute the burden of each tax, but details of the calculations are relegated to the appendix.

The General Excise and Use Taxes

It usually is assumed that the customers bear the full burden of the General Excise and Use Taxes. We use the assumption for purchases by residents, but it is inaccurate. For example, businesses that compete with imports usually are unable to pass the full burden of the tax forward to their customers, because the General Excise Tax (GET) pyramids on itself, whereas competing imports bear Use Tax at only the statutory rate of 4 percent.[9]

Nonresidents (mainly tourists and military personnel stationed in Hawaii) pay an important part of the GET. Part of the amount they pay is exported; the remainder is shifted to landowners and local workers as reduced pretax rents and wages. Because reductions in reported income reduce the federal income tax liability, there is an indirect federal tax offset for part of the GET burden.[10] The federal government also shoulders some of the GET burden directly on its Hawaii purchases.[11]

The GET is imposed on real estate rentals, and it is also embedded in the price of real estate structures, including owner-occupied housing, because construction is subject to the tax.[12] The rent must cover the cost of the structure, so the GET pyramids on itself for rented structures (as it does for most other expenditures). To the extent the rents reflect returns to land, as opposed to improvements, the GET on rental income is assumed borne by the landowners and not by the renters. The GET on the portion of rental income that represents returns to improvements, however, is probably fully passed forward to renters.

In addition to pyramiding on itself, the GET also pyramids with other State taxes. For example, the GET on materials, and on services that are part of the overhead expenses, raises costs for public utilities. When recouped through higher rates, the higher costs raise the Public Service Company Tax (which is levied on gross income) which, in turn, adds to costs of other businesses that, when recouped in higher prices, increases their GET liability. The cross-tax pyramiding is accounted for indirectly in our calculations, because it is incorporated in the overall effective rates of the taxes on final expenditures.

The Individual Income Tax

The burden of Hawaii's Individual Income Tax is assumed borne entirely by the taxpayer, after subtracting the portion that is shifted to the federal government as reduced payments of

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[9] See the discussion in "Study on the Question 'Is Hawaii's Tax Structure Adequate'," *Report of the 2005-2007 Tax Review Commission*. The business bears part of the burden of the tax, because the price it charges before applying the tax will be forced down more by import competition than would be the case if there were no GET.

[10] The federal income tax code was altered recently to allow taxpayers who itemize to deduct an amount for state sales tax in lieu of the state income tax. Thus, some of the GET may be exported directly as a deduction from the federal tax on income of individuals. However, this option is attractive for only a few Hawaii taxpayers.

[11] Businesses are exempt from the GET on sales of tangible personal property to the federal government, but the exemption is lost if the property is sold in conjunction with services.

[12] The GET is embedded in the price of preexisting housing, as well as the price of new construction.

federal income taxes (the federal tax offset) by those who itemize deductions. The assumption is probably a fairly good approximation, although part of the burden of the tax may be passed on to others. For example, a sole proprietor may pass on part of his income tax burden to customers as higher prices, or employees may pass part of the burden to their employer by demanding a higher wage.

The federal tax offset reduces the progressiveness of the State's Individual Income Tax, because the percentage of the State's income tax that is shifted to the federal government grows as the taxpayer's income grows. There are two reasons for this: First, higher-income taxpayers are more likely to itemize deductions; second, the federal income tax is graduated, so the federal income tax saving is larger per dollar of State income tax deducted for the higher-income taxpayers.

The Transient Accommodations Tax

Part of the Transient Accommodations Tax (TAT) is exported to tourists and part is borne as reduced pretax incomes of landowners and residents. Residents also pay a small part of the TAT (about 4 percent) directly when they vacation within the State.

The Corporation Income Tax, the Public Service Company Tax, the Tax on Insurance Premiums, the Tax on Banks and Other Financial Corporations, the County Public Utility Franchise Taxes and Charges for Licenses and Permits

As discussed above, we think that in the long run shareholders avoid the burden from these taxes, so they are borne by consumers (including tourists) as higher prices or by workers and landowners as reduced pretax incomes. We have little evidence to help us decide how the burden is divided among consumers, workers and landowners. In many cases, competition from imports makes it hard for the business to pass the tax forward in higher prices.[13] Even some local service providers face competition from imports, such as when Hawaii residents hold deposits in out-of-state banks. These taxes account for only 5.6 percent of total receipts, however, so their treatment does not have much effect on the overall tax burden calculations.

The Estate and Transfer Tax

Hawaii's Estate and Transfer Tax (before its recent effective repeal)[14] was administered as a soak-up tax, equal to the credit for state death taxes against the federal estate tax. Therefore, 100 percent of the tax was shifted to the federal government and none was borne by Hawaii residents.

Taxes on Fuel, Liquor, Cigarettes and Tobacco, and Motor Vehicles

The Taxes on Fuel, the Tax on Cigarettes and Tobacco, the State's Liquor Tax and the Motor Vehicle Taxes (including the State surcharge on rental vehicles) are borne largely by the consumer as higher prices. However, tourists pay some of these taxes. Part of the burden of the taxes paid by tourists is exported and part is borne as reduced local pretax incomes.[15]

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[13] For the Corporation Income Tax, there is no counterpart to the Use Tax that reduces the competitive disadvantage to local producers caused by the GET.

[14] The tax does not apply to estates of decedents dying after December 31, 2004.

[15] We are evaluating only the effects of Hawaii's taxes, so it is irrelevant for our purposes whether other jurisdictions tax these items.

The Conveyance Tax and the County Real Property Taxes

The burden of the tax on conveyances of real property is distributed in the same manner as the county Real Property Taxes, except it is assumed that commercial properties are transferred only half as often as residential properties. The Real Property Taxes on land and on personal residences are borne by the owners, except the part shifted to the federal government as reduced federal income tax liability. Real Property Taxes paid by non-residents on land are deemed entirely exported. Real Property Taxes on residential rental structures, on nonresidential structures, and on other commercial improvements, however, are distributed in the same manner as the Corporation Income Tax.

The Main Things Determining the Distribution of the Overall Tax Burden

The calculation of tax burdens depends heavily on assumptions that, for lack of a better alternative, often must be based on weak evidence. Therefore, it is useful to stop for a moment and examine the big picture to see what simple reasoning can tell us to expect in the way of results. Table 1 shows that the biggest taxes are the GET, the Individual Income Tax, the county Real Property Taxes and the TAT. Taken together, these taxes accounted for about 83 percent of total tax revenues in fiscal year 2005, so the distribution of the burden of the overall tax structure is heavily influenced by how the burdens of these few taxes are distributed. The burden of the TAT is mostly exported to tourists, so it has only a small role in determining how the overall tax burden of Hawaii's taxes is distributed among residents.

As a rough approximation it is reasonable to suppose that the burden of the GET will be distributed more or less in proportion to consumption, although higher-income individuals probably devote a bigger part of their total spending to items that escape the tax, such as home mortgage payments and tuition to private schools for their children. Higher-income individuals also tend to save a bigger part of their income. Therefore, we might expect the GET to be regressive when measured against total spending, and to be even more regressive when measured against income.

It is hard to predict whether the burden of the Individual Income Tax will be distributed progressively or in proportion to income, especially for those not in the lower income classes. The tax is set at graduated rates, but the top rate is reached at $60,000 of taxable income for a single individual and at $80,000 of taxable income for joint filers. Also, the federal offset reduces the burden of the tax more for higher-income taxpayers. It is also hard to predict how the burden of the county Real Property Taxes will be distributed. The tax probably is borne more heavily by those who own their own home, and homeowners tend to be in the higher income classes. Furthermore, renters probably do not bear the burden of the tax as it applies to the land beneath their dwelling. However, housing costs tend to make up a smaller portion of the budget of more affluent taxpayers. Also, the federal offset reduces the burden of the tax more for higher-income taxpayers and not at all for renters.

An important part of the GET is exported to tourists and other nonresidents, but important parts of the Individual Income Tax and the county Real Property Taxes are also exported, either to nonresidents or to the federal government as reduced federal income tax payments. Thus, differences in the rates of tax exporting may not change the order of importance of the taxes for purposes of determining the overall burdens. The GET is the largest of the taxes, being about one and a half times as big as the Individual Income Tax and over twice as big as the county Real Property Taxes, so it should have a bigger influence on the distribution of the overall tax burden. Based on these considerations, we expect reasonable economic

assumptions to yield the result that Hawaii's tax structure is regressive when measured against income.

V. Taxpayer Profiles

We examine tax burdens for the typical single individual and the typical family of four with federal AGI of $25,000, $50,000, $75,000, $100,000 or $150,000. The typical taxpayer is an amalgam of the average of Hawaii residents, as constructed from the tax returns and as imputed from the *Survey of Consumer Expenditures* produced by the Bureau of Labor Statistics, U.S. Department of Labor (henceforth the *BLS Survey*). For example, at each level of income, some of the taxpayers rent their home, whereas others own their own home. The amalgam is a weighted average representing both.

We do not calculate tax burdens for income levels below federal AGI of $25,000, because taxpayers with income lower than this amount are likely to be living with other family members or to be eligible for public assistance, which would make the tax burden comparisons invalid. The *BLS Survey* shows expenditures by taxpayers at different income levels, and by taxpayers in different family circumstances (such as single or married), but it does not provide both breakdowns simultaneously. We are therefore unable to compare how tax burdens vary by type of family unit, and our estimates should not be used to compare the burden of a single taxpayer with that of a family of four. It is likely, however, that a single individual will be able to save more than a family of four with the same income. Therefore, we performed alternative calculations of tax burdens to show the possible effects of the differences in saving between the two types of family units.

VI. The Tax Burden Estimates

Table 2 shows how the burdens of the various taxes are distributed, in the aggregate. We estimate that about 28 percent of the total burden of Hawaii's taxes is shifted to nonresidents (mostly tourists) and to the federal government. The main taxes shifted to nonresidents are the General Excise Taxes paid by tourists and nonresident military personnel, the Transient Accommodations Taxes paid by tourists, the Individual Income Tax paid by nonresidents, and the county Real Property Taxes assessed on land and on residential structures owned by nonresidents. The main taxes shifted to the federal government are the Individual Income Tax, the GET and the county Real Property Taxes.

Table 3 shows the base-case calculations for the tax burdens borne by a single individual and a family of four at various income levels. We emphasize that the tax burden estimates are subject to large errors. One source of error is our assumption about the portion of tax burdens exported to tourists, which is based on econometric estimates for the demand and supply of tourism in Hawaii made by Edwin Fujii, *et al*.[16] They estimated that about two-thirds of the taxes paid by tourists are exported. We think their study is excellent, but it is notoriously hard to estimate demand and supply curves and the reader should know that the fraction of taxes that are exported can easily be bigger or smaller than their estimates imply. Some people argue that the demand for tourism in Hawaii would not respond at all to a change in the price, which means that all of the taxes paid by tourists are exported. However, we believe our assumptions are

[16] *Op. cit.*

more likely to overstate than to understate the amount of tax exported.[17] Another important source of error is the assumption that saving avoids entirely the burden of taxes on expenditures. To try to account for these shortcomings, we performed calculations using alternative assumptions about tax exporting and about the effects of saving on the GET burden.

Table 4 provides the results for the alternative calculations of the tax burdens. To show how a difference in saving behavior of single individuals and the typical family of four might affect the results, we recalculated the GET burdens and burdens of the taxes on business under the assumption that single individuals spend 10 percent less at each income level than the average in the *BLS Survey* and that the family of four spends 10 percent more. The results are given in the rows labeled "GET (2)" and "Burden Ratio (2)." Adjusting for the differences in savings raises the tax burdens for the family of four and reduces them for the single individual. The calculated burden ratios are slightly less regressive than the base case for the single individual (the burden ratio declines by a smaller percentage as income rises) and slightly more regressive for the family of four.

To show how accounting for the taxes on future or past consumption financed from current savings might affect the calculations, we recalculated burdens from the GET and the taxes on business assuming the taxpayer has no savings. The results are given in the rows labeled "GET (3)" and "Burden Ratio (3)."[18] In this case, the tax structure appears much less regressive; the burden ratio declines by only about 11 percent for the family of four and 15 percent for the single individual as one moves from the lowest income level to the highest (compared with 30 percent and 34 percent in the base case.)

Finally, we calculated the tax burdens assuming only half, instead of two-thirds, of the taxes paid by tourists were exported. The results are given in the rows labeled "50% Tax Exporting" and "Burden Ratio (4)." The reduction in tax exporting raises the tax burdens on residents and makes the tax structure slightly more regressive.

In addition to changing the assumptions about the effects of saving and tax exporting, we also estimated how the tax burdens will change under the new income tax laws that take effect in 2007. The results are given in the rows labeled "Individual Income Tax (2)" and "Burden Ratio (5)" in table 4. According to our calculations, the new income tax will make the structure of taxes slightly less regressive - the burden ratio declines by about one percent less when moving from the lowest income class to the highest compared to the base case.

Most of our calculations imply that Hawaii's taxes are regressive, falling from 14 percent or 15 percent of income for those with AGI of $25,000 to about 9 percent or 10 percent of income for those with AGI of $150,000. However, the calculations that take account of the GET burden on future or past expenditures financed from current saving show that taxes are only mildly regressive, declining from an average of 14 percent for those with AGI of $25,000 to an average of about 12 percent for those with AGI of $150,000.

Whether the county or State taxes are more regressive is ambiguous according to our estimates. In our base case (reported in table 3), for the family of four the burden of county taxes declines by 38 percent as income goes from the lowest to the highest of the income classes,

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[17] The estimates in Fujii *et al*. show how the supply and demand for hotel services respond to a change in the price. It is assumed that the supply response indicates the ability of local residents to escape the tax, but part of the supply response probably comes from out-of-state investment in Hawaii's tourism industry.

[18] When calculating the effects of changes in saving, we did not recalculate burdens of the taxes on business. Although strictly speaking this would be consistent with our assumption that much of the burden of these taxes is borne as higher prices to consumers, some of the taxes included in the (namely the tax on category probably

whereas the burden of the State's taxes declines by only 28 percent. However, for the single individual, the burden of the county taxes declines by only 31 percent, whereas the burden of the State's taxes declines by 35 percent.

VII. Comparisons With Previous Studies

There have been four earlier comprehensive studies on the distribution of Hawaii's tax burdens.[19] In addition, the Report to the 2001-2003 Tax Review Commission (*TRC Report*) included an analysis of how the burdens of the GET and the Public Service Company Tax are distributed. In what follows, we provide brief comparisons of our findings with those in the most recent of the comprehensive Miklius, *et al*. and those in the *TRC Report*.

Miklius *et al*. examined how the burdens of Hawaii's State and local taxes are distributed by level of total income in 1988. They used different assumptions to distribute the tax burdens, but many of their results are broadly similar to those in the present study.[20] They estimated that 30.8 percent of the burden of Hawaii's taxes was exported in 1988, compared with our estimate of 32.0 percent for 2005. They estimated that 32.9 percent of the GET burden and 16.1 percent of the burden of the Individual Income Tax were shifted to nonresidents or the federal government. Our estimates for these same fractions are 37.9 percent and 22.8 percent. They estimated that 7.2 percent of the total burden of Hawaii's taxes is shifted to the federal government and that 23.5 percent is exported to nonresidents, whereas our estimates for these fractions are 9.6 percent and 21.9 percent. The similarities in the estimates are surprising, particularly given the differences in assumptions and in time periods, and the wide margins of error.[21]

It is harder to compare the results for the disaggregate distributions of the tax burdens, because their measure of income is broader than ours, and because there has been inflation between the time of their study and ours. With these differences noted, our estimates imply that Hawaii's taxes are somewhat less regressive than their estimates imply. Using the mid-point of their income ranges, they show the tax burden ration declining by about half as income rises from $25,000 to $150,000 whereas our burden ration declines by only about one third over this income range.[22]

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[19] The studies are R.H. Hoffman, "Hawaii Tax Rate Distribution Estimates," Report No. 49, The Legislative Reference Bureau, University of Hawaii, Honolulu, 1967; R.D. Ebel and P.N. Kamins, "Who Pays Hawaii's Taxes? A Study of the Incidence of State and Local Taxes in Hawaii for 1970," Social Science and Linguists Institute, University of Hawaii at Manoa, 1975; D. Phares, "The Impact of Hawaii's Taxes: A Look at Taxpayer Burden and Equity," Report submitted to the Hawaii Tax Review Commission, 1984; and Miklius, *et al*., *Op Cit*.

[20] Notable differences between our assumptions and theirs are how the burdens of the Estate and Transfer Tax, the Corporation Income Tax and the Tax on Banks and Other Financial Corporations are borne. They attach the burden of the inheritance taxes to the highest income class, whereas we shift it entirely to the federal government. They calculate a direct federal offset of 10.4 percent for the business taxes and assume that nonresident shareholders bear 11.4 percent of the burden, whereas neither source of tax exporting is available under our assumptions. The three taxes combined account for only a small part of total revenue, however, so the effect on the overall estimates is fairly small.

[21] The difference in the estimates for the amount of Individual Income Tax shifted to nonresidents may come from our assumption (based on the data for 2003) that nonresidents pay about 7 percent of the tax. Miklius et al. do not show any of the burden of the tax as being borne by nonresidents. The difference in the estimates for the portion of the GET burden that is exported appears to come mainly from a difference in estimates for the GET borne by nonresidents other than tourists (military personnel stationed in Hawaii).

[22] Assuming their measure of total income is close to personal income, the following adjustments would be needed to compare income levels in our study and theirs. First, inflation has reduced the real purchasing power of a dollar

The study of the distribution of the GET burden in the *TRC Report* was based on a survey of households in Hawaii conducted by the Bureau of Labor Statistics in 1999. They assumed the GET was burden was 4 percent on taxable transactions, so the level of the burden is lower in their calculations than in ours. They calculated the burdens for five income classes; less than $14,400, $14,400 to $27,400, $27,400 to $45,00, $45,00 to $70,00 and $70,00 and over. The average income for those in the income class from $14,400 to $27,400 was $21,088 and the average for those with incomes over $70,000 was $128,666.[23] They found the GET burden declined by 80 percent (from 5.75 percent to 1.15 percent) from the lowest to the highest income range when the burden was measured as a fraction of income, and by 27 percent (from 2.95 percent to 2.16 percent) when the burden was measured as a fraction of current expenditures.[24] This compares with our finding that the GET burden as a fraction of income declined by 55 percent (from 6.4 percent to 2.9 percent) as income increased from $25,000 to $150,000 when it is assumed that only current expenditures are taxed, and by 18 percent (from 5.7 percent to 4.7 percent) when it is assumed that all income is eventually taxed.

VIII. Conclusions

Using conventional calculations that ignore the burden of excise taxes on past or future expenditures financed from current saving, we find that Hawaii's tax structure is regressive, with the total tax burden as a fraction of income declining by about a third as annual income rises from $25,000 to $150,000. If the burden of the General Excise Tax is measured assuming lifetime earnings and expenditures are approximately equal, however, then the total tax burden as a fraction of income declines by only about one sixth over the same income range.

For the major Hawaii taxes, we find that the fraction of the tax burden that is shifted out of the State, either to nonresidents or the federal government, was highest for the Estate and Transfer Tax, which was entirely shifted to the federal government before its recent effective repeal. Second place belongs to the Transient Accommodations Tax (about 69 percent), followed by the General Excise Tax (about 38 percent) and the county Real Property Taxes (about 34 percent). The estimates of tax exporting for the Transient Accommodations Tax and the General Excise Tax are sensitive to the assumptions about the extent to which the burdens of taxes paid by tourists ultimately are borne by the tourists or are shifted back to residents as lower pretax incomes. The estimates of tax exporting for the county Real Property Taxes are sensitive to the assumptions about non-resident ownership. Both sets of assumptions leave ample room for errors in the calculations.

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of income by about 63 percent from calendar year 1988 to fiscal year 2005. Secondly, we calculated that personal income is about 50 percent greater than AGI for Hawaii. Combining these adjustments, AGI of $25,000 in fiscal 2005 translates into roughly $23,000 of personal income in 1988 and AGI of $150,000 in 2005 translates into roughly $138,000 of personal income in 1988.

[23] The calculations in the TRC Report are for 2002, whereas ours are for fiscal year 2005. Inflation reduced the real value of a dollar of income by about 9 percent between the two periods, so the averages of their lowest and highest income groups would translate into about $23,000 and $140,000 in fiscal year 2005.

[24] The latter calculations account for the fact that taxpayers do not escape entirely the burden of the GET on saving and is similar to our calculations in which we assumed all income was eventually subject to GET. In both cases, the change in the rate of the tax burden at different levels of income comes entirely from the mix of taxable and nontaxable purchases in the different income classes, rather than from changes in saving.

TABLE 2

Aggregate
Distribution of Tax Burdens
(In $millions)

Tax		Amount Borne By Residents		Amount Shifted Out of State	
Hawaii State Taxes	***Total Revenue***	***Higher Prices***	***Reduced Incomes***	***Federal Government***	***Other***
1. General Excise and Use Taxes…..……	2,136.6	1,114.0	212.7	134.4	675.5
2. Individual Income Tax….……	1,381.5		1,067.1	237.4	77.0
3. Transient Accommodations Tax……..	198.8	7.9	53.8	9.5	126.8
4. Public Service Company Tax.…	108.7	57.4	30.8	5.5	15.0
5. Corporation Income Tax……..…	85.6	45.2	24.3	4.3	11.8
6. Tax on Insurance Premiums…..	83.1	43.9	23.5	4.2	11.5
7. Tax on Banks and Other Financial Corporations…	38.5	20.4	10.9	1.9	5.3
8. Estate and Transfer Tax[a]…….	12.7			12.7	
9. Conveyance Tax..……..…	24.6	4.4	12.0	1.8	5.5
10. Taxes on Fuel……..	106.5	77.0	6.3	1.1	22.2
11. Tax on Liquor……	43.7	34.6	2.6	0.4	6.1
12. Taxes on Cigarettes and Tobacco……..…	85.2	74.6	3.0	0.5	7.1
13. Motor Vehicle Taxes[b]……	100.3	56.3	12.5	2.2	29.3
Total, State Taxes……...…	4,405.8	1,533.6	1,461.4	417.1	993.0
County Taxes					
1. Real Property Taxes…… …	968.3	88.0	550.5	118.0	211.9
3. Fuel Tax……..……	76.3	55.1	4.5	0.8	15.9
2. Motor Vehicle Weight Tax…….	60.3	60.3			
4. Public Utility Franchise Tax……	41.5	21.9	11.8	2.1	5.7
5. Public Service Company Tax…..	42.5	22.4	12.1	2.1	5.9
6. Licenses and Permits[c]…..……	63.9	33.8	18.1	3.2	8.8
Total, County Taxes…….	1,252.8	281.5	597.0	126.2	248.2
Total, State and County Taxes……	5,658.6	1,815.1	2,058.4	543.3	1,241.2

[a] Hawaii's Estate and Transfer Tax has been effectively repealed for decedents dying after December 31, 2004.
[b] Includes the State's Motor Vehicle Weight Tax and the surcharge on rental and tour vehicles. The rental surcharges produced $43,950,000 of the total revenue in this category.
[c] Excludes the counties' Motor Vehicle Weight Taxes.

Source: Authors' calculations.

Table 3

Distribution of Tax Burdens by Income Class

Income and Expenditures					
Income (Federal AGI)…….	$25,000	$50,000	$75,000	$100,000	$150,000
Expenditures……	28,000	41,380	55,010	70,330	93,730
Expenditures subject to GET	18,490	25,820	31,320	39,290	50,990
Tax Burden for a Single Individual					
GET…….……	1,599	2,232	2,709	3,397	4,409
Individual Income Tax……	958	2,077	3,235	3,863	6,261
TAT…….	51	93	139	162	238
Taxes on Business[a]……	249	411	582	707	995
Real Estate Taxes[b]……	539	981	1,461	1,707	2,501
Alcohol & Tobacco……	105	108	111	114	119
Fuel & Motor Vehicles[c]……	268	279	290	302	325
Total Tax Burden….……..	3,769	6,181	8,527	10,252	14,848
Burden Ratio…….	15.1%	12.4%	11.4%	10.3%	9.9%
Burden Ratio, State Taxes….	12.2%	10.0%	9.1%	8.2%	7.9%
Burden Ratio, County Taxes…	2.9%	2.4%	2.3%	2.1%	2.0%
Tax Burden for a Family of four					
GET……..	1,599	2,232	2,709	3,397	4,409
Individual Income Tax…..…	423	1,431	2,561	3,691	5,616
TAT……..……	53	96	142	166	243
Taxes on Business[a]……	256	422	581	724	985
Real Estate Taxes[b]…….	605	1,080	1,523	1,866	2,577
Alcohol & Tobacco……	207	210	212	216	222
Fuel & Motor Vehicles[c]…….	396	599	700	789	811
Total Tax Burden……..	3,542	6,074	8,427	10,856	14,859
Burden Ratio……..	14.2%	12.1%	11.2%	10.9%	9.9%
Burden Ratio, State Taxes……	10.8%	9.2%	8.6%	8.4%	7.8%
Burden Ratio, County Taxes….	3.4%	2.9%	2.6%	2.5%	2.1%

a Includes the Corporation Income Tax, State and county Public Service Company Taxes, the Tax on Banks and Other Financial Corporations, the Tax on Insurance Premiums, the county Public Utility Franchise Taxes, and the county charges for licenses and permits.
b Includes the Conveyance Tax and the county Real Property Taxes.
c Includes the State surcharge on motor vehicle rentals.

Source: Author's calculations.

Table 4

Alternative Calculations for the Distribution of Tax Burdens by Income Class

Income and Expenditures					
Income (Federal AGI)…….	$25,000	$50,000	$75,000	$100,000	$150,000
Expenditures……	28,000	41,380	55,010	70,330	93,730
Expenditures subject to GET	18,490	25,820	31,320	39,290	50,990
Tax Burden for a Single Individual					
Total Tax Burden…..……..	3,769	6,181	8,527	10,252	14,848
Burden Ratio…….	15.1%	12.4%	11.4%	10.3%	9.9%
GET (2)[a] ……..	3,599	5,930	8,217	9,865	14,341
Burden Ratio (2)[a]…….	14.4%	11.9%	1.0%	9.9%	9.6%
GET (3)[b]……	3,612	6,763	9,789	11,990	18,046
Burden Ratio (3)[b]……..	14.4%	13.5%	13.0%	12.0%	12.0%
50% Tax Exporting[c]……	3,900	6,392	8,816	10,601	15,333
Burden Ratio (4)[c]……	15.6%	12.8%	11.8%	10.6%	10.2%
Individual Income Tax (2)[d]..	3,680	6,093	8,409	10,161	14,761
Burden Ratio (5)[d]……..	14.7%	12.2%	11.2%	10.2%	9.8%
Tax Burden for a Family of four					
Total Tax Burden……..	3,542	6,074	8,427	10,856	14,859
Burden Ratio……..……	14.2%	12.1%	11.2%	10.9%	9.9%
GET (2)[a]……..……..	3,719	6,325	8,737	11,244	15,366
Burden Ratio (2)[a]……...	14.9%	12.7%	11.6%	11.2%	10.2%
GET (3)[b]……	3,385	6,656	9,689	12,594	18,057
Burden Ratio (3)[b]……..	13.5%	13.3%	12.8%	12.6%	12.0%
50% Tax Exporting[c]……	3,675	6,289	8,712	11,209	15,334
Burden Ratio (4)[c]……	14.7%	12.6%	11.6%	11.2%	10.2%
Individual Income Tax (2)[d] ...	3,444	5,985	8,297	10,374	14,683
Burden Ratio (5)[d]……	13.8%	12.0%	11.1%	10.4%	9.8%

a The rows labeled "GET (2)" and "Burden Ratio (2)" show the total tax burdens calculated assuming expenditures are 10 percent less than those shown in the *BLS Survey* for the income class for single individual and 10 percent more for the family of four.

b The rows labeled "GET (3)" and "Burden Ratio (3)" show the total tax burdens calculated assuming expenditures are equal to income.

c The rows labeled "50% Tax Exporting" and "Burden Ratio (4)" show the total tax burdens calculated assuming that only one-half (instead of two-thirds) of taxes paid by tourists are exported.

d The rows labeled "Individual Income Tax (2)" and "Burden Ratio (5)" show the total tax burdens as estimated for the new Individual Income Tax rules that takes effect on January 1, 2007.

