AN ABSTRACT OF THE THESIS OF

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Abstract approved : Signature redacted for privacy.

Brian J. Greber

Local governments in Oregon receive money from the forestry sector in a number of ways. This paper briefly describes public and private forestry sector sources and the relative importance of their payments to five forms of local governments by county for fiscal year 1982-83 to 1985-86. An analysis of the contribution of forestry sector 1986-87 property tax payments to statewide property taxes collections are also made. The forms of local government examined were county governments, schools, education service districts, rural fire protection districts and road districts.

It was found that county governments tended to be very dependent on National Forest Revenue Sharing payments and O&C in-lieu of taxes payments. County governments received a much smaller proportion from other forestry related programs including from severance tax offsets. Twelve of Oregon's county governments relied on forestry sector payments for at least 40

percent of total revenues. National forests and O&C payments were found to be the most important of all timber revenues for county road maintenance. Dependency of schools on timber-derived revenues ranged from zero percent in Gilliam County to 21 percent of newly acquired revenue in Lake County. Severance tax offset money accounted for a very small percent of newly acquired school revenue over the period. Oregon ESDs, R.F.P.Ds. and road districts did not depend upon the revenues that were received from forestry sector sources for operational revenues to any large extent.

Timber-related firms were found to be bearing a very significant portion of the property tax burden in a number of Oregon's counties during the 1986-87 tax year. Tax assessments to timber-related firms ranged from 23 percent of Clatsop county's total levy to 0 percent of the total levy in Gilliam County. Timber-related firms were determined to be a significant contributor to the financial support of local governments in many Oregon counties.

It was further found that the presence of some of the publically-owned forest lands in Oregon were associated with lower tax rates. The presence of privately owned forests on the west side of the state did not appear to be affecting property tax rates over the study period. The presence of, and ultimately the severance tax offsets derived from harvests on privately owned forests on the eastern side of the state ,however, appear to have lowered property tax rates over the study period.

Importance of Timber-Related Revenues to Local Governments in Oregon and the Effects of Forests in Oregon on Property Tax Rates

by

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The Importance of Timber-Derived Revenues to Local Governments in Oregon and the Effects of Oregon's Forests on Property Tax Rates

Introduction

Background

Oregon's public finances have depended heavily on the revenues received from forestry related activities on both private and public lands within the state (Gustaphson, 1976). Local government revenues are directly tied to timber harvests within the state through government revenue sharing programs and private sector taxation. Studies by Nicholson and Tedder (1982), Brodie, et al. (1978) and Beuter, et al. (1976) have shown that BLM payments in lieu of taxes and timber related government revenue sharing programs account for a large share of county government revenues. Figures 1 and 2 show the flow of money from the Oregon's private and public timber resources to various forms of local government, as well as the formulas for calculating payments and the distribution of funds to various forms of local government. Later sections will address these flows in more detail.

Definition of Local Government

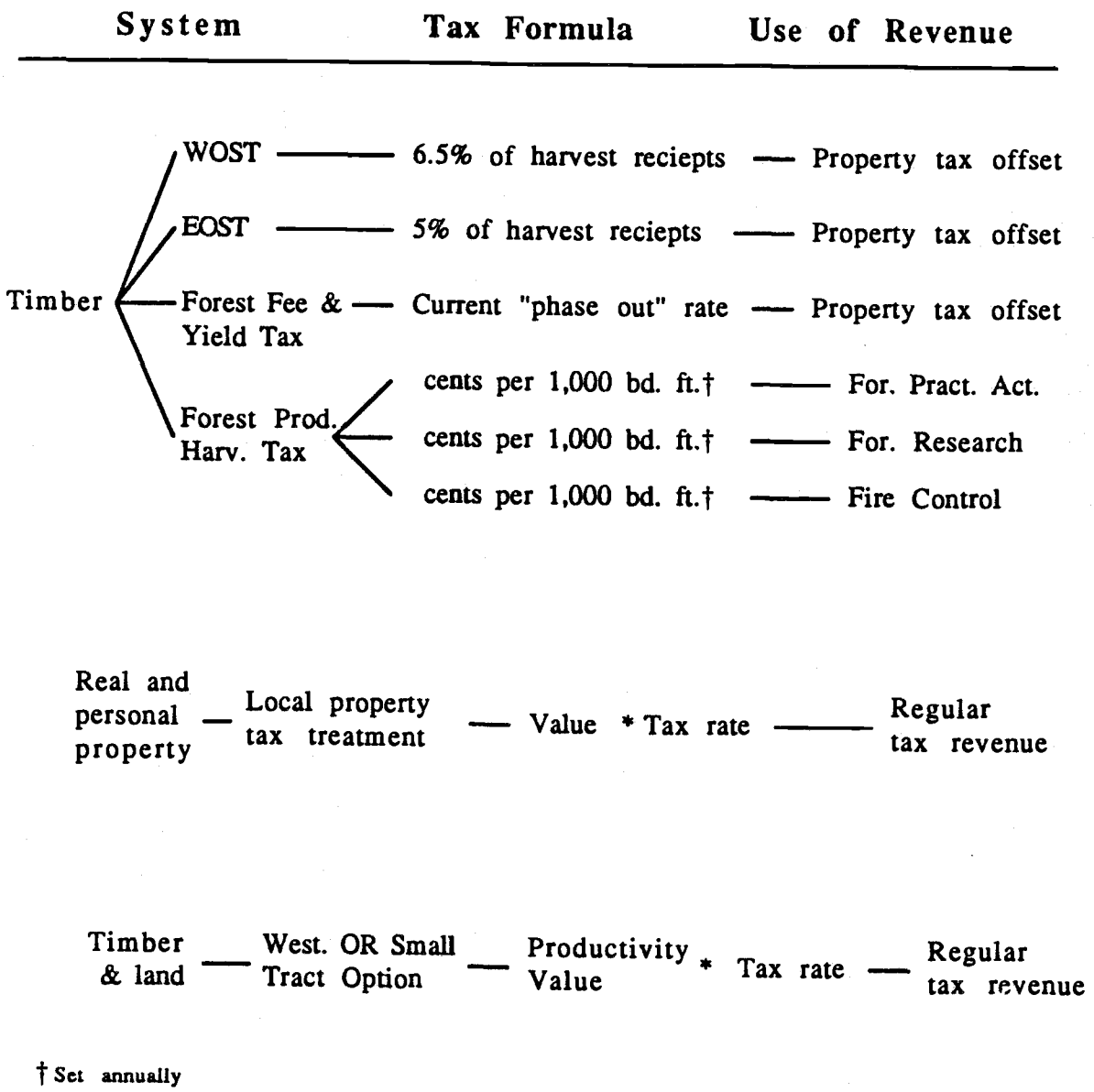
For the purposes of this study, local governments will be considered to be any form of government which receives at least part of its funding through property tax collections. Cities, county government, school districts, and special taxing districts are, for example, local governments. Services rendered by local

governments include road maintenance and construction, law enforcement, education, school service and fire protection.

Harvest Outlook

Harvest levels have varied substantially from 1965 through 1985, although there has been a general downward trend in harvest volume in both the public and the private sector (Figure 3). Supply studies by Beuter et al. (1976) and Stere et al. (1980) (discussed later) indicate that significant reductions in public and private timber harvests will occur in the near future.

Other studies (discussed later) suggest that reductions in federal and private harvests may put pressures on local government budgets due to reductions in private taxes and public revenue sharing and in-lieu programs. The ramifications of this could include the reduction of local government services such as county road maintenance, county based law enforcement, and school programs. Alternatively, the reduction could lead to higher tax rates applied to private property in some taxing districts.



† Set annually

Figure 1. Timber revenues from the private sector.

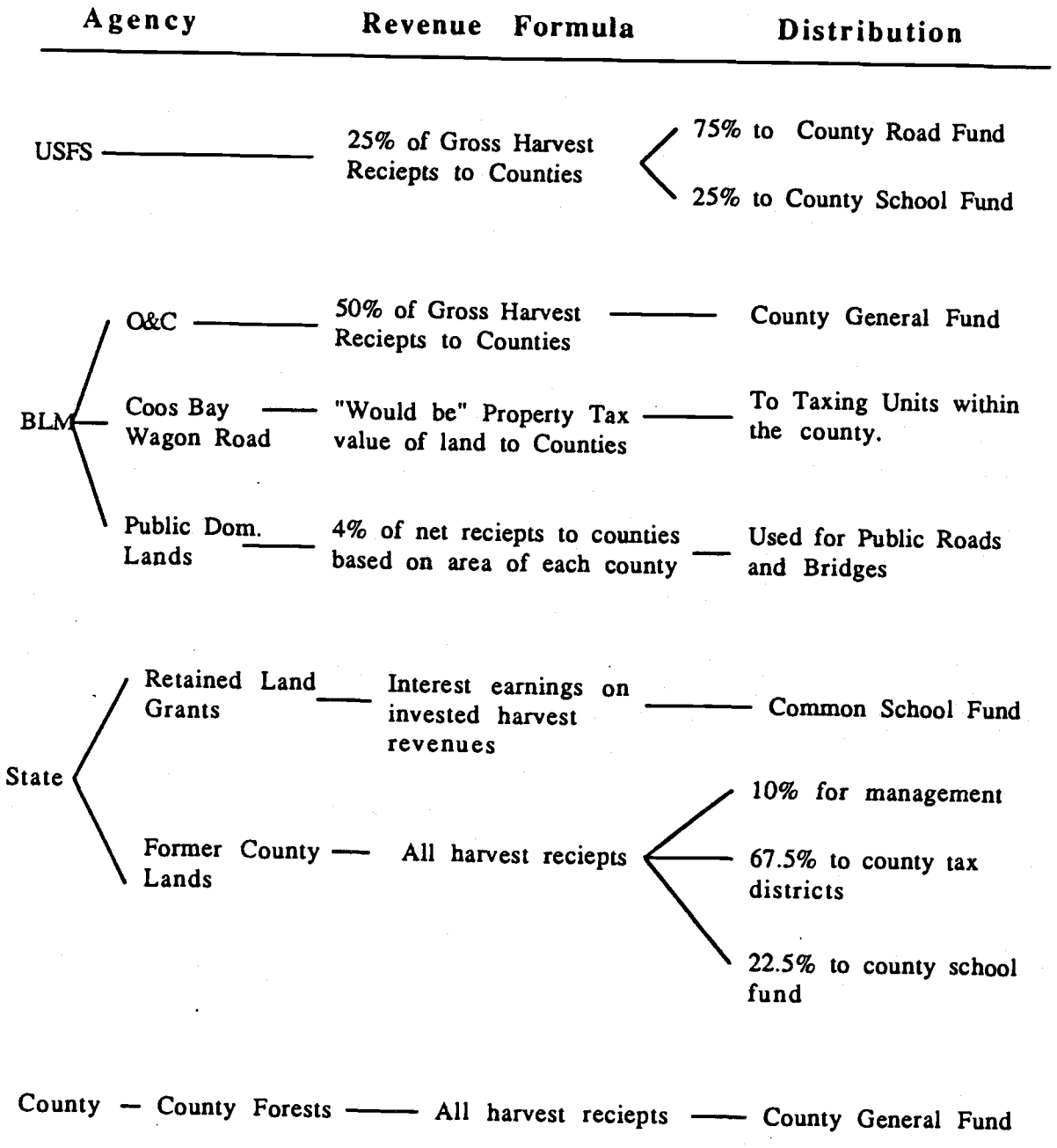


Figure 2. Timber revenues from the public sector .

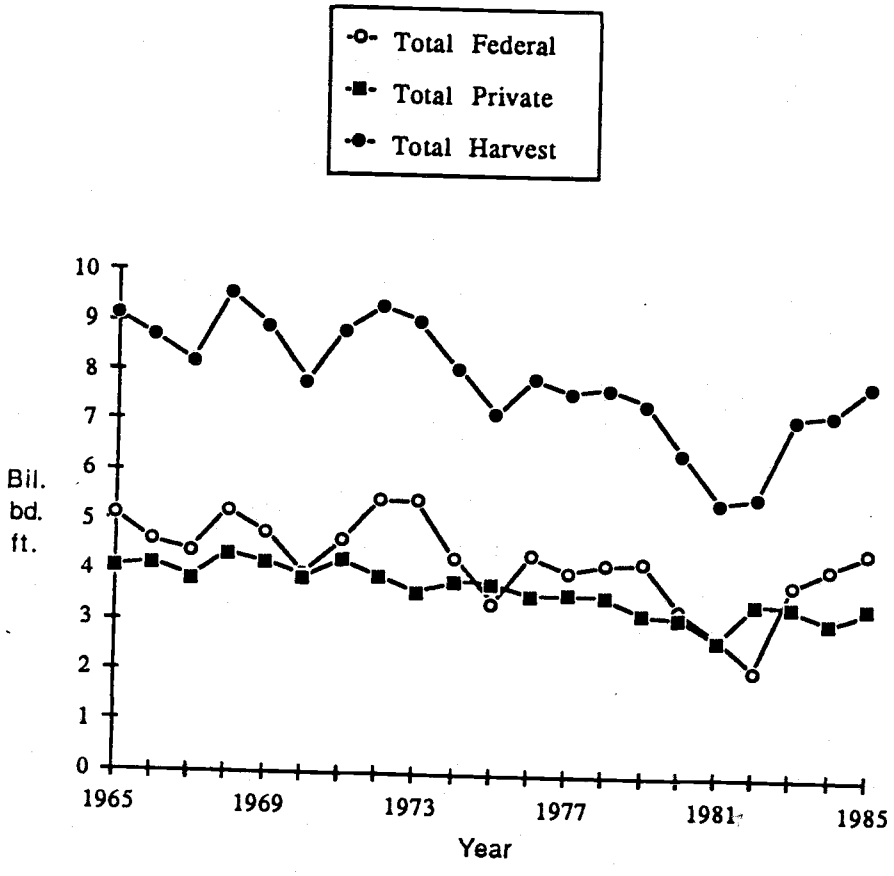


Figure 3. Total federal and private harvest levels, 1965-1985

Objectives

In that private harvest levels will likely decline and that harvests on National Forests will more than likely decline in the near future, there is need for a better understanding of how harvest reductions will affect the revenues of Oregon local governments. Prior "county revenue studies" have dealt with the fiscal impacts associated with Oregon's timber industry and public land holdings. It is believed that these studies have been interpreted by some as studies which pertain to all local government revenues†. This study will provide a more comprehensive perspective about the direct impacts that timber-derived revenues have on the financing of local governments. It extends the concept that timber-derived revenues account for a large portion of county government revenue to include other local governments. In addition, it accounts for a great deal more of the timber revenues that are being utilized for the financing of local governments.

