Title: The Dual Dependency of Natural-Resource-Rich Labor Markets in Contemporary Society

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Abstract:

This article presents an integrative theoretical framework of subnational natural resource dependence. I argue that rural natural resource dependence represents a special case of the core-periphery relationship, where rural, resource-rich labor markets form a dual dependency on both the global capitalist economy and the local natural environment. This occurs because the contradiction between spatially fixed natural resources and the mobility of capital prompts both external interests and local power elites to use their power to pressure rural labor markets in directions outside their best interest and to exploit rural labor. I argue that both extractive (e.g., mining, timber, agriculture) and non-extractive (e.g., tourism, real estate) forms of natural-resource development share this contradiction. Although pushing different uses of the resource base, extractive and non-extractive development do not fundamentally vary in their exploitative relationship with rural labor markets.

Key words:

Natural resources, Dependence, Uneven Development, Extraction, Tourism

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Research shows that material hardship and economic stagnation is more common among communities dependent on natural resources than among those dependent on manufacturing or other sectors (Freudenburg 1992; James and Aadland 2011; James and James 2011; Matsuyama 1992). Sociologists and economists have studied the links between natural resource abundance, dependence, and negative socioeconomic outcomes (Freudenburg 1992; Havranek, Horvath, and Zeynalov 2016; James and Aadland 2011; Lobao et al. 2016; Sachs and Warner 1995), but the field lacks a broader unifying conceptual framework. In this article, I fill this gap by developing a theoretical framework of subnational patterns of natural resource dependence in contemporary society.

Drawing on theories of dependency (Cardoso 1972; Frank [1969] 2007) and world systems (Wallerstein [1979] 2015), I argue that rural natural resource dependence at the subnational level represents a particularly troublesome form of dependency, wherein the rural labor market develops a dual dependency on both the national and global capitalist systems, as well as the resource-rich local environment. This dual dependency fosters exploitation of rural labor by external interests and internal elites, leading to underdevelopment—that is, heightened levels of material deprivation and economic stagnation faced by peripheral labor markets due to capitalist exploitation by “developed” core labor markets (McMichael 2017).

I define natural resource development as any form of economic activity relying on the local natural environment. Therefore, both extractive development—oil, gas, timber, mining, agriculture—and non-extractive development—tourism, real estate, outdoor recreation—are forms of natural resource development. Given that both of these sectors compete for the use of a resource base and have overlapping, and frequently contradictory, interests, it is necessary to conceptually ground them within the same integrative theoretical framework.

The unit of analysis throughout this article and within this theoretical framework is the rural labor market. I select this unit, as opposed to something like the community, region, or local economy, to ensure precision in the discussion. Drawing on Fowler and Jensen (2020:1399), I define a labor market as an area where “the high density of commuting relationships among sub-units suggests that changes in the supply or demand for labor in one sub-region would be felt equally within other sub-units within the region.” This means a single labor market unit can subsume multiple towns, communities, or even counties so long as labor changes in one sub-unit affect changes in the others. This unit of analysis is not fixed in size. Instead, a labor market is defined by the degree of economic linkage across sub-units. As such, a labor market is an inherently material unit, defined by economic linkages over space and well-suited for the spatial theory of capitalism presented here.

Finally, throughout this article I distinguish between natural resource dependence and dual dependency. I define natural resource dependence as the economic overspecialization in the sector of natural resources frequently discussed by sociologists. Dual dependency, in contrast, represents the dependent economic relationships characteristic of natural resource dependence that develop between peripheral and core labor markets, and between peripheral labor markets and their resource-rich local environment.

The paper proceeds as follows: I first interrogate the existing literature on the impacts of extractive and non-extractive natural resource development. I then summarize the theoretical mechanisms prior scholars have highlighted behind these impacts, and illustrate the extant inattention in the literature regarding the similarities between extractive and non-extractive forms of natural resource development. Following this, I turn to critical perspectives surrounding spatially uneven development, dependency, and world systems to articulate a holistic subnational theory of rural natural resource dependence in the contemporary capitalist system, with a focus

on the case of the United States of America. I then conclude with a discussion of the ways extractive and non-extractive development do and do not vary in their exploitive relationships with rural labor markets.

Natural Resource Development and Economic Prosperity

The relationship between natural resource development and economic prosperity, particularly in the case of extraction, has a long history in the academic literature. A hallmark of this perspective is the “resource curse.” A touchstone from resource economics, the resource curse is the unexpected finding that many economies with abundant natural resources have lower and slower economic development than do areas without such resources, even though neoclassical economic theory would suggest an advantage due to the increased wealth and purchasing power that resource abundance should provide (James and Aadland 2011; Sachs and Warner 1995). Although contested, researchers have found this unexpected inverse relationship between resource abundance and economic growth at multiple geographic scales worldwide (Douglas and Walker 2017; Gylfason 2001; Papyrakis and Gerlagh 2004, 2007; Sachs and Warner 1995).

The resource curse is a popular academic touchstone, but its consistency, or even existence, is frequently questioned (Cust and Poelhekke 2015; Papyrakis 2017), with a number of studies finding evidence of the resource curse (Douglas and Walker 2017; Gylfason 2001; Papyrakis and Gerlagh 2004; Sachs and Warner 1995), and others finding contrary results (Allcott and Keniston 2017; Brooks and Kurtz 2016; Brown 2014; Deller and Schreiber 2012; Havranek et al. 2016). In their meta-analysis of econometric analyses of the resource curse, Havranek and colleagues (2016) found that out of 43 studies, 40 percent found negative relationships between natural resource development and economic growth, 40 percent found no statistically significant effect, and 20 percent found a positive effect.

The resource curse literature has historically focused on the nation-state as the unit of analysis. Although convenient for economic analyses, countries have notable internal

heterogeneity in terms of economic prosperity, exploitation, and resource abundance, which may mask regional and local resource curse effects at smaller scales of geography, especially in large and diverse countries. To address this discrepancy, recent studies have investigated the resource curse at the subnational level in the United States (Allcott and Keniston 2017; Betz et al. 2015; James and Aadland 2011; James and James 2011; Lobao et al. 2016; Mueller 2020b; Papyrakis and Gerlagh 2007; Weber 2012). Results from these subnational efforts are similar to the nation-state research—meaning the findings have been mixed.