Source: Author's calculations.

Appendix

Explanations of Detailed Calculations for the Tax Burdens

Following are detailed explanations for the calculations of the tax burdens, including the data sources used. In some cases, the tax burden is not followed to the end of its path, either because we lack the needed data, or because the path is murky and too hard to follow. For the most part, the missing adjustments are small and well within the overall margin of error of the calculations.

General Excise and Use Taxes

The General Excise and Use Taxes were distributed as follows. The average effective rate of the taxes on taxable personal consumption expenditures was calculated by first subtracting the amount of the Capital Goods Excise Tax Credit from the total of the General Excise and Use Tax receipts and then dividing the remainder by the amount of taxed final expenditures in Hawaii, omitting gross private investment by business. The Capital Goods Excise Tax Credit gives back to business part of the excise and use taxes, so it must be subtracted from the total. Excise taxes on business-to-business sales and on gross business investment must eventually be recovered in the price of final consumption. We assumed that the rate of excise tax on investments that is embodied in final prices is stable over time. The effective rate of tax on taxable final expenditures was calculated to be 4.5 percent. This is higher than the statutory tax rate of four percent, because the tax pyramids on itself.

To distribute the aggregate tax burden, the share of the General Excise and Use Taxes paid by tourists and other nonresidents was calculated by multiplying total collections of the taxes by the share of the nonresident expenditures in total final expenditures on taxable items. The nonresident expenditures include purchases of taxable goods and services by military personnel stationed in Hawaii. To calculate these expenditures, it was assumed that 60 percent of final expenditures by the federal government on inputs from the government sector consist of compensation paid to military personnel that is spent on taxable goods and services in Hawaii.

It was assumed that a third of the taxes paid by tourists is shifted to residents as a reduction in pretax income.[25] The reduction was calculated to amount to 0.8 percent of personal income. The reduction in income reduces federal income tax collections, so part of the burden is shifted to the federal government, calculated using a marginal tax rate of 15 percent. The federal government also buys taxed goods and services, so it bears part of the GET burden directly.

To distribute the GET burden by income class, rate of GET borne by residents on taxable final expenditures (calculated at 4.5 percent) was multiplied times taxable final expenditures at each income level as reported in the *BLS survey*. Expenditures subject to the GET were only about 47 percent of income in the *BLS Survey*, but the input-output table for Hawaii indicated that such expenditures are about 60 percent of personal income. Also, the income used in our calculations is based on AGI, which is substantially smaller than personal income.[26] The ratio of personal income in to AGI in Hawaii is about 1.5. Therefore, to get measures of the GET burden on AGI that are comparable to the burdens of the Individual Income Taxes and other taxes, we

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[25] The portion of taxes shifted to residents is based on the study by Edwin Fujii, James Mak and Mohammed Khaled, *op cit*.

[26] See, for example, Thae S. Park, "Relationship Between Personal Income and Adjusted Gross Income, 1991-1992," *Survey of Current Business*, Bureau of Economic Analysis, U.S. Department of Commerce, August, 1994.

multiplied the GET burden on taxable expenditures in the *BLS Survey* by (60/47) and by 1.5. Finally, a component was added to account for the part of the GET on expenditures of tourists that is passed back to Hawaii residents as a reduction in income.

The aggregate distribution of tax burdens was calculated using data for fiscal year 2005. Data on revenue from the General Excise and Use Taxes are from the Department of Taxation's data files. Data used to calculate the rate at which the capital goods excise tax credit reduced GET collections are from the Department of Taxation's report *Tax Credits Claimed by Hawaii Taxpayers – 2003*. The data on final expenditures, including those used to calculate the share of personal consumption expenditures made by non-resident military personnel, are from *The 2002 State Input-Output Study for Hawaii* produced by the Hawaii State Department of Business, Economic Development and Tourism (DBEDT). Personal consumption expenditures for each profiled taxpayer unit are from the *BLS Survey* for 2004. Total personal income of Hawaii residents is taken from U.S. Department of Commerce, Bureau of Economic Analysis. Data on federal AGI in Hawaii are from Department of taxation files.

Individual Income Tax and Taxes That Reduce Pretax Income

Individual Income Taxes paid by nonresidents were assumed entirely exported. For the aggregate, it was estimated that estimated that 18.2 percent of the burden of the Individual Income Taxes on residents was shifted to the federal government as a reduction in the federal income tax liability. The estimate is the weighted average of the marginal federal tax rates at different income levels, weighted by the portion of taxpayers that itemized deductions on their federal income tax returns at each income level (calculated from Internal Revenue Statistics) and by the share of the income level in total Hawaii income (calculated from Department of Taxation data).

To distribute the burden of the tax by income class, for each taxpayer unit profiled and for each income level, the effective rate of Hawaii income tax on federal AGI was calculated as the actual average tax rate paid by the profiled taxpayer in 2003 (the latest year for which data were available at the time of writing) divided by federal AGI. The data for the calculations are from the Department of Taxation's files. To calculate the portion shifted to the federal government, we first found the proportion of taxpayers who itemize deductions at each income level and for each taxpayer unit profiled. Then, this proportion was multiplied by the marginal federal income tax rate for the taxpayer unit and the product was multiplied by the State income taxes paid.

In addition to the State income tax burden, Hawaii residents also bear part of the burden from other Hawaii taxes as reduced pretax incomes. Because a reduction in pretax income reduces the federal income tax liability, part of the burden of these taxes is shifted to the federal government, regardless of whether the taxpayer itemizes deductions. Thus, the burden of taxes borne as foregone pretax income was reduced by a federal income tax offset at a rate equal to the marginal federal income tax rate for the profiled taxpayer, with no adjustment for the proportion that itemized their deductions. The calculations for the reductions in pretax income caused by other taxes are described in the subsections for the other taxes.

Hawaii recently reduced its statutory income tax rates and expanded the income tax brackets. To account for these changes, we first calculated the Individual Income Tax before the legislated changes, based on the actual deductions and the statutory tax rates. The calculations overstate the actual tax, because they do no account for tax credits. We then performed the same calculation using the new statutory tax rates. Finally, we multiplied the ratio (tax calculated

under the old law)/(actual tax paid) times the tax calculated under the new law to estimate the actual tax under the new law.

The Transient Accommodations Tax

We assume one-third of the burden of the TAT paid by tourists is shifted to local income and is distributed in proportion to income. To calculate the effective tax rate on income, we divide one-third of the total TAT receipts by Hawaii total personal income. To measure the effect by income level, we multiplied the part shifted to residents as a reduction in income times 1.5 to account for the difference in the levels of personal income and AGI. Data on TAT revenue are from the Department of Taxation's files. Data on Hawaii total personal income are from Bureau of Economic Analysis, U.S. Department of Commerce. Hawaii residents who vacation within the State account for about 4 percent of total TAT revenues. This part of the TAT is distributed to residents in proportion to income.

The Corporation Income Tax, the Public Service Company Tax, the Tax on Insurance Premiums, the Tax on Banks and Other Financial Corporations, and Charges for Licenses and Permits

We assume that one-third of the burden of these taxes is borne as reductions in pretax income of individuals and two-thirds as higher prices on final expenditures. The distribution fractions are measured after the effects of the taxes on prices paid by tourists, part of which feed back as reductions in pretax incomes. To get the effective rate of tax on final expenditures, the revenue from the taxes was divided by total final expenditures in Hawaii, excluding gross investment. The ratio of final expenditures to gross State output (GSP) was taken from DBEDT's 2002 input-output study. To get final expenditures in fiscal year 2005, the ratio was multiplied by the average of GSP in 2004 and the forecast for 2005 given in DBEDT's *Quarterly Statistical & Economic Report, 2nd Quarter 2006*. To distribute the burdens of the taxes by income class, we multiplied the taxes on expenditures calculated using the expenditures reported in the *BLS Survey* by 1.5 to account for the discrepancy between AGI and personal income.

To get the effective rate of tax on income, one-third of the revenue was divided by total personal income. (To account for the difference between personal income and AGI, the tax rate was multiplied times 1.5 when calculating the tax burdens on AGI.) This part of the tax burden is borne by wages and land rents, not by income of capital, so the calculations understate the effect on these income types. However, we apply the effective tax rate to all income of individuals. This procedure amounts to assuming that incomes from land, capital and wages are the same fraction of the total for taxpayers at different income levels and that wages and land rents bear the burden at the same rate. None of these assumptions is likely to be correct, but we have no better alternatives to offer. Combined, these taxes accounted for 8 percent of total State and county taxes in fiscal year 2005.

Taxes on Fuel, Liquor, Cigarettes and Tobacco, and Motor Vehicles

The bulk of the Taxes on Fuel are borne as increased prices to resident motorists, but the taxes also raise the price of consumption throughout the economy. We distribute the burden of the taxes to tourists according to their share of the *de facto* population. Two-thirds of the taxes paid by tourists are exported and one-third reduces pretax incomes of residents. The part not paid by tourists is distributed in the same manner as the Motor Vehicle Weight Tax (as described below).

The burden of the Liquor Tax and the Cigarette and Tobacco Tax per adult is obtained by dividing the amount of the taxes by the number of adults. The number of adults is calculated by multiplying the percentage of adults in the population times the *de facto* population. Data on the tax collections are from the Department of Taxation files. Data on the resident population and the *de facto* population are from DBEDT's *Hawaii Data Book*. The rates of tax are calculated using data for calendar year 2004.

The share of the taxes on liquor, cigarettes and tobacco paid by tourists was assumed to be the same as their share of the *de facto* population. One-third of the burden of the taxes paid by tourists was assumed shifted back to local residents as a reduction in pretax income.

The effective rate of the State and county Motor Vehicle Weight Taxes on residents was calculated by dividing the tax receipts by the number of registered vehicles in Hawaii. For the family of four, the tax rate was applied to vehicle ownership for the income level as reported in *BLS Survey*. It was assumed that the single individual owned only one vehicle. Data on the number of registered vehicles are from DBEDT's *Hawaii State Data Book*. The effective tax rate was calculated using data for 2004. Tourists pay the bulk of the State's surcharge on rental vehicles, but it was assumed that one-third of the tax was shifted to residents as reduced pretax incomes.

The Conveyance Tax and the County Real Property Taxes

The Conveyance Tax is incurred when real property is transferred. We have data on total revenue from the tax, but not on the type of transactions that occurred. We distributed the burden of the tax in the same manner as the county Real Property Taxes, except we assumed that transfers were half as frequent for commercial property as for residential property.

The county Real Property Taxes are distributed as follows. Property taxes on land owned by residents are distributed in proportion to income. The effective rate of tax on personal income is calculated by dividing the taxes on locally owned land by Hawaii total personal income. The burden of property taxes on business improvements (commercial, industrial, agricultural, hotel or resort) is distributed in the same manner as the Corporate Income Tax. That is, two-thirds of the burden is assumed borne as higher prices and one-third is borne as reduced pretax incomes. The rate of the higher prices is calculated by dividing two-thirds of the tax revenues on the business improvements by total final expenditures (including expenditures not subject to GET). The rate of the burden on income is calculated by dividing one-third of the tax on business improvements by Hawaii total personal income. The county Real Property Taxes on residential property are assumed borne by residential property owners and are distributed in proportion to income. The rate of the burden is calculated by dividing the tax on residential property by Hawaii total personal income. Data on county Real Property Taxes are from the publication *Real Property Tax Valuations Tax Rates & Exemptions, 2005-2006 Tax Year, State of Hawaii*, produced by the Real Property Assessment Division, Department of Budget and Fiscal Services, City and County of Honolulu. The data for the City and County of Honolulu do not show taxes on land and improvements separately, so they were imputed using the ratios in the rest of the State.

Assumptions were made on the proportion of residential property that is rented and the proportion of land that is owned by nonresidents. The assumptions are based on informal samples of the county real property records. Based on the samples, it was assumed that external ownership accounts for 6 percent of the property taxes on single-family homes, for seventy 70 percent of the taxes on apartments, for eighty percent of the taxes on commercial and industrial

properties, for ninety percent of hotel and resort properties and for 50 percent of agricultural properties.

APPENDIX E

STUDY ON THE QUESTION "SHOULD HAWAII REPLACE ITS INCOME AND FRANCHISE TAXES WITH AN INCREASE IN THE GENERAL EXCISE TAX?

Tax Research and Planning Office
Department of Taxation
State of Hawaii

20 November 2006

STUDY ON THE QUESTION "SHOULD HAWAII REPLACE ITS INCOME AND FRANCHISE TAXES WITH AN INCREASE IN THE GENERAL EXCISE TAX?"

Prepared by the Tax Research and Planning Office, Hawaii Department of Taxation

"The Income Tax has made more liars out of the American people than golf has. Even when you make a tax form out on the level, you don't know when it's through if you are a crook or a martyr."
- Will Rogers

"Income tax returns are the most imaginative fiction being written today."
- Herman Wouk

"The Hardest thing to understand in the world is the income tax."
- Albert Einstein

Executive Summary

This study examines the likely effects on Hawaii's economy and on the tax burdens of its residents for two changes in tax regimes (two scenarios). In the first scenario, the Individual Income Tax, the Corporation Income Tax, and the Tax on Insurance Premiums are eliminated and the Tax on Banks and Other Financial Corporations is substantially reduced. The revenue loss from these tax changes is replaced with in-tandem increases in the General Excise Tax (GET) and in the portion of the Public Service Company Tax (PSCT) that goes to the State. In the second scenario only the Individual Income Tax and the Corporation Income Tax are replaced with increases in the GET and PSCT. It is estimated that the statutory rate for the GET and for the State's portion of the PSCT must be raised to 6.9 percent (from the current level of 4 percent) in the first scenario and to 6.7 percent in the second scenario.

In either scenario, the new tax system would be slightly more stable than the current system. That is, compared to the current tax system, the new ones would generate revenues that would vary less, on a year-by-year basis, from the long-run average rate of growth of personal income. Under the new tax regimes, the automatic growth in revenue (that is, revenue growth as it would occur with no legislative action) would be slower and closer to the growth rate in personal income in Hawaii than under the current tax system.

It is hard to gauge the effect of either change in tax regimes on the macroeconomic variables in Hawaii's economy, such as wages, output, employment, or investment in the local economy. These effects could be positive or negative. The biggest effects on the pattern of production might be a reduction in tourism demand and an increase in demand by residents, though some of the increase in resident demand may be delayed to the future.

Relative to the current tax structure, the new tax regime would encourage residents to work more and to save more, though much of the increase in saving may be invested outside of the State. The effect on work effort arises, because the tax change would reduce the marginal effective rate of tax on earnings. The effect on saving arises, because the tax change would

eliminate the tendency for the State's taxes to discriminate against future consumption in favor of consumption in the present.

The tax change would also probably increase pressures to exempt certain expenditures from the GET, and whether there is a net gain or loss in economic efficiency will depend strongly on the response to such pressures. If the GET is altered to exempt substantial components of total expenditures, such as food and rent, the switch to the new tax regime might well reduce the overall efficiency of Hawaii's taxes.

In both scenarios, the change in tax regimes would reduce the overall tax burden on local residents, but it would cause the burden to be distributed more regressively. These taxes will become more regressive, because the income taxes are slightly progressive and the GET and PSCT are regressive. The tax change would reduce the overall burden of Hawaii's taxes on residents, because nonresidents bear a bigger part of the total burden of the GET and PSCT than they do of the State's income taxes.

The change in tax regimes would reduce the costs of complying with the State's taxes for taxpayers and it may also reduce the resources they devote to avoiding taxes and to taking advantage of special tax breaks. The tax change would also reduce the State's costs of administering taxes and of processing tax returns. It would eliminate about 60 percent of the forms and instructions now issued by the Department and it would relieve about 600,000 individuals and 160,000 entities of the requirement to file State income or franchise tax returns. The tax change would reduce the number of returns processed by the Department of Taxation by half, from about 2 million per year to about 1 million per year.

It is unclear, however, whether the change in tax regimes would increase or reduce tax evasion on the part of taxpayers and hence require more or less enforcement efforts on the part of the Department of Taxation. Enforcing compliance with the State's income taxes is greatly aided by federal enforcement efforts, because Hawaii adheres fairly closely to the federal definitions of taxable income. On the other hand, the increase in the rate of the GET may increase the incentive for taxpayers to evade the tax. Hence, the change might entail an increase or reduction in costs of monitoring and enforcing the State's taxes.

If only the Corporation Income Tax were eliminated, the revenue could be replaced with small increases in either the GET or in the Individual Income Tax. The Corporation Income Tax yields only 4 percent as much revenue as the GET and only 7 percent as much revenue as the Individual Income Tax.

Summary of Advantages and Disadvantages From the change in Tax Regimes

Main Advantages:

1. Reduces the overall burden of the State's taxes on residents by shifting more of the burden to nonresidents.
2. Simplifies the State's taxes and makes them more transparent.
   a. Reduces the number of taxpayers and the number of tax forms and tax returns. b. Reduces costs to taxpayers of complying with the State's taxes.
   c. May reduce resources devoted to tax avoidance.
   d. Reduces the Department of Taxation's costs of administering and processing taxes.
3. Improves stability of government revenue.

4. Eliminates distortions caused by the States income taxes.
    a. Reduces the disincentives to work caused by taxes.
    b. Reduces the disincentives to save caused by taxes.
    c. Eliminates special income tax breaks and efforts to secure such tax breaks.
5. Reduces automatic tendency for growth in Hawaii's taxes to outstrip the growth in personal income.

Main Disadvantages:

1. Causes the State's taxes to become more regressive.
2. Exacerbates distortions caused by the GET.
    a. Increases distortions caused by special exemptions and deductions from the GET.
    b. Increases distortions caused by pyramiding of the GET and PSCT.
    c. May increase efforts to secure special exemptions or deductions from the GET.
3. Reduces the tendency of the State's taxes to help smooth swings in the business cycle.

Effects That Are Ambiguous or Unknown:

1. Effects on the overall level of output, employment, wages and investment in the State.
2. Effects on the Department of Taxation's costs of monitoring and enforcing the State's taxes.

I. Introduction

Hawaii taxes net income of individuals with the Individual Income Tax, and it taxes net income of businesses with the Corporation Income Tax, the Tax on Banks and Other Financial Corporations, and the Tax on Insurance Premiums.[1] The purpose of this study is to evaluate the effects on Hawaii's economy and the well being of its residents if the net income taxes were eliminated or altered and the revenue were replaced with an across-the-board increase in the General Excise Tax (GET) and the part of the Public Service Company Tax (PSCT) that goes to the State.[2] More specifically, we examine the effects on economic efficiency, including the costs of tax administration, and on the distribution of the burden of the State's taxes among the various income classes. We also assess qualitatively the likely effects on macroeconomic variables such as total production and employment and on the average wage within the State. We examine two scenarios. In the first scenario, the Individual and Corporation Income Taxes and the Tax on Insurance Premiums are eliminated, and the Tax on Banks and Other Financial Corporations is adjusted to the present rate minus the rate applied to income of other corporations. In the second scenario, only the Individual and Corporation Income Taxes are eliminated.

The remainder of the study is organized as follows. The next section provides static calculations of the rate of the GET and PSCT that would be needed to preserve revenues after the changes in tax regimes. It also assesses the change in stability of tax revenues that might be expected to occur as a result of the tax changes. Section III discusses what is known about how moving from an income tax to a tax on consumption will affect macroeconomic variables, including the effects on saving, investment, employment, output and the allocation of resources, and points out some important differences between consequences of such a move by the national government and by an individual state. The section also contains an aside about the effects of eliminating the Corporation Income Tax. Section IV examines the effects of the changes in tax regimes on the distribution of tax burdens among various income classes. It also provides an estimate of the effect on the overall tax burden borne by Hawaii residents. The overall burden changes, because even though the tax change is revenue neutral, the portion of the burden borne by nonresidents differs among the various taxes. Section V contains an evaluation of the effects on costs of tax administration by the government and on costs of tax compliance by the taxpayers. Section VI contains the conclusions.

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[1] The State also administers the Public Utilities Franchise Tax. However, this tax is imposed on gross income and is meant to replace the county real property taxes for the utilities and other public service companies. These businesses are still subject to the State's net income taxes, including the Corporation Income Tax.

[2] A portion of the PSCT goes to counties in lieu of real property taxes. The State receives 4 percent of the public service company's gross receipts from final sales, the same as the statutory rate of the GET on retail sales.

II. Effects on the Rate of the General Excise and Public Service Company Taxes and on the Variability of the State's Tax Revenues

Effects on Stability of Tax Collections

Table 1 shows the importance of the GET and PSCT compared to the income and franchise taxes in the State's overall tax collections in recent years. The GET accounts for the great bulk (about 95 percent) of the total revenue from the two taxes.[3] It also shows the variance of the collections from fiscal year 1972 to fiscal year 2005. A table containing detailed tax collections for these years is provided in the appendix.

Table 1

Tax Collections and Variability of Tax Collections
(Dollar amounts are in millions)

(A) Tax	(B) Collections in FY 2005	(C) Mean Average of Collections FY 1972-2005	(D) Standard Deviation of Collections FY 1972-2005	(E) Ratio: (D)/(C)
(1) GET and PSCT…….	$2,245	$1,059	589	0.56
(2) Individual Income Tax……	1,381	653	383	0.59
(3) Corporation Income Tax….	86	44	21	0.48
(4) Tax on Banks and Other Financial Corporations….	39	11	9	0.88
(5) Tax on Insurance Premiums…….	83	41	23	0.56
(6) Sum of (2) through (5)……	1,589	749	423	0.56
(7) Sum of (2) and (3)……	1,467	697	395	0.57
(8) Ratio: (6)/(1)……	0.71	0.71	0.72	1.01
(9) Ratio: (7)/(1)……	0.65	0.66	0.67	1.02

Source: Hawaii Department of Taxation data files and author's calculations.

According to the data in table 1, the income and franchise taxes yielded about 71 percent as much revenue as the GET and PSCT in fiscal year 2005, the same as the average over the period from fiscal year 1972 to fiscal year 2005. The percentage reached its highest in 1989 (82 percent) and it reached its lowest in 1982 (56 percent). The static stability of revenue flows, measured as the ratio of the standard deviation of the revenue divided by the mean revenue for the period beginning with fiscal year 1972 and ending with fiscal year 2005, varied considerably among the taxes. As might be expected, revenues from the Tax on Banks and Financial Corporations and the Individual Income Tax are less stable than those from the GET and PSCT combined. Surprisingly, however, the most stable source of revenue, in the static sense, turns out

[3] In fiscal year 2005, revenue from the GET was $2,137 million and revenue from the portion of the PSCT that went to the State was $109 million.

to be the Corporation Income Tax. Overall, the combined revenue from the income and franchise taxes (shown in row (6) of table 1) exhibited about the same static stability as the GET and PSCT combined. This implies that the change in tax regimes for scenario 1 would have no appreciable effect on the static stability of tax collections. The same holds true for scenario 2 in which the Tax on Banks and Other financial Institutions and the Tax on Insurance Premiums are retained, because the static stability of the Individual Income Tax and the Corporation Income Tax combined is about the same as that for the GET and PSCT.

Static stability of collections implies that the collections do not vary with income. This is not a desirable trait in the longer run. For instance, perfect static stability means that the revenue provided by the tax does not grow over time with the economy. A better kind of stability, at least from the viewpoint of providing a stable revenue stream for government, would be if the tax revenue grew at the same rate as the demand for government services. Assuming this demand grows over the long run at the same average rate as personal income, taxes would demonstrate stability of the second type, which we shall call dynamic stability, if they grew at the same average rate as personal income and showed little change in growth from one year to another. Since 1972, Hawaii personal income has grown at an average compound rate of 6.85 percent. Therefore, the most desirable tax from the viewpoint of dynamic stability of government revenues would be one that grew at an average rate that is closest to 6.85 percent and that tended to deviate by the smallest amount from this rate. Table 2 compares the dynamic stability of the taxes.

As shown in table 2, receipts from all of the taxes except the Corporation Income Tax grew faster than personal income in Hawaii from 1972 to 2005.[4] The revenues from the income and franchise taxes combined grew at about the same rate, on average, as did revenues from the GET and PSCT over this period. The revenue from the Individual Income Tax grew at a rate that is only slightly higher. This is somewhat surprising, because the income tax rates are graduated. However, legislative changes in the Individual Income Tax that took effect in 1987 and in 1998 slowed the growth of income tax collections, and legislative changes that were made in 2006 will slow it again.[5] Among the taxes shown in the table, the Tax on Banks and Other Financial Corporations has grown at an average rate closest to the growth in personal income, but this tax also demonstrates the greatest annual deviations from the average. As shown in column (D), none of the income or franchise taxes are as dynamically stable as the GET and PSCT. Combined, the income and franchise taxes exhibit almost twice the deviation from their mean as the GET and PSCT. This is true, whether or not the Tax on Insurance Premiums and the Tax on Banks and other Financial Corporations is included in the total for the income and franchise taxes. This implies that the change in tax regimes under either scenario would produce a more stable flow of annual revenues.

[4] See "Study on the Question "Is Hawaii's Tax Structure Adequate?" *Report to the 2005-2007 Tax Review Commission*, for a more detailed account comparing growth in revenue from Hawaii's taxes to the growth in personal income.

[5] The 2006 legislative changes in the Individual Income Tax are discussed in greater detail below. Without legislative changes, the revenues from the Individual Income Tax tend to grow faster relative to personal income than does the GET. See *Ibid*.

