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Exploring the influence of civic community structures on family poverty in a multilevel context

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EXPLORING THE INFLUENCE OF CIVIC COMMUNITY STRUCTURES ON FAMILY
POVERTY IN A MULTILEVEL CONTEXT

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Sociology

by

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TABLE OF CONTENTS

| | |
|--|----|
| ACKNOWLEDGEMENTS | ii |
| ABSTRACT..... | v |
| CHAPTER 1: INTRODUCTION | 1 |
| Individualist and Structuralist Explanations of Poverty | 2 |
| Civic Community Perspective | 5 |
| Purpose and Organization of Dissertation | 6 |
| CHAPTER 2: EXPLORING THE INFLUENCE OF LOCALLY ORIENTED RELIGIOUS ENVIRONMENTS ON FAMILY POVERTY | 8 |
| Introduction | 8 |
| Civic Community Perspective and the Ecological Context of Religion..... | 10 |
| The Religious Environment and Poverty | 16 |
| Civic Engagement and Social Capital | 17 |
| Support and Social Welfare and the Poor | 19 |
| Poverty | 21 |
| Summary and Research Objective | 24 |
| Methods | 26 |
| Data and Measures | 26 |
| Dependent Variables | 28 |
| Independent Variables | 31 |
| Family-Level Variables | 31 |
| Contextual Variables | 32 |
| Analysis | 34 |
| Descriptive Analysis | 34 |
| Family-Level Measures | 34 |
| Contextual Measures | 36 |
| Bivariate Analysis | 37 |
| Multilevel Analysis | 39 |
| Results | 43 |
| Conclusion and Discussion | 63 |
| CHAPTER 3: EXPLORING THE INFLUENCE OF LOCALLY ORIENTED ECONOMIC CLIMATES ON FAMILY POVERTY | 68 |
| Introduction | 68 |
| Civic Community Perspective on Stratification | 69 |
| Early Labor Market Theories..... | 70 |
| The Civic Community Perspective and Local Capitalism | 72 |
| The Economic Climate and Poverty | 74 |
| Local Capitalism, Civic Engagement, and Social Capital | 75 |
| Local Capitalism and Local Investment | 75 |
| Poverty | 77 |
| Summary and Research Objective | 77 |
| Methods | 78 |

| | |
|--|-----|
| Data and Measures | 79 |
| Dependent Variables | 79 |
| Independent Variables | 79 |
| Family-Level Variables | 79 |
| Contextual Variables | 79 |
| Analysis | 80 |
| Descriptive Analysis | 80 |
| Family-Level Measures | 80 |
| Contextual Measures | 80 |
| Bivariate Analysis | 81 |
| Multilevel Analysis | 82 |
| Results | 86 |
| Interaction Effects | 104 |
| Conclusion and Discussion | 106 |
| CHAPTER 4: EXPLORING THE INFLUENCE OF LOCALLY ORIENTED CIVIC COMMUNITY STRUCTURES ON FAMILY POVERTY | 112 |
| Introduction | 112 |
| Civic Community Perspective and Locally Oriented Community Structures | 112 |
| Locally Oriented Civic Community Structures and Poverty | 114 |
| Civic Engagement and Social Capital | 114 |
| Poverty | 115 |
| Summary and Research Objective | 116 |
| Methods | 117 |
| Analysis | 117 |
| Descriptive Analysis | 117 |
| Bivariate Analysis | 117 |
| Multilevel Analysis | 118 |
| Results | 122 |
| Interaction Effects | 141 |
| Conclusion and Discussion | 143 |
| CHAPTER 5: CONCLUSION AND DISCUSSION | 147 |
| Findings | 149 |
| Limitations | 153 |
| Future Research and Policy Implications | 155 |
| REFERENCES | 158 |
| APPENDIX I: POVERTY THRESHOLDS | 167 |
| APPENDIX II: OLS REGRESSION OF MACRO-LEVEL FAMILY POVERTY | 168 |
| VITA | 169 |

ABSTRACT

This dissertation integrates the civic community perspective and structuralist and individualist perspectives of poverty to assess the relationships between civic community structures and family poverty outcomes. The key contribution of this project to the larger bodies of civic community and poverty research is the use of a multilevel framework that accounts for both community context and family characteristics in shaping family poverty outcomes. This objective is carried out through a series of multilevel analyses wherein religious and economic civic community structures are examined in relation to various conceptualizations of family-level poverty.

The first analysis examines the associations between religious-based measures of civic community and family poverty experiences. Results indicate that the ecological context of religion within places is significant in understanding the poverty experiences of families. Specifically, multilevel models demonstrate the negative effect of Mainline Protestant and Catholic adherents on family poverty. Conversely, it is shown that Mainline Protestant and Catholic congregations have a positive effect on family poverty.

The second analysis examines the influence of economic-based measures of civic community on family poverty outcomes. Results indicate that the economic climate of places is significant in understanding the poverty experiences of families. Specifically, multilevel regressions demonstrate negative relationships between small business establishments and family poverty outcomes. Conversely, regression results show that self-employed business persons share positive relationships with family poverty outcomes. Supplementary analyses highlight the significant moderating effect of aggregate socioeconomic status on the relationships between economic climate measures and specific family poverty outcomes.

The third and final analysis combines both religious and economic indicators of civic community in the examination of family poverty outcomes. Results indicate that the presence of civic community structures within places is significantly related to family poverty. Specifically, multilevel regressions demonstrate that Mainline Protestant adherents and small business establishments are associated with less family poverty. However, Mainline Protestant congregations and economically independent business persons are associated with more family poverty. Again, additional analyses highlight significant interaction effects between aggregate socioeconomic status and economic climate measures on specific family poverty outcomes.

CHAPTER 1: INTRODUCTION

This dissertation seeks to understand the relationships between specific religious and economic aspects of civic community and family poverty in varying multilevel contexts. This objective is informed by theoretical and empirical work rooted in the civic community perspective (e.g. Lyson, Torres, and Welsh 2001; Mencken, Bader, and Polson 2006; Tolbert, Lyson, and Irwin 1998; Tolbert et al. 2002), as well as recent calls for the joint recognition of macro- and micro-level factors in shaping poverty experiences (e.g. Brady, Fullerton, and Cross 2009; Cotter 2002; Cotter, Hermesen, and Vannerman 2007). The main contribution of this dissertation is the use of a multilevel framework that has yet to be utilized in civic community research examining poverty and has been used only sparingly in broader sociological poverty research.

Poverty has long been a topic of sociological interest, with researchers seeking to understand the complex causes and consequences of economic deprivation. Traditionally, two broad types of orientations have been offered by scholars to frame an understanding of poverty: individualist and structuralist explanations (Cotter 2002; Cotter et al. 2007; Lobao 1990; Lobao, Hooks, and Tickamyer 2007, 2008; Schiller 2004; Tomaskovic-Devey 1988). Individualist explanations of poverty focus on the micro-level characteristics of individuals, families, and households in examining the likelihood of being poor, such as human capital characteristics (e.g., education) or family composition (e.g., single mother headship). Structuralist explanations of poverty focus on macro-level characteristics that influence aggregate poverty levels, such as community structure and composition or the influence of local labor market conditions. Recent theoretical and methodological developments are encouraging researchers to view individualist and structuralist explanations of poverty as complementary theoretical frames (e.g. Brady et al.

2009; Cotter 2002; Cotter et al. 2007) as micro-level actors are, in actuality, embedded in varying macro-level social and economic contexts.

Individualist and Structuralist Explanations of Poverty

Various theories have been posited to inform understandings of micro-level poverty. Influential examples include human capital theory (Becker 1964; Mincer 1970) and status attainment models (Blau and Duncan 1967; Sewell, Haller, and Portes 1969). Human capital theory views earnings in the labor market as a return on the investment individuals have made in the acquisition of education, skills, and work experience (i.e., human capital) (Becker 1964; Mincer 1970). Status attainment models focus on the socioeconomic backgrounds (i.e., family income and parental occupation) and demographic characteristics (i.e., sex and race) of individuals in influencing educational attainment, which in turn shapes labor market outcomes such as occupational status and earnings (Blau and Duncan 1967). Both human capital theory and status attainment models focus on individual-level characteristics, such as education and occupation, in understanding micro-level poverty experiences.

A large body of literature has demonstrated important relationships between poverty and individual, family, and household sociodemographic characteristics. Among demographic characteristics, race/ethnicity, age, and sex are significant micro-level correlates of poverty. For example, racial and ethnic minorities, such as blacks and Hispanics, experience poverty rates two to three times greater than those experienced by non-Hispanic whites (Iceland 2006). Further, children constitute a disproportionate share of the poor population, experiencing poverty at higher rates than any other age group (Friedman and Lichter 1998). Among household characteristics, female-headship has been shown to significantly increase a family's likelihood of

experiencing poverty (Lichter and McLaughlin 1995; Lichter, McLaughlin, and Ribar 1997; McLaughlin, Gardner, and Lichter 1999). Also among family/household characteristics, other significant micro-correlates of poverty include the number of wage earners present and attachment of workers to the labor market (Brown and Hirschl 1995; Tomaskovic-Devey 1988). In sum, individualist explanations of poverty highlight individual- and family/household-level attributes that are significant indicators of the potential to experience poverty.

In contrast, structuralist perspectives focus on macro-level structures that generate poverty at aggregate levels (e.g., cities, counties, etc.). One approach to framing structuralist explanations of poverty is within the context of place. Understanding poverty dynamics within the context of place is important because the geographically defined places in which people reside and work (e.g. counties or labor market areas) are characterized by varying social and economic contexts (Cotter 2002; Lobao 1990; Lobao et al. 2007, 2008; Tickamyer 2000). As place-based contexts vary so do local opportunity structures, which are the range of social and economic opportunities available within specific geographic areas (Cotter 2002).

Research has identified various macro-level sociodemographic correlates of poverty. Evidence suggests that the age structures of places influence aggregate-level poverty; specifically, younger age structures (i.e. percentage of the population aged 15 and younger) are significantly correlated with higher poverty rates as children are highly dependent upon others (i.e., families) for their economic welfare (Cotter 2002; Lichter and McLaughlin 1995; Rupasingha and Goetz 2007; Slack et al. 2009). Also important is the presence or concentration of racial/ethnic minority populations within places. Much research has identified that larger percentages of black and Hispanic/Latino populations are correlated with higher poverty rates (Friedman and Lichter 1998; Lichter and McLaughlin 1995; Voss et al. 2006). Aggregate-level

family structures are also important correlates of poverty. As female-headed households are more likely to experience poverty at the micro-level, larger percentages of female-headed households within places are correlated with higher levels of poverty (Poston et al. 2010; Friedman and Lichter 1998; Lichter and McLaughlin 1995; Voss et al. 2006). Aggregate-level human capital is also an important consideration in understanding poverty. Human capital is often measured by aggregate educational attainment, wherein higher levels of educational attainment (i.e. percentage of the population aged 25 years and over with at least a high-school diploma) are associated with lower levels of poverty (Levernier, Partridge, and Rickman 2000; Rupasingha and Goetz 2007), while lower aggregate educational levels are associated with higher poverty rates (Cotter 2002; Poston et al. 2010; Slack et al. 2009).

Among economic structural correlates, local employment structures within places are a significant consideration in understanding poverty. Specifically, research has demonstrated that the percentage of the working age population or civilian labor force that is employed is correlated with lower levels of poverty (Rupasingha and Goetz 2007); while places with higher levels of unemployment among the civilian labor force experience higher poverty rates (Friedman and Lichter 1998; Lichter and McLaughlin 1995; Voss et al. 2006). Employment opportunities, especially for women, within local labor markets also influence aggregate poverty rates. In particular, female labor force participation, often measured as the proportion of women in the labor force or the percent of women employed, is correlated with lower poverty rates (Lichter and McLaughlin 1995; Rupasingha and Goetz 2007). Also important is the industrial structure of places, which is measured by employment in various industrial sectors. Research has identified larger percentages of employment in agriculture as being positively correlated with poverty (Levernier et al. 2000; Slack et al. 2009), while manufacturing and financial services

(i.e., finance, insurance, and real estate (FIRE)) employment is negatively correlated with poverty rates (Poston et al. 2010; Lichter and McLaughlin 1995; Rupasingha and Goetz 2007). Both aggregate social and economic characteristics provide the socioeconomic context of places in which individuals, families, and households are embedded and thereby shape place-based well-being.

Civic Community Perspective

Recent research seeking to explicate the contextual correlates of place-based well-being has utilized the civic community perspective. This perspective views both social and economic structures as key to understanding local community well-being (Tolbert 2005; Tolbert et al. 1998). In this view, locally oriented institutions and organizations, such as businesses, churches, and voluntary associations, serve an integrative function within communities by promoting an environment of social cohesion and encouraging systems of cooperation among various spheres of community life. The resulting integrative community atmosphere serves to enhance problem-solving capacity and increase the capability to address local issues, which positively impacts place-based socioeconomic well-being. Among research using the civic community perspective, Tolbert, Lyson, and Irwin (1998) utilized this approach to link social and economic structures, civic engagement, and various measures of community welfare, such as family poverty, unemployment, and median family income. A particular aspect their work examined the relationship between community welfare and the contextual influence of local religious institutions. These researchers captured the ecological impact of religion by identifying religious denominations with adherents that displayed levels of civic engagement greater than the national average of other religious denominations. Civically engaged religious denominations were

operationalized as those with adherents who were also members of voluntary associations, thus contributing to the formation of social networks and facilitating linkages among various community groups as these adherents participate in both religious institutions and voluntary associations. Also significant within their research, Tolbert et al. (1998) examined local capitalism as an economic correlate of community well-being. The operationalization of local capitalism included measures of small manufacturing and retail establishments and family farms. Tolbert et al. (1998) argued that local capitalism roots capital and labor to the locality in which labor exchanges and production occur and in turn benefits local well-being as economic institutions focus on maintaining local relationships and establishing social networks within communities for the purpose of facilitating successful labor exchanges and production processes. Key among their empirical findings was the significant relationships between both civically engaged religious denominations and local capitalism and lower rates of family poverty. Notably, this research, and much civic community research conducted to date, focused on aggregate-level (i.e., county) predictors and outcomes.

Purpose and Organization of Dissertation

The civic community perspective has informed much research examining the associations between civic community structures and various socioeconomic outcomes, such as economic growth, mortality rates and health indicators, residential segregation, crime, and migration (Beyerlein and Hipp 2005; Blanchard 2007; Blanchard et al. 2008; Blanchard, Tolbert, and Mencken 2012; Irwin et al. 2004; Lee and Bartkowski 2004a, 2004b; Lee 2008; Mencken et al. 2006). Prior research utilizing the civic community perspective has provided significant evidence that the ecological context of locally oriented social and economic structures is associated with

lower aggregate family poverty (Lyson et al. 2001; Tolbert et al. 1998; Tolbert et al. 2001; Tolbert et al. 2002). While this research has established the macro-level relationship between civic community structures and family poverty rates, there is dearth of civic community research examining this relationship in a multilevel context. Moreover, there is a developing body of sociological poverty research employing multilevel frameworks to account for macro- and micro-level considerations in the examination of poverty (see Brady et al. 2009; Cotter 2002; Cotter et al. 2007; Poston et al. 2010). Given this background, the aim of this study is to examine the relationships between locally oriented religious environments and economic climates and family poverty, and do so in a multilevel context that acknowledges both structural and individual influences on poverty. In order to capture the multidimensional nature of family poverty, poverty is conceptualized using three different approaches: absolute, relative, and depth of poverty measures.¹

This dissertation consists of three separate analyses. The first analysis (Chapter 2) assesses the relationship between locally oriented religious environments and family poverty. The second analysis (Chapter 3) examines the relationship between locally oriented economic climates and family poverty. Finally, the last analysis (Chapter 4) explores the simultaneous influence of locally oriented religious environments and economic climates on family poverty. This dissertation concludes (Chapter 5) with a discussion of the significant findings from these analyses and implications for future research and policy.

¹ Each of these conceptualizations has advantages and disadvantages, and each informs a different measurement that captures various dimensions of poverty, both of which will be discussed in the following chapter.

CHAPTER 2: EXPLORING THE INFLUENCE OF LOCALLY ORIENTED RELIGIOUS ENVIRONMENTS ON FAMILY POVERTY

Introduction

Among studies that have examined the structural determinants of poverty, research has identified a range of social institutions that share significant relationships with economic well-being. One such institution is religion, which has also been shown to be associated with various aggregate-level social outcomes, such as homicide rates (Lee and Bartowski 2004a, 2004b), crime rates (Beyerlein and Hipp 2005), mortality rates (Blanchard et al. 2008), and residential segregation (Blanchard 2007). Much of this research is rooted in the call to frame religion as an element of the social structure rather than as an individual trait; that is, religion may be conceptualized as a structural feature within ecological units (i.e., counties, communities) (Blanchard et al. 2008; Stark 1996). Recent developments in stratification research identify the structural role that religion can serve as a mechanism for civic engagement and source of social capital within communities. Specifically, this research has relied upon the civic community perspective to highlight the enhancing effects of religious civic community structures on various aspects of community-wellbeing. Key within civic community research is the finding that the presence of civically engaged religious denominations within localities is associated with heightened levels of place-based socioeconomic well-being. More to the point, this research has highlighted the significant macro-level relationship between civically engaged religious denominations and lower rates of family poverty (Lyson et al. 2001; Tolbert et al. 1998; Tolbert et al. 2001; Tolbert et al. 2002).

Recent theoretical and methodological advancements in poverty research have identified the dual role of both macro- and micro-level forces in shaping and understanding micro-level

poverty. Poverty research in the sociological tradition has primarily focused on two broad types of explanations to frame an understanding of poverty: structuralist and individualist (Cotter 2002; Cotter et al. 2007; Lobao 1990; Lobao et al. 2008; Tomaskovic-Devey 1988). Recent developments are encouraging researchers to view structuralist and individualist explanations of poverty as complementary rather than competing frames (e.g. Brady et al. 2009; Cotter 2002; Cotter et al. 2007). That is, both macro-level structural forces and micro-level individual characteristics simultaneously impact the poverty experiences of families. This development holds specific implications for civic community research examining family poverty as this research has solely focused on the macro-level relationship between religion and poverty.

Lastly, it is also important to acknowledge the role religious groups can potentially serve in providing social welfare services within communities. The welfare reform act of 1996 (Personal Responsibility and Work Opportunity Reconciliation Act, PRWORA) not only changed the aim of social welfare in the U.S. from providing cash aid as a need-based entitlement to a time limited system that requires work effort, but also altered how social services are delivered. One such change is Section 104 of the welfare reform legislation, known as “Charitable Choice,” which contains a provision that allows “organizations whose main activity is religion (such as congregations) [to] receive public money to support social service activity” (Chaves 1999:837). Specifically, if states contract with nonprofit organizations to deliver social services, religious institutions must be included in the pool of eligible organizations that can provide social services (Chaves 1999).² Among social welfare services, Charitable Choice allows faith-based organizations to provide such services as food pantries, job training programs, and

² The Charitable Choice legislation also protects the autonomy of faith-based organizations by, for example, allowing faith-based providers to maintain symbols of religious commitment, such as crosses or Stars of David, while also protecting the religious freedom of social welfare recipients (Center for Public Justice 1997).

medical and health clinics (Cnaan and McGrew 2005). This demonstrates the particular importance of religious bodies within communities as these institutions are a vital part of the social welfare structure.