Whereas “resource curse” is the term used in the field of resource economics, “resource dependence” is the catchword throughout natural resource sociology (Humphrey et al. 1993; Krannich et al. 2014). Although associated with the resource curse tradition, this concept has followed a different path. Rather than at the nation-state level, sociologists often explore natural resource dependence through case studies of communities and regions, with a notable emphasis on the United States and Canada (Deller and Schreiber 2012). This work repeatedly shows that at the subnational level, labor markets dependent on the extraction of natural resources have higher rates of poverty and material hardship compared to other labor markets (Krannich et al. 2014).

The relationship between resource dependence and negative socioeconomic outcomes, although a consistent finding in research focused on the United States, varies by region and time (Lobao et al. 2016; Nord and Luloff 1993). In a meta-analysis of mining dependence, Freudenburg and Wilson (2002) found the majority of studies reported mining dependence generated favorable outcomes for income but adverse outcomes for poverty and unemployment. Their study focused exclusively on mining dependence, but research on forest dependence has found similarly adverse outcomes for poverty and unemployment (Stedman, Parkins, and Beckley 2005).

Findings regarding the relationship between natural resource development and economic outcomes remain somewhat mixed, but one thing is consistent: the majority of research conducted on natural resource dependence focuses on natural resource extraction as the only form of natural resource dependence. However, extractive natural-resource development in countries like the United States has been largely on the decline since the 1920s (Freudenburg and Gramling 1994). Throughout this period, numerous labor markets have transitioned to natural amenity-based economies (English, Marcouiller, and Cordell 2000), in the form of either second home and bedroom communities (Sherman 2018; Winkler, Cheng, and Golding 2012) or rural tourism (English et al. 2000).

Although direct comparisons between the effects of extractive and non-extractive natural-resource development on rural communities and their economies are lacking, researchers have performed a number of studies on the economic and social effects of rural tourism as a form of development. In the U.S. context, Deller (2010) reports that, from 1990 to 2000, tourism and recreation played a small, and generally not statistically significant role, in either increasing or decreasing rural poverty. Deller (2010) thus infers that increasing tourism and recreation in rural areas does not necessarily lead to higher rates of poverty. Similar research using econometric models heralds rural tourism as a boon for rural communities, citing the strength of natural amenities in spurring economic growth (Deller, Lledo, and Marcouiller 2008; Deller et al. 2001). However, Deller and colleagues (2008) note that natural amenities alone will not foster growth, as communities must build resources such as campgrounds and amusement attractions to capitalize on a resource base.

Although some scholars have found that non-extractive natural-resource development leads to aggregate income growth, others argue that this economic growth is spatially autocorrelated and met with a corresponding increase in cost of living, rendering the economic growth

irrelevant (Hunter, Boardman, and Onge 2005; Kim, Marcouiller, and Deller 2005). Furthermore, recent in-depth qualitative work by Sherman (2018) and Ulrich-Schad (2018) indicates that aggregate quantitative studies likely miss significant parts of the story concerning the loss of local culture and conflict between new and old residents. In summary, there is not a strong empirical consensus regarding the positive or negative effects of non-extractive natural-resource development at the subnational level. Further, with the exception of recent work related to the theory presented here (Mueller 2020b, 2020c), little work directly compares the differential effects of extractive and non-extractive activities.

Mechanisms of Dependence

As we may expect given the volume of literature on natural resource development and economic prosperity, numerous theoretical mechanisms for the oft-encountered negative relationships between natural resource development and economic prosperity have been advanced. However, similar to the empirical findings detailed above, this prior work rarely discusses non-extractive uses of natural resources and has not, to my knowledge, brought extractive and non-extractive uses of the natural environment together in an integrative theoretical framework.

Related to the resource curse, Sachs and Warner (1995) present a popular rationale for the inverse relationship between natural resource abundance and economic growth. They focus on the crowding out effect that a natural resource boom has on manufacturing, and the lack of positive externalities generated by natural resource extraction relative to those generated by manufacturing. Sachs and Warner (1995) describe a model with three sectors: tradeable natural resources, tradeable manufacturing, and a non-tradeable sector. As tradeable natural resources increase, demand for non-tradeable goods (e.g., services, local consumables) also increases. However, because the tradeable natural-resource sector is large, the demand for production of

manufactured goods for trade is low. Thus, during a resource boom, capital and labor become concentrated in the natural resource sector. From a purely economic perspective, this concentration in natural resources is not an inherently problematic phenomenon. However, it becomes harmful if the economic linkages and externalities align in certain ways. For example, in the case of education, returns to investment in education are often higher in manufacturing than in natural resources (Gylfason 2001; Sachs and Warner). Gylfason (2001) views this as problematic due to education being a prerequisite for economic growth worldwide.

Further theoretical explanations from the resource curse literature include rent-seeking, over-confidence, and institutions (Frankel 2012; Gylfason 2001). First, rent-seeking, in which producers attempt to generate additional wealth through manipulation of the social or political environment, is a common behavior by producers in resource-abundant economies (e.g., tariff protection, tax breaks). This behavior is often associated with corruption and perverse incentives and can cause stagnation in an economy. Second, the over-confidence thesis posits the abundance of natural resources leads governments and institutions to feel a false sense of security, causing them to lose sight of broader economic and institutional needs, which ultimately leads to a lack of reinvestment and slower overall economic growth (Gylfason 2001). Third, economists suggest poor institutions are both a symptom of the resource curse and an alternative cause of the curse itself (Brunnschweiler and Bulte 2008; Frankel 2012; Havranek et al. 2016).

The proposed mechanisms from the resource dependence literature are many, and I only discuss a select few here (for a more comprehensive summary, see Mueller 2020a). A prominent theoretical frame is that of addictive economies, proposed by Freudenburg (1992). Under this framework, rural economies have become dependent on, or addicted to, extraction due to market volatility (e.g., boom and bust cycles), ambiguity in what constitutes a good or desirable job in

the locality, ambiguity in what it means for a remote location to develop, and the low likelihood of resource depletion. These “addicted” communities fail to break the cycle of dependence and continue to experience negative economic outcomes, due to limited opportunities for realistic economic diversification, geographic isolation, and power imbalances with the extractive industries (Freudenburg 1992). Furthermore, Freudenburg (1992) argues that whether an area benefits from resource extraction likely hinges on the time frame under examination. In the short run, an economy may experience a brief “high,” but in the long run the consequences will be negative, hence the addiction metaphor. This variation of highs and lows is especially prevalent for the types of resource extraction associated with oil and gas boomtowns (Jacquet and Kay 2014; Kinchy et al. 2014).

