

FORECASTING THE EFFECTS OF ALTERNATIVE TAX REFORM MEASURES ON WASHINGTON

by David C. Clark and Kathleen S. Morse

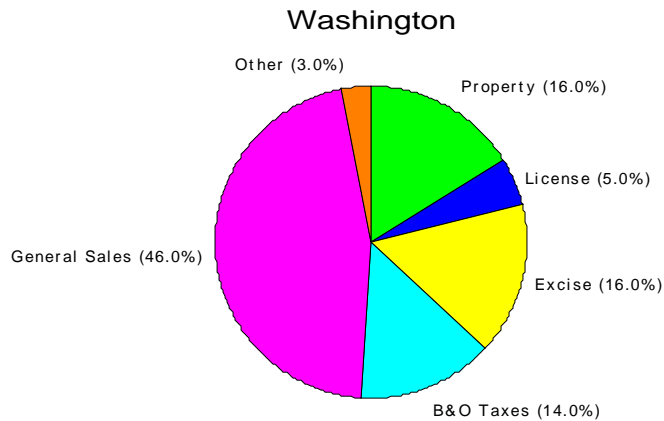
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Proposals to modify taxes... to fund new programs or support a particular industry--are presented in virtually every state legislative session, with varying degrees of success. Plans for major tax reforms, however, have not fared well. Washington residents have voted 3 times--in 1970, 1973, and 1982--on proposals to institute personal income taxes, but the referenda have been soundly defeated. Corporate profits taxes have also been proposed, but voters refused their support in 1973 and 1975.

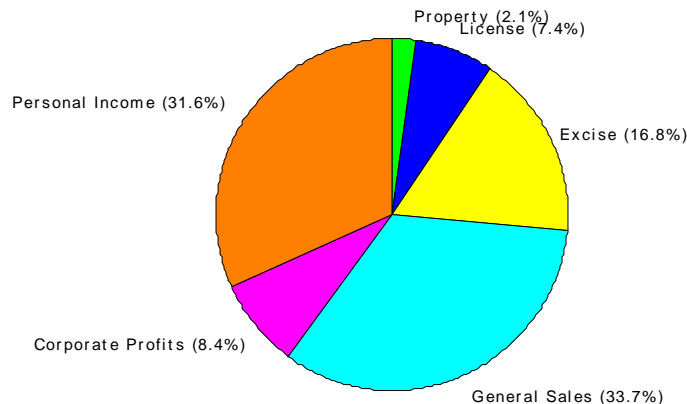
Two events have now changed the economic and political landscape. First, federal tax reform has eliminated the sales tax deduction, and the state's residents, according to a paper by Peter Nickerson of Seattle University, paid an extra \$332 million in 1987 federal income taxes. Washingtonians pay one of the highest rates of sales taxes in the nation, and the state relies on its sales tax for 46 percent of general fund revenues, compared with an average for other states of 32 percent. (If Washington's property tax funding for schools were not included in these figures, the state's reliance on the sales tax would be much higher). State personal income taxes remain deductible for federal tax purposes, but Washington has no personal income tax (Figure 1).

Second, the 1980-82 recession has focused attention throughout the United States on the increasingly competitive nature of the world and national economies. Many states are taking a closer look at the effects of their tax systems on economic development, and some have passed legislation to create more hospitable tax environments for new and existing business.

Figure 1: Distribution of Tax Revenues



Other States



Although major tax reforms have yet to be instituted in Washington, the state has been active. In 1986 the Department of Revenue commissioned Robert Strauss of Carnegie-Mellon Institute to examine alternative tax structures in light of their likely effects on Washington's competitiveness with other states. Strauss derived tax rates, similar to those of other states, which were based on revenue neutrality--the assumption that total tax revenues would not change with the new tax structure. David Birch of MIT examined Washington's economy and concluded that the primary engines of job growth are small and new firms, which are not typically profitable in their early years. Critics of the current tax structure often argue that since the Washington business and occupation (B&O) tax is applied to gross receipts, rather than to profits, the state's heavy reliance on the B&O tax places an unnecessary burden on the smaller and start-up firms. Furthermore, Washington's high sales tax rate, which applies to purchased of plant and equipment, has been blamed for hindering investment.

