Who Owns North Carolina? Econometric, Geospatial, and Interview Analyses of Land in Appalachian North Carolina for Land Policy Reform in the Appalachians: A Research Design and Findings to Date

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I. INTRODUCTION

The following research design will seek to address a handful of socioeconomic inequalities that are prevalent in Appalachian North Carolina. To do so, this research will ask, "What are the patterns of land ownership in Appalachian North Carolina, and what are the relationships of those patterns on
socioeconomic well-being on both a county and aggregate state level?" Seeking answers to these questions is undeniably imperative to a just transition for a dying Appalachian economy that has been historically dependent upon natural resource extraction and labor exploitation. Due to an economy that struggles to compete on a global scale as well as the economy’s successes and failures in these practices of extraction and exploitation, land ownership holdings, patterns, and concentrations will be utilized as an independent variable to explore its relationship with the staggeringly lagging socioeconomic status among Appalachian people and communities in North Carolina. Ultimately, the goal of this research is to assist in informing land policy decision-making as well as drive just economic transition within the region.

This study of land ownership in Appalachia deals with several issues and concepts that must be defined in order to explore the relationships between land and socioeconomics in Appalachian North Carolina. First, this is research that revolves around economic justice. Economic justice is comprised of two parts, communicative justice and distributive justice.² In other words, economic justice is about whether economic exchanges are fair and whether there is a fair distribution of resources.³ An unjust economy includes exploitation of market exchanges for profit, and the unequal distribution of resources.⁴ Additionally, issues regarding economic justice and the role that absentee land ownership in Appalachia plays it are of the most importance in this research. Therefore, absentee land ownership must be defined as well. This research defines it as ownership of land by an entity that does not reside in the county in which the land lies. In hopes of achieving the goals of this research introduced previously, these definitions will guide the findings that follow this research design.

The following Essay will address and discuss a methodology for understanding the dynamics between absentee land ownership and community socioeconomics in Appalachian North Carolina. To do so, the Essay will include four additional sections: a Background that introduces theories of absenteeism (Section II.A), socioeconomic issues that arise from absentee landownership (II.B), a history of absentee land ownership in Appalachia (II.C), Appalachian land studies of the past (II.D), a review of potential causes for the findings of those studies (II.E), and a review of criticisms regarding absentee land ownership in the region (II.F); a Discussion of methodologies that will be utilized to achieve those goals (Part III); an Analysis of the findings of the research to date (Part IV); and a Conclusion that discusses the research moving forward and its implications on land policy in Appalachia (Section V). Each of these sections are critical to understanding a) why the methodologies of this ongoing research are

³ Id.
⁴ See id.
being utilized, b) why the results of this research are critical to economic justice, and c) how this research can drive policy reform within the region.

II. BACKGROUND

A. Theories of Capital and Absentee Land Ownership

Since the beginnings of the industrial revolution, exploitation of labor and capital in capitalist economies has resulted in a growing socioeconomic gap between the owners of capital and their laborers.\(^5\) The continuing exploitation of labor power has concentrated capital in the hands of the few at the expense of the many.\(^6\) This resulted in a new global economy that began to rise in the 18th century when economic trade was altered from commodity based to monetary based, and capital accumulated in the hands of the few.\(^7\) These changes in the global economy resulted in arguments that called for the sharing of the commons and the abolishment of the ideology of private property.\(^8\) While these theories address the perpetual creation of capital accumulation and exploitation in regards to capital ownership within capitalist economies, the theories do not reflect the direct micro-socioeconomic issues that arise for individuals living in areas of extreme land capital concentration.

We can further understand these impacts by narrowing our focus to the absentee ownership of private property. Absenteeism arose quickly alongside capitalism throughout the 17th and 18th centuries.\(^9\) Capitalists acting "rationally" purchased lands from afar based upon speculative value, perhaps holding those lands undeveloped until their profits could be maximized.\(^10\) This is an issue of virtue. The following definition of absenteeism describes why:

> The high ideal which of moral right animates these good citizens in this pursuit of a "competence" is to get something for nothing, to get legal possession of some source of income at a less cost than its capitalisable value. Invariably a "competence" signifies the ownership of means in excess of what the owner can make.