More specifically, the objectives of this study are:

(1) To systematically trace all timber-derived revenues which are directly used to help funding for the operations of local governments in Oregon.

(2) To determine the importance of the revenue sources described in (1) to county governments, school districts,

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† This study will refer to the county as a whole (all local governments within a county's borders) as the "county" and the organization responsible for county services as the "county government".

education service districts, rural fire protection districts and road districts from fiscal 1982-83 to 1985-86.

(3) Estimate as closely as possible, the contributions made by forestry-related firms to the total 1986-87 property tax levy of each county in the state. This will be done so that an assessment of the relative importance of timber-related property tax revenues can be made since property taxes are the primary source of funding for most local governments.

(4) To determine the effects (positive, negative or neutral) of Oregon's forests on average consolidated property tax rate per thousand dollars of assessed value.

It is not the intent of this study to make conclusions about the impacts on local governments which might be incurred if harvest levels change, but rather to provide the necessary informations so that assessments can be made about the implications of undertaking given harvest policy alternatives.

Review of Related Literature

To set the stage for this study, three types of studies have been summarized: Oregon timber supply studies, Oregon harvest income and employment dependency studies, and Oregon government revenue studies.

There have been a number of studies which assess the importance of Oregon's timber resource to the state's economy. Concerns have been aired pertaining to present and future supplies of the timber resource and the economic and sociological impacts involved with its utilization. Although harvest related income and employment impacts will not be directly analyzed, it is important to note that levels of employment and income will undoubtably be affected by changing timber harvests and this can in turn influence local government and community prosperity.

Supply Studies :

Present and projected future supplies of Oregon's timber resource have a direct influence on current harvest levels. A number of studies exist which have assessed the present and likely future supply of timber.

Beuter, et al. (1976) analyzed the future availability of timber in Oregon. The focus was on local areas within the state and what was likely to happen to timber flows in those areas if certain management actions were followed. The analysis was meant to be viewed as a benchmark from which to discuss timber availability in Oregon. A computer simulation model was developed to help

provide the capability for policy-makers to examine the projected effects of various management practices so that a more informed decision could be made as to the implementation of a State forest policy. The study concluded that industrial harvests were likely to decline in the future in light of past management practices. It is felt that the study, comprehensive as it was, did not fully address impacts on local governments incurred when harvest levels were changed significantly.

The Oregon State Forestry Department set out to review the role and direction of forestry in Oregon in a report entitled 1980 Oregon Timber Supply Assessment (Stere, et al.,1980). This report attempted to update the timber supply situation assessed by Beuter et al. (1976) and used the TREES computer model to project possible timber availability for the next one hundred years in the state. Other analyses included tracing the effects of changing the land base and land use, volumes harvested by diameter classes, and hardwood availability. A similar study was conducted in 1975 by Gedney et. al. Their study was concerned with the Pacific Coast States rather than Oregon alone. The study made two timber supply projections and took a look at the possible resultant impacts of each.

Tedder, et al. (1987) have assessed the current and future timber supply situation. Their paper paints the supply situation somewhat grimly. They forecast that the Pacific Northwest forest industry owners' forest inventory will not be capable of maintaining current harvest levels under current management and

that anticipated declines in the National Forest harvest can not be made up from other public and private suppliers of timber.

Income and Employment Studies :

Recently, a number of studies have been conducted concerning the impacts of changing forest management practices on income and employment in Oregon. Other studies have taken a look at the impact that the forest industry has and the role it plays in the Oregon economy. Many of the studies are involved with modeling local economies to predict the likely impacts if a given forest policy is undertaken. These models were originally constructed to give policymakers an idea of the possible ramifications involved with forest management decisions. These studies along with this the one presented here, help complete the picture of how changing harvest levels will affect both local governments and the income and employment levels in local communities (ie. counties).

The U.S. Forest Service has actively studied the economic influences of maintaining different levels of harvest in the state. Wall (1973) studied the employment implications of projected timber output in the Douglas-fir region. Wall and Oswald (1975) developed a technique and relationships for projections of employment in the Pacific coast forest product industries.

The economy of Douglas County has been studied a number of times due to its reliance on timber-related revenues. Youmans et al. (1973) developed an input-output model for the county which has been used by a number of other researchers. Darr and Fight (1974) used Youmans' model to try and assess the impact of a

change in demand for forest products on the local economy. They also included the impacts from changes in harvest levels by various types of owners. They concluded that approximately two-thirds of the county's economic base was totally dependent on the forest products industries and harvests from public lands. Dippon and Tedder (1983) developed a computer model for estimating the capital and labor required by various intensities of forest management within a specific area, as well as the income and employment generated by the resulting harvests. The model was then applied to data from Douglas County as a case study.

Brodie, et. al. (1978) conducted an analysis of Oregon's forest economy. General composition and contributions to the state's economy were examined. The study was primarily a summary of the current status of the forest industry in the state.

Connaughton and McKillop (1979) developed an economic-base differential-multiplier model to try and estimate the impact on local economies due to U.S. Forest Service reclassification of their under the RARE-II program.

Olson, Schallau and Maki (1984), developed an interactive policy analysis simulation system (IPASS) that can be used to analyze the long-term economic and demographic effects of alternative forest resource management policies. It is a dynamic analytical tool that allows the

forecasting of growth and development of an economy. The program is interactive, and the user needs no previous experience in programing or model building.

Schallau and Maki (1986) examined the reliance of Oregon's economy on several manufacturing sectors. It particularly focused on the impact of forest industry. The major focus of this study was the change in the comparative advantage of the forest products industry in the Pacific Northwest vis-a-vis the South. Streeby (1974) did a similar study except with an emphasis on the role of the wood products industry. Flacco (1978) projected income and employment impacts on a highly timber dependent economy given a decline in the timber resource base.

Greber and Johnson are currently undertaking a complex econometric- based study which will divide the state into 8 integrated sub-regional models that together will model the state economy as a whole. The study will also give an overview of the economic status and trends of Oregon's forest resource dependent communities and assess probable future timber harvests from all forest ownerships in Oregon. It will also assess the cumulative economic impacts of the harvest levels indicated given the implementation of proposed National Forest plans as well as discuss alternatives that could ease economic and environmental problems associated with the harvest outlook for Oregon.

County Revenue Studies:

The majority of studies concerned with the finances of local governments have been conducted by public organizations. The Bureau of Governmental Research and Service at the University of Oregon has extensively studied county government finances. Much

of the county government information obtained for the current study was obtained from their reports.

One of the most controversial Oregon tax studies undertaken was by Klemperer (1975). The initial intent of the study was to provide the state's Interim Revenue Committee information for the evaluation of possible forest taxation alternatives. Klemperer concluded that the western Oregon ad valorem timber tax that was in effect at the time represented a lower percent of net income than would be expected for other properties under similar property tax rates. He also suggested that EOST rates should be about 9% rather than the existing 5% rate. In addition, he suggested that the small tract optional tax was lower than optimal. He recommended that the ad valorem tax on the timber be replaced by a yield tax. He believed that this tax should be coupled with an annual ad valorem tax on the forest land. The yield tax revenues received would then be used as a property tax offset. He also suggested that the small tract optional tax be repealed and properties under this system be placed on the yield tax system. His suggestions about replacing the ad valorem tax with a yield tax were adopted.

Demographic, financial and related information about the O&C counties (counties in which Oregon and California railroad land are located) have been studied in depth by the Bureau of Governmental Research and Service. In 1981 a special report entitled The O&C Lands and The O&C Lands : Statistical Supplement described the history and importance of the O&C resource to the state as well as to O&C county economies (Bureau of

Governmental Research and Service, 1981). Also discussed were the O&C and Coos Bay Wagon Road legislative histories. In the report gave extensive information about county government finances. The importance of the O&C resource to other forms of local government were ,however, not discussed in depth. Two special O&C studies were done prior to the 1981 study. A 1957 study examined the population, employment, economic development and county finances of the counties which hold a portion of the O&C land base. It reviewed the history of O&C legislation and its relation to the counties as well as a review of the current demographics. The second, more narrowly defined 1968 study took a more in depth look at the significance of the resource. Included in the study was a review of the industrial significance and magnitude of the effects on the local economy. Also included in the study was a special case study of Josephine County. It was determined that benefits for local governmental finance result from federal ownership of the O&C land as compared to the land being privately owned. The property taxes that would have been paid , if the land were under private ownership, appeared to be significantly less than the actual O&C payments received.

Other useful publications the Bureau of Governmental Research and Service has published concerning local finances include Background Information on the Oregon Property Tax (1978) and An Oregon Property Tax Primer(1984). These two publications help to explain the existing property tax collection and dispersal structure in the state. These two publications also give a historical perspective on Oregon's current tax system. Fifty years of Public

Finance (Bureau of Governmental Research and Service,1984) gives a general overview of the public finance picture for the state. It explains sources of revenue and how those revenues are dispersed and used.

Oregon's Legislative Revenue Office has published a number of papers which explain where timber revenues originate and how the revenues are used. Three especially helpful publications were reviewed. The report, History of Oregon Timber taxes (1986a) gives a good overview of major legislative actions which have lead to current policies. Another entitled: Distribution of Oregon Timber Severance Tax Receipts (1986b) explains how eastern and western Oregon severance taxes are calculated and how the revenues from this taxation are held and disbursed to counties and districts throughout the state. The third publication, Revenue from timber in Oregon (1986c) outlines and briefly explains sources of revenue from Oregon public and private timber resources. It does not ,however, cover revenues from county forests or B.L.M. designated "In-lieu" timberlands. It also does not include revenues received from private, non-timberland real property taxes paid by forest industry.

Nicholson and Tedder (1982) conducted a study which sought the possible effects on harvest levels and county revenues in western Oregon if the U.S. Forest Service and B.L.M. were merged. They concluded that the joint harvest scheduling would yield small increases in harvest flows for western Oregon as a result of the physical allowable cut effect at both high and low management

intensities. They also concluded that there would not uniformly be higher or lower payments to counties from the merger.

Existing Public Sector Revenue Sharing Programs

National Forest Land :

Oregon's 14 National Forests contain over 15 million acres. In 1900, the U.S. Congress mandated that 25 percent of gross revenues derived from National Forests be paid to the counties proportional to the area of national forest lying within each county (Nicholson and Tedder, 1982). The revenues that the county receives from this program are earmarked for specific purposes. Seventy-five percent of the revenue that the counties receive must go into the county road fund. The remaining 25 percent is placed into the county school fund. For Grant and Coos counties, however, schools can receive more than 25 percent of these payments.

Lands Administered by the Bureau of Land Management :

Oregon and California Railroad Lands:

There are about 2.5 million acres of "O&C" land in Oregon, all of which are located on the west of the Cascade Mountain Range. These lands were originally granted to the Oregon and California (O&C) Railroad to provide capital to hasten the construction of a railroad that would aid in transportation and promote commerce and trade between California and the Pacific Northwest. These lands were forfeited back to government ownership due to their illegal disposition by the railroad. In 1937, the selling of former O&C railroad timberlands was stopped and their management was reverted to the General Land Office (precursor of the BLM). A

revenue sharing formula was set up that stipulated that 50 percent of gross revenues generated on these lands were to be contributed to the counties' general funds. Currently the payments from harvests on O&C lands provide a large part of the financing for a number of county governments in Oregon.

Coos Bay Wagon Roads :

There are currently 74,547 acres of land in Oregon known as Coos Bay Wagon Road land. They are located in Coos and Douglas counties. In 1869, the U.S. Congress granted the State of Oregon land to build a military wagon road between the cities of Coos Bay and Roseburg[1]. The grant was later transferred to the Southern Oregon Company. These lands were put under the same conditions as the lands granted to the O&C railroad. Similar disposition violations led to the reconveyance of the Coos Bay Wagon Road lands to the federal government. In 1939, payment in lieu of tax programs were set up for these lands to compensate local governments for foregone property taxes. The in-lieu-of-taxes formulas use harvest revenues from this land to compensate the two counties in which the lands are located. The formula calculates payments to the counties equivalent to the amounts that would have been paid if the land were privately owned. The revenue from this program is divided among taxing units within which the Coos Bay Wagon Road lands are located, based on each taxing unit's proportion of the combined tax rate for the current year.

1. Act of March 3, 1869 (15 Stat. 340)

Payments-in-Lieu-of-Taxes Lands :

In 1976, a federal statute was enacted[2] which created a new federal payment system entitled, "Payments-in-Lieu-of Taxes". It is not, however, a true in lieu of taxes system in that the payments do not necessarily reflect forgone property tax payments. The formula is based on a per acre payment, not "would be" private property taxes based on assessed values. "Payments-in-Lieu-of Taxes" generally apply to both forested and non-forested government land that do not fall under other special tax provisions. These lands total 28,971,237 acres and are located throughout the state.

Public Domain Land :

Public domain lands are former homestead lands in Oregon which have since been placed under BLM management. Receipts derived from these lands include timber, land, and material sales. Four percent of the net receipts from these sources is paid to Oregon counties based on the total square mile area of each county. Some of the money that is derived from this land is forestry oriented. The amount of the contribution from forestry sources was, however, not available.

State forest lands

There are about 786,000 acres of forest land administered by the State of Oregon. These lands originated from two separate sources. Some of the lands are from retained land grants from the

2. Act of October 20, 1976 (90 Stat. 2662,PL94-565)

federal government. The other source is from former county land. The majority of the State forest lands is from the latter source. The use of the revenues from these lands depends on their origin. At least ten percent of the revenues from the former county lands are used for forest management purposes (after state forest protection and development payments have been made), while the rest of the revenues go to the tax districts within the county. Interest earnings on the revenues generated from the retained land grant lands go directly to the common school fund. The only revenue the county government receives from this land is from their share of the former county lands revenue (see Figure 2).

County Forest Land

A few counties own and manage lands referred to as "county forests". The revenues derived from these lands are placed into the general fund of the county in ownership of the land.

Timber Revenues from the Private Sector

There are about 10.4 million acres of private forest land in Oregon.Timber revenues derived from the private sector are primarily from the taxation of privately owned timber, the land upon which it grows, capital facilities and equipment, and land owned by forestry related firms. Under current law, privately owned forest land and timber may be treated under a number of different tax systems according to size and geographic location of the resource.

