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LOCAL LABOR MARKET DYNAMICS AND SELF-EMPLOYMENT IN RURAL NEW ENGLAND

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LOCAL LABOR MARKET DYNAMICS AND SELF-EMPLOYMENT IN RURAL NEW ENGLAND

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As rates of self-employment and entrepreneurial activity grow in the U.S., sociologists are beginning to consider the causes and consequences of this form of employment more seriously. While the sociological contributions to entrepreneurial research take seriously the social context in which self-employment occurs, few studies focus explicitly on the effects of social and economic contexts on rates of self-employment in particular regions. I fill this gap by examining the effects of a variety of local labor-market, population, and economic characteristics on county-level self-employment rates in three predominantly rural states: Maine, New Hampshire, and Vermont. I find that counties with higher proportions of their labor forces in extractive industries and that have experienced greater declines in the primary sector had higher rates of poverty and unemployment; however, self-employment is negatively related to county-level poverty rates, indicating that self-employment may provide opportunities for those in rural counties undergoing economic transformations.

As rates of self-employment and entrepreneurial activity grow in the U.S., sociologists are beginning to consider the causes and consequences of this form of employment more seriously (Aldrich 2005). Much of this research, in reaction to the individual-level “trait-based” approach to self-employment, has focused primarily on the micro- and network-level processes that enable or encourage entrepreneurial activity and self-employment (Lauer 2005; Ruef

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2005). While the sociological contributions to entrepreneurial research take the social context in which self-employment occurs seriously, few studies focus explicitly on the effects of social and economic contexts on *rates* of entrepreneurship and self-employment in particular regions. This research fills this gap by examining the effects of a variety of local labor-market, population, and economic characteristics on county-level self-employment rates in three predominantly rural states: Maine, New Hampshire, and Vermont.

Entrepreneurial activity at the local and regional level is vitally important because entrepreneurship introduces important variations into organizational populations and helps improve economic fitness (Aldrich and Ruef 2006). In addition, as the self-employment that results plays an increasingly important role in the economy, increases in it can provide important sources of opportunity for individuals. Regions that offer more support for entrepreneurial activity and self-employment may provide more opportunities for mobility (Cranwell and Kolodinsky 2002). Despite these perceived benefits, some areas appear to be more successful at supporting self-employment than others, and it is clear that regions and localities vary in their amounts of entrepreneurial activity. In this research, I shift the focus from the efforts of self-employed individuals to rates of entrepreneurship and self-employment in order to increase our understanding of local, regional, and societal economic health and fitness.

Rural areas face a unique set of circumstances, including lower population density and fewer, more homogeneous human and natural resources upon which to draw, making entrepreneurial activity and self-employment a daunting prospect for individuals hoping to engage in these activities; however, rural areas have had consistently higher self-employment rates than metropolitan areas in the last two decades (U.S. Census of Population and Housing 1990, 2000). Also, some rural areas have been very successful at promoting microenterprise and self-employment as viable development strategies that provide economic opportunities for individuals and economic health for communities (Flora et al. 1997); however, great variation remains in the self-employment rates of rural areas and the degree to which it provides meaningful economic opportunities for individuals and communities. For some, self-employment represents independence, opportunity, and mobility. For others, it is a last-ditch effort to make a living when other labor market opportunities are scarce. In any event, self-employment is one of an increasingly common set of arrangements known as *nonstandard* employment relationships that deviate in important ways from traditional employment. As in the case of self-employment, nonstandard work arrangements represent

opportunities for some, but for others are related to weaker attachment to the labor force, lower and more intermittent wages, and other negative employment outcomes (Kalleberg et al. 2000). Individuals' experiences with these employment arrangements depend upon the interaction with the skills they possess, and the economic and labor market contexts in which they possess those skills. In this article, I examine the social and economic conditions that have fostered self-employment in Northern New England.

RURAL SELF-EMPLOYMENT IN SOCIOLOGICAL PERSPECTIVE

Economic Change in Rural Areas

Employment and labor markets in the rural U.S. have experienced a series of dramatic changes in the past 40 years. While many of these changes mirror those that are occurring nationally and even globally, rural economies have experienced an additional set of unique circumstances that have altered employment dynamics and employment opportunities for rural residents. It is in this broader context that we might better understand the dynamics of rural self-employment.

Rural economies have long been heavily reliant on extractive industries, including farming, mining, fishing and forestry. Indeed, during the tremendous growth of the U.S. economy during the late 19th and early 20th century, rural areas carved out a seemingly sustainable economic niche for themselves, as the raw materials extracted there fueled much of the heavy industrial growth in urban manufacturing centers (Page and Walker 1991). However, a combination of forces, including mechanization and the introduction of newer, more efficient extracting and processing technologies have lessened the dependence on sheer people-power in these industries to increase productivity. By 1970, the percentage of the labor force employed in the extractive sector had declined to less than 5 percent from 29 percent in 1920 (Browning and Singlemann 1978). Rural states, including those under examination here, continue to have higher employment rates in extractive industries; however, those rates declined in the latter decades of the 20th century as well (Carsey Institute for Families and Communities 2006).

In rural states, where local labor forces were disproportionately employed in extractive industries, the job losses that occurred as a result of this transformation were felt particularly hard. These changes represented major disruptions to the ways that people made a living

and the ways communities were organized. After the 1970s, however, some rural areas benefited from the initial phases of a second major sectoral transformation in which manufacturers left urban areas in great numbers (Bluestone and Harrison 1982). As they abandoned cities, many manufacturing firms (most visibly, perhaps, foreign automobile manufacturers) relocated to rural areas to take advantage of abundant and cheaper land and, in some cases, cheaper labor costs. This strategy was uneven across different regions, to be sure; however, these developments were accompanied by a more widespread population increase in nonmetropolitan areas during the 1980s (Fuguitt et al. 1989; Brown et al. 1993). Unfortunately, economic and industrial developments in the 1990s seem to have once again reversed the better fortunes experienced by some in rural areas during the 1980s. As new trade policies and technologies have weakened the political and geographical boundaries separating nations, firms have found it much easier to locate facilities outside of the U.S. The resulting global production chains have, in many instances, undermined the advantages that rural areas offered to manufacturing firms interested in cheaper labor (Gale and McGranahan 2001; McGranahan 2003). The rise of the service economy and the weakening of the employment relationship, two developments that gathered steam in the 1990s, also undermine the ability of vulnerable regional economies and vulnerable individuals to compete in the new economic order (Rubin 1996).