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\(^6\) See *id.*


\(^8\) **Marx & Engels**, *supra* note 5, at 12–20.


use of, personally and without help; which is also a convenient definition of "absentee ownership."11

Similar to the theory of capital accumulation discussed above, this definition utilizes a value-added model of economy. "Competence" results in getting something for nothing. This competence is reflected in extractive industry, including coal, timber, and waterpower—all of which dominate Appalachian economies. Land grabbing, alongside the seizure and conversion of land through means of profit maximization, forces costs that are ultimately carried by the community at large.12 Undoubtedly, we can see this trend of ownership globally; the growth and evolving roles of international corporations,13 a growing gap in income inequality,14 and the unsustainable extraction of natural resources15 are just a few of the effects of absenteeism globally. These range from the old world to the new world. Nonetheless, there are areas around the world in which absentee capital accumulation is more prevalent than most are also concentrated around resource-extractive economies serving nationwide development needs.16

B. Absentee Land Ownership and Community Socioeconomics

Land ownership surrounding practices of extraction, particularly the presence of absentee land ownership and extraction and its effects on socioeconomics, has been researched by a wide array of social scientists. Over the past century and a half, extraction of non-renewable resources has spread globally in developing areas, leading to a number of ethical issues, including lagging development patterns, environmental degradation, and the threat of diminishing socio-cultural value.17 Research has shown that resource extraction can only benefit local communities in the short-run, providing employment and capital investment into those communities.18 Therefore, in the long-run, resource

11 VEBLEN, supra note 9, at 12.
12 Id. at 36.
13 Christopher Newfield, Corporation, in KEYWORDS FOR AMERICAN CULTURAL STUDIES 63 (2d ed. 2014).
Who Owns North Carolina?

Extraction dependent economies are not economically just. This can be seen in Appalachia as well as extraction-dependent areas globally. A study of coal mining in West Virginia found that communities without coal mining experience more favorable economic outcomes than those dependent upon coal. Likewise, it has been proven that spillover effects from extraction in Tanzania diminish socioeconomic and ecological well-being in nearby rural communities. The growth and extension of resource extraction globally, particularly since the industrial revolution and the increase of extractive industries owned by transnational corporations, clearly result in diminishing socioeconomic welfare for communities surrounding these practices.

What may be the cause of this phenomenon?

Previous literature suggests that the under-taxation of land, excessive concentration of land ownership, and uniform taxation policies lead to a number of socioeconomic issues within society. In particular, the under-assessment and errors in assessment of land parcels result in negative outcomes for communities. Different than taxation at a flat rate or conventional property taxation, even with error, non-uniform land taxation has a vast array of advantages that support economic justice. These include employment, economic output, increased social welfare, and diminished incentives for suburban sprawl. Likewise, research indicates that a shift from uniform property taxation to land valuation taxation benefits state and local governments over both the short and long run. Due to the implications of taxation policy on development and socioeconomic status of local governments, community members, etc., it is clear that land taxation, rather than flat-tax property rates, is a preferred policy to drive economic justice within Appalachian communities.

Taxation policies are also reflected in development patterns alongside a number of the socioeconomic issues discussed above. Tax policy has clear effects on the development of land. The conventional flat-rate taxation of land leads to underdevelopment and lagging development density, which leads to inefficient development decisions by landowners and significant deadweight loss.
 Likewise, property taxes that are implemented on new development may be reflected in diminishing development investment and density. Policy in Appalachia should reflect this. However, economic justice in Appalachia must be driven by sustainable development and proper taxation, which are both nearly negligible in the region. For example, the economic and development policies of West Virginia do not support sustainable development that can compete with like economies within the United States. These results indicate that flat-rate taxation is not ideal, and taxation policies that encourage sustainable development, investment, and economic diversification should be implemented within the various communities of Appalachia.

