

Rethinking the Fiscal Relationship Between Public Lands and Public Land Counties: County Payments 4.0

Mark N Haggerty, *Headwaters Economics*

In 1908, Congress authorized payments to local governments, including counties and school districts, to compensate for the non-taxable status of the newly established forest reserves within their boundaries. The original program shared revenue generated from commercial activities on public lands, e.g. timber harvesting, not anticipating the major changes in the volume and types of activities on National Forest lands, particularly in the Pacific Northwest, that have played out over the past century. Two subsequent reforms – the appropriated Payments in Lieu of Taxes (PILT) in 1976 and ‘transition’ payments made between 1990 and 2018, including payments associated with the Northwest Forest Plan and the Secure Rural Schools and Community Self-Determination Act (SRS) – have yet to deliver a permanent or effective policy solution that matches county payments to local governments’ economic needs or forest management objectives. This paper analyzes three policy options: a status quo option of PILT and revenue sharing payments; reauthorization of SRS; and the creation of a new permanent trust fund at the federal level. The paper concludes that the trust option (‘County Payments 4.0’) could resolve key challenges by stabilizing and growing revenue over time, eliminating the need for cycles of conditional appropriations, and providing flexibility to address economic and forest management needs in public land counties.

Keywords: Payments in Lieu of Taxes (PILT), Secure Rural Schools and Community Self-Determination Act (SRS), natural resources, rural economic development, local government fiscal policy

In 1908, Congress authorized ‘county payments’ to local governments, including counties and school districts, to compensate for the non-taxable status of the newly-established forest reserves within their boundaries. This original program based payment levels on commercial activities on public lands, e.g. timber harvesting, not anticipating the major changes in the volume and types of activities on National Forest lands that have played out over the past century, particularly in the Pacific Northwest region. Two subsequent re-

forms—the permanently-authorized Payments in Lieu of Taxes (PILT) in 1976 and ‘transition’ payments beginning in the 1990s – authorized by the Northwest Forest Plan and the Secure Rural Schools and Community Self-Determination Act (SRS) between 2001 and 2018 have yet to deliver a permanent or effective policy solution. The way that county payments are made, including the certainty of payments and the source of funding, is one of the most important and underappreciated policies affecting the fiscal and economic well-being of many public land counties and the way that public lands are

managed. Existing programs have exacerbated fiscal dependence on uncertain and inequitable payments in many public lands counties, discouraged economic diversification, and contributed to fiscal crises in the Pacific Northwest counties historically most dependent on payments.

A long-term county payments solution must address two fundamental concerns: the economic challenges and opportunities for public lands counties in the 21st century economy, and the problems of uncertainty, inequitable distribution, and misdirected incentives generated by previous county payments policies and their implementation. This paper analyzes three policy options, including a permanent return to a revenue sharing model, a long-term reauthorization of SRS, and an endowment model that would create a new permanent natural resource trust at the federal level. These options are compared according to total payment amount, payment equity (measured as the share of payments allocated to metropolitan vs. non-metropolitan counties), predictability of payments, and the cost of appropriations over a 35-year period.

To provide context for the policy analysis, this paper begins with a description of the changing economic geography of the U.S. and the Pacific Northwest focused on implications for public land counties and local government finance. Next, it reviews the history of county payment policies and how these programs exacerbate the challenges rural counties face in succeeding in the new economy. The paper then turns to the analysis of the three policy options and ends with a discussion of the endowment model and its potential to resolve the key challenges associated with existing models of compensation

by stabilizing and growing revenue over time, eliminating the need for cycles of conditional appropriations, and providing flexibility to address economic and forest management needs in public land counties.

Changing Economic Geography of the Pacific Northwest

In the Pacific Northwest, a sharp decline in timber employment in the 1990s played out across a diverse and changing economic geography. To explain the nature of these changes and their implications, this section begins with a broader discussion of trends in the U.S. and the West's economy, including a structural shift from goods-producing to service-providing jobs and increasing geographic inequality among counties.

The West is the fastest-growing region of the U.S.¹ and has added jobs and population at roughly twice the rate of the rest of the U.S. since 1970 (U.S. Department of Commerce 2017). Personal income growth among western counties also outpaced the rest of the nation. Most of the growth in new jobs (92 percent) and income are in a variety of services occupations, including high-wage earners such as doctors, lawyers, and accountants, and low-wage earners such as retail and restaurant workers (U.S. Department of Commerce 2017).² The most important of the new services occupations are a set of high-wage jobs in 'innovation' sectors including software, research and development, finance, and technology. These high-wage jobs function the same as a traditional mining or manufacturing job by exporting ideas and services to clients across the U.S. and the world while returning income to the county

¹ In this paper, the 'West' is defined as the 11 western states in the continental U.S.: Arizona, Colorado, California, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

² For details on services industries, see North American Industry Classification System (NAICS) definitions, available here: <https://www.census.gov/programs-surveys/metro-micro/about/omb-standards.html>.

where they are located, which in turn generates additional economic activity in other sectors (e.g. they have multipliers that create additional jobs in related sectors) (Moretti 2012).

At the same time, employment and income in non-services sectors, including manufacturing, natural resources, and agriculture, have declined as a share of total employment and income, and in some cases in absolute terms in the West since 1970. The ‘great decoupling’ describes the fact that mechanization and productivity gains in the U.S. economy have not resulted in more middle-income jobs or higher family incomes beginning in the 1970s and accelerating since about 2000 (Brynjolfsson and McAfee 2012). In manufacturing, for example, increases in productivity led to fewer, not more jobs – the U.S. manufacturing sector added more than \$500 billion to Gross Domestic Product (GDP) between 1980 and 2016 while eight million manufacturing jobs were lost. Productivity gains also led to employment losses in other sectors of the U.S. economy where jobs are more easily automated including agriculture, timber, mining, and retail trade. Coal mining in the U.S., for example, lost 160,000 jobs between 1980 and 2010 as coal production increased 40 percent nationally (U.S. Department of Labor 2017). In timber, consolidation and automation of timber mills and mechanization in timber harvesting increased labor productivity and weakened the link between the level of timber harvests and employment (Oregon Office of Economic Analysis 2017).

Another important trend is the increasing importance of non-labor income. From 2000 to 2016, non-labor income in the United States grew by 55.4 percent compared to 23.3 percent growth in labor income. In the

West, non-labor income from investment-related sources and age-related and hardship-related transfer payments accounted for 52 percent of net growth in real personal income during 2000-2016 and made up 37 percent of total personal income in 2016. The largest component of non-labor income is investment-related sources (dividends, interest, and rent) followed by age-related transfer payments (e.g. Social Security and Medicare) and hardship-related payments (e.g. Welfare and Medicaid) (Lawson, Rasker, and Gude 2014).

These structural shifts away from goods-producing to service-providing sectors are associated with increasing geographic inequality. Innovation jobs and other high-wage services jobs tend to locate in cities around clusters of creative employees, companies, and finance (Glaeser 2011; Moretti 2012). Rural areas relatively remote from cities are not competing as well for these new services sector jobs due to relative isolation from markets (Goetz, Partridge, and Stephens 2017; Rasker et al. 2009). At the same time, rural counties tend to be more acutely affected by the challenges associated with productivity gains and trade that have reduced employment in natural resources sectors and manufacturing (Hicks and Devaraj 2015).

The same geographic implications of restructuring are visible in the Pacific Northwest since 1990.³ The region covered by the Northwest Forest Plan lost 30,000 jobs in the timber industry in the 1990s. Despite these losses, 1.4 million new jobs were created in other sectors (primarily services) over the same period (Charnley 2006). The recent performance of formerly timber-dependent counties, however, is mixed. Some rural counties are adding people, jobs, and income,

³ The Pacific Northwest is defined as all counties in Washington, Oregon, and Idaho, and counties in Northern California (Del Norte, Glenn, Humboldt, Lake, Mendocino, Shasta, Siskiyou, Tehama, and Trinity) and western Montana (Deer Lodge, Flathead, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, Sanders, and Silver Bow).

including those connected to cities and those attracting workers and retirees to remote, high-amenity landscapes (Chen and Weber 2011; Goetz et al. 2017; Johnson and Cromartie 2006). Rural communities relatively isolated from metropolitan markets have grown more slowly since 1990, however their performance, while poor relative to metropolitan counties, is similar to peer non-metro counties that were not historically dependent on timber (Rasker 2017).