Severance Tax System

Under this system, timber and land are treated as separate entities. The timber is taxed at 6.5 percent of gross harvest receipts at the time of harvest under the Western Oregon Severance Tax (WOST) system and 5 percent under the Eastern Oregon Severance Tax (EOST) system. The land is treated as real property and taxed under the normal property tax system at a special reduced assessed value. The revenue received is used as a property tax offset for local property tax levies. The State Department of Revenue does not consider the offset money a general revenue source in district budgets, but rather that the money effectively acts as a private property tax payment. It is recognized that the offset money is used to reduce the taxes that would otherwise be paid by property tax payers. The offset payments act effectively as a private property tax payment and will be treated as such in the description of its importance to local governments.

In western Oregon, the Timber Section of the State Department of Revenue determines how much a county will receive in the form of a severance tax payment. The county then offsets the levies of its tax districts via the district distribution formula. The formulas used to calculate WOST distribution payments to both the county and the districts are depicted in Appendix 1. The formulas are based upon five-year harvest values and forest land values in the county. The formulas demonstrate that even if no private timber harvest occurs in a county in a given year, the county could still receive a WOST payment as long as harvests occurred in the previous four years. The averaging formula is used to reduce fluctuation in the payments over time.

The EOST program allocates distribution payments to counties using a formula that is based solely on 1964 appraised timber values. The formula simply gives each county its share of net collections based on what its proportion of the total appraised eastern Oregon timber and timberland value was in 1964. The county assessor allocates the amount of revenue certified by the county treasurer to the districts using the formula in Appendix 1. Each tax district's allocation of the county distribution is its share of the sum of the computed property tax on timber for all eligible county districts. A paper which thoroughly describes these payment systems is available from the State of Oregon Legislative Revenue Office (1986c).

Real and Personal Property Tax

Property taxes paid on real and personal property (other than designated forest land) by Oregon's forestry industry have played a significant role in providing funding for some local governments in some counties. Taxation is applied to assessed values of real property (plant, equipment, and land) and personal property of the firm. Due to the abundance of forest industry in Oregon and the capital intensive nature of the forest product industry (e.g., paper processing and lumber production), a number of Oregon's communities and hence local governments have appeared to become reliant on the forest industry to bear a large portion of the tax burden. The reason for this lies in that these industries hold a relatively high proportion of the total assessed value in many of the smaller, forested counties of which they are a part.

Other Private Sources

The revenue from the following sources was not obtainable and was therefore not included in the analysis. Their descriptions are included to give a more complete picture of the full range of private timber-related sources of revenue. The contributions to the total revenues of local governments from these programs are relatively small and should therefore not affect the findings to any significant degree.

Forest Fee and Yield Tax :

Certain lands known as "reforestation lands" are still treated under the old ad valorem tax system which has since been replaced by the severance tax system. These lands are presently being phased into the severance tax system. The rate at which the harvests from these lands are taxed depends on the current "phase out" rate. Few acres of these lands currently remain on the tax roles.

Western Oregon Small Tract Option :

If a tract of timber is 10 to 2,000 acres in size and is situated in western Oregon, the private owner has the option to have his forest property treated under the Western Oregon Small Tract Option rather than under the WOST system. This tax is part of the local property tax system. Under this option both land and timber are subject to local property tax based on an assigned productivity value of the land. These values varied from $3 to $229 per acre in 1986. The Department of Forestry determines the value at which the property will be taxed. The Legislative Revenue Office reported that in 1986 only 186,219 acres were classified under the Small Tract Optional Tax. Estimated property tax payments for the 1985-86 fiscal year amounted to only about $300,000 statewide. The significance of the small woodland ownership in Oregon has been examined by Downing, Connaughton, and Hopkins (1976).

Forest Products Harvest Tax :

The Forest Products Harvest Tax is collected at the time of harvest on both public and private land. It is not shared with local

governments and varies from year to year. The revenues are dedicated for specific purposes such as the implementation of the Forest Practices Act, forest research, and emergency fire control. The total tax per thousand board feet was 46 cents in fiscal 1986-87.

Analytic Approach

Due to the availability and nature of the data, the local government revenue analysis was divided into two parts. The first part will describe the average dependency of local governments on all but forest land taxes and real and personal property tax revenues. The second part will describe, county by county, the contributions made by timber-related firms to 1986-87 property taxes.

In addition to the above analysis, an econometric analysis will also be made that will address whether or not private forest land, National Forest land, or BLM land have a negative or positive influence on average property tax rates within counties.

Much of the county government revenue data for the first part was obtained from the Bureau of Governmental Research and Service at the University of Oregon via their Oregon County Finances (1983-1985) publications. School district revenues were taken from the State of Oregon, Department of Education publication, Summary of Audited Resources of Oregon School Districts and ESDs (1983- 84 to 1985-86).

Severance tax and property tax information were obtained using the 1982-83 through 1986-87 Oregon Property Tax Statistics Supplements. This information is published by the State of Oregon Department of Revenue.

The importance of each timber related payment will be discussed separately for each of the above types of local government. An evaluation will then be made of the contribution

that forestry related firms made to Oregon property tax revenues in the 1986-87 tax year.

Importance of Severance Taxes and Non-levied Timber Revenues to Local Governments

County Government

County governments provide a great number of services. They service county-owned roads[3], administer property tax collections and levy submissions as well as provide law enforcement services. They also administer extension programs, provide public and mental health services, as well as human and community organization services. County governments also act as an intermediary in the distribution of revenues from various revenue programs to various taxing districts in the county. The county government, for example, disburses 25 percent of the total payment it receives from National Forests to school districts and keeps the remainder for use on county roads. The county also distributes payments to schools from State forest lands, depending on the origin of the land from which the revenue was received (see Figure 2).

Sometimes money from the county general fund is distributed to school districts within the county. When the county government distributes general fund money to other tax districts, it is difficult to precisely state how timber-related revenues are divided among local government uses. O&C payments, for example, go into the county general fund and may be redistributed in part to school

3. These should not be confused with road districts. Road districts operate on separate budgets and submit their own property tax levies individually.

districts within the county. To estimate the importance of O&C payments to county governments, a minimum retention scenario was used. It is a minimum retention from the viewpoint of the county government's ability to utilize O&C payments for its own operational expenses.

To approximate how much of the O&C payments were used for school districts and how much was available for county government use, the earmarked forestry payments to schools from State forest land and National Forest Revenue Sharing Program were first subtracted from the county's total payments to school districts. The remainder was of the county government payment to school districts was then taken from O&C payments. The results of these calculations are presented as Table 1. Realistically, the amount subtracted off of the O&C revenue source is overstated. The above calculations were performed to demonstrate the importance of the O&C revenue to counties even if the county government payments to schools were taken from O&C revenue payments.

Statewide, county governments depended on the timber-derived payments for about 17 percent of their combined total revenues (table 2). This figure can be somewhat misleading due to the variability of individual county governments dependence on the aforementioned programs.

Statewide, the county governments relied on the National Forest Revenue Sharing and O&C payments for about 8.5 and 7 percent of total revenues. These payments provided the most revenue of all programs. This revenue has restricted use ,however,

since it may only be used for roads Other programs do not contribute as much statewide as these two programs. In fact, none accounted for more than 0.6 of a percent of total revenues of county governments and combined they accounted for less than 2 percent.

The degree to which county governments depend on timber related revenues varies a great deal, but all county governments depend at least to some degree on timber related payments.

Typically, the amount of money a county receives from timber related sources depends on how much of the resource lies within that county's borders and the value of the timber harvested from those resources. In general, counties with relatively little or no forest land in proportion to their total area receive most of their revenue from non-timber related sources (e.g., Gilliam, Morrow, and Sherman Counties). Counties having proportionately more timberlands in most cases, depend greatly upon the revenues they receive from timber related sources (e.g., Douglas, Curry, Grant, and Tillamook Counties). Table 2 and Figure 4 show that 25 of Oregon's 36 county governments depend on timber related revenues for at least 10 percent of their budget; 19 of those counties depended on these payments for over 20 percent of their total revenue and 12 counties depend on this source of revenue for about 40-50 percent of their revenue.

National Forest Revenue Sharing Payments:

Table 2 describes National Forest Revenue Sharing payments as the most important of the timber related revenue payments for

county governments. Grant and Lake Counties depended on these payments for nearly 50 percent of their total revenue between fiscal 1982-83 to 1985-86. Fifteen county governments depended on National Forest payments for at least 15 percent of their revenues. The fact that some of these counties rely heavily on these revenue sharing payments is of great significance when considering a reduction of harvest values on National Forests. Those probably most impacted by harvest reduction include: Crook, Grant, Harney, Klamath, Lake, and Wheeler Counties. These counties have historically depended on National Forest payments for at least 25 percent of their revenue.

Since the county's share of the National Forest payments are specifically earmarked for use in the county road fund, the degree of upkeep and construction of county roads would most likely be affected first, given a substantial reduction in harvest value. It should be kept in mind, however, that other services could be impacted if funds were transferred to the county road fund. The net effect would be either reduced county service (social, law, and other service) or increased county taxes.

Bureau of Land Management, In-Lieu of Taxes Lands

O&C Payments:

Eighteen county governments receive payments from O&C lands. Eight of these receive 12 percent or more of their total revenue from would most likely be hit first given a substantial reduction in harvest values. Douglas County averaged about $13.4

million over the period accounting for at least 30 percent of total revenues. Jackson and Lane counties both averaged over 8 million apiece from O&C payments accounting for about 37 and 13 percent of total revenue respectively. Josephine County government received about 42 percent of its revenue from this source. The precise impact of changes in these revenues is difficult to discern in-as-much as they go into the county general fund and can be used as seen fit by the county government. It is, however, likely that a reduction in O&C payments would lead to either a decline in services paid for out of county general funds, an increase in property tax, or a combination of the two.

Coos Bay Wagon Road:

These lands make payments to county governments on a per acre basis rather than the property tax value of the land in a given year. This implies that the payments are not "truly" in-lieu of taxes payments but rather an annuity payment from the BLM to the county government. Coos and Douglas counties are the only ones to receive this payment. The payments are not very substantial to the county government since most of these payments are passed through to schools and other taxing districts. Since the county government's share of these revenues was not known they could not be included in the analysis.

Payments-in-Lieu-of-Taxes:

BLM "payments-in-lieu-of-taxes accounted for less than one percent of total net revenue for the majority of Oregon's county

governments. Five counties, however, depended on these payments for at least three percent of their total net revenue. Of these, Lake, Harney and Malheur county governments received on average, 5.2 percent, 6.4 percent and 8.9 percent of their total net revenue from the "payments-in-lieu-of-taxes" program (respectively). This is not surprising since these counties have rather small populations and contain the largest acreages of BLM land under the "payments-in-lieu-of-taxes" program. Not all revenues from these lands are timber-related, but since timber revenues could not be extracted the entire payment was used.

State forest lands:

The revenues counties receive from these lands do not generally affect the operation of county governments, because most of the revenue acquired from the state forests is channeled to other local governments.

State forest revenues have been subtracted out of total revenue for all but Clatsop County which apparently relies to a substantial degree upon revenues from former county land. This is apparent because if State forest revenues are removed from the Clatsop County county government budget a deficit results. Payments that Clatsop County made to other local governments from this source could not be determined, and hence the percent of the total timber-related contributions to the county government total revenue is somewhat overstated. Minimum payments from Clatsop County's State forests to schools has, however, been subtracted out of the total state forest payments.

County Forest Revenue:

A number of counties own forests, but only two relied on them for any substantial amount of revenue. This revenue was especially important to Hood River County as this source contributed over one million dollars annually to the county general fund over the period and accounted for about 35 percent of the county's total revenues. Revenues from Coos County's county forests accounted for almost 12 percent of the total county government revenue. Since these revenues accrue to the county general fund, it is again difficult to predict the precise impact of changes in their magnitude on county government expenditures and tax rates.

Severance Taxes:

Severance tax contribution to county governments include EOST and WOST offset payments. Counties receive offset payments from the WOST program if they are designated as being a western Oregon county and from the EOST program if they are designated as being an eastern Oregon county.

Severance tax payments did not make up a substantial portion of any county governments' revenues. In most counties they accounted for less than one percent of total revenue. Tillamook, Lincoln, and Columbia counties received from about two to three percent of their revenues through the WOST program. Sherman County was the only county that received no severance tax payments of any kind over the period.

Table 1. County government revenue summary, average for fiscal years 1982-83 to 1985-86

County	National Forest payments	Total from state forests	O&C payments and reserves			In-Lieu
			Total payment	Most possible to schools	Minimum reserves	
Baker	$562,710	$0	$0	$0	$0	$108,106
Benton	164,529	852,830	1,508,114	1,250,954	257,160	1,918
Clackamas	2,512,924	27,771	2,978,659	502,066	2,476,593	48,451
Clatsop	0	7,150,886	0	0	0	299
Columbia	0	477,622	1,105,592	599,483	506,109	0
Coos	233,606	219,605	3,166,502	268,532	2,897,970	6,452
Crook	1,249,925	0	0	0	0	89,263
Curry	1,521,087	0	1,958,938	352,656	1,606,282	55,901
Deschutes	3,163,055	0	0	0	0	136,756
Douglas	6,212,429	142,738	13,444,215	1,792,981	11,651,234	91,593
Gilliam	0	0	0	0	0	6,860
Grant	2,359,838	0	0	0	0	164,075
Harney	1,275,016	0	0	0	0	310,824
Hood River	804,532	0	0	0	0	19,911
Jackson	2,394,558	0	8,410,014	394,488	8,015,526	44,217
Jefferson	545,386	0	0	0	0	27,211
Josephine	859,398	722	6,483,278	175,925	6,307,353	33,409
Klamath	5,734,296	391,404	1,255,867	5,094	1,250,773	202,550
Lake	2,874,090	0	0	0	0	310,824
Lane	10,732,094	844,474	8,195,336	811,223	7,384,113	129,910
Lincoln	1,727,476	1,154,055	193,210	193,210	0	17,299
Linn	3,641,382	547,506	1,416,875	485,319	931,556	45,565
Malheur	3,748	0	0	0	0	416,902
Marion	1,393,148	874,498	783,575	163,020	620,555	19,399
Morrow	156,498	0	0	0	0	17,697
Multnomah	355,910	0	637,214	637,214	0	6,803
Polk	3,211	377,949	1,159,262	178,042	981,220	0
Sherman	0	0	0	0	0	17,178
Tillamook	934,347	2,158,879	300,549	28,169	272,380	9,961
Umatilla	432,484	0	0	0	0	43,750
Union	506,128	0	0	0	0	83,389
Wallowa	815,821	0	0	0	0	110,181
Wasco	1,026,065	0	0	0	0	19,420
Washington	0	703,925	338,116	223,467	114,649	273
Wheeler	411,607	0	0	0	0	24,219
Yamhill	256,849	0	386,421	111,673	274,748	2,530
Statewide	**54,864,141**	**15,924,861**	**53,721,734**	**8,173,516**	**45,548,218**	**2,623,089**

Source: Oregon County Finances, Bureau of Governmental Research, University of Oregon.