C. History of Absentee Land Ownership in Appalachia

To further understand why it is imperative to address taxation, development, and socioeconomic patterns in Appalachian North Carolina, it is necessary to address the history of absentee land ownership, economic development, economic injustice, and taxation in the region. Prior to the entrance of capitalism, the economy of Appalachia was primarily based on agriculture and artisanship. The beginnings of capital accumulation and the rise of mono-economies in the region can be traced back to the entrance of capitalists into Appalachia as early as the mid-19th century. Capital investors spanning from New York to Europe began to purchase land and minerals for their speculative value from Appalachian people for as little as 10 cents per acre, after geologists reported the region’s mineral wealth. Since then, Appalachia has seen the rise of mono-economies based solely on labor exploitation and the extraction of natural resources such as coal, natural gas, and timber. These mono-economies

29 *Id.* at 9.
30 HARRY M. CAUDILL, *MY LAND IS DYING* 59 (1971).
have undoubtedly produced numerous booms and busts and resulted in lagging socioeconomic outcomes for the people of the region. These include poverty traps, insufficient education levels, higher rates of disease and mortality, poor infrastructure, and, perhaps most importantly, diminishing social capital. If Appalachia is so rich in natural resources, why is this the outcome for its people?

D. Appalachian Land Studies of the Past

An academic study of the accumulation of land capital among absentee owners in Appalachia yielded staggering results almost 40 years ago. The study surveyed approximately 13 million acres of land in 80 Appalachian counties and found that 72% of it was owned by absentee landholders. Concomitantly, the study found that seven million of the acres surveyed had underlying mineral rights (over a quarter, largely owned separately) which were largely held absentee, and, at the time, were not recorded for taxation purposes. An econometric analysis that utilized data collected by the Appalachian Land Ownership Task Force found mixed results of socioeconomic and development patterns in the region. In fact, it found that tax based issues and related problems were not due to underdevelopment, but, rather, were due to a specific pattern of development over the past century. More recently, a land study of West Virginia revealed that absentee land ownership in some counties exceeds 60% and more than 75% in Wyoming County. In addition to these findings, the study discusses astonishing extraction figures of coal and natural gas within West

33 Id.
37 Ziliak, supra note 35, at 42.
38 SHANNON ELIZABETH BELL, FIGHTING KING COAL: THE CHALLENGES TO MICROMOBILIZATION IN CENTRAL APPALACHIA 49 (2016).
40 Id. at 16.

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Virginia counties, with Harrison County producing 121 billion cubic feet of natural gas and Marshall County producing 17.2 million tons of coal in 2012 alone. As discussed previously, these extreme forms of extraction, alongside the taxation and development patterns that surround them, have been found to result in socioeconomic inequality and economic injustices.

E. Potential Causes for the Dominance of Absentee Land Ownership and Its Related Issues in Appalachia

Land monopolies and their history of development in Appalachia attributed to the rise of mono-economies, which resemble the issues just discussed. These include, but are not limited to, poor record keeping on the county level, confusing tax policies, and the under-assessment and valuation of land parcels and their development. Perhaps most importantly, however, absentee landowners pay a smaller property tax than do local landowners. Further research also suggests that federal, state, and local tax policies favor absenteeism in rural, owner-operator dominated areas. To date, in West Virginia, it is difficult to understand whether taxation of absentee landowners is comparable to that of locals. Tax policies within counties remain non-transparent, just as they were almost four decades ago. It has been suggested that this scheme is designed to hide accurate taxation and assessment from the public, benefiting corporate landholders within the region. If land capital has continued to accumulate or remains in the hands of a few powerful landowners and multinational corporations, a lack of policy change can only lead to exacerbated socioeconomic issues regionally. Therefore, it is imperative to understand current tax policies, current record keeping methodologies, and county level tax bases to generate just policy reform within the region.

Research of the past indicates that extractive industry, particularly in the long run, results in diminishing environmental and socioeconomic outcomes for
the communities that are dependent upon it. These include, but are not limited to, education, employment, environmental quality, and poverty. Like the global trend that goes hand-in-hand with extractive industry, the Appalachian region has suffered from the accumulation of land capital by multinational corporations exploiting the non-renewable resources of the mountains. To date, we can see that patterns of land holdings remain concentrated, but in different patterns, and communities dependent upon extractive industry in West Virginia fare worse than those who do not. The land study that revealed the extreme concentration of land held by absentee owners in the region almost 40 years ago must be revisited given the growing research over the past 15 years that indicates the implications of these land concentrations utilized for non-renewable resource extraction.

