4. Increasing widely used tax credits. Oregon uses a credit for personal exemptions. This credit ($194 in 2015) is for most taxpayers and their dependents. In 2013, the Legislature disallowed exemption credits for taxpayers with adjusted gross income above $100,000 ($200,000 for joint filers). This means that an increase in the exemption credit, while retaining the cap would direct tax relief primarily to middle and lower income taxpayers, particularly larger households. Another credit widely used is the earned income tax credit (EITC). Currently, Oregon law allows a state credit equal to 8% of the federal credit. About 265,000 taxpayers (13.3% of all filers) claimed the EITC in the 2013 tax year. This credit is applied to labor income and goes primarily to workers with dependents. Increasing the federal percentage would go primarily to lower and lower middle income wage earners.

Analytical Tools

LRO used the Oregon Tax Incidence Model (OTIM) to analyze the economic and distribution implications of alternative tax restructure proposals. OTIM was originally constructed during the 1999-2001 interim. It was a joint project involving the Legislative Revenue Office, Oregon State University and Washington State University. The project benefitted greatly from previous work done by the California Department of Finance. The model was completed in 2001 and has been used to analyze the economic and distribution impacts of major state tax proposals since that time. A review and update of the data and behavioral assumptions used in the model was recently completed.

OTIM is a long-term computable general equilibrium model of the Oregon economy. It consists of a series of equations linking different sectors of the state economy with each other and the outside world. OTIM is designed to show how the state economy responds to a major change in tax policy. It does this through allowing for a change in tax policy (tax rates or deductions, new taxes, etc.) and then estimating how wages, prices, in-migration, labor force participation, capital investment and other variables respond based on the model's underlying assumptions. OTIM then calculates a new equilibrium level of income consistent with the changes in wages, investment and other variables initiated by the policy. The model results compare the new equilibrium with the starting point. So in effect, OTIM compares one point in time (the current situation) with a new point in time after the economy has responded to the change in tax policy. We assume that it takes roughly 5 years for the economy to fully respond to a change in tax policy.

The structure of OTIM is patterned after California's Dynamic Revenue Analysis Model (DRAM) which was built in the late 1990s. The main difference between OTIM and DRAM is that OTIM has a tax incidence breakdown showing how the tax burden among income groups is altered by a tax change. DRAM is focused only on the economic effects of tax changes. At about the same time OTIM was developed, Nebraska built the Tax Revenue Analysis in Nebraska (TRAIN) model. TRAIN is very similar to OTIM, including a tax burden distribution module. The Nebraska Department of Revenue maintains TRAIN and uses it for certain policy related studies. California's DRAM has not been maintained in recent years and has fallen into dis-use.

In addition to the three states that built computable general equilibrium models for tax analysis purposes, 16 other states have used a version of the REMI model according to a recent survey. REMI (Regional Econometric Modeling Incorporated) uses a computable general equilibrium core for each state and links it to a national economic forecast on an annual basis. Similar to the computable general equilibrium models, the REMI models provide estimates for income, employment and sectoral shifts while adding a specific time path for these variables that is tied to the national forecasts.

Because OTIM is a long term model that simulates how a state economy will respond to a major tax policy change over time, it is not a tool for gauging revenue stability over the course of a business cycle. To measure stability, LRO has developed an index that shows how the standard deviation of overall state taxes changes when the mix of taxes is adjusted. The index can be used to answer how shifting from income taxes to consumption taxes would affect revenue stability as measured by the standard deviation of percentage changes in revenue.

Simulations

Base Tax Burden Distribution

While the primary focus of OTIM is to simulate how major tax changes affect the economy and the distribution of the tax burden, updating the model's base data gives policy-makers information on how the current state and local tax system is distributed across household income groups. The base distribution of the tax burden for 2012 is shown in Table 4.

Table 4: Estimated Distribution of Oregon's State and Local Tax Burden

Household Income Group	Number of Households	Effective Tax Rate
Less than $20,587	229,406	9.29%
$20,587 to $34,311	198,738	6.32%
$34,311 to $48,036	194,555	7.52%
$48,036 to $68,623	256,886	8.79%
$68,623 to $102,934	312,377	9.13%
$102,934 to $137,246	189,938	8.93%
$137,246 to $205,869	176,189	8.87%
Greater than $205,869	96,204	9.56%
All Household Income Groups	1,654,292	8.89%

The income groupings are set up to facilitate policy discussions. It is important to note that the number of households in each group varies—especially at the high end. The general conclusion from Table 4 is that the distribution of Oregon's tax burden is largely proportional to household income. This means that the effective tax rate is relatively constant as income rises. There is however a spike in the tax burden at both the lowest household income level and the highest level. The higher rate among low income households is primarily caused by the residential property tax which has an effective rate of 3.76% for this group. This is caused by homeowners with relatively low current income. Often these taxpayers are elderly. At the high end, the jump is the result of the personal income tax. The effective rate of the personal income tax rises from 3.28% for the second highest income group to 4.58% for the highest group. This is primarily caused by the new 9.9% bracket, disallowance of the personal exemption credit and phase-out of