Table 1. County government revenue summary, average for fiscal years 1982-83 to 1985-86

County	County forest	EOST*	WOST*	Total Timber Contribution	Estimate of total revenue	Average total payment to school districts
Baker	$4,099	$9,510	$0	$684,425	$3,479,187	$345,996
Benton	0	0	42,367	465,972	12,584,185	1,497,684
Clackamas	290,257	0	120,823	5,449,046	70,752,900	1,345,955
Clatsop	0	0	240,506	5,782,741	10,645,200	1,713,449
Columbia	529	0	182,666	689,304	5,898,683	706,948
Coos	1,542,551	0	261,752	4,942,331	13,070,693	395,812
Crook	0	10,484	0	1,349,671	4,275,848	506,240
Curry	0	0	34,302	3,217,571	6,990,351	859,685
Deschutes	0	9,587	0	3,309,398	16,549,466	1,273,761
Douglas	169,733	0	542,834	18,667,822	39,962,874	3,895,907
Gilliam	0	136	0	6,996	3,355,452	33,231
Grant	0	18,326	0	2,542,239	4,805,248	1,540,600
Harney	0	1,734	0	1,587,574	4,838,614	627,118
Hood River	1,315,043	0	15,440	2,154,925	3,809,509	422,345
Jackson	0	0	39,974	10,494,275	22,534,632	1,192,674
Jefferson	0	10,016	0	582,612	3,309,624	282,633
Josephine	448,520	0	2,377	7,651,057	15,059,280	462,553
Klamath	0	106,959	0	7,294,578	18,438,385	2,004,592
Lake	0	80,330	0	3,265,243	5,999,484	1,208,449
Lane	12	0	393,514	18,639,642	62,394,461	4,578,595
Lincoln	0	0	321,694	2,066,469	11,673,542	1,208,253
Linn	0	0	422,953	5,041,456	15,844,122	1,822,302
Malheur	0	86	0	420,735	4,691,568	252,009
Marion	0	0	58,579	2,091,680	34,905,147	824,165
Morrow	0	22,339	0	196,534	5,397,010	245,925
Multnomah	0	0	33,668	396,381	133,191,142	1,270,199
Polk	0	0	129,514	1,113,944	7,131,948	264,150
Sherman	0	0	0	17,178	1,382,543	23,695
Tillamook	0	0	181,381	1,398,069	6,783,691	825,366
Umatilla	0	12,644	0	488,877	8,310,388	724,521
Union	0	18,370	0	607,887	4,485,565	218,093
Wallowa	0	19,446	0	945,448	5,081,434	357,946
Wasco	25	8,586	0	1,054,096	7,203,388	575,152
Washington	25,075	0	71,269	211,265	64,643,425	381,850
Wheeler	0	10,445	0	446,271	1,074,289	226,279
Yamhill	83	0	78,552	612,761	8,753,005	197,289
Statewide	**3,795,927**	**338,997**	**3,174,161**	**110,344,534**	**649,306,281**	**34,311,420**

Source: Oregon County Finances, Bureau of Governmental Research, University of Oregon.
* Source: Oregon Property Tax Statistics, Statistical Supplement.

Table 2. County government revenue summary, average percent of total revenue for fiscal years 1982-83 to 1985-86

County	National Forest payments	Minimum O&C reserves	In-Lieu	County forest	EOST	WOST	Total timber contribution	Estimate of total revenue
Baker	16.17	--	3.11	0.12	0.27	--	19.67	3,479,187
Benton	1.31	2.04	0.02	--	--	0.34	3.70	12,584,185
Clackamas	3.55	3.50	0.07	0.41	--	0.17	7.70	70,752,900
Clatsop	--	--	--	--	--	2.26	54.32	10,645,200
Columbia	--	8.58	--	0.01	--	3.10	11.69	5,898,683
Coos	1.79	22.17	0.05	11.80	--	2.00	37.81	13,070,693
Crook	29.23	--	2.09	--	0.25	--	31.56	4,275,848
Curry	21.76	22.98	0.80	--	--	0.49	46.03	6,990,351
Deschutes	19.11	--	0.83	--	0.06	0.00	20.00	16,549,466
Douglas	15.55	29.16	0.23	0.42	--	1.36	46.71	39,962,874
Gilliam	--	--	0.20	--	--	--	0.21	3,355,452
Grant	49.11	--	3.41	--	0.38	--	52.91	4,805,248
Harney	26.35	--	6.42	--	0.04	--	32.81	4,838,614
Hood River	21.12	--	0.52	34.52	--	0.41	56.57	3,809,509
Jackson	10.63	35.57	0.20	--	--	0.18	46.57	22,534,632
Jefferson	16.48	--	0.82	--	0.30	--	17.60	3,309,624
Josephine	5.71	41.88	0.22	2.98	--	0.02	50.81	15,059,280
Klamath	31.10	6.78	1.10	--	0.58	--	39.56	18,438,385
Lake	47.91	--	5.18	--	1.34	--	54.43	5,999,484
Lane	17.20	11.83	0.21	--	--	0.63	29.87	62,394,461
Lincoln	14.80	--	0.15	--	--	2.76	17.70	11,673,542
Linn	22.98	5.88	0.29	--	--	2.67	31.82	15,844,122
Malheur	0.08	--	8.89	--	--	--	8.97	4,691,568
Marion	3.99	1.78	0.06	--	--	0.17	5.99	34,905,147
Morrow	2.90	--	0.33	--	0.41	--	3.64	5,397,010
Multnomah	0.27	--	0.01	--	--	0.03	0.30	133,191,142
Polk	0.05	13.76	--	--	--	1.82	15.62	7,131,948
Sherman	0.00	--	1.24	--	--	0.00	1.24	1,382,543
Tillamook	13.77	4.02	0.15	--	--	2.67	20.61	6,783,691
Umatilla	5.20	--	0.53	--	0.15	--	5.88	8,310,388
Union	11.28	--	1.86	--	0.41	--	13.55	4,485,565
Wallowa	16.05	--	2.17	--	0.38	--	18.61	5,081,434
Wasco	14.24	--	0.27	--	0.12	--	14.63	7,203,388
Washington	--	0.18	--	0.04	--	0.11	0.33	64,643,425
Wheeler	38.31	--	2.25	--	0.97	--	41.54	1,074,289
Yamhill	2.93	3.14	0.03	--	--	0.90	7.00	8,753,005
Statewide	**8.45**	**7.01**	**0.40**	**0.58**	**0.05**	**0.49**	**16.99**	**649,306,281**

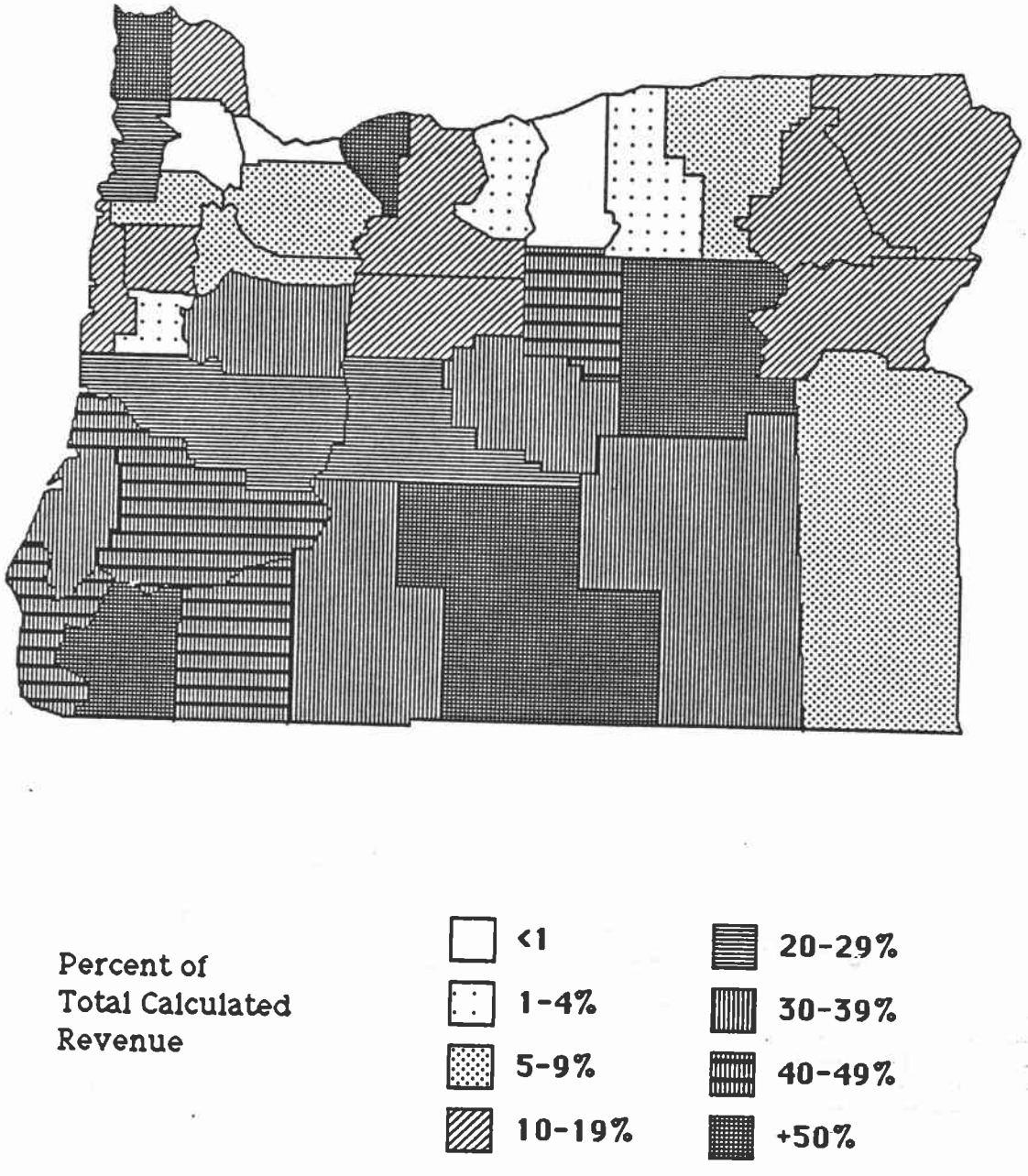

Figure 4. Geographic perspective of the average percent of total county government revenue that was timber-related (1982-83 to 1985-86)

School Districts

For the purposes of this, study school districts were aggregated into county units. The finances of all the schools within a county's borders were assembled into a single county-wide summary. The National Forest payments to schools by county was calculated by taking 25 percent of the National Forest payments to counties. Grant and Curry Counties, however, are allowed to disperse more than 25 percent of National Forest payments to schools. The National Forest payments used in this analysis for these counties should therefore be viewed as a minimum possible payment.

School districts within counties can obtain money from a number of timber related sources. Table 3 shows that school districts obtained money via eastern and western severance tax programs as well as from the National Forest Revenue Sharing Program. Schools also receive money from State forest land.

School districts may also receive funds from the county government via the transfer of money from the county general fund. It is in this way that revenues from O&C timberlands may reach schools. The distribution payments from National Forests and severance tax programs, however, are identifiable. The relative importance of timber revenues are expressed as a proportion of revenue newly acquired by schools during the fiscal year (table 4). It is felt that newly acquired revenues would be appropriate for simplicity, because the previously acquired revenues available for use by schools remained fairly constant each year over the study period. It should be noted that the

percentages expressed in Table 4 are for the county school districts as a whole and may not exactly describe the relative importance of specific timber payments to an individual school district within the county.

Although O&C funds given to schools are not included in the evaluation of total timber contribution, it can be seen in Table 4, that the contribution from timber related sources is still quite substantial for the school districts in some of Oregon's counties. If the O&C minimum payments procedure for county governments were used to construct a "maximum payment scenario" for schools it can be seen from Tables 1 and 3 that the O&C funds appear to contribute from 0 percent to 2.75 percent of school funds, recognizing them to be a maximum possible contribution.

The dependency of schools on severance tax and National Forest payments on a statewide basis is quite small. Statewide figures ,however, do not tell us much about the funding of schools due to extreme differences among counties. The more populated and less timber-dependent county school districts have very large budgets relative to the smaller, more timber dependent school districts. This means that Oregon school districts depended on these revenue sources for about 2.7 percent of the total revenue that they receive during the year would not accurately describe the dependency of Oregon school districts on the payment programs described above. The dependency on these payments ranged from 21 percent in Lake County to less than 1 percent in Multnomah and other counties.

Figure 5 graphically depicts the dependency of schools on revenues directly related to forestry activities by county. This figure shows geographically, the relatedness among counties in their dependency on the forestry related revenues they receive.

National Forest Revenue Sharing Program:

Dependency of school districts on National Forest Revenue Sharing payments ranged from 0 percent in counties like Gilliam County, to 17 percent in Grant County,which contains a great deal of National Forest acreage within its boundaries. Lake County was also fairly dependent on these payments, as they accounted for about 16 percent of their total revenue each year during the period. Crook, Curry, Harney, Klamath, and Wheeler counties also received at least 5 percent of their school district revenues from this source. The amount from the county school fund and federal forest fees has been included to give an idea of how much money is transferred from the county school fund to schools. It shows that Curry received somewhere between 5 and 8 percent and Grant County received between 17 and 25 percent of their revenue from National Forest payments. The school fund and federal forest fees column was not included in the computation of the total timber contribution.

State forest land:

Since actual payments from State forest lands were not available a minimum payment scenario was again employed to allow for some degree of understanding about the impacts that

payments from this source have on school revenue. It can be seen from Figure 2 that at least 22.5 percent of the revenues that are generated on State forest lands go to schools. The minimum payment was simply figured to be 22.5 percent of State forest revenue in each county. It was found that Clatsop and Tillamook counties were dependent on these payments for at least 7 and about 3.4 percent of their newly acquired school revenue.

Severance Taxes:

Eastern Oregon school districts received relatively little in the form of EOST payments. In most cases these payments accounted for less than one percent of school district revenue. About 5.6 percent of Lake County school district revenue were made up of EOST payments. This was proportionately the most any eastern Oregon county received from this program.