The debate over whether Washington should revise its tax system--and, if so, how--has many dimensions, including equity, ease of administration, and concerns that tax reform might be seen by the public as a tax increase in disguise. In Olympia, legislators worry about the economic stability of tax revenues in times of both recession and growth. The state's dependency on the sales tax, which is among the most volatile taxes across economic cycles, makes it difficult for Washington's tax revenue forecasters to predict the state's ability to fund government programs.

Federal tax reform and economic development now play a new role in the effects of taxes on the welfare of the state's residents and businesses. While past analysts have examined the direct distribution of tax burdens across industries and households, researchers have yet to evaluate the changes that such a tax system might have on the state's personal income levels and employment, over time.

This lack of analysis is understandable. Predicting the ultimate economic consequences of tax reform is extremely difficult in light of the complexities and the ever-changing economic structures of Washington, the United States, and the global arena. Laws and regulations that are meant to assist one segment of the economy often have unintended, and sometimes counterproductive, effects once the economy adjusts. Until recently, there was no economic forecasting and simulation model suited to the task of predicting the overall implications of tax reform for Washington.

In this first attempt to view the big picture of tax reform--to examine tax reform-stimulated changes in the key economic indicators that describe the overall health of the state's economy--we addressed three questions. What are the overall impacts of representative tax reform packages on Washington's economy? Which segments of the state economy--households or businesses--would stand to gain or lose from alternative tax reform programs? What might be the nature of future adjustments to new tax programs in light of their effects? A particular set of tax rates, for example, may be revenue neutral in the first year. If those taxes increase economic growth by the next year, however, the relevant tax base will have grown, and tax receipts will rise. In such a situation, it may be possible to

further reduce tax rates, while maintaining revenue neutrality.

This analysis relies on two computer models of the Washington State economy. The first is the Tax Alternatives Model, developed by the Washington Department of Revenue (DOR). With this model, users can estimate the fiscal year 1989 tax receipts that would result from different tax structures, as well as evaluate the direct costs to a variety of businesses and households. The second model, and the workhorse of this analysis, is the HED Model for Washington, which was developed in early 1988 by the Human Affairs Research Centers and Regional Economic Models, Inc.. HED, an economic-demographic forecasting and simulation model, is a sophisticated and powerful representation of the state's economy with several features that make it well-suited to the task of evaluating the economic implications of tax reform.

- The HED model can account for most of the primary factors that influence the state's economy and does so in a dynamic sense. Dynamic, in this instance, means that the model incorporates the time that households and businesses often require to adjust to changes in their economic constraints and opportunities.
- HED traces economic interactions through the economy, for, as firms change their behavior, substantial ripple patterns are created. Firms may purchase more or less from other firms, which adjust their hiring and salary scales, and, in turn, change household incomes and demand for the state's goods and services, and imports. The model produces estimates of the impacts of tax reform on such key economic variables as personal income and wages, jobs, consumer and producer price indices, value added, investments, and imports and exports for 53 distinct industries.
- The HED model records the interaction between the production costs of the state's industries and their competitiveness in US and world markets. Some tax policies, for example, influence production costs and, in turn, the prices that firms charge to cover their costs for various products. Price increases typically lead to a loss of exports, which affect business volume, employment, and household income. Price increases can also raise the cost of living.

In conjunction, these two models can be used to capture the economic changes brought about by tax reform alternatives. They are the only models currently in existence that can address, in a dynamic manner, alterations in the state's costs, wages, and prices, and provide a detailed description of the state's economic linkages, which translate cost changes into effects on key economic indicators.

Approach to the Analysis

Using the DOR Tax Alternatives Model, we generated tax policies that in their first year, 1989, would result in revenue neutrality. We then entered these revenue-neutral tax policies into the HED Model to produce forecasts of the changes in the state's key economic indicators that would result in the period from 1989 to 2005.