The uneven economic performance of formerly timber-dependent communities is explained in large part by the trajectory they were on in the late-1980s (Charnley et al. 2006). Counties already beginning to diversify and grow outside the timber industry before the Northwest Forest Plan was adopted in 1994 continued to grow despite the sharp decline in a major employment sector. Rural and relatively isolated communities experienced the declines in timber harvest on federal land most acutely.

Interventions included in the Northwest Forest Plan intended to stabilize and transition the economies of timber-dependent communities generally failed to overcome the structural and geographic context. In particular, efforts to stabilize timber supply, albeit at lower levels, were not met (volumes offered for sale averaged only 54 percent of target volumes) and overemphasized an outmoded supply-side development model (Kilkenny and Partridge 2009) that ignored the effects of changes in the timber industry, including mill consolidation, productivity gains, increasing trade, and reduced timber demand, responsible for two-thirds of job losses in timber in the Northwest Forest Plan region (Charnley et al. 2006).

Lessons from the Northwest Forest Plan reveal that timber counties were more complex and diverse than the stabilization model anticipated. In the new economy, a community's assets – such as quality education, health care services, and a high quality of life – play increasingly important roles in distinguishing rural places, even for remote and resource-dependent communities (Halseth et al. 2006; Kashdan and Nothstine 2014; Kitson, Martin, and Tyler 2004; Markey, Halseth, and Manson 2008; Power 2006).

The increasing importance of a community's amenities, infrastructure, and services to economic well-being places greater importance on the role county governments play in economic development activities. The next section provides more detail about the expanded and vital role of local governments in economic development and highlights the important role of fiscal policy related to natural resources, including county payments.⁴

County Government Finance and County Payments

Counties are the largest political subdivisions of states and have responsibility to provide basic public services, including public works such as roads and bridges and public safety. Another primary responsibility of county governments is administering state mandates, such as organizing elections, assessing property, issuing licenses, and recording documents.

To discharge these roles and responsibilities, counties have revenue-generating authority and receive grants and distributions from state and federal governments. Counties

⁴ County payments from the Forest Service also are distributed to local autonomous school districts. Schools in some states will be affected by changes in county payments policy and funding, but to a lesser extent than county governments due to state school equalization policy, particularly in Oregon and Washington. Gebert, Krista M., David E. Calkin, and Ervin G. Schuster. 2004. "The Secure Rural Schools Act of 2000: Does It Make Rural Schools Secure?" *Journal of Education Finance* 30(2):176-186.

in the Pacific Northwest generate revenue directly through property taxes, local sales taxes, and a variety of charges and fees. These sources of local revenue made up two-thirds (66 percent) of all county government revenue in the Pacific Northwest in 2012 (U.S. Census of Governments 2012). Intergovernmental revenue, including county payments programs addressed in this paper, and other distributions and grants from state and federal governments, make up the remaining third of county government revenue. Region-wide, county payments average three percent of total governmental revenue, but can be more important in some counties; county payments contributed a third or more of total governmental revenue in eight counties, a fifth or more in another 16 counties, and 10 percent or more in another 22 counties (U.S. Census of Governments 2012; U.S. Department of Agriculture 2017a; U.S. Department of Agriculture 2017b; U.S. Department of Interior 2017a; U.S. Department of Interior 2017b).

In the Pacific Northwest, county governments play a key role in local and regional economic and community well-being. In addition to basic infrastructure and services, many counties provide community health and social services, environmental conservation, parks and trail infrastructure, libraries, and cultural services. Many counties also play an expanding role in economic development activities including workforce development, business support, and marketing activities in response to changing demographics, funding, and economic pressures (Berman and Salant 1996; Istrate 2014). Public-private partnerships and collaborations with the business community and nonprofits are emerging as key strategies to provide services critical to rural economic development (Agranoff and McGuire 2004; Sullivan, Ryser, and Halseth 2014). The increasing role for county govern-

ments in economic development in the Pacific Northwest and the significant contributions of county payments to many county budgets speaks to the importance of federal fiscal policy in public land counties. The next section reviews the history and status of the largest county payments programs in the Pacific Northwest.

History of County Payments

County payment programs fall into three periods that correspond to major changes in the way payments are funded and distributed among counties. We use a version model to distinguish among these periods: ‘County Payments 1.0’ refers to the period between 1908 and 1976 during which payments were established and funded exclusively from commercial receipts; 2.0 begins in 1976 with the addition of PILT; and 3.0 describes the period between 1990 and 2018 during which ‘transition’ payments decoupled Forest Service and Bureau of Land Management (BLM) O&C⁵ payments from commodity receipts and added economic diversification and collaboration as new goals for county payment programs. The transition payments of county payments 3.0 expire in 2019, renewing debate about the long-term viability and purpose of county payments programs.

County Payments 1.0: Compensation Linked to Commodities, 1908-1976

Gifford Pinchot, the first Chief Forester of the U.S. Forest Service, advocated for the inaugural county payments program on the rationale that sharing the proceeds from the conservation and sustainable use of public lands provided for fair and sufficient payments in lieu of taxes that governments could collect were the lands privately held. These first payments were equal to 25 percent of the

⁵ O&C Lands refer to the Oregon and California Railroad Grant Lands.

proceeds from commercial activities on public lands, mainly from timber sales; hence, the program became known as the ‘25 Percent Fund’ (see Figure 1).⁶ Payments were restricted to funding county roads and local school districts; state governments determined the allocation of payments between these uses. For the entire period between 1908 and World War II, total payments averaged \$10 million annually.⁷

During this period, the BLM began sharing commercial receipts generated on the O&C Lands with counties and schools.⁸ The O&C lands refer to BLM lands initially granted to the railroads as private land but subsequently reverted to the federal government and managed for timber harvests. Fifty percent of the proceeds of timber sales on

O&C lands accrue to county governments using a formula based on the relative taxable value of land in the counties in 1915.⁹

After World War II, payments increased substantially as timber extracted from public lands helped to fuel the nation’s housing boom. From 1945 to 1980, payments averaged \$391 million, reaching a high of \$1.2 billion in 1977 (U.S. Department of Agriculture 2016).

County Payments 2.0: PILT Addresses Equity, Uncertainty, and Incentives, 1976-1990

As county payments increased in size after World War II, weaknesses in the revenue sharing model became more noticeable. In