WOST payments made up proportionately more of western Oregon school revenues than EOST payments made up of eastern Oregon school revenues over the period. The smaller and more populated counties tended to receive proportionately less in the form of WOST payments. There tends to be a relatively greater financial need to keep these school districts operating but there are also greater, non-timber tax base resources in the metropolitan areas in which they are located; thus severance tax money is proportionately less important for the funding of public schools. Counties with large annual private harvest levels like Coos and Douglas receive proportionately more from WOST payments than those counties with smaller private harvest levels. Douglas County

schools received a little more than 10 percent of their revenues from this source. Coos, Clatsop, Lincoln, and Tillamook counties all on average received at least 5 percent of their annual newly acquired revenue from the WOST offsets.

Table 3. School district revenue summary, average for fiscal years 1982-83 to 1985-86.

County	National Forest payments	EOST*	WOST*	Minimum State Trust payment	Total timber contribution	School district revenue received during year	Prior year's Taxes	Beginning balance	Total school resources
Baker	$187,570	$37,669	$0	$0	$225,239	$10,097,802	$335,673	$3,620,054	$13,717,856
Benton	54,843	0	251,127	191,887	497,857	39,236,165	2,315,970	2,794,188	42,030,353
Clackamas	837,641	46,259	947,714	6,248	1,837,862	178,382,595	9,670,872	18,154,886	196,537,481
Clatsop	0	0	1,248,659	1,608,949	2,857,608	22,593,238	875,012	9,786,033	32,379,270
Columbia	0	0	1,463,273	107,465	1,570,737	36,525,798	1,383,694	12,746,102	49,271,900
Coos	77,869	0	2,648,797	49,411	2,776,077	42,079,986	2,503,300	4,684,580	46,764,566
Crook	416,642	63,293	0	0	479,935	8,313,338	497,866	540,694	8,854,032
Curry	507,029	0	439,835	0	946,864	9,939,906	793,171	1,738,550	11,678,456
Deschutes	1,054,352	48,658	0	0	1,103,010	44,642,592	4,076,207	6,670,886	51,313,477
Douglas	2,070,810	0	6,242,083	32,116	8,345,008	61,605,943	2,840,399	11,267,024	72,872,966
Gilliam	0	594	0	0	594	2,133,813	94,841	705,169	2,838,982
Grant	991,338	21,548	0	0	1,012,886	5,746,098	50,515	1,538,304	7,284,402
Harney	425,005	1,796	0	0	426,801	6,612,009	86,591	1,704,249	8,316,258
Hood River	268,177	0	127,874	0	396,052	11,288,424	472,515	1,206,702	12,495,126
Jackson	798,186	0	1,064,135	0	1,862,321	89,827,236	4,932,879	21,941,149	111,768,385
Jefferson	181,795	28,390	0	0	210,185	10,895,151	453,001	2,235,575	13,130,725
Josephine	286,466	0	145,587	162	432,215	35,121,244	1,906,965	5,109,370	40,230,614
Klamath	1,911,432	584,992	0	88,066	2,584,490	34,448,306	1,347,661	5,870,093	40,318,399
Lake	958,030	338,806	0	0	1,296,836	6,072,912	252,681	2,265,389	8,338,300
Lane	3,577,365	0	4,238,686	190,007	8,006,057	174,865,011	12,230,265	24,272,035	199,137,046
Lincoln	575,825	0	1,148,973	259,662	1,984,460	22,550,892	2,033,189	2,992,865	25,543,757
Linn	1,213,794	0	3,238,133	123,189	4,575,116	66,040,184	3,874,657	9,866,549	75,906,733
Malheur	1,249	813	0	0	2,062	18,854,198	740,821	2,797,834	21,652,032
Marion	464,383	0	322,420	196,762	983,564	142,886,746	6,336,502	21,349,203	164,235,948
Morrow	52,166	41,892	0	0	94,058	8,279,844	256,708	1,730,705	10,010,548
Multnomah	118,637	0	139,670	0	258,306	438,818,935	14,309,113	59,673,407	498,492,342
Polk	1,070	0	871,600	85,038	957,708	20,456,119	1,074,257	3,621,948	24,078,066
Sherman	0	0	0	0	0	2,434,953	60,798	488,584	2,923,537
Tillamook	311,449	0	893,765	485,748	1,690,961	14,178,288	823,618	4,322,957	18,501,246
Umatilla	144,161	79,764	0	0	223,926	41,974,753	1,949,392	8,427,026	50,401,779
Union	168,709	103,140	0	0	271,849	17,763,549	726,976	2,421,629	20,185,177
Wallowa	271,940	30,072	0	0	302,012	5,783,278	73,763	1,009,582	6,792,860
Wasco	342,022	41,475	0	0	383,496	16,188,215	872,316	2,920,962	19,109,177
Washington	0	0	413,917	158,383	572,300	180,427,860	10,371,300	38,653,123	219,080,984
Wheeler	137,202	23,144	0	0	160,346	1,787,145	7,484	932,945	2,720,090
Yamhill	85,616	0	480,514	0	566,131	39,712,259	1,968,184	7,411,731	47,123,990
Statewide	18,492,772	1,492,303	26,326,758	3,583,094	49,894,927	1,868,564,781	92,599,151	307,472,076	2,176,036,856

Source: Summary of Audited Resources of Oregon School Districts and ESDs, State of Oregon Department of Education.

* Source: Oregon Property Tax Statistics, Statistical Supplement.

Table 4. School district revenue summary, average percent of total revenue received during year for fiscal years 1982-83 to 1985-86

County	National Forest revenue	EOST	WOST	Minimum State Trust contribution	Total timber contribution
Baker	1.86	0.37	--	--	2.23
Benton	0.14	--	0.64	0.49	1.27
Clackamas	0.47	0.03	0.53	--	1.03
Clatsop	--	--	5.53	7.12	12.65
Columbia	--	--	4.01	0.29	4.30
Coos	0.19	--	6.29	0.12	6.60
Crook	5.01	0.76	--	--	5.77
Curry	5.10	--	4.42	--	9.53
Deschutes	2.36	0.11	--	--	2.47
Douglas	3.36	--	10.13	0.05	13.55
Gilliam	--	0.03	--	--	0.03
Grant	17.25	0.38	--	--	17.63
Harney	6.43	0.03	--	--	6.45
Hood River	2.38	--	1.13	--	3.51
Jackson	0.89	--	1.18	--	2.07
Jefferson	1.67	0.26	--	--	1.93
Josephine	0.82	--	0.41	--	1.23
Klamath	5.55	1.70	--	0.26	7.50
Lake	15.78	5.58	--	--	21.35
Lane	2.05	--	2.42	0.11	4.58
Lincoln	2.55	--	5.10	1.15	8.80
Linn	1.84	--	4.90	0.19	6.93
Malheur	0.01	--	--	--	0.01
Marion	0.33	--	0.23	0.14	0.69
Morrow	0.63	0.51	--	--	1.14
Multnomah	0.03	--	0.03	--	0.06
Polk	0.01	--	4.26	0.42	4.68
Sherman	--	--	--	--	--
Tillamook	2.20	--	6.30	3.43	11.93
Umatilla	0.34	0.19	--	--	0.53
Union	0.95	0.58	--	--	1.53
Wallowa	4.70	0.52	--	--	5.22
Wasco	2.11	0.26	--	--	2.37
Washington	--	--	0.23	0.09	0.32
Wheeler	7.68	1.29	--	--	8.97
Yamhill	0.22	--	1.21	--	1.43
Statewide	**0.99**	**0.08**	**1.41**	**0.19**	**2.67**

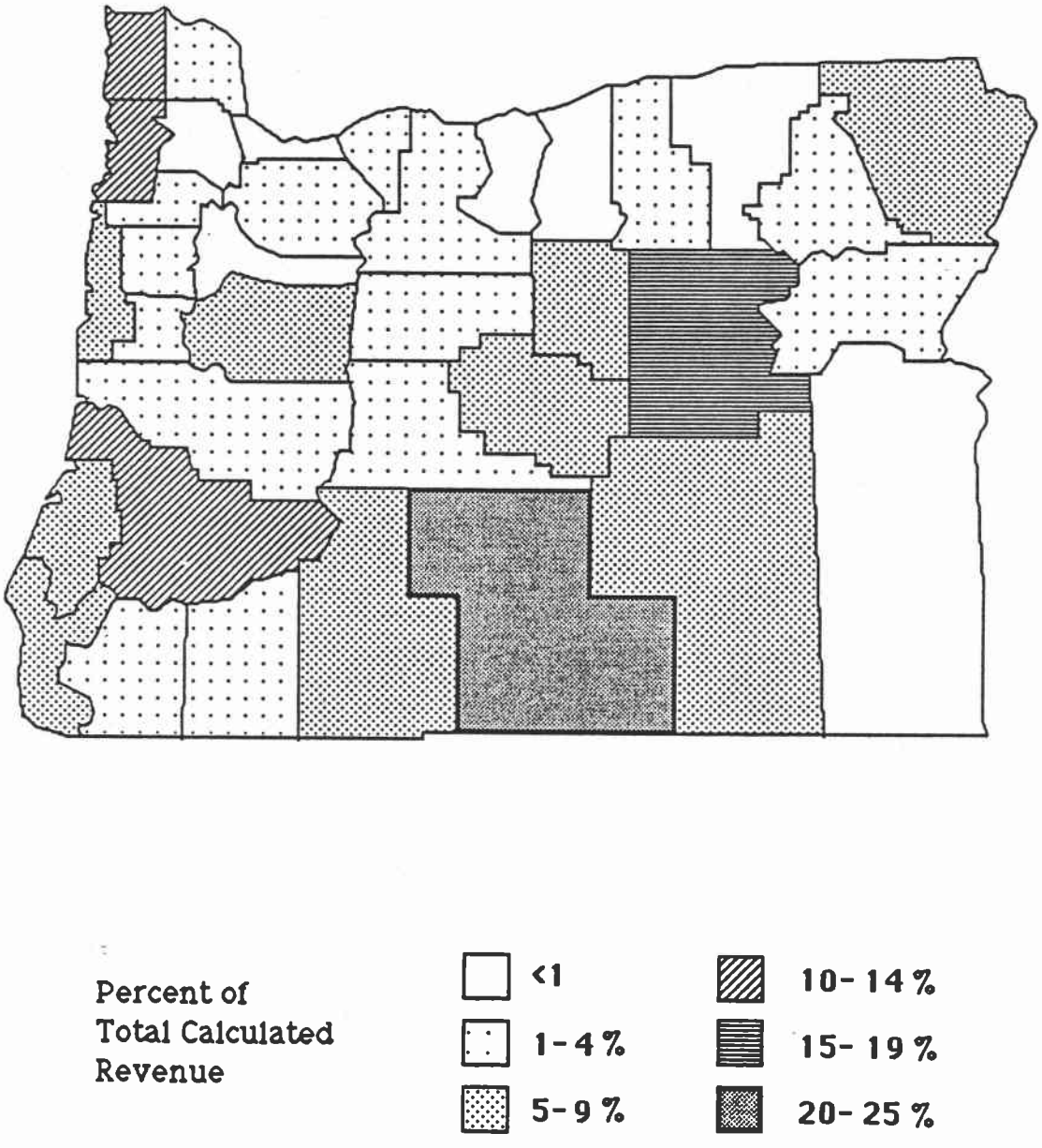

Figure 5. Geographic perspective of the average percent of total school revenue received during year that was timber-related (1982-83 to 1985-86)

Education Service Districts

ESDs provide a variety of services to school districts, e.g. special education services, payroll accounting, grade reports and workshops for teachers and administrators. Most of the funding for the 29 ESDs in Oregon comes from federal and state grant funds. Pass-through funds from county government general funds were not available and therefore ignored. They also submit a levy and receive property tax money. Severance tax monies are received by ESDs through the offset program previously described. A summary of average ESD dependency on severance tax offset payments for the period can be found in Table 5 For the purposes of this study, the Linn-Benton ESD has been split into Linn and Benton counties (with respect to the number of students in each county) so that the contribution from severance taxes can be more clearly observed.

Wheeler and Lake County's ESDs were the only eastern Oregon ESDs that received more than 5 percent of their revenues from EOST payments. These two counties received on average, about 13 and 7 percent of their total revenue from this source (respectively). EOST payments accounted for less than 5 percent of the total revenue in each of the other eastern Oregon counties over the period. Statewide, EOST payments make up less than 1 percent of total ESD revenue received during the year.

Western Oregon ESDs were more dependent on severance tax payments. On average, they accounted for almost 6 percent of their total annual revenue. Clatsop and Douglas County ESDs were the most dependent on this source of revenue, with WOST

payments making up about 15 and 14 percent of their total revenue respectively. Curry and Polk County ESDs relied on these payments for at least 10 percent of their total revenue received during the year. Other ESDs showing WOST payments accounting for more than 5 percent of total revenue over the period were Coos, Linn, and Tillamook. Statewide, Oregon ESDs relied on WOST payments on average, for about 2 percent of total revenue received during the year.

Table 5. E.S.D. revenue summary, average for fiscal years 1982-83 to 1985-86

County	Total revenue received during year	EOST	WOST	% EOST	% WOST
Baker	$834,909	$3,643	--	0.44	--
Benton*	1,903,616	--	13,174	--	0.69
Clackamas	9,217,945	--	112,335	--	1.22
Clatsop	2,375,607	--	360,487	--	15.17
Columbia	1,083,272	--	46,786	--	4.32
Coos	2,768,295	--	238,118	--	8.60
Curry	920,367	--	94,603	--	10.28
Deschutes	603,115	1,050	--	0.17	--
Douglas	3,439,039	--	468,394	--	13.62
Gilliam	341,062	88	--	0.03	--
Grant	856,061	36,889	--	4.31	--
Harney	2,308,115	6,495	--	0.28	--
Jackson	8,946,702	--	91,741	--	1.03
Jefferson	245,713	1,552	--	0.63	--
Lake	600,703	40,661	--	6.77	--
Lane	8,162,539	--	250,165	--	3.06
Linn*	3,535,286	--	177,035	--	5.01
Malheur	835,161	43	--	0.01	--
Marion	8,114,465	--	15,259	--	0.19
Multnomah	24,263,595	--	18,946	--	0.08
Polk	896,468	--	95,670	--	10.67
Sherman	280,192	--	--	--	--
Tillamook	1,847,344	--	136,525	--	7.39
Umatilla	4,005,523	6,906	--	0.17	--
Union	2,170,069	14,320	--	0.66	--
Wallowa	2,374,192	81,228	--	3.42	--
Wasco	1,152,820	3,256	--	0.28	--
Washington	4,195,061	--	9,269	--	0.22
Wheeler	505,790	67,582	--	13.36	--
Yamhill	1,896,898	--	34,240	--	1.81
Statewide	**100,679,919**	**263,711**	**2,162,745**	**0.26**	**2.15**

Source: Oregon Property Tax Statistics, Statistical Supplement.
*Linn-Benton ESD has been split with respect to the number of students within each county.