As part of the Rural Sociological Society Task Force on Persistent Rural Poverty, Humphrey and colleagues (1993) outlined four dominant theoretical perspectives surrounding the phenomenon. The first is the rational underinvestment in human capital that may occur in natural-resource-dependent communities. Under this framework, rural residents and communities rationally underinvest in human capital. For example, an individual might choose to drop out of high school or not pursue secondary education, or a community might choose to contribute less tax revenue to schools. Communities and individuals make these decisions due to the lack of return that investments in human capital bring, given local labor demands and returns to education over an individual’s life in the area. This framework is similar to Gylfason’s (2001) discussion of over-confidence and underinvestment in education. However, Humphrey and colleagues (1993) present this underinvestment not as an act of over-confidence, but as rational decision-making when considering community needs and individual returns to education.

The second framework presented by Humphrey and colleagues (1993) is that of power, domination, and the natural resource bureaucracy. This framework, further advanced by West

(1994), positions the relationship between natural resource dependence and poverty as largely a product of who is in control of the resource base—either large corporations or government bureaucracies. This perspective focuses on how powerful outside groups, through either direct exercise of power or general alignment of interests, come to dominate decisions pertaining to natural resources in rural areas (West 1994). These agency decisions, which are subject to external influence, often prevent rural areas from developing in a way that would reduce poverty.

The third perspective outlined by Humphrey and colleagues (1993) is the social construction of nature and the process of moral exclusion. This framework argues the environmental movement is at fault for advocating against many poverty-reducing forms of rural development in its pursuit of environmental preservation. The movement provides a “moral exclusion” in rural areas for actors who are interested in exploiting the local environment for financial gain. Under this moral exclusion, environmental movement actors ignore concerns of social injustice related to poverty of rural people as they pursue environmental preservation.

Finally, Humphrey and colleagues (1993) describe the fourth dominant framework as the structural perspective and rural restructuring. This framework—similar to theories discussed by Bunker (2003)—relies on dependency and world systems theory to highlight rural communities’ position within the global capitalist economy (Frank [1969] 2007; Wallerstein [1979] 2015). Due to their peripheral position in the world system and their geographic isolation, rural areas are subject to high levels of exploitation and systemic underdevelopment. In line with this perspective, but outside the U.S. context, Bunker (2003) highlights the importance that space and matter play in understanding the dependency that develops between resource-rich regions and core industrial regions. Focusing on globalization and the Amazon, Bunker (2003) argues there is a conflict between the economies of scale in contemporary capitalism and the increasing distance capitalists must transport materials for production. Known as the contradiction between

economies of scale and diseconomies of space (Ciccantell 2020), this contradiction results in the development of cheaper and faster technologies for transport of commodities, the pursuit of technological innovation to replace raw materials, and the overall spatial expansion of commodity markets, to the detriment of local people and their economic prosperity.

Research on the non-extractive side is more limited. Economists' studies of the relationship between non-extractive natural-resource development and economic prosperity generally argue that non-extractive development will be a net gain, or at least not a loss, for rural labor markets. When formulating this argument, they often approach their work from either an atheoretical empirical basis (Deller 2010; Kim et al. 2005; Winkler, Deller, and Marcouiller 2015) or within the framework of neoclassical economic growth (Deller et al. 2008; Deller et al. 2001). In the neoclassical growth model, natural amenities serve as inputs for the production of local goods and services and prompt economic growth through job creation, tourism, and migration (Marcouiller, Kim, and Deller 2004). Although the neoclassical growth model is often advanced, research just as frequently finds it empirically lacking (Hunter et al. 2005; Kim et al. 2005; Marcouiller et al. 2004; Winkler et al. 2015).

Scholars arguing that the benefits of non-extractive development may not be what they seem have challenged these optimistic theoretical viewpoints. One significant mechanism behind possible negative outcomes from this form of development are the increases in unaffordable housing that come with non-extractive development (Sherman 2018). The growing literature on the acceleration of rural gentrification processes, particularly within the Inter-Mountain West, documents these changes in housing markets (Ghose 2004; Hines 2010; Nelson and Hines 2018). Due to these gentrification processes, residents cannot capitalize on the economic potential of non-extractive development and are forced to either move or struggle to make ends meet. This

inability to advance economically leads to animosity between new amenity migrants and established residents (Sherman 2018).

A final mechanism relevant to both extractive and non-extractive resource development in rural America is the gendered nature of labor markets. Both extractive and non-extractive activities are associated with gendered labor: extraction tends to be masculinized, and non-extractive work tends to be feminized (Green 2017; Sherman 2009a; Tallichet 2000). Due to this, when a labor market is specialized in just one of these sectors, it leads to as much as half of the workforce having difficulty finding “suitable” work and unemployment higher than that in a less specialized labor market context.

As highlighted earlier, many theoretical mechanisms drive the deleterious outcomes from natural resource extraction. However, it is also clear that the theoretical backing for the positive or negative effects of non-extractive natural-resource development are lacking, with much of the optimistic work relying on sparsely supported neoclassical economic arguments, and the pessimistic work generally relying on more proximate explanations, such as housing costs and gendered labor markets. Given that we can apply many of the mechanisms previously advanced for extractive development—particularly those that focus on more ultimate causes stemming from contradictions within capitalism—to the non-extractive context, this lack of explicit theorizing is somewhat surprising. From this review, it is clear a more integrative theoretical framework for understanding how extractive and non-extractive natural-resource-dependent rural labor markets fit into, and are affected by, national and global economic forces, is needed. This article fulfills this need.