Policymakers should utilize the findings of these literatures and the findings of the proceeding research to bring economic justice to extraction-dependent communities and to drive just economic transition. This research that the following Section will outline builds upon the theories and findings of Marx; Veblen; Reed; Perdue and Pavela; Taylor et al.; the Appalachian Land Ownership Task Force; Spence, et al.; and other research discussed above. Each of these theories and findings reinforces the notion that a negative relationship exists between the accumulation of land capital and the socioeconomic wellbeing of Appalachian Communities.

In North Carolina, a history of timber extraction, furniture and textile industries, and undeveloped forestland has resulted in similar outcomes to the entirety of the region. The following research theorizes that these industries and development patterns have resulted in economies that are endangered by economic cycles, the majority of the land in the hands of the few, and socioeconomic wellbeing below the national average for Appalachian North Carolinian residents. In particular, the accumulation of land ownership has resulted in undeveloped economies and mono-economies within communities that result in diminishing tax bases for counties. These diminishing tax bases are the root cause for under-financed education systems, infrastructure, business

52 See *Spence et al.*, *supra* note 42, at 8.
53 *Id.* at 42.
54 *Id.* at 181.
55 See *Appalachian Land Ownership Task Force*, *supra* note 39.
development, etc., that contribute to economies that are in desperate need of economic justice.

F. Alternative Arguments

Free market economics would undoubtedly dispute the notion that land taxation and development policies may be the root cause for socioeconomic issues within communities. Some scholars argue that absentee landowners should not be taxed at a flat rate and that these policies exacerbate taxation inefficiencies as the number of absentee landowners grow within an economy. Additionally, the development policies of global organizations such as the World Trade Organization (WTO) and International Monetary Fund (IMF) support free-market approaches to land development in developing countries such as the Philippines. These policies, however, were not found to improve the socioeconomic wellbeing of agricultural communities within that country. Previously-discussed literature suggests that there are a number of socioeconomic advantages to the non-uniform taxation of land. Clearly, these two free market strategies in regards to land ownership, taxation, and development do not support economic justice for Appalachia. The policies of the WTO and IMF have failed at relieving poverty and inequality in the Philippines.

Another criticism of absentee land ownership in Appalachia regards methodology of the original land study. In particular, the 80 counties in the survey were not randomly selected and were not inclusive of all Appalachian counties; further, the lack of consistency in the analysis of surface and mineral acres comparatively is naïve. Likewise, an opposing study led by Dale K. Colyer utilizing United States Department of Agriculture data found that almost 75% of West Virginia was owned by West Virginians in 1981. These criticisms of validity within the original land study provide arguments against the theory outlined above. Despite this, new land studies of Appalachia and its states should adopt stringent methodologies that provide unbiased and representative results.

59 Id.
60 Chapman et al., supra note 22, at 576.
61 Borras, supra note 58, at 146.
If these methodologies are pursued, it is anticipated that similar results to those of the Appalachian Land Ownership Task Force will be found today.

III. METHODOLOGY

A. Overview and Introduction

The following subsections will provide an understanding of the theses of the research, as well as the methodologies that will be utilized to answer the research question. These include spatial mapping on land parcels in Appalachian North Carolina; econometric modeling of absentee landownership and community socioeconomics; interviews with county tax assessors regarding their assessment practices; and a comparative case study between land in post-industrial Wales and Appalachia. Each of these is a critical component to answering the research question discussed previously as well as testing the following hypotheses.

This research will discuss three questions that will dispute these arguments and support the theories and findings discussed previously. The first of these hypotheses seeks to answer, “Is ownership of large tracts of land by an entity/individual(s) associated with lower than average socioeconomic standards?” Varying rates of absentee land ownership will serve as the independent variable in this explanation. Data from county assessors’ offices provide the opportunity to code absenteeism based upon tax billing zip codes of land parcel owners. Zip codes that do not lie within the county of study will be considered absentee. Multiple data sources will be used in conjunction with absenteeism as dependent variables: county level tax revenues, disease rates, mortality rates, median household income, poverty rates, level of education, and annual infrastructure investment. Each of these variables will be modeled econometrically, seeking to reveal causal relationships between absenteeism and county socioeconomic status.