Rural Fire Protection Districts

Fire districts can receive revenue from a number of sources but their primary source of funding for operations are from property tax appropriations. Pass-through funds from county government general funds were not available and therefore ignored. Reliance on Oregon severance tax payments by R.F.P.D's are expressed by the percentage that the payments make up of the total of the property tax levy for all R.F.P.D's in a county. It was found that non-severance tax offsets were extremely small in relation to the total levies of the R.F.P.D's. Average total levies and the percent that severance tax payments made up of the total levy are given in Table 6.

It can be seen from Table 6 that eastern Oregon R.F.P.D's received very little of their property tax revenue from the EOST program. In fact, the offset amounts made up less than 1 percent of property tax payments in every case where offsets were made.

The situation for western Oregon county R.F.P.D's was much the same although there was a somewhat larger contribution by WOST to western Oregon R.F.P.D's than EOST to eastern Oregon R.F.P.D's. The only counties showing any substantial contribution from WOST payments were Columbia and Tillamook Counties with about 3 and 4.6 percent of their tax revenues from the WOST program, respectively. Statewide, severance tax offsets made up less than 1 percent of Oregon's R.F.P.D. property tax revenues.

Table 6. R.F.P.D. property tax and severance tax offset summary, average for fiscal years 1982-83 to 1985-86

County	Total Levy	EOST	WOST	%EOST	%WOST
BAKER	$40,328	$150	$0	--	--
BENTON	932,334	0	3,544	--	0.38
CLACKAMAS	11,966,635	0	40,289	--	0.34
CLATSOP	283,682	0	2,104	--	0.74
COLUMBIA	1,976,113	0	67,915	--	3.44
COOS	626,558	0	5,181	--	0.83
CROOK	79,984	0	0	--	--
CURRY	172,208	0	471	--	0.27
DESCHUTES	1,872,149	1,001	0	0.05	--
DOUGLAS	2,479,890	0	2,090	--	0.08
GILLIAM	36,891	26	0	0.07	--
GRANT	27,533	125	0	0.45	--
HARNEY	11,865	0	0	--	--
HDRIVER	240,628	0	374	--	0.16
JACKSON	3,434,665	0	1,088	--	0.03
JEFFERSON	308,413	1,916	0	0.62	--
JOSEPHINE	244,263	0	2,932	--	1.20
KLAMATH	1,739,413	212	0	0.01	--
LAKE	74,491	6	0	0.01	--
LANE	2,830,102	0	27,614	--	0.98
LINCOLN	707,805	1,155	8,174	0.16	1.15
LINN	1,626,218	0	6,551	--	0.40
MALHEUR	194,494	0	0	--	--
MARION	3,934,976	0	5,546	--	0.14
MORROW	74,225	0	0	--	--
MULTNOMAH	12,200,828	0	2,056	--	0.02
POLK	520,287	0	3,844	--	0.74
SHERMAN	9,380	0	0	--	--
TILLAMOOK	336,556	0	15,413	--	4.58
UMATILLA	541,772	29	0	0.01	--
UNION	128,930	505	0	0.39	--
WALLOWA	8,445	28	0	0.33	--
WASCO	402,302	0	0	--	--
WASHINGTON	15,175,017	0	11,031	--	0.07
WHEELER	0	0	0	--	--
YAMHILL	507,933	0	6,133	--	1.21
Statewide	**65,747,310**	**5,153**	**212,346**	**0.01**	**0.32**

Road Districts

Road districts throughout the state received little in severance tax payments relative to their property tax revenues. The only county to receive any substantial payment from the severance tax program for the operation of road districts was Clatsop County in which WOST payments made up more than 18 percent of the total property tax revenue. All other county road districts received little or no payment from severance tax programs. A summary of the average payments to road districts by county is included in Table 7.

Table 7. Road district property tax and severance tax offset summary, average for fiscal years 1982-83 to 1985-86

County	Total Levy	EOST	WOST	%EOST	%WOST
BAKER	0	--	--	--	--
BENTON	74,287	--	27	--	0.04
CLACKAMAS	0	--	--	--	--
CLATSOP	664,570	--	123,751	--	18.62
COLUMBIA	0	--	--	--	--
COOS	6,896	--	22	--	0.31
CROOK	5,085	--	--	--	--
CURRY	0	--	--	--	--
DESCHUTES	109,709	13	--	0.01	--
DOUGLAS	4,561	--	12	--	0.26
GILLIAM	96,859	41	--	0.04	--
GRANT	0	--	--	--	--
HARNEY	0	--	--	--	--
HDRIVER	0	--	--	--	--
JACKSON	0	--	--	--	--
JEFFERSON	45,093	--	--	--	--
JOSEPHINE	0	--	--	--	--
KLAMATH	63,339	--	--	--	--
LAKE	0	--	--	--	--
LANE	0	--	--	--	--
LINCOLN	157,589	--	567	--	0.36
LINN	0	--	--	--	--
MALHEUR	396,586	172	--	0.04	--
MARION	0	--	--	--	--
MORROW	0	--	--	--	--
MULTNOMAH	1,302	--	--	--	--
POLK	0	--	--	--	--
SHERMAN	0	--	--	--	--
TILLAMOOK	3,869	--	--	--	--
UMATILLA	0	--	--	--	--
UNION	0	--	--	--	--
WALLOWA	0	--	--	--	--
WASCO	0	--	--	--	--
WASHINGTON	1,838	--	--	--	--
WHEELER	0	--	--	--	--
YAMHILL	2,115	--	--	--	--
Statewide	**1,633,697**	**226**	**124,379**	**0.01**	**7.61**

The Importance of Timber-related Contributions to Oregon Property Taxes

In addition to severance taxes, Oregon's forest industry pays real and personal property taxes on its holdings. It is important to know the contribution to the state's total property taxes from private forestry related holdings. Once the contribution is determined, assessments can be made of how property tax revenues may be affected if harvest levels vary enough to encourage or discourage investment in forest enterprises in the area. If harvest patterns reduce the investment levels in forestry industry, the result will be a reduction in the assessed worth of forest industry property. A reduction in cumulative property value in a county will, in turn, increase every taxpayers' tax burden, except that sector whose property value declined.

Data collection:

The measurement of contributions to property taxes by forestry related activities is difficult because of land classification differences by different counties and the sheer volume of property tax accounts that are in one way or another related to forestry. First, forestry related firms (SIC 24 or 26) paying at least 17 or more employees were identified. A listing of the appropriate firms was determined by consultation of the Oregon Directory of Manufacturers (State of Oregon, Economic Development Office,1985). Firms employing fewer than this number tended to be independently owned logging companies which paid

comparatively very small amounts of tax. Next, all real and personal property tax accounts were identified and summed over all selected firms for each county for the 1986-87 tax year. Individual county tax offices provided real and personal property tax information from their records or sent the documentation from which the information could be found.

Real property taxes collected from both industrial and nonindustrial forest land were then calculated using the forest land value and the consolidated tax rate within each county's tax code areas. These calculations represent the contribution from forest lands upon which the timber is being treated under the severance tax system and do not include the contributions from forest lands which are currently designated as agricultural or recreational land or the contributions from the Western Oregon Small Tract Option tax program.

Real and personal property tax data were not available for Klamath County and forest land tax data were not available for Yamhill County. Property taxes received from forest land for those counties without an asterisk contain some degree of overlap with the real property taxes collected from forestry firms (ie. the forest land taxes paid by firms have not been netted out of the real property taxes). Since the payments, for the most part, are small relative to the total property taxes collected by each county, it is felt that the degree of overlap is not great enough to distort the findings. Counties not containing this overlap are designated with an asterisk.

Results

The property tax contribution from timber-related sources is substantial in the majority of the counties (Tables 8 and 9). Timber-related contributions to the property taxes were expressed in Table 9 as the percentage contributed towards the combined total levy of all districts within a county. Total levies averaged about $54 million dollars in the 1986-87 tax year and ranged from $957,346 in Wheeler County to over $479 million in Multnomah County. It was found that the counties with smaller levies and relatively larger forested lands count on timber related sources to meet their levy.

Severance taxes are basically property taxes that private forest land owners pay on the timber component of their forest property. The land component of their forest property is accounted for by the calculation of forest land tax. On average, property tax offsets from the WOST program in 1986-87 amounted to $1,681,219. The amounts paid to individual counties, however, ranged from $87,418 in Hood River County to over $7 million in Douglas County. Property tax offsets from the EOST program averaged $206,425 with payments ranging from $610 in Malheur County to over $2.5 million in Klamath County where they offset over eight percent of the total levy. Douglas County received proportionally more of the total county tax levy in severance tax payments than any other county in the state. The more populated western counties and the non-forested eastern received proportionately, and absolutely, the least in severance tax payments. Table 9 shows that severance tax payments offset at least five percent of the total levy in seven

Table 8. Timber-related property tax summary for 1986-87 tax year

County	Forest land tax	Real property tax	Personal property tax	Total WOST	Total EOST	Timber related contribution	Total Levy
Baker	$14,224	$341,860	$16,334	$0	$24,224	$396,642	$8,798,352
Benton	375,738	885,014	62,967	615,405	0	1,939,124	48,450,860
Clackamas	398,341	1,344,152	88,863	722,545	0	2,553,901	191,483,714
Clatsop	512,261	4,054,599	239,541	1,784,494	0	6,590,895	28,494,676
Columbia	410,523	2,972,246	219,807	2,073,785	0	5,676,361	26,735,113
Coos	659,754	1,028,941	259,140	2,711,059	0	4,658,894	40,234,846
Crook	36,556	526,164	60,124	0	38,919	661,763	6,626,667
Curry	153,628	284,001	12,599	623,833	0	1,074,061	9,498,126
Deschutes	32,361	852,498	123,726	0	29,997	1,038,582	48,181,077
Douglas	1,125,178	2,303,253	721,595	7,077,616	0	11,227,642	59,503,356
Gilliam	0	0	0	0	772	772	2,919,498
Grant	43,398	250,985	29,107	0	39,489	362,979	3,499,793
Harney	6,795	355,805	45,498	0	4,411	412,509	4,337,517
Hood River	44,049	205,292	28,138	87,418	0	364,897	9,463,564
Jackson	271,593	1,819,411	372,379	1,098,129	0	3,561,512	74,090,322
Jefferson	43,190	30,037	17,116	0	23,007	113,350	8,049,506
Josephine	73,093	412,314	89,255	119,721	0	694,383	28,028,766
Klamath	321,875	not available	not available	0	2,622,923	2,944,798	31,832,260
Lake	99,238	198,843	49,239	0	239,209	586,529	5,038,415
Lane	1,594,734	11,773,955	1,012,601	5,201,517	0	19,582,807	194,660,764
Lincoln	664,796	1,374,695	215,511	1,561,126	0	3,816,128	34,454,540
Linn	813,557	3,794,493	495,225	3,635,092	0	8,738,367	59,843,543
Malheur	359	8,858	894	0	610	10,721	16,464,537
Marion	129,235	1,002,773	42,734	335,597	0	1,510,339	133,406,377
Morrow	18,526	359,340	29,783	0	33,306	440,955	12,348,172
Multnomah	96,449	1,746,372	208,309	122,598	0	2,173,728	479,226,972
Polk	296,437	220,739	16,506	1,220,957	0	1,754,639	28,358,002
Sherman	0	0	0	0	0	0	3,120,187
Tillamook	304,786	216,649	92,297	1,022,446	0	1,636,178	16,020,620
Umatilla	105,377	450,217	35,000	0	51,354	641,948	36,611,243
Union	52,180	964,173	125,219	0	60,594	1,202,166	13,976,720
Wallowa	53,317	267,208	23,173	0	61,940	405,638	5,484,393
Wasco	32,091	45,577	311,287	0	26,962	415,917	18,640,135
Washington	343,270	436,729	104,694	531,606	0	1,416,299	222,652,416
Wheeler	30,504	0	0	0	45,082	75,586	957,346
Yamhill	not available	167,491	27,905	1,398,211	0	1,593,607	37,738,471
Statewide	**9,157,413**	**40,694,684**	**5,176,566**	**31,943,155**	**3,302,799**	**90,274,617**	**1,949,230,866**
w/o Mult	9,060,964	38,948,312	4,968,257	31,820,557	3,302,799	88,100,889	1,470,003,894
w/o Mult,Wash	8,717,694	38,511,583	4,863,563	31,288,951	3,302,799	86,684,590	1,247,351,478

Table 9. Timber-related property tax summary for 1986-87 tax year, percent of total levy

County	Forest land tax	Real property tax	Personal property tax	Total WOST	Total EOST	Timber related contribution
Baker	0.16	3.89	0.19	--	0.28	4.51
Benton	0.78	1.83	0.13	1.27	--	4.00
Clackamas	0.21	0.70	0.05	0.38	--	1.33
Clatsop	1.80	14.23	0.84	6.26	--	23.13
Columbia	1.54	11.12	0.82	7.76	--	21.23
Coos	1.64	2.56	0.64	6.74	--	11.58
Crook	0.55	7.94	0.91	--	0.59	9.99
Curry	1.62	2.99	0.13	6.57	--	11.31
Deschutes	0.07	1.77	0.26	--	0.06	2.16
Douglas	1.89	3.87	1.21	11.89	--	18.87
Gilliam	--	--	--	--	0.03	0.03
Grant	1.24	7.17	0.83	--	1.13	10.37
Harney	0.16	8.20	1.05	--	0.10	9.51
Hood River	0.47	2.17	0.30	0.92	--	3.86
Jackson	0.37	2.46	0.50	1.48	--	4.81
Jefferson	0.54	0.37	0.21	0.00	0.29	1.41
Josephine	0.26	1.47	0.32	0.43	--	2.48
Klamath	1.01	not available	not available	--	8.24	9.25
Lake	1.97	3.95	0.98	--	4.75	11.64
Lane	0.82	6.05	0.52	2.67	--	10.06
Lincoln	1.93	3.99	0.63	4.53	--	11.08
Linn	1.36	6.34	0.83	6.07	--	14.60
Malheur	0.00	0.05	0.01	0.00	--	0.07
Marion	0.10	0.75	0.03	0.25	--	1.13
Morrow	0.15	2.91	0.24	--	0.27	3.57
Multnomah	0.02	0.36	0.04	0.03	--	0.45
Polk	1.05	0.78	0.06	4.31	--	6.19
Sherman	0.00	0.00	0.00	0.00	--	0.00
Tillamook	1.90	1.35	0.58	6.38	--	10.21
Umatilla	0.29	1.23	0.10	--	0.14	1.75
Union	0.37	6.90	0.90	--	0.43	8.60
Wallowa	0.97	4.87	0.42	--	1.13	7.40
Wasco	0.17	0.24	1.67	--	0.14	2.23
Washington	0.15	0.20	0.05	0.24	--	0.64
Wheeler	3.19	0.00	0.00	--	4.71	7.90
Yamhill	not available	0.44	0.07	3.71	--	4.22
Statewide	0.47	2.09	0.27	1.64	0.17	4.63
w/o Mult	0.62	2.65	0.34	2.16	0.22	5.99
w/o Mult,Wash	0.70	3.09	0.39	2.51	0.26	6.95