Table 2

Tax Collections and
Dynamic Stability of Tax Collections
(Dollar amounts are in millions)

(A) Tax	(B) Collections In FY 2005	(C) Average Growth Rate of Collections FY 1972-2005 (*In percent*)	(D) Standard Deviation of Annual Growth in Collections FY 1972-2005
(1) GET and PSCT…..……	$2,245	7.30	0.047
(2) Individual Income Tax……	1,381	7.40	0.087
(3) Corporation Income Tax….	86	6.06	0.870
(4) Tax on Banks and Other Financial Corporations… .	39	6.98	5.080
(5) Tax on Insurance Premiums…….	83	7.63	0.121
(6) Sum of (2) through (5)……	1,589	7.29	0.086
(7) Sum of (2) and (3)……	1,467	7.30	0.083
(8) Ratio: (6)/(1)……	0.71	99.86	1.840
(9) Ratio: (7)/(1)……	0.65	100.00	1.766

Source: Hawaii Department of Taxation data files and author's calculations.

Dynamic stability of taxes is desirable from the viewpoint of providing a steady source of funds for the operation of government, but it may be less desirable for the private sector than a tax regime that "leans against the wind," that is, one in which tax revenues rise faster than income during a cyclical expansion and slower than income during a cyclical contraction. Tax systems with this characteristic help automatically to stabilize business cycles. Tax systems that are dynamically stable according to our definition will tend to do the opposite, that is, they will tend to raise the overall rate of the tax burden during cyclical declines and lower it during cyclical expansions.[6]

The data in table 2 also imply that the new tax regime (again, under either scenario) would produce revenue that tends to grow at about the same rate relative to the growth in personal income as the current tax structure. However, the growth of revenue from the current tax structure has been slowed by legislative action. The new tax regime would produce a slower rate of automatic revenue growth than the current tax structure, because the automatic growth in the Individual Income Tax is substantially greater than that for the GET and PSCT.[7]

[6] As Mark Twain famously remarked "When everybody has got money they cut taxes, when they're broke they raise 'em. That's statesmanship of the highest order."
[7] *Ibid*.

The Increase in the Rate of GET and PSCT Needed to Replace the Revenue from the Income and Franchise Taxes

To produce a simple, static estimate of the increase in the rate of the GET and PSCT that would be needed to replace the revenue from the income and franchise taxes, we must make some assumptions about how the new GET and PSCT will be structured. Both taxes have more than one tier, with certain transactions being taxed at a rate lower than the statutory rate of 4 percent that applies to most gross receipts from final sales (retail sales).[8] For purposes of this study, we have assumed that revenue from replacing the income and franchise taxes will be made up entirely by an increase in the rate of the GET and PSCT on final sales. From data compiled by the Department of Taxation for fiscal year 2002, we estimate that retail sales account for about 95 percent of the total revenue provided by the GET.

In order to make the estimates more relevant for the current tax structure, we also adjusted the revenues from the Individual Income Tax to account for changes that will occur as a result of sections 2 and 3 of Act 110, Session Laws of Hawaii 2006. Section 2 of the Act increased the standard deduction and section 3 widened the tax brackets. The Act is estimated to reduce revenues from the Individual Income Tax by about 4 percent in each year.

Finally, the Tax Review Commission asked that in the new tax regime, the Tax on Banks and Other Financial Corporations should be adjusted to reflect the GET that other corporations must pay, rather than simply eliminate the tax. However, because they are so highly levered, a tax on gross income of banks is impractical, as it would place them at a severe competitive disadvantage. Therefore, to compute the rate for the replacement GET and PSCT, we assume that the banks will continue to pay franchise tax at the rate of 1.52 percent on net income, which is the difference between the top statutory tax rate of the State's Corporation Income Tax (6.4 percent) and the statutory rate of the tax on Banks and Other Financial Corporations (7.92 percent). This amounts to retaining about 19 percent in the Tax on Banks and Other Financial Corporations in scenario 1.

Because insurance premiums and financial services are not subject to the GET or to the Corporation Income Tax, it is unclear how to treat these entities in a way that prevents them from gaining or losing more than other corporations from the change in tax regimes. Therefore, in addition to the calculations for scenario 1, we considered an alternate case (scenario 2) in which we calculated the increase in GET and PSCT that would be needed to replace the income taxes if the Tax on Insurance Premiums and the Tax on Banks and Other Financial Corporations were maintained at their current levels.

For scenario 1, the new statutory rate for the GET and for the portion of the PSCT that goes to the State's general fund is calculated as follows. First, based on the estimate that after Act 6 the Individual Income Tax will provide only 96 percent as much revenue as it does now, and assuming 19 percent of the Tax on Banks and Other Financial Corporations will be retained, the new GET and PSCT would need to have raised $1,528 million more in revenue at 2005 levels (= ($1,381 x 0.96) + ($39 million x 0.81) + 86 + 83), for a total of $3,772 million, instead of the $2,245 million actually raised. Based on the mean averages from 1972 to 2005, the new GET and PSCT would need to raise $1,780 million (= ($653 million x 0.96) + ($11 million x 0.81) + $44 million + $41 million) instead of $1,059 million.

[8] For example, under the GET sales at wholesales are taxed at a rate of 0.5 percent, and commissions earned on sales of insurance are taxed at 0.15 percent.

By assumption, the new statutory tax rate will apply only to items currently taxed at the 4 percent statutory rate. These items account for about 95 percent of total revenues from the taxes, so their tax base is equal to 95 percent of the revenue from the GET and PSCT on items taxed at 4 percent, divided by 0.04, or about $53,319 million in 2005 (= (0.95 x $2,245)/0.04). Assuming that the tax base for the lower statutory rates remains the same, revenue from the GET and PSCT applied at the lower rates will also stay the same. If the rest of the tax base also stays the same, the GET and PSCT levied on sales taxed at the lower rates will continue to supply $112 million of revenue (= $2,245 million x 0.05), so the new statutory tax rates on retail sales applied to the tax base of $53,319 must provide $3,660 of revenue (= $3,772 million – $112 million). This means that the new statutory tax rate must be 0.0686 (= $3660 million/$53,319 million). Using mean values for the period from 1972 to 2005, the revenue that must be replaced is $721 million (= ($653 million x 0.96) + ($11 million x 0.81) + $44 million + $41 million), the total revenue to be provided by the new GET and PSCT is $1,780 million (= $721 million + $1,059 million), and the amount provided by the GET and PSCT at the lower rate is $53 million (= $1,059 million x 0.05), so the amount to be collected from the new tax on retail sales is $1,727 million (= $1,780 million - $53 million). The retail sales tax base is $25,151 million (= ($1,059 million x 0.95)/0.04), so the new statutory tax rate must be 0.0687.

For scenario 2, in which the Tax on Insurance Premiums and the Tax on Banks and Other Financial Corporations are maintained, the new GET and PSCT must raise only $3,657 million in revenue at 2005 levels (= $2,245 million + ($1,381 million x 0.96) + $86 million) or $1,730 million at the mean averages for 1972 to 2005 (= $1,059 million + ($653 million x 0.96) + $44 million). The base for the new GET and PSCT on retail sales and the amount raised by the GET and PSCT on lower-taxed sales are the same as scenario 1, so the new statutory tax rates are 0.0665 for 2005 levels (= ($3,657 million – $112 million)/$53,319 million) and 0.0667 for the mean average levels from 1972 to 2005 (= ($1,730 million - $53 million)/$25,151 million).

The static estimates are based on the assumption that nominal spending on taxable items stays the same. The assumption could lead the estimates to overstate or understate the actual increase in the excise taxes needed to maintain revenue. For one thing, tax avoidance and tax evasion for the GET and PSCT will tend to increase as the tax rate rises.[9] Tax avoidance measures include a shift in purchases from taxed to non-taxed items, such as greater purchases from exempt entities. Tax evasion measures include non-reporting of income by business and non-reporting of Use Tax on imports by consumers.

The static estimate also takes no account of the macroeconomic effects of the tax change, that is, the effects on aggregate demand and on total expenditures. As will be explained below, however, these effects are hard to determine and might be positive or negative. Finally, the static estimate makes no allowance for the possibility that the higher rate of GET will result in changes in the structure of the tax. For example, the higher rate may cause voters to force legislators to exempt certain necessities from the tax, such as food, rent and medical services.

It is estimated that, on average, pyramiding of the current GET raises the effective rate of on final sales in Hawaii by about 0.5 percent, that is, from the statutory rate of 4 percent to an

[9] Note that the understatement occurs, regardless of any tax avoidance or tax evasion that occurs with the taxes being replaced, because we are comparing the revenue that is currently raised from those taxes (after the effects of tax avoidance and tax evasion) with the revenue that will be raised by the increase in the GET and PSCT.

effective rate of 4.5 percent.[10] Of this amount, it is estimated that about 40 percent is caused by the tax on wholesale sales and the remaining 60 percent is caused by business-to-business sales taxed at the retail rate of 4 percent. The tax on wholesale sales is held constant, so this part of the pyramiding should not increase with the change in tax regimes. If the remaining part stays in proportion to the statutory tax rate, the new effective rate of the GET and PSCT under scenario 1 will rise by 3.1 percent, from 4.5 percent to 7.6 percent (= (4.3/4) x 6.9 percent + 0.2 percent), and the new effective rate under scenario 2 is estimated to rise by 2.9 percent, from 4.5 percent to 7.4 percent (= (4.3/4) x 6.7 percent + 0.2 percent). Thus, the implied pyramiding is about 0.8 percent for scenario 1 (the effective rate of 7.6 percent minus the statutory rate of 6.8 percent) and by 0.7 percent for scenario 2 (the effective rate of 7.4 percent minus the statutory rate of 6.7 percent).[11]

III. Effects on the Economy

Effects on Economic Efficiency

Much has been written on how a move from an income tax to a tax on consumption would affect the national economy.[12] One reason given for why the change in tax regimes would improve economic efficiency is that the income tax discriminates against future consumption by taxing it more heavily than current consumption. The argument is based on the notion that all saving and investment take place for the purpose of providing future consumption and that taxes should not discriminate in favor of present consumption. A uniform tax on consumption taxes consumption as it occurs, whereas a tax on income taxes the income whether it is consumed currently or saved and invested to provide for future consumption. Savings produce a return and allow a greater amount of future consumption, as the saver is rewarded for postponing consumption with a return on the savings. Under an income tax, the returns to saving are also taxed. The income tax discriminates against future consumption financed from current saving, because the saver must prepay part of the tax on the future consumption, denying the taxpayer the time-value of money on the amount of the tax prepayment. Under the consumption tax, all consumption is taxed as it occurs and there is no prepayment of the tax on future consumption. This source of inefficiency can be avoided under an income tax by allowing savings to be subtracted from taxable income and exempting their return from current tax, such as under some retirement plans.

Another reason income taxes are inefficient is that they are levied at graduated rates that increase with the taxpayer's income. Graduated income taxes are an inefficient way to raise revenue, because the efficiency cost of the tax depends only on the tax rate at the margin, that is, the tax rate that applies to the last unit of income earned. For example, a graduated tax that hits

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[10] See "Study on the Progressive or Regressive Nature of Hawaii's Taxes." *Report to the 2005-2007 Tax review Commission*. The sales at wholesale account for only about 5 percent of GET receipts, which implies that they account for about 40 percent of the pyramiding.

[11] These calculations tend to understate pyramiding under the new regime, because they ignore the effect of the capital goods excise tax credit. This credit, which reduces pyramiding of the present GET, would disappear with elimination of the net income taxes. The effect is small, however, because the credit is only about one percent as great as the combined collections of the GET and PSCT.

[12] Although the GET is not technically a consumption tax, in substance its economic effects are much the same. Gregg A. Esenwein and Jane G. Gravelle provide an excellent and accessible review of the evidence on this topic. See their recent paper "The Flat Tax, Value-Added Tax, and National Retail Sales Tax: Overview of the Issues." *CRS Report for Congress*, Congressional Research Service, Library of Congress, September 24, 2004.

28 percent for the last unit of income earned by a worker has the same adverse effect on the desire to work as a flat tax of 28 percent on all of the worker's income, but the flat tax provides more revenue. Therefore, replacing a graduated income tax with a flat consumption tax would improve the economic efficiency of the tax system, even if the income tax were structured to avoid the discrimination against future consumption. However, the change in tax regimes would surely increase pressures to exempt certain expenditures from the tax, and the net effects on economic efficiency will depend strongly on the response to these pressures. If the GET is altered to exempt substantial components of total expenditures, such as food, rent and medical services, the switch to the new tax regime might well reduce the overall economic efficiency of Hawaii's taxes.

The main reason for having graduated income taxes is to promote what is called vertical equity of taxes. The idea, simply put, is that wealthier individuals are more able to pay taxes, so they should be taxed at a higher rate. A flat tax does not provide vertical equity. One way to offset the adverse effects of the change in tax regimes on vertical equity would be to use tax collections to support a more extensive system of transfer payments to less affluent taxpayers. This would sacrifice some of the efficiency gains from the tax change, however, because it would require an increase in the GET and PSCT and an increase in the tax rate increases the efficiency cost of the tax.

Effects on Saving and the Supply of Investment

It is sometimes argued that the discrimination against saving and future consumption under the income tax is partly responsible for the low rate of saving by Americans, but the effect is hard to demonstrate empirically. Many analysts make the further claim, which is even less supported by the empirical evidence, that by discouraging saving the income tax also discourages investment in the national economy, thereby reducing the capital available for American workers and adversely affecting their productivity.[13] An important question that must be addressed before this further claim can be made is "What is the effect of local saving on local investment?" If foreign investors are able to take advantage of profitable investment opportunities, they can make up for any shortfall in domestic saving. In a world with integrated financial markets and low barriers to international investment, the effect of an increase in U.S. saving on investment within the United States is greatly diluted, since the saving can go anywhere in the world, or it can displace foreign investment that otherwise would have come to the United States. Today, net inward investment flows to the United States are very large, approximately 6 percent as big as the U.S. gross national product. This establishes the fact that global capital markets are integrated and that the U.S. economy need not rely exclusively on local saving to fund local investments.

An increase in local saving is even less likely to have an effect on investment in an individual U.S. state. The U.S. states are tied together with a common currency and efficient capital markets, so saving within a state will go wherever investment returns are greatest. Very little of any increase in local saving will find its way to the local economy. Eliminating the

[13] See, for example, the article by Laurence J. Kotlikoff, "The Economic Impact of Replacing Federal Income Taxes With a Sales Tax," *Policy Analysis No. 193*, Cato Institute, April 15, 1993. Kotlikoff finds a large effect of an increase in U.S. saving on investment within the United States, but the finding is an artifact of his assumption that investment and saving within the U.S. economy must be equal. (His model does not allow for any net international investments.)

corporation Income Tax will reduce the cost of capital for new investment in Hawaii, and this will increase the supply of capital to the local economy. What happens to total investment will also depend on what happens to local investment demand, however, and the effects of the change in tax regimes on investment demand (discussed below) are uncertain.

Effects on Work Incentives and the Supply of Labor

Eliminating the income and franchise taxes increases the net after-tax pay, so it increases the incentive to work. On the other hand, the increase in the GET and PSCT will reduce the real purchasing power of earnings, which will reduce the incentive to work. On net, however, the change in tax regimes should increase the incentive to work, because it will reduce the *marginal* rate of tax on new earnings for the great majority of workers. This effect is demonstrated by the following calculations.

For scenario 1, we have estimated that the increase in the effective rate of GET and PSCT needed to replace the income and franchise taxes is about 3.0percent (from 4.5 percent to 7.5 percent). The GET and PSCT are levied at a flat rate on gross receipts and they do not cover all expenditures. Therefore, the effect of their increase on work effort would be offset by a reduction in the marginal rate of the Individual Income Tax on earning that is somewhat less than 3.0 percent.[14] After the 2006 legislation takes effect, the marginal rate of the Individual Income Tax will be 5.5 percent or higher for individuals with taxable income of at least $4,000, or for a couple with joint taxable income of at least $8,000. The marginal income tax rate will be 8.25 percent for an individual with income of at least $40,000 or for a couple with joint taxable income of at least $80,000. Thus, the net effect on work effort of the change in tax regimes will be positive for the great majority of taxpayers, and it will be substantial for some. The conclusion holds *a fortiori* if the effects of the reductions in the Tax on Banks and Other Financial Corporations and the Tax on Insurance Premiums are accounted for in the calculations. The conclusion also holds for scenario 2, because the increase in the GET and PSCT is smaller, whereas the reduction in the Individual Income Tax on earnings is the same.

Effects on Overall Competitiveness of Local Producers and on Local Production

What would the tax shift do to profitability of (and hence demand for) local investment? There is little evidence on which to base an answer to this question. What follows is a qualitative assessment, with a list of possible positive and negative effects. An increase in the GET and PSCT will raise the costs of a Hawaii vacation to tourists, adversely affecting the State's primary export industry. The effect on cost will be ameliorated slightly by reductions in the cost of capital caused by eliminating the Corporation Income Tax for those investing in the tourism industry.

The Use Tax raises the price of imports into the State, which helps maintain competitiveness of local producers who must pay the GET on their local sales. There is no such protection to allow local producers to raise the price of their output to compensate for the State's Corporation Income Tax. However, the protection afforded by the Use Tax is incomplete, because it raises the price of imports by only the statutory tax rate whereas the GET and PSCT

[14] Ordinarily, an increase in a tax rate brings about a disproportionately greater increase in the excess burden of the tax. For example, doubling a tax will usually quadruple its excess burden. In the current instance, however, the burdens of the Individual Income Tax and the GET augment each other, that is, they pile on top of each other to discourage work effort. Therefore, when evaluating the efficiency effects of these taxes, their combined effects must be considered.

pyramid on themselves and on each other, and because many imports are never reported and Use Tax is not paid.[15]

In fiscal year 2000 the Corporation Income Tax amounted to less than 0.2 percent of Hawaii gross receipts for all corporations and to less than 0.4 percent of Hawaii gross receipts for corporations in the entertainment and hospitality industries.[16] The pyramiding of the GET and PSCT under the new tax regime is estimated to be only about 0.2 percent more than the current pyramiding for both scenarios 1 and 2 (= 0.7 – 0.5). Comparing this increase with the possible price effect of the Corporation Income Tax, it is not clear whether the change in tax regimes will increase or reduce the tax-induced disadvantage of local corporations that must compete against imports into the State, even on average.

An important effect on competitiveness of the local producers would come simply from the increase in the rate of the GET and the fact that consumers usually fail to pay the Use Tax on their imports from out-of-state sellers. The increase in the GET would make shopping on-line and buying from out-of-state mail-order sellers more attractive to consumers and would increase tax evasion.

As shown in section IV, it is estimated that a greater portion of the burdens of the GET and PSCT are borne by nonresidents than of the income and franchise taxes. Therefore, the change in tax regimes should increase the disposable income of residents and increase their demand for goods and services, even after taking account of the increase in prices caused by the increase in the rate of the GET and PSCT. However, the tax change will also encourage residents to save more, so the net effect on current aggregate demand of residents is ambiguous. (Their total real disposable income rises, but a larger share of their income will be saved for future consumption.) If current demand of residents increases, part of the increase will be satisfied by imports. The net effect on current demand of the increase in disposable income of residents, the increased tendency to save, and of the decline in tourism (caused by the increase in costs imposed by the GET and PSCT) could be positive or negative.

Effects on Different Industries in the Local Economy

To assess the effects on different industries on the supply side, it is probably simplest to begin with the fact that the change in tax regimes will replace the tax on net income with an increase in the tax on gross income. Therefore, companies with a higher ratio of net income to gross income would tend to be encouraged, or less discouraged by the change in tax regimes than companies with a lower ratio of net income to gross income. The tax shift would eliminate the deduction for depreciation of assets, so companies with large investments in depreciable assets will tend to suffer more or to benefit less than companies with few depreciable assets.

On the demand side, eliminating the State's Individual Income Tax would increase disposable income of consumers and therefore increase their demand for goods and services, whereas the increase in the rates of the GET and PSCT would increase prices of goods and services, thus discouraging demand both by residents and tourists and other nonresidents living in Hawaii. Because the GET is applied fairly universally, its effects on relative prices are kept to a minimum, so the increase in the GET would have about the same effects on demand as the equivalent reduction in income. Eliminating the Individual Income Tax would amount to about a

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[15] See William F. Fox, *Implications of the Streamlined Sales Tax Agreement for General Excise Tax Revenue*, report prepared for the State of Hawaii Office of Auditor, April 2006.

[16] See the report *Hawaii Income Patterns: Businesses 2000*, Department of Taxation of the State of Hawaii, July 2002.

3 percent increase in disposable income for Hawaii's residents (estimated by dividing revenue from the tax by Hawaii personal income in 2005). The estimated increase in the GET and PSCT will amount to a price increase of about 2.8 percent to 3.0 percent on taxable items, which is the increase in the effective rate of these taxes. Perhaps the most important effect on the pattern of current demand would be a shift away from goods and services sold to tourists in favor of goods and services sold to local residents.

The change described in the first scenario would favor the insurance industry and banks and other financial corporations, because these entities would be relieved of a tax obligation with no offsetting tax increase. Either scenario would favor non-profit entities exempt from the GET. These entities are exempt from the income and excise taxes, so the change in tax regimes has no direct bearing on their taxes (which remain zero), but it would increase demand for their output, because the increase in the GET would increase the price of other things people spend their money on.[17]

Other Effects on the Local Economy

Replacing the local income tax with an increase in the GET would make Hawaii a more desirable place to live for people with high income and a high saving rate, and whose income does not require them to locate anywhere in particular. It would make Hawaii a less desirable place to live for retirees living on pension income that is currently exempt from Hawaii's Individual Income Tax. The cost of living would rise for people with low income who save little.

It should be noted that the change in tax regimes may cause temporary disruptions to business in the very short term, because consumers are likely to respond to the announcement of the tax change by moving forward some of their purchases to avoid the increase in the GET. This would cause a spurt in sales prior to the tax change and an attendant lull in sales after the tax change.

An Aside on the Effects of Eliminating the Corporation Income Tax

In the short run, if Hawaii eliminated the Corporation Income Tax, current shareholders would benefit most, but in the long run, the shareholders bear little if any of burden of the tax. Instead, the tax raises prices to consumers, reduces local land rents, reduces earnings of local workers, and increases the rate of pretax corporate profit. The conventional economic wisdom holds that in the long run a small taxing jurisdiction, such as a state, cannot export any part of a tax on corporate income to external shareholders. The reason is that the tax causes the investors to demand a higher pretax profit on local investment to compensate for the tax.[18] Even the local shareholders escape the burden of the tax. The conclusions are based on the simple logic that investors look to get the highest after-tax return they can on their investments and that a single jurisdiction contains only a small part of the available investment opportunities. If something happens to reduce the after-tax rate of return in the local jurisdiction, investors will go away and

[17] The taxable entities gain from the reduction in taxes on business income but, as explained above, even if the full gain is passed forward to consumers in the form of a lower price, it usually will not offset the effect of the increase in the GET.

[18] In the argot of economists, the supply of capital is perfectly elastic at the externally set rate of return, so local factors of production must bear the entire burden of the tax. For a rigorous academic treatment of this notion, see Roger Gordon "Taxation of Investment and Savings in a World Economy," *American Economic Review*, vol. 76(5), December 1986, pages 1086-1102. For empirical research verifying the notion, see Aparna Mathur and Kevin Hassett, "Taxes and Wages," AEI Working Paper #128, American Enterprise Institute, June 2006.

local investment will suffer until scarcity brings the local after-tax rate of return to new investment back up to the level investors can get elsewhere.

Part of the burden of Hawaii's Corporation Income Tax is exported indirectly, because the tax raises prices for tourists as well as local residents. However, if the corporation's output competes with imports, little of the burden can be passed on to consumers as higher prices. Instead, the burden of the tax is passed back to landowners and local labor. These conclusions are valid, whether or not other jurisdictions tax corporate income. We are looking only at the effect of Hawaii's Corporation Income Tax, holding constant things that would not change automatically with a change in the tax. Unless other jurisdictions respond to a change in Hawaii's taxes, their taxes are irrelevant for the exercise. For the same reason, it does not matter for the exercise if local producers have a strong price advantage owing to transportation costs.

If the Corporation Income Tax were eliminated, the revenue could be made up with a small increase in the GET and PSCT, or in the Individual Income Tax. Based on the mean averages presented in table 1, the Corporation Income Tax provides only about 4 percent as much revenue as the GET and PSCT and less than 7 percent as much as the Individual Income Tax. Although the conventional economic wisdom holds that exchanging a tax on corporate income for an increase in the tax on income of individuals will improve economic efficiency, the efficiency gains may fail to materialize if the corporate income tax rate is flat (or virtually flat) and the tax rates on income of individuals are graduated.[19]

Exchanging the Corporation Income Tax for an increase in the GET may have different effects on producers in different industries. For one thing, some corporations that compete with imports may not be able to pass the net income tax forward to customers, whereas they may be able to pass most of the increase in the GET forward to customers, because the Use Tax will increase in tandem with the GET. However, if both the taxes on net and gross income are passed forward to customers, differences in the effects of the tax change on output can still arise, owing to differences in the rate of profit on sales. Exchanging a tax on profits for a tax on gross receipts will tend to cause the price of output in industries with a high rate of profit on sales to decline relative to the price of output in industries with a low rate of profit on sales.

IV. Effects on the Overall Level and on the Distribution of the Burden of Hawaii's Taxes

Effects on the Overall Tax Burden of Residents

The tax change will probably benefit Hawaii residents as a whole, because it will probably result in a greater portion of the total burden of Hawaii's taxes being borne by nonresidents. Table 3 shows how the aggregate burden of Hawaii's taxes is distributed among residents, the federal government, and nonresidents under current law, adjusted for the changes in the Individual Income Tax provided by Act 110, SLH 2006, and under scenarios 1 and 2.[20] According to the estimates in the table, over 37 percent of the burdens of the GET and PSCT are shifted out of the State, as opposed to only 22 percent for the income and franchise taxes. It is estimated that the change in tax regimes under either scenario would reduce the overall tax

[19] One reason a corporate income tax is needed is to support the individual income tax. If the corporate tax were eliminated, business owners could gain deferral of the tax on their income by incorporating. However, the national corporate and individual income taxes may be sufficient to discourage such behavior if the State's Corporation Income Tax were eliminated. The national corporate income tax has evolved from a tax on offering limited liability ownership to a tax on offering shares that are publicly traded.

[20] Table 3 is constructed from the estimates in "Study on the Progressive or Regressive Nature of Hawaii's Taxes." *Report to the 2005-2007 Tax Review Commission*, October, 2006, page 25.

burden on residents by about 4 percent.[21] These estimates, especially those for the GET and PSCT, are subject to substantial error, however, and they may also change from time to time. For example, if the current accommodations for tourists hit capacity constraints (as is implied by the recent increases in hotel rental rates that greatly exceed overall inflation accompanied by little growth in visitor arrivals), then the burden of Hawaii's taxes on the accommodations will be borne largely by local businesses and not by the tourists.[22]

For purposes of the estimates, the term "resident" is defined according to the State's tax code, not according to the definition used by the U.S. Commerce Department. The biggest difference is that most military personnel stationed in Hawaii are not residents according to the State's tax code, but they are included as residents in the Commerce Department's statistics. The estimates may overstate portion of the Individual Income Tax borne by nonresidents, because they include income taxes paid by part-year residents. The GET and PSCT burdens borne by military personnel are treated as being shifted to nonresidents.