Studies of sectoral changes have documented their devastating economic and social effects on communities which have lost large employers and entire industries (Bluestone and Harrison 1982). Economic restructuring has had disproportionately detrimental effects on vulnerable populations, who often lack the resources necessary to adjust to new economic circumstances and labor market realities. In cities, poor African-Americans with little opportunity for social or geographic mobility remain in neighborhoods with few jobs (Wilson 1996). In rural areas, "economic restructuring imposes disproportionately harmful consequences...owing to their less diverse industrial structures, lower household incomes, and human capital attributes such as educational attainment" (Falk and Lobao 2003, p. 153). So-called "addictive economies," those rural areas that are heavily invested in the extraction of a limited number of natural resources, are particularly ill-equipped to deal with rapidly changing economic conditions (Freudenburg 1992). Many of the jobs that remain or are created in rural areas tend to be seasonal or very sensitive to economic cycles of expansion and contraction, and much of this employment is unstable (Lichter and Costanzo 1987). As a

result of economic restructuring, rural households are more susceptible to poverty than urban households, and poverty in many rural areas persists at a higher rate than in metropolitan areas (Brown and Hirchl 1995; Jensen et al. 2003; Sherman 2006).

Rural Self-Employment

Self-employment rates in states examined here have grown more quickly than in the U.S. overall over the past three decades, a time during which manufacturing and extractive industries began a sustained period of decline in the U.S. In addition, these rates are now higher than the U.S. average, as shown in Figure 1. Because self-employment comprises a disproportionate share of the labor force in these predominantly rural states, it is a phenomenon that deserves more attention, especially in connection to the broader economic changes that have occurred in rural economies. Much of the existing research on entrepreneurship and self-employment in rural areas has been colored by these economic developments and the persistence of rural poverty. Rural areas' heavy dependence on extractive industries is thought to be a liability for several reasons. First, economies that remain heavily reliant on extractive industries are thought to be more

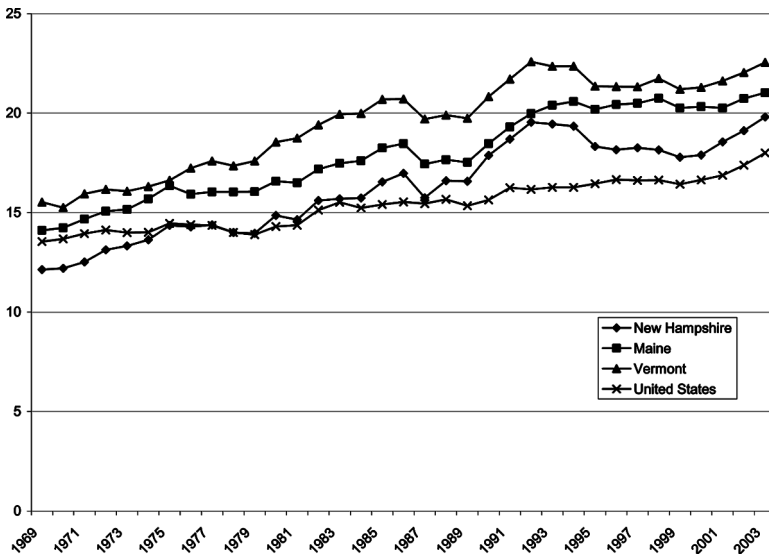


Figure 1. Self-employment rates in northern New England states and in the United States, 1969–2003 (Source: Carsey 2006).

vulnerable and experience more instability. So called “addictive economies” are more vulnerable to seasonality and economic cycles than those with diversified economies (Freudenburg 1992), and a variety of studies have found a positive association between the proportion of the labor force employed in extracting industries and the percentage of people living in poverty (Drielsma 1984; Tickamyer and Tickamyer 1988).

Others argue that rates themselves matter less than the change in rates over time. Bluestone and Harrison’s (1982) “deindustrialization” thesis argued that the rapid and steady decline of manufacturing industries in urban centers created structural imbalances that devastated communities and led to increases in unemployment and poverty. Rural sociologists have echoed this argument, positing that the *decline* in extractive industries has been particularly more detrimental to rural economies than has *reliance* on these industries (Page and Walker 1991; Nelson 1999). In addition, major sectoral shifts are thought to create structural imbalances between the skills of workers and the work available, resulting in increasing unemployment (Wilson 1996).

There is significant variation in what comprises “self-employment,” particularly in rural areas. Even across Northern New England, the opportunities or lack thereof for self-employment vary greatly both across and within states, and by season. Summer tourism on the coast of Maine provides significant seasonal opportunities for lucrative self-employment, as does the economy around the ski areas across the three states under investigation. Although the traditional fishing industries off of the coast of Maine have undergone significant changes in the last two decades, they still offer opportunities for quality self-employment (Lauer 2005). In other, more remote areas of Northern New England, self-employment may not offer the same standard of living as it does in the more vibrant local economies. In addition, a significant amount of self-employment occurs in the informal economy, especially in rural areas (McGranahan 2003). Odd jobs, including repair, yard work, house cleaning, haircutting, and other “off-the-books” employment comprise important segments of rural economies. While these variations are beyond the scope of the research questions in the current study and what the county-level data utilized in it will allow, these variations are important to keep in mind while considering the role that self-employment plays in rural economies.

Despite the variations that do exist, a large body of research views rural self-employment primarily as small-scale, last-ditch efforts undertaken by people with few other options in the face of declining

employment opportunities in extractive and manufacturing industries. In many cases, especially in those rural areas struggling to adapt to changes in the local and global economic landscape, “good” jobs are often scarce. When coupled with lower-than-average educational attainment levels, the opportunities available to many rural adults for formal labor market participation are limited. In these cases, self-employment is often undertaken as the best, or the only, way to make a living (Nelson and Smith 1999).

Empirical research confirms that many self-employed individuals do indeed enter into self-employment because they simply can’t find other suitable work. In their study of a representative sample of small business owners, Bates and Servon (2000) found that those with higher educational attainment and skill-sets were more likely to enter into self-employment; however, when they explored the reasons that individuals made the decision to become self-employed, they found that many of their respondents were “disadvantaged” in the labor market and could not find suitable employment elsewhere. Across all geographic regions, then, self-employment is often undertaken as a response to a lack of alternative employment opportunities.

In rural areas where employment options are often limited, self-employment is typically seen as only one part of more general household-level strategies employed by families to make ends meet. While the need for two incomes among two-adult households has grown due to inflation, declining real wages, and cuts in income transfer programs, the jobs available to rural labor force participants have not increased accordingly. To further compound household problems, the cost of child-care is often prohibitively expensive for working, poor families (Oberhauser 1995). In response to this economic crunch, many rural individuals, particularly women, engage in a variety of economic activities. Chief among these are a variety of self-employment arrangements, ranging from formal business start-ups to more informal home-work, each of which provide economic and time-use benefits to families. In her study of rural Vermonters’ supplemental activities, Nelson (1999) found that close to 20 percent of the households she sampled had at least one member engaged in some kind of entrepreneurial or self-employed activity.