A Subnational Theory of the Dual Dependency of Natural-Resource-Rich Rural Labor Markets

The Need for an Integrated Subnational Theory

The literature reviewed has illustrated the dominant research traditions concerning the relationship between natural-resource economic development, dependence, and economic well-being. There currently exists a need for a more integrated theoretical framework at the subnational scale concerning these topics. A more cohesive theoretical perspective is necessary for three main reasons.

1. First, the existing frameworks do not factor in extractive and non-extractive natural-resource development side-by-side. Although a significant body of research explores both forms of natural resource use, comparative empirical analyses and theoretical development regarding their relationship remain limited. The perspectives that do exist, such as the resource curse explanations (Havranek et al. 2016), Freudenburg's (1992) addictive economies, Bunker's (2003) notion of spatio-material concerns in the world system, neoclassical economic growth frameworks (Deller et al. 2008), or the various perspectives presented by Humphrey and colleagues (1993), focus on only one side of this—likely false—dichotomy.

2. Second, many of the theoretical perspectives only address nation-state or global economies. Resource curse explanations often take a macroeconomic focus, utilizing benchmarks of GDP per capita and explaining effects through national indicators such as overvalued currency and national policies (Matsuyama 1992). This poses significant problems for understanding the intra-country heterogeneity of resource dependence, a problem articulated by Lobao (2016) in her discussion of the need for subnational research. This problem is especially severe in federalist countries such as the United States, where many states are the size of other nation-states across the world. Although states may be large relative to many nation-states, there are not the same restrictions on the interstate flow of capital within the United States or other federalist countries as found between nations.

3. Third, many of the theoretical perspectives available on this subject are now dated and were developed before the most recent explosion of neoliberal policy and the transnational capitalist class (Harvey 2006, 2007; Sklair 2002). The updated theory presented here, which places a larger emphasis on the spatial linkages that characterize our current phase of capitalism, will help guide future empirical investigation.

Given these reasons, it is clear that a critical theory of subnational natural resource dependence is necessary. This integrative framework must account for both extractive and non-extractive natural resource use while nesting within-country dynamics within the global system. The framework I present has global application, but I tailor my discussion to the case of the United States, for two primary reasons. First, the existing literature has a notable emphasis on the United States, meaning the evidence supporting this theory is on its best footing when applied to this case. Thus, although the theoretical mechanisms undergirding this framework are likely broadly applicable, it will be up to future work to fully establish the level of transferability. Second, the emphasis on the case of a single large nation-state fosters a more precise presentation of the subnational theory. This framework is particularly applicable to other federalist countries with large natural resource endowments. Future work will need to apply the framework of dual dependency in a comparative manner to continue the development of the approach.

The First Form: Dependency on the National and Global Capitalist Economy

Argument 1: Uneven development under capitalism is exacerbated at the subnational scale within the United States due to the unique considerations posed by the political structure of federalism in contemporary capitalism. This places rural labor markets at a structural disadvantage to urban labor markets, resulting in their dependency on the national and global capitalist systems, regardless of natural resource endowment.

To begin, rural labor markets in the contemporary era are not independent of the broader economy, but are nested within a series of generally open and free markets at the national and

global levels (Frank [1969] 2007; Sklair 2002; Wallerstein [1979] 2015). One cannot discuss a rural labor market in isolation; a “dual” society of separate rural and urban domains does not truly exist. However, the various labor markets do occupy varying positions within this single economic system (Sklair 2002; Smith 1984; Wallerstein [1979] 2015). Different labor markets are structurally positioned along a spectrum ranging from the core to the periphery (Wallerstein [1979] 2015). The core labor markets, often urban, exploit the periphery, often rural, for their resources and labor. This continuum, driven by capitalists within the core labor markets, creates an internal, and ever-shifting, mosaic of underdevelopment across the world and within countries (Smith 1984).

Where a labor market falls along this continuum of core to periphery is contingent on numerous criteria, including the specific history, physical characteristics, transport infrastructure available, mobility of labor, and rate of profit available to capital (Harvey [1982] 2018). The level of development that occurs among peripheral labor markets often follows a dialectical, see-saw pattern, wherein development of the periphery by core capitalists necessarily leads to crises of overaccumulation, improves conditions for labor, and decreases surplus value to capital (Harvey [1982] 2018; Smith 1984). Thus, the rate of profit decreases and capital exits the market for a less-developed peripheral labor market—what Harvey ([1982] 2018) calls the spatial fix. After capital exits, the labor market begins to decline. Once the initial peripheral labor market declines sufficiently, capital, and therefore development, may return (Smith 1984, 2011). Importantly, this continuum of exploitation does not develop alongside capitalism, or due to a few bad actors, but is built into the very structure of industrial capitalism and the actions capitalists must take to remain successful (Cardoso 1972; Harvey [1982] 2018; Smith 1984). Thus, as long as ownership of the means of production is concentrated in core capitalist markets—which it is and will be for the foreseeable future—internal sustainable economic

development within peripheral labor markets is impeded, and in some cases impossible, due to capital's necessary flow from the periphery to the core (Cardoso 1972).

Furthermore, due to the increase in neoliberalism—a view of political economy proposing “human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade” (Harvey 2007:2)—as well as continued globalization and the rise of the transnational capitalist class, the uneven development embedded into capitalism may only be accelerating (Harvey 2006; Robinson 2015). The transnational capitalist class represents a global power elite who direct the flow of capital with little regard for national borders (Sklair 2002, 2007). This class consists of a constellation of four non-mutually exclusive groups: “(1) those who own and control major transnational corporations and their local affiliates (the corporate fraction), (2) the globalizing bureaucrats and politicians (the state fraction), (3) globalizing professionals (the technical fraction), and (4) merchants and media (the consumerist fraction)” (Sklair 2002:145). These groups, with deep ties to free markets and neoliberal ideals, work together to control the world's economic and political structures to ensure the accumulation of private profit. The rise of this transnational capitalist class and its actions obscures the state's role in regulating trade policy and has likely exacerbated historic patterns of uneven development.