A second question that will be utilized to explore the existing socioeconomic complications within Appalachian North Carolina will ask, “Do large parcels of land owned absentee result in lacking development patterns on those parcels?” Similar to the first hypothesis of the following research, this will utilize data from county tax assessors’ offices. Under the assumption that developed parcels contain a building value greater than zero, development will be coded as any parcel that contains a positive building value. Once again, absenteeism will remain independent while testing this hypothesis. Development patterns upon parcels are assumed to be dependent upon that. The proceeding methodology Section will include discourse analysis of zoning policy as well as mapping through geographic information systems software.

Lastly, the following research will ask, “Are varying land and development taxation policies as well as zoning policies within Appalachian North Carolina counties favorable to those who own large tracts of land?” Unlike the other two hypotheses of this research, parcel size, rather than absenteeism,
will serve as the independent variable. Tax and zoning policies will be dependent upon parcel size. Exploring parcel size and taxation will not require quantitative analysis; rather, discourse analysis of county tax policies and interviews among county assessors will be implemented, which is anticipated to reveal assessment valuation and management in each Appalachian North Carolina county. These qualitative methods will be used to support the findings found in research of the additional hypotheses and guide policy recommendations for just socioeconomic transitions within each county.

The proceeding research will be composed of three methodologies that utilize multiple approaches to understand the political economy of land in Appalachia. The first of these methodologies will provide a geospatial analysis of counties and an aggregate of those counties in the Appalachian portion of the state. Absentee ownership, development patterns, and zoning policies will be spatially displayed through ArcGIS mapping. Data from the county level will reveal the owners of parcels and how concentrated the ownership of land is within a county. The next methodology will involve econometric modeling. It will utilize the rate of absentee ownership as the independent variable, regressing that against county level poverty rate, education level, mortality rate, migration patterns, and development. Additionally, other factors such as county size, industry, unemployment, etc., will be controlled in the model. In addition, a time-series regression of county level tax revenues from land holdings will provide insight into how land taxation and tax revenues have changed on a county level over the past 40 years. Proceeding the previous econometric modeling, interviews will be conducted with county tax assessors to further understand their assessment practices and the counties’ taxation policies. This will be coupled with interviews with Welsh political historians on land policy during post-coal economic transition. Lastly, based on the findings from the methodologies above, this research will provide policy recommendations to justly transition the Appalachian economy based upon land ownership patterns and its effects on the socioeconomic status of the region.

B. Methods in Detail

Spatial data from individual counties in North Carolina will be utilized to map land ownership patterns and concentration within the Appalachian portion of the state. Each Appalachian county in North Carolina has spatial data available to the public that includes landowner name, address, property value, building value, and property acreage. Coding will be utilized to determine absenteeism: landowners that do not have billing addresses within the county. Likewise, coding will also reveal developmental patterns on land parcels. The findings of each of these patterns for the entirety of Appalachian North Carolina will be mapped, and these findings will also be implemented in the quantitative and qualitative methodologies that follow. More importantly, mapping will provide visual context for the findings in those methodologies. An example of mapping these patterns can be seen in Map 1 of the Appendix. As you can see,
nearly half of the land in Ashe County is owned absentee, and over half of that land is developed. This is critical to understanding land ownership concentration and taxation in each county.

Both of these patterns are critical to econometric modeling of absentee ownership in Appalachian North Carolina. The independent variable in the model will be the county's rate of absenteeism. Development patterns and the socioeconomic indicators discussed below will be implemented as dependent variables. These variables will include county poverty rate, median household income, infrastructure investment, level of education, tax revenues, as well as mortality and disease rates. Utilizing this model, causal relationships between land holding patterns and socioeconomic status at the county level are anticipated to be revealed. In addition to these regressions, gini coefficients for each county will be calculated to measure inequality in land ownership acreage. Pairing these two analyses together will provide insight as to the extent in which land ownership patterns are reflected within Appalachian communities. Graph 1 of the Appendix displays the gini coefficient and Lorenz curve for land holding in Ashe County. A coefficient of zero represents perfect land equality, while a coefficient of one represents perfect land inequality. Ashe County’s gini coefficient is 0.8035—incredibly unequal. In this case, it is important to note that Ashe County has no land owned by U.S. Forestry as most counties in Appalachian North Carolina do. Therefore, it is expected that land inequality will be greater for the majority of Appalachian North Carolina. In addition to this econometric analysis and gini coefficient, a time-series regression of county level tax revenues will further our understanding of how taxation and tax revenues have changed over time throughout the past 40 years (since the original land study).