The effects of self-employment undertaken under these circumstances are mixed. Cranwell and Kolodinsky (2002), studying a separate group of low-income Vermonters, found that many who participated in a microenterprise program and subsequently became self-employed experienced improvements in their personal lives, including sustainable jobs, increases in personal income, and the improvements to the life of their community. Nelson and Smith

(1999), on the other hand, found that a large proportion of rural Vermonters fared much worse in their efforts to rise out of poverty through self-employment. These disparate findings point to the importance of the broader social and economic context in which self-employment is undertaken, a concern to which I will return below.

The findings of the studies of rural Vermont described above (Nelson and Smith 1999; Cranwell and Kolodinsky 2002) point to an important pattern in the circumstances surrounding self-employment. Not all self-employment is a last-ditch effort to avoid poverty. For some, self-employment is a manifestation of the process of “creative destruction,” a phrase coined by Schumpeter to describe the process by which entrepreneurship and self-employment introduces new ideas and organizational forms into the existing population (Schumpeter 1934). Under these circumstances, self-employment allows individuals to capitalize on opportunities. Further, those with more education and more highly developed skills are more likely to be successful in their efforts to start a business and to experience upward mobility (Bates 1995; Bruderl et al. 1992).

It is apparent in the literature that the experiences of self-employed individuals are highly varied. For some, self-employment is a last-ditch effort to make a living when other employment options fail or are nonexistent. In these cases, self-employment may be accompanied by a variety of negative outcomes, including persistent poverty and employment instability. For others, self-employment is an opportunity for quality employment, economic security, and upward mobility. These divergent experiences can largely be explained by focusing on the broader context in which self-employment occurs (Lippmann et al. 2005).

LABOR MARKET DYNAMICS, SELF-EMPLOYMENT, AND COMMUNITY OUTCOMES

This research is a modest effort towards the resolution of the divergent understandings of and explanations for self-employment in rural areas. While much of the literature reviewed above focuses on individual traits and circumstances as predictors of self-employment, this analysis “takes a step back” and examines the social and economic context surrounding self-employment. By examining county-level rates of poverty, unemployment, industrial shifts, and self-employment, it provides some generalizable findings about the social and economic conditions under which self-employment is more

prevalent and the role that self-employment plays in the social and economic fitness of rural communities. The case studies described above have provided a very rich set of explanations of the labor-market opportunities and constraints that confront individuals and how they are reflected in the self-employment decisions those individuals make. As the underlying debate implies, however, they fail to agree on how industrial change, poverty, and self-employment are related to each other. Here, by focusing on the variability in county-level rates of these labor-market dynamics and outcomes, this research is an effort towards the resolution of these debates. Below I develop and test a series of hypotheses that examine the relationships between industrial/sectoral change, self-employment, and poverty and unemployment.

A growing body of literature on changes in the employment relationship help us to understand how these phenomena may be interrelated, especially in rural areas undergoing substantial economic transformation. According to this perspective, the decline of extractive and manufacturing industries have been accompanied by a decline in the “standard” employment relationship, in which employees worked full-time, in an organizational setting, in a job that was expected to continue indefinitely (Kalleberg 2000). This standard employment relationship was the norm in manufacturing and extractive industries, which were dominated by relatively few large, bureaucratic firms, until the late 20th century (Page and Walker 1991). As these industries have declined, so have the stable employment arrangements that characterized the jobs they offered. In their place have arisen a variety of more flexible employment arrangements, including temporary work, independent contracting, contingent work, and, increasingly, self-employment (Carr 1996; Reynolds and Renzulli 2005). In fact, a recent surge of microenterprise programs have been established in rural areas to provide rural residents with the skills and resources necessary to enter into self-employment and remain competitive in the “flexible” economy (Cranwell and Kolodinsky 2002; Schreiner and Woller 2003).

While these new, more flexible employment relations are spreading across the labor market on the whole, the quality of work they provide is highly dependent on the local economic conditions in which they occur. For some workers in particular local labor markets, such as highly skilled technology workers in Silicon Valley, these arrangements can be very beneficial and highly lucrative, as the most talented workers can name their price and accept new challenges (Barley and Kunda 2004). Others in more marginal positions or in more vulnerable economies may experience employment flexibility in a

more negative manner. Some flexible employment arrangements can weaken attachment to the labor force, may provide intermittent income, and are less likely to provide living wages and benefits (Kalleberg et al. 2000). In the counties of Northern New England, where skills mismatch is high and local economies have experienced higher than average rates of poverty and unemployment, self-employment is more likely to be characteristic of the latter set of arrangements. With relatively few other standard employment options in these areas, those in search of work may be entering self-employment as a survival strategy in the face of dramatic economic and labor market changes; therefore, we would expect self-employment in rural areas to be associated with negative economic outcomes, such as high rates of poverty.

Industrial Change and Self-Employment

Rural areas have higher rates of self-employment than other areas (Bregger 1996). This may be attributed to the more marginal and unstable nature of rural economies, or to the higher proportion of self-employment in the industries that comprise rural economies (Aaronson 1991). Self-employment is a common labor market transition for many in rural areas when other options are not plentiful. Research in rural sociology has shown that rural residents engage in a variety of survival strategies as a result of economic restructuring and resulting un- or underemployment. Chief among these is work in the informal economy (Duncan 1992; Nelson 1999). Further, recent research on entrepreneurship suggests that self-employment might be a response to the negative outcomes associated with economic restructuring. "Necessity entrepreneurship" is a term that describes entrepreneurial activities and self-employment undertaken as a last-ditch effort to secure a living (Lippmann et al. 2005). As rural areas experience declines in traditional employment sectors, primarily extractive industries, their economies have become increasingly marginalized and self-employment may be undertaken with increasing frequency.

H1: Counties that have experienced greater declines in extractive industries will have higher self-employment rates.

Several case studies have investigated the conditions under which members of rural households undertake self-employment and the role that self-employment plays in individuals' and families'

economic well-being. Some have found that entrepreneurship and self-employment is a viable strategy for dealing with economic downturns, and self-employment is an avenue of economic security and upward mobility (Judd 1988). It has also been found that self-employment may provide income when no alternatives are available, but does not provide quality employment (see Nelson 1999). As self-employment rates in rural areas remain higher than elsewhere, and self-employment is undertaken out of necessity as a result of economic restructuring, I expect that:

H2: Counties with higher self-employment rates have lower unemployment rates.

However, given that the conditions of self-employment in rural areas are often unstable and undertaken in the absence of other employment alternatives, I expect that:

H3: Counties with higher self-employment rates have higher poverty rates.

RESEARCH CONTEXT

Maine, New Hampshire, and Vermont can provide valuable insights into self-employment dynamics, as they have had historically high levels of primary industrial activity. Further, as this has declined in recent decades, there has been significant variability in local and regional responses to it, generally with the northern areas of these states having more difficulty rebounding than the southern areas. In addition, the significant economic transformations occurring in predominantly rural areas like Northern New England over the course of the 20th century came to a head in the last decade of the 20th century, making the time period covered in this research a particularly important one to understand. The convergence of economic globalization, the weakening of the standard employment relationship, and the rise of the service economy made responding to economic change more uncertain than ever.