Scholars often discuss the world-system of uneven development at the level of nation-states (Harvey 1982; Smith 1984; Wallerstein [1979] 2015) or the global economy (Robinson 2015; Sklair 2002). This is certainly appropriate, but this system has, nested within it, a multitude of smaller, within-country, core-periphery systems of equal importance (Frank [1969] 2007). Thus, unlike the majority of work adopting a world systems theory perspective, I do not focus on the entire world system, but instead examine the U.S. system and its core-periphery networks. These

subnational patterns of dependency reflect similar global exploitative networks, with the exception that the movement of capital is even less restrained. Global deregulation has run rampant in the era of neoliberalism (Harvey 2006), globalization (Robinson 2005, 2006; Sklair 2002), and the policies and loan requirements pushed by the International Monetary Fund and the World Bank (McMichael 2017), but barriers still exist to the flow of money and resources *between* nations. However, these legal and geographic barriers are significantly weaker, and practically nonexistent, when considering the movement of capital within and between states in a federalist country such as the United States, where the constitution prohibits interstate trade regulation.

This unrestricted flow of capital has only accelerated following the 1994 Riegle-Neal Act, which opened up interstate U.S. banking and led to significant market concentration in the banking sector (Corbae and D’Erasmus 2020). Large national and transnational corporations now have a heightened ability to steer subnational rural labor markets into specific forms of economic development. Due to this microcosm of free markets and neoliberal trade within the United States, I argue that the expected uneven patterns of development of industrial capitalism will be heightened at the subnational scale: the ability for wealth and financial capital to flow freely and quickly across great distances exacerbates extra-local control of the rural labor market.

Local elites work in tandem with these external interests to achieve the highest rate of profit possible at the point of production. This structure creates a multi-layered exploitative system, where exploitation exists in the unequal exchange relationships between core capitalists and rural labor, suggested by dependency theory (Frank [1969] 2007), and within the local creation of surplus value, discussed by Marx (1990:1867). In short, both local and external capitalists produce surplus value off of local labor, and then a significant portion of that value leaves the labor market due to unequal exchange relationships. The local elite capture what profit does

remain and do not distribute it to labor, ultimately creating a general state of underdevelopment in the market (Billings and Blee 2000; Duncan 2014).

Within this framework, I view the state as playing a role complementary to capitalist interests (and thus give it limited attention here): the transnational capitalist class, along with national capitalist interests, dominates the political structure at the local and global levels to maximize their private profit (Sklair 2002, 2012). This view hinges on Marxist formulations of the state as an agent of the interests of capital (Das 1996). The interests of members of the state and corporate factions of the transnational capitalist class generally align, so the interests of the capitalist and private profit will drive development. Elements of the state will push against specific capitalist interests, and there will always be exceptions (Sklair 2012), but this framework places the ultimate power in contemporary society with the transnational capitalist class and the interests of capital, not with the state (Sklair 2002). This view of the state is especially appropriate in the case of natural resource dependence due to the historical way natural resource interests frequently capture the political apparatus, resulting in detrimental outcomes to both rural economic prosperity and the environment (Singleton 2000; West 1994).

In this theoretical framework, I focus on the outcomes that accrue to residents in a labor market, thus representing local labor. Local labor refers here to the people who live and work in the labor market. As discussed by Harvey ([1982] 2018), labor under capitalism must be geographically mobile to facilitate the accumulation of capital. However, this results in an inherent contradiction wherein labor must be free to move to where work is offered but also geographically stable enough to ensure the maintenance of a reserve labor army. As Harvey ([1982] 2018:381) notes, to address this contradiction the “escape routes must be blocked off by legal requirements or other social mechanisms.” This means labor in rural America *is* mobile. However, not everyone shares this mobility. Many residents face significant barriers to moving

to a new labor market for work (Lyson et al. 1993). Although many people, particularly the young and well-educated (Carr and Kefalas 2009), continue to leave rural America for opportunity, many stay behind. Reasons for this lack of mobility range from attachment to a home and community (Harvey [1982] 2018; Lyson et al. 1993), to racial discrimination (Duncan 2014), identity subversion (Bell and York 2010), preferential education (Carr and Kefalas 2009), and cycles of predatory debt (Billings and Blee 2000; Duncan 2014). Thus, although labor is mobile in rural America, a particularly vulnerable group of immobile laborers remain who bear the brunt of the negative effects wrought by this first form of dependency.

The Second Form: Dependency on the Local Resource-Rich Natural Environment

Argument 2: Rural labor markets with rich natural resource endowments incur exceptionally high levels of underdevelopment and negative economic outcomes due to the perverse incentives stemming from the contradiction between the static nature of natural resources and the mobility of capital needed to ensure a steady rate of profit. This leads to a second form of dependency on the resource-rich local environment.

The multi-layered exploitative subnational structure of contemporary capitalism and dependency I have presented exists across rural America, regardless of natural resource endowment. However, when coupled with a resource-rich local natural environment, this dependency becomes particularly intractable. Drawing on research surrounding the negative effects of natural resource dependence on poverty (Lobao et al. 2016), income growth (James and Aadland 2011), and other indicators of well-being, I argue that rural natural resource dependence is a *special case* of the core-periphery relationship. This special case produces a dual dependency: dependency on both the national and global capitalist economies and the resource-rich local environment.

When a rural labor market is rich in natural resources, it is likely to become overly dependent on the local environment for its economic production. This dependency will be exacerbated due to the existing dependency on the national and global economies and external interests' ease of

access in affecting local decision-making through capital investment. In this framework, “external interests” refer to actors residing outside the peripheral labor market who either own or invest in the corporations developing natural resources in the market. The transnational capitalist class identified by Sklair (2002) comprise many of these external interests. This influence will ultimately result in underdevelopment characterized by higher levels of inequality, poverty, and economic growth relative to non-natural-resource-dependent rural labor markets.

This dual dependency pushes the natural-resource-dependent labor market to the furthest edges of the periphery in terms of the level of economic exploitation of labor. When the natural resources within a labor market are sufficiently rich, the direction of interest among global capitalists becomes obvious, and the consequences more adverse. Thus, the resource-rich local environment fosters the dual dependency that allows extra-local control by national and transnational corporations to pressure rural labor markets to stay in a constant state of relative deprivation, boom and bust cycles, and low-quality jobs.