To develop the alternative tax reform packages, we adopted, in addition to revenue neutrality, tax programs that would be similar in spirit to the ones that the state legislature would most likely consider. We also defined alternative programs that would best illustrate some of the expected effects of different philosophies of taxation, such as reallocating the direct tax burden between households and businesses. In this way, even if the exact reforms that we used for the analysis differed from the reforms that the legislature would deal with, the analysis would provide general information about the state economy's likely reaction to tax reform.

Defining the Tax Reform Alternatives

A multitude of different tax types, rates, and bases could be assembled in a single reform package. Using the DOR Tax Alternatives Model and assisted by DOR staff, we developed several revenue-neutral tax reform packages and selected three of them for further evaluation.

The **household-tax alternative** consists of eliminating the B&O tax, reducing the sales tax to 4 percent (from its current rate of 6.5 percent), imposing a 4.1 percent personal income tax (with a personal exemption of \$1,750), and instituting a 5.65 percent corporate income tax. The Tax Alternatives Model indicated that this program moves the

direct tax burden toward households, which would pay 64.7 percent of total tax revenues in 1989 (net of federal income tax deductions), compared with 52.1 percent under the current program.

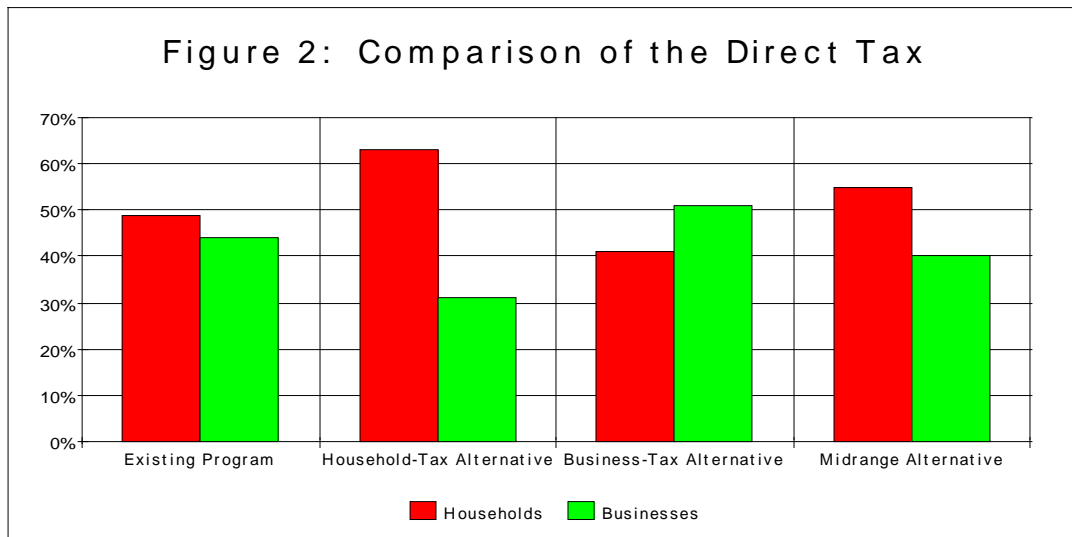
The **business-tax alternative** shifts the direct tax burden toward the business sector and away from households. The sales tax rate was reduced to 5 percent, the the base extended to include business and professional services, and a 5.65 percent corporate net income tax was added. The business share of total direct tax payments would increase from 46.1 percent to 52.4 percent, and households would bear 43.5 percent of the direct tax burden, compared with 52.1 percent under the existing tax structure. This alternative does not include a state income tax, which households can deduct from federal taxes.

In the **midrange alternative**, the sales tax rate was lowered to 4.25 percent, and the base was extended to include business and professional services. The B&O tax was cut in half, but under this alternative, firms also pain an 8 percent corporate profits tax, which would ensure that all business were taxed to some extent. A 3.5 percent personal income tax (with a \$3,000 personal exemption) was also included. The relative share of the direct tax burden for households would be 55.4 percent, which can be characterized as a midrange alternative with regard to the allocation of the tax burden.