Note that little of the Corporation Income Tax is shifted to the federal government or to nonresidents. This is because the analysis assumes that none of the tax is borne by shareholders and that the local rate of return to corporate investment must be higher by the amount of the tax to attract such investments, so federal corporate income tax receipts do not decline as a result of the deduction for the State's tax.[23]

Effects on the Distribution of the Burdens of Hawaii's Taxes

An important distributional effect of the tax shift will be on people of different ages. To the extent that older people have paid income tax on savings set aside to fund future consumption, they will be taxed twice on the consumption if the State replaces its income tax with an increase in the GET and PSCT. However, this double taxation will not occur for savings contributed tax-free to retirement accounts. For such savings, the tax shift will merely remove the tax advantage originally afforded to the savings. Also, residents living on pension income that is exempt from the State's Individual Income Tax would face the higher GET with little or no compensating reduction in their State income tax liability. This is an important source of income for the elderly. According to data complied by the Department of Taxation for 2003, pension and annuities accounted for more than one third (36 percent) of the total income of resident taxpayers aged 65 and older.

The change in tax regimes is often thought to benefit those who save a large part of their income (mostly higher-income individuals and families) and to disadvantage those who save little, but this view is oversimplified. Most people follow a lifetime pattern in which consumption is less than income during their working years and exceeds income after they retire. Lifetime income and consumption are about the same. Therefore, comparing GET and PSCT burdens relative to the current annual income is misleading, because the comparison combines the effects of differences in income with the effects of differences in the stage of life of the taxpayers.[24] That is, the comparison does not tell us if the lifetime burden as a proportion of lifetime income is higher for some people than for others. A better procedure is to compare the

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[21] The reduction is estimated to be 4.4 percent for scenario 1 and 3.7 percent for scenario 2.

[22] The same would hold true for the Transient Accommodations Tax. This issue is discussed in greater detail in *Ibid*, page 19.

[23] See the explanation in *Ibid*, page 9.

[24] A more complete explanation of the issue is presented in *Ibid*. Implicit in this reasoning is the assumption that consumption, rather than income, is the proper denominator to be used when comparing burdens of a consumption tax.

total burden of the tax as a proportion of income over the taxpayers' lifetimes. The data needed to make such comparisons are not available, but the appropriate comparisons can be approximated by assuming that all current income is consumed. Calculations based on this assumption still show differences in the GET and PSCT burdens as a proportion of income, but the differences arise from differences in the pattern of expenditures, not from differences in the rate of saving. Wealthy people tend to spend a bigger part of their income on things that are exempt from the GET, such as private education or mortgage payments, whereas much of the income of less affluent people must be spent on things that are subject to the GET, such as food and rent.[25]

Tables 4 and 5 present estimates for the effects on taxpayers with different incomes of the changes in tax regimes for scenarios 1 and 2. The burdens of the Individual Income Tax are measured after the recent changes in the tax code scheduled to take effect on January 1, 2007.[26] The burden of the new GET and PSCT that replace the income and franchise taxes is estimated by multiplying the burden of the current GET and PSCT times the ratio of the statutory tax rate of the new GET and PSCT to the current statutory tax rate (= 7.3/4.0 for scenario 1 and 7.1/4.0 for scenario 2).[27] The estimates are presented for a typical single individual and a typical family of four, although we are unable to distinguish between the GET burdens for the two family types.[28] The income tax liabilities for the typical individual and the typical family are created using averages from actual returns filed by Hawaii taxpayers at each income level.

According to the estimates, both tax changes increase the regressive tendency of Hawaii's taxes. As a percent of current income (measured as federal adjusted gross income), the burden declines more steeply after the tax change as income rises. This is true, whether or not the burden of GET is adjusted to account for the burden on savings. The result is expected, because the dominant effects of the change in tax regimes come from replacing the Individual Income Tax, which is slightly progressive, with the GET, which is regressive.

The estimates show that the absolute size of the burden declines for single taxpayers at all income levels except the lowest (those with federal adjusted gross income (AGI) of $25,000) and for the family of four it declines for those with federal AGI of $75,000 or more. This means that the tax change would reduce the overall tax burden for a substantial number of taxpayers. According to the estimates shown in table 3, a bigger part of the burden of the GET is borne by nonresidents, so the change in tax regimes reduces the overall tax burden on Hawaii residents. Several caveats must accompany the result. The estimates of income tax burdens are fairly accurate, but the estimates for the GET and PSCT burdens are more tenuous. Sources of error are in the calculations for the effective tax rates for the new GET and PSCT, the estimates for the part of the burdens of the GET and PSCT that are shifted to nonresidents, the calculations used to scale the GET and PSCT burdens to AGI, and the estimates of how the GET and PSCT burdens are distributed by income class.[29]

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[25] This statement oversimplifies somewhat. Although mortgage payments received by financial corporations are not subject to the GET, the net income of the corporations is subject to the Tax on Banks and Other Financial Corporations. Also, part of the mortgage payment is for the purchase of the property and this purchase bears the burden of the GET on the value of the structure. Rental income is subject to the GET, but the GET on the portion of the rent that compensates the owner for the use of the land is probably borne by the landowner and not by the renter.

[26] Details of the methodology used to construct the estimates are provided in *Ibid.*

[27] The burdens for the current GET and PSCT were obtained from worksheets prepared for *Ibid*.

[28] For a discussion of the reasons why, see *Ibid*, page 17.

[29] The calculations for the GET and PSCT burdens for the various income classes are described in *Ibid*. Note also that the tax burden increases for all taxpayers when the burdens on savings are taken into account. This seems

V. Effects on the Costs of Tax Administration and Tax Compliance

Effects on Costs to Taxpayers of Tax Compliance

The number of taxpayers that must file a State tax return would be reduced dramatically by the change in tax regimes. The greatest reduction would come from the elimination of the Individual Income Tax. About 600,000 Individual Income Tax returns are filed annually. In addition, more than 160,000 entities file income or franchise tax returns. Income taxes are notoriously complex, cumbersome and costly to comply with. The Internal revenue Service has estimated that it takes taxpayers an average of 13 hours and 29 minutes to prepare an individual income tax return (Form 1040).[30] It has also been estimated that completing federal income taxes cost 5.4 million man-hours in 1992, more than the total man-hours worked by the residents of the state of Indiana that year.[31] The cost to the taxpayer should be substantially less for Hawaii's income taxes, however, because the State's tax base follows the federal definitions fairly closely, with a few notable exceptions, such as the exemption of certain pension income from the State's Individual Income Tax. Therefore, completing the federal income taxes gives most taxpayers a good head start in completing the State's income taxes. Nevertheless, the State's income taxes still impose substantial compliance costs on residents, especially those who must file a State income tax return but who are not required to file a federal income tax return. Record-keeping requirements for taxpayers would also be reduced, although these savings are also limited, because many taxpayers need to maintain the same or similar records for their federal income taxes.

The effects on the State's Costs of Tax Administration

Economies of scale are important in determining whether the tax is an efficient source of revenue from the standpoint of costs of tax administration: It is relatively costly for a small taxing jurisdiction to construct and implement its own income tax. It is instructive to note that although 43 of the fifty states impose an income tax, of the eight states with populations smaller than Hawaii, only two impose an independent state income tax (Montana and Delaware), whereas three impose no state income tax (Alaska, South Dakota, and Wyoming) and three piggyback on the federal income tax (North Dakota, Rhode Island and Vermont).[32]

The change in tax regimes would clearly reduce costs of processing tax returns for the State, because there would be a substantial reduction in the number of tax returns that must be filed. By informal count, eliminating the income and franchise taxes would eliminate about 60 percent of the roughly 230 forms and instructions now issued by the Department of Taxation. More than 760,000 individuals and businesses would be relieved of the need to file income or

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inconsistent with the notion that change in tax regimes should lower overall tax burdens, but it occurs because the calculations for these burdens include some tax liabilities that properly belong to other time periods.

[30] See the instructions for Form 1040 (2003), p. 77. The aggregate costs are staggering. It has been estimated that preparing federal income taxes cost taxpayers 5.4 million man-hours in 1992, more than the total man-hours worked by the residents of the state of Indiana that year. (See James L. Payne, "Costly Returns: The Burden of the U.S. Tax System," Institute for Contemporary Studies, 1991, p. 21.)

[31] James L. Payne, "Costly Returns: The Burden of the U.S. Tax System," Institute for Contemporary Studies, 1991, p. 21.

[32] The efficiency gains are compromised in each of these cases, however, because none imposes a pure piggyback scheme. State tax structures are compared in the report "Tax Rates and Tax Burdens in the District of Columbia – A Nationwide Comparison, 2004." Government of the District of Columbia, August, 2005.

franchise tax returns. The size of the State's tax code would also decline, which would reduce the need for expertise within the Department of Taxation as well as within the taxpaying community.

The only area where ambiguity arises as to the net change in costs of tax administration is the question of what would happen to the costs of enforcing tax compliance. There are about 220,000 GET taxpayers, as opposed to more than 760,000 individuals and businesses that pay the income and franchise taxes, so the change in tax regimes would allow the Department of Taxation to concentrate its enforcement efforts on fewer taxpayers, but the lack of a comparable federal tax makes monitoring the GET more difficult than monitoring the income taxes. Enforcement costs for the GET will rise, because a tax of 7 percent or 8 percent will encourage more tax evasion than a tax of 4 percent. It is not clear whether, overall, the problem of tax evasion will increase or fall as a result of the change in tax regimes, so it is not clear whether tax officials will need to spend more resources monitoring taxpayers.

VII. Conclusions

Replacing the revenue from Hawaii's Individual Income Tax, the Corporation Income Tax, the Tax on Banks and Other Financial Corporations and the Tax on Insurance Premiums would require an increase in the statutory rate of the GET and PSCT from 4 percent to about 6.9 percent. If only the Individual Income Tax and the Corporation Income Tax are eliminated, the new statutory rate of GET and PSCT would need to rise only to 6.7 percent. The overall effective rate of the GET and PSCT on final sales, including the effect of pyramiding of the tax, would increase from about 4.5 percent to about 7.6 percent in the first case and to about 7.4 percent in the second case. The new tax system would exhibit slightly improved stability in revenues. That is, it would produce revenue flows that tend to vary less from year-to-year when measured against the long-run trend rate of growth in personal income.

The net effect of either change in tax regimes on Hawaii's economy overall is hard to determine. The biggest effects might be a shift in demand away from tourism-related activities and towards goods and services supplied to residents. The change in tax regimes would increase local saving and the local supply of labor, but the effects on local investment demand are ambiguous. The overall efficiency of the tax system probably would improve, because the new tax system probably would have a smaller adverse effect on work effort and would eliminate the discrimination in the State's current tax structure against future consumption in favor of consumption in the present. However, the change in tax regimes would also increase pressures to exempt certain expenditures from the tax, and the net effects on economic efficiency will depend strongly on the response to these pressures. If the GET is altered to exempt substantial components of total expenditures, such as food, rent, or medical services, the switch to the new tax regime might well reduce the overall economic efficiency of Hawaii's taxes.

The burden of the State's taxes would be distributed more regressively among residents but, overall, residents would experience a decline in the level of the burden. It is estimated that overall the burden of the State's taxes on residents would fall by about 4 percent, but it is emphasized that this estimate is subject to substantial error. These results occur, because the change in tax regimes replaces income taxes, which are slightly progressive, mostly by increasing the GET, which is regressive, and because residents bear a smaller part of the total burden of the GET than they do of the State's income taxes and franchise taxes.

Costs of complying with the State's taxes will decline for taxpayers, and the costs of processing tax returns will decline for the State. It is unclear, however, whether the change in tax regimes will tend to result in greater or less tax evasion on the part of taxpayers, and hence whether the change would entail an increase or decline in costs of monitoring and enforcing the State's taxes.

Table 3

Aggregate
Distribution of Tax Burdens
(In $millions)

Tax	Total Burden	Amount Borne By Residents		Amount Shifted to Nonresidents	
Current Law in Fiscal Year 2005, Adjusted for Act 110, SLH 2006					
Hawaii State Taxes	*Total Revenue*	*Higher Prices*	*Reduced Incomes*	*Federal Government*	*Other*
1. GET and PSCT..……..……	2,245.4	1,157.4	240.8	138.2	682.1
2. Individual Income Tax……..	1,326.2		1,024.4	227.9	73.9
3. Corporation Income Tax……..…	85.6	45.2	24.3	4.3	11.8
4. Tax on Insurance Premiums…..	83.1	43.9	23.5	4.2	11.5
5. Tax on Banks and Other Financial Corporations…	38.5	20.4	10.9	1.9	5.3
Total, State Taxes……...….	4,350.5	1,533.6	1,418.7	407.6	989.9
Total, State and County Taxes……	5,603.3	1,815.1	2,015.7	533.8	1,238.1
Scenario 1					
1. GET and PSCT..……..……	3,771.4	1,967.6	408.9	235.0	1,159.9
2. Tax on Banks and Other Financial Corporations…	7.3	3.9	2.1	0.4	1.0
Total, State Taxes……...….	4,350.5	2,224.1	503.2	264.7	1,357.8
Total, State and County Taxes……	5,603.3	2,505.6	1,100.2	390.9	1,606.0
Scenario 2					
1. GET and PSCT..……..……	3,657.1	1,908.0	396.6	227.9	1,124.7
2. Tax on Insurance Premiums…..	83.1	43.9	23.5	4.2	11.5
3. Tax on Banks and Other Financial Corporations…	38.5	20.4	10.9	1.9	5.3
Total, State Taxes……...…	4,350.5	2,210.6	520.2	261.7	1,329.9
Total, State and County Taxes……	5,603.3	2,492.2	1,117.2	387.9	1,578.1

Note: Burdens of the Individual Income Tax are calculated as if the provisions of Act 110, SLH 2006, were in effect.

Source: Authors' calculations.

Table 4

Calculations for the
Distribution of Tax Burdens by Income
Scenario 1

Income and Expenditures					
Income (Federal AGI)…….	$25,000	$50,000	$75,000	$100,000	$150,000
Expenditures……	28,000	41,380	55,010	70,330	93,730
Expenditures subject to GET	18,490	25,820	31,320	39,290	50,990
Tax Burdens for a Single Individual					
GET & PSCT Burden (1)…	$1,680	$2,345	$2,846	$3,569	$4,632
GET & PSCT Burden (2)…	1,515	2,956	4,172	5,395	7,991
Ind. Income Tax Burden…..	901	2,047	3,200	3,872	6,316
Overall Burden (1)..……..	3,680	6,093	8,409	10,161	14,761
Overall Burden (2)…….....	3,523	6,675	9,671	11,899	17,959
New Burden (1)……..…..	3,880	5,553	6,994	8,538	11,324
New Burden (2)..……..	3,601	6,585	9,233	11,622	16,998
Burden Ratio (1)..……..	14.7%	12.2%	11.2%	10.2%	9.8%
Burden Ratio (2)..……..	14.1%	13.4%	12.9%	11.9%	12.0%
Burden Ratio (3)..……..	15.5%	11.1%	9.3%	8.5%	7.5%
Burden Ratio (4)..……..	14.4%	13.2%	12.3%	11.6%	11.3%
Tax Burdens for a Family of four					
GET & PSCT Burden (1)…….	$1,680	$2,345	$2,846	$3,569	$4,632
GET & PSCT Burden (2)…	1,515	2,956	4,172	5,395	7,991
Ind. Income Tax Burden ..…	358	1,400	2,511	3,308	5,575
Overall Burden (1)……...	3,444	5,985	8,297	10,374	14,683
Overall Burden (2)……..	3,287	6,567	9,559	12,112	17,881
New Burden (1)……	4,183	6,084	7,568	9,303	11,987
New Burden (2)……	3,916	7,140	9,841	12,429	17,724
Burden Ratio (1)..…….	13.8%	12.0%	11.1%	10.4%	9.8%
Burden Ratio (2)..…….	13.2%	13.1%	12.8%	12.1%	11.9%
Burden Ratio (3)..…….	11.4%	7.9%	6.4%	6.0%	5.2%
Burden Ratio (4)..…….	15.7%	14.3%	13.1%	12.4%	11.8%

Notes: The rows labeled "Burden (1)" show the burdens of the GET and PSCT on current expenditures. The rows labeled "Burden (2)" show the burdens of the GET and PSCT after adjusting for the burdens on saving. "Burden Ratio (1) is the total burden of Hawaii's State and local taxes, divided by income, with no adjustment for the tax burdens on saving. "Burden Ration (2)" is the ratio after adjusting for the tax burdens on saving. "Burden Ratio (3)" is the ratio after eliminating the income and franchise taxes and increasing the GET and PSCT, with no adjustment for the tax burdens on savings. "Burden Ratio (4)" is the ratio after eliminating the income taxes and increasing the GET and PSCT, after adjusting for the tax burdens on savings. The burden of the Individual Income tax is measured after the recent legislative changes in the tax rules that are scheduled to take effect on January 1, 2007.
Source: Author's calculations.

Table 5

Calculations for the
Distribution of Tax Burdens by Income
Scenario 2

Income and Expenditures					
Income (Federal AGI)…….	$25,000	$50,000	$75,000	$100,000	$150,000
Expenditures……	28,000	41,380	55,010	70,330	93,730
Expenditures subject to GET	18,490	25,820	31,320	39,290	50,990
Tax Burdens for a Single Individual					
GET & PSCT Burden (1)…	$1,680	$2,345	$2,846	$3,569	$4,632
GET & PSCT Burden (2)…	1,515	2,956	4,172	5,395	7,991
Ind. Income Tax Burden…..	901	2,047	3,200	3,872	6,316
Overall Burden (1)..……..	3,680	6,093	8,409	10,161	14,761
Overall Burden (2)…….....	3,523	6,675	9,671	11,899	17,959
New Burden (1)……..…..	4,134	5,935	7,495	9,157	12,161
New Burden (2)..……..	3,841	7,021	9,848	12,398	18,124
Burden Ratio (1)..……..	14.7%	12.2%	11.2%	10.2%	9.8%
Burden Ratio (2)..……..	14.1%	13.4%	12.9%	11.9%	12.0%
Burden Ratio (3)..……..	16.5%	11.9%	10.0%	9.1%	8.1%
Burden Ratio (4)..……..	15.4%	14.0%	13.1%	12.4%	12.1%
Tax Burdens for a Family of four					
GET & PSCT Burden (1)…….	$1,680	$2,345	$2,846	$3,569	$4,632
GET & PSCT Burden (2)…	1,515	2,956	4,172	5,395	7,991
Ind. Income Tax Burden ..…	358	1,400	2,511	3,308	5,575
Overall Burden (1)……...	3,444	5,985	8,297	10,374	14,683
Overall Burden (2)……..	3,287	6,567	9,559	12,112	17,881
New Burden (1)……	4,221	6,166	7,697	9,463	12,214
New Burden (2)……	3,950	7,171	9,878	12,465	17,739
Burden Ratio (1)..…….	13.8%	12.0%	11.1%	10.4%	9.8%
Burden Ratio (2)..…….	13.2%	13.1%	12.8%	12.1%	11.9%
Burden Ratio (3)..…….	16.9%	12.3%	10.3%	9.5%	8.1%
Burden Ratio (4)..…….	15.8%	14.3%	13.2%	12.5%	11.8%

Notes: The rows labeled "Burden (1)" show the burdens of the GET and PSCT on current expenditures. The rows labeled "Burden (2)" show the burdens of the GET and PSCT after adjusting for the burdens on saving. "Burden Ratio (1) is the ratio of the total burden of Hawaii's State and local taxes to income with no adjustment for the burdens on saving. "Burden Ration (2)" is the ratio after adjusting for the burdens on saving. "Burden Ratio (3)" is the ratio after eliminating the income taxes and increasing the GET and PSCT, with no adjustment for savings. "Burden Ratio (4)" is the ratio after eliminating the income taxes and increasing the GET and PSCT, after adjusting for the burdens on savings. The burden of the Individual Income tax is measured after the recent legislative changes in the tax rules that are scheduled to take effect on January 1, 2007.

Source: Author's calculations.

Appendix

Table 1A

General Excise and Use Taxes and Income and Franchise Taxes From Fiscal Year 1972 Through Fiscal Year 2005

(In Millions of Dollars)

Fiscal Year	(A) GET and PSCT	(B) Corporation Income Taxes	(C) Individual Income Taxes	(D) Tax on Insurance Premiums	(E) Tax on Banks & Other Financial Corporations	(F) Sum: (B) Through (F)	(G) Ratio: (F)/(A)
1972	202	11.8	120	8.3	3.1	143.2	0.71
1973	229	12.9	135	9.2	3.7	160.8	0.70
1974	265	18.2	152	9.5	3.6	183.3	0.69
1975	312	31.5	169	9.9	3.3	213.7	0.69
1976	339	32.9	185	16.1	2.5	236.5	0.70
1977	372	22.7	203	13.3	4.9	243.9	0.66
1978	400	23.8	227	15.7	5.2	271.7	0.68
1979	465	32.3	265	18.5	7.6	323.4	0.70
1980	531	42.4	312	22.2	7.8	384.4	0.72
1981	599	47.0	335	24	5.8	411.8	0.69
1982	634	39.3	283	27.8	3.9	354.0	0.56
1983	667	24.5	347	26.4	-2.4	395.5	0.59
1984	699	36.4	403	26.6	0.6	466.6	0.67
1985	746	44.8	429	28.7	3.9	506.4	0.68
1986	817	39.6	467	34.6	4.9	546.1	0.67
1987	880	61.5	543	36	15.3	655.8	0.75
1988	983	66.0	626	38	12.0	742.0	0.75
1989	1,090	72.3	768	33.4	15.8	889.5	0.82
1990	1,246	74.9	695	36.9	19.9	826.7	0.66
1991	1,354	95.9	873	45.1	20.4	1,034.4	0.76
1992	1,377	43.8	907	60.4	24	1,035.2	0.75
1993	1,389	29.3	923	66.9	23.8	1,043.0	0.75
1994	1,424	39.0	963	63.7	29.4	1,095.1	0.77
1995	1,464	30.2	926	62.3	17.0	1,035.5	0.71
1996	1,536	48.4	1,000	59.2	17.1	1,124.7	0.73
1997	1,571	57.8	976	55.8	9.7	1,099.3	0.70
1998	1,545	46.2	1,084	59.4	15.5	1,205.1	0.78
1999	1,568	42.6	1,069	52.5	9.8	1,173.9	0.75
2000	1,656	68.2	1,065	68.7	7.1	1,209.0	0.73
2001	1,775	60.8	1,105	72.1	-0.3	1,237.6	0.70
2002	1,705	45.5	1,072	67.9	7.2	1,192.6	0.70
2003	1,907	8.3	1,038	73.2	22.3	1,141.8	0.60
2004	2,000	56.7	1,169	78.1	1.5	1,305.3	0.65
2005	2,245	85.6	1,381	83.1	38.5	1,588.2	0.71
Mean	1,059	44.0	653	41.0	11	749	0.71
Sum	35,994	1,493.1	22,215	1,403.5	364.4	25,476	
Variance	347,033	435	146,919	540	90	179,012	
Standard Deviation	589	21	383	23	9	423	
Ratio: St.Dev./Mean	0.56	0.48	0.59	0.56	0.88	0.56	

Source: Hawaii Department of Taxation data files and author's calculations.

APPENDIX F

EFFECTS OF
INCREASING THE HAWAII STANDARD DEDUCTION, EXPANDING THE HAWAII INDIVIDUAL INCOME TAX BRACKETS, AND ENACTING A HAWAII EARNED INCOME TAX CREDIT AND FOOD, MEDICAL SERVICES, AND NONPRESCRIPTION DRUG INCOME TAX CREDIT

Tax Research and Planning Office
Department of Taxation
State of Hawaii

20 November 2006

EFFECTS OF INCREASING THE HAWAII STANDARD DEDUCTION, EXPANDING THE HAWAII INDIVIDUAL INCOME TAX BRACKETS, AND ENACTING A HAWAII EARNED INCOME TAX CREDIT AND FOOD, MEDICAL SERVICES, AND NONPRESCRIPTION DRUG INCOME TAX CREDIT

Prepared by the Tax Research and Planning Office, Hawaii Department of Taxation

I. Introduction

The 2005-2007 Tax Review Commission requested a study of the potential revenue impact of four tax relief measures: (1) increase the Hawaii standard deduction to 75% of the federal standard deduction amounts, (2) expand the Hawaii individual income tax brackets by 25%, (3) enact an earned income tax credit equal to a percentage of the federal earned income tax credit, and (4) enact a food, medical services, and nonprescription drug income tax credit to mitigate the impact of the Hawaii general excise tax on those activities.

Act 110, Session Laws of Hawaii (SLH) 2006, partially adopted two of the tax relief measures included in this study. For taxable years beginning after December 31, 2006, the Hawaii standard deduction amounts increase to 40% of the 2005 federal standard deduction amounts and the individual income tax brackets expand by 20%. Bills proposing a Hawaii earned income tax credit and a food, medical services, and nonprescription drug income tax credit failed to pass in 2006.

This report discusses the revenue impact of each of the four tax relief measures as requested by the Commission and, with respect to the increase in the standard deduction and the expansion of the individual income tax brackets, as amended by Act 110, SLH 2006.

II. Increase the Standard Deduction to 75% of the 2005 Federal Amounts

The standard deduction is an income tax deduction that may, in most cases, be claimed in lieu of itemized deductions.[1] The higher the standard deduction, the lower the taxable income and the less tax owed. Because it is a fixed amount based on the taxpayers' filing status, claiming the standard deduction reduces the complexity of tax returns and relieves taxpayers of the burden of substantiating each itemized deduction claimed.

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[1] Spouses of individuals who claim itemized deductions on separately filed returns and individuals who are classified as nonresident aliens or dual-status aliens of the United States are required to itemize their deductions and may not claim the standard deduction.

The standard deduction is also one factor used to determine if an individual must file a Hawaii income tax return. Individual taxpayers with total gross income less than their combined standard deduction and personal exemption are usually not required to file Hawaii income tax returns as they will have no State tax liability.[2] Therefore, increasing the standard deduction should, particularly for those with very low incomes, reduce the number of individuals with taxable income and who are therefore required to file a Hawaii income tax return.

Unlike the federal standard deduction amounts, which are indexed to inflation, the Hawaii standard deduction amounts are fixed by statute and were last increased by Act 321, SLH 1989, such that low-income taxpayers have fallen further and further behind. As noted by the 2001-2003 Tax Review Commission, failing to increase the standard deduction "is the major reason why the State unnecessarily continues to tax persons with income levels that qualify for public assistance."[3]

The Lingle-Aiona Administration proposed that the 2006 Legislature increase the Hawaii standard deduction to 75% of the 2005 federal standard deduction amounts. Act 110, SLH 2006, instead increased the Hawaii standard deduction amounts to only 40% of the 2005 federal standard deduction amounts for taxable years beginning after December 31, 2006.[4] The current, proposed, and recently enacted standard deduction amounts are shown in Table 1 below.