Informed by these issues, the primary objective of this chapter is to extend civic community research examining the relationship between religious-based measures of civic community and family poverty. This objective is achieved by utilizing a multilevel framework that acknowledges both the embeddedness of families within communities as well as family-level factors. This approach provides an important extension to the civic community literature by advancing beyond understanding only the macro-level relationship between religion and family poverty to examining how this relationship operates in a multilevel context. Further, this approach contributes to an emerging body of poverty research utilizing multilevel frameworks to account for the concurrent influence of structuralist and individualist factors in shaping individual-level poverty experiences (Brady et al. 2009; Cotter 2002; Cotter et al. 2007; Poston 2010).

Civic Community Perspective and the Ecological Context of Religion

Recent stratification research has utilized the civic community perspective to examine the structural influence of religion on various measures of community welfare (Lee 2006, 2008; Lee and Bartkowski 2004a, 2004b; Mencken et al. 2006; Tolbert et al. 2001; Tolbert et al. 2002). Drawing on the theoretical underpinnings of social capital, this perspective assigns importance to the networks of institutions, churches and congregations for example, within local communities that create an atmosphere of mutual obligation and generalized trust that encourages collective action aimed at enhancing the local good. Research in the civic community tradition highlights

the social characteristics of communities, such as civic engagement engendered by locally oriented community institutions specifically, that are associated with beneficial community outcomes.

Notable here is the work of Tolbert et al. (1998), which focuses on civic community structures in relation to socioeconomic measures of community welfare. These researchers sought to understand how community-level indicators of well-being, such as median family income, income inequality, unemployment, and family poverty, were related to measures of civic engagement. In order to capture the contextual impact of religion on community civic engagement, they focused on the percent of the population belonging to religious denominations that displayed levels of civic engagement higher than the national average. Utilizing 1990 Census of Churches data, Tolbert et al. (1998) identified civically engaged denominations as those with adherents who reported above-average voluntary association membership.³ Their empirical findings indicated that localities with greater concentrations of adherents in civically engaged religious denominations manifested higher levels of socioeconomic well-being with significant negative relationships demonstrated between this measure and income inequality, unemployment, and, of particular importance in this study, family poverty.

Among more recent studies examining the ecological impact of religion on community context, the theoretical focus has been primarily been on three distinct religious denominations: Conservative Protestantism, Mainline Protestantism, and Catholicism (Beyerlein and Hipp 2005; Blanchard 2007; Blanchard et al. 2008). For those who participate in religious congregations in the U.S., these religious traditions are identified as the primary denominational groups to which individual adherents belong (Beyerlein and Hipp 2006). In 2000, 9 percent of the U.S. population

³ Tolbert et al. (1998) identified the following 12 denominations as civically engaged: African Methodist Episcopal Zion, American Baptist, Church of Christ, Congregational Christian, Disciples of Christ, Episcopal, Jewish, Latter-Day Saints, Lutheran, Methodist, Presbyterian, and Unitarian.

identified as Mainline Protestant, 14 percent as Evangelical, or Conservative, Protestant, and 22 percent as Catholic with the Roman Catholic Church currently being the largest religious body in the U.S.⁴ Each of the aforementioned denominations maintains particular theological and faith orientations that guide how congregations and adherents within these religious denominations view and interact with the secular world. Both Mainline Protestant and Catholic congregations advance theological traditions that place a significant emphasis on *worldly* concerns, such as the alleviation of social ills and promotion of social equality (Beyerlein and Hipp 2006; Blanchard et al. 2008). Catholicism, for example, promotes an ideology “deeply committed to the notion of social rights” (Adloff 2006:1) and “articulate[s] a special concern and love for the poor and the oppressed and a commitment to the promotion of justice” (Bane 2003:15). Catholic Charities USA, operated by the Catholic Church, is a major private provider of social services within the U.S. In contrast, Conservative Protestant congregations tend to be more *otherworldly* oriented in their religious ideologies. This theological orientation promotes a primary interest in the afterlife, which results in separation from the secular world and an explicit focus on proselytizing salvation (Ammerman 1987). In sum, Conservative Protestants tend to be more internally oriented in their religious tradition, while Mainline Protestants and Catholics emphasize an externally oriented religious tradition (Wuthnow 1999). Such distinct and varied traditions among religious denominations shape how religious congregations and adherents within places view and interact with their surrounding communities.

The theological orientation of specific religious denominations holds implications for how religious bodies contribute to the network structures of communities, as evidenced by civic engagement activity and the cultivation of social capital. Importantly, it has been noted that not

⁴ Original calculations by the author based on data from the Association of Religious Data Archives Religious Congregations and Membership Study, 2000, which is utilized in the following analysis.

all social capital is purely positive in its contextual influence, but rather can also have negative consequences for the broader community by excluding others from involvement and participation in certain groups or by focusing on maintaining solidarity among a homogenous group (Portes 1998). Putnam (2000) recognized this in drawing out the distinction between “bridging” and “bonding” forms of social capital, which serves to explain how different forms of social capital reinforce different group processes and, in turn, hold different implications for community network structures. Bridging social capital links groups to external network structures, or provides an external orientation, and “involves long-term trusting relationships but crosses boundaries of class, race, ethnicity, religion, or type of institution,” while bonding social capital serves to reinforce solidarity among a group, or provides an internal orientation, and “refers to networks that include people or institutions that are similar to each other and participate in exclusive sharing relationships” (Schneider 2006:5). Beyerlein and Hipp (2005:999) noted this distinction in bridging and bonding social capital among religious groups asserting that “the bonding activity of certain religious groups possibly constricts the larger network structures of communities.” Addressing Tolbert et al.’s (1998) operationalization of civically engaged denominations specifically, Beyerlein and Hipp (2005:999) pointed to the potential concern in capturing civically engaged denominations by counting membership in *any* type of voluntary association rather than focusing on membership in organizations that promote bridging social capital. To that point, Beyerlein and Hipp (2006:100) posited that:

differences in the theological orientation of these religious traditions [Mainline Protestantism, Evangelical, or Conservative, Protestantism, and Catholicism] largely motivates their congregations to adopt contrasting strategies for interacting with the outside world, this context should moderate considerably the extent to which congregations activity mobilizes involvement in bridging civic organizations.

To address this issue, Beyerlein and Hipp (2006) identified how various religious denominations influenced bridging social capital and civic engagement activity among congregations and adherents by developing a more precise method to capture this connection. They modeled the relationship between denominational membership and active participation in linking organizations—which were defined as organizations that were more likely to provide contact with other organizations—and charitable organizations—which were defined as organizations that provided charitable services to non-members—rather than membership in any voluntary association. Moreover, they refined the denominational focus to theological distinctions between Evangelical, or Conservative, Protestant, Mainline Protestant, and Catholic religious traditions. Guided by these ideas, their research found that in comparison to Evangelical Protestantism, Mainline Protestantism and Catholicism demonstrated a stronger effect on bridging social capital and civic engagement activity among congregations and adherents (Beyerlein and Hipp 2006). These empirical findings highlight the necessity to understand that the ideological orientations of various religious traditions shape how congregations and adherents civically participate in community activities and organizations and contribute to community social capital.

In a similar vein, Blanchard et al. (2008) focused on the cultural content of religion to further explicate the influence of religion within communities. These researchers asserted that the unique ideological and theological orientations of religious denominations are crucial for shaping how congregations and adherents impact the social environment of local communities. Blanchard et al. (2008:1595) focused on the ecological context of religion by developing the concept of the “religious environment” to identify “the prevailing denominational tradition in a community.” The religious environment concept captures “both the *demographic dominance* of

that faith tradition (i.e., its organizational presence or congregational “market share”) and its *cultural content* (i.e., the ideologies, values and theological forms of reasoning the denomination seeks to disseminate through its local congregations)” (Blanchard et al. 2008:1595). This concept serves to provide a more complete understanding of the role religion plays within the context of communities by not only highlighting the demographic influence of denominations within local populations, but also emphasizing how congregations and adherents influence the social fabric of communities by “exert[ing] a cultural influence on community residents” through the dissemination of their particular ideologies pertaining to various social issues (Blanchard et al. 2008:1609).⁵ Similar to Beyerlein and Hipp (2005), the religious environment focused on theological distinctions between Conservative Protestantism, Mainline Protestantism, and Catholicism. Conservative Protestants and the cultural content of their denominational tradition was theorized to hold disadvantageous consequences for the network structures of communities by promoting an internal orientation that restricted contact with outside religious and secular groups. Conversely, Mainline Protestants and Catholics were posited to hold beneficial implications for local communities as these denominations promote the formation of external ties with other religious and secular groups. Blanchard et al.’s (2008) development of the religious environment concept provides further substantiation of the differential influence of various religious traditions on the network structures (i.e., social capital content) of local communities and in turn community well-being.

As evidenced by the preceding discussion, three distinct religious traditions are of central importance in conceptualizing the religious environment and its impact on community well-

⁵ More specifically, this study focused on assessing how the religious environment within communities was related to mortality rates. Empirical findings demonstrated negative relationships between Mainline Protestant and Catholic congregations and mortality rates, and a positive relationship between Conservative Protestant congregations and mortality rates.

being. Notable work identifies these as Conservative Protestantism, Mainline Protestantism, and Catholicism (Beyerlein and Hipp 2005; Blanchard 2007; Blanchard et al. 2008). Regarding their influence on the religious environment, Conservative Protestant congregations and their focus on otherworldly priorities promote the formation of networks, or the building of bonding social capital, within their congregations (Beyerlein and Hipp 2005, 2006; Blanchard 2007; Blanchard et al. 2008; Emerson and Smith 2000; Greenberg 2000; Smith 2000). Conversely, the religious traditions of Mainline Protestant and Catholic congregations and their corresponding worldly orientations promote the formation of networks, or the building of bridging social capital, with the surrounding community (Beyerlein and Hipp 2005, 2006; Blanchard 2007; Blanchard et al. 2008). In sum, the religious environment and its impact on community network structures has implications for understanding community well-being and thus potentially the poverty experiences of individual families embedded within these communities.

The Religious Environment and Poverty

Civic community research has demonstrated that the social capital and civic engagement engendered by certain religious denominations is related to improved community welfare, such as lower aggregate-level family poverty (Tolbert et al. 1998; Tolbert et al. 2002). As religious denominations are “among the most vital associations connecting men and women across geographic, economic, and social boundaries, and providing diverse people with experiences of belonging to and serving a larger civic community” (Bane and Coffin 2000:12), they can be perceived as civic community structures that can serve to promote civic engagement, build and maintain community social capital, and provide social welfare to attenuate poverty and economic hardship (Center for Public Justice 1997; Schneider 2006; Warren, Thompson, and Saegert 2001).

With these issues in mind, this chapter seeks to understand the relationship between the religious environment and poverty; particularly, how the presence of Mainline Protestant and Catholic congregations and adherents, which have been shown to promote bridging social capital and civic engagement, within localities is associated with family poverty. In order to do so, I first outline two mechanisms—civic engagement and social capital and support of social welfare and the poor—through which the religious environment is related to poverty.

Civic Engagement and Social Capital

Focusing on civic engagement and social capital, which are particularly germane to the civic community tradition, congregations not only utilize social capital to benefit their own members, but also employ their social capital to benefit individuals and families outside of their congregations within the larger community (Foley, McCarthy, and Chaves 2001). More specifically, the social capital generated by religious bodies can serve as a crucial structural asset by shaping the network structures of communities. Foley et al. (2001) outline four social capital-related resources provided by congregations that are germane to addressing poverty within communities. These include 1) information flows; 2) free spaces; 3) socialization, community service, and political participation; and 4) authority and legitimacy. First, congregations provide “conduits of information on community problems, available resources (for both individual and community advancement), and the state of the world” (Warren et al. 2001:226). As such, congregations are able to inform their members and community members about social issues, such as poverty, that are present within their communities. Second, congregations often utilize their facilities as physical spaces in which social service agencies and political organizations, among other community groups, can host various meetings and events aimed at providing social programs or civic participation. By providing the physical arena for social interaction,

congregations are able to generate bridging social capital with external organizations and individuals outside the ideological boundaries of their particular denomination, such as other religious bodies or secular associations. Third, congregations often serve as avenues for socialization, community service, and political participation by providing opportunities for volunteerism and political involvement for their members and community members. This allows for the accumulation of social capital within communities as congregations serve as platforms for civic engagement and the direct mobilization of efforts aimed at addressing social justice. Last, to the degree that congregations are viewed as legitimate social institutions within communities, they are often imbued with authority and legitimacy that can be used to promote various community initiatives aimed at addressing social issues. Because of the perceived authority and legitimacy within communities, congregations engaged in such community initiatives are able to hold sway and inform social and public policy. In sum, congregations serve as channels of communication and bring attention to social problems, such as economic inequality and poverty, provide physical spaces in which civic engagement can occur and proffer opportunities for civic engagement, as well as hold authoritative positions that serve to bring attention and legitimacy to civic action aimed at attenuating social inequality within communities.

Focusing on specific denominations and their theological ideologies, it is the externally oriented nature of Mainline Protestant and Catholic religious traditions that encourages these congregations and adherents to be civically engaged and form bridging social capital within communities with the objective of addressing social issues (Ammerman 2002; Beyerlein and Hipp 2005, 2006; Putnam 2000; Wuthnow 1999). Putnam (2000:78) maintains that in comparison to other religious traditions “today’s mainline Protestants and Catholics are more likely to be involved in volunteering and service in the wider community.” Reinforcing this

idea, Beyerlein and Hipp (2006) find that adherents in Mainline Protestant and Catholic congregations are more likely to participate in activities outside of their congregations that promote bridging social capital, such as involvement in charitable organizations. Because Mainline Protestant and Catholic religious traditions uphold a worldly orientation that promotes the creation of social networks with other community organizations, both faith-based and secular in nature (Putnam 2000), these congregations and adherents are more likely to participate in the communities in which they are located with the intent to address social problems.

Support of Social Welfare and the Poor

Theological ideologies also influence how denominations conceptualize poverty and which congregations and adherents undertake social service actions with the intent to improve the quality of life in their communities (Cnaan and McGrew 2005). In terms of poverty explanations shaped by denomination-based cultural traditions, Catholics and Mainline Protestants are less likely than Conservative Protestants to view the causes of poverty in individualistic terms; that is, Catholics and Mainline Protestants place less emphasis on individual-level factors, such as attitudes and behaviors, as causes of poverty (Brimeyer 2008). Mainline Protestants, moreover, have been shown to be more likely to support government intervention in providing for the poor and often speak out against economic policies and practices that perpetuate economic disadvantage (Pyle 1993). Similarly, Catholics “are strongly in favor of the placing of restraints on private market forces, an egalitarian distribution of material resources, and a Federal responsibility for social policy” (Adloff 2006: 2). The Catholic Church, in particular, has a long established record of policy advocacy as well as providing social services, as demonstrated with Catholic Charities USA whose explicit mission is to alleviate poverty (Bane 2000).

Addressing the provision of social welfare services by religious organizations, research using a nationally representative sample of congregations has shown that 57 percent participate in or support some type of social service program (Chaves 1999; Chaves and Tsitos 2001). In terms of governmental funding in the provision of social services (i.e., Charitable Choice), this research also found that Mainline Protestant and Catholic congregations are significantly more likely to be interested in using governmental funding to support social service programs (Chaves 1999). Moreover, this research identified that congregations that are more involved with external secular activities—such as hosting elected government officials, representatives from social service groups, and individuals seeking political office—are significantly more likely to be interested in applying for governmental support in the delivery of social services (Chaves 1999). This point is particularly relevant to the discussion of bridging civic engagement and social capital, because congregations that are more integrated with secular aspects of their communities and serve as platforms for civic engagement are more likely to express interest in governmental funding for social services. Chaves and Tsitos (2001:674) reinforce this connection between bridging civic engagement and social capital and social welfare provision in stating that “religious differences in collaboration are consistent with . . . enduring differences among religious traditions regarding many different manifestations of civic engagement.”

Through civic engagement and bridging social capital, Mainline Protestant and Catholic congregations and adherents contribute to cohesive network structures that integrate both religious and secular aspects of localities. Catholic and Mainline Protestant theological traditions also inform value systems that place greater emphasis on the social structure, rather than individual attributes alone, in shaping economic inequality and poverty. Moreover, these denominations uphold theological traditions that endorse the provision of social welfare. Taken

together, the mechanisms through which Mainline Protestant and Catholic congregations and adherents influence poverty—bridging civic engagement and social capital and support of the poor and social welfare—contribute to a religious environment that is locally oriented toward the broader community and is expected to be associated with lower family poverty.

Poverty

Sociological research examining poverty has used various measures, with each capturing different dimensions of poverty. The two most common methods for defining and measuring poverty are absolute measures and relative measures. Iceland (2005: 220) summarizes the difference between these two conceptualizations as “whether poverty should refer to a subsistence standard (a notion associated with absolute poverty measures), [or] economic marginalization (a notion associated with relative measures).” An absolute conceptualization of poverty is based upon the assumption that a minimum standard of living is necessary to meet basic needs. The official U.S. poverty measure is an example of an absolute measure of poverty. Developed in the 1960s by Social Security Administration (SSA) economist Mollie Orshansky, the official U.S. poverty measure is a series of thresholds calculated using a food plan budget. This food plan budget was developed using family consumption data from 1955 and a lowest-cost food plan developed by the U.S. Department of Agriculture (Brady 2003). Specifically, Orshansky (1965) multiplied the food plan budget by three to account for other family expenditures and calculated poverty thresholds for various family sizes and compositions. This measure was officially adopted in 1969 by the Bureau of the Budget, currently known as the Office of Management and Budget (OMB), to be used throughout the federal government as the definition of poverty and provide a statistical basis for budgeting and planning (Iceland 2005). Using the Consumer Price Index (CPI), annual adjustments are made to the poverty thresholds to

account for inflation. The thresholds represent a total dollar amount required to supply a basic level of food consumption and the annual adjustments for inflation are the only modifications made to the poverty thresholds (Danziger and Weinberg 1994). Once adjustments are made, a family's before-tax annual income is compared to their respective threshold to determine their poverty status (Iceland 2006). As such, the official poverty measure for the U.S. is an income-based poverty measure, which determines if a family is poor, based on whether their income falls below the poverty line for their specific family size and composition.

Disadvantages associated with the official poverty measure are that it does not account for temporal changes in standards of living or consumption patterns or account for geographic differences in costs of living across the U.S. (Iceland 2006).⁶ However, while the official U.S. poverty measure has disadvantages and has been the subject of much criticism (see Citro and Michael 1995), it is conceptually easy to understand, remains the official standard for determining eligibility for many public assistance programs, and is widely used in poverty research.