Table 1: Tax Rate Changes for Three Alternative Tax Reform Packages (millions of dollars)

	Existing Rate	Existing Total Revenue	New Rate	New Total Revenue
HOUSEHOLD TAX ALTERNATIVE				
B&O	variable	\$887	eliminated	\$0
Corporate Profits	none	0	5.65%	328
Sales Tax	6.50%	2660	4%	1,678
Personal Income Tax	none	0	5.65%	328
Total		\$3,547		\$3,547
BUSINESS TAX ALTERNATIVE				
B&O	variable	\$887	no change	&887
Corporate Profits	none	0	5.65%	328
Sales Tax	6.50%	2660	5%*	2,389
Personal Income Tax	none	0	no change	0
Total		\$3,547		\$3,604
MIDRANGE ALTERNATIVE				
B&O	variable	\$887	50% of current rates	\$605
Corporate Profits	none	0	8%	included in B&O
Sales Tax	6.50%	2660	4.25%	2046
Personal Income Tax	none	0	3.50%	902
Total		\$3,547		\$3,553

*base extended



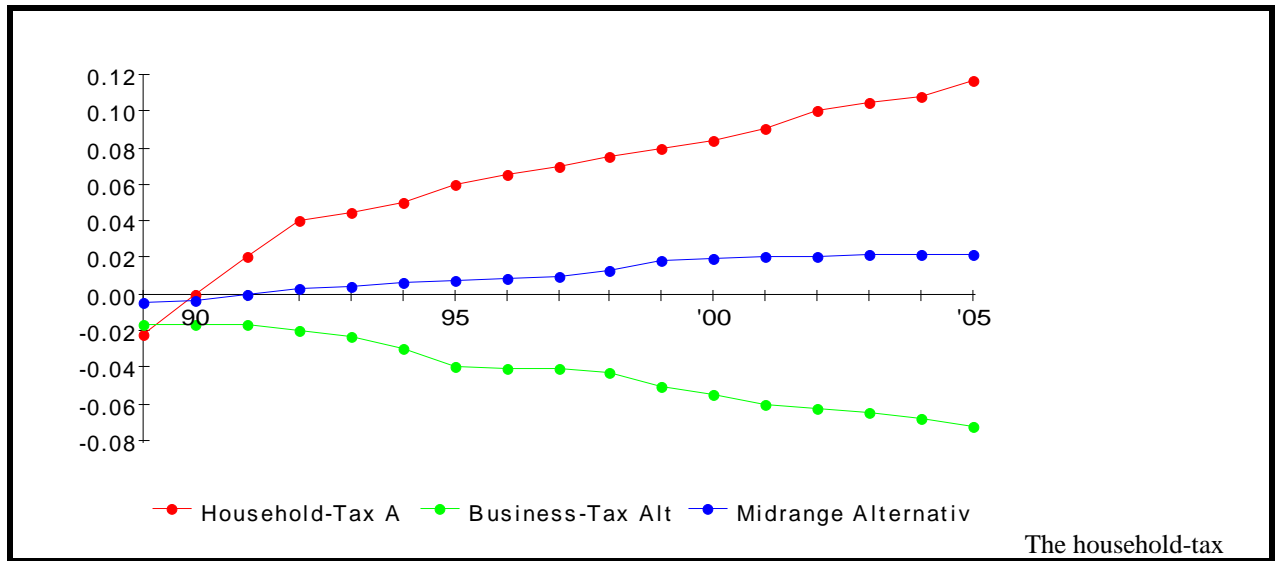
Once the alternative tax reform programs were developed and compared (Figure 2), we estimated the tax burden changes (net of federal income tax deductions) that would result from these programs (Table 1), and fed those changes into the HED Model. Since this model includes a household sector and 53 industries, we needed to predict the direct costs of the tax for each industry and for households. The data given to the HED Model for households were, in fact, less than the sum of the sales and income tax revenues shown in Table 1. A decrease in the sales tax makes households wealthier on a dollar-for-dollar basis, but a dollar increase in state personal income tax actually costs households less than a dollar because part of the added state income tax can be deducted from federal taxes. We estimated that, on average, 15 percent of the state income tax revenues derived from the personal income tax could be deducted from federal taxes and would not constitute an out-of-pocket expense for consumers.