TABLE 1: Standard Deduction Amounts

Filing Status	Current Hawaii Std. Deduction	2005 Federal Std. Deduction	75% of Federal Std. Deduction	40% of Federal Std. Deduction
Single	$1,500	$5,000	$3,750	$2,000
Married: Joint	1,900	10,000	7,500	4,000
Married: Separate	950	5,000	3,750	2,000
Head of Household	1,650	7,300	5,475	2,920
Qualifying Widow(er)	1,900	10,000	7,500	4,000

Increasing the Hawaii standard deduction amounts to a percentage of the 2005 federal standard deduction amounts also eliminates the State's "marriage penalty". The marriage penalty resulted because the standard deduction for a married couple was less than that for two single individuals. That is, a married couple's total standard deduction was $1,900 whether filing joint

[2] There are other reasons why a taxpayer may be required to file a Hawaii return (e.g., persons doing business in Hawaii whether a net profit or loss is realized), and individuals who are not required to file a Hawaii income tax return may nonetheless continue to do so in order to claim various Hawaii refundable income tax credits for which they may be eligible (e.g., the low-income refundable tax credit and the low-income household renters credit).

[3] State of Hawaii, *Report of the 2001 – 2003 Tax Review Commission*, (Honolulu, 2002) 15.

[4] The standard deduction for individuals who can be claimed as a dependent is the greater of $500 or the individual's earned income, but no more than the individual's eligible standard deduction (Act 239, SLH 1987). This provision was not amended by Act 110, SLH 2006, and remains unchanged.

or separate returns, whereas each would have been able to claim $1,500 had they been unmarried, for a combined total of $3,000.

Staff of the Tax Research and Planning Office prepared revenue impact assessments for increases in the Hawaii standard deduction to 75% and 40% of the 2005 federal standard deduction amounts, both of which are presented in Table 2. Also included in Table 2 are their estimates for changes in the number of returns deducting the standard deduction instead of itemized deductions and the number of returns filed that reflect a Hawaii income tax liability.

TABLE 2: Effects of Increasing Hawaii Standard Deduction Amounts to a Percentage of the 2005 Federal Standard Deduction Amounts (Based on 2003 Tax Return Data)

	Current Hawaii Std. Deduction	75% of Federal Std. Deduction	40% of Federal Std. Deduction
Tax Liability	$1,022,791,403	$980,884,972	$1,012,011,137
Revenue Impact	N/A	-41,906,431	-10,780,266
Number of Returns Claiming Std. Deduction	244,661	343,407	282,374
Change	N/A	98,746	37,713
Number of Returns Claiming Itemized Deduction	304,448	205,702	266,735
Change	N/A	-98,746	-37,713
Number of Returns With Hawaii Tax Liability	472,628	432,257	462,098
Change	N/A	-40,371	-10,530

III. Expand Hawaii's Income Tax Brackets By 25%

Hawaii's graduated individual income tax rate brackets, like the standard deduction amounts, are fixed by statute rather than indexed to inflation and were last changed by Act 157, SLH 1998. Further expansion of the existing tax rate brackets would benefit all individual taxpayers with taxable income. Lower-income taxpayers would be able to earn more income without moving into the higher tax rate brackets, and higher-income taxpayers would have more of their income taxed at the lower tax rates.

Act 110, SLH 2006, expanded the individual income tax brackets by 20% for taxable years beginning after December 31, 2006. The current Hawaii tax rate schedules, as well as the tax rate schedules for a 25% expansion and the 20% expansion enacted by Act 110, SLH 2006, are provided in Attachment 1.

Staff of the Tax Research and Planning Office prepared revenue impact assessments for an expansion of Hawaii's income tax brackets by 25% and 20%, both of which are presented in Table 3 below.

TABLE 3: Revenue Impact of Expanding Hawaii Individual Income Tax Brackets (Based on 2003 Tax Return Data)

	Current	25% Expansion	20% Expansion
Tax Liability	$1,022,791,403	$976,009,314	$984,823,314
Revenue Impact	N/A	-46,782,089	-37,968,089

IV. Enact a Hawaii Earned Income Tax Credit

Legislation for a refundable Hawaii earned income tax credit for Hawaii resident taxpayers equal to 20% of the federal earned income tax credit failed to be enacted in 2006.

The staff of the Tax Research and Planning Office estimated the number of returns on which this credit could have been claimed based on returns filed for tax year 2003 by taxpayers who were Hawaii residents for the entire year,[5] excluding returns filed by individuals who could be claimed as a dependent by another taxpayer.

As shown in Table 4 below, fewer than half of the Hawaii resident income tax returns filed would have benefited from a Hawaii earned income tax credit, even amongst the lowest income categories. Of the 308,652 Hawaii returns reporting Hawaii adjusted gross income of less than $30,000, only 68,845 or 22.3% claimed the earned income tax credit on their federal income tax returns.

The low number of filers with low Hawaii adjusted gross incomes who also claim the federal earned income tax credit may in part be attributable to returns filed by taxpayers with little or no earned income but who nonetheless file a Hawaii income tax return to claim refundable income tax credits available to qualifying taxpayers with low or no income.

[5] Data on federal earned income tax credits claimed by part-year Hawaii residents was not available.

TABLE 4: Resident Returns Filed by Taxpayers Who Also Claimed the Federal Earned Income Tax Credit on Their Federal Income Tax Returns (Source: Hawaii Income Patterns – Individuals 2003)

Hawaii Adjusted Gross Income Class			Number of Hawaii Resident Returns Filed	Number Also Claiming the Federal Earned Income Tax Credit	Percent of Hawaii Resident Returns Filed
	Under	$5,000	101,318	11,967	11.8%
$5,000	"	$20,000	50,323	16,139	32.1%
$10,000	"	$20,000	83,572	22,073	26.4%
$20,000	"	$30,000	73,439	18,666	25.4%
$30,000	"	$40,000	53,163	3,562	6.7%
$40,000	"	$50,000	37,413	63	0.2%
$50,000	"	$75,000	60,259	31	0.1%
$75,000	"	$100,000	32,237	10	0.0%
$100,000	"	$150,000	22,417	0	0.0%
$150,000	"	$200,000	5,771	0	0.0%
$200,000	and	Over	6,604	0	0.0%
TOTAL			526,516	72,511	13.8%

Based on the amount of federal earned income tax credit claimed, the staff of the Tax Research and Planning Office computed a $23.2 million decline in tax collections should a Hawaii earned income tax credit equal to 20% of the federal earned income tax credit be enacted. See Table 5 below for detailed information.

Unconfirmed language in at least two bills proposing an earned income credit during the 2006 legislative session[6] indicated that the amount of tax revenue foregone by the State for Hawaii earned income tax credit claims would be reimbursed by federal Temporary Assistance for Needy Families (TANF) funds or State TANF Maintenance of Effort funds. If this is so, the estimated cost of this credit may not be fully borne by the State. However, a future reimbursement of the amount expended by the State for this credit would not impact State tax collections.

[6] H.B. 2018 and H.B. 3228

TABLE 5: Revenue Impact of a Hawaii Earned Income Tax Credit of 20% of the Federal Earned Income Tax Credit (Based on 2003 Tax Return Data)

Hawaii Adjusted Gross Income Class			Federal Earned Income Tax Credit Claimed	20% Hawaii Earned Income Tax Credit
	Under	$5,000	$7,377,643	$1,475,529
$5,000	"	$20,000	$22,803,515	$4,560,703
$10,000	"	$20,000	$58,851,817	$11,770,363
$20,000	"	$30,000	$24,832,577	$4,966,515
$30,000	"	$40,000	$1,927,270	$385,454
$40,000	"	$50,000	$16,384	$3,277
$50,000	"	$75,000	$9,497	$1,899
$75,000	"	$100,000	$41,400	$8,280
TOTAL			$115,860,103	$23,172,020

V. Enact a Hawaii Food, Medical Services, and Nonprescription Drug Income Tax Credit

Various food and medical income tax credits have been enacted from time to time,[7] usually to mitigate the effects of the 4% Hawaii general excise tax on food, medical services, and nonprescription drugs passed on by retailers to Hawaii resident consumers.[8]

In 2006, the Lingle-Aiona Administration proposed legislation to establish a refundable income tax credit that would have been known as the Working Families' Tax Credit for Food, Medical Services, and Nonprescription Drugs.

Although it did not pass, the proposed Working Families' Tax Credit for Food, Medical Services, and Nonprescription Drugs would have been $100 per qualified exemption for Hawaii resident individual taxpayers with federal adjusted gross income of $50,000 or less.[9] It would not

[7] For more information, see the *Tax Credits Claimed by Hawaii Residents* report published annually by the Department of Taxation's Tax Research and Planning Office, which is available on the Department's website at www.hawaii.gov/tax.

[8] Food purchased with United States Department of Agriculture food coupons under either the food stamp program or the Special Supplemental Foods Program for Women, Infants, and Children are exempt from the general excise tax under §237-24.3(6), Hawaii Revised Statutes (HRS). Medical services provided by tax-exempt hospitals and other tax-exempt medical facilities are generally exempt from the general excise tax under §237-23, HRS. Sales of prescription drugs and prosthetic devices are exempt from the general excise tax under §237-24.3(7), HRS.

[9] H.B 2415 and S.B. 2378.

have been available to taxpayers with no income or no income subject to Hawaii income tax because, as stated in the proposed bills, the credit was intended "to provide economic relief for struggling working families."

The bill also proposed using federal adjusted gross income, rather than Hawaii adjusted gross income, to determine eligibility for the credit in part because differences between Hawaii and federal income taxes (e.g., Hawaii's exemption for qualifying government pension distributions and certain non-government pension distributions attributable to employer contributions and received upon retirement, death, or disability) could have resulted in a relatively high-income taxpayer qualifying for this credit had the Hawaii adjusted gross income been used.

Staff of the Tax Research and Planning Office estimated that the revenue impact of this credit for fiscal year 2007 would have been $70.7 million (excluding returns filed by individuals who could be claimed as a dependent by another taxpayer). Details of their estimates are presented in Table 6 below. The anomaly in the last line of Table 6 should not occur under current law. Hawaii conformed to federal law regarding a change in the definition of a qualified child dependent,[10] such that a child who receives more than half his or her support from the Department of Human Services, Social Security Survivor's Benefits, and the like, may be eligible in most cases to be claimed as a dependent by their parent or guardian.

[10] Act 60, SLH 2005.

TABLE 6: Revenue Impact of the Working Families' Tax Credit for Food, Medical Services, and Nonprescription Drugs for Fiscal Year 2007 (Based on 2003 Tax Return Data for Resident Individual Taxpayers With Federal Adjusted Gross Income of Less Than $50,000)

Federal Adjusted Gross Income	Total Exemptions	$100 Per Exemption (Cumulative)
Under $5,000	175,560	$17,556,000
$5,000 but less than $10,000	57,566	23,312,600
$10,000 but less than $20,000	139,059	37,218,500
$20,000 but less than $30,000	135,530	50,771,500
$30,000 but less than $40,000	107,228	61,494,300
$40,000 but less than $50,000	91,617	70,656,000
DHS w/Federal AGI over $50,000*	154	70,671,400

* Represents children who cannot be claimed as dependents because they receive more than half their support from the Department of Human Services (DHS), social security survivors' benefits, and the like, but who are considered qualified exemptions for certain credits (e.g., the low-income refundable tax credit) only.

ATTACHMENT 1

TAX RATE SCHEDULES

Schedule 1: Hawaii Tax Rate Schedule
Current

Schedule 2: Hawaii Tax Rate Schedule
20% Tax Bracket Expansion

Schedule 3: Hawaii Tax Rate Schedule
25% Tax Bracket Expansion

SCHEDULE 1: Hawaii Tax Rate Schedule – Current

A. SINGLE OR MARRIED FILING SEPARATELY	
If the taxable income is	***The tax shall be***
Not over $2,000	1.40% of taxable income
Over $2,000 but not over $4,000	$ 28 plus 3.20% over $2,000
Over $4,000 but not over $8,000	$ 92 plus 5.50% over $4,000
Over $8,000 but not over $12,000	$ 312 plus 6.40% over $8,000
Over $12,000 but not over $16,000	$ 568 plus 6.80% over $12,000
Over $16,000 but not over $20,000	$ 840 plus 7.20% over $16,000
Over $20,000 but not over $30,000	$ 1,128 plus 7.60% over $20,000
Over $30,000 but not over $40,000	$ 1,888 plus 7.90% over $30,000
Over $40,000	$ 2,678 plus 8.25% over $40,000
B. JOINT AND QUALIFIED WIDOWS	
If the taxable income is	***The tax shall be***
Not over $4,000	1.40% of taxable income
Over $4,000 but not over $8,000	$ 56 plus 3.20% over $4,000
Over $8,000 but not over $16,000	$ 184 plus 5.50% over $8,000
Over $16,000 but not over $24,000	$ 624 plus 6.40% over $16,000
Over $24,000 but not over $32,000	$ 1,136 plus 6.80% over $24,000
Over $32,000 but not over $40,000	$ 1,680 plus 7.20% over $32,000
Over $40,000 but not over $60,000	$ 2,256 plus 7.60% over $40,000
Over $60,000 but not over $80,000	$ 3,776 plus 7.90% over $60,000
Over $80,000	$ 5,356 plus 8.25% over $80,000
C. HEAD OF HOUSEHOLD	
If the taxable income is	***The tax shall be***
Not over $3,000	1.40% of taxable income
Over $3,000 but not over $6,000	$ 42 plus 3.20% over $3,000
Over $6,000 but not over $12,000	$ 138 plus 5.50% over $6,000
Over $12,000 but not over $18,000	$ 468 plus 6.40% over $12,000
Over $18,000 but not over $24,000	$ 852 plus 6.80% over $18,000
Over $24,000 but not over $30,000	$ 1,260 plus 7.20% over $24,000
Over $30,000 but not over $45,000	$ 1,692 plus 7.60% over $30,000
Over $45,000 but not over $60,000	$ 2,832 plus 7.90% over $45,000
Over $60,000	$ 4,017 plus 8.25% over $60,000

SCHEDULE 2: Hawaii Tax Rate Schedule – 20% Tax Bracket Expansion

A. SINGLE OR MARRIED FILING SEPARATELY	
If the taxable income is	***The tax shall be***
Not over $2,400	1.40% of taxable income
Over $2,400 but not over $4,800	$34 plus 3.20% over $2,400
Over $4,800 but not over $9,600	$110 plus 5.50% over $4,800
Over $9,600 but not over $14,400	$374 plus 6.40% over $9,600
Over $14,400 but not over $19,200	$682 plus 6.80% over $14,400
Over $19,200 but not over $24,000	$1,008 plus 7.20% over $19,200
Over $24,000 but not over $36,000	$1,354 plus 7.60% over $24,000
Over $36,000 but not over $48,000	$2,266 plus 7.90% over $36,000
Over $48,000	$3,214 plus 8.25% over $48,000
B. JOINT AND QUALIFIED WIDOWS	
If the taxable income is	***The tax shall be***
Not over $4,800	1.40% of taxable income
Over $4,800 but not over $9,600	$67 plus 3.20% over $4,800
Over $9,600 but not over $19,200	$221 plus 5.50% over $9,600
Over $19,200 but not over $28,800	$749 plus 6.40% over $19,200
Over $28,800 but not over $38,400	$1,363 plus 6.80% over $28,800
Over $38,400 but not over $48,000	$2,016 plus 7.20% over $38,400
Over $48,000 but not over $72,000	$2,707 plus 7.60% over $48,000
Over $72,000 but not over $96,000	$4,531 plus 7.90% over $72,000
Over $96,000	$6,427 plus 8.25% over $96,000
C. HEAD OF HOUSEHOLD	
If the taxable income is	***The tax shall be***
Not over $3,600	1.40% of taxable income
Over $3,600 but not over $7,200	$50 plus 3.20% over $3,600
Over $7,200 but not over $14,400	$166 plus 5.50% over $7,200
Over $14,400 but not over $21,600	$562 plus 6.40% over $14,400
Over $21,600 but not over $28,800	$1,022 plus 6.80% over $21,600
Over $28,800 but not over $36,000	$1,512 plus 7.20% over $28,800
Over $36,000 but not over $54,000	$2,030 plus 7.60% over $36,000
Over $54,000 but not over $72,000	$3,398 plus 7.90% over $54,000
Over $72,000	$4,820 plus 8.25% over $72,000

SCHEDULE 3: Hawaii Tax Rate Schedule – 25% Tax Bracket Expansion

A. SINGLE OR MARRIED FILING SEPARATELY	
If the taxable income is	***The tax shall be***
Not Over $2,500	1.40% of taxable income
Over $2,500 but not over $5,000	$35 plus 3.20% of excess over $2,500
Over $5,000 but not over $10,000	$115 plus 5.50% of excess over $5000
Over $10,000 but not over $15,000	$390 plus 6.40% of excess over $10,000
Over $15,000 but not over $20,000	$710 plus 6.80% of excess over $15,000
Over $20,000 but not over $25,000	$1,050 plus 7.20% of excess over $20,000
Over $25,000 but not over $37,500	$1,410 plus 7.60% of excess over $25,000
Over $37,500 but not over $50,000	$2,360 plus 7.90% of excess over $37,500
Over $50,000	$3,348 plus 8.25% of excess over $50,000
B. JOINT AND QUALIFIED WIDOWS	
If the taxable income is	***The tax shall be***
Not Over $5,000	1.40% of taxable income
Over $5,000 but not over $10,000	$70 plus 3.20% of excess over $5,000
Over $10,000 but not over $20,000	$230 plus 5.50% of excess over $10,000
Over $20,000 but not over $30,000	$780 plus 6.40% of excess over $20,000
Over $30,000 but not over $40,000	$1,420 plus 6.80% of excess over $30,000
Over $40,000 but not over $50,000	$2,100 plus 7.20% of excess over $40,000
Over $50,000 but not over $75,000	$2,820 plus 7.60% of excess over $50,000
Over $75,000 but not over $100,000	$4,720 plus 7.90% of excess over $75,000
Over $100,000	$6,695 plus 8.25% of excess over $100,000
C. HEAD OF HOUSEHOLD	
If the taxable income is	***The tax shall be***
Not Over $3,750	1.40% of taxable income
Over $3,750 but not over $7,500	$53 plus 3.20% of excess over $3,750
Over $7,500 but not over $15,000	$173 plus 5.50% of excess over $7,500
Over $15,000 but not over $22,500	$585 plus 6.40% of excess over $15,000
Over $22,500 but not over $30,000	$1,065 plus 6.80% of excess over $22,500
Over $30,000 but not over $37,500	$1,575 plus 7.20% of excess over $30,000
Over $37,500 but not over $56,250	$2,115 plus 7.60% of excess over $37,500
Over $56,250 but not over $75,000	$3,540 plus 7.90% of excess over $56,250
Over $75,000	$5,021 plus 8.25% of excess over $75,000

APPENDIX G

HAWAII'S STATE BUDGET PROCESS AND BUDGET STABILIZATION FUNDS

Budget, Program Planning and Management Division
Department of Budget and Finance
State of Hawaii

HAWAII'S STATE BUDGET PROCESS AND BUDGET STABILIZATION FUNDS

A Report by the Department of Budget and Finance

October 10, 2006

This report was prepared in response to a request by the 2005-2007 Tax Review Commission which asked the Department of Budget and Finance to provide "a report describing the State's current budget process and conditions, with emphasis on budget stabilization."

I. The Budget Process

The State Budget contains information on the costs and financing plans of all programs, services, and activities supported by State government. The budget structure and processes are governed by many legal requirements established by the State Constitution and Hawaii statutes, among which the most important is a constitutional mandate for a balanced budget. Article VII of the Hawaii Constitution requires, among other things, that **general fund expenditures must not exceed general fund revenues**, except in an emergency declared by the Governor (Section 5). Section 37-69 of the Hawaii Revised Statutes further requires the Governor to prepare a Six-Year Program and Financial Plan and to include proposals for changes in revenues in every case where the total proposed State expenditures exceed the total anticipated resources.

Hawaii has a biennial budget covering two fiscal years at a time within a planning period that extends to six years. The fiscal year begins on July 1 of each year and concludes on June 30 of the following year.

The budget process runs through four principal stages:

1. Formulation of program requirements by department and agencies (August, September, October, November)

The budget cycle starts in August with the Department of Budget and Finance (B&F) issuing budget guidelines for the upcoming period to departments and agencies within the Executive Branch. Taking into account a) the economic and financial conditions of the State, and b) the Administration's fiscal policies, the instructions establish overall parameters for preparing departmental budget requests. For example, the guidelines may put a limit on the number of positions, set a ceiling for funding, or allow for growth in certain areas.

Revenue conditions (actual and projected) are critical at this stage because they impose certain limits on the level of resources that can be expected. Bound by the balanced budget requirement of the Hawaii Constitution, the State must ensure that **general fund expenditures must not exceed general fund revenues**. The task of revenue estimation

falls on the Council on Revenues (COR), a non-partisan body established by law to prepare revenue estimates for the State four times a year. These estimates must be considered by the Governor in preparing the budget and by the Legislature in appropriating funds.

Budget requests submitted by departments identify the services and activities being proposed for the programs, together with the costs for them. The requests go through a formal process of review and evaluation that includes the departments, B&F, and the Governor. After the Governor makes her final decisions, budget documents are prepared to be delivered to the Legislature by a statutory deadline, which is 30 days before the legislative session begins in each January.

2. Submission of budget requests to the Legislature (December)

The Governor's budget proposals to the Legislature are contained in a document entitled "*The Multi-Year Program and Financial Plan and Executive Budget.*" This document displays program and financial requirements of the Executive Branch for the two years in the next fiscal biennium and the four out-years in the planning period. A six-year financial plan is also provided to show the fiscal implications of the recommended programs.

3. Appropriation of moneys by the Legislature (January to May)

The State Constitution requires that **expenditures of public money must be made through legislative appropriations**. Upon receiving the Governor's proposed budget, the Legislature applies its own review and evaluation process to executive recommendations as well as to other legislative proposals. The Legislature authorizes funding for programs in the General Appropriations Act for the fiscal biennium, also taking into account revenue conditions as projected by the COR. In addition to budget appropriations, spending authorizations may also be provided in specific, off-budget legislations.

4. Execution of the budget by departments and agencies (July 1 to June 30)

The General Appropriations Act becomes law with the approval of the Governor (or if not vetoed by the Governor). Before the new fiscal year begins, the Governor issues budget execution policies and instructions to the departments to guide their implementation of programs and funding as authorized by the Legislature. Again, revenue considerations are critical at this point. Depending on revenue conditions, programs may receive full allocations of the moneys appropriated, or budget restrictions may be imposed to ensure that expenditures do not exceed available revenues, as required by law.

II. The Need for Budget Reserves

Budget preparations take place many months before the actual fiscal year begins. Therefore, budget formulation often has to rely on estimated data and projections of future developments. Between the planning and implementation stages, program costs can be greatly affected by inflation, changes in target populations, or new federal mandates, while revenue projections can fluctuate widely with changing economic conditions. Because of

this characteristic, fiscal prudence must be exercised to ensure that the State's obligations are adequately covered by actual revenues. While this requirement is important for all categories of funding (such as general funds, special funds, trust funds, etc.), it is paramount in the management of the General Fund because of the requirement for a balanced budget. The focus of this report is thus on the General Fund.

An effective way to exercise fiscal prudence is to build and maintain an adequate cushion in the General Fund to help even out wide fluctuations in both revenues and expenditures that may happen from time to time. Historically, growth in expenditures tends to rise quickly in an economic upswing when revenues are abundant. When the economy goes into a downturn, tax collections generally decline and may not be sufficient to support on-going expenses. Without an adequate reserve, the continuing budget deficits can lead to a condition of fiscal stress that will eventually call for more drastic responses such as cutting programs and/or raising taxes. These actions often produce negative economic consequences at a time when the State can least support them. Furthermore, frequent budget adjustments due to the boom and bust cycles can be disruptive and damaging to program operations. In short, budget stabilization is an important goal and a critical component of the State's overall fiscal management. Within the general parameters set by careful policy considerations, departments and programs know what to expect from one year to the next and management at all levels can focus on producing the results and measuring their progress.

Another means to provide for budget stability is to establish a formal rainy day fund as a source of supplemental reserves during lean times. A rainy day fund provides a counter balance to the cyclical changes in the economy and tax collections, where extra revenues in good times are set aside to provide supplemental resources for bad times. The inflow and outflow of these reserves work to lessen the wide fluctuations in tax revenues and act to stabilize the size and direction of the budget.

Hawaii has adopted both concepts to provide a degree of stability to its budget.

1. <u>The General Fund Balance</u>

Historically, the State Budget has been actively managed to produce a positive balance in the General Fund at the end of each fiscal year (see Table 1).

Table 1. General Fund Revenues, Expenditures and Balances
& the Emergency and Budget Stabilization Fund
(in $Millions)

FY	GF REVENUES	GF EXPEND.	REV. OVER EXPEND.	GF BALANCE	**GF BAL/EXP**	EBRF BAL.	**EBRF/ EXP**
1976	$684.6	$726.3	($41.7)	$41.8	**5.8%**		
1977	$737.4	$744.0	($6.6)	$35.2	**4.7%**		
1978	$816.1	$848.9	($32.8)	$2.4	**0.3%**		
1979	$942.5	$878.0	$64.5	$66.9	**7.6%**		
1980	$1,084.9	$972.8	$112.1	$179.0	**18.4%**		
1981	$1,198.7	$1,146.0	$52.7	$231.7	**20.2%**		
1982	$1,185.8	$1,207.4	($21.6)	$210.0	**17.4%**		
1983	$1,252.5	$1,333.1	($80.6)	$129.5	**9.7%**		
1984	$1,354.6	$1,379.0	($24.4)	$105.1	**7.6%**		
1985	$1,475.5	$1,451.1	$24.4	$129.5	**8.9%**		
1986	$1,605.3	$1,597.8	$7.5	$137.0	**8.6%**		
1987	$1,889.8	$1,687.7	$202.1	$339.1	**20.1%**		
1988	$2,075.7	$1,944.2	$131.5	$470.6	**24.2%**		
1989	$2,378.1	$2,219.5	$158.6	$629.2	**28.3%**		
1990	$2,451.5	$2,624.4	($172.9)	$456.3	**17.4%**		
1991	$2,689.5	$2,799.3	($109.8)	$346.5	**12.4%**		
1992	$2,708.3	$2,680.8	$27.5	$374.0	**14.0%**		
1993	$2,953.0	$3,063.1	($110.1)	$263.9	**8.6%**		
1994	$3,086.4	$3,059.4	$27.0	$290.9	**9.5%**		
1995	$2,968.5	$3,169.1	($200.6)	$90.3	**2.8%**		
1996	$3,194.4	$3,123.7	$70.7	$161.0	**5.2%**		
1997	$3,161.0	$3,186.3	($25.3)	$135.7	**4.3%**		
1998	$3,231.6	$3,213.5	$18.1	$153.8	**4.8%**		
1999	$3,286.3	$3,251.1	$35.2	$189.0	**5.8%**		
2000	$3,284.1	$3,201.0	$83.1	$272.1	**8.5%**	$19.4	**0.6%**
2001	$3,441.6	$3,364.6	$77.0	$349.1	**10.4%**	$33.9	**1.0%**
2002	$3,441.0	$3,656.1	($215.1)	$134.0	**3.7%**	$49.9	**1.4%**
2003	$3,788.9	$3,805.7	($16.8)	$117.2	**3.1%**	$53.1	**1.4%**
2004	$3,907.7	$3,840.3	$67.4	$184.6	**4.8%**	$54.0	**1.4%**
2005	$4,486.4	$4,184.6	$301.8	$486.4	**11.6%**	$54.1	**1.3%**
2006	$4,925.0	$4,679.1	$245.9	$732.3	**15.7%**	$53.5	**1.1%**
2007	$5,178.3	$5,427.7	($249.4)	$482.9	**8.9%**	$61.6	**1.1%**

Note: FY 2007 amounts are estimates.
Source: Department of Budget and Finance.