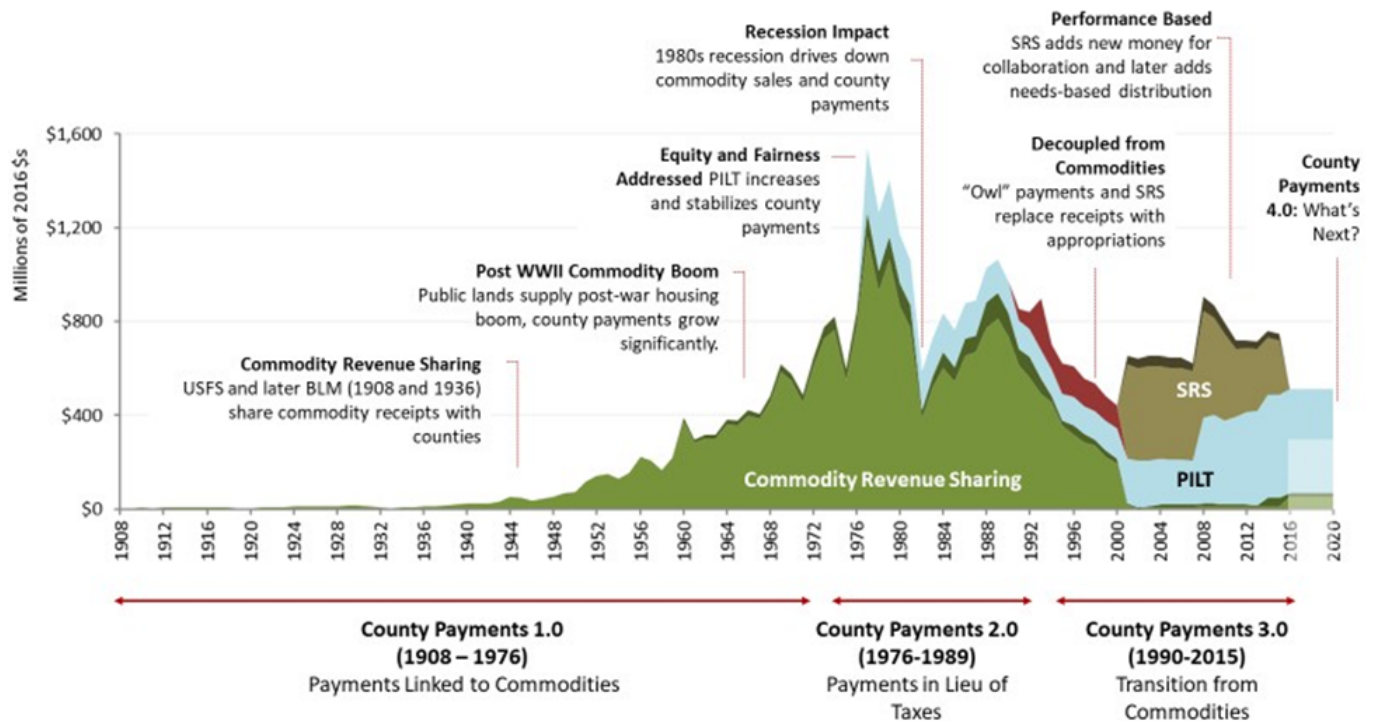


Figure 1. Key Developments and Reforms in County Payments, 1908-2016

⁶ Act of May 23, 1908, Pub. L. No. 60-136.

⁷ Unless noted otherwise, all values in this paper are adjusted for inflation to 2016 dollars.

⁸ O&C Lands Act, Pub. L. No. 74-405, tit. II(a) (1937). The county government share of the O&C payments is not restricted to roads but can be used for any governmental purpose.

⁹ Act of June 24, 1954 (68 Stat. 270). Payments are based on the “value of O&C lands assuming the same value for all lands as the average value of those lands that were assessed in 1915.”

1970, the Public Lands Law Review Commission wrote: “Although they were originally designed to offset the tax immunity of Federal Lands, the existing revenue sharing programs do not meet a standard of equity and fair treatment either to state and local governments or to the Federal taxpayers” (1970:237). Payments proved to be too unpredictable for local governments to use for effective annual budgeting, to engage in long-term planning, or to pay for costly infrastructure improvements. On a national basis, payments could rise and fall on the order of 30 percent annually (Hoover 2015) with individual counties experiencing even more extreme volatility.

Payments based on the commercial values generated on public lands also were unequally distributed among counties. Counties in Oregon, the leading producer of public land timber, received more than a third of total revenue sharing payments while counties in states with relatively lower-value commercial logging on public land received little compensation by comparison, leading the Public Lands Law Review Commission to write: “In some cases, payments made by Federal programs undercompensate, while in others they overcompensate.” The report added that payments based on commercial activities created perverse incentives for counties such that “pressures can be generated to institute programs that will produce revenue, though such programs might be in conflict with good conservation practices” (1970:237).

These concerns eventually led Congress to pass Payments in Lieu of Taxes (PILT) in 1976.¹⁰ PILT is a formula-driven payment based primarily on the number of acres of eligible ‘entitlement land’ in each county. The authorized payment based on acreage is reduced by ‘prior year payments’

received from other county payment programs (including the Forest Service 25% Fund payments, but BLM O&C payments are exempt from the PILT formula) and is limited for all counties based on their population.¹¹ PILT is funded with appropriations from the U.S. Treasury (Corn 2008; Schuster 1995). In these ways, PILT is designed to work in concert with revenue sharing payments to improve the equity and stability of compensation for non-taxable federal lands.

County Payments 3.0: Transition Payments Decoupled from Commodity Receipts, 1990-2016

Declining timber harvests after 1989 lowered revenue sharing payments to counties—by more than 90 percent in some Pacific Northwest counties (Hoover 2015). To stabilize annual revenue sharing amounts, Congress began making ‘transition’ payments to counties where declining receipts create major revenue shortfalls. The first transition payments were made in 1990 only to the BLM O&C counties in Oregon, but established a framework that would be utilized later in larger programs extended to Forest Service public land counties as well. These first transition payments established a ‘floor’ payment based on the average revenue sharing payment amount during the five-year period 1986 to 1990. The floor payment was paid from appropriations between 1990 and 1993 (U.S. Department of Interior 2016). The Northwest Forest Plan extended transition payments to all BLM and Forest Service public land counties covered by the Plan. The so-called ‘spotted owl’ transition payments separated timber harvests from county compensation by guaranteeing a minimum (floor) payment equal to 85 percent of the five-year average payment during 1986 to 1990. As part of the planned transition, the value declined to 58 percent in

¹⁰ Pub. L. 94-565, 1976.

¹¹ The population ceiling payment is reduced for smaller-population counties.

2003 after which the program was meant to expire (Tuchmann et al. 1996).

In 2000, Congress passed the Secure Rural Schools and Community Self-Determination Act (SRS). SRS effectively extended transition payments nationally to address a similar decline in commercial receipts and revenue sharing payments from public lands.¹² Initially authorized for six years, SRS provided optional payments equal to 85 percent of the highest three years of revenue sharing payments between 1986 and 1999.¹³

An important part of the negotiation over SRS was the desire on the part of some counties to maintain the link between public land management and county payments. The National Association of Counties lobbied successfully to allow counties to elect to retain their revenue sharing payment under SRS (Hoover 2015). Inherent to this debate was a fundamental disagreement about the nature of the transition. Some timber-dependent communities argued the transition was a period of adjustment that would eventually allow the land management agencies to restore timber harvests to previous levels with new environmental safeguards in place. As justification they pointed to the O&C Act that mandates these revested lands be used to supply a steady flow of timber to support local economies (Association of O&C Counties 2018).

Another view was that SRS intended to enable counties to move away from timber toward a more diverse economy. A more diverse economy would, in theory, generate new sources of governmental revenue that

would stabilize local government budgets and end the need for transition payments funded by Congress (Hoover 2015). To help accomplish a transition away from dependence on timber, SRS increased funding from 85 percent of historic payments to 100 percent. The additional 15 percent was allocated between two new Titles in the SRS law. Funds allocated to Title II supported public land projects recommended to the land management agencies by Resource Advisory Councils (RACs). Title II funding opened the possibility for new collaborative efforts to address economic development goals on public lands. Title III funds could be used on special county projects including reimbursement for emergency services provided on federal lands and funding for community fire plans and Firewise activities.

Reauthorization and reforms in 2008 went further by altering the SRS funding formula to include a per-capita personal income adjustment that directed relatively higher payments to counties with low per-capita personal income and provided a significant temporary increase in funding. This new goal of economic equity in county payments had the effect of directing larger payments to non-metropolitan counties with relatively poor economic performance. The increased funding level also returned payments close to historic highs. (On a national level, only payments in the years 1977 to 1980 exceeded the FY 2008 payment levels in real terms).

¹² Secure Rural Schools and Community Self-Determination Act of 2000, Pub. L. No. 106-393.

¹³ Under Section 102(a) and 103(a), states eligible to receive Forest Service and/or BLM revenue sharing payments can elect to receive either (1) the Twenty-Five Percent (Forest Service) or Fifty Percent (BLM) Payment or (2) the ‘full payment amount,’ calculated as the average of the three highest yearly revenue sharing payments from FY 1986 to FY 1999. The SRS payment was tied to the average of the three highest historical payments to each *state* as a means of further reducing the volatility of timber receipts at the county level. Under the 2000 version of the SRS Act, funding for payments to states and counties is derived from revenues, fees, penalties, or miscellaneous receipts received by the federal government from activities of the Forest Service on National Forest land, and the Bureau of Land Management on revested and reconveyed grant lands (lands returned to federal ownership). Pub. L. No. 106-393, §§102(b)(3), 103(b)(2). To the extent of any shortfall, payments are derived from Treasury funds not otherwise appropriated.

Status at the Time of Writing

The expiration of SRS in FY 2018 effectively ends transition payments and returns to County Payments version 2.0 – that is, PILT and revenue sharing payments made under the Forest Service Act of 1908 and BLM O&C Act of 1937. It also creates an opportunity to advance a new approach. One option is to reauthorize SRS. Since the four year authorization in 2008, SRS has been extended multiple times at one or two year intervals at declining amounts. The requirement to secure authorization and appropriation on a recurring basis does not appear to be a long-term solution. Another option is to revert to revenue sharing payments permanently. The President’s FY 2019 proposed budget would not reauthorize SRS and would limit appropriations for PILT. If the budget proposal is accepted by Congress, total payments to counties and schools in the Pacific Northwest will decline by half from \$260 million in FY 2015 to \$131 million in FY 2019. The cuts would hit rural counties and schools hardest, with payments falling by greater than 80 percent in several counties and metropolitan counties receiving a larger proportion of total payments – undoing the redistribution of payments from metropolitan to non-metropolitan counties achieved by SRS (Headwaters Economics 2018).¹⁴

Implications of Ending Transition Payments to Counties

The expiration of transition payments has renewed the issues of equity, uncertainty, and incentives associated with revenue sharing payments. Changes in the regional economy and new taxation and expenditure limitations on local governments since transition payments began in 1990 add new urgency to re-

solving these challenges. This section describes the ways in which the recent history of county payments has worked against efforts to enhance county fiscal health, economic development, and federal land management.

Local decisions to utilize county payments to maintain low tax rates have led to reliance on federal payments to maintain annual government budgets. For example, the Oregon counties that historically received the largest revenue sharing payments maintained among the lowest property tax rates and the lowest local revenue per capita of all counties in the state (Oregon Secretary of State 2016).

State taxation and expenditure limitations (TEs) have exacerbated reliance on county payments by making it more difficult to raise local tax revenue to replace declining county payments (Mullins and Wallin 2004; Stallmann et al. 2017). TEs typically restrict budget and tax levy increases to the rate of inflation with some provisions for new growth. For example, Oregon’s Measures 5 and 50 passed in 1990 and 1997 limited property tax rates, lowered property assessed values, and limited growth in assessed values (Oregon Department of Revenue 2009). Tax increases require voter approval at the local level. These limitations on local revenue authority and capacity entrench a model of anemic local taxation. Efforts to increase local tax levies have failed, resulting in fiscal stress and deep cuts to services (Johnson 2017). Other states have limited local revenue authority in similar although typically less stringent ways. Notably, Idaho limits growth in revenue received from property taxes to three percent annual growth without voter approval, with some allowances for new construction and annexation (importantly, new industrial property is not exempt from the revenue limits) (Idaho State Tax Commission 2017).

¹⁴ Headwaters Economics estimates. To see a data visualization of the county-by-county change in payments, see <https://headwaterseconomics.org/county-payments/policy-options/presidents-budget-cuts-county-payments/>.

These local and state policies and practices entrench dependence on annual payments through PILT, SRS, and revenue sharing programs. Dependence on uncertain receipts and federal appropriations has fiscal and economic implications for counties.

The National Association of Counties reports that the expiration of SRS and limits on PILT's appropriation (as proposed by the Trump Administration) will require sharp budget cuts in many counties (Shuffield 2017). Testimony from several county commissioners to a Senate Committee in May 2017 illustrated the revenue and budget impacts of declining county payments (U.S. Senate Committee on Energy and Natural Resources 2017). Cuts to critical services, including education, public safety, road infrastructure, and libraries, can have implications for rural communities because of the increased importance of local government services, partnerships, and initiatives for economic development. For example, Idaho and Clearwater counties in Idaho could lose more than half their federal payments, a decline of more than \$7 million and \$1.1 million, respectively. The two counties together lost population between 2011 and 2015 (the latest year for which data are available) and have more than 500 fewer jobs in 2015 as compared to 2007, before the start of the Great Recession. Declining enrollment at Clearwater County's schools and reduced budgets jeopardize gifted and talented programs, shop, art, and music classes. The school district is now on a four-day week and cannot support day-long kindergarten classes. Retaining and attracting families and businesses becomes increasingly difficult without robust community services and school programs (Haggerty 2017).

Another implication of over-reliance on federal payments is to discourage economic development in other sectors outside of commercial timber in public land counties. The Oregon Governor's Task Force on Federal

Forest Payments and County Services (2009:40) found that:

In 1995, Alcan Cable, an industrial manufacturer, located in Douglas County. By 2008, the value of Alcan Cable's plant and 200 new homes to house employees resulted in only \$63,000 of county taxes for public services. A typical Deputy Sheriff now costs Douglas County \$75,320 per year, or 20 percent more than public revenues generated from this extensive development. Contrast that with a medium-sized saw mill cutting 60 million board feet of timber per year purchased from federal O&C forests. At about \$300 per thousand board feet, the cost to the mill of that timber was \$18 million. One-half of those revenues, or \$9 million, was shared with O&C counties as discretionary revenues. Of that \$9 million, Douglas County received \$2,254,500, over 35 times the property taxes generated by the Alcan plus-homes development.

This dynamic prompted Jackson County, Oregon Commissioner and Task Force member C.W. Smith to remark: "Most of these counties can't build themselves or develop themselves into solvency. Every new resident is a negative on the budget" (Oregon Governor's Task Force on Federal Forest Payments and County Services 2009:40). As a result, counties overemphasize activities that could increase commercial receipts on federal public land and discount alternatives that generate less revenue but could diversify and grow economies. For example, concerns about lost revenue potential associated with assigning conservation to timber lands were the basis of opposition from the Association of O&C Counties to expanding the Cascade-Siskiyou National Monument (Cevagske 2017).

The uncertainty – and promise – of continued appropriations or of renewed timber receipts from increased harvest keeps some local officials focused on these solutions instead of exploring alternatives (Mortensen 2012), a dynamic that mirrors the ‘flickering’ of extractive industries, such as mines opening and closing with commodity cycles (Freudenberg 1992). Flickering can discourage communities from recognizing and accepting economic transition (Haggerty et al. 2018) and from making efforts to adapt to the changing economy. Rhetoric from members of Congress and the current Administration that promises to restore a sustained yield management regime to National Forest and the BLM O&C timber lands – including proposals to mandate annual harvest levels, increase the scale of categorical exclusions for timber projects, and limit judicial review of federal decisions, among other strategies – maintains the hope for some counties that changes to federal policy will resolve economic and fiscal challenges at home.

Increasing receipts on public lands may not be a viable long-term solution for a variety of reasons. The Forest Service stresses that generating receipts sufficient to meet the needs and expectations of counties year over year is unrealistic under variable market conditions and budget realities (Tidwell 2014). The recent agreement in Congress on a fire funding fix, forest management reform, and a two-year extension of SRS as part of a major budget agreement left out the most aggressive efforts to increase the pace and scale of timber harvest, which may indicate that the land management agencies likely do not have the social license to increase and sustain cuts at historic levels. Smaller efforts, including sharing a portion of receipts from stewardship contracts, would not increase payments materially. Stewardship receipts would add less than \$6 million annually to revenue sharing payments (Rural Voices for Conservation Coalition 2017).

More fundamentally, a reliance on sustained commercial timber harvests to fund county payments perpetuates the disconnect between the narrow fiscal goals of federal land management (maximize timber harvest) and the broader and changing economic values of public lands including the emerging restoration economy (BenDor et al. 2015; Hibbard and Lurie 2013).

These outcomes are consistent with a large body of academic literature focused on the challenges associated with translating resource wealth into long-run economic growth and community well-being. In short, access to resource endowments does not automatically lead to economic prosperity or decline. Instead, policy choices, including fiscal policies, affect the long-term outcomes of resource extraction (Haggerty and Haggerty 2015). Fiscal policies that invest revenue from resource extraction into long-term savings, community infrastructure, and economic development activities in resource regions can diversify economies and lead to a virtuous cycle of growth from the initial resource endowment (Gunton 2003). Alternatively, fiscal policies that lead to an over-reliance on annual revenue from volatile resource sources, for example, by spending resource revenue on annual budgets and to maintain low taxes on other sectors of the economy, can discourage economic diversification and lead to slower long-term growth – a resource curse (Morrison-Saunders et al. 2016; Taylor, Hufford, and Bilbrey 2016).

The experiences of counties in the Pacific Northwest and lessons drawn from long-term study of resource-dependent communities suggest what could be done to improve the way counties are compensated for non-taxable federal land. Historic approaches that based compensation on volatile commercial receipts and uncertain discretionary appropriations have undermined fiscal health in public land counties, limited economic development opportunities, and influenced forest

management decisions. During a Senate hearing in May 2017, Senator Murkowski (R-AK) argued for an end to the “annual cycle of begging” for SRS and PILT appropriations, suggesting the possibility of a new path for county payments. She cited the importance of timber management reform for forest health and to sustain rural employment opportunities, but added that timber harvests alone are unlikely to provide a fiscal solution. For this, she recommended considering new ideas. The next section provides a policy analysis of three possible paths: revenue sharing, continued appropriations, and a hybrid approach that would use commercial receipts to build an endowment as the funding source for reauthorization of SRS.

Analysis of County Payment Scenarios

This section analyzes several policy options for Forest Service, BLM O&C, and PILT payments, including:

- Option 1: Returning to a revenue sharing model and funding PILT at the full authorized payment amount.
- Option 2: Returning to a revenue sharing model and limiting PILT funding to a level below the full authorized payment amount.
- Option 3: Implementing a long-term reauthorization of SRS and funding PILT at the full authorized payment amount.

Without additional reform, these policy options would be funded annually with a combination of commercial receipts and discretionary appropriations. Alternatively, a new endowment model would create a permanent trust that would be funded with annual commercial receipts. Distributions from the endowment would replace commercial receipts and appropriations to become the

primary funding model for county payments over time.

These policy options, including the endowment model, are analyzed on several metrics: total size of the payment to local governments, payment equity (measured as the share of payments distributed to metropolitan and non-metropolitan counties), and the cost to the U.S. Treasury. The endowment model can be evaluated based on the size of the fund required to replace other funding sources, the time (in years) to build up an endowment of sufficient size, and the total cost to the U.S. Treasury to establish the endowment.

Revenue Sharing

The President’s FY 2019 budget request (U.S. Office of Management and Budget 2018) does not recommend reauthorizing SRS, meaning eligible public land counties will receive a revenue sharing payment from the Forest Service 25% Fund and a BLM O&C 50% Revenue Sharing payment. The budget proposal estimates that revenue sharing payments for the two programs in FY 2019 will be valued at \$75 million, a decline from the actual FY 2017 revenue sharing payments of \$78 million. Revenue sharing payments are made on a seven-year rolling average basis, attenuating annual change associated with increasing or declining commodity receipts. For this analysis, revenue sharing payments are estimated to average \$80 million for the 35-year analysis period.

SRS Reauthorization

SRS expires again in FY 2019, but efforts to reauthorize the payments are expected to continue and include recommendations for a permanent authorization and mandatory funding. This paper assumes a permanent authorization and annual appropriations fixed at the FY 2015 level for the analysis period.

PILT

The President's Budget requests a \$397 million appropriation for PILT in FY 2019, equal to the most recent ten-year average of PILT payments. The request is lower than the actual FY 2017 payment of \$465 million, and lower than the authorized payment for FY 2018 of \$530 million. The higher FY 2018 PILT payment reflects lower prior-year payments to counties for FY 2016. In that year, SRS was not paid and counties received only a revenue sharing payment.¹⁵ If PILT is funded below the authorized amount, appropriated payments are reduced proportionally for all eligible jurisdictions.

The PILT formula is calculated under each of the policy options to estimate the total payment to counties and schools, payment equity, and the total cost of appropriations from the U.S. Treasury.

Endowment Model

The Endowment Model option would create a new permanent trust funded with annual commercial receipts, including the Forest Service 25% Fund receipts and BLM O&C 50% Revenue Sharing receipts. The principal balance of the permanent trust would be held in perpetuity and invested to earn income. At the end of each fiscal year, the permanent trust would make distributions that would benefit public land counties. Initially, distributions from the permanent trust would be smaller than the value of commercial receipts deposited into the permanent trust. During this period, Congress would authorize appropriations to make up the difference between the value of distributions from the permanent trust and an authorized county payment level

(e.g. the value of forgone revenue sharing payments or some other payment level). During this period, distributions from the permanent trust would go first to the Treasury to offset the cost of appropriations.

Congress also could make a one-time payment to capitalize the permanent trust. A capital payment would reduce the time before distributions from the trust grew to sufficient size to eliminate the need for continued annual appropriations to fund county payments.

Comparison of County Payment Options in the Pacific Northwest

Tables 1 and 2 show that Option 2 (a return to a revenue sharing model and limited PILT funding) would result in the lowest total payments to Pacific Northwest counties (\$130 million), the least-equitable payments among metropolitan and non-metropolitan counties (metro counties would receive 37% of the total payment), and the lowest costs to the U.S. Treasury (\$96 million annually). The change in the distribution of payments among metro and non-metro counties is the result of two factors. First, a return to revenue sharing payments ends the equity-based components of the SRS formula (including the per-capita personal income adjustment), increasing the inequity of payments overall. Second, lower prior-year payments from the Forest Service (BLM O&C payments are exempt from the PILT prior-year payment calculation) effectively shift a larger share of the total PILT authorization to metropolitan counties less affected by the formula's population limit.

¹⁵ The last SRS payment authorized for FY 2015 was paid to counties during FY 2016. These payments are reported to the Department of Interior as prior-year payments for the PILT FY 2018 payment introducing a two-year lag between when Forest Service payments declined and when counties are eligible for a higher PILT payment.

Table 1. Average annual payments from selected county payments programs and cost of appropriations

| Policy Option | PILT Payment | Forest Service Payment | BLM O&C Payment | Total Payment | Appropriation Cost |
|---------------------------------------|---------------|------------------------|-----------------|---------------|--------------------|
| Option 1: No SRS, Full PILT | \$131,016,000 | \$15,914,999 | \$18,180,795 | \$165,111,894 | \$131,016,000 |
| Option 2: No SRS, Limited PILT | \$96,443,367 | \$15,914,999 | \$18,180,795 | \$130,539,162 | \$96,443,367 |
| Option 3: SRS, Full PILT | \$90,871,329 | \$133,733,900 | \$35,556,001 | \$260,171,230 | \$226,075,436 |

Table 2. Share of projected payments made to metropolitan and non-metropolitan counties¹⁶

| Policy Option | Payment to Metropolitan Counties | Payment to Non-Metropolitan Counties | Metro Share of Total Payment | Non-Metro Share of Total Payment |
|---------------------------------------|----------------------------------|--------------------------------------|------------------------------|----------------------------------|
| Option 1: No SRS, Full PILT | \$58,921,037 | \$106,190,857 | 36% | 64% |
| Option 2: NO SRS, Limited PILT | \$48,075,410 | \$82,463,751 | 37% | 63% |
| Option 3: SRS, Full PILT | \$71,333,217 | \$188,838,014 | 27% | 73% |

Table 3. Endowment Model treasury cost and timing

| Endowment Options | Size of Endowment Required | Years to Build Endowment w/Receipts | Avg. Annual Treasury Cost Compared to Options 1 & 3 |
|--------------------------------|----------------------------|-------------------------------------|---|
| Option 1 with Endowment | \$852,394,855 | 20 | \$17,689,482 |
| Option 3 with Endowment | \$4,232,497,536 | 68 | -\$33,307,223 |

By comparison, reauthorizing SRS would provide relatively higher (\$260 million) and more equitable payments (metro counties would receive 27% of the total payment) relative to the revenue sharing options, but at higher cost to the U.S. Treasury (\$226 million annually). The cost of the SRS reauthorization is offset somewhat by a lower PILT authorization, but still increases the

cost of appropriations by \$95 million compared to a revenue sharing model with PILT funded at the full authorized amount.

Table 3 compares several options for how the Endowment Model could be pursued. Column two is an estimate of how large the permanent trust balance would have to be for distributions to replace the appropriated funding level (in this case, equal to forgone revenue sharing payments or equal to the

¹⁶ Metropolitan and micropolitan statistical areas are geographic entities defined by the U.S. Office of Management and Budget (OMB). A metropolitan area contains a core urban area of 50,000 or more population. A micropolitan area contains an urban core of at least 10,000, but less than 50,000, population. All other areas are classified as rural.

value of an SRS reauthorization), or alternatively the size of a capital payment that would eliminate the need for annual appropriations. Column three estimates the time required to build a permanent trust to the required size using only commercial receipts. Column 4 compares the average annual cost of building the permanent trust with commercial receipts to the annual cost of SRS and PILT appropriations over the same period.

Compared to Options 1 and 3, the Endowment Model is more expensive in the short term (in the first 10 years), particularly if a large, one-time capitalization payment is made. However, over time the endowment model costs less (eventually eliminating the need for annual appropriations) and would increase county payments predictably year over year at no cost to the U.S. Treasury after the permanent trust reaches sufficient size. An endowment could replace revenue sharing payments in 20 years at a cost of \$350 million. After 20 years, county payments would increase and PILT authorizations decrease annually. Replacing SRS appropriations with distributions from a permanent trust would take 68 years, or could be done immediately with an initial payment into the endowment of \$4.2 billion. Compared to a permanent authorization of SRS at FY 2015 levels, the Endowment Model could cost \$33 million less each year on average as distributions from the permanent trust increase in amount and lower the annual cost of appropriations. After 68 years, payments to counties would increase and PILT authorizations decrease annually.

The way distributions from the endowment are allocated among counties – based on their relative contributions of commercial receipts or based on the SRS formula, for example – also could resolve equity concerns associated with annual revenue sharing payments.

Discussion: Endowing Public Land Counties

This analysis describes how a new option for county payments – an endowment model – could resolve the problems inherent to previous iterations of county payment policies and address the specific challenges and opportunities associated with the changing economy and economic geography of the West. The endowment model idea is based on the experience of U.S. states and many countries around the world in managing natural resource revenue and has several advantages over current county payment models. First, it still utilizes commercial receipts as the long-term funding source for county payments, but stabilizes these revenues over time to guarantee predictable and increasing payments year over year. Second, an endowment would not require discretionary appropriations from Congress after an initial period as the permanent trust increases in value. Third, decoupling county payments from annual commercial receipts would allow forest management reform to move forward without a revenue mandate, shifting the focus to management strategies intended to restore forest health and leverage economic development strategies sensitive to the various needs of different types of public land counties.

Permanent Trusts in States and Other Nations

Utilizing permanent trusts to stabilize revenue and build an endowment from the extraction of natural resources is not a new idea. Trusts are utilized by nearly every U.S. state with significant natural resource wealth. For example, Alaska, Louisiana, New Mexico, North Dakota, Oklahoma, Texas, and Wyoming have state land and severance taxes trust funds with a combined value of more than \$100 billion (Alaska Permanent Fund Corporation 2009; Williams 2008; Wyoming

Taxpayers Association 2015). Trusts also are common internationally, led by Norway's massive sovereign wealth fund created from oil revenue and valued at more than \$950 billion (Johnson 2007).

The most relevant models for a federal public land endowment are the numerous state trusts funded with royalties and fees generated from commercial activities on state-owned land, including timber harvests. Beginning in 1803 with Ohio's statehood, the federal government transferred to new states a portion of the public domain not yet claimed by homesteaders, granted to railroads, or reserved for other purposes (Souder and Fairfax 1996). In most western states, the federal government transferred two sections in each township. The lands were intended to generate revenue for local schools and other purposes. Initially, states often sold lands and spent the proceeds of sales as they came in. The unsustainability of this practice soon led states to hold "trust lands" in perpetuity and to establish permanent trust funds that would receive the proceeds from the management of trust lands. The principal balance of these funds is invested to earn income, effectively replacing an exhaustible resource endowment with a perpetual financial endowment that funds public schools and other state institutions.

Norway's experience also offers a useful example. Oil production began in Norway's North Sea waters in 1971. Price spikes in oil in 1979 and 1980 generated significant revenue to the government, and the government spent that money on an annual basis. Norway's economy grew rapidly with rising wages, spending, and borrowing in the public and private sector. When prices subsequently collapsed in 1986, the economy's dependence on annual oil revenue quickly precipitated a fiscal crisis. In 1990, while the country was still suffering high unemployment and persistent cuts in government spending, Norway established its permanent trust as a

forward-looking fiscal tool that would help the country do better if and when the oil price rose again. The trust was designed to buffer the economy from the annual uncertainty in oil revenue and build a lasting endowment from oil wealth to benefit future generations. The fund was set up in 1990 but no money was available to invest into the fund until 1996 when oil prices began to recover. Today, Norway's trust fund is worth about \$900 billion (Rosalsky 2014).

The U.S. has one example of a permanent trust at the federal level that benefits public land counties. The U.S. Endowment for Forestry and Communities was established as part of the Softwood Lumber Agreement between Canada and the U.S. in 2006. The agreement established the Endowment with \$200 million; proceeds from the Endowment are used to fund educational and charitable activities in public land communities in the U.S. (Owen 2016).

If a new endowment is established to fund county payments, best management practices can be gleaned from these examples. For example, to guard against raiding, Congress could authorize an independent entity to establish and manage the Trust as it did when it created the U.S. Endowment for Forestry and Communities. Congress can also mandate best practices already utilized elsewhere – for example, asset management strategies that are in accordance with the Prudent Expert Rule (Employee Retirement Income Security Act of 1974), inflation-proofing the trust (Rodell 2018), and oversight by the Inspectors General of the U.S. Departments of Agriculture and Interior.

Missed Opportunity for County Payments

The total value of timber harvests from all Forest Service land since 1908 is about \$80 billion (in 2016 dollars) (U.S. Department of Agriculture 2016). Had Congress followed the example of the states and established an

endowment in 1908 instead of annual revenue sharing payments, it would distribute \$3.2 billion today to counties and schools, three times larger than the maximum revenue sharing payment made in 1977 and 213 times larger than actual payments made in FY 2017 (Headwaters Economics 2014). Had Congress established an endowment in 1977 instead of PILT, it would be worth \$12.3 billion today and distribute payments equal to \$308 million. Had Congress established an endowment in 2000 instead of SRS, it would be worth \$1.3 billion today and distribute \$33 million.

Commercial receipts from federal lands remain at relatively low levels. Establishing a permanent trust today only with funding from commercial receipts would take time to build a significant endowment (68 years to replace SRS). With Congress considering forest management reform and new uses – and revenue streams – on public land, establishing an endowment today creates the framework to capture future receipts if they rise and build a sizeable endowment more quickly.

Conclusion

The way that county payments are made, including the certainty of payments and the source of funding, is one of the most important and under-appreciated policies affecting the fiscal and economic well-being of many public land counties and how public lands are managed. The current models – revenue-sharing payments and discretionary appropriations from Congress – have failed to provide predictable and fair compensation to counties. This failure has exacerbated fiscal crises in rural communities and left them unprepared to meet the economic challenges and opportunities for public lands counties in the 21st century economy. Remaking the fiscal relationship between public lands and public land counties by establishing and

funding a permanent trust would stabilize and grow revenue over time, eliminate the need for annual Congressional appropriations, and provide flexibility to address economic and forest management solutions appropriate to the needs of diverse public land counties in the Pacific Northwest. The endowment model also could begin to articulate an integrated public lands policy that better aligns land management, economic development, and county payments to benefit Pacific Northwest communities.

Mark Haggerty is an economic geographer at Headwaters Economics in Bozeman, Montana. Mark specializes in economic and fiscal analysis of natural resource development, public lands, and rural economies. Mark has extensive real-world practice gained through service on local planning boards, problem solving with county commissioners, collaborative groups, and legislators, and research in academic and policy arenas. Mark has also provided expert testimony to local governments, state legislatures and the U.S. Congress.

References

- Agranoff, Robert, and Michael McGuire. 2004. *Collaborative Public Management: New Strategies for Local Governments*. Washington, DC: Georgetown University Press.
- Alaska Permanent Fund Corporation. 2009. "An Alaskan's Guide to the Permanent Fund." Retrieved April 3, 2018 (<https://3zi9ys20feru1cmlnv3u4tep-wpengine.netdna-ssl.com/wp-content/uploads/2017/11/APFC-An-Alaskans-Guide-to-the-Permanent-Fund.pdf>).
- Association of O&C Counties. 2018. "Sustained-Yield Forestry." Retrieved April 3, 2018 (<http://www.oandc.org/o-c-lands/sustained-yield-forestry/>).

- BenDor, Todd, T. William Lester, Avery Liven-good, Adam Davis, and Logan Yonavjak. 2015. "Estimating the Size and Impact of the Ecological Restoration Economy." *PloS ONE* 10(6):e0128339.
- Berman, David R., and Tanis J. Salant. 1996. "The Changing Role of Counties in the Intergovernmental System." Pp. 19-33 in *The American County: Frontiers of Knowledge*, edited by Donald C. Menzel. Tuscaloosa, AL: University of Alabama Press.
- Brynjolfsson, Erik, and Andrew McAfee. 2012. "Jobs, Productivity and the Great Decoupling." *The New York Times*, December 11.
- Cevagske, Carisa. 2017. "O&C Counties Sue Feds Over Cascade-Siskiyou Monument Expansion." *The (Roseburg, OR) News-Review*, February 15.
- Charnley, Susan. 2006. "The Northwest Forest Plan as a Model for Broad-Scale Ecosystem Management: a Social Perspective." *Conservation Biology* 20(2):330-340.
- Charnley, Susan, Ellen M. Donoghue, Claudia Stuart, Candace Dillingham, Lita P. Buttolph, William M. Kay, Rebecca J. McLain, Cassandra Moseley, Richard H. Phillips, and Lisa Tobe. 2006. *Northwest Forest Plan—The First 10 Years (1994–2003): Socioeconomic Monitoring Results*. Gen. Tech. Rep. PNW-GTR-649. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.
- Chen, Yong, and Bruce Weber. 2011. "Federal Policy, Rural Community Growth, and Wealth Creation: The Impact of the Federal Forest Policy and Rural Development Spending in the Pacific Northwest." *American Journal of Agricultural Economics* 94(2):542-548.
- Corn, M. Lynne. 2008. *PILT (Payments in Lieu of Taxes): Somewhat Simplified*. Washington, DC: Congressional Research Service.
- Employee Retirement Income Security Act of 1974. 29 U.S.C. 1104(a)(1)(B).
- Freudenburg, William R. 1992. "Addictive Economies: Extractive Industries and Vulnerable Localities in a Changing World Economy." *Rural Sociology* 57(3):305-332.
- Glaeser, Edward 2011. *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier*. London: Penguin Books.
- Goetz, Stephen, Mark Partridge, and Heather Stephens. 2017. *The Economic Status of Rural America in the Trump Era*. MPRA Paper No. 77830. Retrieved April 3, 2018 (https://mpra.ub.uni-muenchen.de/77830/1/MPRA_paper_77830.pdf).
- Gunton, Thomas. 2003. "Natural Resources and Regional Development: An Assessment of Dependency and Comparative Advantage Paradigms." *Economic Geography* 79(1):67-94.
- Haggerty, Mark. 2017. *Hearing to examine federal payments to local governments provided through the Secure Rural Schools and Community Self Determination Act and the Payment in Lieu of Taxes program and the need to provide greater fiscal certainty for resource-dependent communities with tax-exempt federal lands*. May 2. Washington, DC: Senate Energy and Natural Resources Committee.
- Haggerty, Mark N., and Julia H. Haggerty. 2015. "Energy Development Opportunities and Challenges in the Rural West." Pp. 161-191 in *Bridging the Distance: Common Issues of the Rural West*, edited by D.B. Danbom. Ann Arbor: Sheridan Books, Inc.
- Haggerty, Julia H., Mark N. Haggerty, Kelli Roemer, and Jackson Rose. 2018. "Planning for the Local Impacts of Coal Facility Closure: Emerging Strategies in the US West." *Resources Policy*. In press.
- Halseth, Greg, and Laura Ryser. 2006. "Trends in Service Delivery: Examples from Rural and Small Town Canada, 1998 to 2005." *Journal of Rural and Community Development* 1(2):69-90.

- Halseth, Greg, Sean P. Markey, and David Bruce, eds. 2010. *The Next Rural Economies: Constructing Rural Place in Global Economies*. Wallingford, UK: CABI.
- Headwaters Economics. 2014. *Rethinking Public Land Revenue Sharing: Utilizing a Natural Resources Trust to Address Volatility, Equity, and Incentives*. Bozeman, MT: Headwaters Economics. Retrieved April 3, 2018 (<https://headwaterseconomics.org/wp-content/uploads/whitepaper-natural-resources-trust.pdf>).
- Hibbard, Michael, and Susan Lurie. 2013. "The New Natural Resource Economy: Environment and Economy in Transitional Rural Communities." *Society and Natural Resources* 26(7):827-844.
- Hicks, Michael J., and Srikant Devaraj. 2015. *The Myth and the Reality of Manufacturing in America*. Muncie, IN: Center of Business and Economic Research, Ball State University.
- Hoover, Katie. 2015. *Reauthorizing the Secure Rural Schools and Community Self-Determination Act of 2000*. Washington, DC: Congressional Research Service.
- Idaho State Tax Commission. 2017. "Property Assessments—Frequent Questions." Retrieved April 3, 2018 (<https://tax.idaho.gov/i-1129.cfm>).
- Istrate, Emilia. 2014. *Strong Economies, Resilient Counties: The Role of Counties in Economic Development*. Washington, DC: National Association of Counties.
- Johnson, Kirk. 2017. "Where Anti-Tax Fervor Means 'All Services Will Cease.'" *New York Times*, May 13.
- Johnson, Kenneth M., and John B. Cromartie. 2006. "The Rural Rebound and Its Aftermath." Pp. 25-49 in *Population Change and Rural Society*, edited by William Kandel and David Brown. Dordrecht: Springer.
- Johnson, Simon. 2007. "The Rise of Sovereign Wealth Funds." *Finance and Development* 44(3):56.
- Kashdan, Alix, and Kathy Nothstine. 2014. *Cultivating a Competitive Advantage: How Rural Counties are Growing Economies with Local Assets and Regional Partners*. Washington, DC: National Association of Counties.
- Kilkenny, Maureen, and Mark D. Partridge. 2009. "Export Sectors and Rural Development." *American Journal of Agricultural Economics* 91(4):910-929.
- Kitson, Michael, Ron Martin, and Peter Tyler. 2004. "Regional Competitiveness: An Elusive Yet Key Concept?" *Regional Studies* 38(9):991-999.
- Lawson, Megan M., Ray Rasker, and Patricia H. Gude. 2014. "The Importance of Non-Labor Income: An Analysis of Socioeconomic Performance in Western Counties by Type of Non-Labor Income." *Journal of Regional Analysis & Policy* 44(2):175.
- Markey, Sean, Greg Halseth, and Don Manson. 2008. "Challenging the Inevitability of Rural Decline: Advancing the Policy of Place in Northern British Columbia." *Journal of Rural Studies* 24(4):409-421.
- Moretti, Enrico. 2012. *The New Geography of Jobs*. Boston: Houghton Mifflin Harcourt.
- Morrison-Saunders, A., M. McHenry, A. Rita Sequeira, P. Gorey, H. Mtegha, and D. Doepl. 2016. "Integrating Mine Closure Planning with Environmental Impact Assessment: Challenges and Opportunities Drawn from African and Australian Practice." *Impact Assessment and Project Appraisal* 34(2):117-128.
- Mortenson, Eric. 2012. "Rural Oregon Counties Scramble as Timber Payments Dry Up, While Critics Say It's Time They Paid for Services." *The Oregonian*, March 4.
- Mullins, Daniel R., and Bruce A. Wallin. 2004. "Tax and Expenditure Limitations: Introduction and Overview." *Public Budgeting & Finance* 24(4):2-15.
- Office of Management and Budget. 2009. *Update of Statistical Area Definitions and Guidance on Their Uses*. OMB Bulletin No. 10-02.

- Washington, DC: U.S. Office of Management and Budget.
- Oregon Department of Revenue. 2009. *A Brief History of Oregon Property Taxes*. Salem: Oregon Department of Revenue.
- Oregon Governor's Task Force on Federal Forest Payments and County Services. 2009. *Final Report*. Salem: Office of the Governor.
- Oregon Office of Economic Analysis. 2017. *Oregon Economic and Revenue Forecast*. Salem: Oregon Office of Economic Analysis.
- Oregon Secretary of State. 2016. *Oregon's Counties: 2016 Financial Condition Review*. Rep. No. 2016-11. Salem: Oregon Audits Division.
- Owen, Carlton N. 2016. *A Meritorious Initiative: The First Decade of the U.S. Endowment for Forestry and Communities*. Greenville, SC: U.S. Endowment for Forestry and Communities.
- Power, Thomas M. 2006. "Public Timber Supply, Market Adjustments, and Local Economies: Economic Assumptions of the Northwest Forest Plan." *Conservation Biology* 20(2):341-350.
- Public Land Law Review Commission. 1970. *One Third of the Nation's Land: A Report to the President and to the Congress*. Washington, DC.
- Rasker, Ray. 2017. *The Transition from Western Timber Dependence: Lessons for Counties*. Bozeman, MT: Headwaters Economics. Retrieved April 3, 2018 (https://headwaters-economics.org/wp-content/uploads/Lessons_Timber_Transition.pdf).
- Rasker, Ray, Patty H. Gude, Justin A. Gude, and Jeff Van den Noort. 2009. "The Economic Importance of Air Travel in High-Amenity Rural Areas." *Journal of Rural Studies* 25(3):343-353.
- Rodell, Angela. 2018. "Establish a contract to protect the Alaska Permanent Fund's future." Juneau Empire, January 28. Retrieved April 3, 2018 (<http://juneauempire.com/opinion/2018-01-28/establish-contract-protect-alaska-permanent-fund-s-future>).
- Rosalsky, Greg. 2014. *How Can Tiny Norway Afford to Buy So Many Teslas?* Freakonomics Radio Podcast. October 16.
- Rural Voices for Conservation Coalition. 2017. "Stewardship & County Payments." Portland, OR. Retrieved April 3, 2018 (<https://static1.squarespace.com/static/562e839ee4b0332955e8143d/t/59ede43ed55b413e180b4ed7/1508762688644/RVCC+Stewardship+and+County+Payments.pdf>).
- Schuster, Ervin G. 1995. "PILT—Its Purpose and Performance." *Journal of Forestry* 93(8):31-35.
- Shuffield, Jonathan. 2017. *Continue Revenue Sharing Payments to Forest Counties: Support the Secure Rural Schools (SRS) Program*. Washington DC: National Association of Counties.
- Souder, Jon A., and Sally K. Fairfax. 1996. *State Trust Lands: History, Management, and Sustainable Use*. Lawrence, KS: University Press of Kansas.
- Stallmann, Judith I., Craig S. Maher, Steven C. Deller, and Sungho Park. 2017. "Research on the Effects of Limitations on Taxes and Expenditures." *Journal of Public and Nonprofit Affairs* 3(2):197-222.
- Sullivan, Lana, Laura Ryser, and Greg Halseth. 2014. "Recognizing Change, Recognizing Rural: The New Rural Economy and Towards a New Model of Rural Service." *Journal of Rural and Community Development* 9(4):219-245.
- Taylor, Betsy, Mary Hufford, and Kendall Bilbrey. 2016. "A Green New Deal for Appalachia: Economic Transition, Coal Reclamation Costs, Bottom-up Policymaking (Part 1)." *Journal of Appalachian Studies* 23:8-29.
- Tidwell, Thomas. 2014. "Statement of Thomas Tidwell, Chief U.S. Forest Service, United States Department of Agriculture, Before the Senate Committee on Energy and Natural Resources." February 6. Washington, D.C.
- Tuchmann, E. Thomas, Kent P. Connaughton, Lisa E. Freedman, and Clarence B. Moriwaki. 1996. *The Northwest Forest Plan: A Report*

- to the President and Congress*. Portland, OR: U.S. Dept. of Agriculture, Office of Forestry and Economic Assistance.
- U.S. Census of Governments. 2012. *State and Local Government Finance*. Washington, D.C.
- U.S. Department of Agriculture, Forest Service. 2016. *FY 1905-2016 National Summary Cut and Sold Data and Graphs*. Washington, D.C. Retrieved April 3, 2018 (https://www.fs.fed.us/forestmanagement/documents/sold-harvest/documents/1905-2016_Natl_Summary_Graph.pdf).
- U.S. Department of Agriculture, Forest Service 2017a. *ASR 10-3, Payment Detail*. Washington, D.C.
- U.S. Department of Agriculture, Forest Service 2017b. *ASR 18-1, Payment Detail*. Washington, D.C.
- U.S. Department of Commerce. 2017. *Bureau of Economic Analysis, Regional Economic Information System*. Washington, D.C.
- U.S. Department of Interior, Bureau of Land Management. 2016. *Overview of the Oregon and California Lands Act of 1937*. Portland, OR: Oregon and Washington State Office.
- U.S. Department of Interior, 2017a. *Payments in Lieu of Taxes (PILT), Annual Report*. Washington, D.C.
- U.S. Department of Interior, Bureau of Land Management. 2017b. *Secure Rural Schools Act, Official Payments*. Washington, D.C.
- U.S. Department of Labor. 2016. *Productivity and Costs by Industry, Manufacturing and Mining*. Washington, D.C.
- U.S. Department of Labor. 2017. *Employment/Production Data Set (Quarterly)*. Washington, D.C.: Mine Safety and Health Administration.
- U.S. Office of Management and Budget. 2018. *President's Budget FY 2019*. Washington, D.C.
- U.S. Senate Committee on Energy and Natural Resources. 2017. "Hearing to examine federal payments to local governments provided through the Secure Rural Schools and Community Self Determination Act and the Payment in Lieu of Taxes program and the need to provide greater fiscal certainty for resource-dependent communities with tax-exempt federal lands." May 2. Washington, D.C.
- Williams, Amy. 2008. "New Mexico's Land Grant and Severance Tax Permanent Funds: Renewable Wealth from Non-Renewable Resources." *Natural Resources Journal* 48(3):719-743.
- WyWyoming Taxpayers Association. 2015. "Permanent Wyoming Mineral Trust Fund (PWMTF) FAQ." Retrieved April 3, 2018 (<http://www.wyotax.org/PMTF.aspx>).