Given the proportional nature of taxation, revenues grow as the economy (and the tax base) grows. We assumed that real (inflation-corrected) tax revenues would remain constant over time and would adjust for the increased demand for government services created by population growth. In the future, tax rates in the household-tax and midrange alternatives could be reduced to obtain the same amount of revenues.

The Results of the Analysis

Of the plans we considered, the household-tax alternative produces the greatest payoff (Figures 3 and 4). The distinctive features of this alternative are its substitution of a personal income tax for nondeductible sales taxes and a corporate income tax for the B&O tax, which would lighten the tax load on the state’s businesses. Although the hold-tax alternative entails a shift of the direct tax burden toward households, households benefit the most--in terms of total and per capita disposable personal income--once the economic interactions work through the economy. The loss of real disposable income and employment, due to increased taxes, occurs during the first or second year of the program, but the state’s gradual increase in competitiveness results in net gains.

Figure 3: Impacts of Alternative Tax Reform Programs on Washington’s Employment (percent from baseline forecast)



[PLACEHOLDER FOR FIGURE 4... PERSONAL INCOME EFFECTS]

alternative increases the state’s real per capita disposable income by up to 1.4 percent (in 1988 dollars) in the year 2005, from a projected level of \$104 billion without tax reform. Given the increased tax base that would result from the household-tax alternative over time, small reductions in tax rates may be feasible.

The business-tax alternative, which is shifts the direct tax burden toward the state’s businesses and away from its households, has effects that are quite different than those of the household-tax alternative. The impacts of the business-tax alternative include increased production costs, higher inflation, and decreases in employment and real disposable personal income.

The midrange alternative, which is nearly neutral in terms of the direct tax burden, takes advantage of federal tax reform by including a personal income tax and reduces business costs, while ensuring that all businesses pay some tax. The ultimate economic impacts of this alternative, however, are not as beneficial as those of the household-tax alternative, principally because the midrange alternative produces lower cost savings for the state’s business. Real disposable personal incomes, both total and per capita, are increased only slightly by the midrange alternative; again, the benefits to households correspond closely to those for businesses.

The advantages to Washington’s businesses are substantial under the household-tax alternative and slight under the midrange option. The state’s primary export base--manufacturing--benefits from reduced production costs, which, in the long run, translate into increased exports. Added exports and disposable income create additional demand for goods and services, which further boost state employment. The service, trade, and manufacturing industries enjoy the bulk of the employment benefits for the first alternative. The business-tax alternative, in comparison, harms households as well as businesses, even though the direct tax burden is shifted away from consumers.

Through the analysis of the three tax alternatives, we noted that the household-tax and midrange alternatives improve Washington’s economy after a short transition period, which is strong evidence that the existing tax structure is an inefficient one that can be bettered. Although the predicted gains may seem proportional small--a maximum of 1.6 percent for the household-tax alternative--the economic policies that achieve gains of this size are considered successful.

The economic welfare of the state’s residents, represented by real disposable person income in the household sector, is inextricably tied to the fortunes of the state’s business sector. This may seem an obvious point, but some critics have censured policies to assist the state’s firms and fail to recognize that increases in business income ultimately end up in the pockets of the state’s residents. Although Washington corporations pay much of their dividends to out-of-state shareholders, a much larger proportion of Washington businesses’ gross income is distributed to the state’s residents in the form of wages and salaries. The alternatives that shift the direct tax burden away from

businesses and toward provide the greatest benefit for the household sector. The business-tax alternative makes the state's industries less competitive, and households suffer. It is misleading, then, to focus solely on the direct tax burden without considering the various economic interactions.