Relative conceptualizations of poverty are similar to the concept of relative deprivation, which posits that perception of the adequacy of personal living conditions should be based upon one's living conditions in comparison to another's. As such, relative measures of poverty define poverty in relation to the economic standing of some reference group. Relative poverty measures often draw on thresholds specified at certain percentages of the national median income, such as 50 percent for example, and thus better reflect evolving standards of living (Iceland 2003, 2005, 2006). In terms of disadvantages, some argue that relative poverty measures do not provide a

⁶ This is evident in current consumption patterns, in that families now expend one-sixth instead of one-third (the latter the case in 1955) of their income on food (Iceland 2005). Furthermore, the official poverty measure uses the same poverty line for families in major urban areas, such as New York City and rural areas, such as places in Mississippi, which have significant differences in costs of living (Blank and Greenberg 2008; Iceland 2005, 2006).

fixed target for policymakers as relative poverty thresholds constantly change according to changes in broader living standards. Further, poverty defined in relative terms cannot be eliminated as there will virtually always remain a portion of the population that falls below the relative poverty threshold (Iceland 2006). However, an advantage of defining poverty in relative terms is that the question of who has the least in society is inherently, at least somewhat, a relative one.⁷

Both absolute and relative poverty measures typically categorize a family's poverty status in dichotomous terms (i.e., as either being poor or not poor). However, there are other poverty measures that view economic hardship on a continuum. For example, depth of poverty measures not only identify if a family is poor, but how far from their respective poverty threshold a family falls. An example of a depth of poverty measure is the ratio of income to poverty, which divides a family's income by its respective poverty threshold to provide a ratio of income to poverty. Ratios of 1 or less indicate that a family is poor, with lower ratios indicating deeper or more severe poverty (Dalaker 2001). Such a measurement allows for the determination of "extreme" poverty (e.g. families with incomes less than 50 percent of their respective poverty threshold) and "near" poverty (e.g. families with incomes less than 125 percent of their respective poverty threshold) (Iceland 2006). Given these considerations, this analysis will employ four measures of poverty: 1) absolute; 2) relative; 3) depth of absolute poverty; and 4) depth of relative poverty, with the intention of providing a more detailed description of family poverty than any one

⁷ Conceptually similar to relative poverty, social exclusion has been argued as a better measure of economic well-being as this concept seeks to capture how the poor are excluded, or marginalized, from mainstream society. Social exclusion informs an understanding of poverty as limiting full participation and equal access to social, economic, and political realms. However, social exclusion is difficult to measure using standard reliable data and is best utilized as a complement to income-based poverty measures (Iceland 2006).

measure allows. The specific operationalizations of these measures are discussed in more detail in the Methods section.

Summary and Research Objective

Previous research has highlighted both structural and individual determinants of poverty, the former often captured by place-based contexts and the latter often captured by family or household characteristics (Cotter 2002; Cotter et al. 2007; Poston 2010). Furthermore, previous research has also provided significant evidence of the ecological influence of religion on various social outcomes. Among studies examining religion as context, the civic community perspective has proven relevant in understanding how religion functions within communities as a source of civic engagement and bridging social capital. Tolbert et al. (1998), specifically, found that the presence of civically engaged religious denominations within localities is significantly related to lower family poverty rates. However, recent evidence has indicated that the measure developed by Tolbert et al. (1998), and subsequently used by other researchers (see Lee and Bartkowski 2004a, 2004b; Lee 2006, 2008; Mencken et al. 2006; Tolbert et al. 2002), to capture civically engaged religious denominations may be imprecisely capturing these denominations by including “membership in *any* type of voluntary organization rather than membership in bridging organizations to classify civically engaged denominations” (Beyerlein and Hipp 2005:999). With this in mind, this study focuses on those denominations that have been shown to promote civic engagement and cultivate bridging social capital: Mainline Protestants and Catholics. These two denominations will comprise what I term the *locally oriented religious environment*.

This chapter seeks to advance prior civic community research exploring the ecological relationship between religion and poverty by incorporating the concept of the locally oriented

religious environment. The overarching objective is to explore the relationship between the locally oriented religious environment and family poverty using a multilevel framework that incorporates both macro-level civic community structures and micro-level family characteristics in shaping family-level poverty experiences. The primary research question guiding this analysis is: Above and beyond family-level factors and other macro-level considerations, how are locally oriented religious environments in places related to family-level poverty? The extant literature suggests that the theological nature of Mainline Protestants and Catholics enhances the network structures of localities through civic engagement and bridging social capital. Moreover, these denominations have also been shown to support social welfare efforts and the poor. Taken together, a greater presence of Mainline Protestants and Catholics should provide a community context in which family-level poverty will be lower. A conceptual model that presents the expected relationships between these measures, net of other factors, is shown in Figure 1. This relationship will be assessed for each of the poverty measures outlined in this study.

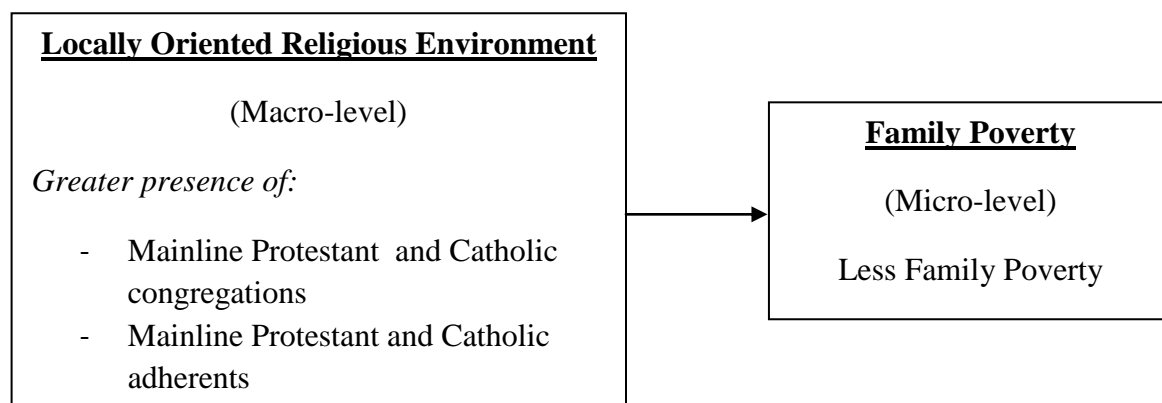


Figure 1. Locally Oriented Religious Environment and Family Poverty Conceptual Model

Methods

To address the primary research question, I use multilevel regression techniques that allow both contextual and individual-level data to be simultaneously analyzed. Statistically, multilevel analysis allows for nested data to be estimated while avoiding problems associated with clustering of data, such as correlated error terms (Raudenbush and Bryk 2002). Conceptually, multilevel analysis allows for the examination of how contextual parameters influence micro-level outcomes, such that, for example, the embeddedness of families in varying socioeconomic contexts is explicitly modeled. In sum, the use of multilevel modeling in this analysis allows for the parsing out of how place-based measures of religion influence micro-level family poverty, while accounting for other macro- and micro-level parameters. For this analysis families are the units of analysis at the first level, while migration Public Use Microdata Areas (MIGPUMAs) are the units of analysis at the second level.⁸

Data and Measures

Data for this analysis are drawn from multiple sources. Family-level data are extracted from the 2006-2008 American Community Survey (ACS) 3–Year sample made available through the Integrated Public Use Microdata Series (IPUMS) of the Minnesota Population Center (Ruggles et al. 2009). The ACS is an annual survey of the U.S. population that has taken the place of the long form questionnaire in previous decennial censuses. The 3-year sample is a 3% random sample of the U.S. population and contains geographic identifiers that allows for individuals, families, and households to be situated in geographically defined areas. Specifically, data are organized into Public Use Microdata Areas (PUMAs). A PUMA is the smallest identifiable geographic unit made available with this data. Most civic community research has

⁸ The description of these units of analysis will be discussed in more detail in the Data and Measures section.

employed counties as units of analysis as these geographic units are understood to closely approximate the concept of community, as well as due to the wide availability of much county-level secondary data from numerous sources and the allowance for complete geographic coverage of the U.S. (Lee 2010). However, due to the use of a multilevel modeling strategy in this analysis, PUMAs are the appropriate units of analysis as they allow for full internal coverage within these geographies and across the entire U.S. while protecting confidentiality (U.S. Census Bureau 2009). Each PUMA is a county or group of contiguous counties that contains a minimum population of 100,000 and does not cross state boundaries. Importantly, this analysis utilizes migration PUMAs (MIGPUMAs). Migration PUMAs identify PUMAs of residence 5 years previous and are primarily used for migration analyses with ACS data, but are also useful as geographic entities for aggregate-level analyses. While most migration PUMAs are geographically identical to PUMAs, in some cases migration PUMAs are aggregations of multiple PUMAs in order to encompass whole counties rather than meet the minimum population threshold (U.S. Census Bureau 2011). In particular, in some metropolitan areas that are more densely populated migration PUMAs are slightly different from PUMAs in that multiple PUMAs are aggregated together to form a larger single migration PUMA. For example, in Los Angeles County there are 19 PUMAs, which are combined to form a single MIGPUMA (Mouw, Silver, and Hagan 2007; Mouw and Sharma 2009). The use of migration PUMAs more accurately captures the geographic context in which families reside and allows for more consistency in geographic scope across contextual units.

Within the analysis, independent variables represent migration PUMA-level measures circa 2000, while independent and dependent variables measure family characteristics and poverty outcomes circa 2007. Families are the micro- or first-level units of analysis, while

migration PUMAs are the macro- or second-level units of analysis. Data to construct second-level variables are primarily drawn from Summary File 3 (SF3) of the 2000 Census. Data to construct locally oriented religious environments within migration PUMAs are drawn from the 2000 Religious Congregations and Membership Survey (Glenmary Research Center 2002). In total, I analyze 2,395,608 families situated in 1,024 migration PUMAs.⁹

Dependent Variables

The dependent variable in this analysis is family poverty. Families are defined as the householder and one or more persons who are related to the householder by birth, marriage, or adoption and who are living together in the same household.^{10,11} Furthermore, family poverty is operationalized using four measures of poverty: an absolute measure, a relative measure, and two depth of poverty measures. Both the absolute and relative poverty measures provide dichotomous indicators of family poverty status, while the depth of poverty measures provide continuous measures of family poverty in both absolute and relative terms.

The absolute operationalization of poverty in this analysis is the current official U.S. poverty measure. As described previously, the official measure is comprised of a series of

⁹ Due to population displacement following Hurricane Katrina, three PUMAs in Louisiana with insufficient population were combined into a single PUMA for the 2006-onward ACS. These three PUMAs originally belonged to two separate Migration PUMAs. Due to the inability to accurately determine which Migration PUMA families in these PUMAs should be geographically situated in, as well as the desire to maintain the geographic integrity of contextual units, families in this single PUMA are not included in the analysis. This results in 823 families being excluded from the analysis.

¹⁰ Use of data extracted from the ACS must be weighted to provide reliable and statistically accurate estimates. As this analysis is based upon the householder and all individuals within a given household related to the householder, i.e., families, the proper weight to be utilized is the household weight (HHWT). Further to adjust for the sampling design of the ACS, household weights are normalized. This is accomplished by dividing the weights by the sample mean of household weights to produce weighted case sizes that are approximately equal to the ACS sample size.

¹¹ Unrelated subfamilies and single individuals are excluded from the analysis. However, given the increase in single households in previous decades and the attention that has been given to these growing numbers (see Klinenberg 2012), additional analyses were carried out including solitary individuals in the sample. The results produced by these analyses were substantively similar to those produced by analyses with families alone, which are presented here.

poverty thresholds that vary by family size and composition. The pre-tax, total money income of all persons within a family is compared to their respective poverty threshold to determine poverty status.¹² If a family's income falls below the threshold, then that family, and every individual in it, is considered poor. For example, a family of five, which includes a father, mother, grandmother, and two children, would have a respective poverty threshold for 2008 of \$26,338 (U.S. Census Bureau 2010). If this family's total money income is \$27,000 for 2008, then that income (\$27,000) would be divided by their corresponding poverty threshold (\$26,338) to yield a poverty statistic of 1.03. This poverty statistic indicates that this family has a total annual money income that is 3% above their corresponding poverty threshold and therefore is not considered poor by official standards. Families with values of 1 or less are assigned a value of 1 to indicate being poor, while families with values greater than 1 are assigned a value of 0 to indicate not being poor.

Following previous literature, the relative operationalization of poverty in this analysis uses a four-person reference family poverty threshold set at half (50%) of the national median family income (e.g. Brady et al. 2009; Citro and Michael 1995; Iceland 2003, 2005, 2006; Moller et al. 2003; Smeeding 2008).¹³ In order to account for differences in economies of scale related to the consumption needs of various family sizes, this measure uses a single parameter equivalence scale with a square-root-of-family-size factor applied to the poverty threshold

¹² Pre-tax, total money income is defined as income earned by all family members from all sources for the previous 12 months. All dollar amounts are standardized to dollars as valued in the final year of data included in the sample, which is 2008 in this case.

¹³ National median family income for a reference family of four is obtained from the 2006-2008 ACS (Table B19119), which provides median family income for the previous 12 months in 2008 inflation-adjusted dollars (4-person family median income = \$75,648 (50%=\$37,824)).

(Brady et al. 2009; Citro and Michael 1995; Iceland 2003, 2005, 2006; Smeeding 2008).¹⁴ The pre-tax, total money income of all persons within a family is compared to the respective relative poverty threshold based upon family size to determine relative poverty status. If a family's income falls below the threshold, then that family, and every individual in it, is considered poor. Again drawing on the hypothetical family as outlined above, total family money income (\$27,000) is divided by their corresponding relative poverty threshold (\$42,287).¹⁵ This equation yields a poverty statistic of 0.64. This poverty statistic indicates that this family has a total money income that is 36% below their corresponding relative poverty threshold and therefore is considered poor by relative standards. Families with values of 1 or less are assigned a value of 1 to indicate being poor, while families with values greater than 1 are assigned a value of 0 to indicate not being poor.

Last, the depth of poverty measures are operationalized as the ratio of family income to poverty. The ratio of income to poverty divides a family's total income by its corresponding poverty threshold, which yields a figure that indicates how far a family is from their corresponding poverty threshold. Depth of poverty is calculated based upon both absolute and relative operationalizations of poverty. Drawing on the above example, the absolute depth of poverty for the aforementioned family would be 1.03, which indicates that this family has an income that is 3 percent above their absolute poverty threshold. The relative depth of poverty for this family would be 0.64, which indicates that this family's income is 36 percent below their

¹⁴ Research examining relative poverty in cross-national contexts has also utilized a two-parameter equivalence scale calculated by the Organization for Economic Co-operation and Development (OECD) that accounts for both household size and composition (e.g., Moller et al. 2003). However, the single parameter equivalence scale used here has been employed in much poverty research, is conceptually easy to understand, and more parsimonious. Further, the OECD does not advocate the use of a particular equivalence scale.

¹⁵ See Appendix I for absolute and relative poverty thresholds used to calculate the family poverty measures.

respective relative poverty threshold. The depth of poverty measures provide a continuous measure of family poverty with higher values indicating less severe poverty and lower values indicating more severe poverty. However, based upon positively skewed distributions for both measures and the desire to ease interpretation, the depth of poverty measures are transformed using an inverse ($1/x$) transformation. This transformation both tightens the distribution of these variables to better comply with regression assumptions, as well as inverts the distributions so that higher values indicate deeper poverty and lower values indicate less economic hardship.¹⁶

Independent Variables

Family-Level Variables

The family-level model includes measures that are drawn from the extant literature on individual, family, and household correlates of poverty and empirical research on poverty in multilevel contexts (see Cotter 2002; Cotter et al. 2007; Poston et al. 2010). These measures include the family householder's age, sex (1=female), race/ethnicity (non-Hispanic black; Hispanic; non-Hispanic other; or non-Hispanic white as the reference group), and educational attainment (bachelor's degree or more; some college; high school diploma or equivalent; or less than high school as the reference group). Additionally, family structure effects are included in the model. These measures include the marital status of the householder (never married/single; widowed/separated/divorced; or married as the reference group) and the number of related children under the age of 18 as a continuous variable. Family labor supply characteristics are also accounted for by including a continuous measure of the number of employed family members.

¹⁶ It should be noted that sensitivity analyses showed that substantive findings from regression models were the same for no transformation, natural log (ln) transformation, and inverse ($1/x$) transformation of the depth of poverty measures.

Contextual Variables

The contextual model in this analysis includes key explanatory variables for the locally oriented religious environment and variables tapping the labor market structure and geographic location of places. The primary variables of interest for this analysis are measures that capture the locally oriented religious environment, namely Mainline Protestant and Catholic congregations and adherents, and are drawn from previous research examining the contextual influence of religion on various socioeconomic outcomes (Beyerlein and Hipp 2005; Blanchard 2007; Blanchard et al. 2008).¹⁷ Data for these measures are drawn from the 2000 Religious Congregations and Membership Survey (Jones et al. 2002), which is a decennial survey of religious organizations that provides statistics for 149 religious bodies within each county of the U.S., and are provided by the Association of Religion Data Archives (ARDA). The locally oriented religious environment is operationalized using two measures: 1) the number of Mainline Protestant congregations and Catholic congregations per 100,000 residents; and 2) Mainline Protestant adherents and Catholic adherents expressed as the percent of total adherents. These measures capture the institutional resources that Mainline Protestant and Catholic *congregations* potentially provide to communities as well as the compositional influence of Mainline Protestant and Catholic *adherents* within communities as both have been shown to shape community network structures (Beyerlein and Hipp 2005; Blanchard 2007; Blanchard et al. 2008).

Labor market indicators that have proven empirically relevant in previous multilevel poverty research are also included in the regression models (see Cotter 2002). Included are three measures of labor force characteristics: the percentage of the labor force that is unemployed, the

¹⁷ The use of Mainline Protestants and Catholics primarily differs from the civically engaged denominations as defined by Tolbert et al. (1998) in regards to the exclusion of Jewish, Latter-day Saints (Mormonism), and Unitarian denominations. These denominations are classified as Other, which represents 4 percent of the U.S. population, by the Association of Religion Data Archives. However, Tolbert et al.'s (1998) measure does not include Catholics.

percentage of the population aged 25 years and older with a bachelor's degree or more (i.e. college graduates), and the percentage of the labor force employed in professional, managerial, and related occupations, or what is often termed "good jobs" as these occupations are indicative of a skilled labor force and provide higher wages (Falk and Lyson 1988). In addition, two geographic variables are also included: a binary indicator for geographic residence in the South (=1) and the percentage of migration PUMA population residing in metropolitan counties. Additionally, research has provided evidence of the relationship between religion and income. It has been shown that Mainline Protestants tend to have higher incomes than others (Keister 2003), and Catholics have demonstrated recent upward mobility in this regard (Keister 2007). Because these religious groups are more likely to have members with higher income levels, their presence in communities could influence poverty rates by elevating the overall economic standing of a community. With this in mind, this potential effect is controlled for by including per capita income in the models to account for general income levels.