In the past 32 years since 1976, the year-end balances have ranged from a low of $2.4 million in FY 1978 to a high of $629.2 million in FY 1989. The highest level to date, $732.3 million, was achieved this year, at the end of FY 2006. As a percentage of expenditures, the year-end balances were above 10% in 12 years and above 5% in 24 years out of 32.

It is worth noting that during this period, the State was also able to: a) provide substantial tax refunds to its residents in a number of years, b) permanently reduce the income tax rates, and c) institute tax changes to provide tax relief or incentives for economic development.

The general fund balance is estimated to be $482.9 million when the current fiscal biennium ends on June 30, 2007. While this represents a comfortable 8.9% reserve level, it should be pointed out that budget preparations for the upcoming fiscal biennium are currently in the making and showing a need for considerable funding commitments in the next two years. On the revenue side, the September 11, 2006 report from the COR projected a slowdown in the economy for the near term compared to the robust growth of recent years.

2. The Emergency and Budget Reserve Fund (EBRF)

The Legislature established the Emergency and Budget Reserve Fund in 1999 as a rainy day fund to provide a supplemental source of funding for the State during times of emergency, economic downturn, or unforeseen revenue reduction. The Fund receives an annual allocation from the tobacco settlement payments to the State of Hawaii each year. The allocation was initially set at 40% of the total payments but was revised to 24.5% in 2002.

To date, $88 million has been deposited to the Fund as of June 30, 2006. Allocations in future years are projected to be about $12 million each year from 2008 to 2017 and $9 million each year between 2018 and 2027. In the past five years, the Legislature authorized a total of $35 million from these reserves to be spent for various health and human services programs. The cumulative balance in the Fund was $53.5 million on June 30, 2006 and is expected to be $61.6 million at the end of Fiscal Year 2007.

III. Adequacy of Reserves

The need for an adequate reserve of funds to address economic downturns and their attendant fiscal stress has long been recognized by many states. According to a report by the National Governors Association and the National Association of State Budget Officers,[1] 47 states have budget stabilization funds, which may include budget reserve funds, revenue shortfall accounts, or cash-flow accounts. The conventional wisdom has been to build up budget reserve balances to a level equal to at least 5% of total expenditures. A more cautious view would require 10%.

[1] *The Fiscal Survey of States: June 2006.*

The same report shows that in FY 2005, the average balance for all states was 8.7% of total expenditures. The distribution is as follows[2]:

- 14 states had balances below 5%.
- 16 states had balances between 5% and 10%.
- 20 states had balances above 10%.

On a historical basis, over the past 27 years, the average balance for all states hit the lowest (1.1%) in FY 1991 and the highest (10.4%) in FY 2000. The average was below 5% in 14 years and above 5% in 13 years (see Table 2).

Table 2. Total Year-End Balances of All States, Fiscal 1979 to Fiscal 2007
(Percentage of Expenditures)

FY	BALANCE AS % OF EXPENDITURES
1979	8.7%
1980	9.0
1981	4.4
1982	2.9
1983	1.5
1984	3.8
1985	5.2
1986	3.5
1987	3.1
1988	4.2
1989	4.8
1990	3.4
1991	1.1
1992	1.8
1993	4.2
1994	5.1
1995	5.8
1996	6.8
1997	7.9
1998	9.2
1999	8.4
2000	10.4
2001	9.1
2002	3.7
2003	3.2
2004	5.1
2005	8.7

[2] *The Fiscal Survey of States: June 2006,* page 46.

IV. Conclusions

A major concern in managing the State Budget is to ensure that revenues are in line with expenditures. Historically, Hawaii has always built a de facto rainy day fund into its budget by striving to maintain a sufficient balance in the General Fund as a cushion for unanticipated budget developments. Budget stabilization was further enhanced by the formal establishment of the Emergency and Budget Stabilization Fund in 1999 where the State sets aside a portion of its annual tobacco payments for this purpose. Both actions have served to strengthen the State Budget and enabled Hawaii to weather various economic cycles without major disruption to its basic tax and expenditure structures.

APPENDIX H

REVENUE COSTS FOR
SELECTED GENERAL EXCISE TAX AND USE TAX
EXEMPTIONS AND DEDUCTIONS

Tax Research and Planning Office
Department of Taxation
State of Hawaii

20 November 2006

REVENUE COSTS FOR SELECTED GENERAL EXCISE TAX AND USE TAX EXEMPTIONS AND DEDUCTIONS

Prepared by the Tax Research and Planning Office, Hawaii Department of Taxation

This report provides estimates for the revenue costs of various exemptions and deductions from the General Excise Tax (GET) and the Use Tax. Hawaii has used various forms of the GET since 1935. The basic version of the present GET law was codified in 1955, but it has been amended on numerous occasions since then. The GET is levied against a business's gross receipts for the privilege of doing business in Hawaii. Unlike a sales tax, the legal incidence of the GET is on the seller and not on the purchaser. Whether the GET is passed forward to the customer is a matter of private contractual agreement, but if it is passed forward, it becomes part of the business's taxable gross receipts. The rate of the GET varies from as low as 0.15 percent (for insurance commissions) to as high as 4 percent (the rate that applies to most retail sales). Sales at wholesale usually are subject to tax at one-half of one percent.

The Use Tax complements the GET by imposing tax on tangible personal property, services and contracting that are imported into Hawaii. The Use Tax was enacted in 1965 and became law on January 1, 1966. It is levied at the rate of one-half of one percent if the imports are intended for resale at retail and at four percent if the imports are for use or consumption by the importer. No Use Tax is due when the imports are intended for resale at wholesale in Hawaii.

This report provides estimates of the direct revenue costs for the various exemptions and deductions from the GET and Use Tax. Each exemption or deduction is described briefly, with reference to the appropriate sections in the Hawaii Revised Statutes, and the data sources used to construct the estimates of foregone revenue are noted. The estimates do not take into account the changes in behavior that could result if the exemption were removed, nor do they consider the effects on other tax collections if removing the exemption affects total income in Hawaii. They therefore have the nature of tax expenditure estimates rather than of actual revenue estimates.

It might be tempting to view the estimates of revenue foregone as an excise tax counterpart for the tax expenditures that are commonly provided for the income tax. However, the present study makes no judgment as to whether the exemptions or deductions it covers are aberrations from an ideal, uniformly applied excise tax. For example, because the Use Tax is imposed on imports, it can be inferred that the intention is to apply Hawaii's excise tax according to the destination principle. But a destination-based excise tax is not supposed to be applied to exports, so an exemption for exports is not an aberration from a universally applied excise tax administered under the destination principle. The present study, however, includes an item for the revenue cost of the exemption for exports.

The GET base is defined very broadly. Consequently, the State's Legislature has found it necessary to include exemptions for items that one would ordinarily not associate with gross income generated by a business activity. For example, there is an explicit exemption for receipt of alimony payments. Similarly, there are exemptions for such items as salaries or wages of employees, for "casual sales," for discounts, for returned merchandise, and for uncollected bad debts. Estimates are provided for the revenue cost of these exemptions, though they are usually not considered as part of a uniform general excise tax.

Some items of gross income are exempt from the GET, because they are taxed elsewhere in the Hawaii Revised Statutes. For example, gross income earned by banks and other financial corporations from providing financial services, and gross income earned by insurance companies from providing insurance are exempt from the GET, but financial institutions are subject to tax on their net income under the Tax on Banks and Other Financial Corporations and the insurance companies are subject to the Tax on Insurance Premiums. Similarly, the gross income of public service companies is exempt from the GET, but it is subject to the Public Service Company Tax. Nevertheless, these items are included among the GET exemptions and revenue costs are provided for them.

The estimates entail some double counting, because we considered each exemption in isolation. Nor are they stacked one upon the other; unless noted explicitly, the revenue cost of each exemption is calculated as if no other exemptions were present. For example, there is an exemption for gross receipts of nonprofit organizations and a separate exemption for gifts and bequests. The revenue cost of the exemption for nonprofit organizations is measured as if, in its absence, all of their gross receipts would be subject to tax, including the gifts they receive. As another example, gross income received by mutual benefit societies for providing insurance is exempt from the GET, because they are insurance companies, but if this exemption were not available, they might still be exempt because they are not for profit. Their income is also exempt from the Tax on Insurance Premiums because they are not for profit. The cost of the GET exemption for nonprofit organizations includes the GET foregone on the gross income of the mutual benefit societies, and the cost of the GET exemption for insurance companies also includes the GET foregone on the income of the mutual benefit societies. The reason for using this procedure is to avoid losing the revenue costs of some exemptions. This would happen if we considered only the isolated effect of each exemption, assuming all other exemptions would remain in force. If we used the latter procedure, we would never capture the revenue cost of the overlap of exemptions. For example, the estimate for the GET exemption for nonprofits would exclude the gifts they receive, on grounds that eliminating the exemption for the nonprofits by itself would not eliminate the exemption for their receipt of gifts, and the estimate for the GET exemption for gifts would exclude gifts to the nonprofits, because these gifts would continue to be exempt if the exemption for nonprofits were not simultaneously eliminated.

In most cases, the cost of each exemption is calculated as if all of the receipts described by the exemption would have been subject to GET without the exemption, not just the receipts that might belong to a business enterprise. For example, the revenue cost for the exemption for alimony payments is measured as the GET that would have been due on the total value of alimony received in Hawaii. If we had tried to include only alimony payments that might be part of gross receipts from a business activity, the revenue cost would presumably be negligible.

Finally, we wish to emphasize the preliminary nature of the estimates. In addition to the conceptual problem of establishing what should properly be considered as an exemption from the GET (which we did not try to resolve for this exercise), there are problems, sometimes severe, in estimating the revenue cost of the exemptions. In many cases, data needed to produce the estimate are not available, so the estimate is based on very rough assumptions. Sometimes, the estimate is little more than an educated guess.

REVENUE COSTS OF SELECTED GENERAL EXCISE TAX AND USE TAX EXEMPTIONS AND DEDUCTIONS

Exemption: ***1. Amounts received as salaries or wages for services rendered to an employer.*** Since salaries or wages are not considered gross receipts from businesses, they are not subject to GET. See section 237-24(6), HRS.

Data Source: U.S. Bureau of Economic Analysis, 2005 Wage and Salary Disbursements.

Methodology: Total wages and salaries: $24,974,000,000

Tax Expenditure at 4% GET: $998,960,000

Exemption: ***2. Real estate sales. '*** Gross income' and 'gross proceeds of sales' subject to GET do not include gross receipts received from the sale of land in fee simple, improved or unimproved. See Section 237-3(b), HRS.

Data Source: State of Hawaii 2005 Data Book, tables 21.07, 21.30, and 21.33.

Methodology: Sales are for resales on Oahu only. Adjustments were made for the statewide total and for the land value of new construction sales. The estimate is for 2005.

Average price of fee simple, single family homes resales:	$744,174
Total number of fee simple, single family home resales:	4,677
Gross single family resales:	$3,480,501,798
Adjustment for statewide:	$7,010,863,254
Adjustment for new construction:	$8,871,298,254
Average price of fee simple, condominiums resales:	$320,003
Total number of fee simple, condominiums resales:	8,534
Gross condominiums resales:	$2,730,905,602
Adjustment for statewide:	$3,967,077,191
Adjustment for new construction:	$4,031,077,791
Average price of vacant land sold:	$609,043
Total number of vacant land unit sales:	329
Gross vacant land sales:	$200,375,147
Adjustment for statewide:	$299,067,384
Average price of multi-family unit resales:	$1,202,699
Total number of multi-family unit resales:	147
Gross multi-family resales:	$176,796,753
Adjustment for statewide:	$263,875,751
Average price of commercial/industrial businesses:	$1,754,255
Total number of commercial/industrial unit sales:	70
Gross commercial/industrial:	$122,797,850
Adjustment for statewide:	$183,280,373

Tax expenditure at 4% GET:	$545,943,982

Exemption: ***3. Certain gross receipts of non-profit organizations.*** Certain organizations are exempt from the GET on their gross income or revenues, as long as it is related to their tax exempt purpose. See Section 237-23(a) through (6), HRS.

Data Source: *Pacific Business News* , 2005 Book of Lists, Data for Calendar Year 2003.

Methodology: Total receipts of non-profit organizations:

Hospitals:	$1,666,874,640
Mutual Benefit Societies:	$1,587,798,762
Service Providers:	$929,069,384
Foundations and Trusts:	$849,539,212
Private Elementary/Middle Schools:	$85,798,567
Private High Schools:	$83,342,666
Health Care Providers:	$64,639,273
Child Care Centers:	$57,431,082
Credit Unions:	$43,116,716
Senior Living Facilities:	$7,104,215
Fraternal Benefit Societies:	$5,228,510
Skilled Nursing/Intermediate Care Facilities:	$4,867,549
Chambers of Commerce:	$3,088,005
Estimated total receipts:	$5,387,898,581
Adjustment to 2005:	$5,926,688,439
Assuming 5% of receipts are not exempt from GET	$5,630,354,017
Tax expenditures at 4% GET:	$225,214,161

Exemption: ***4. Amounts received by an employee benefit plan by way of contributions, dividends, interest, and other income.*** The exempt amounts include both employer and employee shares. See section 237-24.3(5), HRS.

Data Source: U.S. Bureau of Economic Analysis, 2005 Wage and Salary Disbursements.

Methodology: Employer contribution to pension and insurance funds: $5,663,230,000

Assuming that employees contribute another 40%:	$2,265,292,000
GET base is:	$7,928,522,000
Tax Expenditure at 4% GET.	$317,140,880

Exemption: ***5. Gross income or gross proceeds from insurance policies.*** GET does not apply to gross income or gross proceeds from insurance policies owing to death of the insured or received as endowment or annuity contracts, or payments under accident or health policies for injury or sickness. (The exemption does not apply to personal damages). See section 237-24.(1-3), HRS).

Data Source: Department of Commerce and Consumer Affairs, 2005 Report to the Insurance Commissioner, table 1, covering claims paid in 2004.

Methodology:

Life insurance claims:	$804,335,968
Annuities:	$280,030,731
Accident and health:	$108,510,939
Workman's compensation:	$128,532,200
Medical benefits:	$2,182,345,371
Total:	$3,503,755,209
Tax Expenditure @ 4% GET:	$140,150,208
Adjustent to 2005:	1.070
Tax Expenditure @ 4% GET:	$149,960,723

Exemption: ***6. The deduction that a prime contractor is allowed to take from gross income for payments to another contractor or specialty contractor.*** Any person claiming a deduction must provide the name and General Excise Tax number of the person paying the tax on the deducted amount. See Section 237-13(3)(B), HRS.

Data Source: Department of Taxation data on General Excise Tax Collections, GET Base for Contracting.

Methodology:

Contracting GET Base in 2004:	$5,618,306,000
Assuming that 1/2 of all work is sub-contracted to licensed contractors, GET base for the value of gross proceeds:	$2,809,153,000
Tax Expenditure @ 4% GET:	$112,366,120

Exemption: ***7. Stocks, Bonds, and Commodity Futures.*** Amounts received from the sale of securities, commodity futures, or bonds are not subject to GET. See Section 237-3(b), HRS.

Data Source: Hawaii Income Patterns, Individuals and Business 2002, table 4, 36.

Methodology:

Gross proceeds from sale of capital assets and other	$942,486,901
Assuming that 50% of gains are from securities	$471,243,451
Adjustment to 2005:	1.326
Tax Expenditure @ 4% GET:	$24,988,766

Exemption: ***8. The value of all property of every kind and sort acquired by gift, bequest, or devise, and the value of all property acquired by descent or inheritance.*** See Section 237-24(2)

Data Source: State of Hawaii Data Book, 2005.

Methodology: Limited to top wealth holders for 1998 with total assets greater than $625,000 and net worth of $10 million

Total Net Worth:	$26,853,000,000
Assume that this represents 75% of the total:	$35,804,000,000
Assuming that 1% of the total is bequeathed, GET base	$358,040,000
Tax Expenditure @ 4% GET:	$14,321,600
Adjusted to 2005	$19,353,608

Exemption: ***9. Damages for personal injuries and property.*** Exempt amounts include amounts under any accident insurance, health insurance policy, contract workers' compensation acts, or employers liability acts received as compensation for personal injuries, death or sickness. See Section 237.24(5).

Data Source: Report of the Insurance Commission of Hawaii for 2005 (data are for 2004 claims).

Methodology: Losses, claims and benefits paid $812,436,277

Tax Expenditure @ 4% GET:	$32,497,451
Adjusted to 2005	$43,872,751

Exemption: ***10. Amounts of taxes on fuel, liquor, cigarettes and tobacco products.*** See Section 237.24 (8-12).

Data Source: Calendar Year 2005 tax collections and Tax Foundation

Methodology:

Fuel taxes	$161,430,172
Liquor taxes	$43,594,058
Transient Accommodations Tax	$207,381,407
Tobacco taxes	$85,962,298
Federal excise taxes	$343,541,800
Total:	$885,335,906
Tax Expenditure @ 4% GET	$51,909,662

Exemption: ***11. Certain amounts of services and interest costs between related entities and for common paymasters.*** Certain services provided by an entity to a related entity are exempt from GET. Likewise, amounts received by a common paymaster from related corporations are also exempt from GET. See Section 237-23.5 (a) and (b), HRS.

Data Source: Department of Business, Economic Development and Tourism, Input-Output Study for Hawaii, 2002, and Department of Taxation data for 2005.

The Hawaii input output table indicates that business-to-business sales are 39% of gross receipts and that sales of services are 24% of business-to-business sales. It is assumed that 90% of these services sales are not intermediary sales and that 5% of these non-intermediary sales are exempt under section 237-23.5(a) and (b), HRS

Gross receipts in 2005	$65,877,828,000
Tax Expenditure @ 4% GET	$11,099,096

Exemption: ***12. Amounts received by the operator of a hotel from the owner of the hotel equal to and disbursed for employee wages, salaries and benefits.*** Amounts received by the operator of a hotel from the owner of the hotel include employee wages, salaries and benefits, as well as retirement, vacation, sick pay and health benefits. See Section 237-24.7(1), HRS.

Data Source: Hawaii Income Patterns, Business 2002 (unpublished).

Methodology:

Transient accommodation entities paid wages:	$631,130,000
Add cost of benefits @ 85%:	$189,339,000
Total estimated payroll costs:	$820,469,000
Assuming that 30% of these costs are for separate owner/operators, GET base is:	$697,398,650
Updating to 2005 using growth in GET revenues	$1,019,681,359
Tax Expenditure @ 4% GET:	$40,787,254

Exemption:

13. *Amounts received by an association of apartment owners, a nonprofit homeowners association, a community association or cooperative association in reimbursement of sums paid for common expenses.* The exempt expenses usually are maintenance costs. See Section 237-24.3(3) and Section 237-24(16), HRS.

Data Source: Hawaii Income Patterns, Business, 2002 and Survey and Marketing Services, Hawaii Housing Policy Study, 2003.

Methodology:	In 2002, there were 1250 property owner associations with gross receipts totaling	$299,979,000
	Assuming that 70% represents common expenses, the GET base is:	$209,985,300
	There were 2,956 units in "cooperative housing". inventoried in 2003	
	Assuming that the common expenses for each totaled $7,200 per year, the GET base is:	$21,283,200
	Total exempt GET base:	$231,268,500
	Adjusted to account for growth from 2002 to 2005:	$338,142,580
	Tax expenditure @ 4 % GET:	$13,525,703

Exemption: ***14. Sale 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.*** Prescription drugs are dispensed by filling or refilling a written or oral prescription. A prosthetic device means any artificial device or appliance, instrument, apparatus or contrivance, including their components, parts accessories and replacements. See Section 237-24.3(7), HRS.

Data Source: U.S. Center for Medicare and Medicaid Services, Office of the Actuary, National Statistics Group, 2004.

Methodology:	Expenditures on prescription drugs:	$471,500,000
	Total expenditures on durable medical equipment which include prosthetic devices:	$115,000,000
	Assuming that 5% is for prosthetic devices:	$5,750,000
	Adjusted to account for growth from 2004 to 2005:	$546,102,273
	Tax Expenditure @ 4% GET	$21,844,091

Exemption: ***15. Value of 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.*** The tangible personal property must be resold or otherwise consumed or used outside the State. See Section 237-29.5 and Section 237-29.53, HRS.

Data Source: Hawaii Input-Output Model, Department of Business Economics, Development and Tourism, 2002.

Methodology:	Hawaii's total exports including services but excluding visitor expenditures = 3% of Hawaii's GDP in 2005:	$1,607,790,000

Tax Expenditure @ 4% GET	$64,311,600

Exemption: ***16. Amounts received as rent for the leasing of aircraft or aircraft engines used by the lessee for interstate air transportation of passengers and goods.*** Payments made to a lease are considered rent regardless of whether the lease is an operating lease or a financing lease. See Section 237-24.3(12), HRS.

Data Source: Source: Hawaii Income Patterns, Business 2002.

Methodology:

Gross receipts of "Air Travel" businesses:	$1,547,275,213
Assuming that 25% is for Aircraft leasing for interstate transport, GET base for leasing of aircraft or aircraft	$386,818,803
Updated to 2005:	$565,575,977
Tax Expenditure @ 4% GET	$22,623,039

Exemption: ***17. Amounts received for purchases made with U.S. Department of Agriculture food coupons and food vouchers.*** See Section 237-24.3(6), HRS.

Data Source: State of Hawaii Data Book, 2005.

Methodology: Value of Food Stamp receipts in 2005:	$155,816,670
Tax Expenditure @ 4% GET	$6,232,667

Exemption: ***18. Amounts received by the operator of a county transportation system under a contract with a political subdivision.*** The political subdivision must be the owner of the county transportation system. See Section 237-24.7(2).

Source: City and County of Honolulu, FY 2005 Budget.

Methodology: Transportation gross receipts:

Bus transportation funds:	$118,364,678
Federal grants funds:	$21,800,000
Community Development/Home funds:	$700,000
Total:	$140,864,678
Tax Expenditure @ 4% GET:	$5,634,587

Exemption: ***19. Aircraft service and maintenance facilities.*** The exemption is for amounts received from servicing and maintenance of aircraft or from the construction of an aircraft service and maintenance facility. See Section 237-24.9, HRS.

Data Source: Hawaii Income Patterns, Business 2002, DoTAX Data (unpublished).

Methodology:	Gross Receipts of Aviation Services Businesses:	$132,482,832
	(Non-jet aircraft repair and services are not exempt.)	
	Assuming that 90% involves exempt activity, GET base for the value of gross proceeds is:	$119,234,549
	Adjustment to 2005:	1.462
	Tax Expenditure @ 4% GET:	$6,973,415

Exemption: ***20. Affordable housing.*** All gross income received by any qualified person or firm for the planning, design, financing, construction, sale, or lease of a housing project which has been certified or approved by the state shall be exempt from GET. See Section 206G-116, HRS.

Data Source: State of Hawaii Data Book, 2005.

Methodology:	Housing and Community Development Corporation housing operations' gross revenues:	$24,222,000
	Assuming that there is an additional 10% in gross revenues from other concerns, the GET base for the exemption is:	$26,644,200
	Assuming that 5 percent of residential building permits are for affordable housing, the GET base for the exemption becomes:	$201,242,400
	Tax Expenditure @ 4% GET:	$8,049,696

Exemption: ***21. Amounts received from the loading, transportation and unloading of agricultural commodities shipped for a producer or produce dealer on one island to a person, firm or organization on another island.*** See Section 237-24.3(1), HRS.

Data Source: State of Hawaii Data Book, 2005.

Methodology:	Value of Hawaii 2005 agricultural exports totaled:	$78,700,000
	Value of Hawaii production of agricultural products in 2005:	$516,124,000
	Assuming the difference between production and exports, Hawaii consumption is:	$437,424,000
	Whereas half of Hawaii consumption is shipped inter-island:	$218,712,000
	Assuming shipping costs represent 25 % of dollar value, GET base is:	$54,678,000
	Tax Expenditure @ 4% GET:	$2,187,120

Exemption: ***22. Amounts levied against any federal cost-plus contractor as reimbursement of costs incurred for materials, plants or equipment purchased from a licensed taxpayer.*** See Section 237-13(3)(C), HRS.

Data Source: Department of Taxation data on GET collections for 2005

Methodology:	Contracting base is:	$5,618,306,000
	Assuming that 5% represent federal cost-plus work, amount equals:	$280,915,300
	Assuming that 40% of the federal cost-plus work is exempted materials, the GET base is:	$112,366,120
	Tax Expenditure @ 4% GET:	$4,494,645

Exemptions: ***23. Sales to federal government and credit unions.*** The exemption applies to sales of tangible personal property to the United States and state-charted credit unions. See Section 237-25(a), HRS.

Data Source: DBEDT, Input-Output Table for 2002.

Methodology:	Federal procurement spending for goods (estimated):	$680,400,003
	Adjustment ot 2005:	$994,827,277
	Tax Expenditure @ 4% GET:	$39,793,091

Exemption:

24. Discounts and returned merchandise. This includes cash discounts on sales of goods, wares or merchandise returned by customers, whether refunded in cash or by credit. See Section 237-3(b), HRS.

Data Source: Hawaii Income Patterns, 2002, Table 2-10 and 2-11.

Methodology:	Returns and allowances reported by non-apportioned "C" corporations totaled:	$50,643,000
	Inflated to all "C" corporations:	$129,596,534
	Returns and allowances reported by non-apportioned "S" corporations:	$30,917,000
	Inflated to all "S" corporations:	$32,519,818
	Grand Total:	$162,116,351
	Tax Expenditure @ 4% GET:	$6,484,654

Exemption: ***25. Accounts found to be worthless and actually charged off for income tax purposes***. The exemption does not apply to a reserve established for bad debts. See Section 237-3(b), HRS.

Data Source: Hawaii Income Patterns, 2002, Tables 2-11.