The ultimate reason extra-local interests promote this constant state of underdevelopment unique to peripheral natural-resource-rich labor markets is due to the contradiction—which I term the spatial contradiction—between two factors: the spatially fixed nature of the resource base and the spatially unbound nature of capital. Natural resources, unlike a factory, cannot be torn down and rebuilt where labor is cheaper. Thus, external interests face increased friction related to the flow of capital, relative to other industrial sectors (e.g., manufacturing) where capital can more easily exit the labor market when profits fall due to agglomeration, increases in labor power, heightened market diversity, or overaccumulation (Harvey [1982] 2018; Smith 1984).

To fully understand this notion, it is helpful to consider capital investment on a spectrum from completely fixed to completely mobile, where capital is ever-marching toward greater

mobility. A key example of this move to greater mobility is the speeding up of trade and development via the annihilation of space through time initially described by Marx and further expounded upon by Harvey (2006). This push toward greater mobility ensures trade can happen faster, reinvestment can occur instantly, and greater surplus value can be created, all while avoiding the crises of overaccumulation posed by capital remaining in place (Harvey 2006).

Natural resources, due to their static nature, pull capital toward the fixed end of this spectrum and create friction for increasingly mobile capital. To make up for this friction, natural-resource capitalists must pursue greater levels of exploitation. Because the current U.S. political apparatus supports a great deal of external control and domination of rural labor markets by natural-resource capitalists, this greater exploitation of rural labor can produce enough profit to make the immobile investment worthwhile. It is only when these more exploitive means of ensuring high rates of profit fail that we see the full disinvestment and relocation of the natural-resource capitalist. Thus, it is true that when profit falls enough, we will likely see capital simply disinvest from the labor market and the resource, as happened when market forces became particularly strong in the case of coal and old-growth timber. However, in the current political economic system, when faced with the friction imposed by the spatial contradiction, it is far more prudent for natural-resource capitalists to double-down in a labor market via exploitive means as opposed to disinvesting and relocating (Billings and Blee 2000; Duncan 2014).

The extra-local, often transnational, corporations driving this exploitation have little interest in the labor market and will see no direct benefit from real local economic growth. If capitalists were located within the market, as they often were before heightened globalization and the rise of the transnational capitalist class, they might have an interest in broad economic development. However, they themselves are spatially unbound and unattached to the labor market. Thus, extra-

local interests prevent the progression of holistic economic development to ensure long-term access and profitability of their specific interest in the resource-dependent labor market.

Due to the perverse incentives inspired by the contradiction between the mobility of capital and the static nature of the resource base, natural-resource capitalists intentionally prevent agglomeration effects—that is, the positive externalities that lead to economic growth generated when firms concentrate in geographic proximity (Melo, Graham, and Noland 2009). Some agglomeration related to natural resource development, such as processing, may be limited due to remoteness of the region and the need for economically feasible supply chains (Bunker 2003), but I argue the majority of agglomeration and market diversity is inhibited due to the contradiction between the static nature of resources and the need for capital to move across space. Natural-resource capitalists directly inhibit agglomeration to ensure steady rates of profit and continued access to the resource base, at least until it is depleted. To retain these necessary conditions, cooperating local elites and external interests pressure forms of economic development outside the natural resource sector out of the labor market.

Exploitation and the exclusion of other industries from the labor market are dominant strategies within this framework, but capitalists can pursue other strategies to combat the falling profit rates inherent in a spatially fixed resource base. These strategies include technological innovation to reduce costs associated with the cost-price squeeze identified by Freudenburg (1992), as well as pursuit of substitutes for the resource, which can then mold the industry into a more conventional and mobile sector (e.g., the case of synthetic rubber [see Bunker 2003]). Importantly, even if technological innovation reduces the absolute number of employees required for resource extraction, the industry may still pursue strategies to dominate the labor market so as to keep other interests antithetical to their profit out. The decline of coal employment in Appalachia due to technological change, and the persistent effort to create a regional economic

identity out of line with the employment realities of the area, provides evidence of this strategy (Bell and York 2010; Lewin 2017).

Ultimately, the external natural resource interests and their local allies have a vested interest in keeping rural labor markets underdeveloped to ensure a steady rate of capital accumulation. This vested interest fosters lower levels of market diversity—meaning there are few industries in the region—and increased levels of monopsony and oligopsony—meaning the few industries also have few firms. The natural resource sector, and its few firms, thus end up being the only game in town. These firms, through concentrated landownership and wage-stagnation due to a lack of competition, direct the local economy and foster underdevelopment in the region (Falkinger and Grossmann 2013). The suppression of wages in the concentrated labor market prevents the accumulation of wealth among the majority of the population and prohibits diverse local economic development, entrepreneurship, and a transition to a non-dependent economy. Although market concentration is generally higher in rural labor markets regardless of natural resources (Azar, Marinescu, and Steinbaum 2017), I argue the problem of oligopsony will be more severe in natural-resource-dependent labor markets due to extra-local actors’ vested interest in keeping the conditions of the region largely the same, as well as the economies of scale required to be successful in the sector.

The Alignment of Extractive and Non-extractive Natural-Resource Development

Argument 3: Because extractive and non-extractive natural-resource development are both located at the spatial contradiction between static natural resources and mobile capital, they both foster dual dependency and have fundamentally exploitive relationships with rural labor.

The arguments up to now have likely been unsurprising, even if not clearly articulated in prior work. However, they were essential to clearly lay the groundwork for Argument 3, the principal contribution of this article. The framework of dual dependency I present moves social

theory beyond the prior frameworks of natural resource dependence by arguing that the pattern of exploitation caused by the spatial contradiction occurs not just for extractive natural resource development, but also in the case of non-extractive natural resource development, such as tourism, real estate, and outdoor recreation. This is because actors who generate profit from natural amenity development and tourism have a similarly vested interest in using the spatially fixed resource base in exclusively one general manner to accumulate capital, while having limited interest in real and diverse local economic growth due to their extra-local nature. Thus, non-extractive capital seeks to keep other economic interests out of rural labor markets via manipulation of the political economy, resulting in non-extractive interests fulfilling a function similar to extractive interests.

Non-extractive natural resource interests, like extractive interests, face constrained mobility relative to other forms of industry. Non-extractive interests also require the labor market, and its resource base, to remain in a relatively steady state to ensure a stable rate of profit and access to a cheap reserve labor army. The current level of development in a resource-rich labor market is what will have attracted non-extractive interests: the “rustic” character is bedrock to profit. Thus, non-extractive capital will intentionally inhibit development in any other direction (e.g., manufacturing) because it contradicts their interests and is in conflict with future profit.