Although the three states analyzed here share many similarities, including large rural populations, and long histories of agricultural and other primary activities, there are also distinctions between and within the economies of these states that deserve mention. In Maine and Vermont, population has grown at a slower rate than the national average in recent years, and has kept pace with the national

average in New Hampshire (U.S. Census 2007). Unemployment rates have remained consistently lower in Vermont, while average wages have been highest in New Hampshire across a range of industry sectors (Carsey Institute for Families and Communities 2006; Bureau of Labor Statistics 2007). And while farming is declining in all three states, the percentage of the labor force involved in farming remains relatively high in Vermont, in large part due to Vermont's important role in the growing local, sustainable, and organic farming movement (Vermont Sustainable Agriculture Council 2006). In response to declines in employment in traditional industry sectors, all three states have aggressively promoted tourism with mixed results (Gittell 1999). Vail and Heldt (2000) report that despite a large tourist industry in Maine, growth over the 1990s in tourism was relatively slow. Within each state, there is also considerable variation in the local economies and employment outlooks between the metropolitan areas of Southern New Hampshire, Portland, ME, and Burlington, VT and their same-state, nonmetropolitan counterparts. The Route 128 corridor that includes southern New Hampshire has a high concentration of high-tech and biotech firms that offer many high paying jobs and have spurred local development in the Seacoast area of New Hampshire (Saxenian 1996). Burlington, VT and Portland, ME, have both experienced population declines in the past decade, but have had some success in attracting new development and at least some portion of the "creative class" (Florida 2004).

DATAMETHODS

The data for the analysis come from a variety of sources, and many were collected by the Carsey Institute for Families and Communities (2006) at the University of New Hampshire from the U.S. Census and several state and federal sources. Remaining data were collected from U.S. Census sources (U.S. Census of Population and Housing 1990, 2000).¹ The primary variable of interest—self-employment—is defined by the Carsey institute as the percent of all employed people who have their own businesses ("proprietors") as opposed to working for someone else in return for wages or salary, and is taken from the Bureau of Economic Analysis' Regional Economic Data. Data on all 40 counties across Maine, New Hampshire, and Vermont from 1990–2003 are included in the analysis. Therefore, the variables are

¹Contact information for microenterprise programs in these counties was supplied by the Aspen Institute (<http://fieldus.org/index.html>).

Table 1. Descriptive statistics for primary independent variables

Variable	1990		2003	
	Mean	S.D.	Mean	S.D.
Employment rate in primary (extractive) industries	4.67	3.23	3.55	3.00
Employment rate in secondary (manufacturing) industries	17.92	9.69	11.69	9.00
Self-employment rate	19.05	7.28	21.13	7.19
Unemployment rate	7.61	1.49	5.05	1.70
Poverty rate	10.39	3.19	9.80	2.54
Population	72498	70671	78607	82147
% Population over 65	13.06	2.10	14.25	2.29
% Total household income from income transfer programs	21.90	6.54	28.80	10.82
% Total household income from interest, rents, and dividends	33.34	10.37	31.36	9.57
% Population over age 25 that did not complete high school	21.26	4.52	15.20	3.87
Number of micro-enterprise support programs per county	8.85	4.79	8.85	4.79

Note: Cross-sections = 40 counties; time series = 14 years; N = 560 county/years.

all measuring county-level rates or proportions and the unit of analysis is the county-year, of which there are 540. The variables, described more fully below, and descriptive statistics are presented in Table 1. For some variables, data were only available for 1990, 2000, and 2003, in which case linear interpolations were generated for missing data points.²

Independent and Control Variables

- *Unemployment rate*—The county-level unemployment rates are calculated as the percentage of individuals in the labor force who are out of work and actively looking for work.
- *Poverty rate*—Measured as the percentage of people living in a household with income below the federally defined poverty rate for a household of a given size.
- *Industry employment rate*—The employment rate in primary and secondary industries is the percentage of the labor force employed in extractive and manufacturing industries using the U.S. Census Standard Industry Classification system and North American Industry Classification system. Changes in these rates capture the magnitude of the decline of these sectors in each

²Data were interpolated for employment by industry, educational attainment, and age.

county since 1969, when deindustrialization and the shift to the service economy took hold.

- *Population*—County populations were log-transformed to account for a skewed distribution.
- *Percentage of the population over age 65*—The size of a county's elderly population has been found to be associated with economic outcomes due to their weak attachment to the labor force and to guaranteed income programs (see Nielsen and Alderson 1997). A control is included to account for this relationship.
- *Percentage of the population over age 25 without a high school diploma*—Education is strongly associated with individual-level labor force outcomes such as poverty and unemployment, two important outcomes being examined here (Farber 2004). A control for the percentage of the population over the age of 25 without a high school degree is included to account for this relationship.
- *State controls*—State-level controls are included to account for differences in each state's economy, which are described in more detail above and include variations in the level of entrepreneurial opportunity afforded my tourism, maritime, and other seasonal industries, and for the varying degrees of state support for business start-ups, the self-employed, and poverty alleviation (Whitener et al. 2003).
- *Metropolitan area*—Because the local economies in Southern New Hampshire, Burlington, VT, and Portland, ME are not rural, I've included a control for the counties that comprise these three metropolitan areas as they have been affected by economic transformations in a different manner than have rural areas.
- *Percentage of household income from dividends, interest, and rent*—Income from these sources may raise the opportunities for self-employment, as they represent resources that may be invested in new ventures.
- *Percentage of household income from income transfer programs*—Provides an aggregate measure of the percentage of all household income that is received through state and federal income transfer programs. More generous income transfer programs can suppress the self-employment rate among those who would otherwise enter into self-employment as a survival strategy.
- *Number of microenterprise programs*—In the 1990s, microenterprise programs emerged as locally-oriented initiatives to spur entrepreneurship, business start-ups, and self-employment in both urban and rural areas that were hard-hit by economic

changes. A control for the number of these programs in each county is included because as these programs diffused across the rural landscape, they may affect the relationship between self-employment, poverty, and unemployment.

County-level data, like those analyzed here, are advantageous for several reasons. First, the measures taken at this level of analysis are typically comparable across time and across units. In addition, counties may share political, legal, and educational institutions, making them meaningful units of analysis for the concepts of interest here. These data, however, also have limitations (for a more thorough discussion of the advantages and limitations of county-level data, see Nielsen and Alderson 1997). Given that they exist in broader political entities (states, nations), they tend to be homogeneous and lack the variation inherent in other units of analysis. Second, county boundaries may not capture regions in a meaningful way, as local economies may spill over single county boundaries into adjacent counties. Given these pros and cons, though, counties do provide a useful level at which to examine local economic and social processes over time.

Because the data were collected at multiple points of time, they were pooled into a time series of cross-sections. This data structure is advantageous because it “is amenable to statistical techniques that can increase the efficiency of estimation . . . and can correct for estimation inconsistency” (Nielsen and Alderson 1997). The data were analyzed using the TSCSREG (Time Series of Cross Sections Regression) procedure in SAS, which estimated random effects models using estimated generalized least squares (EGLS) and produces estimates which are unbiased by autocorrelation and heteroskedasticity, which are common problems with pooled time-series data.

RESULTS

Table 2 presents the results of the analysis of economic transformation on self-employment. Model 1, which includes demographic control variables, indicates that counties with higher proportions of their populations over age 65 have higher self-employment rates, while counties with bigger populations have slightly but significantly lower self-employment rates. Model 2 indicates that counties with higher rates of income from transfer programs have higher rates of self-employment, which is in line with research on rural survival strategies. Self-employment of a variety of sorts (i.e., formal and informal)

Table 2. Estimated Generalized Least Squares estimates of selected independent variables on county-level self-employment rates

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e
Intercept	18.415***	(2.433)	13.577***	(3.342)	13.360***	(3.125)	10.266**	(3.458)	10.471**	(3.490)
<i>Demographic Control</i>										
Total population	-0.003***	(0.000)	-0.002*	(0.000)	-0.002*	(0.000)	-0.002**	(0.000)	-0.002**	(0.000)
% Population over 65	0.542***	(0.110)	0.467***	(0.113)	0.457***	(0.114)	0.392***	(0.112)	0.394***	(0.112)
% Population over 25 without high school diploma	0.044	(0.061)	0.055	(0.049)	0.020	(0.059)	-0.001	(0.057)	0.011	(0.062)
<i>Institutional Controls</i>										
Maine	-1.706	(1.318)	-1.622	(1.335)	-1.884	(1.303)			-1.861	(1.305)
Vermont	1.296	(3.460)	1.236	(3.139)	0.384	(3.004)			0.313	(3.007)
Percentage of household income from dividends, interest, rent	-0.056	(0.029)	-0.038	(0.029)	-0.013	(0.029)			-0.015	(0.029)
Percentage of household income from transfer programs	0.152***	(0.031)	0.142***	(0.033)	0.134***	(0.032)			0.136***	(0.032)

Number of micro- enterprise programs	0.262	(0.328)	0.260	(0.293)	0.140	(0.278)	0.147	(0.279)
Metropolitan area <i>Labor-Market</i>	1.323	(2.451)	1.668	(2.131)	2.493	(2.006)	2.469	(2.007)
<i>Characteristics</i>								
Primary employment rate			0.004	(0.059)	0.454***	(0.095)	0.461***	(0.097)
Secondary employment rate			0.045	(0.041)	0.108	(0.064)	0.103	(0.065)
Change in primary employment since 1969					0.052***	(0.009)	0.052***	(0.009)
Change in secondary employment since 1969					0.010	(0.019)	0.009	(0.019)
Poverty rate							-0.031	(0.071)
R^2	0.081		0.132		0.187		0.185	

*p < .05. **p < .01. ***p < .001.

Table 3. Estimated Generalized Least Squares estimates of selected independent variables on county-level poverty rates

Independent variable	Model 1			Model 2			Model 3			Model 4			Model 5		
	b	s.e		b	s.e		b	s.e		b	s.e		b	s.e	
Intercept	4.814***	(1.290)		1.762	(1.186)		2.145	(1.179)		2.720*	(1.369)		3.38*	(1.400)	
<i>Demographic Controls</i>															
Total population	-.008E-3*	(0.000)		-.004E-3	(0.000)		-.002E-3	(0.000)		-.001E-3	(0.000)		-.003E-3	(0.000)	
% Population over 65	0.088	(0.060)		0.023	(0.060)		0.035	(0.059)		0.038	(0.058)		0.058	(0.059)	
% Population over 25 without high school diploma	0.304***	(0.048)		0.310***	(0.038)		0.336***	(0.040)		0.317***	(0.042)		0.313***	(0.042)	
<i>Institutional Controls</i>															
Maine	-			1.173	(0.723)		1.61	(0.709)		0.904	(0.695)		0.893	(0.694)	
Vermont	-			-0.721	(1.194)		-1.011	(1.174)		-1.754	(1.179)		-1.797	(1.178)	
Percentage of household income from transfer programs				0.048**	(0.016)		0.032*	(0.016)		0.032*	(0.016)		0.033*	(0.016)	
Number of micro- enterprise programs				0.228*	(0.102)		0.222*	(0.100)		0.221*	(0.101)		0.227*	(0.101)	
Metropolitan Area				-0.610	(0.535)		-0.748	(0.526)		-0.734	(0.555)		-0.624	(0.558)	

<i>Labor-Market Characteristics</i>								
Primary employment rate	-	-	0.092**	(0.030)	0.215***	(0.046)	0.245***	(0.048)
Secondary employment rate	-	-	-0.052**	(0.016)	-0.080**	(0.026)	-0.080**	(0.026)
Change in primary employment since 1969	-	-	-	-	0.018***	(0.004)	0.020***	(0.004)
Change in secondary employment since 1969	-	-	-	-	-0.018*	(0.009)	-0.019*	(0.009)
Self-employment rate	-	-	-	-	-	-	-0.041*	(0.021)
R^2	0.092	0.288	0.315	0.317	0.321			

*p < .05. **p < .01. ***p < .001.

has been found to be a major strategy among those whose options in the formal labor market are limited. Model 2 also includes a measure of the proportion of household income from interest and dividends. Such income is thought to contribute to “opportunity” entrepreneurship, which requires higher levels of capitalization, though the relationship between it and self-employment is not significant here (Lippmann et al. 2005). Model 3 includes industry sector characteristics; although, there are no significant relationships between sector size and self-employment in the counties of Maine, New Hampshire, and Vermont.

In model 4, which includes the sectoral transformation variables, a new pattern emerges. Economic transformation away from primary industries is positively and significantly related to self-employment rates in rural economies, indicating that this labor market response is more common in those counties where extractive industries have declined the most, lending support to Hypothesis 1.

Further, when the degree of decline is taken into account, the positive association between the proportion of the labor force employed in the primary sector and self-employment increases in magnitude and becomes significant. This is an important finding, as it indicates that only when dynamic labor market processes are taken into account does the sectoral make-up of a particular county affect its self-employment rate. Those counties that continue to remain heavily dependent on primary industries may also have experienced the greatest declines in these industries over time. Those that have experienced greater declines in these industries have significantly higher rates of self-employment. In addition, when the overall declines in primary industries in the states under consideration here (that mirror the pattern nationally) are taken into account, those counties that continue to remain relatively more dependent on these industries for employment have significantly higher rates of self-employment. Because the primary industrial sector offers many opportunities for self-employment, individuals in counties who experience rapid declines in these industries may be most prepared to enter self-employment when economic conditions change.

Table 3 presents the results of the analysis of county-level poverty rates.³ Model 1 represents the baseline model, including controls

³It should be noted that federal poverty rates likely mask important and meaningful regional variations in the actual experience of poverty; however, given this measure's importance in determining eligibility for transfer programs, its use here is appropriate. Given the rising cost of living on some areas of Northern New England, this measure most likely yields conservative estimates.

for county-level demographic characteristics associated with poverty, including percentage of the population over 65 and percentage of the population over 25 without a high school diploma. Model 2 introduces institutional variables, including controls for state-level influences (New Hampshire is the omitted category),⁴ the percentage of total county household income received from income transfer programs, which is positively and significantly associated with county-level poverty rates, and the number of microenterprise programs that offer some type of support to entrepreneurs and the self-employed. These results indicate that there are significantly more such programs in counties with higher poverty rates, a finding that is in line with research on these programs (Flora et al. 1997; Cranwell and Kolodinsky 2002).

Model 3 introduces two labor market characteristics—the percentage of the labor force employed in primary industries, which include forestry, fishing, mining, and agriculture, and the percentage of the labor force employed in so-called “secondary” industries, which include manufacturing. The findings here support the notion of “addictive economies,” as counties with higher proportions of workers in primary industries have higher poverty rates, possibly due to the seasonality and uncertainty associated with employment in these industries (Freudenburg 1992). Higher levels of employment in secondary industries, on the other hand, seem to alleviate poverty somewhat, as jobs in these industries tend to carry higher wages and benefits.

In model 4, measures of sectoral transformation are included. These variables measure the decline in the share of both primary sector employment and secondary sector employment (a negative number would indicate a gain, of which there were few). When these change measures are introduced, two interesting patterns emerge. First, counties with greater declines in primary sector industries have higher poverty rates, again supporting the notion that rural economies heavily dependent upon these industries are the most vulnerable to economic restructuring. Second, controlling for the degree of change actually increases the magnitude of the relationship between county-level employment in the primary sector and county-level poverty; therefore, counties that experienced greater declines in primary sector employment had higher rates of poverty. Further, when this decline is controlled for, primary sector employment appears to be significantly related to poverty. In counties that have long been

⁴The results provided for Maine and Vermont are in relation to New Hampshire.

Table 4. Estimated Generalized Least Squares estimates of selected independent variables on county-level unemployment rates

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e
Intercept	0.863	(1.063)	1.116	(0.991)	1.145	(0.986)	0.311	(1.168)	-0.171	(1.176)
<i>Demographic Controls</i>										
Total population	0.000	(0.000)	0.003E-3	(0.000)	0.004E-3	(0.000)	0.006E-3*	(0.000)	0.007E-3**	(0.000)
% Population over 65	-0.084	(0.055)	-0.253***	(0.055)	-0.245***	(0.055)	-0.240***	(0.055)	0.261***	(0.056)
% Population over 25 without high school diploma	0.334***	(0.036)	0.237***	(0.031)	0.239***	(0.032)	0.218***	(0.034)	0.226***	(0.034)
<i>Institutional Controls</i>										
Maine	-		-0.562	(0.694)	-0.583	(0.690)	-0.792	(0.687)	-0.750	(0.685)
Vermont	-		-1.497	(1.092)	-1.656	(1.083)	-1.975	(1.094)	-1.953	(1.087)
Percentage of household income from transfer programs			0.115***	(0.015)	0.106***	(0.015)	0.109***	(0.015)	0.109***	(0.015)

Number of micro- enterprise programs	0.126	(0.091)	0.121	(0.090)	0.114	(0.091)	0.112	(0.090)
Metropolitan area Labor-market characteristics	-0.193	(0.405)	-0.280	(0.397)	-0.372	(0.418)	-0.457	(0.412)
Primary employment rate	-		0.076**	(0.028)	0.185***	(0.041)	0.148***	(0.045)
Secondary employment rate	-		-0.009	(0.014)	-0.002	(0.021)	-0.003	(0.021)
Change in primary employment since 1969	-		-		0.015***	(0.004)	0.012**	(0.004)
Change in secondary employment since 1969	-		-		-0.001	(0.008)	-0.001	(0.008)
Self-employment rate	-		-		-		0.036*	(0.018)
R^2	0.274		0.293		0.301		0.310	
	0.145							

*p < .05. **p < .01. ***p < .001.

reliant on primary sector industries, the effects of “addiction” and transformation appear to be devastating. Model 5 includes the self-employment rate to test hypothesis 3. Contrary to the prediction in hypothesis 3, the self-employment rate has a significant *negative* relationship with the poverty rate, indicating that, controlling for the negative impact of economic restructuring on rural economies, rural self-employment appears to support positive economic outcomes.

Table 4 presents the results of the analysis of county-level unemployment rates to test hypothesis 2. The same demographic and institutional controls included in the preceding analysis of poverty included in models 1 and 2 are introduced and yield similar results. The exception is the significant negative relationship between the percentage of the population over age 65 and the unemployment rate, as these individuals are likely out of the labor force and not counted in unemployment statistics. In model 3, sectoral characteristics are introduced. As in the first set of analyses, counties with higher proportions of their labor forces employed in primary sectors have significantly higher unemployment rates. Dependence on these industries is associated with more economic uncertainty and instability as measured by both poverty and unemployment.

Model 4 introduces rates of sectoral declines, and again counties with greater declines in their primary industrial sectors have significantly higher rates of unemployment. In addition, controlling for sectoral declines strengthens the positive relationship between primary employment and unemployment, indicating that counties that continue to remain dependent upon extractive industries experience negative outcomes over and above the negative effects of economic transformation. Model 4 indicates that counties with higher rates of self-employment have significantly higher rates of unemployment, contrary to the predictions in hypothesis 2. This may be because in rural areas, self-employment is a viable response to economic transformation for some, but not for all. Some may be in positions that allow them to respond to economic transformation with self-employment, while others are not.

DISCUSSION AND CONCLUSION

Globalization, technology, and a variety of other social changes have radically changed the U.S. economy in recent decades. While the causes and consequences of these economic transformations have been treated at length by sociologists and economists, they are uneven across different social contexts. Although the economy is

becoming more flexible overall, and the attachment and loyalty that characterized the relationship between employers and employees appears to be weakening, these transformations affect different groups of people in different ways (see Wilson 1996) and have different effects on urban and rural areas. Employment flexibility may increase the likelihood of unemployment and decrease quality job opportunities in areas with weak economies. Further, some people appear better prepared to respond to economic transformation than others by virtue of their human and social capital. In this article, I have explored the negative consequences associated with the decline of extractive industries that comprise the primary sector in rural areas. In addition, I have examined the role that self-employment plays in the relationship between economic transformation and the negative outcomes of poverty and unemployment. Two general conclusions can be drawn from my research.

First, rural counties experiencing greater declines in primary sector industries appear to have significantly higher rates of unemployment and poverty, but these relationships do not hold for declines in manufacturing industries. Economic dependence on the extractive industries that comprise the primary sector has been thought to produce negative outcomes due to the overall decline in these industries and to the tenuous and unstable employment that is characteristic of these industries. Given the historically heavy dependence on extractive industries in the counties of Northern New England this appears to be the case.

Second, while rates of self-employment remain higher in rural areas than in nonrural areas, there is variability in self-employment rates *within* rural areas. Individuals exist in social locations that facilitate or impede entrepreneurship and self-employment, just as some areas appear to foster self-employment more than others. In some areas, self-employment becomes more prevalent as alternative labor-market opportunities dry up. In other areas, more opportunities exist for taking advantage of market opportunities. In rural states, especially those that are heavily dependent on extractive industries, we can assume that self-employment can be primarily characterized as the former. In any event, self-employment does appear to be related to lower rates of poverty in rural counties, and may provide viable employment opportunities for some individuals in the face of rapid economic transformation.

In addition, the demographic composition of counties also affects the observed patterns of self-employment. Counties with larger elderly populations have higher rates of self-employment. In some areas, such a correlation is likely due to entrepreneurial activity that

arises in response to rapid growth of retirees. In Northern New England, however, the aging of the population from in-migration was lower than the national average. Instead, processes of aging-in-place account for much of the overall aging of the population (Fuguitt et al. 2002). Thus, it may be that older cohorts who age in place in nonmetro areas may require more services that, because of their inaccessibility in rural areas, are offered by self-employed individuals, including some care-giving duties (Nemet and Bailey 2000). Further, the elderly themselves may experience a skills mismatch in which the skills they possess become increasingly less marketable in the face of rapid economic change, and self-employment may emerge as an attractive—or only—alternative.

There are limits to the conclusions that can be drawn from county-level data, and future research is needed to address them. Although self-employment on the whole is an important topic of study, there are significant variations in the activities that comprise self-employment. The different sorts of jobs that the self-employed hold and the different opportunity structures that encourage entrance into self-employment deserve attention. Even within the three-state region studied here, there are substantial differences in economic opportunities for self-employment. Second, state and federal data do not capture the significant amount of informal self-employment that exists in rural areas. Of course, there are real challenges involved in collecting representative data on the informal economy, but efforts to better understand these activities could be advanced with generalizable data to augment the large body of rich case studies on informal work.

The findings presented here suggest that both counties with currently and/or historically high rates of employment in primary industries have higher rates of self-employment, and that counties who experience rapid declines in these industries also have higher rates of self-employment. Not surprisingly, these industrial structures are also related to increased county-level poverty rates. Rural counties, for a number of reasons, have a difficult time adjusting to economic change and sectoral transformation. Most interestingly, however, is the role that self-employment may play in mediating this relationship. Counties with higher rates of self-employment have significantly lower rates of poverty; therefore, under some circumstances, self-employment does appear to be a viable economic strategy at the local level.

In an era of rapid and dramatic economic change and flexibility, rural areas face a unique set of circumstances. Historically high concentrations of employment in primary-sector industries may make recovering from sectoral shifts away from these industries difficult.

Higher rates of poverty and aging populations confound the situation faced by many rural communities. In addition, those in rural areas face a unique set of social and moral pressures to respond to poverty in a more limited set of ways than those in other contexts (Sherman 2006). While rural self-employment has a long history, new attention is being paid to it as a solution to the problems that individuals and local economies face. But whether or not self-employment represents a viable strategy for individual opportunity and economic growth, or is simply a last-ditch effort to make ends meet, is an empirical question that lacks a definitive answer. In research presented here, I have offered answers to this question in a small but important setting—the predominantly rural counties that comprise Northern New England—that points to the potential value of self-employment in a rural context.

REFERENCES

- Aaronson, Robert L. 1991. *Self-Employment: A Labor Market Perspective*. Ithaca, NY: IRL Press.
- Aldrich, Howard E. 2005. "Entrepreneurship." Pp. 451–477. in *Handbook of Economic Sociology*, edited by Richard Swedberg and Neil Smelser Princeton, NJ: Princeton University Press and Russell Sage Foundation.
- Aldrich, Howard E. and Martin Ruef. 2006. *Organizations Evolving*. London: Sage.
- Barley, Stephen and Gideon Kunda. 2004. *Gurus, Hired Guns, and Warm Bodies: Itinerant Experts in a Knowledge Economy*. Princeton, NJ: Princeton University Press.
- Bates, Timothy. 1995. "Self-Employment Entry Across Industry Groups." *Journal of Business Venturing* 10:143–156.
- Bates, Timothy and Lisa Servon. 2000. "Viewing Self-Employment as a Response to Lack of Suitable Opportunities for Wage Work." *National Journal of Sociology* 12:23–55.
- Bluestone, Harry and Bennett Harrison. 1982. *The Deindustrialization of America: Plant Closings, Community Abandonment, and the Dismantling of Basic Industry*. New York: Basic Books.
- Bregger, John. 1996. "Measuring Self-Employment in the United States." *Monthly Labor Review* 119:3–10.
- Brown, David L., Donald R. Field, and James J. Zuiches. 1993. *The Demography of Rural Life*. University Park, PA: Pennsylvania State University Press.
- Brown, David L. and Thomas A. Hirchl. 1995. "Household Poverty in Rural and Metropolitan-Core Areas of the United States." *Rural Sociology* 60:44–66.
- Browning, Harley L. and Joachim Singlemann. 1978. "The Transformation of the U.S. Labor Force: The Interaction of Industry and Occupation." *Politics and Society* 8:481–509.
- Bruderl, Josef P., Preisendorfer, and R. Ziegler. 1992. "Survival Chances of Newly Founded Business Organizations." *American Sociological Review* 57:227–242.

- Bureau of Labor Statistics. 2007. "Employment, Hours, and Earnings." Retrieved February 20, 2008 from <http://www.bls.gov/sae/home.htm>.
- Carr, Deborah. 1996. "Two Paths to Self-Employment? Women's and Men's Self-Employment in the United States, 1980." *Work and Occupations* 23:26-53.
- Carsey Institute for Families and Communities. 2006. *Northern New England Indicators*. Retrieved March 1, 2007 from <http://www.nneindicators.unh.edu/ShowMap.asp?ParentFIPS=1>. Durham, NH: University of New Hampshire.
- Cranwell, Michele R. and Jane Kolodinsky. 2002. "The Impact of Microenterprise Development on Low-Income Vermonters Building Social and Human Capital to Work Towards Economic Self-Sufficiency." *Consumer Interests Annual* 48:1-7.
- Drielsma, J. H. 1984. *The Influence of Forest-based Industries on Rural Communities*. Ph.D. dissertation. New Haven, CT: Yale University.
- Duncan, Cynthia M. 1992. *Rural Poverty in America*. New York: Auburn House.
- Falk, William W. and Linda M. Lobao. 2003. "Who Benefits from Economic Restructuring? Lessons from the Past, Challenges for the Future." Pp. 152-165 in *Challenges for Rural America in the Twenty-First Century*, edited by David L. Brown and Louis E. Swanson University Park: The Pennsylvania State University Press.
- Farber, Henry S. 2004. "Job Loss in the United States, 1981-2001." *Research in Labor Economics* 23:69-117.
- Flora, Jan L., Jeff Sharp, Corneila Flora, and Bonnie Newlon. 1997. "Entrepreneurial Social Infrastructure and Locally Initiated Economic Development in the Nonmetropolitan United States." *The Sociological Quarterly* 38:623-645.
- Florida, Richard. 2004. *The Rise of the Creative Class: How It's Transforming Work, Leisure, Community and Everyday Life*. New York: Basic Books.
- Freudenburg, William R. 1992. "Addictive Economies: Extractive Industries and Vulnerable Localities in a Changing World Economy." *Rural Sociology* 57:305-332.
- Fuguitt, Glenn V., Calvin L. Beale, and Stephen J. Tordella. 2002. "Recent Trends in Older Population Change and Migration for Nonmetro Areas, 1970-2000." *Rural America* 17:11-19.
- Fuguitt, Glenn V., Richard M. Gibson, and Calvin L. Beale. 1989. *Rural and Small Town America: The Population of the United States in the 1980s*. New York: Russell Sage Foundation.
- Gale, Fred and David McGranahan. 2001. "Latest Trends in Nonmetro Jobs and Earnings: Nonmetro Areas Fall Behind in the 'New Economy'." *Rural America* 16:44-52.
- Gittell, Ross. 1999. "A Shared Regional Agenda?" *Connection: New England's Journal of Higher Education & Economic Development* 14:24-27.
- Jensen, Leif, Diane K. McLaughlin, and Tim Slack. 2003. "Rural Poverty: The Persisting Challenge." Pp. 118-131 in *Challenges for Rural America in the Twenty-First Century*, edited by David L. Brown and Louis E. Swanson. University Park: The Pennsylvania State University Press.
- Judd, Richard W. 1988. "Reshaping Maine's Landscape: Rural Culture, Tourism, and Conservation, 1890-1929." *Journal of Forest History* 32:180-190.

- Kalleberg, Arne L. 2000. "Nonstandard Employment Relations: Part-time, Temporary, and Contract Work." *Annual Review of Sociology* 26:341–365.
- Kalleberg, Arne L., Barbara F. Reskin, and Ken Hudson. 2000. "Bad Jobs in America: Standard and Nonstandard Employment Relations and Job Quality in the United States." *American Sociological Review* 65:265–278.
- Lauer, Sean R. 2005. "Entrepreneurial Processes in an Emergent Resource Industry: Community Embeddedness in Maine's Sea Urchin Industry." *Rural Sociology* 70:145–166.
- Lichter, Daniel T. and Janice A. Costanzo. 1987. "Nonmetropolitan Underemployment and Labor-Force Composition." *Rural Sociology* 52:329–344.
- Lippmann, Stephen, Amy Davis, and Howard E. Aldrich. 2005. "Entrepreneurship and Inequality." *Research in the Sociology of Work* 15:3–31.
- McGranahan, David A. 2003. "How Do People Make a Living in Rural America?" Pp. 135–151 in *Challenges for Rural America in the Twenty-First Century*, edited by David L. Brown and Louis E. Swanson. University Park, PA: The Pennsylvania State University Press.
- Nelson, Margaret K. 1999. "Economic Restructuring, Gender, and Informal Work: A Case Study of a Rural County." *Rural Sociology* 64:18–43.
- Nelson, Margaret K. and Joan Smith. 1999. *Working Hard and Making Due: Surviving in Small Town America*. Berkeley and Los Angeles: University of California Press.
- Nemet, Gregory F. and Adrian J. Bailey. 2000. "Distance and Health Care Utilization Among the Rural Elderly." *Social Science & Medicine* 50:1197–1208.
- Nielsen, François and Arthur S. Alderson. 1997. "The Kuznets Curve and the Great U-Turn: Income Inequality in U.S. Counties, 1970 to 1990." *American Sociological Review* 62:12–33.
- Oberhauser, Ann M. 1995. "Gender and Household Economic Strategies in Rural Appalachia." *Gender, Place, and Culture* 2:51–70.
- Page, Brian and Richard Walker. 1991. "From Settlement to Fordism: The Agro-Industrial Revolution in the American Midwest." *Economic Geography* 67:281–315.
- Reynolds, Jeremy and Linda Renzulli. 2005. "Economic Freedom or Self-Imposed Strife: Work Hours, Work-Life Conflict, and Self-Employment." *Research in the Sociology of Work* 15:33–60.
- Rubin, Beth A. 1996. *Shifts in the Social Contract: Understanding Change in American Society*. Thousand Oaks, CA: Pine Forge Press.
- Ruef, Martin. 2005. "Origins of Organizations: The Entrepreneurial Process." *Research in the Sociology of Work* 15:63–100.
- Saxenian, AnnaLee. 1996. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge, MA: Harvard University Press.
- Schreiner, Mark and Gary Woller. 2003. "Microenterprise Development Programs in the United States and in the Developing World." *World Development* 31:1567–1580.
- Sherman, Jennifer. 2006. "Coping with Rural Poverty: Economic Survival and Moral Capital in Rural America." *Social Forces* 85:891–913.

- Schumpeter, Joseph. 1934. *Capitalism, Socialism, and Democracy*. New York: Harper and Row.
- Tickamyer, Ann R. and Cecil H. Tickamyer. 1988. "Gender and Poverty in Central Appalachia." *Social Science Quarterly* 69:874–891.
- U.S. Census. 2007. *Area Profiles*. Retrieved February 20, 2008 from <http://quickfacts.census.gov/qfd/index.html>.
- U.S. Census of Population and Housing. 1990. *Summary Population and Housing Characteristics: Maine, New Hampshire, Vermont*. Washington, DC: Government Printing Office, 1991.
- . 2000. *Summary Population and Housing Characteristics: Maine, New Hampshire, Vermont*. Washington, DC: Government Printing Office, 2001.
- Vail, David and Tobias Heldt. 2000. "Institutional Factors Influencing the Size and Structure of Tourism: Comparing Dalarna (Sweden) and Maine (USA)." *Current Issues in Tourism* 3:283–324.
- Vermont Sustainable Agriculture Council. 2006. *Annual Report and Recommendations*. Burlington, VT: Center for Sustainable Agriculture, University of Vermont Extension Program.
- Whitener, Leslie A., Robert Gibbs, and Lorin Kusmin. 2003. "Rural Welfare Reform: Lessons Learned." *Amber Waves* 1:38–44.
- Wilson, William J. 1996. *When Work Disappears: The World of the New Urban Poor*. New York: Alfred A. Knopf.