Methodology:

Bad debts reported by non-apportioned "C"corporations:	$48,667,000
Inflated to all "C" corporations:	$124,542,107
Bad debts reported by non-apportioned "S" corporations:	$9,677,000
Inflated to all "S" coproations:	$11,498,371
Subtotal:	$136,040,478
Adjusted to 2005:	$209,487,864
Tax Expenditure @ 4% GET:	$8,379,515

Exemption: ***26. The value or gross proceeds arising from contracting or services performed in Hawaii for a customer located outside on the State***. Such contracting or services are exempt provided the customer furnishes a required form to the vendor certifying that the contracting or servicing is for resale, consumption or use outside of the State. See Section 237-29.53, HRS.

Data Source: Coalition of Service Industries, 2/5/2002 Report, Pages 12-13.

Methodology: The following amounts of services were exported in 1997:

Software Publishers:	$644,000
Broadcasting and Telecommunications:	$2,444,000
Information and Data Processing Services:	$1,257,000
Professional, Scientific and Technical Services:	$31,239,000
Administrative and Support and Waste Management Services:	$22,637,000
Total Services Exported in 1997:	$58,221,000
Inflated to 2005 and to account for contracting:	$101,591,657
Tax Expenditure @ 4% GET:	$4,063,666

Exemption: ***27. Dividends and other distribution of income or profit from corporations, partnerships and trusts are not taxable.*** The exemption does not apply if the distribution is a payment due to transaction of business with the shareholder, partner or beneficiary. See Section 237-3(b).

Data Source: Hawaii Income Pattern, 2002, Business, Table 2 and Individual, Table 4.

Methodology:	Dividends reported as gross income for non-apportioned "C' corporations only:	$23,354,000
	Inflate to all corporations:	$59,763,392
	Dividends reported by taxpayers:	$319,360,410
	Adjust to 2005:	$554,324,953
	Tax Expenditure @ 4% GET:	$22,172,998

Exemption: ***28. Sales of products that are admitted into a foreign trade zone and shipped directly to any common carrier in interstate or foreign commerce for consumption out-of-state are exempt.*** The sale must take place entirely within the zone. See Section 212-8, HRS.

Data source: State of Hawaii Data Book, 2005, Table 24.04.

Methodology:	Combined exports from Foreign Trade Zones:	$567,644,000
	Tax Expenditure @ .5 GET:	$2,838,220

Exemption: ***29. Gross income derived by a fraternal benefit, religious, charitable, scientific, educational or other nonprofit organization under section 501(c) of the Internal Revenue Service Code from fees for convention conference or trade show exhibit or display spaces is GET exempt.*** See Section 237-16.8, HRS.

Data Source: According to the Hawaii Community Foundation, revenue from "Special Events" represent about 1% of total receipts.

Methodology:	Estimated gross receipts:	$5,926,688,439
	"Special Events" @ 1%:	$59,266,884
	Tax Expenditure @ 4% GET:	$2,370,675

Exemption: ***30. Gross proceeds derived by a contractor or subcontractor arising from the performance of scientific work*** . This involves primarily the research and development for, or the design, manufacture, instrumentation, installation, maintenance, or operation of aerospace, agricultural, astronomical, biomedical, electronic, geophysical, oceanographic, test range or other scientific facilities. See Section 237.26, HRS.

Data Source: U.S. Economic Census for Hawaii, 2002, page 16.

Methodology:	Gross receipts from 21 "scientific, research and development service" entities exempt from federal tax:	$72,990,000
	Assuming that 50% was exempt, GET base is:	$36,495,000

	Adjusted to 2005:	$53,360,114
	Tax Expenditure @ 4% GET:	$2,134,405

Exemption: ***31. Petroleum products refined in Hawaii that will further be refined by another taxpayer.*** Refining means any process performed by a refiner that includes a change in the character or properties of a petroleum product. See Section 237-27, HRS.

Data Source: Hawaii Income Patterns, Business 2002, and DoTAX Data.

Methodology:	Gross receipts of petroleum products manufacturing businesses:	$314,890,094
	Assuming that 10% involves exempt activities, the GET base is:	$31,489,009
	Adjusted to 2005:	$46,040,749
	Tax Expenditure @ 4% GET:	$1,841,630

Exemption: ***32. Amounts received as alimony and other similar payments and settlements.*** See Section 237-24(7), HRS.

Data Source: Hawaii Income Patterns, 2002, and DoTAX Data, 2002 (unpublished).

Methodology:	Alimony paid:	$16,197,192
	Adjusted to 2005:	$23,682,258
	Tax Expenditure @ 4% GET:	$947,290

Exemption: ***33. Money paid by the State of Hawaii or eleemosynary child-placing organizations to foster parents for their care of children in foster homes.*** See Section 237-24(15), HRS.

Data Source: Department of Human Services, 2005 Report to the Legislature.

Methodology:	Annual benefit payments in 2004 to foster parents of 5,232 children receiving monthly benefits averaging $537:	$33,715,008
	Assume 5% increase for 2005:	$35,400,758
	Tax Expenditure @ 4% GET:	$1,416,030

Exemption: ***34. Amounts received by the operator of an orchard property from the property owner to cover the costs of employee wages, salaries, payroll taxes, insurance premiums and benefits including retirement, vacation, sick pay and health benefits.*** See Section 237-24.7(4), HRS.

Data Source:	DBEDT State of Hawaii Data Book, 2005, and Hawaii Income Patterns, 2002 Business, Table 1-4.	
Methodology:	Wages paid by "Crop and Ornamental" agricultural entities:	$52,041,000
	Adding 30% for cost of benefits provides total wages paid:	$67,653,300
	Assuming that about 20% are "Orchard" operated (total value of coffee, macadamai nuts and fruits other than pineapple is about 20% of total value of crop sales):	$13,530,660
	Further assuming that 30% of these costs are for separate owner/operators, GET base is:	$4,059,198
	Adjusted to 2005:	$5,935,040
	Tax Expenditure @ 4% GET:	$237,402

Exemption:	***35. Amounts received from selling geothermal power.*** See Section 182-16, HRS.	
Data Source:	Hawaii Electric Company	
Methodology:	Puna Geothermal on Hawaii sells power to HELCO. It produces the energy equivalent of about about 430,000 barrels of oil per year. At $55 per barrel, this is:	$23,650,000
	Tax Expenditure @ 4% GET:	$946,000

Exemption:	***36. Amounts received from the loading or unloading of ships or aircraft; for tugboat services; for the transportation of pilots or governmental officials to vessels offshore; for rigging gear; for checking freight; for standby charges; and for use of moorings and running mooring lines.*** See Section 237-24.3(4), HRS.	
Data Source:	Hawaii Income Patterns, Business 2002, and DoTAX Data.	
Methodology:	Gross receipts of marine cargo, handling and salvaging businesses:	$67,599,818
	Assuming that 60% involves exempt activities, the GET base is:	$40,559,891
	Adjusted to 2005:	$59,303,477
	Tax Expenditure @ 4% GET:	$2,372,139

Exemption: ***37. Reduction of the price of a new article by the amount of the trade-in allowance.*** The trade-in allowance may be subtracted from the new article's sales price. See Section 237-3(b), HRS.

Data Source: Hawaii Business Patterns, 2002, Business, Table 2-5, Business Receipts reported by "C" Corporations,

Methodology: Assuming that 5% of "C" Corporations gross receipts in the retail industry is attributed to the sale of automobiles, gross receipts are: $399,547,750

And, assuming that 20% of the gross proceeds is attributed to trade-ins on car sales: $79,909,550

Adjustment to 2005: $116,837,448

Tax Expenditure @ 4% GET: $4,673,498

Exemption: ***38. Gross proceeds from the construction, operation, use or maintenance of an air pollution control facility.*** The facilities must be certified by the Department of Health at least once every five years. See Section 237-27.5, HRS.

Data Source: Department of Health, Nolan Hirai, Clean Air Branch, and Congressional Research Service Report to Congress, April 1, 2001.

Methodology: Assume that the cost per kw. at 1.12 cents for the control of coal-fired generating plant is 20,805 megawatts annually, and Applied Energy Systems (AES Hawaii) is 65,700 megawatts annually:

Annual pollution control costs are: $96,885,600

Assume base for exemption is equal to costs of pollution control:

Tax Expenditure @ 4% GET: $3,875,424

Exemption: ***39. Gross income or proceeds received by a public internet data center.*** The term "Public Internet Data Center" means a facility available for compensated use by the public that is designed to house data servers, operates on a 24-hour, 7-days a week basis, has redundant systems for electricity, air conditioning, fire suppression and security, and provides bandwidth, co-location, data back-up, complex web hosting and aggregation for application service providers. See Section 237-29.65, HRS.

Data Source: Verizon Superpages Listing for Internet Cafes, Paradise Yellow Pages for Internet Cafes and Hawaii Income Patterns, 2002 Business, "Entertainment and Hospitality".

Methodology:

Assuming that four of the eleven cafes listed qualify for GET exemption and that the annual gross revenues are approximately the same for each, the GET base is:	$6,347,228
Adjusted to 2005:	$9,280,416
Tax Expenditure @ 4% GET:	$371,217

Exemption: ***40. Gross proceeds arising from shipbuilding and ship repairs rendered to surface vessels federally owned or engaged in interstate or international trade.*** See Section 237-28.1, HRS.

Data Source: Hawaii Income Patterns, Business 2002, and DoTAX Data.

Methodology:

Gross receipts of shipbuilding and repair businesses:	$25,511,703
Assuming that 60% involves exempt activities, GET base is:	$15,307,022
Adjusted to 2005:	$22,380,721
Tax Expenditure @ 4% GET:	$895,229

Exemption: ***41. Amount received by an independent sugarcane producer from the manufacturer to whom the producer sells the sugarcane.*** See Section 237-24(14).

Data Source: U.S. Department of Agriculture, Sugarcane Sales in 2004.

Methodology:

Gross receipts totaled:	$64,400,000
Tax Expenditure @ 0.5% GET:	$322,000

Exemption: ***42. A deduction is allowed a taxpayer who leases real property from a leassor under a written lease, and subsequently subleases the same property to a sub-leassee under a written lease.*** See Section 237-16.5.

Data Source: Hawaii Income Patterns, Business 2002.

Methodology:

Gross receipts from rentals other than hotels in 2002:	$4,144,000,000
Assuming that sublease rentals were 25% of rentals, the total amount of subleases would be:	$1,036,000,000
Assuming that the sublease rentals increased by 10% from 2002 to 2005 (the same as the CPI for Honolulu) the gross proceeds of subleases would be:	$1,127,996,800

Tax Expenditure @ 3.5% GET:	$39,479,888

Exemption: ***43. An amount up to, but not to exceed, $2,000 a year of gross income received by any blind, deal or totally disabled person engaging or continuing in any business, trade, activity, occupation, or calling with the State of Hawaii.*** The remainder of gross receipts is taxed at .05%. See Section 237-24(13), HRS.

Data Source: Department of Taxation, Sources of Income on Disabled Residents Returns, 2003.

Methodology:

Receipts from rental and business net income of blind, deaf and disabled taxpayers:	$25,000,000
Assuming that gross income is three times greater than reported net income, the amount is:	$75,000,000
Assuming that there are approximately 3,500 blind, deaf or totally disabled persons exempt from paying GET on the first $2,000, the amount is:	$68,000,000
Assuming that gross income of blind, deaf and disabled taxpayers will increase at the same rate that taxable gross receipts were forecast to expand for the economy from 2003 to 2005, the amount would be:	$109,659,091
Tax Expenditure @ 3.5% GET:	$4,178,068

Exemption: ***44. Retail sales of alcohol fuel, which includes gasohol that is at least 10% alcohol by volume.*** See Section 237-27.1, HRS.

Data Source: DoTAX Fuel Tax Collections for CY 2004, "Other Fuel".

Methodology:

Annual volume of gasoline sold in Hawaii:	452,000,000
Assuming that the average price per gallon net of exempt taxes is $2.50, the GET base is:	$282,500,000
Tax Expenditure @ 4% GET:	$11,300,000

Exemption: ***45. Amounts received from foreign diplomats and consular officials who are holding cards issued by the U.S. Department of State granting them an exemption from state taxes.*** The tax exemption is not applicable to taxes imposed on telecommunications services, other utilities or gasoline purchases. See Section 237-24.3(11), HRS.

Data Source: DoTAX CY 2005 General Excise Tax Collections.

Methodology:

For 22 consulates with three diplomats each,

Tax Expenditure @ 4% GET: $231,000

Exemption: ***46. Proceeds from a casual sale are not taxed.*** A casual sale means as occasional, isolated, irregular, infrequent, or incidental sale or transaction involving tangible personal property that is not ordinarily sole in the usual course of a trade or business. See Section 237-2, HRS.

Data Source: None

Methodology: Estimated value of annual casual sales in Hawaii: $50,000,000

Tax Expenditure @ 4% GET: $2,000,000

Exemption: ***47. Gross proceeds received by a contractor for a qualified business within an enterprise zone.*** The Department of Business, Economic Development and Tourism shall certify annually to the Department of Taxation that any qualified business is exempt from the GET. See Section 209E-11, HRS.

Data Source: Thomas Smyth, Senior Policy Advisor for DBEDT.

Methodology: Sales by businesses certified since 1999 for GET exemption under the Enterprise Zone provision:

	Gross Receipts:
HI Homestead Technology, South King St., Oahu	$251,571
Kapaa Banana Co., Inc., 4-1191 Kuhio Hwy., Kapaa	$136,563
Kauai Growers Exchange, Inc., P.O. Box 1365, Lihue	$2,911,429
Mid Pacific Communications, 4-1191 Kuhio Hwy, Kap	$329,429
Total:	$3,628,992
Assume annual qualified sales are 25% of total	$907,248

Tax Expenditure @ 4% GET: $36,290

Exemption: ***48. Certain amounts received by a domestic or foreign stock exchange, and certain amounts received by exchange members by reasons of executing a securities or product transaction on an exchange.*** The exemption does not apply to commission or other income received by brokers or dealers from their customers. See Section 237-24.5, HRS.

Data Base: None available

Methodology: There is currently no stock exchange in Hawaii.

Tax Expenditure @ 4% GET: $0

Exemption: ***49. Amounts received under property and casualty insurance policies for damage or loss of inventory used in the conduct of a trade or business located within the State or a portion thereof that is declared a natural disaster area by the governor.*** See Section 237-24.7(6), HRS.

Data Source: Department of Commerce and Consumer Affairs, 2004 Report to the Insurance Commissioner on Natural Disaster, Summary, Page 7.

Methodology:	Amount reported under federal flood:	$321,403
	Tax Expenditure @ 4% GET:	$12,856

Exemption: ***50. Amounts received by a telecommunications common carrier from a person operating a call center, as well as the gross income received by a call center for customer services and support.*** See Section 237-29.8, HRS.

Data Source: Hawaii Income Patterns, Business 2002, and DoTAX Data.

Methodology:	Gross receipts of "Phone Answering/Telemarketing" businesses:	$2,795,415
	Assuming that 30% is paid to the common carrier, exempt GET base is:	$838,625
	Adjusted to 2005:	$1,226,171
	Tax Expenditure @ 4% GET:	$49,047

Exemption: ***51. Labor organizations exempt from federal income tax under Section 501(c)(5) are not taxable on rents for real property leased to another labor organization, or to a trust providing benefits to members or their families.*** See Section 237-24.3(10),

Data Source: IRS Registered Non-Profit Organizations.

Methodology:	"Employment" related non-profit organizations, 2004 gross receipts:	$17,366,946
	Assuming that 1% of gross receipts are from property leased to exempt organizations, GET base is:	$173,669
	Tax Expenditure @ 4% GET:	$6,947

Exemption: ***52. Gross proceeds received by a contractor for construction within an enterprise zone performed for a qualified business within an enterprise zone.*** See Section 209E-11.

Data source: Thomas Smyth, Senior Policy Advisor for DEBDT

Methodology:	Assuming that contracting exemption is equal to 20% of enterprise zone amount, GET base is:	$725,798
	Tax Expenditure @ 4% GET:	$29,032

Exemption: ***53. Amounts received as grants awarded by the High Technology Development Corporation to supplement federal small business innovation research phase1 awards or contracts.*** See Section 237-24.7(10), HRS and Section 206M-15, HRS.

Data Source: Pacific Business News, February 5, 2005, and High Technology Development Corp.

Methodology:	Value of total grants awarded in 2005:	$136,155
	Tax Expenditure @ 4% GET:	$5,446

Exemption: ***54. Proceeds of an annual senior citizens' fair held by a county commission on aging or appropriate county agencies.*** See Section 349-10, HRS.

Data Source: None Available.

Methodology:	Value of estimated sales:	$100,000
	Tax Expenditure @ 4% GET:	$4,000

Exemption: ***55. Amounts received from the membership of an unincorporated merchants' association as dues for advertising or promotion, as long as they are for the benefit of the membership as a whole and not for an individual member or subgroup of members.*** See Section 237-24.3(9),HRS.

Data Source: Enterprise Hawaii, 2003 Marketing Group.

Methodology:	Assuming that 10 associations are unincorporated with gross dues receipts of $1,000:	$10,000
	And, assuming that 90% of dues are used to promote the association, GET base is:	$9,000
	Tax Expenditure @ 4% GET:	$360

TAX EXPENDITURES FOR USE TAX EXEMPTIONS AND DEDUCTIONS

Exemption: ***56. The use of imported contracting by a building industry contractor, who has a general excise tax license, is engaged in business as a contractor and otherwise would be subject to the use tax on the imported contracting*** . See Section 238.1, HRS.

Data Source:	DoTAX CY 2005 General Excise Tax Collection, GET Base for Contracting.	
Methodology:	The the contracting GET base for 2005 is:	$5,618,306
	Assuming that 3% of the contracting GET base is for imported contracting:	$168,549
	Tax Expenditure @ 4% Use Tax:	$6,742

Exemption: ***57. Materials, parts or tools imported or purchased by a person with a general excise tax 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.*** See Section 238.1, HRS.

Data Source:	Hawaii Income Patterns, Business 2002, and DoTAX Data.	
Methodology:	Gross receipts of aviation service businesses:	$132,482,832
	Assuming that 90% of the gross receipts involves exempted activities:	$119,234,549
	And, assuming that imported materials equal 30% of exempt activities:	$35,770,365
	Adjusted to 2005:	$52,300,609
	Tax Expenditure @ 4% Use Tax:	$2,092,024

Exemption: ***58. Property which is to be affixed to, or which is to become a physical, integral part of a scientific facility, or which is to be entirely consumed during the performance of a service required by a scientific contract with the U.S. Government.*** See Section 238-3(j), HRS.

Data Source:	U.S. Economic Census for Hawaii, 2002, Page 16	
Methodology:	Gross receipts from 21 "scientific, research and development service" entities exempt from federal tax:	$72,990,000
	Assuming that 50% was exempt scientific contracts, GET base is:	$36,495,000
	Assuming that 30% of the exempt contracts represents imported exempt property purchases, Use Tax base is:	$10,948,500
	Adjusted to 2005:	$16,008,034
	Tax Expenditure @ 4% Use Tax:	$640,321

Exemption: ***59. Amounts by individuals who bought drugs or prosthetic devices from a hospital, infirmary, medical clinic, health care facility, pharmacy or practitioner licensed to administer the drug to an individual.*** See Section 238-1, HRS.

Data Source: See item 14 above.

Methodology:	Gross receipts for drugs and prosthetic devices in 2005:	$546,102,273
	Assuming that 5% is purchased by individuals outside Hawaii, the use tax base is:	$27,305,114
	Tax Expenditure @ 4% Use Tax:	$1,092,205

Exemption: ***60. Certain imported property used by licensed producers is exempt if it is going to be resold at wholesale.*** See Section 238-4, HRS.

Data Source: DBEDT Hawaii input-output table for 2002 and DOTAX data

Methodology:	Imports by producers in 2002:	$1,941,600,000
	Assuming that 50% qualifies as exempt, the use tax base is:	$970,800,000
	Adjusted to 2005:	$1,419,427,273
	Tax Expenditure @ .5% Use Tax:	$7,097,136

Exemption: ***61. The use of services or contracting imported for resale to a foreign customer who will resell, consume or use the services or contracting outside of the State.*** See Section 238-1, HRS.

Data Source: Calendar Year 2005 General Excise Tax Collections Summary.

Methodology:	Total reported "Services (intermediary)" GET base:	$314,344,905
	Assuming that 3% qualifies as exempt, the use tax base is:	$9,430,347
	Tax Expenditure @ .5% Use Tax:	$47,152

Exemption: ***62. An air pollution control facility , and any tangible personal property furnished in conjunction with the construction, reconstruction, erection, operation and use.*** See Section 238-3(k), HRS.

Data Source: See item 38 above.

Methodology: Assume GET exempt costs are equal to annual cost of pollution abatement.

Pollution control costs for AES is:	$73,584,000
Pollution contrail costs for H-Power is:	$23,301,600
Sub-total:	$96,885,600
Assume exempt cost of imports is 30% of total:	$29,065,680
Tax Expenditure @ 4% Use Tax:	$1,162,627

Exemptions: ***63. Liquor or tobacco products imported and then sold in interstate commerce for sale out of state, or sold to a common carrier for consumption on a vessel or airplane.*** See Section 238-3(g)m HRS.

Data Source: Hawaii Income Patterns, Business, 2002, and DOTAX data.

Methodology: Exempt liquor sales:	$4,348,664
Wholesale tobacco sales:	$121,075,000
Assuming that exempt tobacco sales are the same ratio as exempt grocery to wholesales grocery sales, estimated exempt tobacco sales are:	$4,867,879
Assuming that half of exempt sales are for common carrier sales, GET base is:	$4,608,271
Adjusted to 2005:	$6,737,851
Tax Expenditure @ 0.5% GET:	$33,689

Exemption: ***64. A sale of tangible personal property by someone not in the business of selling the property.*** See Section 238-1, HRS.

Data Source: None Available.

Methodology: Estimated value of casual sales in Hawaii:	$50,000,000
Assume 50% is imported:	$25,000,000
Tax Expenditure @ 4% GET:	$1,000,000

Exemption: ***65. The use of property, services or contracting by foreign diplomats and consular officials who hold cards issued by the U.S. Department of State granting them an exemption from state taxes.*** See Section 238-1, HRS.

Source: See item 45 above

Methodology: See item 45 above. Use Tax = 5% of GET

Tax Expenditure @ 4% Use Tax:	$11,550

Exemption:	***66. Purchase by a qualified business in an enterprise zone.*** See Section 209E-11, HRS.	
Data Source:	Thomas Smyth, Senior Policy Advisor for DBEDT.	
Methodology	Gross receipts of exempt businesses (see item 47):	$3,628,992
	Assuming that 30% of qualified business gross receipts represent exempt imports (see Exemption 48), the Use Tax base is:	$1,088,698
	Tax Expenditure @ 4% Use Tax:	$43,548

APPENDIX I

SUMMARY OF RECOMMENDATIONS MADE BY TAX REVIEW COMMISSIONS

Tax Research and Planning Office
Department of Taxation
State of Hawaii

SUMMARY OF RECOMMENDATIONS MADE BY TAX REVIEW COMMISSIONS

Recommendation	*Commissions* 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	*Implementation and Comments*
Overall Tax Recommendations						
1. Maintain General Fund composite progressivity	X					Various targeted low-income tax credits have, over time, attempted to mitigate the regressivity of the general excise tax. However, the issue requires further analysis.
2. Eliminate or sunset tax exemptions and credits	X					Some tax credits have been enacted with sunset dates and have sunsetted or been repealed. In some cases, the sunset or repealed credit was replaced with an alternative. These credits have included the Individual Development Account Contribution Tax Credit (§235-5.6, HRS; allowed to sunset December 31, 2004), the Energy Conservation Credit (§235-12, HRS; allowed to sunset June 30, 2003), which was partially replaced by the Renewable Energy Technologies Credit (Act 70, SLH 2003), and the Residential Construction and Remodeling Tax Credit (§235-110.45, HRS; allowed to sunset June 30, 2003). Sunset dates for exemptions are less common. One example is the exemption from the general excise tax (GET) of gross income from the sale of alcohol fuels (§237-27.1, HRS), which is to sunset on December 31, 2006. For additional information on the history of tax credits, see the *Tax Credits Claimed by Hawaii Residents* report published annually by the Department of Taxation's Tax Research and Planning Office, which is available on the Department's website at www.hawaii.gov/tax.
3. Minimize all tax exemptions and credits		X	X	X	X	The number of exemptions and credits, in general, have expanded.
4. Establish General Fund Stabilization Fund	X	X	X	X		**Act 304, SLH 1999:** Established the Emergency and Budget Reserve Fund.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
5. Maximize tax "exporting"	X					Hawaii taxes, including the income tax, GET, transient accommodations tax (TAT), and conveyance tax, are all exported to some extent. For more information, see Appendix D, *Study on the Progressive or Regressive Nature of Hawaii's Taxes* .
6. Provide direct expenditure assistance, not narrowly targeted tax preferences	X					Narrowly targeted tax preferences have increased. One consideration may be that such preferences are not expenditures subject to the general fund expenditure ceiling established under Article VII, Section 9, of the Hawaii State Constitution.
7. Lower the overall level of state taxes		X	X		X	Tax rates have generally not been reduced, with the exception of the income tax rates for individuals and also for trusts and estates. **Act 157, SLH 1998:** Lowered individual income tax rates as well as the tax rates for trusts and estates, increased the number of tax brackets from 8 to 9, and expanded the tax brackets. **Act 110, SLH 2006:** Increased the standard deduction to 40% of the current federal standard deduction and expanded the tax brackets by 20%.
General Excise and Use Tax Recommendations						
1. Maintain the GET structure	X					Structure has been maintained except for marginal changes.
2. Do not use exemptions to achieve vertical equity		X				Vertical equity has not been a major consideration in enacting legislation affecting the GET.
3. Limit exemptions to those needed for horizontal equity		X		X		Horizontal equity has not been a major consideration in enacting legislation affecting the GET.
4. Eliminate or limit exemptions intended to effect social policy such as the following:						

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
(a) $2,000 exemption for blind, deaf, or totally disabled persons			X			Not adopted. The exemption was expanded by Act 110, SLH 2002, to also include general, limited, and limited liability partnerships all of whose partners are blind, deaf, or totally disabled.
(b) Exemption for Hansen's disease patients			X			Not adopted.
(c) Limiting the 0.5% rate for blind, deaf, or totally disabled persons to the first $30,000 of gross receipts.		X	X			Not adopted.
5. Do not exempt health care services, food, apparel, or shelter from the GET and instead pursue those goals, if desirable, through low-income income tax credits or the appropriation and expenditure process					X	A recommendation of the current Tax Review Commission.
6. Eliminate pyramiding on multiple lease transactions		X				**Act 353, SLH 1997:** A sublease deduction is allowed sublessors of real property pursuant to a written lease to effect a reduction in (not a total elimination of) the pyramiding effect of the GET on the amount of lease rent paid to the master lessor on the property, or portion of the property, that is being subleased.
7. Eliminate pyramiding on inter-company transactions		X		X		All of the following Acts were enacted after the publication of the 1988-1990 Tax Review Commission report and prior to the publication of the 2001-2003 Tax Review Commission report. While the legislation reduced the pyramiding of the GET on business-to-business transactions, it did not eliminate all pyramiding at the 4% rate, such that the 2001-2003 Tax Review Commission recommended codifying the principle that the 4% rate on consumption be applied only once; this recommendation was not adopted.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
						Act 71, SLH 1999: Phased-in pyramiding relief to extend wholesale treatment to certain transactions in which the goods, services, amusements, etc., that are identifiable elements of what is resold (i.e., it relaxed the strict no-consumption rule). Qualifying transactions include certain service-to-service, service-to-goods, service-to-contracting, service-to-transient accommodations, goods-to-service, and goods-to-transient accommodations transactions. **Act 173, SLH 1999:** Allows sales of pre-packaged condiments to eating and drinking retailers to be taxed as a wholesale rather than a retail transaction. **Act 27, SLH 2000:** Taxes sales of prepaid calling cards as sales of tangible personal property, such that sales to licensed sellers for resale are taxed as wholesale transactions. **Act 198, SLH 2000:** Expanded Act 71, SLH 1999, to afford phased-in wholesale treatment to amusement-to-service, amusement-to-goods, and amusement-to-transient accommodations transactions. This Act also afforded phased-in wholesale treatment under the public service company (PSC) tax to certain transportation services provided to contractors (see also Act 9, 3rd SpS 2001, below) and to certain sales of telecommunications services by a public utility to an interstate telecommunications provider for resale. **Act 271, SLH 2000:** Extends wholesale tax treatment to sales by a printer to a publisher of magazines or other printed material containing advertisements when the publisher is contracted by the advertisers to distribute a minimum number of magazines, etc., regardless of whether there is a charge to the persons who actually receive the magazines, etc. (e.g., free tourist magazines).