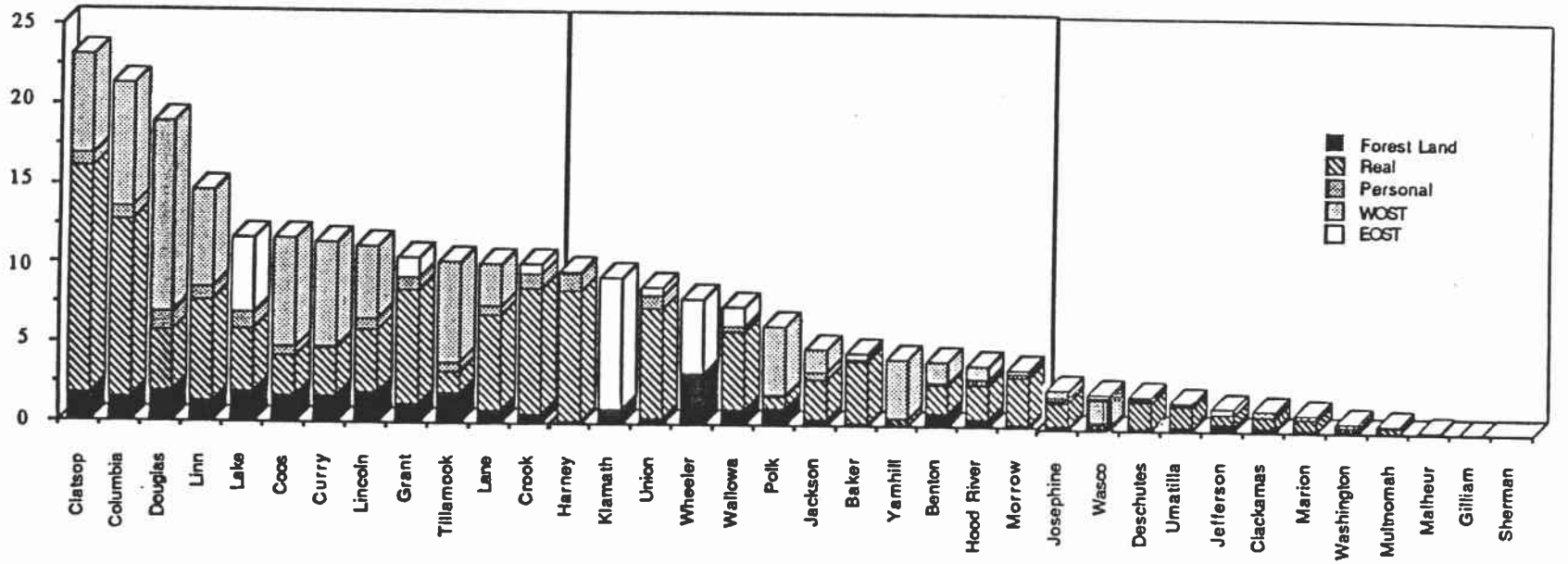

Figure 6. Timber-related property tax summary for 1986-87 tax year, percent of total levy

western Oregon counties and about 5 percent or more in three eastern counties. Curiously , Gilliam County currently has no forest land value but still received an EOST payment.

The contribution to property taxes from the land component of the timberlands under Oregon's severance tax systems is represented in the forest land tax column of the table. As can be seen, forest land property tax revenues did not account for more than two percent of the total levy in any county in the state with the exception Wheeler county. Payments from this source averaged $261,640 and ranged from $0 in Sherman and Gilliam Counties to about $1.6 million in Lane County.

Revenues from timber related personal property were fairly small. Revenues from this source averaged about $150,000 and ranged from $0 in three counties to about $1 million in Lane County. The most that personal property taxes made up of any county's total levy was 1.7 percent. In fact, contributions from this source account for less than one percent of the total levy in all but Douglas, Harney and Wasco counties.

Real property tax contributions, unlike those from personal property taxes tended to make up a significant portion of a number of counties' total levy. On average, timber related firms' real property tax assessments came to about $1.16 million and made up about 3 percent of the total levy. Assessments ranged from almost $12 million in Lane County to $0 in Gilliam, Sherman and Wheeler Counties. Real property tax assessments of over $4 million in Clatsop County and almost $3 million in Columbia County translated to over 14 and 11 percent of the total levy in those counties

(respectively). In Crook and Harney Counties real property taxes accounted for about eight percent of the total levy and at least six percent of Grant, Lane, Linn and Union Counties total levies was made up of real property taxes.

Although real and personal property tax data for Klamath County were not available, it is felt that the contributions from this source would go towards a fairly significant portion of their total tax levy.

When combined, severance taxes, forest land taxes and real and personal property taxes accounted for a significant portion of the majority of county property tax levies. The average amount received from these sources was about $2.5 million. This translates to about 7 percent of the average county's total tax levy coming from timber related sources (excluding Washington and Multnomah Counties). As can be seen from Tables 8 and 9 ,however, this varied greatly from county to county. Timber related contributions made up from 0 to over 23 percent of county total levies. Tax revenue from timber related sources accounted for 23.1 and 21.2 percent of Clatsop and Columbia counties' total levies (respectively). These counties received, proportionately, the most from these sources. Douglas County was next highest receiving almost 19 percent of their levy from the timber related firms and timberlands. Ten percent or more of the total tax levies of thirteen counties was met by these sources and eighteen counties relied on this source for at least 6 percent of it.

Figure 6 depicts the proportion of total levies met by timber related sources by county and in order of decreasing magnitude. It

can be clearly seen that the more forested counties are those which are receiving the most of their revenues from the above sources. It can also be seen that the counties depending most on timber-related revenues to help share the burden of their total levy are primarily on the western side of the state. It was also found that the primary contributors from private firms were by far the large forestry oriented corporations. Payments by smaller firms were dwarfed by the enormous amount of taxes paid by the two largest companies, each of which paid more than all other firms combined in their respective counties.

It was estimated that statewide taxation of private forestry related entities accounts for about 4.6 percent of all property tax levied. If Multnomah County is removed from the analysis then the estimate rises to 6 percent. If Washington County is also removed the percentage contribution rises to about 7 percent. This is, however, an underestimate since real (excluding timber land) and personal property taxes paid by private forestry related firms in Klamath County and property tax revenues from forest lands upon which is timber that is being treated under the Western Oregon severance tax system in Yamhill County are not included. Also not included are forest lands that are currently not classified on the tax rolls as forest land, tax revenue from owners with timberlands being treated under the Western Oregon Small Tract Option and real or personal taxes assessed to small, privately owned forestry related firms.

The Effects of Oregon's Forests on Property Tax Rates

As has been shown, a significant proportion of local government revenues are derived from public and private forestry sources. In that forest lands have largely different tax treatments than other lands, the question arises as to whether these lands are influencing the tax rates of the counties in which they are found and whether that influence is a negative or positive one. This analysis will try and determine whether or not tax subsidies or penalties accrue to taxpayers living within a given county where National Forests, BLM lands, State forest lands, and private forest lands are found. The analysis will be made via regression techniques which will determine whether or not these lands show a statistically significant influence on tax rates, and if so, in which direction.

Model development

The model was constructed to estimate average county property tax rates. The rates estimated were in the form of property taxes due per thousand dollars of assessed value (average mil rate).

Tax rates can be influenced by a number of different variables and these variables change from county to county and from year to year as demographic characters of each individual county change. Table 10 briefly describes the variables used in the analysis and their expected relationship to average tax rates.

Table 10. Major factors, variables and expected relationships between variables.

Factor	Variable	Expected relationship
Assessed value	Total county assessed value used to calculate property tax rate.	Negative
Population	Total population of each county (all ages).	Positive
Time	Current tax year	Positive
Highly industrialized and/or primarily urban counties.	Dummy variable which designates Clackamas, Multnomah and Washington counties as (1) and others as (0).	Positive
Location	Dummy variable which designates counties as western (1) or eastern (0).	Negative
East Side Counties:		
BLM acreage	Acres of county land that are federally owned and administered by the Bureau of Land Management.	Nonsignificant or positive
National Forest acreage	Acres of National Forest land in the county.	Negative
State forest acreage	Acres of State forest land in the county	Nonsignificant or positive
Total private forest acreage	Billion board feet of timber that was harvested from privately owned land.	Nonsignificant or positive
Total acreage	Total county acreage	Negative
West Side Counties:		
BLM acreage	Acres of county land that are federally owned and administered by the Bureau of Land Management.	Negative
National Forest acreage	Acres of National Forest land in the county.	Negative
State forest acreage	Acres of State forest land in the county	Negative
Total private Nonsignificant	Billion board feet of timber that was forest acreage harvested from privately owned land.	
Total acreage	Total county acreage	Negative

Table 11. Sources of Data

Variable	Source
Average county tax rate	Oregon Property Tax Statistics (FY 1982-83 to 1986-87)
Assessed Value	Oregon Property Tax Statistics (FY 1982-83 to 1986-87)
Population	Center for Population Research and Census (Portland State University, 1986)
National Forest acreage	Gedney, 1982; Farrenkopf,1982
BLM acreage	Gedney, 1982; Farrenkopf,1982
State forest acreage	Bureau of Government Research and service, 1986
Total private forest acreage	Gedney, 1982; Farrenkopf,1982

Database description

The equation was estimated using cross-sectional time series data for fiscal tax years 1982-83 to 1985-86. Table 11 lists the the sources of data for each of the variables used.

Defense of variables

The following variables were determined to be important factors in the determination of average tax rates within the counties:

Assessed value:

The expected relationship of assessed value to tax rates is negative. All else equal, a higher assessed value means a larger tax base to distribute the levy across.

Population:

Population was included because it relates the needs of the populace for public services. The greater the population, the greater the need for community services will be. This greater need for service translates into higher tax rates.

Time:

This variable was included to capture the affects of the increasing cost of support of public services over time due to inflation and community and industrial growth.

Highly industrialized and primarily urban counties:

Clackamas, Washington and Multnomah counties have very large populations and are very highly industrialized in comparison with other Oregon counties. A dummy variable has been included to help explain the variability in tax rates due to the demographic and industrial characters which typify these counties. It is thought that the more industrialized, urban counties will require a higher level of service (ie. more capital intensive and more total service).

Location:

The western and eastern sides of the state of Oregon (as defined by the Cascade mountain range) vary greatly both physiographically and demographically. The types of industry and community needs also vary greatly. For example, most western Oregon counties are much more industrialized than counties such as Malheur or Baker, and the types of industry which exist there are very different, this means that tax rates are likely to be higher. It is believed that tax rates vary from east to west by virtue of these differences. A dummy variable has, therefore, been included to capture the effects of a county being located in eastern or western Oregon.

BLM acreage:

It is believed that BLM payments-in-lieu-of-taxes have the potential to affect the tax rates of counties on both the east and west sides. They have been split into east and west since the

characteristics of the lands vary greatly from east to west, as do the in-lieu-of-taxes programs and formulas under which the land is being treated. The west side BLM acreage consists primarily of high valued O&C holdings whereas the east side is primarily rangeland and is treated under various other, in-lieu programs. The BLM land area used in this analysis included both forested and non-forested acreages. The conclusions about the impact of BLM lands on tax rates should therefore, not be confused with the impacts of BLM forest lands alone.

National Forest acreage:

It was suspected that national forest acreages on the eastern side of the state would affect tax rates in different ways than those on the more productive, western side. The contributions to schools and county governments from high valued harvests on the west side was believed to be exerting greater negative influences than those on the eastern side.

Total private forest acreage:

This variable was included to determine whether private forest lands were a tax burden to the rest of the county. Since harvest levels, species composition and the severance tax rates vary depending on whether the property is located in an eastern or western county. The analysis included both eastern and western private forest land acreage. It was thought that this variable should prove insignificant if the severance tax rates were correctly determined.

State forest acreage:

The reasons for the inclusion of this variable were the same as for including national forest acreage. It is suspected that the relatively unproductive eastern state trust lands may be somewhat of a tax burden due to low revenues acquired from these lands.

Total acreage:

In Oregon large counties tend to have proportionately large areas under public ownerships and the smaller counties in general tend to have a proportionately smaller amount of their total areas in public ownership. This variable was included to try and capture the effects of having large or small proportions of county land in public ownership. All else equal, larger acreages would imply more rural acres, lower need for services and therefore lower property tax rates.

Model evaluation

Tax rates can be affected by a great number of factors and are therefore relatively difficult to estimate. The model presented tended to do a reasonably good job of predicting tax rates. The equation explained approximately 60 percent of the variation in the average tax rates. The model has effectively estimated two equations through the use of dummy-dummy interaction variables to distinguish eastern and western response. The t-statistics were calculated using the algorithm described in Pindyck and Rubenfeld

(1981). The procedure for determining the variance of the dummy-dummy interaction variables is described below :

$$\sigma^2 = \text{Var (A)} + \text{Var (B)} + 2(\text{Cov A,B})$$

Results

Table 12 gives a detailed description of the model and its performance. All non-acreage variables included in the analysis were significant to the 99 percent confidence level. Table 13 gives a summary of the significance and influences of the variables pertinent to the following discussion. The following sections will first describe the interpretation of the eastern and then the western Oregon acreage variables.

East side acreage variables:

BLM acreage:

Many eastern counties have very large acreages of low valued and relatively unproductive BLM land. The east side BLM coefficient was positive and significant to about $\alpha = 0.01$. This means that property tax rates tend to be higher in eastern Oregon counties where BLM acreage is located.