A number of steps are taken to accurately specify the regression models. Both bivariate correlations and regression diagnostics reveal serious collinearity among a number of contextual measures. These include college graduates, good jobs, and per capita income, with significant bivariate correlations greater than 0.8 among these measures and variance inflation factors (VIFs) greater than 4. To control for collinearity among these variables, factor analysis is used to produce a single factor score that captures the overall influence of these measures, termed high SES, as each measure taps into a place's general level of affluence or socioeconomic status with higher values indicating higher aggregate-level socioeconomic status.¹⁸

¹⁸ Principal component factor analysis with varimax rotation to create a single factor score accounting for 92 percent of the variance among these three variables. Ancillary analyses in which each of the three variables were entered into the models independently showed that each coefficient shared the same relationship with each of the dependent variables.

Analysis

Descriptive Analysis

Family-Level Measures

Table 1 provides descriptive statistics for the family poverty outcomes and family-level controls that are included in the regression models. The first two family poverty outcomes are dichotomous indicators of family poverty status. The absolute poverty measure indicates a family's official poverty status and demonstrates that about 10 percent of families in the sample are poor by official standards.¹⁹ The relative poverty measure indicates a family's poverty status in comparative terms and demonstrates that about 23 percent of families in the sample are poor by relative standards. As demonstrated by previous poverty research, fewer families are considered poor when using the official poverty measure, while more families are considered poor by relative standards reflecting high income inequality in U.S. society (Iceland 2003, 2006). Both the absolute and relative depth of poverty measures provide continuous indicators of a family's shortfall below or overage above their respective absolute or relative poverty threshold, with a value of 1 indicating that a family is at 100 percent of their respective poverty threshold. The mean for absolute depth of poverty, 4.68, demonstrates that the average family in the sample has an income that is 4.7 times more than their respective absolute poverty threshold. The mean for relative depth of poverty, 2.55, demonstrates that the average family in the sample has an income that is 2.6 times more than their respective relative poverty threshold.

Focusing on the descriptives for family-level controls, the average age among family householders is 48 years old with 41 percent of family householders being female. Turning to

¹⁹ This number corresponds to the equivalent statistic drawn the 2006-2008 ACS (Table S1702) showing that 9.6 percent of families were poor in this sample.

Table 1. Descriptive Statistics for Family-level Measures

| Measures | Mean | Standard Deviation |
|---|-------------|---------------------------|
| <i><u>Dependent Variables</u></i> | | |
| Absolute poverty | 0.10 | 0.30 |
| Relative poverty | 0.23 | 0.42 |
| Absolute depth of poverty | 4.68 | 4.78 |
| Absolute depth of poverty (1/x) | 0.14 | 0.05 |
| Relative depth of poverty | 2.55 | 2.56 |
| Relative depth of poverty (1/x) | 0.22 | 0.07 |
| <i><u>Controls</u></i> | | |
| Family householder characteristics | | |
| Age | 48.61 | 15.34 |
| Sex (Female=1) | 0.41 | 0.49 |
| Race | | |
| Non-Hispanic white (ref.) | 0.70 | 0.46 |
| Non-Hispanic black | 0.11 | 0.31 |
| Hispanic | 0.13 | 0.33 |
| Non-Hispanic other | 0.06 | 0.24 |
| Educational attainment | | |
| Less than high school (ref.) | 0.13 | 0.34 |
| High school | 0.27 | 0.45 |
| Some college | 0.30 | 0.46 |
| Bachelor's degree or more | 0.30 | 0.46 |
| Marital status | | |
| Married | 0.76 | 0.43 |
| Never married | 0.09 | 0.28 |
| Widowed/separated/divorced | 0.15 | 0.36 |
| Family characteristics | | |
| Number of related children under 18 | 0.93 | 1.15 |
| Total family members employed | 1.41 | 0.92 |

Notes: N=2,395,608. Weighted using normalized household weights.

race, 70 percent of family householders are white, while 11 percent are black, 13 percent are Hispanic, and 6 percent are non-Hispanic other (i.e., Asian, American Indian, etc.). In terms of educational attainment, 13 percent of family householders have less than a high school education, 27 percent have a high school diploma, and an equal 30 percent each have some college education or are college graduates. Looking at marital status, 76 percent of family

householders are currently married, with 9 percent having never been married and 15 percent either widowed, separated, or divorced. Among families in the sample, the average family has almost 1 related child under the age of 18 and 1.4 family members currently employed.

Contextual Measures

Table 2 presents the descriptive statistics for the primary explanatory variables—the locally oriented religious environment—as well as contextual controls. Descriptives indicate that across migration PUMAs there is an average of 53 Mainline Protestant and Catholic congregations for every 100,000 residents. As a proportion of total adherents, the mean for Mainline Protestant and Catholic adherents is 58 percent across migration PUMAs. Both primary independent variables have standard deviations that demonstrate substantial variance in Mainline Protestant and Catholic congregations and adherents across contextual units.

Table 2. Descriptive Statistics for Contextual Measures

| Measures | Mean | Standard Deviation |
|--|-------------|---------------------------|
| <i><u>Locally Oriented Religious Environment</u></i> | | |
| Mainline Protestant and Catholic congregations | 53.05 | 36.48 |
| Mainline Protestant and Catholic adherents | 57.89 | 24.00 |
| <i><u>Controls</u></i> | | |
| Unemployed | 3.51 | 1.03 |
| College graduates ¹ | 21.10 | 8.98 |
| Employed in professional/managerial occupations ¹ | 30.90 | 6.75 |
| Per capita income ¹ | 19,957 | 4,808 |
| South | 0.41 | 0.49 |
| Metro population | 65.35 | 42.90 |

Notes: N=1,024.

¹ Variables combined into single factor score for regression analysis.

For contextual-level labor market controls, across migration PUMAs the average unemployment rate is 3.5 percent. For those aged 25 and older an average of 21 percent has a college degree. Additionally, an average of 31 percent of the labor force is employed in professional/managerial occupations. The mean per capita income for migration PUMAs is \$19,957. In terms of geographic location, 41 percent of migration PUMAs are located in the South and on average 65 percent of the population across migration PUMAs reside in metropolitan counties.

Bivariate Analysis

Bivariate correlations between family poverty outcomes and the locally oriented religious environment are the first step in understanding the relationships between these measures as well as informing the following regression analysis. Table 3 presents bivariate correlation statistics between each of the four family poverty outcomes and the two religious environment measures. Bivariate correlations between Mainline Protestant and Catholic congregations, which tap into the institutional resources that these groups provide for communities, do not support the conceptual model guiding this analysis. Rather, these denominational congregations share significant positive correlations with all four poverty outcomes. These correlations indicate that in places with a greater prevalence of Mainline Protestant and Catholic congregations there is also a greater likelihood that families will be poor, in both absolute and relative terms. Additionally, these congregations are significantly related to deeper absolute and relative poverty for families.

Turning to the influence of Mainline Protestant and Catholic adherents, correlations between these measures and family poverty outcomes support the conceptual model that informs this analysis. Mainline Protestant and Catholic adherents share significant negative correlations

with all four family poverty measures. These correlations demonstrate the relationship between the presence of Mainline Protestant and Catholic adherents and the decreased likelihood that families will be poor, in both absolute and relative terms. Moreover, correlations provide evidence that the compositional influence of these adherents also lessens the depth of absolute and relative poverty experienced by families.

Table 3. Bivariate Correlations between Family Poverty and the Locally Oriented Religious Environment

| Religious Environment Measures | Absolute Poverty | Relative Poverty | Absolute Depth of Poverty | Relative Depth of Poverty |
|--|-------------------------|-------------------------|----------------------------------|----------------------------------|
| Mainline Protestant and Catholic congregations | 0.008** | 0.030** | 0.076** | 0.086** |
| Mainline Protestant and Catholic adherents | -0.042** | -0.070** | -0.101** | -0.105** |

Notes: N = 2,395,608. **Correlation significant at $p < 0.01$.

As evidenced by bivariate correlations, the religious environment measures share both positive and negative relationships with family poverty. This initial mixed assessment holds implications for the conceptual model informing this analysis as well as provides guidance for the subsequent regression models. Moreover, bivariate correlations, as shown in Table 4, and ancillary regression analyses indicate no multicollinearity between the religious environment measures.²⁰ As there is no statistical necessity for data reduction and with each religious environment measure having a unique one-to-one relationship with family poverty, factor analysis will not be used to reduce the religious environment measures into a composite index.

²⁰ Multicollinearity would be indicated by bivariate correlations greater than 0.8 and variance inflation factors (VIFs) greater than 4.

Rather, each religious environment measure will be used as a separate indicator of civic community in the following multilevel analysis. It should be noted that this is a departure from previous civic community research, wherein data reduction was utilized to develop indices from multiple civic community indicators (see Lee 2008; Lee 2010; Lee and Bartkowski 2004; Lee and Thomas 2009; Lyson et al. 2001).

Table 4. Bivariate Correlations between Locally Oriented Religious Environment Measures

| | Mainline Protestant and Catholic congregations | |
|--|--|--------------------|
| Mainline Protestant and Catholic adherents | 0.088** (0.000) | 0.149** (0.000) |
| | N=2,395,608 | N=1,024 |

Notes: **Correlation significant at $p < 0.01$.

Multilevel Analysis

This analysis uses two-level hierarchical modeling to simultaneously estimate models at both macro- and micro- levels of analysis as predictors of a micro-level outcome, in this case family poverty. Specifically, this multilevel analysis is carried out using both hierarchical linear modeling (HLM), which is appropriate for continuous dependent variables, and hierarchical generalized linear modeling (HGLM), the Bernoulli analysis function specifically,²¹ which is appropriate for binary dependent variables (Raudenbush et al. 2004). The primary focus of this analysis is the direct effect of the locally oriented religious environment on family poverty net of other macro- and micro-level factors (see Figure 2).

²¹ This function is the default method for estimating multilevel models with binary outcomes using the HLM software.

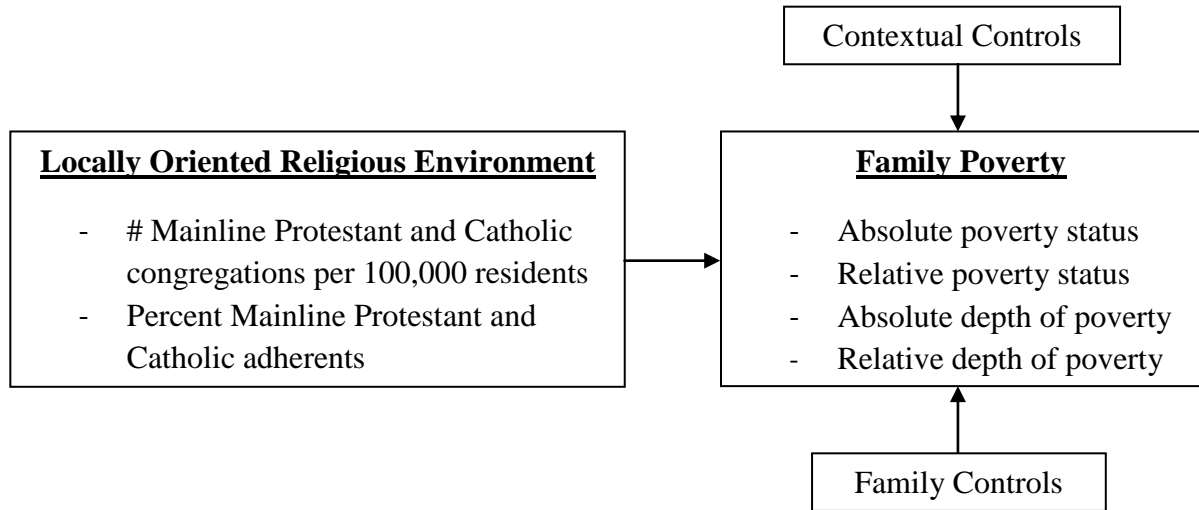


Figure 2. Locally Oriented Religious Environment and Family Poverty Operational Multilevel Model

The focus of the HGLM models is to predict the direct effect of the locally oriented religious environment on the risks of families being poor by both absolute and relative standards, while the HLM models predict the direct effect of the locally oriented religious environment on the depth of absolute and relative poverty experienced by families. Preliminary multilevel regressions indicate that variation in family-level measures does not exist across contextual-level units. This is important to note for conceptual reasons in that the influence of family effects are significant predictors of a family's likelihood of being poor, yet in this case these effects do not vary across migrations PUMAs. Thus, family-level effects are not treated as random, but rather family-level effects are fixed and are not allowed to vary across contextual-level units.²² Level 1 (family-level) and Level 2 (contextual) models are expressed as equations below:

²² Because family-level effects are treated as fixed, multilevel regression coefficients for family-level measures are essentially global regression coefficients and the effects are uniform across migration PUMAs. While family-level effects are important in understanding family poverty outcomes, the primary focus of this analysis is the influence of contextual measures above and beyond family-related factors.

$$\text{Level 1 model:} \quad \text{Log} \left[\frac{P_{ij}}{(1-P_{ij})} \right] = \beta_{0j} + \beta_1 X_{ij} + r \quad (\text{HGLM})$$

$$Y_{ij} = \beta_{0j} + \beta_1 X_{ij} + r \quad (\text{HLM})$$

$$\text{Level 2 model:} \quad \beta_{0j} = \gamma_{00} + \gamma_{01-02}(\text{Religious Environment Measures})_j + \gamma_{03-06}W_j + u_0$$

The HGLM Level 1 model is a micro-level model that identifies the effects of family characteristics on the probability of being poor, where $\text{Log} [P_{ij} / (1 - P_{ij})]$ is the log odds of family i in MIGPUMA j being in poverty; β_{0j} is the intercept for MIGPUMA j ; β_1 represents a matrix of family-level variables; X_{ij} is a vector of coefficients that indicates the effects of family variables on the probability of a family being poor in MIGPUMA j ; and r is the Level 1 error term.²³

The HLM Level 1 model identifies the effects of family characteristics on the depth of poverty experienced by a family, where Y_{ij} is the depth of poverty experienced by family i situated within MIGPUMA j ; β_{0j} is the intercept for MIGPUMA j ; β_1 represents a matrix of family-level variables; X_{ij} represents a vector of coefficients that indicates the effects of family variables on the depth of poverty experienced by a family in MIGPUMA j ; and r is the Level 1 error term.

The Level 2 model is a macro-level equation where contextual measures are used to explain variation in the intercept, β_{0j} , which represents the average probability that a family will be poor, or the average depth of poverty experienced by a family, in MIGPUMA j . γ_{00} is the average probability that a family will be poor, or the average depth of poverty experienced by a

²³ It should be noted that nonlinear hierarchical models do not report a Level 1 error term. In order to provide an estimate of the Level 1 random effect, the nonlinear (HGLM) models use the over dispersion parameter. Also, results for these models are from the unit-specific model.

family, across MIGPUMAs. The coefficients γ_{01-02} represent the influence of religious civic community measures on β_{0j} , which are of primary theoretical interest here. Coefficients γ_{03-06} represent the effects of W_j , which is a matrix of contextual-level control variables in each MIGPUMA j . Lastly, u_0 is the Level 2 random effect.

The mixed hierarchical model captures both the effects of family characteristics and contextual measures on the probability of a family being poor, or the depth of poverty for a family.²⁴ The mixed models that combine Level 1 and Level 2 models are expressed below:

$$\text{Mixed model:} \quad \text{Log} \left[\frac{P_{ij}}{(1-P_{ij})} \right] = \gamma_{00} + \gamma_{01-02}(\text{Religious Environment Measures})_j + \gamma_{03-06}W_j + \beta_1X_{ij} + u_0 + r \quad (\text{HGLM})$$

$$Y_{ij} = \gamma_{00} + \gamma_{01-02}(\text{Religious Environment Measures})_j + \gamma_{03-06}W_j + \beta_1X_{ij} + u_0 + r \quad (\text{HLM})$$

The following analysis is comprised of separate multilevel analyses for each of the four measures of family poverty. Each analysis includes three multilevel models: 1) the null, or unconditional, model; 2) Model 1; and 3) Model 2. The null model is an intercept-only model with no predictors at the first- or second-level and is a preliminary step in performing multilevel analysis. This model serves as a baseline model that provides estimates to determine the appropriateness of pursuing multilevel analysis for each family poverty outcome.²⁵ Model 1 includes only measures of the locally oriented religious environment with no contextual or family controls. This model allows for a preliminary understanding of the basic relationships between Mainline Protestant and Catholic congregations and adherents and the various family

²⁴ All multilevel models are carried out using restricted maximum likelihood estimation, which is the default estimation procedure in the HLM software. All multilevel results are reported from models with robust standard errors, which is the default method of estimating standard errors in the HLM software.

²⁵ The results for the null model are not presented in the tables, but rather are discussed in the results.

poverty outcomes. Model 2 is the full, or final, hierarchical model with religious environment measures and both contextual and family controls. The full model provides the most robust results by accounting for the full range of place-based and family-level characteristics, while allowing the locally oriented religious environment to covary with family poverty.

Results

Table 5 presents the results from hierarchical generalized linear models (HGLM) predicting the probability that a family will be poor (poor=1) as defined by the official U.S. poverty measure. Two models provide multilevel logistic results that explore the impact of religious environment measures on absolute family poverty status. Coefficients from these models are log odds estimates, or logistic coefficients, and their corresponding effects on absolute family poverty are interpreted by converting the logistic coefficients into odds ratios by exponentiation ($\exp(\beta)$).

Before discussing the results from the models presented in Table 5, it is necessary to discuss the null, or unconditional, model for absolute family poverty. This model serves as a baseline model and provides estimates that can be employed to determine the amount of variation across migration PUMAs in the likelihood that a family will be poor. The intercept from the null model is -2.274 and represents the log odds of a family being poor when no predictors are included in the model. The log odds for the intercept produced by the null model can be converted into a predicted probability using the equation: $P = 1 / (1 + \exp(-\beta_{0j}))$. Utilizing this equation indicates that the probability of a family being poor across all migration PUMAs is 0.933 or 9.3 percent. This percentage is comparable to the descriptives for the sample, which indicate that, on average, 10 percent of families in the sample are poor by official standards. Also provided by the null model is the reliability estimate. A reliability estimate above

.20, or 20 percent, indicates that variation in the probability of a family being poor does exist across contextual-level units and multilevel analysis is appropriate. For this model, the reliability estimate is 0.970, indicating that there is significant variation across migration PUMAs in the probability of a family being poor.

Variance component coefficients are also provided by the null model. There are two variance component coefficients produced by multilevel models: 1) a random effect coefficient for the intercept and 2) a random effect coefficient for Level 1. The random effect coefficient for the intercept indicates the across migration PUMA variation in the probability of a family being poor, which is shown to be 0.280 here. The random effect coefficient for Level 1 indicates within migration PUMA variation is 0.996. These coefficients can be used to calculate the intraclass correlation coefficient, or ICC, which indicates if multilevel modeling is appropriate. As calculated using these coefficients, the ICC ($0.280 / (0.280 + 0.996)$) is 0.219. This result indicates that 22 percent of the variation in the probability of a family being poor across migration PUMAs can be attributed to contextual-level conditions. Moreover, the Level 2 variance component (0.280) is significantly different from 0 ($p < 0.001$). These combined findings from the null model highlight the significance of contextual-level characteristics in shaping the probability that a family will be poor and indicate that multilevel analysis is appropriate for these data.