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
						Act 9, 3rd SpS 2001: Subjects certain transportation service providers to the GET instead of the PSC tax. Specifies that transportation service providers are service businesses, thus allowing transportation service providers to qualify for the phased-in wholesale rate on transactions other than transportation service-to-contracting transactions.
8. Eliminate or limit gross receipts splitting			X			Not adopted.
9. Subject imported services to the use tax		X	X			**Act 70, SLH 1999:** Subjects imported services to the use tax.
						Act 198, SLH 2000: Subjects imported contracting to the use tax.
10. Exempt residential rental income		X				Not adopted.
11. Eliminate blanket exemptions in favor of specific exemptions		X				**Act 286, SLH 1991:** Subjects insurance companies to the GET on gross income from the rental of real property and to the TAT on gross rental income from the furnishing of transient accommodations.
						Act 106, SLH 1992: Subjects financial institutions to the GET on non-financial services income such as gross income from the rental of real property, parking lot fees, safe deposit fees, tax preparation, payroll services, data processing fees, and seminar fees.
						Act 116, SLH 1994: Subjects employee benefit plans to the GET on gross income from the rental of real property.
12. Eliminate or limit specific exemptions or special rates for:						

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
(a) Scientific contracts with the United States			X			Not adopted.
(b) Petroleum products refined in Hawaii			X			Not adopted.
(c) Loading, transporting, and unloading agricultural products			X			Not adopted.
(d) Sugarcane producers			X			Not adopted.
(e) Reimbursements to federal cost-plus contractors and sales of tangible personal property to the federal government			X			Not adopted.
(f) Certain real property rental income received by labor organizations			X			Not adopted.
(g) Sales of locally produced agricultural, meat, or fish products to common carriers in interstate or foreign commerce for consumption out-of-State.			X			Not adopted. Act 135, SLH 2003, amended this provision to remove the limitation to locally produced products. The Hawaii Supreme Court ruled this provision unconstitutional in 1994 (*In Re the Tax Appeal of Hawaiian Flour Mills, Inc.* , 76 Haw. 1). The Department issued Tax Information Release No. 93-4 on November 10, 1993, after the Tax Appeal Court determined that the provision was unconstitutional, such that an exemption under this provision could not be claimed although an exemption for fresh food products shipped out of State continued to apply.
(h) Air pollution control facilities			X			Not adopted.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
(i) Solid waste processors (waste-to-energy)			X			Not adopted.
13. Eliminate or minimize all GET exemptions			X			Not adopted. Also see Overall Tax Recommendation No. 2.
14. Automatically sunset the following "new industry" development exemptions:			X			The 1995-1997 Tax Review Commission specifically mentioned the 3 tax exemptions listed to the left. Some recent exemptions have automatic sunset dates. These include: (1) exemption for call centers (Act 195, SLH 2000), which will automatically sunset on June 30, 2010; (2) exemption for public Internet data centers (Act 221, SLH 2001), which sunset on December 31, 2005; and (3) sales of net operating losses by a qualified high technology business (Act 221, SLH 2001), which sunset on December 31, 2005.
(a) Motion picture industry			X			This exemption sunset on July 1, 1976. Act 135, SLH 2003, deleted the obsolete provision.
(b) Retail sales of alcohol fuel			X			**Act 289, SLH 2000:** Amended §237-27.1, HRS, to repeal this exemption on December 31, 2006. (NOTE: The original legislation, Act 274, SLH 1980, would have sunset this exemption on July 1, 1985. Act 179, SLH 1981, extended the sunset date to June 30, 1992. Act 42, SLH 1988 repealed the sunset date.)
(c) Stock exchange			X			Not adopted. A stock exchange has not been established to date.
15. Clarify exemptions for nonprofit organizations for better compliance:						Nonprofit organizations are not automatically tax-exempt and must apply for tax-exempt status. Not all nonprofit organizations, including a number of categories that qualify for income tax exemption, are eligible for exemption from the GET. If granted an exemption, not all of an organization's income may be exempt; only income that qualifies under §237-23(b), HRS, is exempt.
(a) Require GET licenses for nonprofit organizations			X	X	X	Not adopted.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
(b) Require nonprofit organizations to file GET returns if they have more than $30,000 of gross receipts			X	X		Not adopted.
16. Extend tax-exemption to skilled nursing facilities and for-profit hospitals, infirmaries, and sanitaria				X		Not adopted.
17. Eliminate the exemption for nonprofit organizations OR establish a maximum exemption amount					X	A recommendation of the current Tax Review Commission. They note, however, that the elimination of this exemption (§237-23, HRS) would not affect the exemption for donations or gifts pursuant to §237-24(4), HRS.
18. Exempt inter-affiliate business transactions from the GET	X					**Act 175, SLH 1988:** Exempted certain transactions between related entities, including common paymasters. Subsequently amended by Act 178, SLH 1997, Act 165, SLH 1999, and Act 221, SLH 2001. **Act 214, SLH 1998:** Exempts certain employee cost reimbursements received by a management company from related entities providing interstate or foreign common carrier telecommunications services.
19. Clarify the intermediary services provision and expand it to include a wholesale services concept			X			Administrative rules clarifying the application of the services rendered for or to an intermediary wholesale rate provision were adopted, effective January 22, 1999. **Act 71, SLH 1999:** Phased-in pyramiding relief to extend wholesale treatment to certain transactions in which the goods, services, amusements, etc., are identifiable elements of what is resold (i.e., it relaxed the strict no-consumption rule). Qualifying transactions include certain service-to-service, service-to-goods, service-to-contracting, service-to-transient accommodations, goods-to-service, and goods-to-transient accommodations transactions.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
						Act 198, SLH 2000: Expanded Act 71, SLH 1999, to afford phased-in wholesale treatment to amusement-to-service, amusement-to-goods, and amusement-to-transient accommodations transactions. This Act also afforded phased-in wholesale treatment under the PSC tax to certain transportation services provided to contractors (see also Act 9, 3rd SpS 2001, which subjects certain transportation services to the GET instead of the PSC tax) and to certain sales of telecommunications services by a public utility to an interstate telecommunications provider for resale.
20. Price paid by the purchaser for a good or service should be the measure of gross receipts	X					**Act 340, SLH 1986:** Enacted a division of income provision (i.e., income splitting) for tourism-related services (§237-18(f), HRS). The definition of "tourism-related services" was later expanded by Act 287, SLH 1991.
21. Exempt from the GET goods and services shipped out of Hawaii	X	X	X			**Act 239, SLH 1987:** Exempts sales of tangible personal property shipped out of Hawaii.
						Act 70, SLH 1999: Exempts exported services and contracting.
22. Subject public service companies to the GET and eliminate the PSC tax	X					**Act 9, 3rd SpS 2001:** Subjects certain transportation service providers to the GET instead of the PSC tax. Specifies that transportation service providers are service businesses.
23. Consider a sales tax or a value added tax to replace the GET	X					Not adopted. For more information, see Appendix C, *Hawaii's General Excise Tax: Should the Base Be Changed?*
24. Rewrite the GET law to achieve clarity and transparency				X	X	Not adopted.
25. Remain involved in discussions on the Streamlined Sales Tax Project, but do not make a formal commitment at this time.					X	A recommendation of the current Tax Review Commission.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
26. The 3-year statute of limitations on assessment of the GET should start from the filing of the last periodic GET return (Form G-45)					X	A recommendation of the current Tax Review Commission.
Income Tax Recommendations						
1. Maintain existing corporate tax burden		X				Not adopted.
2. Eliminate the corporate income tax and study eliminating the individual income tax.					X	A recommendation of the current Tax Review Commission.
3. Provide income tax credits to offset the regressive effects of the GET on food and drugs		X	X			At the time the report of the 1988-1990 Tax Review Commission was issued, sales of food purchased with USDA Food Coupons (i.e., food stamps) and USDA WIC Food Vouchers were exempt from the GET, as were sales of prescription drugs and prosthetic devices and most medical services provided by tax-exempt organizations. A food tax credit had previously been enacted (Act 239, SLH 1987). For additional information about tax credits, see the *Tax Credits Claimed by Hawaii Residents* report published annually by the Department of Taxation's Tax Research and Planning Office, which is available on the Department's website at www.hawaii.gov/tax. **Act 321, SLH 1989:** Enacted a new medical services excise tax credit. The 4% medical services excise tax credit part of this credit was repealed by Act 23, SpS 1995, and the remaining nursing facilities excise credit portion sunset on June 30, 1997.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
						Act 187, SLH 1990: Repealed the existing excise tax credit and combined it with an expanded version of the existing food credit to create the food/excise tax credit. The excise tax portion of the credit was repealed by Act 134, SLH 1995. The food credit was repealed by Act 157, SLH 1998. **Act 157, SLH 1998:** Enacted the low-income refundable income tax credit.
4. Adjust the general excise tax credit for inflation		X	X			Not adopted. Act 187, SLH 1990, repealed the existing excise tax credit and combined it with an expanded version of the existing food credit to create the food/excise tax credit. The excise tax portion of the credit was repealed by Act 134, SLH 1995. **Act 157, SLH 1998:** Enacted the low-income refundable income tax credit.
5. Add back capital gains, dividends, interest, retirement contributions, unemployment and workers compensation payments, public assistance benefits and individual housing account payments to the adjusted gross income base used to determine eligibility for low-income tax credits.		X				Not adopted.
6. Expand the individual income tax brackets	X	X	X	X		**Act 239, SLH 1987:** Reduced the top individual income tax rate from 11% to 10%, reduced the number of tax brackets from 12 to 8, and phased in an expansion of the new tax brackets through 1988. **Act 321, SLH 1989:** Reduced the lowest individual income tax rate from 2.25% to 2% and expanded the tax brackets beginning in 1989.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
						Act 157, SLH 1998: Increased the number of individual income tax brackets from 8 to 9; phased in over a 4-year period beginning in 1999 a reduction of the individual income tax rates such that the rates in 2002 were 1.40% to 8.25%; and expanded the tax brackets. **Act 110, SLH 2006:** Expanded the tax brackets by approximately 20% beginning in 2007.
7. Increase the standard deduction	X	X	X	X		**Act 321, SLH 1989:** Increased the standard deduction to the following: single - $1,500; married filing joint return and qualifying widow(er) with dependent child - $4,000; married filing a separate return - $950; and head of household - $1,650. **Act 110, SLH 2006:** Increased the standard deduction to the following: single and married filing a separate return - $2,000; married filing joint return and qualifying widow(er) with dependent child - $4,000; and head of household - $2,920.
8. Provide double the standard deduction to taxpayers over age 65	X					Not adopted.
9. Reduce top individual income tax rates		X				**Act 239, SLH 1987:** Reduced the top individual income tax rate from 11% to 10%; reduced the number of tax brackets from 12 to 8; and phased in an expansion of the tax brackets through 1988. **Act 157, SLH 1998:** Increased the number of individual income tax brackets from 8 to 9; phased in over a 4-year period, beginning in 1999, a reduction of the individual income tax rates such that the rates in 2002 were 1.40% to 8.25%; and expanded the tax brackets.
10. Increase the personal exemption			X	X		Not adopted. The personal exemption was last increased by Act 78, SLH 1985.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
11. Index the individual income tax standard deduction, personal exemption and tax brackets for inflation					X	A recommendation of the current Tax Review Commission.
12. Change the maximum net capital gains tax rate			X			Not adopted.
13. Exempt additional types of pension income			X			Not adopted.
14. Phase in taxation of all pension income			X	X		Not adopted.
15. Conform to the federal tax treatment of retirement income, excluding an annual base amount (e.g., $50,000)					X	A recommendation of the current Tax Review Commission.
16. Revise the taxation of nonresidents to prorate the standard deduction and personal exemption			X			**Act 281, SLH 1997:** This Act did not directly prorate the standard deduction and personal exemption amounts claimed by nonresident individual taxpayers. However, it changed the method by which the tax liability of nonresidents was computed to one in which the taxpayers' worldwide income was used to compute the nonresident taxpayers' total tax liability and the total tax liability prorated (note that the standard deduction and the personal exemption amounts were therefore deducted from worldwide income in the same manner as Hawaii residents). This was the California model mentioned in the 1995-1997 Tax Review Commission's report. This proved hugely unpopular, with letters coming in from many quarters including from U.S. Senators and Representatives on behalf of their constituents in the military. **Act 253, SLH 1999:** Repealed Act 281, SLH 1997, and provided for the apportionment of the standard deduction and personal exemption.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
17. Adopt withholding rules for all nonresident taxpayers involved in pass-through entities such as partnerships, S-corporations, and limited liability companies					X	A recommendation of the current Tax Review Commission.
18. Eliminate military exception for non-recognition of gain from principal residence			X			**Act 113, SLH 1998:** Conformed Hawaii law to §121, Internal Revenue Code (IRC), to exclude the gain on the sale of a residence. This repealed the former deferral of gain provision that included the exception for military personnel.
19. Limit like-kind exchange tax deferrals to situations where the replacement property is in Hawaii		X	X			Not adopted.
20. Require an exchange facilitator or intermediary of a like-kind exchange to withhold and remit the tax on any shortfall of the amount exchanged at the same rate as sales of real property by nonresidents					X	A recommendation of the current Tax Review Commission.
21. Limit involuntary conversion tax deferrals to situations where the replacement property is in Hawaii			X			Not adopted.
22. Eliminate National Guard and Reserve exclusion, political contribution deduction, individual housing account deduction, and child passenger safety restraint credit				X		Not adopted. The adjustment to income deduction for those serving in the Hawaii National Guard or in the reserves was increased by Act 197, SLH 2004.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
23. Conform to federal requirements for an automatic extension of time to file a tax returns			X			Not adopted. The 1995-1997 Commission recommended in its discussion "that the 90 percent requirement to receive an automatic extension be eliminated." Section 18-235-98, HAR, was amended effective June 4, 2005, to clarify that the 90% requirement applied to the second two-month extension, which is not automatic, and did not apply to the initial four-month extension, which is automatic. In as much as the Internal Revenue Service currently allows an automatic six-month extension for individual taxpayers, Hawaii law still does not conform to federal extension provisions.
24. Conform to federal filing deadlines			X			Not adopted.
25. Simplify the filing of income tax returns	X					Form N-13EZ was introduced for the 2003 tax year. A short short-form that was roughly equivalent to the federal Form 1040EZ, it was for use by certain Hawaii residents with no dependents and was available for tax years 2003 and 2004. Form N-13EZ was discontinued for the 1995 tax year due to the introduction of the Form N-11 for individuals who were Hawaii residents for the entire year and who filed a federal income tax return using the same filing status as the Hawaii return.
26. Replace the medical services excise tax credit with one included under itemized medical deduction		X				Not adopted. This credit was repealed by Act 134, SLH 1995.
27. Increase the conformity of the State income tax with the federal income tax	X	X		X		Not adopted.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
28. Narrow the gap between taxable income and actual economic income by including portions of pension income and part of social security benefits of high-income taxpayers	X					Not adopted.
29. Conform to federal treatment of capital gains		X				**Act 102, SLH 1988:** Added §235-55.6(f), HRS, implementing a maximum tax rate of 7.25% on net capital gain income.
30. Adopt a Hawaii Alternative Minimum Tax	X					Not adopted.
31. Do not allow special "check-offs" similar to the Hawaii Election Campaign Fund	X					Additional check-offs have been added. Unlike the Hawaii Election Campaign Fund check-off, however, the new check-offs reduce the individual taxpayer's overpayment of tax, thereby reducing the refund the taxpayer would have been entitled to. The new check-offs are: (1) $2 check-off for the Hawaii School-Level Minor Repairs and Maintenance Special Fund, Act 311, SLH 2001; (2) $2 check-off for the State Library Special Fund, Act 193, SLH 2003; and (3) $5 check-off for the Hawaii Children's Trust Fund, Domestic Violence Prevention Special Fund, and Spouse and Child Abuse Special Account, Act 228, SLH 2004.
32. Adjust corporate income tax brackets to increase progressivity	X					**Act 239, SLH 1987:** Expanded the number of corporate tax brackets from 2 brackets (5.85% and 6.435%) to 3 brackets (4.4%, 5.4%, and 6.4%), and added an alternative tax rate for capital gain income (3.08% prior to April 1, 1987, and 4% after March 31, 1987). **Act 10, SLH 1988:** Amended the corporate tax treatment of capital gain income.
33. Partially "de-couple" from the federal accelerated depreciation rules (ACRS) such that ACRS applies to personal property but not to real property	X					Not adopted.

Recommendation	*Commissions* 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	*Implementation and Comments*
34. Subject sales of real property by nonresident sellers to withholding						**Act 213, SLH 1990:** Requires purchasers of real property to withhold 9% of the amount realized from nonresident sellers. **Act 279, SLH 1991:** Reduced the amount to be withheld from 9% to the current 5% rate.
35. Increase the withholding rate on sales of real property by nonresident sellers and impose penalties on withholding agents for noncompliance					X	A recommendation of the current Tax Review Commission.
36. Overhaul the business incentives tax credit process						
(a) Overhaul and update the capital goods excise tax credit			X			Not adopted.
(b) Conduct a cost-benefit study prior to enacting or revising a tax credit program				X		Not adopted.
(c) Require periodic evaluations of all tax incentive programs				X		Not adopted.
(d) Require beneficiaries of tax incentive programs to file truth and disclosure reports separately and apart from tax returns and make all aspects of the subsidies public				X		Not adopted.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
(e) Embed tax incentives in strategic plans to leverage scarce State resources				X		Not adopted.
(f) Encourage public participation in and comment on tax incentive use to foster public accountability				X		Incorporated, to some extent, into administrative practices.
(g) Require sunset provisions to ensure that targeted benefits were realized before extending an incentive.				X		Sunset provisions have been incorporated into some tax incentives, such as the high technology business investment tax credit, although study and evaluation requirements have not been specifically legislated.
37. Gain control of the qualified high technology business investment tax credit tax incentive and curb potential abuses by changing it from a tax credit to a program of grants administered by a State agency OR:					X	A recommendation of the current Tax Review Commission. NOTE: If recommendations (a) through (c) are implemented, the Commission suggests that the Department of Taxation review the continued need for certification.
(a) Require that the reporting of data be mandatory and expand the types of required data to include sales, employment data on compensation, status, and whether the job was full-time, part-time, or seasonal						A recommendation of the current Tax Review Commission.
(b) Collect the data by NAICS code and make the data periodically available to the public, but not less than annually						A recommendation of the current Tax Review Commission.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
(c) Require a tax confidentiality waiver so that pertinent data can be released to the public						A recommendation of the current Tax Review Commission.
(d) Conduct an independent evaluation of the credit prior to enacting any extension of the credit						A recommendation of the current Tax Review Commission.
38. Allow an extension for certification for the high technology credit					X	A recommendation of the current Tax Review Commission.
39. Require beneficiaries of tax credits to file truth in disclosure reports in addition to income tax returns					X	A recommendation of the current Tax Review Commission.
Miscellaneous Recommendations						
1. Ensure that the following special funds are self-supporting						
(a) Highways	X	X				Self-supporting.
(b) Airport	X					Self-supporting.
(c) Harbors	X					Self-supporting.
(d) Parking	X					Self-supporting.
(e) Unemployment Compensation	X					Self-supporting.
(f) Disability Compensation	X					Self-supporting.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
(g) Airport	X					Self-supporting.
2. Establish a TAT without earmarking the resulting revenue	X					**Act 340, SLH 1986:** Enacted a TAT without earmarking. However, subsequent amendments earmarked revenues as follows: **Act 185, SLH 1990:** Earmarked 95% of the TAT collected for the counties. **Act 7, SpS 1993:** Earmarked a portion of the TAT collected for the Convention Center Capital and Operating Special Fund (currently the Convention Center Enterprise Special Fund). **Act 156, SLH 1998:** Earmarked a portion of the TAT collected for the Tourism Special Fund. **Act 210, SLH 2002:** Earmarked a portion of the TAT collected for the State Parks Special Fund, Hawaii Statewide Trail and Access Program (currently the Special Land and Development Fund established for the Hawaii statewide trail and access program), and TAT Trust Fund.
3. Transfer TAT taxing authority to the counties		X				Not adopted.
4. Reconcile the TAT base with the visitor lodging expenditure estimates using data published by the Department of Business, Economic Development and Tourism (DBEDT) and the Hawaii Visitors Bureau		X				This is a ongoing research problem. However, DBEDT has a new tourism research office, which should be able to resolve the problem.
5. Conform to the federal estate tax repeal provisions except the repeal of the state death tax credit				X		Not adopted.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
6. Continue the PSC tax and share receipts with the counties		X				**Act 64, SLH 2001:** Effectuated an agreement entered into by the State of Hawaii, the City & County of Honolulu, the County of Maui, the County of Kauai, the County of Hawaii, and a number of public service companies to share PSC tax revenues with counties that establish by ordinances an exemption from real property tax for public service companies.
7. Establish a mechanism to tax commercial airlines	X					Not adopted. Federal law preempts state taxes on gross receipts of airlines. See *Aloha Airlines, Inc. v. Director of Taxation* (464 U.S. 7).
8. Impose fuel and liquor taxes on an *ad valorem* basis rather than on a per unit basis	X					Not adopted.
9 Consolidate fuel tax at the state level		X				Not adopted.
10. Retain liquor and tobacco taxation at the state level		X				Has not been changed.
11. Liquor and tobacco tax collections should cover government costs resulting from the use of these products		X				Indeterminate. Settlement funds received pursuant to the 1998 Tobacco Master Settlement Agreement in part mitigate government tobacco-related costs.
12. Subject firms taxed under the insurance premiums tax to the GET for rentals and other business receipts.	X					**Act 286, SLH 1991:** Subjects to the GET and TAT the gross rental income received by taxpayers subject to the insurance premiums tax.

Recommendation	*Commissions* 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	*Implementation and Comments*
13. Subject insurance commissions to the 4% GET rate rather than the 0.15% rate, and concurrently review the insurance premiums tax rates			X			Not adopted.
14. Franchise tax:						
(a) Eliminate the in-lieu taxes on financial institutions and insurance companies and integrate the taxation of these types of taxpayers into the regular tax system after a careful evaluation of such a change	X					Not adopted.
(b) Eliminate the federal income tax deduction from the franchise tax		X				**Act 106, SLH 1992:** Eliminated the deduction for federal income taxes.
(c) Set the franchise tax rate equal to the corporate income tax rate		X				Not adopted.
(d) Conform the franchise tax law to the corporate income tax rules for the allocation and apportionment of income		X				Not adopted.
15. Allow taxpayers to make a deposit against future tax liability to stop continued accrual of interest					X	A recommendation of the current Tax Review Commission.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
16. Adopt §7430, IRC, to require the Tax Appeal Court to award court fees for actual costs where the position of the Department is found to be "not substantially justified," subject to court approval					X	A recommendation of the current Tax Review Commission.
17. Establish an Appeals Office modeled after the Appeals Office of the Internal Revenue Service					X	A recommendation of the current Tax Review Commission.
18. Repeal the part of §232-7, HRS, that states that hearings before the Board of Review are public hearings					X	A recommendation of the current Tax Review Commission.
19. Establish a state lottery	X					Not adopted.
20. Use unrestricted State grants only when necessary to equalize the fiscal capacity of the counties		X				Not adopted.
21. Counties should make better use of their existing revenue authority (property taxes, user fees and charges, and development fees and extractions)		X				Indeterminate.
22. In addition to its statistical studies of the individual and corporate income tax, the Department should conduct annual statistical analyses of GET data	X					Statistics regarding the GET are released, but an analysis is not being conducted due to insufficient resources.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
23. The Department should compile detailed information on the GET to better identify the source and nature of the gross receipts		X				This is not being done due to insufficient resources. The reporting of gross income by taxation district was required on a Schedule C pursuant to the 0.5% county surcharge tax enacted in 1990 (Act 184, SLH 1990). However, this reporting requirement was burdensome to taxpayers, and was discontinued after a few years in part because no county passed a surcharge tax. This section, §237-8.5, HRS, was repealed by Act 135, SLH 2003.
24. Give the Department resources to monitor business incentive tax credits				X		Although a number of revenue-generating positions have been added, there are insufficient positions for providing guidance on and monitoring the business incentive tax credits.
25. Give the Department resources to conduct out-of-state audits				X		Out-of-state audits are being conducted, but are limited by staffing and funding constraints.
26. Provide adequate resources to the Tax Research and Planning Office for updating or improving economic forecasting and modeling capabilities for: (a) tax incentives (exemptions and credits); (b) auditing activities; (c) nonprofit organizations; (d) conformity with federal tax laws; (e) equity concerns; (f) bracket creep; (g) administrative costs; and (h) State corporate tax revenue trend analysis				X		Resources are still insufficient. One economist position was transferred from DBEDT in 1997, but one statistician position was abolished.

Recommendation	Commissions 1983-1985	1988-1990	1995-1997	2001-2003	2005-2007	Implementation and Comments
27. Provide adequate resources to the Tax Research and Planning Office to analyze specific tax credits such as the following: (a) ethanol investment tax credit; (b) high technology business investment tax credit; and (c) energy conservation tax credit				X		Resources are still insufficient. One economist position was transferred from DBEDT in 1997, but one statistician position was abolished. Note that ethanol investment tax credit was amended by Act 140, SLH 2004, and renamed the ethanol facility tax credit, and that the energy conservation tax credit sunset on June 30, 2003, and was replaced with the renewable energy technologies income tax credit.
28. Consider the needs of the entire Department, not just revenue-producing positions, for adequate funding as a good investment for the State					X	A recommendation of the current Tax Review Commission.