Given that extra-local national and transnational firms can penetrate labor markets regardless of their placement on the extractive to non-extractive continuum, all the negative aspects associated with extra-local control described for extractive development also hold for non-extractive development. We can find evidence of external interests’ ability to drive non-extractive development in rural labor markets in several contemporary examples. For instance, Vail Resorts—a company traded on the New York Stock Exchange that has seen its stock price rise from \$38.30 in January 2012 to \$246.29 in January 2020—has applied economies of scale to

the ski and tourism industry and now owns 34 mountain ski resorts across the United States, the majority of which were once locally owned and operated (Yannon 2019). In the northern Rocky Mountains, property speculation for vacation rentals and second homes has driven rural gentrification and restructured regional economies around the service industry while making housing difficult to afford for long-term residents (Ghose 2004; Hines 2010; Nelson and Hines 2018). And Delaware North—a global company reporting a revenue of \$3.3 billion in 2018 and the 140th largest private company in the United States (Murphy 2019)—now owns the rights to gift shops within numerous national and state parks, as well as local resorts in many amenity-rich areas; once again applying economies of scale to nature-based tourism in rural settings (Fuller 2016). These examples highlight how contemporary capitalists external to the rural context can penetrate labor markets and steer non-extractive natural resource development.

Now that I have made the alignment between extractive and non-extractive development clear, we can see that a non-extractive natural-resource-dependent labor market still represents a dual dependency on both the resource-rich natural environment and the global capitalist system. In this case, instead of extracting physical resources, the core is extracting experiences and the capital those experiences create. Researchers have observed labor markets transitioning from a historically extractive economy to a non-extractive, often tourism-based economy in a number of places, including Arizona (Davis and Morais 2004), Wisconsin (Freudenburg, Frickel, and Gramling 1995), Washington (Sherman 2018), and Appalachia (Taylor, Hufford, and Bilbrey 2017).

Where Are Extractive and Non-extractive Development Not Aligned?

Although the extractive and non-extractive sectors have an overlapping interest in the shared resource base, and are mutually aligned at the spatial contradiction between a static natural resource base and the need for capital to be in motion, they are not fully equivalent. My goal here

is to organize extractive and non-extractive development within an integrated theoretical framework. That said, there will be significant diversity within and between both sectors.

First, extractive and non-extractive natural-resource development do not have the same effects on residents' physical health, the physical environment, or even the local culture. Externalities associated with each form of development are very different in this regard. Second, price is handled differently in the two sectors. The price an extractive industry can charge for a given commodity is pinned to global commodity markets (Freudenburg 1992). At the raw material stage, a given firm is generally unable to charge more for their specific commodity than any other firm: crude oil is priced as crude oil.

This is not to say there will be no variability within extraction. The type of resource, whether timber, coal, oil, wheat, or soy, will present specific considerations that affect how that form of development navigates the spatial contradiction and the pursuit of profit (Bunker 2003). However, non-extractive development will see more variability in price within the same sector. Depending on the specific natural amenities available, the level of regional development, and the size of the market, among other things, different firms will be able to sell their very similar product (e.g., the tourism experience or real estate) for different prices. This variability makes it likely that the outcomes of this form of development are more subject to the agency of both investors and local residents than in the case of extraction.

Furthermore, jobs in the two sectors are a major point of variation. Unlike many jobs in extraction, where the risk of layoffs is high but the jobs themselves can be of high economic quality, the quality of jobs provided by non-extractive development is often low. Work in the non-extractive sector is often seasonal, provides low wages, offers limited benefits, and presents little room for promotion (Green 2017). These low-quality jobs, when combined with the rising cost of land and living spurred by this form of development (Hunter et al. 2005), can price locals

out of their own communities. In some cases where tourism has been successful in boosting rural labor markets, it has been through the use of “ticky-tacky” tourism dominated by external transnational corporations (e.g., Branson, MO, and Pigeon-Forge, TN [Deller et al. 2008]). One can easily argue the radical change in these places constitutes a loss of local culture and place-change, a type of transition difficult to measure in dollars and cents.

A further point of difference between the two sectors is the level of temporal variation. Both extractive and non-extractive natural-resource development suffer from deep troughs in economic activity. However, the types of troughs they experience vary. Extraction has a long history of wide variation due to the boomtown effect, wherein labor markets face rapid spikes in economic activity followed by deep troughs of unequally distributed material hardship due to the oscillation of global commodity markets (Freudenburg 1992; Jacquet and Kay 2014; Kinchy et al. 2014; Schafft et al. 2018). Non-extractive natural-resource development also faces temporal variation, although it is far narrower and more reliable. Due to the seasonality of the tourism and recreation industries, individuals working in non-extractive labor markets often face regular layoffs and find large swaths of the year provide limited economic opportunity. This makes it difficult to find year-round employment, generate savings, and fulfill goals like owning a home (Sherman 2018).

Natural Resource Dependence Is a Process

We should not view natural resource dependence as a steady state a labor market enters into, but a process characterized by the ebb and flow of dual dependency. Given dual dependency’s conceptual footing in a contradiction of capitalism, we should expect it to have a dialectical nature always in a state of flux. Although it is a dynamic process, the theory presented here does suggest some general patterns. As labor markets increase their economic specialization in the natural resource sectors—extractive, non-extractive, or both—they are more likely to tip into

natural resource dependence and develop dual dependency. The precise level of specialization where this occurs will vary, due to factors such as local political economy, the broader labor market, historical patterns of development, the quality of the resource base, and geography. Thus, two labor markets can have similar levels of extractive or non-extractive natural-resource development and one be specialized—meaning they do not experience negative outcomes from development—and the other be dependent—meaning they reach over-specialization and experience negative outcomes. However, although the level at which this develops will not be constant across all labor markets, we should expect that, on average, higher levels of specialization will result in diminishing economic benefit in both the extractive and non-extractive natural-resource sectors.

Because it is a process, labor markets can exit, and possibly reenter, different forms of natural resource dependence. For example, a labor market could be dependent on extraction, transition into a hybrid dependence on extractive and non-extractive activities, and then transition to solely non-extractive dependence. Importantly, if a labor market reduces its dependence on the local environment, and therefore its dual dependency, the first form of dependency on the national and global economies will remain and likely be more severe than if dual dependency had never occurred, due to the formation of path dependencies. The peripheral location of the labor market in the national and global systems is unlikely to change, and the former industries will have shaped the existing political economy. All that is severed is the dependency on the local resource-rich environment. Labor markets that transition out of natural resource dependence may still experience negative effects for generations to come. Much like people who owned timber land have been able to convert their interests into real estate (e.g., Plumb Creek Timber) and thus pivot from extractive to non-extractive activities as markets warranted, actors who gain power over, and within, labor markets before economic dependency on the local environment ends will

likely retain their power in any new economy. Prior historical work by sociologists describes this process of dependency formation, dissolution, and transition (Billings and Blee 2000; Freudenburg and Frickel 1994; Freudenburg et al. 1995; Wilson 2004).

Finally, it is important to acknowledge that while the presented theory operates at the level of the labor market, the negative effects of dual dependency are not felt equally throughout the population. For example, it is not that all of an urban labor market exploits a rural labor market, but rather that urban or transnational capitalists exploit rural labor. This distinction is paramount due to the long list of social inequalities that exist within nations (Bailey et al. 2017; Bell and Owens-Young 2020; Chetty et al. 2014; Lobao 2016; Manduca 2019; Williams 2017). These inequalities do fall along spatial lines of rural/urban and capitalist/labor, but they are more pronounced along lines of race, gender, and ethnicity. As Dunaway (2001) notes, to ignore these persistent inequalities in a discussion of world or national systems is to erase how women and members of traditionally oppressed groups are forced to subsidize the capitalist system in exploitative ways; this ignores a primary mechanism by which the exploitative pathways of capitalism are reproduced—the production of people.

As extractive-dependent rural labor markets transition to non-extractive resource dependence, the majority of jobs switch from historically male-dominant physical labor to historically female-dominated service-sector work. As previous research shows, this switch does not necessarily correspond to a reduction in housework and time caring for children (Sherman 2009a, 2009b), so this dependence will likely have more pronounced effects for women than for men. Similarly, although the picture of American rurality is often one of white families, this has never really been true and becomes less so every year (Lichter 2012). In the case of natural resource dependence, American Indians are of particular concern, as they have often faced, and continue to face, the lion's share of the “development” of the United States. Individuals at the margins of

society will feel the negative outcomes of dual dependency first, and strongest. In rural areas, this likely means exacerbated inequality as it relates to women, people of color, American Indians, and sexual minorities. Importantly, people at the intersections of these historically oppressed groups will feel these negative effects the most (Collins 2015).

The Path Forward

In this article, I presented a new integrative theoretical framework for understanding natural resource dependence at the subnational level. This theoretical perspective emphasizes nesting extractive and non-extractive forms of natural resource development within the internal dynamics of the United States. Although I focused on the case of the United States due to the state of existing scholarship and the need for a focused discussion, this framework—and particularly the spatial contradiction—has broad carryover across the world. Future work should apply this framework to cases inside and outside the United States.

In concert with this global application, much work remains in relating this framework to other key concepts discussed by critical theorists. For example, although I do not spend time on it here, the concept of rents discussed by Marx and further developed by Coronil (1997) in the context of Venezuelan oil has significant carryover to this work. In natural resource development, the concept of rents and rentier capitalism, as well as the political implications of rentiership, have important implications and points of departure in the United States due to the dominance of federal public lands. Understanding how rentier capitalism might affect the outcomes of the spatial contradiction in the United States is an important future step. Beyond the notion of rents, other important concepts to explore and more fully relate to this framework include environmentally unequal exchange (Givens, Huang, and Jorgenson 2019), the metabolic rift (Foster 1999), environmental justice (Brulle and Pellow 2006), and the existence or absence of social movements and labor unions in the natural resource context.

Ultimately, rural resource-dependent labor markets are stuck between a rock and a hard place: they need to break their dependence on the resource base to allow for more sustainable and diverse economic development, but the resource base is generally their only “comparative advantage” in national and global economies. Furthermore, although this framework casts doubt on the economic benefits of transitions from extractive to non-extractive natural-resource development in rural labor markets, transitioning away from extractive activities is essential for curbing global climate change. Therefore, we must reach a delicate balancing act. To accomplish this, we need intentional planning, procedural justice, and attention to the actual needs and interests of rural labor markets, not the needs and interests of those seeking to foster extractive or non-extractive natural-resource economic development.

The power of extractive industries in rural labor markets, as outlined here, has long been an issue of concern for social scientists (Freudenburg 1992; Humphrey et al. 1993; Krannich et al. 2014). However, the power of the outdoor recreation and tourism industries and other “environmental interests” in rural labor markets has received less attention and should be of growing concern. The outdoor recreation industry has increasingly advocated for large-scale environmental preservation while gaining political offices and lobbying power (Outdoor Industry Association 2018). When we consider that these efforts largely increase awareness of outdoor recreation among the public, and set aside land where consumers may use the products the industry is selling, it is clear these efforts may not be purely environmentally-conscious and magnanimous as often perceived.

The apparent good of environmental protection makes critiquing the initiatives put forward by the non-extractive natural-resource sector uncomfortable for many scholars and activists. However, as Humphrey and colleagues (1993) discussed 25 years ago, the moral exclusion of individuals who live in rural areas by environmental interests masks and exacerbates rural

material hardship. We cannot ignore the negative social and economic effects that environmental protection and non-extractive natural-resource development have on rural labor markets simply because these labor markets have often extracted from, and desire to continue extracting from, their resource-rich local environment for economic growth. In fact, as outlined here, extraction is often the only economic activity in these labor markets that receives significant capital investment and support. As many countries continue shifting toward an experience economy (Pine et al. 1998), researchers and activists need to advocate for the interests of rural people and places if we are to avoid further alienation of rural segments of society. Relegating rural landscapes as preserves for outdoor recreation and tourism for the elite will only perpetuate, and likely exacerbate, the problems of dual dependency discussed here.

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