National Forest acreage:

Unlike BLM lands, it appears that National Forest payments are not affecting tax rates in eastern counties. This was concluded since the variable's coefficient was not significantly different from zero. This implies that the presence of National Forest acreage on the east side tends to be associated with lower property tax rates.

Table 12. Model estimators and statistics.

Variable	Estimated Coefficient	Standard Error	T-Statistic
Assessed Value	-0.00429 E-03	8.277 E-07	-5.183
Population	0.1397 E-03	2.371 E-05	5.892
Time	5451 E-03	2.361 E-01	2.308
Highly industrialized or urban counties	3,904 E-03	1.949	2.003
Location	-10,769 E-03	1.528	-7.046
East side:			
National Forest acreage	0.00117 E-03	1.778 E-06	0.660
BLM acreage	0.00375 E-03	1.635 E-06	2.296
State forest Trust acreage	0.5224 E-03	1.422 E-04	3.674
Private forest acreage	-20.46 E-03	6.834 E-03	-2.995
Total acreage	-0.00344 E-03	1.313 E-06	-2.617
West side* :			
National Forest acreage	-0.00890 E-03	4.557 E-06	-1.954
BLM acreage	-0.01475 E-03	5.712 E-06	-2.583
State forest Trust acreage	-0.01238 E-03	5.477 E-06	-2.260
Private forest acreage	4.008 E-03	6.472 E-03	0.619
Total acreage	0.00456 E-03	4.485 E-06	1.017
Constant	24.97	11.407	17.751

* Represents adjusted figures for dummy-dummy interaction variable (Pindyck & Rubenfeld, 1981).

Private Forest acreage:

The coefficient on this variable was negative and significant at $\alpha = 0.01$. The model is therefore indicating that the presence of privately owned forest land appears to be beneficial to property tax payers in eastern Oregon. Whether or not this contradicts Klemperer's 1975 study which concluded that the EOST rate should be higher than 5% if private forest land owners were to pay their fair share of property taxes on their forest land holdings is not discernible since the harvest level rather than the tax rate seems to be determining whether or not benefits are received.

State forest acreage:

State forest land is found primarily in the southeastern part of the state. It is primarily composed of blocks of relatively unproductive land. It is probably for this reason that the coefficient was found to be positive and highly significant ($\alpha<0.01$). The model therefore indicates that tax rates are higher in eastern counties where state forest lands are located

Total acreage:

It was found that the larger an eastern Oregon county was, the lower its average tax rate tended to be. The reasons for this probably lie in the relatively low public service requirements of the counties due to their demographic and industrial character.

West side variables:

BLM acreage:

It was determined that the BLM acreages within western Oregon counties create benefits for property tax payers. This is probably due to the large acreages of highly productive O&C forest land found in western Oregon counties. The coefficient on this variable was negative and significant at the $\alpha = 0.01$ level of significance. As can be seen from the magnitude of coefficients, the benefits from these lands are greater than those from western National Forest. This is most likely due to the difference in the revenue sharing formulas and differences in harvest volumes.

National Forest acreage:

As was mentioned above, National Forests tended to be associated with lower property tax rates in western Oregon counties. The model suggests that National Forests had a negative effect on tax rates in western Oregon counties over the study period.

Private forest acreage:

The presence of private forests on the west side of the state did not seem to be having an effect on property tax rates. Once again, whether or not this finding contradicts Klemperer's 1975 study cannot be determined.

Table 13. Summary of acreage variable effects, levels of significance and performance of the model.

Variable	Effect on tax rates	Level of significance (α level)
East side:		
BLM acreage	Positive	< 0.01
National Forest acreage	None	Insignificant
Private Forest acreage	Negative	< 0.01
State forest acreage	Positive	< 0.01
Total acreage	Negative	< 0.01
West side:		
BLM acreage	Negative	< 0.01
National Forest acreage	Negative	$0.05 > \alpha > 0.01$
Private Forest acreage	None	Insignificant
State forest acreage	Negative	< 0.01
Total acreage	Nonconclusive	--

F-Statistic (15,128) = 12.727
R-Squared = 0.599
Adjusted R-Squared = 0.551

State forest acreage:

It is apparent from Table 12 that State forest lands on the western side of the state affect tax rates in the opposite direction as State forest lands on the eastern side do. It is believed that this is primarily due to the large, productive acreages of this land that exist in Tillamook, Clatsop and Douglas counties. Also, the vast majority of the revenues from these lands goes directly to taxing districts.

Total acreage:

The significance of the coefficient on the total acreage variable was not high enough to warrant a definitive discussion on its affect on property tax rates in western Oregon counties.

Summary of effects

The model has shown that the funding of local governments via property taxes can be impacted by the presence of various forest ownerships in a county. These impacts, however, are closely tied to the harvest levels occurring on those lands. The lower the harvest level the higher will be the tax rate applied to properties within those counties with forests regardless of ownership. Although this may seem obvious, the model has shown the impact on tax rates to be significant. It can therefore be said that Oregon's forests are also impacting the funding of local governments. The higher the harvest levels occurring on private and public forests the less of a burden is placed on non-timber property tax payers.

Benefits which accrue to the property owners in eastern Oregon counties from the presence of these lands such as local access to wildlife and recreation areas can not be measured by the payments that are made in-lieu-of-taxes. In fact, these benefits have not been measured by the model at all.

Summary and Conclusions

The intent of this paper was to assess the importance of forestry related payments to the funding of five types of local governments in the state of Oregon and to point out possible problems which may arise if timber harvests on public and private lands are significantly reduced in the near future.

When estimating the impact of changes in harvest levels on local governments it should be kept in mind that harvest volume is not the only issue of importance. What ultimately determines the payments from these lands is the harvest value not volume. Although closely related, they are not one in the same. For example, it is possible to reduce National Forest harvest volumes, but maintain the same level of harvest value. This would require, however, an increase in the price of the timber being harvested. For this to occur stumpage prices would need to rise enough to compensate for the reduction in volume. The point here is that although payments to counties and schools would most likely decline given a substantial reduction in harvest levels on National Forests or O&C lands the amount of that reduction can only be assessed after the market has adjusted to a reduction in stumpage supply. Answers to questions such as, "How much would harvest levels have to be reduced before significant impacts would be felt by the counties? " are difficult to assess and would depend on the county and the ability of the county governments to find alternative sources of revenue.

National Forest and O&C payments to counties proved to be the most important of all timber payments to county governments and schools. The importance of National Forest payments can be directly addressed, since a specific distribution formula designates how much National Forest revenue is given to the county road fund and schools. It was also found that some counties with large proportions of National Forest land, were depending to a significant degree, on payments from National Forests to help fund their school districts. Grant and Lake Counties depended on this source for over 15 percent of the total school revenue received during the year. National Forest payments that county governments receive are specifically to be used for schools and roads, but the impact of reducing National Forest harvest could extend beyond the reduction of school revenue and the reduction of road maintenance and construction, if a county finds that it needs to pull funding from other sources in order to maintain its roads. This means that it is possible that other programs may suffer from funding problems given enough of a reduction in the National Forest revenues it receives.

The importance of the O&C revenue can not be assessed as easily, since the money goes into the county general fund and for the most part, can be disbursed to other local governments within the county or retained by the county government for its own uses. In addition, each county uses its general fund money in its own unique fashion. This means that O&C money may be an important source of funding for a program in one county but may be used in a totally different way in another county. What is important to

realize in these cases is not necessarily how the money is used but where the money would come from to fund programs if O&C money were not there to help support those programs.

Severance tax payments were found to make up very little of the total revenue of the local governments examined, except school districts. The severance taxes collected under the EOST program made up very little of total school district revenues in all eastern Oregon counties except for Lake County where EOST payments made up on average about 5.5 percent of the school district total revenue received during the year. WOST payments to western Oregon school districts, on the other hand, made up over 5 percent of the total annual revenues received for five western counties' school districts. Douglas County school districts received over $6 million in the form of WOST payments. This made up a little over 10 percent of school district revenue in the county.

Figure 7 shows the percent of the combined school and county government revenues that were timber related in descending order of dependency. This gives us a general idea of how the counties stack up to one another in terms of their dependency on forestry related revenues. It also shows that the larger, school district total revenues tend to overshadow the county governments total revenue. This figure therefore best sums up the total dependency of counties on timber revenues for the support of their county government and school districts.

It was estimated that in fiscal 1986-87 forestry firms paid at least 6.3 percent of all property tax revenues. This number is inclusive of property tax revenues in the form of offsets and

severance taxes paid by the private sector. It was also observed that this private contribution was made primarily by Oregon's large forestry corporations.

This analysis has not reflected in full the contribution of forestry to Oregon's local governments. City governments, community colleges, and other taxing districts have been omitted from the analysis. The local governments that were included, are those which receive the most revenue that is timber related. In addition, the property tax payments that forestry related firms paid have not been added to the percent of total tables in the appendices. It is believed that their contributions via these payments make up a substantial portion of the revenues which local governments receive.

Timber-related firms were found to be bearing a very significant portion of the property tax burden in a number of Oregon's counties during the 1986-87 tax year. Western counties, which tend to have a higher timber-related industrial base, tended to assess a higher proportion of their levy against timber-related firms. Highly forested counties with a proportionally large timber-related industrial base tend to rely on these firms for a substantial amount of support for the operation of their local governments through property tax payments. If not for these firms the financial support of the local governments would most likely have to be spread out across property tax payers via higher tax rates.

The analysis of the effects of Oregon's forest lands on tax rates concluded that harvest levels on publically owned forest lands allowed for payments which, in general, were equitable or greater

than property tax payments that would be generated from them if they were privately owned. The presence of privately owned forests on the western side of the state did not appear to create benefits or liabilities for property tax payers over the period. The presence of privately owned forests on the eastern side of the state appear to have created tax benefits for property tax payers in eastern Oregon counties.

A further contribution to local governments is the cycling of income taxes through the state and federal governments to the local governments. In that forest industry and its employees pay a significant amount of income tax in the state, one cannot dismiss this contribution to local government finance. Difficulties in tracing the flow of income taxes, however, precludes the assessment of this contribution in the current analysis.

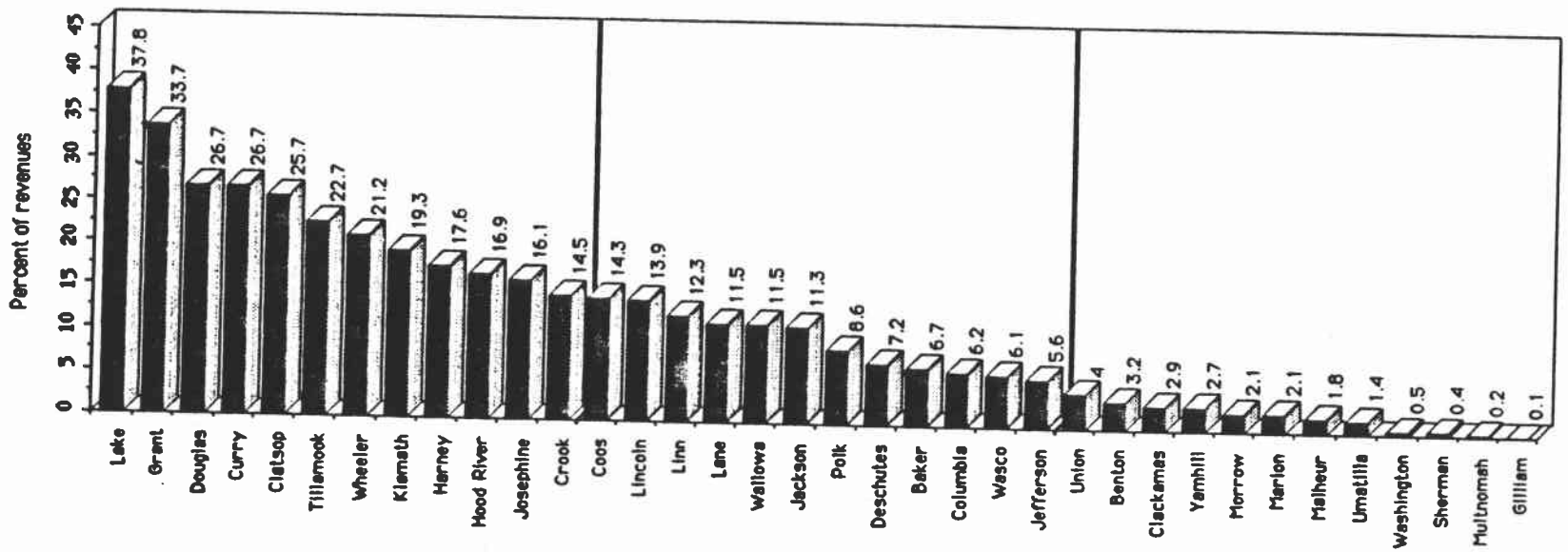

Figure 7. Percent of combined school and county government revenues that were timber-related

These percentages are not inclusive of property tax payments from forestry related firms.

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APPENDIX

Appendix 1. Severance tax formulas

WOST Distribution Formulas

$$\text{County Harvest Distribution} = \frac{\text{County 5-year Ave. Harvest Value}}{\text{Western Oregon Ave. Harvest Value}} * \text{75\% of Net Collections}$$

$$\text{County Land Distribution} = \frac{\text{County Forest Land Value}}{\text{Western Oregon Forest Land Value}} * \text{25\% of Net Collections}$$

$$\text{Total County Distribution} = \text{County Harvest Distribution} + \text{County Land Distribution}$$

$$\text{District Harvest Distribution} = \frac{\text{District's Ave. Harvest Value} * \text{Ave. Tax Rate}}{\text{County Sum of Ave. Harvest value} * \text{Ave. Tax Rate}} * \text{75\% of County Distribution}$$

$$\text{District Land Distribution} = \frac{\text{District's Land Value} * \text{Ave. Tax Rate}}{\text{County Sum of Land value} * \text{Ave. Tax Rate}} * \text{25\% of County Distribution}$$

$$\text{Total District Distribution} = \text{District Harvest Distribution} + \text{District Land Distribution}$$

EOST Distribution Formulas

$$\text{County Distribution} = \frac{\text{County Appraised Timber Value for 1964}}{\text{Eastern Oregon 1964 Appraised Timber Value}} * \text{Net Collections}$$

$$\text{District Distribution} = \frac{\text{District Computed Prop. Tax on Timber}}{\text{County Sum of Computed Tax on Timber}} * \text{County Distribution}$$