The direct loss to the household sector from the increased taxes is softened by the residents' ability to deduct personal income taxes and by the associated reduction in the sales tax. Out-of-pocket costs to households are 15 percent less than the state personal revenue increase. In effect, these out-of-pocket savings are redirected to the business sector by reducing or eliminating the B&O tax, or by reducing the sales tax. The state's industries, given the resulting drop in costs, become more competitive in their export markets, and in turn, produce net increases in economic welfare.

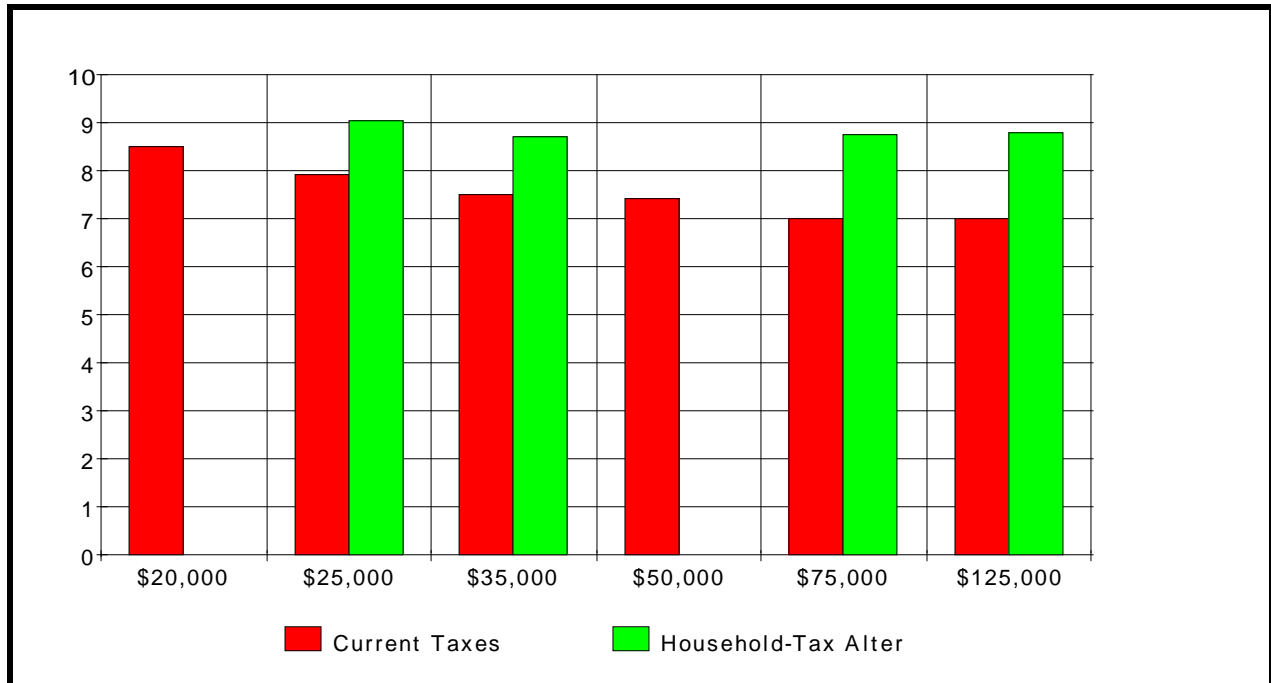
Given these positive impacts, the electorate's stiff resistance to the personal income tax is not easy to understand on purely economic grounds. It may be that this resistance is related to the anticipated headaches of filling out another set of tax returns or to the fear that tax reform is really a tax increase. It may also be true that the electorate believes that the income increases provided by a more efficient tax structure accrue primarily to others, such as the people who move into the state to fill new jobs.