Model 1 in Table 5 shows the direct effects of Mainline Protestant and Catholic congregations and adherents on a family's likelihood of being poor and provides an initial understanding of how the religious environment is associated with absolute family poverty without the influence of other contextual and family characteristics. The reliability estimate for Model 1 is 0.960, which is much larger than the accepted 0.20 cut off and indicates substantial

variation across migration PUMAs in the probability of a family being poor. Results demonstrate that both religious environment measures are significant predictors of the probability of a family being poor. The log odds estimate for Mainline Protestant and Catholic congregations is 0.003 and the exponentiation of this estimate indicates that a unit increase in these denominational congregations leads to an increase in the odds that a family will be poor by a factor of 1.003. This finding shows that families experience a 0.3 percent increase in the odds of being poor in places with a greater presence of Mainline Protestant and Catholic congregations. This relationship concurs with bivariate correlations indicating Mainline Protestant and Catholic congregations share a positive relationship with absolute family poverty. Again, this finding is contradictory to the conceptual model and does not support theoretical explanations that these types of congregations are predicted to enhance bridging civic engagement and social capital and support social welfare efforts and in turn reduce the risks of absolute family poverty. Conversely, the log odds estimate for Mainline Protestant and Catholic adherents is -0.011 and the exponentiation of this estimate indicates that a unit increase in these types of adherents leads to a reduction in the odds that a family will be poor by a factor of 0.989. This relationship shows that a greater presence of Mainline Protestant and Catholic adherents within places is associated with a 1 percent decrease in the odds that a family will be poor. This negative relationship between these types of denominational adherents and absolute family poverty supports theoretical arguments that Mainline Protestant and Catholic adherents within places promote bridging civic engagement and social capital and the provision of social welfare and in turn reduce the risks of families being poor.

While hierarchical modeling does not provide a traditional R^2 statistic, it is possible to compare random effect coefficients between specified models to determine the percent of

variance explained in the probability of a family being poor across migration PUMAs. Utilizing the random effect coefficient for the intercept from the null model (0.280) and the same from Model 1 (0.213), it can be determined that $[(0.280 - 0.213) / 0.208 = 0.239]$ 24 percent of the across migration PUMA variation in the probability of a family being poor is explained by religious environment measures. This indicates that Mainline Protestant and Catholic congregations and adherents alone are significant ecological influences in understanding if a family will be poor by official standards.

Model 2 in Table 5 is the full hierarchical model that includes both contextual and family controls along with the key explanatory variables. Focusing on the primary independent variables, both religious environment measures share significant relationships with absolute family poverty even with the inclusion of other contextual and family controls. The congregational measure of Mainline Protestants and Catholics shares a positive relationship with absolute family poverty. More specifically, the log odds for this measure is 0.002, which when exponentiated indicates that a unit increase in these types of congregations leads to an increase in the probability a family will be poor by a factor of 1.002. Interpreted another way, families experience a 0.2 percent increase in the odds of experiencing absolute poverty in places with a greater prevalence of Mainline Protestant and Catholic congregations. Conversely, the adherent measure of these denominations shares a negative relationship with family poverty. When the log odds, -0.004, of this measure is exponentiated, it shows that a unit increase in Mainline Protestant and Catholic congregations leads to a decrease in the probability that a family will be poor by a factor of 0.996. This relationship demonstrates that in places with a greater proportion of Mainline Protestant and Catholic adherents, families experience a 0.4 percent decrease in the likelihood of experiencing absolute poverty. While the inclusion of all controls in the model

slightly reduces the impact of both Mainline Protestant and Catholic congregations and adherents on a family's probability of being poor, these measures do maintain significant relationships with absolute family poverty. Again, these findings are consonant with the bivariate analysis that preceded the multilevel analysis, but do not provide complete support for the conceptual model. Specifically, it was expected that the locally oriented nature of Mainline Protestant and Catholic congregations and adherents would provide a context of bridging civic engagement and social capital and support local welfare efforts. In turn, this context would contribute to lessened risks of absolute family poverty. However, multilevel results reveal that only one measure of the locally oriented religious environment, the influence of Mainline Protestant and Catholic adherents, meets these expectations.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, three of the four measures share significant relationships with family poverty. The unemployment rate shares a positive significant relationship with the dependent variable, while the high SES index and metro population share negatively significant relationships with the dependent variable. The indicator for geographic residence in the South does not share a significant relationship with absolute family poverty status.

A number of family controls are also included in the model to account for various types of family householder and family characteristics. Each of the family-level controls shares a significant relationship with absolute family poverty and these relationships meet expectations for their projected influence on family poverty. Age, each of the education categories, and employed family members share significant negative relationships with absolute family poverty, indicating that older family householders, family householders with more education, and more employed family members result in lower probabilities of absolute family poverty. Female,

Table 5. Results of Hierarchical Generalized Linear Models (HGLM) of Absolute Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | -1.7974*** | 0.5869*** |
| Religious Environment | | |
| Mainline Protestant and Catholic congregations | 0.0029*** | 0.0024*** |
| Mainline Protestant and Catholic adherents | -0.0107*** | -0.0039*** |
| Contextual Controls | | |
| Unemployed | | 0.0773*** |
| High SES | | -0.0832*** |
| South | | 0.0371 |
| Metro population | | -0.0011*** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0367*** |
| Female | | 0.5259*** |
| Non-Hispanic black ¹ | | 0.5443*** |
| Hispanic ¹ | | 0.6565*** |
| Non-Hispanic other ¹ | | 0.7205*** |
| High school ² | | -0.6752*** |
| Some college ² | | -1.0989*** |
| Bach. degree or more ² | | -1.8030*** |
| Never married ³ | | 0.8410*** |
| Wid./sep./div. ³ | | 0.6679*** |
| <i>Family characteristics</i> | | |
| Related children | | 0.4508*** |
| Family labor supply | | -1.6637*** |
| Reliability Estimate | 0.960 | 0.741 |
| Variance Component (Random Effect): Intercept | 0.213 | 0.047 |
| Variance Component (Random Effect) : Level 1 | 0.996 | 1.441 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and Religious Congregations and Membership Survey 2000.

Notes: Unit-specific models with robust standard errors. Results are weighted using normalized household weights. Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

minority (non-white), never married or widowed, separated, or divorced family householders and families with more children each share a positive significant relationship with absolute family poverty. These results demonstrate that female householders, minority householders, non-married householders, and the presence of children increase the probability of absolute family poverty.

As previously stated, a traditional R^2 statistic is not provided in hierarchical modeling results, but it is possible to determine the percentage of across migration PUMA variation in the probability that a family will be poor that is explained by both all measures in the model. Using the intercept random effect coefficient from the null model (0.280) and from Model 2 (0.047), it can be determined that $[(0.280 - 0.047) / 0.280 = 0.832]$ 83 percent of the across migration PUMA variation in the probability that a family will be poor is explained by all measures included in the model. The inclusion of contextual and family controls not only ensures that results for the primary explanatory variables are robust, these measures also increase the percentage of variation across migration PUMAs in the likelihood of absolute family poverty explained—from 24 percent to 83 percent.

Table 6 presents the results from hierarchical generalized linear models (HGLM) predicting the probability that a family will be poor ($\text{poor}=1$) by a relative standard—50 percent of the national median family income. Two models provide multilevel logistic results that explore the impact of religious environment measures on relative family poverty. Coefficients from these models are logistic coefficients and their corresponding effects are interpreted by converting the logistic coefficients into odds ratios by exponentiation ($\exp(\beta)$).

Before discussing the hierarchical results from the models presented in Table 6, it is necessary to discuss the null, or unconditional, model. The intercept from the null model is

-1.238 and represents the log odds of a family being poor when no predictors are included in the model. The log odds for the intercept produced by the null model can be converted into a predicted probability using the equation: $P = 1 / (1 + \exp(-\beta_{0j}))$. Utilizing this equation indicates that the probability of a family being poor across all migration PUMAs is 0.23 or 23 percent. This percentage is comparable to the descriptives for the sample, which indicate that, on average, 23 percent of families in the sample are poor by relative standards. Also provided by the null model is the reliability estimate. For this model, the reliability estimate is 0.985 indicating that there is significant variation across migration PUMAs in the probability of a family being poor.

Variance component coefficients are also provided by the null model. The random effect coefficient for across migration PUMA variation in the probability of being poor is 0.273, while the random effect coefficient for within migration PUMA variation is 0.998. As calculated using these coefficients, the intraclass correlation coefficient ($ICC = 0.273 / (0.273 + 0.998)$) is 0.215. In this instance, the results indicate that 22 percent of the variation in the probability of being poor across migration PUMAs can be attributed to contextual-level conditions. Moreover, the Level 2 variance component (0.273) is significantly different from 0 ($p < 0.001$). These findings highlight the significance of contextual-level characteristics in shaping the probability that a family will be poor and also indicate that multilevel analysis is appropriate for these data.

Model 1 in Table 6 shows the direct effects of Mainline Protestant and Catholics congregations and adherents on a family's likelihood of being poor. The reliability estimate for Model 1 is 0.978, which is much larger than the accepted 0.20 cut off and indicates substantial variation across migration PUMAs in the probability of a family being poor. Results demonstrate that both religious environment measures are significant predictors of the probability that a

family will be poor. The logistic coefficient for Mainline Protestant and Catholic congregations is 0.004 and the exponentiation of this estimate indicates that a unit increase in these denominational congregations leads to a 1.004 increase in the odds that a family will be poor. This finding translates into a 0.4 percent increase in the likelihood of a family being poor in places with a greater presence of Mainline Protestant and Catholic congregations. This relationship concurs with preliminary bivariate correlations that indicate Mainline Protestant and Catholic congregations share a positive relationship with relative family poverty. However, this finding does not support theoretical propositions that these types of congregations are predicted to enhance the local context in which families are embedded and in turn reduce the risks of relative family poverty. The logistic coefficient for Mainline Protestant and Catholic adherents is -0.011 and the exponentiation of this estimate indicates that a unit increase in these types of adherents leads to a reduction in the probability that a family will be poor by a factor of 0.989. Stated another way, this finding indicates that in places with a greater proportion of Mainline Protestant and Catholic adherents, families observe a 1 percent decrease in the likelihood of experiencing relative poverty. This relationship provides support for the guiding conceptual model outlining that Mainline Protestant and Catholic adherents enhance the contextual environments in which they are embedded and in turn are related to a reduction in the risks of families being poor. Utilizing the random effect coefficient for the intercept from the null model (0.273) and the same from Model 1 (0.188), it can be determined that $[(0.273 - 0.188) / 0.273]$ 31 percent of the across migration PUMA variation in the probability of a family being poor is explained by religious environment measures alone.

Model 2 in Table 6 is the full hierarchical model that includes both contextual and family controls along with the key explanatory variables. Focusing on the key explanatory variables,

both religious environment measures share significant relationships with relative family poverty. The congregational measure of Mainline Protestants and Catholics shares a positive relationship with relative family poverty. More specifically, the log odds for this measure is 0.003, which when exponentiated indicates that a unit increase in these type of congregations leads to an increase in the probability a family will be poor by a factor of 1.003. This relationship demonstrates that families experience a 0.3 percent increase in the likelihood of being poor in places with a greater presence of Mainline Protestant and Catholic congregations. Conversely, the adherent measure of these denominations shares a negative relationship with family relative poverty. When the log odds, -0.005, of this measure is exponentiated, a unit increase on Mainline Protestant and Catholic adherents leads to a decrease in the probability that a family will be poor by a factor of 0.995. This translates into a 0.5 percent decrease in the odds of a family being poor in places with more Mainline Protestant and Catholic adherents. While the inclusion of all controls in the model slightly reduces the impact of both Mainline Protestant and Catholic congregations and adherents on a family's probability of being poor, these measures do maintain significant relationships with relative family poverty. Again, these findings are consonant with the bivariate analysis that preceded the multilevel analysis, but do not provide complete empirical support for the conceptual model outlined earlier. Specifically, it was expected that the locally oriented nature of Mainline Protestant and Catholic congregations and adherents would provide a context of bridging civic engagement and social capital and support local welfare efforts. In turn, this context would contribute to lessened relative poverty risks for families. However, multilevel results reveal that only one of measure of the locally oriented religious environment, the influence of Mainline Protestant and Catholic adherents, meets this expectation.

Table 6. Results of Hierarchical Generalized Linear Models (HGLM) of Relative Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | -0.7874*** | 1.5968*** |
| Religious Environment | | |
| Mainline Protestant and Catholic congregations | 0.0042*** | 0.0033*** |
| Mainline Protestant and Catholic adherents | -0.0113*** | -0.0055*** |
| Contextual Controls | | |
| Unemployed | | 0.0535*** |
| High SES | | -0.1294*** |
| South | | -0.0153 |
| Metro population | | -0.0014*** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0234*** |
| Female | | 0.4424*** |
| Non-Hispanic black ¹ | | 0.6535*** |
| Hispanic ¹ | | 0.9162*** |
| Non-Hispanic other ¹ | | 0.7786*** |
| High school ² | | -0.7700*** |
| Some college ² | | -1.2828*** |
| Bach. degree or more ² | | -2.2236*** |
| Never married ³ | | 0.9444*** |
| Wid./sep./div. ³ | | 0.7055*** |
| <i>Family characteristics</i> | | |
| Related children | | 0.3996*** |
| Family labor supply | | -1.3841*** |
| Reliability Estimate | 0.978 | 0.891 |
| Variance Component (Random Effect): Intercept | 0.188 | 0.057 |
| Variance Component (Random Effect) : Level 1 | 0.988 | 1.135 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and Religious Congregations and Membership Survey 2000.

Notes: Unit-specific models with robust standard errors. Results are weighted using normalized household weights. Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, three of the four measures share significant relationships with relative family poverty. The unemployment rate shares a significant and positive relationship with relative family poverty, while the high SES factor score and metro population share negative significant relationships with relative family poverty. The indicator for geographic residence in the South is not a significant correlate in the model.

A number of family controls are also included in the model to account for various types of family householder and family characteristics. Each of the family-level controls shares a significant relationship with relative family poverty and these relationships meet expectations for their anticipated impact on this outcome. Age, each of the education categories, and family employment share significant negative relationships with relative family poverty, indicating that older family householders, family householders with a high school degree or more, and families with more employed members result in lower probabilities of relative family poverty. Female, minority (black, Hispanic, and other), never married or widowed, separated, or divorced householders and related children each share a positive significant relationship with relative family poverty.

Using the intercept random effect coefficient from the null model (0.273) and from Model 2 (0.057), it can be determined that $[(0.273 - 0.057) / 0.273 = 0.791]$ 79 percent of the across migration PUMA variation in the probability that a family will be poor is explained by all measures included in the model. The inclusion of contextual and family controls not only ensures that results for the primary explanatory variables are robust, these measures also increase the percentage of variation across migration PUMAs in the likelihood of relative family poverty explained—from 31 percent to 79 percent.

Table 7 presents the results from hierarchical linear models (HLM) predicting the depth of absolute poverty for families. Following the modeling strategy for the previous multilevel regressions, two separate models provide multilevel results that explore the impact of religious environment measures on the depth of absolute family poverty. Model 1 shows the effects of only the religious environment measures on a family's depth of absolute poverty. Model 2 combines key explanatory variables and both contextual and family controls in a full model that predicts a family's depth of absolute poverty.

Before discussing the hierarchical results from the two models presented in Table 6, it is necessary to discuss the null, or unconditional, model. The intercept from the null model is 13.904 ($0.1390 * 100$) and represents the average depth of absolute family poverty across migration PUMAs. This average is comparable to the descriptives for the sample, which show that, on average, the depth of absolute poverty for families is 0.14, for the inverse transformation of this variable. For this model, the reliability estimate is 0.992, indicating that there is significant variation across migration PUMAs in the depth of family absolute poverty.

Variance component coefficients are also provided by the null model. The random effect coefficient for the intercept indicates across migration PUMA variance in the depth of absolute family poverty is 0.017, while the random effect coefficient for Level 1 indicates within migration PUMA variance is 0.208. As calculated using these coefficients, the intraclass correlation coefficient ($ICC = 0.017 / (0.017 + 0.208)$) is 0.076. This result indicates that 8 percent of the variation in the depth of absolute family poverty across migration PUMAs can be attributed to contextual-level conditions. Moreover, the Level 2 variance component (0.208) is significantly different from 0 ($p < 0.001$). These findings indicate that adequate variation across

migration PUMAs in the depth of absolute poverty for families exists to further pursue multilevel modeling for these data.

Model 1 in Table 7 shows the direct effects of Mainline Protestant and Catholics congregations and adherents on a family's depth of absolute poverty. The reliability estimate for Model 1 is 0.987, which is much larger than the accepted 0.20 cut off and indicates that substantial variation in the depth of absolute poverty for families does exist across migration PUMAs. Results demonstrate that both religious environment measures are significant predictors of the depth of absolute poverty for families. The coefficient for Mainline Protestant and Catholic congregations is significant and positive, which indicates that these denominational congregations are associated with deeper absolute family poverty. This finding concurs with preliminary bivariate correlations showing that Mainline Protestant and Catholic congregations share a positive relationship with depth of absolute family poverty. However, this finding does not support theoretical expectations that these types of congregations are predicted to enhance community context and in turn reduce the depth of absolute poverty experienced by families. The coefficient for Mainline Protestant and Catholic adherents is significant and positive, which indicates that these types of adherents are associated with less severe absolute family poverty. This negative relationship between these types of denominational adherents and depth of family absolute poverty supports theoretical arguments that Mainline Protestant and Catholic adherents within places enhances community context and in turn are associated with less severe or reduced depths of absolute family poverty. Utilizing the random effect coefficient for the intercept from the null model (0.017) and the same from Model 1 (0.011), it can be determined that $[(0.017 - 0.011) / 0.017 = 0.353]$ 35 percent of the across migration PUMA variation in the depth of absolute family poverty is explained by religious environment measures.

Model 2 in Table 7 is the full hierarchical model that includes both contextual and family controls along with the key explanatory variables. Both religious environment measures maintain significant relationships with the depth of absolute poverty for families even with the inclusion of contextual and family controls. The congregational measure of Mainline Protestants and Catholics shares a positive relationship with the depth of absolute family poverty. Conversely, the adherent measure of these denominations shares a negative relationship with the depth of absolute family poverty. These findings demonstrate the increasing effect that Mainline Protestant and Catholic congregations have on the depth of absolute family poverty and the dampening effect that these adherents have on the depth of absolute family poverty. As with the previous two analyses, results both support and contradict conceptual expectations regarding the influence of the locally oriented religious environment within places. It was anticipated that both Mainline Protestant and Catholic congregations and adherents would be negatively associated with the depth of absolute family poverty, or would lessen the depth of absolute poverty experienced by families. However, only one measure of the religious environment, Mainline Protestant and Catholic adherents, substantiates this expectation by demonstrating a negative relationship with the depth of absolute family poverty.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, three of the four measures share significant relationships with the depth of absolute family poverty. The unemployment rate is not a significant correlate in the model, while the high SES index, residence in the South, and the amount of the population that is metro each share significant and negative relationships with the depth of absolute poverty experienced by families. A number of family controls are also included in the model to account for varying types of family householder and family characteristics. Each of the family-level controls shares a

significant relationship with family poverty and these relationships meet expectations for their impact on the depth of absolute family poverty. Results show that age, each of the education categories, and family labor supply share significant and negative relationships with the depth of absolute family poverty. Female, minority (black, Hispanic, and other), never married or widowed, separated, or divorced and related children each share a positive significant relationship with depth of absolute family poverty. Using the intercept random effect coefficient from the null model (0.017) and from Model 2 (0.002), it can be determined that $[(0.017 - 0.002) / 0.017 = 0.882]$ 88 percent of the across migration PUMA variation in the depth of absolute family poverty is explained by all measures included in the model.

Table 8 presents the results from hierarchical linear models (HLM) predicting the depth of relative poverty for families. Following the modeling strategy for the previous multilevel regressions, two separate models provide multilevel results that explore the impact of the locally oriented religious environment on the depth of relative family poverty. Model 1 shows the effects of only the religious environment measures on a family's depth of relative poverty. Model 2 combines religious environment measures and both contextual- and family-level controls in a full model that predicts a family's depth of relative poverty.

Before discussing the hierarchical results from the two models presented in Table 8, it is necessary to discuss the null, or unconditional, model. The intercept from the null model is 22.689 ($0.2269 * 100$) and represents the average depth of relative family poverty across migration PUMAs. This average is comparable to the descriptives for the sample, which indicate that, on average, the depth of relative poverty for families is 0.22, for the inverse transformation of this variable. For this model, the reliability estimate is 0.992 indicating that there is significant variation across migration PUMAs in the depth of relative family poverty.

Table 7. Results of Hierarchical Linear Models (HLM) of Depth of Absolute Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | 14.8652*** | 18.6686*** |
| Religious Environment | | |
| Mainline Protestant and Catholic congregations | 0.0137*** | 0.0063*** |
| Mainline Protestant and Catholic adherents | -0.0282*** | -0.0095*** |
| Contextual Controls | | |
| Unemployed | | -0.0068 |
| High SES | | -0.4437*** |
| South | | -0.2501*** |
| Metro population | | -0.0015** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0346*** |
| Female | | 0.5701*** |
| Non-Hispanic black ¹ | | 1.3593*** |
| Hispanic ¹ | | 1.7630*** |
| Non-Hispanic other ¹ | | 1.3626*** |
| High school ² | | -1.3406*** |
| Some college ² | | -2.3331*** |
| Bach. degree or more ² | | -4.5022*** |
| Never married ³ | | 2.1279*** |
| Wid./sep./div. ³ | | 1.6121*** |
| <i>Family characteristics</i> | | |
| Related children | | 0.9357*** |
| Family labor supply | | -1.5175*** |
| Reliability Estimate | 0.987 | 0.957 |
| Variance Component (Random Effect): Intercept | 0.011 | 0.002 |
| Variance Component (Random Effect) : Level 1 | 0.208 | 0.114 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and Religious Congregations and Membership Survey 2000.

Notes: Results are weighted using normalized household weights. Coefficients are multiplied by 100.

Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Looking at the variance component coefficients, the random effect coefficient for the intercept indicates across migration PUMAs variance in the probability of being poor is 0.039, while the random effect coefficient for Level 1 indicates within migration PUMA variance is 0.450. As calculated using these coefficients, the intraclass correlation coefficient ($ICC = 0.039 / (0.039 + 0.450)$) is 0.080. This result indicates that 8 percent of the variation in the depth of relative family poverty across migration PUMAs can be attributed to contextual-level conditions. Moreover, the Level 2 variance component (0.450) is significantly different from 0 ($p < 0.001$). These combined findings demonstrate adequate variance across migration PUMAs in the depth of relative poverty for families and that multilevel modeling for these data is appropriate.

Model 1 in Table 8 shows the direct effects of Mainline Protestant and Catholics congregations and adherents on a family's depth of relative poverty. The reliability estimate for Model 1 is 0.988, which is much larger than the accepted 0.20 cut off and indicates substantial variation across migration PUMAs in the depth of relative poverty for families. Results demonstrate that both religious environment measures are significant predictors of the depth of relative family poverty. The coefficient for Mainline Protestant and Catholic congregations is significant and positive, which indicates that these denominational congregations are associated with deeper, or more severe, relative family poverty. This finding concurs with preliminary bivariate correlations that indicate Mainline Protestant and Catholic congregations share a positive relationship with the depth of relative family poverty. Yet, this finding does not support the guiding conceptual model that expected these types of congregations to enhance local community context and in turn reduce the depth of relative poverty for families. The coefficient for Mainline Protestant and Catholic adherents is significant and negative, which indicates that these types of adherents are associated with less severe depth of relative poverty for families.

This negative relationship between these types of denominational adherents and the depth relative poverty for families supports conceptual expectations that Mainline Protestant and Catholic adherents within places improve community context and in turn lessen the severity of relative family poverty. Utilizing the random effect coefficient for the intercept from the null model (0.025) and the same from Model 1 (0.039), it can be determined that $[(0.039 - 0.025) / 0.039 = 0.359]$ 36 percent of the across migration PUMA variation in the depth of relative family poverty is explained by religious environment measures alone.

Model 2 in Table 8 is the full hierarchical model that includes both contextual and family controls along with the key explanatory variables. Focusing on the key explanatory variables, both religious environment measures share significant relationships with the depth of relative family poverty above and beyond other community characteristics and family measures. The congregational measure of Mainline Protestants and Catholics shares a positive relationship with the depth of relative family poverty. More specifically, the coefficient of this measure indicates that these types of congregations are associated with deeper, or more severe, relative poverty for families. Conversely, the adherent measure of these denominations shares a negative relationship with the depth of relative family poverty. The coefficient for Mainline Protestant and Catholic adherents indicates that these types of adherents are associated with less severe relative family poverty. Again both supportive and contradictory results are shown by the multilevel models. It was anticipated that both Mainline Protestant and Catholic congregations and adherents would be negatively associated with the depth of relative family poverty, or would lessen the severity of relative poverty experienced by families. However, only one measure of the religious environment, Mainline Protestant and Catholic adherents, substantiates this expectation by demonstrating a negative relationship with the depth of relative family poverty.

Table 8. Results of Hierarchical Linear Models (HLM) of Depth of Relative Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | 24.0894*** | 30.0724*** |
| Religious Environment | | |
| Mainline Protestant and Catholic congregations | 0.0217*** | 0.0098*** |
| Mainline Protestant and Catholic adherents | -0.0427*** | -0.0143*** |
| Contextual Controls | | |
| Unemployed | | -0.0329 |
| High SES | | -0.6874*** |
| South | | -0.3996*** |
| Metro population | | -0.0019** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0460*** |
| Female | | 0.8298*** |
| Non-Hispanic black ¹ | | 1.9740*** |
| Hispanic ¹ | | 2.5737*** |
| Non-Hispanic other ¹ | | 1.9433*** |
| High school ² | | -1.8757*** |
| Some college ² | | -3.3362*** |
| Bach. degree or more ² | | -6.6526*** |
| Never married ³ | | 3.1093*** |
| Wid./sep./div. ³ | | 2.4343*** |
| <i>Family characteristics</i> | | |
| Related children | | 1.0646*** |
| Family labor supply | | -2.4533*** |
| Reliability Estimate | 0.988 | 0.959 |
| Variance Component (Random Effect): Intercept | 0.025 | 0.004 |
| Variance Component (Random Effect) : Level 1 | 0.450 | 0.251 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and Religious Congregations and Membership Survey 2000.

Notes: Results are weighted using normalized household weights. Coefficients are multiplied by 100.

Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, three of the four measures share a significant relationship with the depth of relative family poverty. The unemployment rate is not a significant predictor in the model, while the high SES index, residence in the South, and the share of the population that is metro share significant negative relationships with the depth of relative poverty experienced by families. A number of family controls are also included in the model to account for various types of family householder and family characteristics. Each of the family-level controls shares a significant relationship with the depth of relative family poverty and these relationships meet expectations for their impact on family poverty. Age, each of the education categories, and family employment share significant and negative relationships with the depth of family relative poverty, indicating that older family householders, family householders with more education, and more employed family members results in less severe relative family poverty. Female, minority (black, Hispanic, and other), never married or widowed, separated, or divorced and more children each share a positive significant relationship with the depth of relative family poverty. Using the intercept random effect coefficient from the null model (0.039) and from Model 2 (0.004), it can be determined that $[(0.039 - 0.004) / 0.039 = 0.897]$ 90 percent of the between migration PUMA variation in the depth of relative family poverty is explained by all measures included in the model.

Conclusion and Discussion

The objective of this chapter was to build upon previous aggregate-level civic community research demonstrating the negative association between civically engaged religious traditions and family poverty rates. Specifically, this analysis aimed to examine the relationship between

the locally oriented religious environment, comprised of Mainline Protestant and Catholic congregations and adherents, and family poverty. The key contribution of this analysis was the use of a multilevel framework that focused on the associations between ecological measures of locally oriented religious traditions and micro-level family poverty above and beyond other place-based and family influences. This particular advancement moves civic community research beyond understanding only the macro-level relationship between religion and poverty to further understanding how this relationship operates in a multilevel context. Based upon the civic community perspective, the conceptual model guiding this study suggested that the theological nature of Mainline Protestantism and Catholicism would enhance the social capital content of localities and promote bridging civic engagement as well as support social welfare efforts and the poor, and thus provide a context in which the risks of families experiencing poverty would be lower and the depth of family poverty would be less severe. Multilevel results highlight the importance of the locally oriented religious environment in shaping the poverty experiences of families, but provide mixed support for the conceptual model.

Across multilevel models for each of the family poverty outcomes, results for the locally oriented religious environment were consistent, with Mainline Protestant and Catholic adherents sharing a negative relationship with each family poverty outcome and congregations sharing a positive relationship with each family poverty indicator. The negative relationship between family poverty and Mainline Protestant and Catholic adherents provides support for the conceptual model that was informed by the civic community perspective. Specifically, as Mainline Protestant and Catholic adherents enhance the social network structures of places, families experience lessened poverty risks and depths of poverty. These results contribute to the larger body of empirical research demonstrating the heightening effects of religious-based civic

community institutions on beneficial community outcomes. Moreover, these results advance this research by demonstrating this relationship maintains in a multilevel framework, in that Mainline Protestant and Catholic adherents as a civic community structure directly impact the poverty experiences of families by lessening poverty risks and economic hardship.

The positive relationship between Mainline Protestant and Catholic congregations and family poverty is contradictory to the conceptual model that evolved from the extant civic community and religious ecology literature. It was anticipated that these congregations would be associated with reduced poverty risks and depths of poverty for families. However, results demonstrate that Mainline Protestant and Catholic congregations are actually associated with increased risks of poverty and deeper poverty for families. While this finding might challenge the extant civic community literature, it is important to highlight the purpose of using a multilevel framework in this study. All civic community research has solely focused on the relationship between civically engaged religious denominations and family poverty at the macro-level. Utilizing a multilevel framework advances beyond this macro-level relationship to further explore how this relationship operations when both place-based and family-level issues are taken into account. While the findings produced by this analysis are contradictory to the civic community literature, this analysis does advance the civic community literature by highlighting the necessity to further examine how civic community structures operate in multilevel contexts.

A number of possible explanations for the contradictory finding between Mainline Protestant and Catholic congregations and family poverty can be proffered. First, there is the potential for the institutional resources of congregations to become thinly dispersed when more congregations are present in a locality. That is, the resources and organizational capacity of congregations may be too diffuse and result in a lack of focus and organization in relation to

area-wide problem solving and concerted efforts to address poverty within places. The possible difficulty involved in a larger number of congregations organizing and utilizing shared resources to reduce poverty may deter concerted attempts to do so. Secondly, another explanation may lie in a type of bystander effect. As there are a greater number of congregations in a locality, this may lead to a reduction on behalf of congregations to seek out poverty-reducing avenues or undertake actions aimed at poverty reduction, as it may be assumed that other religious bodies will do so. In turn, congregations may focus on other social issues that prevail in their locality and utilize their resources and networks to address other community issues. Lastly, these results highlight the potential need to understand the effect of congregation *size* rather than the *number* of congregations within a locality. It is plausible that a proliferation of relatively small congregations may result in fewer institutional resources and weaker organizational capacity. Without adequate resources, these smaller congregations lack the ability to collectively address community problems. However, a smaller number of larger congregations with more resources at their disposal—such as more members, greater financial resources, or greater community influence—may more easily call upon these assets for the purpose of collective action aimed at addressing community issues.

The results from this study also highlight the importance of how the ecological influence of religion within places is conceptualized and measured. Two points can be made about the religious environment measure utilized in this study. First, results from this study are consonant with previous ecological research that has identified congregations and adherents as distinct constructs with unique effects within communities and highlights the necessity to account for the singular impact of each on the network structures within places (Beyerlein and Hipp 2005). Second, using a more refined definition of civically engaged religious denominations, that is

Mainline Protestants and Catholics versus the measurement of civically engaged religious denominations created by Tolbert et al. (1998), further demonstrates the necessity to explore how denominations and their corresponding theological ideologies impact and shape community contexts. While Tolbert et al.'s (1998) measure is the primary measure of religious based civic community structures, this study provides evidence that exploring different conceptualizations and measurements of the ecological context of religion is important for future civic community research.

In regard to policy implications, the results shown in this chapter provide insight for current social welfare policy. While it was demonstrated that Mainline Protestant and Catholic congregations did not have the expected impact of lessening family poverty risks, one potential policy implication derived from this finding could be the implementation of policies and legislation that address the delivery of antipoverty social services by religious congregations. It has been noted that social services provided by congregations are most effective when these groups partner with other community groups, including nonprofits and government agencies (Chaves and Tsitos 2001). Antipoverty policy and welfare legislation, such as Charitable Choice, could be improved by encouraging collaboration among congregations and other secular groups within communities, such as non-profits and government agencies, to provide social services. By creating incentives and facilitating partnerships between community groups that provide social welfare services, the effectiveness of congregation-based antipoverty social services could have greater direct impacts on the economic well-being of families within communities.

CHAPTER 3: EXPLORING THE INFLUENCE OF LOCALLY ORIENTED ECONOMIC CLIMATES ON FAMILY POVERTY

Introduction

Research grounded in the civic community tradition has demonstrated the enhancing effects of economic civic community structures on various aspects of community well-being. Specifically, this research has shown that local systems of economic production are associated with beneficial community outcomes, such as lower crime rates, lower rates of mortality, and less out-migration (Irwin, Tolbert, and Lyson 1999; Irwin et al. 2004; Lee 2008, 2010; Lee and Thomas 2009). A key finding is that places characterized by a greater presence of small manufacturing firms and economically independent business persons (i.e., self-employed) display lower poverty rates (Lyson and Tolbert 1996; Lyson et al. 2001; Tolbert et al. 1998; Tolbert et al. 2002). Using small towns and counties as the units of analysis, these studies demonstrate the macro-level relationship between aggregate measures of local capitalism and poverty. This detail is particularly important given recent poverty research, which has highlighted the combined influence of both macro- and micro-level forces in shaping poverty.

Poverty research in the sociological tradition has primarily focused on two broad types of explanations to frame an understanding of poverty: structuralist and individualist explanations (Cotter 2002; Cotter et al. 2007; Lobao 1990; Lobao et al. 2008; Tomaskovic-Devey 1988). Theoretical and analytical developments are encouraging researchers to view structuralist and individualist explanations of poverty as complementary rather than competing frames (e.g. Brady et al. 2009; Cotter 2002; Cotter et al. 2007). That is, both the macro-level characteristics of aggregate units and the micro-level characteristics of individuals dually influence poverty experiences. For example, both macro-level community structures and micro-level family

characteristics simultaneously impact the poverty experiences of families embedded in communities. Again, this development holds particular consequences for civic community research examining poverty, as this research has only assessed the macro-level relationship between economic-based measures of civic community and poverty.

Informed by these issues, the primary objective of this chapter is to integrate the civic community perspective and structuralist and individualist explanations of poverty by utilizing a multilevel framework to examine the relationship between economic-based measures of civic community and family poverty. The key contribution of this project to the larger bodies of civic community and poverty research is the use of multilevel analytic techniques that account for both community context and family characteristics in shaping family poverty outcomes. This approach provides an important extension to the civic community literature by moving beyond only understanding the macro-level relationship between local capitalism and poverty to examining how this relationship operates in a multilevel context. Further, this approach contributes to an emerging body of poverty research utilizing multilevel frameworks that account for both contextual and individual forces when examining poverty (Brady et al. 2009; Cotter 2002; Cotter et al. 2007; Poston 2010).

Civic Community Perspective on Stratification

Among structuralist considerations of poverty, recent stratification research has turned to the civic community perspective to explicate how community economic contexts contribute to understanding community welfare. The civic community perspective maintains that small scale, locally owned business enterprises are beneficial for fostering local economic development (Mencken et al. 2006; Tolbert et al. 1998). Grounded in the historical work of Goldschmidt

(1946) and Mills and Ulmer (1970 [1946]), and subsequent reexamination by MacKenzie (1995), this perspective highlights the positive effect of locally oriented economic enterprises within communities on indicators of socioeconomic well-being. The civic community framework focuses on four community factors related to aspects of the local economy that are integral to fostering positive community outcomes:

(1) Small-to-medium-sized economic activities are preferable to large-scale, multi-national activities, (2) people and business are bound to local places through embeddedness in systems of institutional connections and organizational networks, (3) the local place is a source of social cohesion and personal identity, and (4) places that develop and maintain local production systems have more control over local economic growth and the long-term well-being of local communities. (Mencken et al. 2006:109)

In sum, when communities maintain an economic climate comprised of local systems of production, networks of managers/owners and employees/workers embedded within the community are formed. These networks serve as important conduits of information for producers and workers and are maintained through consistent social interaction. These local systems of production, in essence, serve to create shared values and a collective identity tied to the community. The proliferation of small-scale, local firms helps to provide an economic base that is stable and rooted in place, while also promoting place-based civic engagement and social capital that serve to ensure economic success while also heightening community well-being (Irwin et al. 1999).

Early Labor Market Theories

It should be noted that the economic component of the civic community perspective stands in contrast to some previous theories of labor market and economic segmentation. These include dual labor market theory and dual economy theory.

Dual labor market theory posits that a labor market is divided into two separate labor markets: 1) the primary market and 2) the secondary market. In this view, the primary market is

comprised of jobs that offer “high wages, good working conditions, employment stability and job security, equity and due process in the administration of work rules, and chances for advancement” in internal labor markets, which operate primarily in larger corporate firms (Piore 2008 [1970]:550). In contrast, the secondary sector offers jobs with “low wages, poor working conditions, considerable variability in employment, harsh and often arbitrary discipline, and little opportunity to advance” (Piore 2008 [1970]:550). The secondary sector is primarily comprised of smaller, less corporate firms. Dual labor market theory frames an understanding of stratified economic outcomes as due to restricted opportunities for jobs in the primary labor market and a relegation of some workers to jobs in the secondary sector.

The dual economy tradition focuses not on labor market segmentation, but instead focuses on industrial structure. Beck, Horan, and Tolbert (1978) concentrate on two economic sectors comprised of industries sharing common attributes: 1) the core sector and 2) the peripheral sector. The core sector represents an oligopolistic system of production characterized by large corporate firms where workers are situated in job structures with defined career trajectories (i.e. internal labor markets). The peripheral sector, however, is characterized by a more open, competitive capitalistic structure with smaller firms that offer restricted occupational opportunity to workers. Horan, Beck, and Tolbert (1980) further maintain that differences between the core and periphery influence the labor experiences and opportunities for workers and thereby produce varied labor market outcomes. Specifically, significant differences exist between the core and periphery in terms of earnings attainment for workers located in these sectors in that “real dollar returns on . . . worker characteristics are greater in the core industries than in periphery industries” (Beck et al. 1978:717). The dual labor market theory highlights how

differences between sectors of the economy produce stratified earnings and labor outcomes for workers.

Each of the aforementioned labor market theories is relevant to understanding poverty as these theories associate employment in large firms or core industries with better jobs, and in turn, better economic outcomes. However, researchers have noted that the temporal context in which these theories were developed neglects questions regarding the current relevancy of this line of theories and analysis (Lyson and Tolbert 1996; Irwin et al. 1999). Lyson and Tolbert (1996) noted that the prevalence of labor market theories and research was largely the result of the development and proliferation of large-scale manufacturing within the U.S. economy following World War II. Primarily using data from 1960 to 1980, researchers were capturing a particular moment in U.S. economic history, when U.S. manufacturing had achieved global dominance and globalization was only beginning to take hold (Lyson and Tolbert 1996). More recent developments in stratification have turned to the economic and social benefits engendered by smaller, more locally oriented business establishments.

The Civic Community Perspective and Local Capitalism

In contrast to dual labor market and dual economy approaches, the civic community perspective focuses on economic climates comprised of small-scale, locally oriented firms that are theoretically more rooted in place. The civic community perspective has informed a great deal of research examining the influence of civic engagement and social capital engendered by local economic structures on measures of community welfare (e.g. Lee 2008; Lee and Thomas 2009; Livermore 2000; Mencken et al. 2006; Tolbert et al. 2001; Tolbert et al. 2002). Specific among research in this tradition is the work of Tolbert et al. (1998), which focused on how economic institutions contribute to place-based civic engagement and social capital using the

concept of *local capitalism*. Tolbert et al. (1998: 404) define local capitalism as “small and medium-size firms . . . that continually reinforce and support local socioeconomic climates geared toward long-term vitality and enhanced welfare.” The production processes of and the capital produced by these small business enterprises are explicitly tied to the locality in which they are situated. Further, because these businesses are not dependent upon or directed by externally located headquarters or governing bodies, the primary focus is on the locality in which they operate. That is, “workers and owners/managers alike become embedded in the localities and make decisions that benefit the community as well as themselves” (Tolbert et al. 2002). Drawing from Lyson and Tolbert (1996), who found that small manufacturing firms significantly benefit local communities, Tolbert et al. (1998) captured local capitalism by measuring small manufacturing establishments within communities and found that economic climates characterized by the proliferation of small manufacturing establishments²⁶ were associated with lower family poverty rates.

Civic community research has also suggested an additional component of local capitalism that is key to promoting civic engagement and building social capital within communities—the presence of an *economically independent middle class* (Lee 2008; Lee and Thomas 2009; Lyson et al. 2001; Tolbert 2005). “This group consists of business owners or those who are closely tied to local small businesses . . . [and] have a substantial vested interest in the place where their businesses are located” (Tolbert 2005:1314). Due to their vested interest in maintaining a social and economic atmosphere that ensures the success of their businesses, this group is a primary source of civic engagement (Lyson et al. 2001). These individuals seek out and build social networks with other economic and noneconomic institutions by actively participating in

²⁶ Small manufacturing establishments were measured as those establishments with less than 20 employees.

community organizations and affairs. This civic engagement serves to form cooperative trust and mutual obligations (i.e. bridging social capital) between various community organizations and associations, as well as citizens. In turn, these heightened levels of civic engagement and social capital serve as resources that can be mobilized to enhance community well-being. Researchers have operationalized the economically independent middle class as the percentage of the labor force that is self-employed (Blanchard 2001; Lee 2008; Lee and Thomas 2009; Lyson et al. 2001; Tolbert et al. 2002). This measure is theorized to capture business persons who are economically self-sufficient and primed to be civically engaged in communities (Lee 2008). Moreover, research has identified that the presence of civically engaged business persons within communities positively contributes to community welfare, including lower family poverty (Lyson et al. 2001; Tolbert et al. 2002).

The Economic Climate and Poverty

Research demonstrates that civic engagement and social capital via certain economic entities within communities is related to improved community welfare, such as lower aggregate-level family poverty (Lyson and Tolbert 1996; Lyson et al. 2001; Tolbert et al. 1998; Tolbert et al. 2002). When the economic base of a community is proliferated by smaller locally-focused business enterprises, economic stakeholders are more embedded within their local communities (Mencken et al. 2006). In order to ensure their own financial success, these stakeholders seek out ways to cultivate networks and connections that contribute to the betterment of their communities and in turn the success and viability of their businesses (Ousey and Lee 2010).

With these issues in mind, this chapter seeks to understand the relationship between the economic climate of a place and poverty; particularly, how the presence of economically independent business persons and small business establishments within localities is associated

with family poverty. In order to do so, I first outline two mechanisms—civic engagement and social capital and local investment—through which local capitalism is related to family poverty.

Local Capitalism, Civic Engagement, and Social Capital

Both small, locally based businesses and economically independent business persons have the propensity to positively contribute to community-level civic engagement and social capital. These economic entities are not only financially invested in the local community, but tend to be socially invested as well, as the success or failure of their business enterprises is dependent upon community well-being. As such, the owners and managers of small businesses are more inclined to actively participate in local associations and organizations due to the benefits accrued to themselves and their businesses in doing so (Tolbert et al. 2002). Further, local business owners and managers have leadership skills and management expertise that can be utilized to organize and lead various social and civic associations (Lee and Thomas 2010). The owners and managers of local businesses often seek out opportunities to lead local service organizations or participate in volunteer associations with the intent to foster relationships that serve to ensure the success of their businesses. Both economically independent business persons and small economic enterprises, moreover, rely upon the residents in their local communities as potential employees and customers, which creates the necessity for these economic entities to foster cooperative relationships with community citizens to ensure the success of their economic enterprises (Lee and Thomas 2010). As such, small businesses and self-employed business persons contribute to heightened levels of bridging civic engagement and social capital.

Local Capitalism and Local Investment

In terms of financial investments within communities, “Locally oriented businesses have stakes in the local labor market, the local economy, and—usually—the local product market. . .

Persons owning, managing, and working in these establishments rarely employ a multinational or corporate perspective. The worldview is local” (Tolbert 2005:1311). In this respect, locally oriented small business establishments contribute to lessening the vulnerability of workers to extra-local, global forces, such as outsourcing and downsizing. Moreover, economic power is not monopolized by a few, large corporations that can wield power in a way that may be harmful to the socioeconomic well-being of the place in which they are located; rather, economic power is spread more equitably and dispersed across business enterprises (Blanchard and Matthews 2006). Smaller business establishments also create informality in the relationship between workers and business owners, which creates social networks within the workplace that can be called upon outside the workplace; these networks, in turn, have the propensity to lead to employment opportunities through the flow of information from workers within these networks to others, such as friends and family members, external to these networks (Tolbert et al. 2002). Lastly, the local economy is strengthened by the presence of locally oriented businesses wherein both production and consumption are focused within the local community rather than extra-locally (Tolbert et al. 2002).

Both civic engagement and social capital associated with small business establishments and economically independent business persons serve as community resources that can enhance the problem solving capabilities of communities and contribute to a higher quality of life. These economic entities also strengthen local economies and labor markets as they are embedded within local places and serve to buffer against various extra-local economic forces. These mechanisms—civic engagement/social capital and local investment—serve as linkages between economic civic community structures and poverty within communities as these institutions

comprise an economic climate that is locally oriented and expected to be associated with lessened family poverty.

Poverty

As discussed in Chapter 2, this analysis will employ four measures of poverty: 1) absolute; 2) relative; 3) depth of absolute poverty; and 4) depth of relative poverty.

Summary and Research Objective

Previous research has provided evidence of the significant relationships between locally oriented economic structures and various community-level social outcomes (Lee 2008, 2010; Lee and Thomas 2010; Lyson and Tolbert 1996; Lyson et al. 2001; Tolbert et al. 1998; Tolbert et al. 2002). Specifically, research has found that the presence of small manufacturing and economically independent business persons are significantly related to lower aggregate-level family poverty (Lyson and Tolbert 1996; Lyson et al. 2001; Tolbert et al. 1998). However, there have been calls to expand the focus of the local economic base beyond small-scale manufacturing to also consider other small-scale establishments in various industries, such as service and retail industries for example, when conceptualizing economic civic community structures (Blanchard, Tolbert, and Mencken 2012; Bowdre 2001; Irwin et al. 2004). With this in mind, I will focus on those economic entities that have the propensity to promote a local orientation within places: small business establishments and economically independent business persons (i.e., self-employed). These economic institutions will comprise what I term the *locally oriented economic climate*.

This chapter will examine the relationship between the locally oriented economic climate and family poverty. To broaden the understanding of how economic civic community structures

operate within places, this study will move beyond the aggregate-level relationship of civic community and family poverty by examining this relationship in a multilevel context. Utilization of a multilevel framework allows for a more nuanced picture of how the economic climate within a place directly impacts the poverty experiences of families who reside within that community. Given this theoretical and analytical motivation, the main research question is: Above and beyond family-level factors and other macro-level considerations, how are locally oriented economic climates within places associated with family-level poverty? Based on the extant literature, small business establishments and economically independent business persons are expected to provide an economic and social context in which the risk of families experiencing poverty, and the depth of family poverty, will be lower. A conceptual model that presents the relationships between these measures is shown in Figure 3.

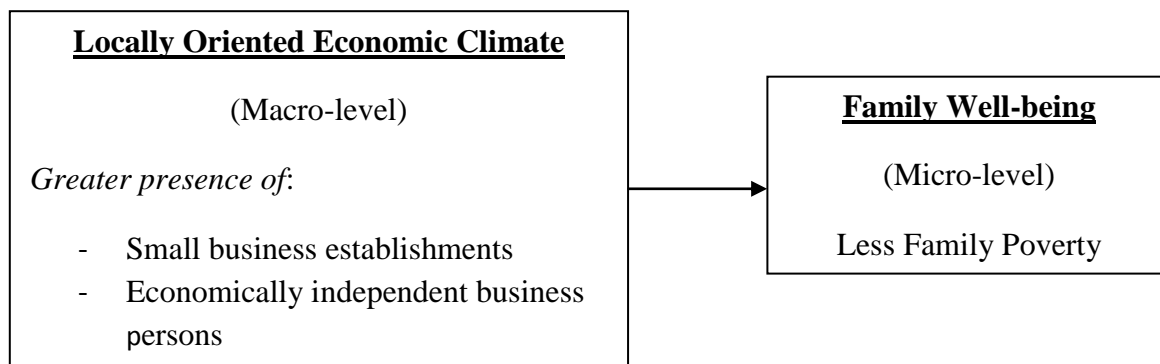


Figure 3. Locally Oriented Economic Climate and Family Poverty Conceptual Model

Methods

As discussed in Chapter 2, the primary analytic method for this analysis is hierarchical, or multilevel, modeling. Descriptive and bivariate analyses are also utilized in this chapter.

Data and Measures

Please see Chapter 2 for a description of the data sources for both family-level and contextual measures. Data to construct the locally oriented economic climate are drawn from the 2000 County Business Patterns (CBP) and Summary File 3 (SF3) of the 2000 Census, both provided by the U.S. Census Bureau.

Dependent Variable

Please see Chapter 2 for a description of the dependent variables.

Independent Variables

Family-Level Variables

Please see Chapter 2 for a description of family-level independent variables.

Contextual-Level Variables

The contextual model in this analysis includes key explanatory variables for the locally oriented economic climate and variables tapping the labor market and geographic characteristics of places. The key explanatory variables for this analysis are small business establishments and the self-employed, which are drawn from previous research examining the influence of these economic structures on various socioeconomic outcomes (Blanchard 2001; Irwin et al. 2004; Lee 2008; Livermore 2000; Lyson et al. 2001; Tolbert et al. 1998; Tolbert et al. 2002). Data for these measures are drawn from 2000 Census, Summary File 3 (SF3) specifically, and 2000 County Business Patterns, which provide data for business establishments including number of establishments, employment, and payroll. As informed by previous research, economically independent business persons are measured as the percentage of the labor force that is self-employed (Blanchard 2001; Lee 2008, 2010; Lee and Thomas 2010; Lyson et al. 2001). Operationalization of the locally oriented economic climate also includes a measure of small

business establishments as the percentage of all establishments with fewer than 20 employees. This measure moves beyond small-scale manufacturing alone to include small-scale business enterprises across all industries.

Labor market characteristics and geographic indicators that have proven statistically relevant in previous multilevel poverty analyses are also included in the model (see Cotter 2002). These measures are discussed in greater detail in Chapter 2.

Analysis

Descriptive Analysis

Family-Level Measures

Table 1 provided in Chapter 2 presents descriptive statistics for family poverty outcomes and family-level controls that are included in the regression models.

Contextual Measures

Table 9 presents the descriptive statistics for the primary explanatory variables tapping the locally oriented economic climate—small business establishments and the self-employed. Descriptives indicate that across migration PUMAs almost 10 percent of the labor force is self-employed and close to 87 percent of all business establishments have fewer than 20 employees. Descriptives for contextual controls are provided in Table 2 in Chapter 2.

Table 9. Descriptive Statistics of Contextual Measures

| Measures | Mean | Standard Deviation |
|--|-------|--------------------|
| <i>Locally Oriented Economic Climate</i> | | |
| Small business establishments | 86.86 | 2.65 |
| Self-employed | 9.63 | 2.60 |

Notes: N=1,024.

Bivariate Analysis

Bivariate correlations between family poverty outcomes and the locally oriented economic climate are the first step in understanding the relationships between these measures as well as informing the following regression analysis. Table 10 presents bivariate correlation statistics between each of the four family poverty outcomes and the two economic climate measures. Bivariate correlations reveal statistical relationships contradictory to theoretical expectations informed by the civic community perspective. The bivariate relationships between small business establishments and each family poverty indicator demonstrate significant positive correlations. These correlations indicate that in places with a greater proportion of small business establishments there are also greater likelihoods that families will be poor, in both absolute and relative terms. Additionally, these establishments are significantly related to deeper absolute and relative poverty for families.

Table 10. Bivariate Correlations between Family Poverty and the Locally Oriented Economic Climate

| Economic Climate Measures | Absolute Poverty | Relative Poverty | Absolute Depth of Poverty | Relative Depth of Poverty |
|----------------------------------|-------------------------|-------------------------|----------------------------------|----------------------------------|
| Small business establishments | 0.002** | 0.021** | 0.041** | 0.047** |
| Self-employed | -0.022** | -0.008** | -0.016** | -0.012** |

Correlation significant at ** $p < 0.01$.

Turning to economically independent business persons, correlations between the self-employed and each of the family poverty outcomes support the conceptual model that informs this analysis. The self-employed labor force shares significant negative correlations with all four family poverty measures. These correlations demonstrate the relationship between the presence

of economically independent business persons within places and the decreased likelihood that families will be poor. Moreover, correlations provide evidence that the presence of these persons also lessens the depth of absolute and relative poverty experienced by families.

Regarding the conceptual model, bivariate correlations provide a mixed assessment of the relationships between the locally oriented economic climate and family-level poverty. The economic climate measures have both positive and negative significant relationships with family poverty outcomes, with the theoretical expectations being that negative relationships should be witnessed between these economic structures and family poverty. Guided by these mixed results, as well as bivariate correlations, presented in Table 11, and ancillary regression analyses that indicate no multicollinearity between the economic climate measures,²⁷ no data reduction method is used to reduce the economic climate measures into a composite index. This is a departure from much previous civic community research, wherein data reduction is utilized to develop indices from multiple civic community indicators (see Lee and Bartkowski 2004; Lee and Thomas 2010; Lee 2008, 2010; Lyston et al. 2004). Rather, each measure will be used as a separate variable in the following multilevel analysis to determine the unique relationship between each civic community economic structure and family poverty net of other family and contextual factors.

Table 11. Bivariate Correlations between Locally Oriented Economic Climate Measures

| | Small business establishments | |
|---------------|-------------------------------|--------------------|
| Self-employed | 0.621** (0.000) | 0.674** (0.000) |
| | N=2,395,608 | N=1,024 |

Notes: **Correlation significant at $p < 0.01$.

²⁷ Multicollinearity would be indicated by bivariate correlations greater than 0.8 and variance inflation factors (VIFs) greater than 4.

Multilevel Analysis

This analysis utilizes two-level hierarchical modeling to parse out how macro-level civic community structures influence micro-level family poverty, while accounting for other contextual and family characteristics. Two types of hierarchical modeling will be used in this analysis. This includes hierarchical generalized linear modeling (HGLM), the Bernoulli analysis function specifically,²⁸ which is appropriate for dichotomous outcome variables, and hierarchical linear modeling (HLM), which is appropriate for continuous outcome variables (Raudenbush et al. 2004). For this analysis, the HGLM models are utilized to model the two dichotomous measures of family absolute and relative poverty, while the HLM models are utilized to model the two continuous depth of absolute and relative family poverty measures. The primary focus of this analysis is the direct effect of the locally oriented economic climate on family poverty net of other macro- and micro-level factors (see Figure 4).²⁹

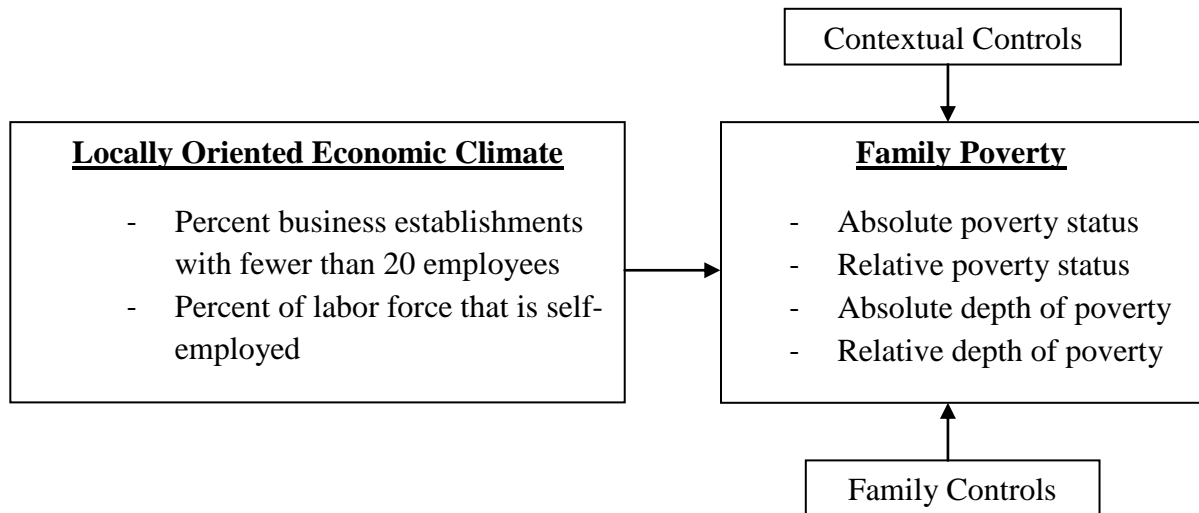


Figure 4. Locally Oriented Economic Climate and Family Poverty Operational Multilevel Model

²⁸ This function is the default method for estimating models with binary outcomes.

²⁹ Multilevel modeling also allows for cross-level interactions. Essentially, cross-level interactions are moderating effects in that a second-level variable is allowed to condition the relationship between a first-level variable and the dependent variable. In the absence of theoretical rationale for doing so, other cross-level effects are not explored.

The focus of the HGLM models is to predict the direct effect of the locally oriented economic climate on the risks of families being poor by both absolute and relative standards, while the HLM models will predict the direct effect of locally oriented economic climate on the depth of absolute and relative poverty experienced by families. As noted in Chapter 2, preliminary multilevel regressions indicate that variation for family-level measures does not exist across contextual units and family-level effects are treated as fixed rather than random. The Level 1 and Level 2 models are expressed as equations below:

$$\text{Level 1 model:} \quad \text{Log} \left[\frac{P_{ij}}{(1-P_{ij})} \right] = \beta_{0j} + \beta_{1j}X_{ij} + r \quad (\text{HGLM})$$

$$Y_{ij} = \beta_{0j} + \beta_{1j}X_{ij} + r \quad (\text{HLM})$$

$$\text{Level 2 model:} \quad \beta_{0j} = \gamma_{00} + \gamma_{01-02}(\text{Economic Climate Measures})_j + \gamma_{03-06}W_j + u_0$$

The HGLM Level 1 model is a micro-level model that identifies the effects of family characteristics on the probability of being poor, where $\text{Log} [P_{ij} / (1 - P_{ij})]$ is the log odds of family i in MIGPUMA j being in poverty; β_{0j} is the intercept for MIGPUMA j ; β_1 represents a matrix of family-level variables; X_{ij} is a vector of coefficients that represents the effects of family characteristics on the probability of being poor in MIGPUMA j ; and r is the Level 1 error term.³⁰

The HLM Level 1 model identifies the effects of family characteristics on the depth of poverty experienced by families, where Y_{ij} is the depth of poverty experienced by family i situated within MIGPUMA j ; β_{0j} is the intercept for MIGPUMA j ; β_1 represents a matrix of

³⁰ It should be noted that nonlinear hierarchical models do not report a Level 1 error term. In order to provide an estimate of the Level 1 random effect, the nonlinear (HGLM) models use the over dispersion parameter. Also, results for these models are from the unit-specific model.

family-level variables; X_{ij} represents a vector of coefficients that indicates the effects of family-level control variables on the depth of poverty experienced by a family in MIGPUMA j ; and r is the Level 1 error term.

The Level 2 model is a macro-level equation where contextual measures are used to explain variation in the intercept, β_{0j} , which represents the average probability that a family will be poor, or the average depth of poverty experienced by a family, in MIGPUMA j and is treated as an outcome variable predicted by MIGPUMA variables. γ_{00} is the average probability that a family will be poor, or the average depth of poverty experienced by families, across MIGPUMAs. The coefficients γ_{01-02} represent the influence of civic community economic structures on β_{0j} , which are of primary theoretical interest and provide the empirical evidence necessary to answer the overarching research question. Coefficients γ_{03-06} represent the effects of W_j , which is a matrix contextual controls in each MIGPUMA j . Lastly, u_0 is the Level 2 random effect.

The mixed hierarchical models combine Level 1 and Level 2 models to capture the simultaneous effects of family characteristics and contextual measures on the probability of a family being poor, or the depth of family poverty.³¹ These models are detailed below:

$$\text{Mixed model:} \quad \text{Log} \left[\frac{P_{ij}}{(1-P_{ij})} \right] = \gamma_{00} + \gamma_{01-02}(\text{Economic Climate Measures})_j + \gamma_{03-06}W_j + \beta_1X_{ij} + u_0 + r \quad (\text{HGLM})$$

$$Y_{ij} = \gamma_{00} + \gamma_{01-02}(\text{Economic Climate Measures})_j + \gamma_{03-06}W_j + \beta_1X_{ij} + u_0 + r \quad (\text{HLM})$$

³¹ All multilevel models are carried out using restricted maximum likelihood estimation, which is the default estimation procedure in the HLM software. All multilevel results are reported from models with robust standard errors, which is the default method of estimating standard errors in the HLM software.

The following analysis is comprised of separate multilevel analyses for each of the four measures of family poverty. Each analysis includes two multilevel models. Model 1 includes only economic climate measures with no contextual or family controls. This model allows for a preliminary understanding of the basic relationships between economic indicators of civic community and family poverty. Model 2 is the full, or final, hierarchical model with civic community economic measures and all controls. The full model provides the most robust results by accounting for various contextual and family characteristics while allowing the locally oriented economic climate to covary with family poverty. Null model results were discussed in Chapter 2, and results from these models are utilized in the following analyses as the dependent variables remain the same.

Results

Table 12 presents the results from hierarchical generalized linear models (HGLM) predicting the probability that a family will be poor (poor=1) as defined by the official U.S. poverty measure. Two models provide multilevel logistic results that explore the impact of local capitalism measures on absolute family poverty. Coefficients from these models are log odds estimates, or logistic coefficients, and their corresponding effects on absolute poverty are interpreted by converting the logistic coefficients into odds ratios by exponentiation ($\exp(\beta)$).

Model 1 in Table 12 shows the direct effects of small establishments and the self-employed labor force on a family's likelihood of being poor and provides an initial understanding of how the economic climate is associated with absolute family poverty without the influence of other contextual and family characteristics. The reliability estimate for Model 1 is 0.969, which is much larger than the accepted 0.20 cut off and indicates substantial variation

in the probability of a family being poor exists across migration PUMAs. Results demonstrate that both economic climate measures are significant predictors of the probability of a family being poor. The log odds estimate for small establishments is 0.040 and the exponentiation of this estimate indicates that a unit increase in this type of business establishment leads to an increase in the odds that a family will be poor by a factor of 1.041. Translated another way, in places with a greater prevalence of small businesses, families experience a 4 percent increase in the odds of experiencing absolute poverty. This finding concurs with preliminary bivariate correlations that indicate small establishments share a positive relationship with absolute family poverty. Again, this finding contradicts theoretical explanations offered by the civic community perspective suggesting that small businesses will socially and economically enhance local communities and in turn reduce the risks of absolute family poverty. Conversely, the log odds estimate for self-employment is -0.044 and the exponentiation of this estimate indicates that a unit increase in this type of labor force participant leads to a reduction in the odds that a family will be poor by a factor of 0.957. This translates into a 4 percent decrease in the likelihood of a family being poor in places with a larger self-employed labor force. This negative relationship supports the theoretical relationship suggested by the civic community perspective positing that self-employed business persons within places promote bridging civic engagement and invest in local economies and in turn reduce the risks of families being poor.

While hierarchical modeling does not provide a traditional R^2 statistic, it is possible to compare random effect coefficients between specified models to determine the percent of variance explained in the probability of a family being poor across migration PUMAs. Utilizing the random effect coefficient for the intercept from the null model (0.280) and the same from Model 1 (0.273), it can be determined that $[(0.280 - 0.273) / 0.280 = 0.025]$ 3 percent of the

across migration PUMA variation in the probability of a family being poor is explained by the two economic climate measures. This indicates that self-employed business persons and small business establishments are significant contextual influences in shaping the likelihood that a family will be poor by official standards.

Model 2 in Table 12 is the full hierarchical model that includes both contextual and family controls along with the key explanatory variables. Focusing on the key explanatory variables, both economic climate measures share significant relationships with absolute family poverty. Further, these significant relationships maintain even with the inclusion of additional macro-and micro-level controls. Specifically, the log odds estimate for small establishments is -0.025 and indicates that a unit increase in this type of business establishment leads to a decrease in the probability of a family being poor by a factor of 0.975. This relationship indicates that in places with a greater concentration of small businesses, families experience about a 3 percent decrease in the odds of being poor. This significant relationship supports theoretical expectations informed by the civic community perspective suggesting that the ecological influence of small business establishments should be associated with decreased risks of absolute poverty for families. The log odds estimate for the self-employed labor force is 0.037 and indicates that a unit increase in this type of labor force participant leads to an increase in the probability of a family being poor by a factor of 1.038. This translates into an almost 4 percent increase in the likelihood of a family experiencing absolute poverty in places with a larger proportion of self-employed workers. This relationship does not provide support for the conceptual model previously outlined as it was expected that economically independent business persons would engender social and economic advantages within places, which in turn reduce family poverty risks.

The findings for the economic climate measures in Model 2 are not consonant with the results from Model 1, rather the measures witness a reversal in their respective influence on the risk of absolute family poverty. This change in relationships indicates that another predictor in the model is potentially affecting this reversal in influence. A multilevel model including only the economic climate measures and family-level controls demonstrates that this change is not affected by a family-level measure. However, a series of multilevel regressions including the two economic climate measures and each of the contextual controls alone indicates that the variable influencing this change is the contextual measure of high SES. This variable is an index that captures employment in good jobs, college graduates, and per capita income. This finding speaks to a possible interaction effect between the economic climate measures and high SES indicating that the influence of small businesses and economically independent business persons on family absolute poverty may depend on the prevailing socioeconomic atmosphere of a place.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, all four measures share significant relationships with absolute family poverty. The unemployment rate and geographic residence in the South share positive relationships with absolute family poverty, while the high SES factor score and percent metro population share negative relationships with absolute family poverty. These contextual controls meet expectations based upon previous poverty research (e.g., Cotter 2002).

A number of family controls are also included in the full model to account for various types of family householder and family characteristics. Each of the family-level controls shares a significant relationship with absolute family poverty and these relationships meet expectations for their projected association with family poverty. Age, each of the education categories, and more employed family members share significant negative relationships with absolute family

poverty, indicating that older family householders, family householders with more education, and more employed family members results in lower probabilities of family absolute poverty. Female, minority (non-white), never married or widowed, separated, or divorced family householders and children each share a significant and positive relationship with absolute family poverty. These results demonstrate that female householders, minority householders, non-married householders, and more children increase the probability of absolute family poverty. Using the intercept random effect coefficient from the null model (0.280) and from Model 2 (0.049), it can be determined that $[(0.280 - 0.049) / 0.280 = 0.825]$ 83 percent of the across migration PUMA variation in the probability that a family will be poor is explained by all measures included in the model. The inclusion of controls not only ensures that results for primary explanatory variables are robust, these measures also increase the percentage of variation across migration PUMAs in the likelihood of family poverty explained—from 3 percent to 83 percent.

Taken together, the results do not provide complete support for the conceptual model outlined in this chapter. Specifically, it was expected that the locally oriented nature of small business establishments and the self-employed would enhance community bridging civic engagement and social capital and bolster local economies. In turn, this context of local capitalism would contribute to lessened absolute family poverty. However, results from the full multilevel model reveal that only one measure of the locally oriented economic climate, small business establishments, meets these expectations, while economically independent business persons operate in a manner contradictory to theoretical expectations. Moreover, results also suggest the possible moderating effect of high SES on the relationship between the self-employed labor force and absolute family poverty.

Table 12. Results of Hierarchical Generalized Linear Models (HGLM) of Absolute Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | -5.2922*** | 2.3400*** |
| Economic Climate | | |
| Small establishments | 0.0397*** | -0.0251*** |
| Self-employed | -0.0442*** | 0.0367*** |
| Contextual Controls | | |
| Unemployed | | 0.0756*** |
| High SES | | -0.1459*** |
| South | | 0.1160*** |
| Metro population | | -0.0018*** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0367*** |
| Female | | 0.5258*** |
| Non-Hispanic black ¹ | | 0.5447*** |
| Hispanic ¹ | | 0.6483*** |
| Non-Hispanic other ¹ | | 0.7184*** |
| High school ² | | -0.6753*** |
| Some college ² | | -1.0999*** |
| Bach. degree or more ² | | -1.8041*** |
| Never married ³ | | 0.8403*** |
| Wid./sep./div. ³ | | 0.6678*** |
| <i>Family characteristics</i> | | |
| Related children | | 0.4507*** |
| Family labor supply | | -1.6639*** |
| Reliability Estimate | 0.969 | 0.745 |
| Variance Component (Random Effect): Intercept | 0.273 | 0.049 |
| Variance Component (Random Effect) : Level 1 | 0.995 | 1.440 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and County Business Patterns 2000.

Notes: Unit-specific models with robust standard errors. Results are weighted using normalized household weights.

Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Table 13 presents the results from hierarchical generalized linear models (HGLM) predicting the probability that a family will be poor by a relative standard—50 percent of the national median family income. Two models provide multilevel logistic results that explore the impact of economic climate measures on relative family poverty. Coefficients from these models are logistic coefficients and their corresponding effects are interpreted by converting the logistic coefficients into odds ratios by exponentiation ($\exp(\beta)$).

Model 1 in Table 13 shows the direct effects of small business establishments and the self-employed on a family's likelihood of being poor. The reliability estimate for Model 1 is 0.998, which is much larger than the accepted 0.20 cut off and indicates that substantial variation in the probability of a family being poor does exist across migration PUMAs. Results demonstrate that both economic climate measures are significant predictors of the probability that a family will be poor. The logistic coefficient for small business establishments is 0.049 and the exponentiation of this estimate indicates that a unit increase in this type of business establishment leads to a 1.050 increase in the odds that a family will be poor. This relationship indicates that families experience a 5 percent increase in the odds of being poor in places with more small businesses. This finding concurs with preliminary bivariate correlations that indicate small business establishments share a positive relationship with relative family poverty. Again, this finding is unexpected and does not support theoretical expectations informed by the civic community perspective proposing that small businesses socially and economically enhance the local context in which families are embedded and in turn reduce the risks of relative family poverty. The logistic coefficient for the self-employed is -0.032 and the exponentiation of this estimate indicates that a unit increase in these types of business persons leads to a reduction in the probability that a family will be poor by a factor of 0.969. This translates into a 3 percent

decrease in the odds of a family being poor in places with a greater proportion of self-employed workers. The negative relationship between this type of business person and relative family poverty supports theoretical expectations positing that locally oriented business persons socially and economically enhance the contextual environment in which they are embedded and in turn are related to reduced risks of families being poor. Utilizing the random effect coefficient for the intercept from the null model (0.273) and the same from Model 1 (0.264), it can be determined that $[(0.273 - 0.264) / 0.273]$ 3 percent of the across migration PUMA variation in the probability of a family being poor is explained by economic climate measures.

Model 2 in Table 13 is the full hierarchical model that includes both family and contextual controls along with the key explanatory variables. Focusing on the key explanatory variables, both economic climate measures share significant relationships with family poverty net of other factors. Specifically, the log odds estimate for small establishments is -0.035 and indicates that a unit increase in this type of business establishment leads to a decrease in the probability of a family being poor by a factor of 0.966. Interpreted another way, this finding indicates that in places with a greater prevalence of small businesses, families experience a 3 percent reduction in the odds of being poor. This relationship does support theoretical expectations that the ecological influence of small business establishments should be associated with decreased risks of relative poverty for families. The log odds estimate for the self-employed is 0.052 and indicates that a unit increase in this type of labor force participant leads to an increase in the probability of a family being poor by a factor of 1.053. This translates into a 5 percent increase in the odds of a family being poor in places with a greater proportion of self-employed workers. This relationship is contradictory to theoretical expectations based upon the

civic community tradition predicting the dampening effect of these business persons on relative family poverty probabilities.

Overall, findings provide mixed support for the conceptual model outlined in this chapter. Specifically, it was expected that the locally oriented nature of small business establishments and the self-employed labor force would provide heightened levels of bridging civic engagement and social capital and bolster local economies. In turn, this context of local capitalism would contribute to lessened relative family poverty. However, multilevel results reveal that only one measure of the locally oriented economic climate, the influence of small establishments, meets these expectations.

Again, findings for the economic climate measures change between the reduced and full models with a reversal in the respective influence of small businesses and the self-employed on the risk of relative family poverty. This change in relationships indicates that another predictor in the model is potentially affecting this reversal in influence. Supplementary analyses demonstrate the potential moderating effect of high SES, indicating that the influence of small businesses and economically independent business persons on relative family poverty may depend upon the prevailing socioeconomic context within a place.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, all four measures share significant relationships with family poverty. The unemployment rate and geographic residence in the South share positive relationships with the relative family poverty, while the high SES factor score and metro population share negative relationships with relative family poverty. Again, these contextual controls meet expectations based upon previous poverty research.

A number of family controls are also included in the model to account for various types of family householder and family characteristics. Each of the family-level controls shares a significant relationship with relative family poverty and these relationships meet expectations for their projected influence on family poverty. Age, each of the education categories, and employed family members share significant and negative relationships with relative family poverty, indicating that older family householders, family householders with more education, and more employed family members results in lower probabilities of relative family poverty. Female, minority (non-white), never married or widowed, separated, or divorced family householders and related children each share a positive significant relationship with relative family poverty. These results demonstrate that female householders, minority householders, non-married householders, and the presence of more children increase the probability of relative family poverty.

As previously stated, a traditional R^2 statistic is not provided in hierarchical modeling results, but it is possible to determine the percentage of between migration PUMA variation in the probability that a family will be poor that is explained by both all measures in the model. Using the intercept random effect coefficient from the null model (0.273) and from Model 2 (0.060), it can be determined that $[(0.273 - 0.060) / 0.280 = 0.780]$ 78 percent of the between migration PUMA variation in the probability that a family will be poor is explained by all measures included in the model. The inclusion of family controls not only ensures that results for primary explanatory variables are robust, these measures also increase the percentage of variation between migration PUMAs in the likelihood of relative family poverty explained—from 3 percent to 78 percent.

Table 13. Results of Hierarchical Generalized Linear Models (HGLM) of Relative Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | -5.1764*** | 4.0097*** |
| Economic Climate | | |
| Small establishments | 0.0489*** | -0.0350*** |
| Self-employed | -0.0317*** | 0.0524*** |
| Contextual Controls | | |
| Unemployed | | 0.0522*** |
| High SES | | -0.2184*** |
| South | | 0.0999*** |
| Metro population | | -0.0023*** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0234*** |
| Female | | 0.4423*** |
| Non-Hispanic black ¹ | | 0.6540*** |
| Hispanic ¹ | | 0.9117*** |
| Non-Hispanic other ¹ | | 0.7776*** |
| High school ² | | -0.7700*** |
| Some college ² | | -1.2835*** |
| Bach. degree or more ² | | -2.2243*** |
| Never married ³ | | 0.9440*** |
| Wid./sep./div. ³ | | 0.7055*** |
| <i>Family characteristics</i> | | |
| Related children | | 0.3995*** |
| Family labor supply | | -1.3841*** |
| Reliability Estimate | 0.984 | 0.895 |
| