

Taking Goldschmidt to the Woods: Timberland Ownership and Quality of Life in Alabama*

Conner Bailey 

*Department of Agricultural Economics & Rural Sociology
Auburn University*

Abhimanyu Gopaul

*Ministry of Agro Industry and Food Security
Republic of Mauritius*

Ryan Thomson 

*Department of Agricultural Economics & Rural Sociology
Auburn University*

Andrew Gunnoe

*Social Science Division
Maryville College*

ABSTRACT We use a database of property tax records for 13.6 million acres representing every parcel of privately owned timberland in 48 rural Alabama counties to test two hypotheses inspired by Walter Goldschmidt relating land ownership and quality of life. Our data show private ownership is highly concentrated and 62 percent is absentee owned. We employed Pearson correlations alongside Poisson and negative binomial regression models to estimate influence of both concentrated private ownership and absentee ownership of timberland. Our findings support Goldschmidt-inspired hypotheses that concentrated and absentee ownership of timberland exhibit a significant adverse relationship with quality of life as measured by educational attainment, poverty, unemployment, food insecurity, eligibility for free or reduced price lunch at public schools, Supplemental Nutritional Assistance Program participation, and population density. Low property taxes in Alabama limit the ability of local governments to generate revenue to support public education or meet other infrastructural or service needs in rural areas. We call on rural sociologists and kindred spirits to pay more attention to the fundamental importance of land ownership which shapes the foundations of power and inequality affecting rural life in America and beyond.

Introduction

The opening sentence of Walter Goldschmidt's classic study of Californian agriculture reads "Controversy over the control of land is as old as America" (1978:xxiii). Goldschmidt found quality of rural life

*This research was supported by the National Institute of Food and Agriculture, USDA, Grant # 2011-68006-31051. Address correspondence to Conner Bailey, Department of Agricultural Economics & Rural Sociology, Auburn University, Auburn, AL 36849-5406, USA. E-mail: cbailey@ag.auburn.edu

suffers where ownership or control of land is highly concentrated in the hands of absentee corporations.¹ A series of studies by rural sociologists and others have explored what has come to be known as the Goldschmidt hypothesis, generating fruitful discussions about the changing structure of agriculture in the United States (U.S.) (e.g., Ashwood, Diamond, and Thu 2013; Gilles and Dalecki 1988; Green 1985; Harris and Gilbert 1982; Lobao, Shulman, and Swanson 1993; Lyson, Torres, and Welsh 2001; Lyson and Welsh 2005; Welsh 2009). The focus of this literature has been on the industrial organization of production, however, not on the fundamental question of land ownership itself.

Our purpose is to return to Goldschmidt's original focus on ownership and control of land and specifically to investigate the social consequences of highly concentrated ownership and absentee ownership of timberland in Alabama, where timberland occupies 70 percent of the land and 94 percent is privately owned.² In doing so, we build on the work of other scholars who have focused on timberland ownership and who found inspiration in Goldschmidt's work (reviewed below). We contribute to this discussion through analysis of a unique dataset based on tax record data for every parcel of privately owned timberland in all 67 Alabama counties in the year 2012 (some 800,000 records detailing ownership of 19.6 million acres). Our data reveal a high level of concentration: six corporate owners control 10 percent of the total (1.9 million acres) and the top 30 owners control over 20 percent (4 million acres). Out of an estimated 432,000 owners of timberland in Alabama (Pan, Zhang, and Butler 2007:117), we found only 1,208 who own 1,000 acres or more; as a group, they control 7 million acres, 36 percent of total privately owned timberland in the state. Furthermore, our data reveal that 59 percent of all privately owned timberland in Alabama is absentee owned. Using county as our unit of analysis, we test two Goldschmidt-inspired hypotheses, that (1) concentration of timberland ownership and (2) concentration of absentee ownership of timberland both are

¹Control and ownership are not necessarily the same thing. Timberland owners may cede control through long-term leases or as investors engage professional managers who effectively control the land (Gunnore et al. 2018). Creditors who underwrite the purchase of land also may have a degree of control. Recognizing these distinctions, we want to be clear that our data in this study are based on ownership as reported in county tax records.

²The U.S. Department of Agriculture Forest Service defines timberland as forestland capable of producing 20 cubic feet of industrial wood per acre per year and not withdrawn from production. The broader term "forestland" refers to land at least 10 percent stocked by forest trees of any size, or formerly had such tree cover (Hartsell and Cooper 2013:64, 69). Our focus is on timberland, which represents 99.7 percent of all forestland in Alabama (Hartsell and Cooper 2013:1).

negatively correlated with quality of life in rural Alabama. Publicly owned timberlands controlled by federal, state, and local government agencies are excluded from our analysis.³

Centrality of Land

Ownership of land “is central to sociological analysis of rural social change” (Varghese et al. 2006) and “a critical determinant of social, economic, and cultural power in society” (Jackson-Smith and Petrzelka 2014). Despite wide recognition that land ownership is of fundamental importance, this topic largely has been ignored not only in the Goldschmidt hypothesis literature but also in the rural sociology literature as a whole. Garkovich and Bell (1995) found less than two percent of all articles published in *Rural Sociology* between 1936 and 1995 dealt with issues of land tenure. Our count of articles published between 1996 and 2018 shows only 2.2 percent covered land tenure and only half of these dealt with land in the U.S. This is not to say that rural sociologists have ignored land tenure and property rights. In 1993 and again in 2014, Charles Geisler and colleagues put together two special issues in *Rural Sociology* on land tenure. In addition, the work of Bertrand (1962), Kusel (2001), Kusel and Fortmann (1991), and Sorokin, Zimmerman, and Galpin (1930) deserve mention. Nonetheless, we wish to argue that such limited and sporadic investigation of land ownership impedes our ability to understand underlying factors affecting rural life and, more broadly, inequalities in society.

One issue where the question of land ownership has attracted substantial contemporary interest relates to the phenomenon of land-grabbing (McMichael 2014). The World Bank reported the sale in 2009 alone of 56 million hectares for large-scale farm development, with 70 percent of that total in Africa (Deininger and Byerlee 2010:xiv). Most of the literature on land-grabbing has focused on Africa and Latin America (e.g., Borrás et al. 2012; McMichael 2014), but increasingly scholars and activists are examining this phenomenon in the U.S. (Fairbairn 2014; 2020; Gunnoe 2014, 2016; Gunnoe and Gellert 2010). Land in the U.S. also has become attractive to international investors. Eight percent of total privately owned timberland in Alabama (1.6 million acres) is foreign-owned, with The Netherlands (926,000 acres) and Canada (295,000 acres) being home to the largest international investors (USDA Farm Service Agency n.d.). One commonality between international land-grabbing and the

³Public lands total 1,229,800 acres and include national forests (604,600 acres), miscellaneous federal lands (262,700 acres), state lands (240,600 acres), and county/municipal lands (121,900 acres) (Hartsell and Brown 2002).

U.S. counterpart is the increase of both concentration and absentee ownership of land (Borras et al. 2012).

A central constraint to examining ownership of land is that data are extremely difficult to come by (Geisler 1993) and there is a natural tendency to study that which is most easily measured (Wollenberg 2000). A full year of effort was needed to compile our database due to resistance in some county courthouses despite the public nature of property tax records.⁴ Thirty years ago, the Appalachian Land Ownership Task Force (ALOTF 1983) faced the same obstacles we encountered in obtaining land ownership data.

The ALOTF study documented ownership patterns affecting over 20 million acres of land (and 7 million acres of mineral rights) in 80 counties within six Appalachian states (compared to our 20 million acres in 67 Alabama counties). Key findings of *Who Owns Appalachia?* were that one percent of all owners controlled 53 percent of all land in the study area and 72 percent were absentee owners. Corporations owned 40 percent of all land and 70 percent of mineral rights. Summarizing the study, Gaventa (1998:234) reports “Absentee and concentrated ownership of the land and natural resources means that wealth has been drained from the region and its people.” Combined with low property taxes, consequences included insufficiently funded public schools, health care, or other social services associated with developing human capital (Gaventa 1998:236). Based on ALOTF data, Goodstein (1989:520) similarly argued that “concentrated and absentee ownership of resources has (1) reduced public investment in human capital and physical infrastructure, and (2) inhibited diversification and growth of the local economy.” Gaventa (1998) and Goodstein (1989), among other authors (e.g., Williams 1979; see also Gaventa 1980), have called Appalachia an “internal colony” because outside economic interests use control over natural resources and domination over political actors to extract wealth while paying insufficient taxes to promote local development.

A more recent study found continuing concentration of absentee corporate ownership of land and mineral rights in West Virginia (West Virginia Center on Budget & Policy and the American Friends Service Committee 2013). The top 25 owners, dominated by timber and energy companies, control nearly 18 percent of the state’s 13 million acres of privately owned land. Unlike the ALOTF study, or the present study, the authors of “Who Owns West Virginia” benefitted from a state database of real property ownership.

⁴Alabama state agencies sometimes ignore the state’s Open Records Act or resist efforts of citizens to gain access to public data (Whitmire2019).

Like Appalachia, concentrated and absentee ownership of land has reduced much of rural Alabama to the status of an internal colony. Alabama has the lowest property taxes (state and local combined) in the U.S. (Newman and O'Brien 2011; PARCA 2019). Property taxes on agricultural land and timberland receive favorable tax treatment through "current use" rules (Alabama Department of Revenue 2019). Current use tax rules have been adopted by many states and are designed to protect family farm and timberland owners where market values would drive up taxes beyond what could reasonably be supported by farming or growing timber (Flick, Krietemeyer, and Hickman 1989). Each state has a method for establishing the taxable (assessed) value of such land. In Alabama, the assessed value of the most productive timberland in 2019 was \$76.20 per acre and owners pay annual property taxes ranging from \$1.33 to \$3.89 per acre, depending on millage rates of individual counties (Alabama Department of Revenue 2019). Comparison of current use values and millage rates between non-metropolitan Alabama counties bordering four neighboring states showed timberland owners in Alabama paying one half (Florida) to one-third (Georgia, Tennessee, and Mississippi) what timberland owners in neighboring states pay (Table 1).

No study comparable to that of ALOTF has since been attempted despite the authors' clear statement as to the importance of such data. "It is difficult to develop rational policy options relative to landownership issues in the absence of accurate, complete, and public data on ownership." Other authors (e.g., Geisler 1993, 1995; Wunderlich 1979, 1993) have made the same argument, but decades later land ownership data remains fragmented and difficult to assemble. Such work is important as we hope our study demonstrates.

Long History of Concentrated Timberland Ownership in Alabama

Forests dominated the landscape of Alabama and much of the South before the 19th century. Much of the land subsequently was cleared for agriculture, but soil erosion and the Great Depression led to abandonment of many farms and, over time, natural regeneration of forests (Walker 1991). During the 1930s and 1940s, technical advances made it possible to produce paper from loblolly and other pines native to the South. By the 1950s, paper companies began investing in the South and planting extensive pine plantations (Bliss and Bailey 2005). A high degree of concentration was apparent as early as 1960, when 40.5 percent of timberland was in holdings of 1,000 acres or more (Alabama Department of Conservation 1960). This figure increased to 48.6 percent by 1973 before gradually decreasing to 43 percent by 1990 (Alabama

Table 1. Comparing Property Tax on Timberland in Non-Metropolitan Alabama Counties with Contiguous Non-Metropolitan Counties in Neighboring States, 2020.

| State | County | Current Use Appraised Value, Best Soil Type (\$) | Assessment Rate (%) | Assessed Value (\$) | Millage Rate | Property Tax per acre (\$) | Alabama County Property Tax as Percent Neighboring County |
|-------------|------------|--------------------------------------------------|---------------------|---------------------|--------------|----------------------------|-----------------------------------------------------------|
| Tennessee | Wayne | 916 | 25 | 229.0 | 23.0 | 5.27 | 50.7% |
| Alabama | Lauderdale | 762 | 10 | 76.20 | 35.0 | 2.67 | |
| Florida | Holmes | — | — | 333.00 | 15.5873 | 4.51 | 54.3% |
| Alabama | Geneva | 762 | 10 | 76.20 | 32.10 | 2.45 | |
| Florida | Escambia | — | — | 333.00 | 13.7362 | 4.57 | 58.4% |
| Alabama | Escambia | 760 | 10 | 76.20 | 35.0 | 2.67 | |
| Mississippi | Clarke | 288 | 15 | 43.20 | 107.02 | 4.62 | 28.8% |
| Alabama | Choctaw | 760 | 10 | 76.20 | 17.50 | 1.33 | |
| Georgia | Harris | 833 | 40 | 333.20 | 27.10 | 9.60 | 33.8% |
| Alabama | Chambers | 760 | 10 | 76.20 | 42.50 | 3.24 | |

Note: In Georgia, there are three types of current use exemption. Conservation Use Value properties are limited to 2,000 acres and require a 10 year non-development covenant. Forest Land Protection Act provides for no acreage limit, but does require a minimum of 200 acres in a parcel or set of contiguous (not patchwork) parcels and requires a 10 year non-development covenant. In 2018, Georgia established a third category, Qualified Timberland Property, with no restrictive covenants but with lands valued at 175% of FLPA and CUV land. Using Harris County as an example, QTP lands would be taxed at \$15.85 an acre. As of October 2019, no land in Harris County had been converted to QTP.

Source: Telephone interviews on November 19, 2019 with tax assessors of listed counties in Tennessee, Florida, Mississippi, and Georgia plus millage and current use valuation data from the Alabama Department of Revenue (2019).

Forestry Commission 1973, 1982, Alabama Forestry Commission, 1990). Corporations in the pulp and paper industry were the primary investors, by 1973 having purchased 4.2 million acres of timberland in Alabama (Hedlund and Earles 1973), gradually increasing to 4.7 million acres by 1990 (Vissage and Miller 1991).

Three studies of private timberland ownership in Alabama were directly inspired by the Goldschmidt hypothesis. Both Sisock (1998) and Bliss, Sisock, and Birch (1998) used county-level ownership data from the Alabama Forestry Commission (1990) and found that ownership was most highly concentrated in the poorest counties of the state. They also noted that low property taxes and generous tax abatements given to the pulp and paper industry (see also Joshi et al. 2000) limited ability to invest in schools, roads, and other infrastructure that could improve quality of life in these rural counties.

A third Goldschmidt-inspired study was conducted by Bailey and Majumdar (2014:141) who used property tax records from 50 of 67 Alabama counties to estimate 61 percent of all timberland was absentee owned and 36 percent of this total involved out-of-state owners. They found absentee ownership was negatively correlated with per capita income and educational attainment, and positively correlated with percent of students eligible for free or subsidized meals in public schools. They concluded the high rate of absentee ownership led to a flow of income being drained from the local economy. Limited employment opportunities in the forestry sector and low property taxes on timberland, they noted, provided little support for investments in human capital or local rural development.

Since 1990, and in particular during the period 2000–2008, corporations in the forest products industry sold most of their lands—approximately 50 million acres nationally (Bliss et al. 2010; Gunnoe, Bailey, and Ameyaw 2018). This large-scale divestiture was motivated by shareholders who reasoned the value of timberland should be used to pay down corporate debt and buy back stock shares, thus increasing share values (Gunnoe 2014). The primary buyers of these lands were other corporations and financial managers and investors classified as Timber Investment Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs). TIMOs manage land for investors (e.g., pension funds) which own land as a financial asset but lack timberland management expertise. REITs are corporations which own land on behalf of shareholders and enjoy a tax-free status as long as they distribute 90 percent of their profits directly to shareholders and have minimal income from any form of manufacturing activity.

TIMOs and REITs have replaced paper companies as the largest owners of timberland in Alabama. The five largest owners of timberland in Alabama are either TIMOs or REITs, owning 1.9 million acres representing 10 percent of all privately owned timberland in the state. Similar changes in timberland ownership are happening elsewhere in the U.S., where three REITs and six TIMOs own a combined 31.4 million acres (FORISK 2018). The connection between absentee TIMO and REIT investors with the land or people who live near their land is distant at best (Gunnore et al. 2018).

Resource Dependency

Resource dependency is a concept denoting conditions under which particular communities or regions are heavily reliant on one type of economic activity (Krannich et al. 2014). Research on resource dependency dates back to the work of Landis (1938) and Kaufman and Kaufman (1946), emerging as a central concern for rural sociologists in the early 1990s when federal policy in the U.S. effectively put off limits most publicly owned timberland, an action which had particularly important consequences for the Pacific Northwest (Lee, Field, and Burch 1990). In the long run, the consequence of resource dependency is social and economic marginalization and declining standards of living (Carroll and Lee 1990; Cook 1995; Freudenburg 1992; Machlis and Force 1988; Machlis, Force, and Balice 1990).

Previous research has established that resource dependency, and specifically timber dependency, is widespread in Alabama and elsewhere in the South (Bliss and Bailey 2005; Bliss, Walkingstick, and Bailey 1998; Norton, Howze, and Robinson 2003; Overdevest and Green 1995). In Alabama, Howze, Robinson, and Norton (2003) used percent employment in forestry manufacturing to identify 19 rural timber dependent counties. Compared to other rural Alabama counties, they found timber dependent counties had higher unemployment rates, a higher proportion of the population using the Supplement Nutritional Assistance Program (SNAP), lower levels of educational attainment, and higher infant mortality rates.

A variety of theories and measures have been applied to understanding the connection between resource dependency and quality of life (Humphrey et al. 1993), but none have focused on the concentration of land ownership as a key factor in the equation. Machlis and Force (1988) noted most measures of timber dependency rely on economic variables such as percentage of total employment in forest industries, percentage of industry sales dependent on forest sector products, percentage of income attributable to the forest sector, and indices reflecting

per capita timber harvest and forest area. These variables have the virtue of being easily measurable on the basis of available secondary data, but they address only a limited set of sociological concerns (Fisher 2001; Freudenburg and Gramling 1994; Stedman 2013; Stedman, Parkins, and Beckley 2004).

The only resource dependency study where landownership was considered a factor in resource dependency was the 1991 study by Kusel and Fortmann (and the related 2001 article by Kusel) of forest dependent communities in northern California. In their study area, absentee owners controlled most of the privately owned timberland and the U.S. Department of Agriculture Forest Service controlled most of the public timberland (p. 221). They reported “One of the most important findings of this study is that the concentration of control of forest resources, especially in the hands of outsiders, both public and private, is associated with lower community well-being” (p. 216).

Data and Methods

In this section, we describe our data and methods. We excluded from our analysis 19 Alabama metropolitan counties where over half of the population lived in urban areas (2,500 or more), doing so because economies of such counties are so complex that the impact of concentrated timberland ownership on social and economic well-being would be muted. Our study universe is the remaining 48 counties where over 50 percent of the population resided in rural areas. In Table 2, we present data showing that the percentage of land in holdings of 1,000 acres and more, and the percentage of absentee ownership both are higher in rural counties than the state average.

Land Ownership Data

Data on private timberland ownership were collected from the revenue commissioners in each of Alabama’s 67 counties and are for the year 2012. In some counties, data were made freely available in electronic form. In other counties, we purchased data sets from a private vendor. In approximately half the counties neither option was available and obtaining data often required repeated phone calls. The process took almost exactly one year but ultimately resulted in a complete census of all privately owned timberland in Alabama.

Our measure of concentration is the percent of timberland in a county privately owned by any form of ownership entity (individuals, partnerships, trusts, corporations) in holdings of 1,000 acres and more. Our unit of analysis is the county and not the ownership entity, which may own timberland in multiple counties. We chose 1,000 acres because this

Table 2. Comparing Ownership Data for 48 Rural Alabama Counties to State Totals.

| | 48 Rural Alabama Counties | Alabama Totals (67 counties) |
|-----------------------------------------------|---------------------------|------------------------------|
| Total Timberland (acres) | 13,569,250 | 19,647,337 |
| Timberland in holdings >1,000 acres (percent) | 39.2 | 35.6 |
| Absentee ownership (percent) | 62.1 | 59.0 |

Note: Rural counties are identified in Table 3 and are defined as having less than half the total population living in urban areas of 2,500 or more. Urban counties are Autauga, Baldwin, Chambers, Calhoun, Coffee, Colbert, Dallas, Etowah, Houston, Jefferson, Lauderdale, Lee, Madison, Mobile, Morgan, Montgomery, Russell, Shelby, and Tuscaloosa.

figure was used by the Alabama Department of Conservation and the Alabama Forestry Commission in reporting landownership patterns for previous years (reviewed above). Out of 432,000 timberland owners (Pan et al. 2007:117), there are only 1,208 owners (0.03 percent) with holdings of 1,000 acres or more. In the 48 rural counties which are the focus in this study, there are 954 owners of over 1,000 acres who own a total of 5,321,101 acres, 39.2 percent of all privately owned timberland (Table 2).

Absentee owners were defined by the address used in mailing property tax bills. In the vast majority of cases, tax bills are sent to the home addresses of owners but in some cases they are mailed to trust offices of banks, attorney offices, or to TIMOs that manage land on behalf of investors not identifiable on the tax records. Using mailing addresses to identify absentee ownership status presented difficulties. TIMOs with mailing addresses in Alabama such as Resource Management Services (RMS) of Alabama (which manages over 600,000 acres in Alabama) represent both domestic and international investors (Hettinger 2017). In Butler County, a Dutch pension fund organized as a limited liability corporation registered in Delaware owned 133,000 acres managed by RMS. The tax bill for this pension fund did not go to the Birmingham, Alabama main office of RMS but to a local office within Butler County. Because we use mailing address of the tax bill to determine absentee status, these holdings were not counted as absentee.

Based on zip code addresses, we ascertained that 36.5 percent of all timberland in Alabama was owned by absentee owners who live outside Alabama. An earlier study by Bailey and Majumdar (2014) using the same methodology presented an estimate of 36 percent. We believe this figure to be conservative, not only because of the Butler County example

Table 3. Timberland Data on 48 Rural Alabama Counties Ranked By Percent Timberland in Holdings of $\geq 1,000$ acres.

| | 48 Rural Alabama Counties | Ownerships $\geq 1,000$ acres (%) | Absentee Owned | Absentee Ownerships $\geq 1,000$ acres (%) | Out-of-State Absentee Owners (%) | International Absentee Owners (%) | Defined as Timber Dependent |
|----|---------------------------------|--------------------------------------|-------------------|--------------------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------|
| 1 | Escambia | 74.7 | 39.4 | 37.7 | 25.5 | 9.5 | ✓ |
| 2 | Conecuh | 72.8 | 87.4 | 94.3 | 25.6 | 28.5 | ✓ |
| 3 | Blount | 59.9 | 56.2 | 31.1 | 11.5 | 0.0 | |
| 4 | Cherokee | 55.6 | 68.7 | 45.4 | 37.4 | 5.4 | |
| 5 | Clarke | 52.6 | 44.3 | 49.1 | 22.3 | 1.9 | ✓ |
| 6 | Butler | 48.0 | 49.8 | 91.9 | 16.7 | 37.8 | ✓ |
| 7 | Monroe | 48.0 | 74.2 | 60.9 | 35.8 | 24.6 | ✓ |
| 8 | Bibb | 47.9 | 67.2 | 66.9 | 14.0 | 13.3 | ✓ |
| 9 | Choctaw | 47.1 | 51.6 | 50.7 | 18.2 | 1.6 | ✓ |
| 10 | Chilton | 46.2 | 63.4 | 35.7 | 7.5 | 9.9 | ✓ |
| 11 | Pickens | 46.1 | 64.2 | 56.6 | 19.5 | 0.1 | ✓ |
| 12 | Perry | 45.0 | 83.5 | 43.5 | 19.0 | 14.1 | ✓ |
| 13 | Covington | 44.6 | 58.1 | 61.9 | 43.8 | 10.3 | ✓ |
| 14 | Marengo | 43.9 | 68.9 | 51.9 | 22.5 | 6.1 | ✓ |
| 15 | Coosa | 43.2 | 84.1 | 46.4 | 24.5 | 8.1 | ✓ |
| 16 | Wilcox | 39.7 | 67.1 | 78.8 | 24.6 | 7.4 | ✓ |
| 17 | Sumter | 39.1 | 73.7 | 47.8 | 22.4 | 1.6 | ✓ |
| 18 | Winston | 38.6 | 75.9 | 35.6 | 21.9 | 18.2 | |
| 19 | Lowndes | 38.6 | 80.9 | 56.0 | 30.5 | 27.1 | |
| 20 | Tallapoosa | 36.9 | 63.6 | 47.1 | 21.7 | 4.0 | |
| 21 | Cleburne | 36.7 | 59.6 | 49.5 | 40.8 | 4.4 | |
| 22 | Walker | 36.4 | 39.4 | 24.9 | 10.3 | 1.9 | |
| 23 | Bullock | 36.1 | 71.7 | 42.5 | 24.9 | 12.9 | |
| 24 | Greene | 34.9 | 76.9 | 46.0 | 20.2 | 1.8 | ✓ |
| 25 | Grenshaw | 34.2 | 75.0 | 56.2 | 26.8 | 20.7 | ✓ |
| 26 | Marion | 34.0 | 68.8 | 55.7 | 39.2 | 22.3 | |

Table 3. Continued

| | 48 Rural Alabama Counties | Ownerships ≥ 1,000 acres (%) | Absentee Owned | Absentee Ownerships ≥ 1,000 acres (%) | Out-of-State Absentee Owners (%) | International Absentee Owners (%) | Defined as Timber Dependent |
|----|---------------------------------|---------------------------------|-------------------|---------------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------|
| 27 | Lamar | 31.9 | 58.3 | 33.5 | 32.0 | 1.4 | |
| 28 | Haley | 31.9 | 75.6 | 35.4 | 14.1 | 2.3 | √ |
| 29 | Hale | 30.4 | 74.8 | 38.9 | 9.2 | 7.7 | |
| 30 | Franklin | 29.9 | 95.4 | 37.2 | 38.4 | 13.5 | |
| 31 | Barbour | 28.7 | 56.8 | 24.8 | 25.7 | 1.4 | |
| 32 | Talladega | 27.3 | 58.0 | 40.1 | 13.4 | 4.9 | |
| 33 | Washington | 26.9 | 60.1 | 38.4 | 16.2 | 12.0 | |
| 34 | Jackson | 26.6 | 34.6 | 80.0 | 13.1 | 13.1 | |
| 35 | St. Clair | 26.3 | 52.9 | 48.3 | 7.1 | 1.6 | |
| 36 | Macon | 26.2 | 82.5 | 29.9 | 23.4 | 3.8 | |
| 37 | Fayette | 25.6 | 68.0 | 33.0 | 25.7 | 3.2 | |
| 38 | Randolph | 24.7 | 45.7 | 45.6 | 15.1 | 9.8 | √ |
| 39 | Henry | 23.3 | 54.6 | 30.0 | 22.4 | 1.7 | √ |
| 40 | Pike | 22.1 | 48.7 | 36.6 | 20.8 | 8.5 | |
| 41 | Elmore | 21.4 | 50.4 | 33.8 | 14.4 | 2.5 | |
| 42 | Cullman | 20.0 | 28.7 | 15.9 | 4.7 | 0.2 | |
| 43 | Lawrence | 14.0 | 57.0 | 30.0 | 23.9 | 5.2 | |
| 44 | Dale | 7.9 | 44.9 | 14.5 | 16.2 | 0.3 | |
| 45 | Marshall | 7.5 | 42.2 | 12.8 | 8.9 | 0.4 | |
| 46 | Geneva | 7.3 | 51.9 | 10.7 | 18.7 | 2.0 | |
| 47 | De Kalb | 4.2 | 37.4 | 5.7 | 19.1 | 10.8 | |
| 48 | Limestone | 4.0 | 27.5 | 7.5 | 8.7 | 1.2 | |

Note: See Hettinger (2017) for data on international absentee owners. Counties defined as timber dependent by Howze, Robinson, and Norton (2003) based on employment in the forest products industry, including logging, timber management, and manufacturing of paper and wood products.

but because it was not possible to determine the domiciles of owners whose land is managed by TIMOs such as RMS. As a result, we have limited our analysis to categories of “local” (tax bill mailed to address in same county where land is located) and “absentee” (all other, including in Alabama, elsewhere in the U.S., or internationally). For the state as a whole, 59 percent of all privately owned timberland is absentee owned; for our 48 rural counties, the figure is 62.1 percent (Table 2) with a range from 27.5 to 95.4 percent (Table 3). On average, 48 percent of this absentee owned timberland is in holdings of 1,000 acres or more, with a range of 5.7 to 94.3 percent.

Quality of Life Variables

Eight dependent variables chosen to measure quality of life were drawn from the U.S. Census Bureau (American Community Survey 5-year estimates) and the U.S. Department of Agriculture for 2015. Variables chosen were (1) income per capita, (2) unemployment rate, (3) percentage of the population in poverty, (4) percentage of population receiving SNAP benefits, (5) percentage of students eligible for free or reduced cost student meals at public schools, (6) educational attainment by age 25 equivalent to high school graduation or more, (7) percentage of the population who are food insecure, and (8) population density. With the exception of food insecurity, each of these variables have been used in previous quality of life studies focused on forestry and timber dependency in Alabama (Bailey and Majumdar 2014; Howze et al. 2003). We chose to include a food insecurity measure given the importance of food insecurity to quality of life. Descriptive statistics are presented in Table 4

Income, unemployment, poverty, and the three food variables are standard variables that measure material well-being. The education variable speaks to human capital resources. Population density is used in this study because it reflects the relative availability of economic activities within a county. Forestry represents an extensive use of land that generates limited employment compared to agriculture and other land uses. Population densities in the 17 counties with highest concentrations of timberland ownership are relatively low compared to the 17 counties with lowest concentration (31.7 and 87.4 people per square mile, respectively in 2015). A similar negative population density trend can be found between counties with high (>70 percent) absentee and counties with low (<50 percent) absentee ownership areas as (22.8 compared to 74.4 people per square mile in 2015).

Table 4. Descriptive Statistics of Study Variables.

| | Mean | SD | Min | Max |
|--------------------|----------|---------|----------|----------|
| Absentee Ownership | 60.83 | 15.89 | 27.50 | 95.40 |
| Concentration | 34.54 | 15.83 | 4.01 | 74.73 |
| Education | 37.19 | 4.39 | 21.40 | 46.10 |
| Poverty | 22.89 | 6.83 | 7.70 | 41.30 |
| Unemployment | 12.17 | 4.36 | 5.50 | 22.60 |
| Food Insecurity | 19.30 | 5.86 | 5.54 | 33.47 |
| Free/Reduced Lunch | 62.91 | 8.82 | 35.00 | 79.00 |
| Per Capita Income | \$19,588 | \$3,260 | \$12,887 | \$33,494 |
| Population Density | 51.86 | 54.54 | 12.64 | 321.03 |
| SNAP Assistance | 11.01 | 6.71 | 0.34 | 25.81 |

Note: Absentee ownership is percent of owners whose property tax bills are mailed to addresses outside the county where the land is located. Concentration refers to the percent of land in holdings of 1,000 acres and more. Education is the percent of individuals age 25 and older who have completed high school. Poverty, unemployment, food insecurity, and SNAP Assistance are expressed in percentages.

Source: Absentee ownership and concentration are primary data for the year 2012. All other data are from the U.S. Census Bureau, American Community Survey 5-Year Estimates for the year 2015.

Statistical Tests

Given that all well-being indicators have count distributions, ordinarily least squares regression is inappropriate to model these outcomes.⁵ Thus, we used Poisson and negative binomial regressions, as these are the appropriate methods in modeling counts and rates (Cameron and Trivedi 2013; Hilbe, 2011; Long and Freese 2006). The distinction between the two largely depends on whether the variables are over-dispersed. Since descriptive statistics indicated that per capita income, population density, and SNAP assistance were over-dispersed (the variance was over two times greater than the mean), negative binomial regression was used for these outcomes. Poisson regression was used to model outcomes without over dispersion (education, poverty, unemployment, and food insecurity).

Analyses proceeded in several stages. First, Pearson correlations were examined for all study variables. Next, Poisson regression models were used to estimate the influence of percent absentee timber ownership and concentration of timberland ownership on educational attainment,

⁵Using count data with ordinary least squares is problematic in that it (1) is likely to produce nonsensical negative predicted values in attempting to model the expected count of predictors, and (2) violates the assumption of homoscedasticity, or that the variances of the residuals are the same for all cases (Fox 1984; Gardner, Mulvey, and Shaw 1995).

percent poverty, percent unemployment, food insecurity rate, and percent eligible for free/reduced lunches. Given that per capita income, population density, and percent on SNAP assistance were over-dispersed (i.e., variance was over twice the mean), negative binomial models were used to estimate the parameters for outcomes.

Results

Data on concentration of timberland ownership and the extent of absentee ownership for 48 rural Alabama counties are presented in Table 2. We discuss the impact of concentrated timberland ownership and rates of absentee timberland ownership separately and then consider interaction effects of these two variables.

Concentrated Timberland Ownership and Quality of Life

Counties with the highest rates of concentrated ownership tend to be in the southern and southwestern parts of the state (Figure 1). Fourteen of the 17 counties with the highest concentration of timberland ownership (measured as percent of all land in holdings of 1,000 acres and more) also were identified by Howze et al. (2003) as being timber dependent, as shown in Table 3 and Figure 1.

Pearson correlations of predictor variables and social well-being indicators are presented in Table 5. Both concentration of timberland ownership and absentee timberland ownership were positively correlated with one another at the $p < .01$ level. Concentration was positively correlated with education, poverty, unemployment, food insecurity, free/reduced lunch eligibility, and SNAP assistance, and negatively correlated with per capita income and population density. The statistical significance and direction of correlations in Table 5 support our hypotheses that concentration of timberland ownership is negatively associated with quality of life.

Our hypothesis that well-being is negatively associated with concentration of timberland ownership also is supported by results of our Poisson and negative binomial regression models. Table 6 present results from models estimating the impact of percent timberland concentration on social well-being outcomes. The first five models used Poisson regression to estimate the impact of timberland concentration on percent of residents who have completed at least high school by age 25, percent poverty, percent unemployment, food insecurity rate, and percent eligible for free/reduced lunches. Concentration was positively associated with poverty, unemployment, and (at the marginally significant $p < .10$ level) eligibility for free/reduced lunches. Concentration of timberland ownership was not statistically significant for educational attainment or

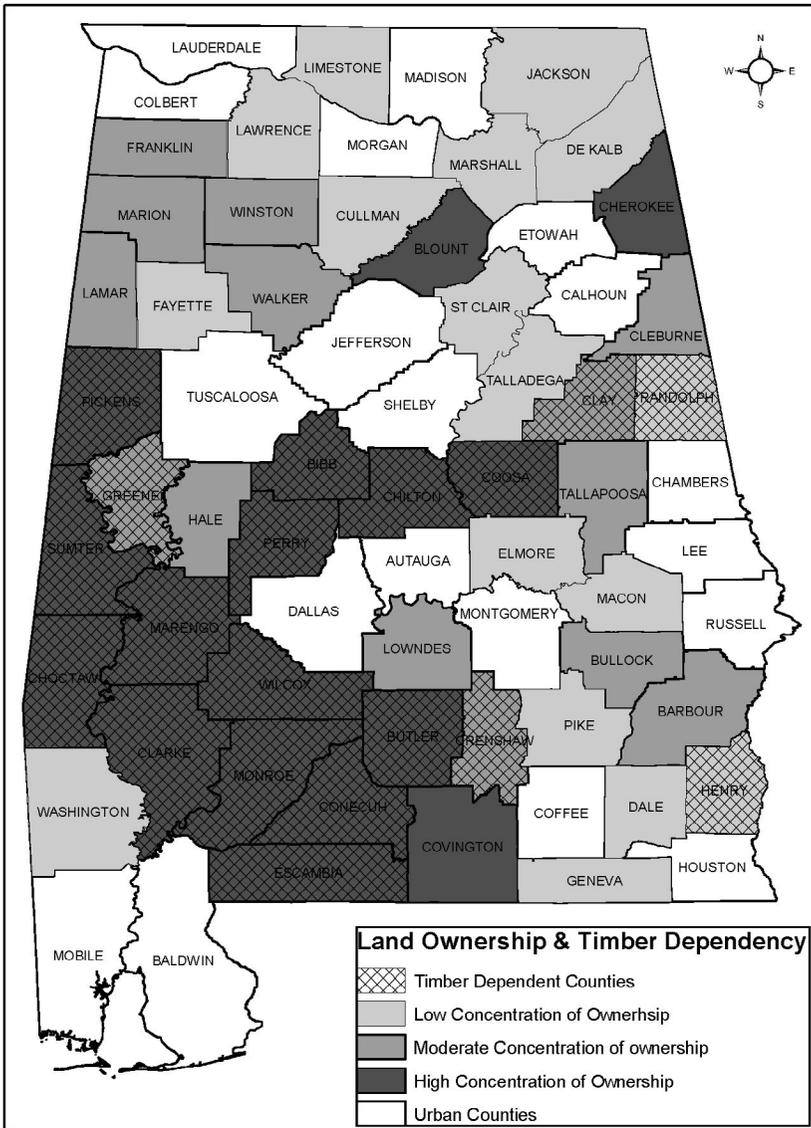


Figure 1. Concentration of Timberland Ownership and Timber Dependency in Alabama.

food security. The final three models present results from negative binomial regression models estimating the impact of timberland concentration on per capita income, population density, and percent on SNAP assistance. Timberland concentration was negatively associated with per

Table 5. Pearson Correlations of Percent Timber Absentee Ownership, Timber Concentration, and Social Well-Being Indicators.

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|
| (1) Absentee Ownership | 1.000 | | | | | | | | | |
| (2) Concentration | 0.388** | 1.000 | | | | | | | | |
| (3) Education | 0.193 | 0.360* | 1.000 | | | | | | | |
| (4) Poverty | 0.440** | 0.366* | 0.459** | 1.000 | | | | | | |
| (5) Unemployment | 0.348* | 0.348* | 0.534** | 0.718** | 1.000 | | | | | |
| (6) Food Insecurity | 0.055** | 0.337* | 0.347** | 0.907** | 0.746* | 1.000 | | | | |
| (7) Free/Reduced Lunch | 0.228 | 0.292* | 0.313* | 0.588** | 0.427** | -0.340* | 1.000 | | | |
| (8) Per Capita Income | -0.438* | -0.338* | -0.584** | -0.797** | -0.652** | 0.459** | -0.537** | 1.000 | | |
| (9) Population Density | -0.455** | -0.387** | -0.683** | -0.602** | -0.506** | 0.760** | -0.504** | 0.772** | 1.000 | |
| (10) SNAP Assistance | 0.532** | 0.404** | 0.416** | 0.772** | 0.509** | -0.632** | 0.551** | -0.622** | -0.666** | 1.000 |

** $p < .01$; * $p < .05$.

Table 6. Impact of Timberland Concentration on Social Well-Being Indicators.

| | Poisson Models | | | | Negative Binomial Models | | | |
|-----------|-----------------|-----------------|-----------------|-------------------------------|--------------------------|--------------------|-----------------|--|
| | Poverty | Unemployment | Food Insecurity | Eligible Free/Reduced Lunches | Per Capita Income | Population Density | SNAP Assistance | |
| Education | 0.007** (0.002) | 0.008** (0.003) | 0.006 (.021) | 0.002† (0.001) | -0.004** (0.001) | -0.021** (0.006) | 0.015 (0.027) | |

Note: Coefficients reported with standard errors displayed in parentheses.
 ** $p < .01$; * $p < .05$; † $p < .10$.

capita income and population density, indicating that increases in timberland concentration was associated with lower per capita incomes and lower population density. Concentration was not statistically significant for SNAP assistance.

Absentee Ownership and Quality of Life

Absentee ownership represents 62 percent of all privately owned timberland in our 48 study counties (Table 2). On average, roughly half (48 percent) of this absentee owned timberland is in holdings of 1,000 acres and more (Table 3). Counties with the highest rates of absentee ownership are more widely distributed across the state than are counties with concentrated ownership (compare Figures 1 and 2). The two predictor variables, percent concentrated and absentee ownership, were significantly correlated with one another ($r = 0.388$). Pearson's r coefficients above 0.5 indicate multi-collinearity issues (Tabachnick and Fidell 2007). Thus, a correlation coefficient of 0.388 indicated that timber absenteeism and timber concentration share a great deal of variance, but confirms that multi-collinearity was not a concern and that the variables are distinct. Put simply, concentration of timberland ownership and absentee ownership are significantly correlated but are expressed differently across the state. This can be seen from the data in Table 3, where absentee holdings of more than 1,000 acres vary widely across the 48 rural counties of our study.

We should emphasize that what constitutes “low” absentee ownership in Figure 2 includes any percentage up to 50 and includes six counties where between 40 and 50 percent of all timberland is absentee owned. What we term “moderate” absentee ownership is 50–70 percent, which in most other settings might be considered high. The categories found in Figure 2 were defined so that there were roughly equal numbers of rural counties in each grouping. Some counties with high concentration report relatively low absentee ownership. This variability largely reflects locally distinct histories (e.g., the presence in some counties of locally based timber companies that predate 1950).

Results of our Pearson's correlations show that absentee ownership correlated positively with poverty and unemployment rates, food insecurity, and SNAP participation. Absentee ownership was negatively correlated with household per capita income and population density (Table 5). The statistical significance and direction of correlations support our hypothesis that absentee ownership exhibits a negative association with quality of life.

Table 7 depicts results from Poisson and negative binomial models estimating the influence of percent absentee ownership of timberland on

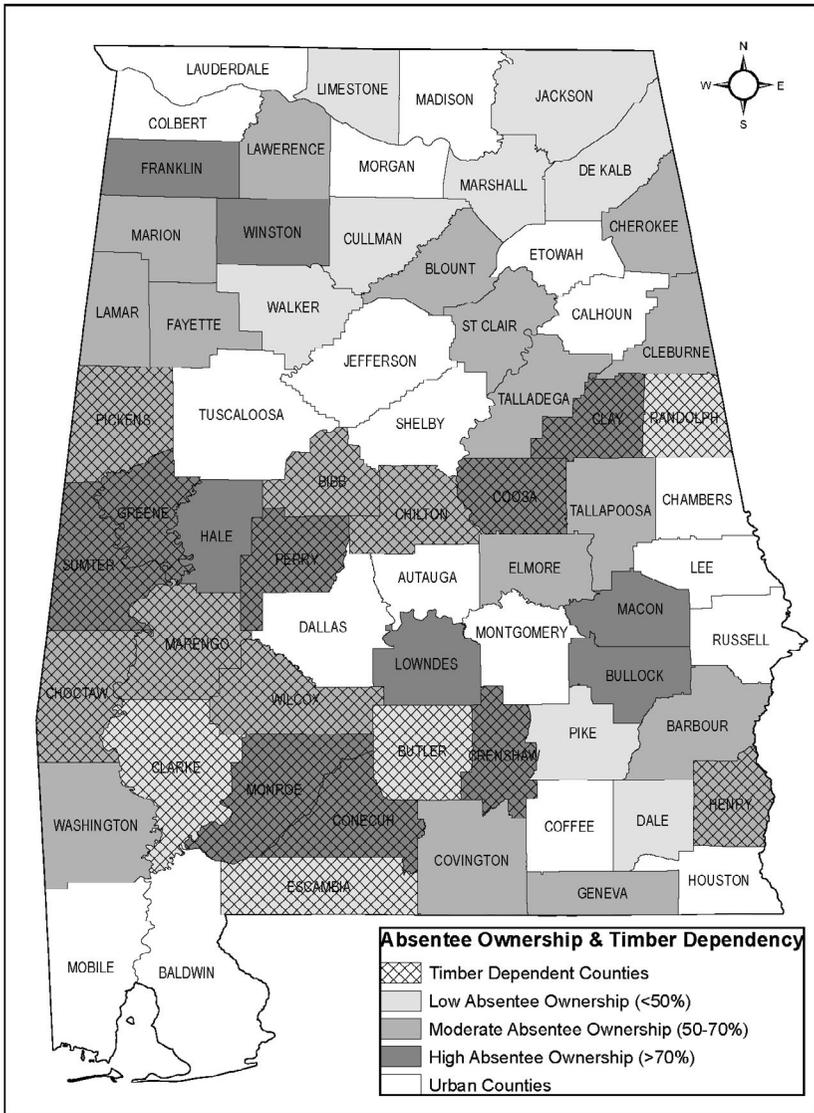


Figure 2. Absentee Timberland Ownership and Timber Dependency.

social well-being outcomes. The first five models present Poisson regression estimates of the influence of timber absentee ownership on percent education, percent poverty, percent unemployment, food insecurity rate, and percent eligibility for free/reduced lunches. Absentee ownership was

Table 7. Impact of Timberland Absentee Ownership on Social Well-Being Indicators.

| | Poisson Models | | | | Negative Binomial Models | | |
|-----------|----------------|-----------------|-----------------|-----------------------------------|--------------------------|-----------------------|-----------------|
| | Poverty | Unemployment | Food Insecurity | Eligible Free/ Reduced Lunches | Per Capita Income | Population Density | SNAP Assistance |
| Education | 0.01 (0.002) | 0.008** (0.002) | 0.008** (0.021) | 0.002† (0.001) | -0.005*** (0.001) | -0.029** (0.006) | 0.021 (0.029) |

Note: Coefficients reported with standard errors displayed in parentheses.
 ** $p < .01$; * $p < .05$; † $p < .10$.

positively associated with poverty, unemployment, and (at the marginally significant $p < .10$ level) free/reduced lunch eligibility. The final three models shown in Table 7 present results from negative binomial regression models estimating the influence of absentee ownership on per capita income, population density, and percent on SNAP assistance. Absentee ownership was negatively associated with per capita income and population density.

In sum, based on correlation and regression analyses, we found both absentee ownership of timberland and concentration of timberland ownership were significantly and positively associated with percent poverty. In addition, both absentee ownership and concentrated ownership were associated with significantly increased percent unemployment. Per capita income and population density exhibited a significant negative relationship across the negative binomial absentee and concentration models. The associations were relatively strong, statistically significant, and all in the direction predicted by the Goldschmidt hypothesis.

Our correlation analysis shows strong, statistically significant associations between concentration and absentee ownership for food insecurity and SNAP participation, but these statistical relationships are not found in our Poisson and negative binomial models. Educational attainment is correlated with concentrated timberland ownership at the $<.05$ level but statistical significance of this variable is not reflected our analysis of correlation with absentee ownership or with Poisson regression models for either concentration or absentee ownership. This finding warrants examination in future research but could be due to our relatively small sample size of 48 rural counties. We also considered the possibility of an interaction effect between independent and dependent variables, but this was not shown to be a significant predictor. This suggests that while concentration and absentee measures are correlated with one another (.388), their joint effects across social well-being measures were weaker than their independent impacts.

Discussion

Our focus in on the nature of ownership over land—locally owned or not, concentrated in a few hands or not. Our statistical analyses suggest that the two Goldschmidt-inspired hypotheses—that both concentration of land ownership and absentee ownership of land are detrimental to the quality of life in rural counties—can be applied to rural Alabama, where timberland occupies on average 70 percent of the land and where local economies are dependent upon the forest products industry. As Goldschmidt (1978), Geisler (1993, 1995) and others have argued, ownership of land has far-reaching implications affecting land use,

employment opportunity, wealth, status, and power. The decision to commit millions of acres of land into timber production has implications that stretch over decades. The shift away from agriculture to forestry beginning in the 1930s is a story involving the Great Depression, declining agricultural commodity prices, and state government promotion of the forest products industry—particularly the pulp and paper sector, through tax abatements and infrastructural development (Bliss and Bailey 2005; Joshi et al. 2000).

Much of rural Alabama resembles Appalachia in terms of concentrated and absentee ownership of natural capital—timberland in the case of Alabama, and coal in the case of Appalachia. Appalachia as an economic region has been characterized as an internal colony because wealth has been “drained from the region and its people” (Gaventa 1998:234) by absentee owners who control the land and natural resources that are the source of such wealth. The power of these absentee owners enabled them to pay such low taxes that public investment in schools and infrastructure has been seriously limited, inhibiting diversification and growth of local economies (Goodstein 1989:520). Members of the Appalachian Land Ownership Task Force (1983) and others (Gaventa 1998; Goodstein 1989) identified increased property taxes as a means by which local governments can gain access to resources necessary to improve local schools and meet other infrastructural and service needs.

We advance here the argument that rural Alabama counties can be understood as an internal colony dominated by outside investors. Our focus here has been on the ownership of land, which is fundamental to understanding social and economic relationships in rural settings. We should note here that manufacturing investment, particularly in the dozen integrated pulp and paper mills found in Alabama, represents the metropolitan core to the rural periphery of Alabama. Capital investment in individual pulp and paper mills is in the order of \$1 billion. In 2018 alone, the forest products industry invested \$1.3 billion in capital improvements in manufacturing capacity involving pulp and paper mills but also lumber, plywood, and other mills (Alabama Forestry Commission 2019:52).

Absentee owners control 62 percent of all privately owned timberland in Alabama in the state’s 48 rural counties. They have little or no stake in the quality of local schools, roads, or other infrastructure necessary to improve quality of life in counties where their investments are located, and like their counterparts in Appalachia can be expected to resist paying higher property taxes (Bliss et al. 2010; Gunnoe et al. 2018). Timberland owners interested in keeping property taxes low find important support from the Alabama Farmers Federation, a politically influential group

which gave the Alabama Commissioner for Agriculture and Industries the “Service to Agriculture Award” for his efforts in keeping Alabama’s property taxes low, calling him a “friend and advocate of rural Alabama” for doing so (Davis 2018).

Efforts to change property taxes in Alabama are constrained by the state’s Constitution of 1901, which contains provisions designed to protect the interests of large landowners (Flynt 2006; Newman and O’Brien 2011).⁶ Writing in the *Alabama Law Review*, Hamill (2002) described Alabama’s tax laws as immoral from the perspective of Judeo-Christian ethics, and later wrote: “The tax laws especially deny the rural areas across Alabama the ability to impose fair taxes on the only wealth available in the area, those timber farms, leaving rural public schools among the worst funded in the state and the rural areas trapped in perpetual poverty” (Hamill 2004:6). Alabama native Howell Raines, at the time editorial page editor of the *New York Times*, gave a commencement address to the University of Alabama where he described Alabama as “an internal colony of the Northeast” and castigated out-of-state corporations who “exploited our resources and our labor, shipped the profits North and dodged the taxes that paid for the roads that hauled their products and schools that educated their workers” (Raines 1993:7–8).

We did not set out to test a model of resource dependency, a concept best addressed by multiple variables defined by context. We did find a substantial overlap between timber dependent counties and counties with highly concentrated ownership and, to a lesser extent, absentee ownership (Figures 1 and 2). Previous research on timber dependency in Alabama has documented limited and declining employment opportunities in the forest products industry (Howze et al. 2003). Virtually all tree planting and initial weed control is done by migrant workers employed by local or regional tree-planting companies (Brodbeck, Bailey, and Morse 2018; McDaniel and Casanova 2003). The next main opportunity for employment comes 18–25 years later at harvest. Harvesting is done by heavy equipment, which is far more productive but employs far fewer workers (Bliss and Flick 1994). Employment generated in the processing of wood by paper mills, sawmills, plywood mills, and other wood products manufacturers has declined dramatically as capital has replaced labor. Between 1992 and 2016, the number of employees in Alabama’s forest products industry (logging and manufacturing) declined by 38

⁶To increase property taxes, county governments in Alabama must gain approval by the state legislature before the matter goes on the ballot as an amendment to the Constitution. If the legislature does not grant unanimous consent, the amendment is put before voters in all 67 counties of the state rather than only the county affected.

percent (U.S. Census Bureau, County Business Patterns, various years). The largest decline affected employment in paper mills, where half the jobs were lost during this period. Workers in the wood products sector (lumber, plywood, etc.) experienced a 45 percent decline in jobs. In short, employment in the forest products industry provides a thin economic base for local economies. When combined with tax policies that allow absentee owners to drain wealth from rural counties rather than invest in human capital and infrastructural needs, limited and declining employment locks many rural counties into a downward spiral of poverty and outmigration as workers and their families seek opportunity elsewhere.

Future research seeking to explore the causal impacts of dependency should consider incorporating landownership variables. The resource dependency literature has focused on social and economic pathologies associated with reliance on a single resource for both employment and community identity. Much of the early research on resource dependency was inspired by issues of resource access on public lands in the Pacific Northwest of the U.S., which may explain why concentrated ownership of private lands were slow to be considered.

Conclusion

Ownership of land matters a great deal to people in rural areas, where land is a source of identity, security, employment, income, wealth, status, and power. Our data show substantial concentration of timberland ownership in Alabama. Out of 432,000 owners of timberland in Alabama, 0.3 percent own over 1,000 acres, accounting for 35 percent of all privately owned timberland. For our 48 rural Alabama counties, owners of 1,000 acres or more own 39 percent. In these 48 counties, absentee ownership accounts for 62 percent of all privately owned timberland. We argue that in Alabama, concentrated and absentee ownership of land creates conditions of an internal colony, where key decisions are made by powerful outside forces supported by local elites. Supporting the Goldschmidt hypothesis, correlation and regression analyses presented here show both concentrated ownership of timberland and absentee ownership of timberland are negatively associated with quality of life in rural Alabama as measured by a standard set of variables. Whether our results reflect similar experiences in other states of the heavily forested rural South is the subject for future research.

In 1993, Geisler and Salamon called for renewed attention to the importance of land tenure in rural sociology research. Concentrated wealth among individuals and families, whether in land or any other resource, provides successive generations with important advantages

in maintaining or increasing their wealth. We believe rural sociologists and others interested in persistent rural poverty and rural quality of life should devote greater attention to who owns the land, a topic that has slipped from our consciousness as scholars even as evidence of persistent poverty, regional inequalities, and inequality of wealth and income in society as a whole have emerged as increasingly important concerns.

The federal government collects large volumes of data on land, but not on who owns the land. The Census of Agriculture provides information at the county level on farm size broken down into 12 categories, crops grown and value of sales, whether produced by owners, part-owners, or tenants, and many other demographic details. But there are no data on what proportion of the land is absentee owned or the extent to which a small number of identifiable owners control large areas. For timberland, we have abundant data at the county level on soil type, species composition, growth rates, harvest rates, and other technical information, but nothing on who owns the land. The closest thing we have to such information is the National Woodland Owner Survey but the sample size of any given state is too small to provide reliable data at the county level; in Alabama, for example, data for only 297 respondents are available for 67 counties (Butler et al. 2016). The USDA Farm Service Agency publishes county-level data on foreign land ownership, but no comparable data are collected for domestic ownership.

The difficulty of collecting landownership data may lessen as county records are digitized. Some counties will choose to make their data available for free while others may charge a fee for access. State governments should (as West Virginia has done) have an interest in developing a database on land ownership for a variety of reasons, including land use planning and taxation. The federal government could mandate such state databases be established to serve any number of practical purposes, not least of which would be to track the concentration of landownership. Resistance to development of such databases should be expected by those whose landholdings are the greatest. If as a society we are going to address growing inequalities in income and wealth, we need to know who owns the land. Rural sociologists should be playing an important role in this effort.

References

- Alabama Department of Conservation. 1960. *Alabama Forest Landowner List: 500 Acres or More*. Montgomery, AL: Alabama Department of Conservation, Forestry Section.
- Alabama Department of Revenue. 2019. *Current Use*. Montgomery, AL: Alabama Department of Revenue. Retrieved June 1, 2020 (<https://revenue.alabama.gov/property-tax/current-use/>).

- Alabama Forestry Commission. 1973. *Alabama Forest Landowner List: 500 Acres or More*. Montgomery, AL: Alabama Forestry Commission.
- . 1982. *Alabama Forest Landowner List: 500 Acres or More*. Montgomery, AL: Alabama Forestry Commission.
- . 1990. *Alabama Forest Landowner List: 500 Acres or More*. Montgomery, AL: Alabama Forestry Commission.
- . 2019. *Forest Resource Report 2018*. Montgomery, AL: Alabama Forestry Commission. Retrieved June 1, 2020 (https://forestry.alabama.gov/Pages/Management/Forms/Forest_Resource_Report_2018.pdf).
- Appalachian Land Ownership Task Force (ALOTF). 1983. *Who Owns Appalachia? Landownership and Its Impact*. Lexington, KY: University Press of Kentucky.
- Ashwood, Loka, Danielle Diamond, and Kendall Thu. 2013. "Where's the Farmer? Limiting Liability in Midwestern Industrial Hog Production." *Rural Sociology* 79(1):2–27.
- Bailey, Conner and Mahua Majumdar. 2014. "Absentee Forest and Farmland Ownership in Alabama: Capturing Benefits from Natural Capital Controlled by Non-Residents." Pp. 134–49 in *Rural Wealth Creation*, edited by John Pender, Thomas G Johnson, Bruce Weber, and J Matthew Fannin. New York: Routledge.
- Bertrand, Alvin L. (ed.). 1962. *Rural Land Tenure in the United States: A Socio-Economic Approach to Problems, Programs, and Trends*. Baton Rouge: Louisiana State University Press.
- Bliss, John, Erin Clover Kelly, Jesse Abrams, Conner Bailey, and Janice Dyer. 2010. "Disintegration of the U.S. Industrial Forest Estate: Dynamics, Trajectories, and Questions." *Small-scale Forestry* 9:53–66.
- Bliss, John and Conner Bailey. 2005. "Pulp, Paper, and Poverty: Forest-based Rural Development in Alabama, 1950–2000". Pp. 138–58 in *Communities and Forests: Where People Meet the Land*, edited by Robert Lee and Don Field. Corvallis: Oregon State University Press.
- Bliss, John and Warren Flick. 1994. "With a Saw and a Truck: Alabama Pulpwood Producers." *Forest & Conservation History* 38(2):79–89.
- Bliss, John C., Mary L. Sisock, and Thomas W. Birch. 1998. "Ownership Matters: Forestland Concentration in Rural Alabama." *Society & Natural Resources* 11(4):401–10.
- Bliss, John C., Tamara L. Walkingstick, and Conner Bailey. 1998. "Development or Dependency?" *Journal of Forestry* 96(3):24–30.
- Borras, Jr., Saturnino M., Jennifer C. Franco, Sergio Gómez, Cristóbal Kay, and Max Spoor. 2012. "Land Grabbing in Latin America and the Caribbean." *Journal of Peasant Studies* 39(3–4):845–72.
- Brodbeck, Arnold, Conner Bailey, and Wayde Morse. 2018. "Seasonal Migrant Labor in the Forest Industry of the Southeastern United States: The Impact of H-2B Employment on Guatemalan Livelihoods." *Society and Natural Resources* 31(9):1012–29.
- Butler, Bret, Jaketon H. Hewes, Brenton J. Dickinson, Kyle Andrejczyk, Sarah M. Butler, and Marla Markowski-Linsay. 2016. *USDA Forest Service National Woodland Owner Survey: National, Regional, and State Statistics for Family Forest and Woodland Ownerships with 10+ Acres, 2011-2014*. Res. Bull. NRS-99. Newtown Square, PA: USDA Forest Service, Northern Research Station. Retrieved June 1, 2020 (https://www.fs.fed.us/nrs/pubs/rb/rb_nrs99.pdf).
- Cameron, A. Colin and Pravin K. Trivedi. 2013. *Regression Analysis of Count Data*. New York: Cambridge University Press.
- Carroll, Mathew S. and Robert G. Lee. 1990. "Occupational Community and Identity Among Pacific Northwestern Loggers: Implications for Adapting to Economic Changes." Pp. 159–75 in *Community and Forestry: Continuities in the Sociology of Natural Resources*, edited by Robert G. Lee, Don R. Field, and W. Rable Burch. Boulder, CO: Westview Press.
- Cook, Annabel K. 1995. "Increasing Poverty in Timber-Dependent Areas in Western Washington." *Society & Natural Resources* 8(2):97–109.

- Davis, Debra. 2018. "Federation Honors John McMillan with Service to Agriculture Award." *Neighbors Magazine*, December 2018. Published November 27, 2018. Retrieved June 1, 2020 (<https://issuu.com/alabamafarmersfederation/docs/n1218>).
- Deininger, Klaus and Derek Byerlee. 2010. *Rising Global Interest in Farmland; Can it Yield Sustainable and Equitable Benefits?* Washington, DC: The World Bank.
- Fairbairn, Madeleine. 2014. "Like Gold with Yield": Evolving Intersections between Farmland and Finance." *Journal of Peasant Studies* 41(5):777–95.
- . 2020. *Fields of Gold; Financing the Global Land Rush*. Ithaca, NY: Cornell University Press.
- Fisher, Dana R. 2001. "Resource Dependency and Rural Poverty: Rural Areas in the United States and Japan." *Rural Sociology* 66(2):181–202.
- Flick, Warren A., Steve W. Krietemeyer, and Clifford A. Hickman. 1989. *Current Use Property Assessment in Alabama*. Bulletin 600. August 1989. Auburn, AL: Alabama Agricultural Experiment Station. Retrieved June 1, 2020 (<http://aurora.auburn.edu/bitstream/handle/11200/2516/1779BULL.pdf;sequence=1>).
- Flynt, Wayne. 2006. *Alabama in the Twentieth Century*. Tuscaloosa, AL: University of Alabama Press.
- Fox, John. 1984. *Linear Statistical Models and Related Methods*. New York: John Wiley & Sons.
- FORISK. 2018. *Tracking the Top Timberland Owners and Managers, 2018*. April 26, 2018. Retrieved June 1, 2020 (<http://forisk.com/blog/2018/04/26/tracking-top-timberland-owners-managers-2018/>).
- Freudenburg, William R. 1992. "Addictive Economies: Extractive Industries and Vulnerable Localities in a Changing World Economy." *Rural Sociology* 57(2):305–32.
- Freudenburg, William R. and Robert Gramling. 1994. "Natural Resources and Poverty: A Closer Look." *Society and Natural Resources* 78:5–22.
- Gaventa, John. 1980. *Power and Powerlessness; Quiescence and Rebellion in an Appalachian Valley*. Champaign, IL: University of Illinois Press.
- . 1998. "The Political Economy of Land Tenure: Appalachia and the Southeast." Pp. 227–44 in *Who Owns America? Social Conflict over Property Rights*, edited by Harvey Jacobs. Madison, WI: University of Wisconsin Press.
- Garkovich, Lorraine and Ann M. Bell. 1995. "Charting Trends in Rural Sociology: 1986–1995." *Rural Sociology* 60(4):571–84.
- Gardner, William, Edward P. Mulvey, and Esther C. Shaw. 1995. "Regression Analyses of Counts and Rates: Poisson, Overdispersed Poisson, and Negative Binomial Models." *Psychological Bulletin* 118(3):392–404.
- Geisler, Charles. 1993. "Ownership: An Overview." *Rural Sociology* 58(4):532–46.
- . 1995. "Land and Poverty in the United States: Insights and Oversights." *Land Economics* 71(1):16–34.
- Geisler, Charles, and Fouad Makki. 2014. "People, Power, and Land: New Enclosures on a Global Scale." *Rural Sociology* 79(1):28–33.
- Geisler, Charles and Sonya Salamon. 1993. "Returning Land Tenure to the Forefront of Rural Sociology." *Rural Sociology* 58(4):529–31.
- Gilles, Jere Lee and Michael Dalecki. 1988. "Rural Well-being and Agricultural Change in Two Farming Regions." *Rural Sociology* 53(1):40–55.
- Goldschmidt, Walter. 1978. *As You Sow*. Montclair, NJ: Allanheld, Osman and Co., Publishers Inc.
- Goodstein, Eban. 1989. "Landownership, Development, and Poverty in Southern Appalachia." *Journal of Developing Areas* 23:519–34.
- Green, Gary P. 1985. "Large-Scale Farming and the Quality of Life in Rural Communities: Further Specification of the Goldschmidt Hypothesis." *Rural Sociology* 50(2):262–74.
- Gunnoe, Andrew. 2014. "The Political Economy of Institutional Landownership: Neorentier Society and the Financialization of Land." *Rural Sociology* 79(4):478–504.
- . 2016. "The Financialization of the US Forest Products Industry: Socio-Economic Relations, Shareholder Value, and the Restructuring of an Industry." *Social Forces* 94(3):1075–101.

- Gunnoe, Andrew, Conner Bailey, and Lord Ameyaw. 2018. "Millions of Acres, Billions of Trees: Socio-ecological Impacts of Shifting Timberland Ownership." *Rural Sociology* 84(4):799–822.
- Gunnoe, Andrew and Paul K. Gellert. 2010. "Financialization, Shareholder Value, and the Transformation of Timberland Ownership in the US." *Critical Sociology* 37(3):265–84.
- Hamill, Susan P. 2002. "An Argument for Tax Reform Based on Judeo-Christian Ethics." *Alabama Law Review* 54:1–112.
- . 2004. "Tax Policy as a Moral Issue under Judeo-Christian Ethics." 2004 Swig Lecture, Swig Judaic Studies Program, University of San Francisco. September 14, 2004. Retrieved June 1, 2020 (<https://www.law.ua.edu/misc/hamill/Swig.2.pdf>).
- Harris, Craig K. and Jess Gilbert. 1982. "Large-Scale Farming, Rural Income, and Goldschmidt's Agrarian Thesis." *Rural Sociology* 47(3):449–58.
- Hartsell, Andrew J. and Mark J. Brown. 2002. *Forest Statistics for Alabama, 2000. Resource Bull. SRS-67*. Asheville, NC: USDA Forest Service, Southern Research Station.
- Hartsell, Andrew J. and Jason A. Cooper. 2013. *Alabama's Forests, 2010. Resource Bull. SRS-193*. Asheville, NC: USDA Forest Service, Southern Research Station.
- Hedlund, Arnold and J. M. Earles. 1973. *Forest Statistics for Alabama Counties. Resource Bulletin SRS-039*. New Orleans, LA: Southern Research Station, USDA Forest Service. Retrieved June 1, 2020 (<https://www.srs.fs.usda.gov/pubs/4845>).
- Hettinger, Johnathan. 2017. "Sale of Timber Land Went Mostly to a Handful of Foreign Investors." June 22, 2017. Midwest Center for Investigative Reporting. Retrieved June 1, 2020 (<http://investigatamidwest.org/2017/06/22/sale-of-timber-land-went-mostly-to-a-handful-of-foreign-investors/>).
- Hilbe, Joseph M. 2011. *Negative Binomial Regression*. New York: Cambridge University Press.
- Howze, Glenn R., Laura J. Robinson, and Joni F. Norton. 2003. "Historical Analysis of Timber Dependency in Alabama." *Southern Rural Sociology* 19(2):1–39.
- Humphrey, Craig, Gigi Berardi, Matthew S. Carroll, Sally Fairfax, Louise Fortmann, Charles Geisler, Thomas G. Johnson, Jonathan Kusel, Robert G. Lee, Seth Macinko, Michael D. Schulman, and Patrick C. West. 1993. "Theories in the Study of Natural Resource-Dependent Communities and Persistent Rural Poverty in the United States." Pp. 136–72 in *Persistent Poverty in Rural America*, edited by Rural Sociological Society Task Force on Persistent Rural Poverty. Boulder, CO: Westview Press.
- Jackson-Smith, Douglas and Peggy Petzelka. 2014. "Land Ownership in American Agriculture." Pp. 51–68 in *Rural America in a Globalizing World: Problems and Prospects for the 2010s*, edited by Conner Bailey, Leif Jensen, and Elizabeth Ransom. Morgantown, WV: West Virginia University Press.
- Joshi, Mahendra, John C. Bliss, Conner Bailey, Larry Teeter, and Keith J. Ward. 2000. "Investing in Industry, Underinvesting in Human Capital: Forest—Based Rural Development in Alabama." *Society and Natural Resources* 13(4):291–319.
- Kaufman, Harold F. and Lois C. Kaufman. 1946. *Toward the Stabilization and Enrichment of a Forest Community: The Montana Study*. Missoula, MT: University of Montana Press.
- Krannich, Richard S., Brian Gentry, A. E. Luloff, and Peter G. Robertson. 2014. "Resource Dependency in Rural America: Continuities and Change." Pp. 208–25 in *Rural America in a Globalizing World*, edited by Conner Bailey, Leif Jensen, and Elizabeth Ransom. Charleston, WV: West Virginia University Press.
- Kusel, Jonathan. 2001. "Assessing Well-Being in Forest Dependent Communities." *Journal of Sustainable Forestry* 13(1):359–84.
- Kusel, Jonathan and Louise Fortmann. 1991. *Well-Being in Forest-Dependent Communities. 2 Volumes*. Sacramento, CA: Forest and Rangeland Resources Assessment Program, California Department of Forestry and Fire Protection.
- Landis, Paul H. 1938. *Three Iron Mining Towns: A Study of Cultural Change*. Ann Arbor, MI: Edwards Bros.
- Lee, Robert G., Donald R. Field, and William R. Burch. 1990. *Community and Forestry: Continuities in the Sociology of Natural Resources*. Boulder, CO: Westview Press.

- Lobao, Linda M., Michael D. Shulman, and Louis E. Swanson. 1993. "Still Going: Recent Debates on the Goldschmidt Hypothesis." *Rural Sociology* 58(2):277–88.
- Long, J. Scott and Jeremy Freese. 2006. *Regression Models for Categorical and Limited Dependent Variables using Stata*. College Station, TX: Stata Press.
- Lyson, Thhomas A. and Rick Welsh. 2005. "Agricultural Industrialization, Anticorporate Farming Laws, and Rural Community Welfare." *Environment and Planning A* 37:1479–91.
- Lyson, Thomas A., Robert J. Torres, and Rick Welsh. 2001. "Scale of Agricultural Production, Civic Engagement, and Community Welfare." *Social Forces* 80(1):311–27.
- Machlis, Gary E. and Jo Ellen Force. 1988. "Community Stability and Timber-Dependent Communities." *Rural Sociology* 53(2):220–34.
- Machlis, Gary E., Jo Ellen Force, and Randy G. Balice. 1990. "Timber, Minerals, and Social Change: An Exploratory Test of Two Resource-Dependent Communities." *Rural Sociology* 55(3):411–24.
- McDaniel, Josh and Vanessa Casanova. 2003. "Pines in Lines: Tree Planting, H2B Guest Workers, and Rural Poverty in Alabama." *Southern Rural Sociology* 19(1):73–96.
- McMichael, Philip. 2014. "Rethinking Land Grab Ontology." *Rural Sociology* 79(1):34–55.
- Newman, Katherine S. and Rourke L. O'Brien. 2011. *Taxing the Poor; Doing Damage to the Truly Disadvantaged*. Berkeley, CA: University of California Press.
- Norton, Joni F., Glenn R. Howze, and Laura J. Robinson. 2003. "Regional Comparisons of Timber Dependency: The Northwest and the Southeast." *Southern Rural Sociology* 19(2):40–59.
- Overdevest, Christine and Gary P. Green. 1995. "Forest Dependence and Community Well Being: A Segmented Market Approach." *Society and Natural Resources* 8(2):111–31.
- Pan, Yi, Yaoqi Zhang, and Bret J. Butler. 2007. "Trends among Family Forest Owners in Alabama, 1994–2004." *South Journal of Applied Forestry* 31(3):117–23.
- PARCA (Public Affairs Research Council of Alabama). 2019. *How Alabama Taxes Compare, 2019 Report*. December 2019. Birmingham, AL: PARCA. Retrieved June 1, 2020 (<https://parcalabama.org/how-alabama-taxes-compare-2019-edition/>).
- Raines, Howell. 1993. Commencement Speech by Howell Raines, University of Alabama, May 15, 1993. Transcript provided by author.
- Sisock, Mary. 1998. "Unequal Shares: Forest Land Concentration and Well-Being in Rural Alabama." MS Thesis, School of Forestry, Auburn University.
- Sorokin, Pitirim A., Carle C. Zimmerman, and Charles J. Galpin. 1965 [1930]. *A Systematic Source Book in Rural Sociology*. Volume 1. Originally published by the University of Minnesota Press. New York: Russell & Russell.
- Stedman, Richard C. 2013. "Resource Dependence and Rural Development." Pp. 77–91 in *Handbook of Rural Development*, edited by Gary P. Green. Northampton, MA: Edward Elgar.
- Stedman, Richard C., John R. Parkins, and Thomas M. Beckley. 2004. "Resource Dependence and Community Well-Being in Rural Canada." *Rural Sociology* 69(2):213–34.
- Tabachnick, Barbara G. and Linda S. Fidell. 2007. *Using Multivariate Statistics* (5th ed). Boston, MA: Pearson.
- U.S. Census Bureau. n.d.-a. *American Community Survey 5-Year Estimates*. Washington, DC: Author.
- . n.d.-b. *County Business Patterns*. Geographic Area Series. Various Years. Washington, DC: Author.
- USDA Farm Service Agency. n.d. *Foreign Holdings of U.S. Agricultural Lands Through December 31, 2017*. Washington, DC: Farm Service Agency, USDA. Retrieved June 1, 2020 (<https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/EPAS/PDF/afida2017report.pdf>).
- Varghese, Jeji, Naomi T. Krogman, Thomas M. Beckley, and Solange Nadeau. 2006. "Critical Analysis of the Relationship between Local Ownership and Community Resiliency." *Rural Sociology* 71(3):505–27.

- Vissage, John S. and Patrick E. Miller. 1991. *Forest Statistics for Alabama Counties—1990*. Resource Bulletin SO-158. New Orleans, La: USDA Forest Service Southern Forest Experiment Station 67:158.
- Walker, Laurence C. 1991. *The Southern Forest; A Chronicle*. Austin, TX: University of Texas Press.
- Welsh, Rick. 2009. "Farm and Market Structure, Industrial Regulation and Rural Community Welfare: Conceptual and Methodological Issues." *Agriculture and Human Values* 26(1-2):21-28.
- West Virginia Center on Budget & Policy and the American Friends Service Committee. 2013. *Who Owns West Virginia?* Retrieved June 1, 2020 (<https://wvpolicy.org/wp-content/uploads/2018/5/land-study-paper-final3.pdf>).
- Williams, John A. 1979. "Appalachia as Colony and as Periphery: A Review Essay." *Appalachian Journal* 6(2):157-61.
- Whitmire, Kyle. 2019. "Public Records Access is Supposed to be Free in Alabama. But it Cost One Business \$70,000." *AL.COM*, July 8, 2019. Retrieved June 1, 2020 (<https://www.al.com/news/2019/07/public-records-access-is-supposed-to-be-free-in-alabama-but-it-cost-one-business-70000.html>).
- Wollenberg, Eva. 2000. "Methods for Estimating Forest Income and their Challenges." *Society and Natural Resources* 13:777-95.
- Wunderlich, Gene. 1979. "Landownership: A Status of Facts." *Natural Resources Journal* 19(1):97-118.
- . 1993. "The Land Question: Are There Answers?" *Rural Sociology* 58(4):547-59.