Would existing households or new households benefit the most? On the basis of this analysis, we can project that real per capita disposable income will increase by up to 1.4 percent under the household tax alternative. Much of the increase can be attributed to a 3 percent to 4 percent increase in real average wages. Although some state residents would probably not achieve net gains, increased per capita incomes indicate that, on average, both existing and new households would probably be better off with tax reform. The midrange alternative does not achieve noticeable per capita income benefits and would, for that reason, probably be more difficult to sell to the electorate.

The economic growth stimulated by the household-tax alternative--and, to a lesser extent, the midrange alternative--would also increase the tax base, which would allow actual tax rates to fall somewhat over time and yield constant real tax revenues. We assumed that real tax receipts, adjusted for population growth, would remain constant while the tax base grew, so tax rates were projected to fall slightly. This projection may seem similar to that embodied in the "Laffer Curve," embraced by Ronald Reagan and Jack Kemp, which was the target of George Bush's "voodoo economics" criticism in the 1980 Republican primary race. In fact, there is a critical difference: the tax reforms we've considered do not entail overall tax cuts or increases. They simply represent a reallocation of the tax burden to capitalize on federal tax reform and use the savings to assist the state's industries. The business-tax alternative, in comparison, does not take advantage of opportunities presented by federal tax reform and, instead, creates a more substantial drag on the state's economy, raising the possibility of tax increases.

The aspect of equity is a particularly sensitive one, given that most low-income households, which do not itemize, would not be able to deduct the state income tax from their federal tax obligations. The reduction in the sales tax would provide some help, in terms of the direct tax burden, to low-income households. The household-tax alternative would tend to reverse the current tax system's regressive direct structure by placing a heavier proportional tax on very high income households (Figure 5). Employment and wage forecasts produced by the HED Model for 96 occupations indicated that the increased real wages derived from the household-tax alternative are slightly skewed toward the better-paying occupations, but this alternative does not appear to significantly affect the real after-tax income distribution.

Figure 5: Percent of Total Income Paid by Family of Four Under Existing Tax Program and Household-Tax Alternative, by Income



The Competitive Advantage of Tax Reform

Our predictions of the overall impact of tax reform on the Washington economy indicate that tax reform, if it is carefully designed, can produce noticeable economic improvements. Additional research should investigate issues such as the actual tax incidence and equity, as well as evaluate other tax reform alternatives.

The reader may notice, for example, that the net gains from tax reform yielded by the household-tax and midrange alternatives rest to a great extent upon the resident's ability to deduct state personal income taxes. A reasonable question to ask is whether the net gain would be realized if tax reform simply shifted the direct burden toward households, without providing consumers with the relief of federal tax deductions. Such a shift could still benefit the business sector, but would such benefits outweigh the direct tax loss to the household sector? To what extent should tax policy be aimed toward directly aiding businesses and making them more competitive, given that tax breaks for business usually come at the expense of consumers?

In the course of our background research, we experimented with a program that included a transfer of \$500 million of the direct tax burden from business to households. The HED Model indicated that the initial effects on real disposable personal income would be negative, but, within a few years, the state economy, including its households, would begin to experience relatively small income gains as the state became more successful. In sum, the deductibility issue is an important driver of the positive impacts of the household-tax and midrange alternatives, but making the state's businesses more competitive is also an element of tax reform's success.

Finally, tax reform alternatives can be designed in any number of ways, and it may be possible to formulate a program that would yield higher economic benefits than those of the household-tax alternative. Since deductible personal income taxes are the source of much of the benefits of this alternative, an even higher personal income tax rate would allow further reductions in the sales tax or a lower corporate profits tax, and still permit the elimination of the B&O tax. The greatest drawback to this strategy is that a high personal income tax is not likely to be politically feasible.

Washington State has the opportunity to reorient its tax base to capitalize on the federal deductibility of state income taxes and to provide tax relief to businesses. It may be that many other states will eventually revise their tax programs to achieve the same ends, thereby neutralizing Washington's competitive advantage from tax reform. If this state chooses not to implement tax reform, and other states do so, Washington would suffer by comparison.

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