Discourse analysis of county taxation policies throughout that time period, which can be found at the assessor's office, as well as interviews with each county’s tax assessor will serve as an explanation for tax regression results. Likewise, discourse analysis will be utilized to assess county level zoning policies, which may explain (a) why the current patterns of land capital holdings have arisen, and (b) what the effects of those policies have on non-commercial land and people within counties. In addition to policy analysis, interviews conducted with tax assessors will include, but are not limited to, the following questions:

1. How long have you served as your county tax assessor?
2. Can you walk me through your typical processes for assessing land and development values?

65 See APPALACHIAN LAND OWNERSHIP TASK FORCE, supra note 39.
3. What are your county’s tax policies? How do they differ with parcel size? What about development?
4. What are your county’s zoning policies? Are there trends with parcel size and development policy?
5. Do tax and zoning policies favor large tracts of land?
6. Do tax and zoning policies favor corporate, non-commercial, or out-of-state landholders?

These questions are anticipated to reveal tax assessor practices and policies, and whether or not county assessors provide favorable assessments to absentee owners, as well as owners of large parcels of land. County level land and property taxation policies coupled with county level zoning policies provide a quintessential combination to explain geospatial and econometric modeling results implemented in the previous two methodologies of this research.

To conclude, the goal of the preceding analyses of land ownership patterns, taxation, and socioeconomic standards is to guide county and state level policy for land reform to drive just economic transition in Appalachian North Carolina. This may include, but will not be limited to, more equitable taxation of large and undeveloped tracts of land; zoning regulations to promote sustainable, beneficial use of the land; and/or the investment of local and state governments into the long-run interest of Appalachian communities through education, social capital, and capacity. Guiding this change will require discourse analysis and comparative case studies of land policy in a similar, former extraction-dependent area of the world that has experienced alternative socioeconomic outcomes compared to the Appalachian region. This area will be Wales, which was dependent upon coal extraction for well over a century and continues to transition its economy. Interviews with political historians at Swansea University will provide information that will drive a comparative case study that provides policy recommendations for just economic transition and land policy reform in the Appalachian region.

IV. FINDINGS TO DATE

A. Introduction to Collected Data

To date, data has been collected for a total of 15 counties in Appalachian North Carolina. Table 1 of the Appendix displays the percentage of parcels that are owned absentee and developed as well as the gini coefficient given that a county had data that did not require extensive cleaning. While this is only half of the counties defined as Appalachian by the Appalachian Regional Commission in North Carolina, there are a few general trends that can be taken away from

67 See Counties in Appalachia, supra note 1.
these findings. A portion of the proceeding research will examine the relationship between parcel size, development, and absenteeism, which is far more important to understand when seeking to answer the research question and hypotheses discussed in the latter portion of this Essay. Nonetheless, these basic analyses of land ownership and development in each of these counties may provide a view into possible future findings. Clearly, these do not suggest any sort of socioeconomic outcome for the counties in which data has been collected. However, there are general trends among these counties that indicate similar ownership and development patterns. The research that will follow utilizing the methodology discussed above will attempt to understand the relationships between these patterns and socioeconomics within the area of study.

B. Analyses of Collected Data

As seen in Table I in the Appendix, the rate of absenteeism is astonishing in four of the six counties that have been calculated. Of the counties in which data has been collected and cleaned, on average, nearly 40% of the land in six counties examined to date are owned by landowners who live outside of the county of the land they own. If this trend proves to be representative of the entirety of Appalachian North Carolina, understanding the effects of these patterns may prove to be critical to improve tax bases and socioeconomic outcomes for the people of the area. Likewise, a large portion of the parcels in each county are undeveloped, which may be reflected in the tax bases of these counties. Out of 10 counties in which development has been calculated, nearly 60% of parcels in those counties are assessed with no development value. The gini coefficient has only been calculated for three counties. However, there is a clear inequality in land ownership for each of these three. All three are above 0.8, which is incredibly unequal. While these results have only been calculated for a small percentage of Appalachian North Carolina, they are astonishing on a county level nonetheless. Correlations between these findings and land size must be explored in addition to their relationships to a handful of socioeconomic indicators. This does not take parcel size into account, which may have an effect on the findings in the proceeding master’s thesis. This is just a beginning point for an extensive research project. It is anticipated that a completed synopsis of findings will be available by December 2018.

V. CONCLUSION

The ultimate goal of this research is to address an ongoing debate on how to transition Appalachia’s economy in a just and sustainable fashion. Accumulation of land capital in the Appalachian region must be explored as a potential cause for continuous socioeconomic struggles in the mountains. While
the land study of the late 1970s\textsuperscript{68} provided critical insight into the issues surrounding patterns of absentee land ownership in Appalachia, many have criticized its methodologies.\textsuperscript{69} In order to stimulate land taxation, ownership, and zoning policy reform moving forward, both qualitative and quantitative methodologies must be revisited and improved upon. Critical challenges to previous methodology include sampling (if all county data is unavailable), the usage of multilinear models rather than descriptive statistics alone, and extensive discourse analysis of county policies of both the past and present. Each of the methodologies in this research will ensure results that are unbiased.

All of the methods that will be utilized in this research present a unique and critical aspect that will further our understanding of land ownership in Appalachian North Carolina as well as the entirety of the Appalachian region. Maps of each county will present a visual assessment of land holdings, concentration, development, and zoning patterns as well as the relationships between those patterns. Econometric analysis will provide findings to understand the relationship between those maps and patterns, and socioeconomic status in communities throughout the research area. Lastly, interview methods and discourse analysis of interviews with county tax officials and Welsh political historians and coding of those interviews may serve as an explanation of the results found from the previous methodologies discussed as well as potentially provide guidance for land policy reform and just economic transition. These mixed methods will help assist in building a framework for land ownership research throughout Appalachia that will coincide with an ongoing and renewed land study that began nearly 40 years after the original. This allows communities to adopt methodologies to their needs as well as present their findings to policy makers to drive land reform in the region.

With that being said, it must be stated that the following research is intended to be employed as a tool for policy change that reflects community interests. Qualitative methods should be used by additional researchers to understand each community’s needs and to develop each community through discussion, capacity building, and the establishment of social capital. While quantitative and qualitative policy analyses are critical to drive policy change, a lacking effort to develop communities from within would yield a socioeconomic transition that is unjust. Therefore, research regarding land reform must consider sustainability as one of its top priorities—that is, land reform that is economically feasible, equitable, and environmentally friendly. When presenting these findings to drive policy change, this must not be forgotten. The following research is just a small piece of a very large issue at hand.

\textsuperscript{68} See Appalachian Land Ownership Task Force, \textit{supra} note 39.

\textsuperscript{69} Cawthon, \textit{supra} note 63.
VI. APPENDIX

Mapping Absentee Ownership and Development in Ashe County, NC

Map 1. Absenteeism and Development in Ashe County, North Carolina

Graph 1. Land Inequality in Ashe County, North Carolina
<table>
<thead>
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<th>County</th>
<th>Absentee</th>
<th>Developed</th>
<th>Inequality (Gini)</th>
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</thead>
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<td>53%</td>
<td>.8035</td>
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<td>Buncombe</td>
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<td>49%</td>
<td>.8412</td>
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<td>Davie</td>
<td></td>
<td>69%</td>
<td></td>
</tr>
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<td>Forsyth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haywood</td>
<td></td>
<td>66%</td>
<td></td>
</tr>
<tr>
<td>Macon</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Polk</td>
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</tr>
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<td>Yancey</td>
<td>48%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Percentage of Absenteeism, Development, and the Gini Coefficient per County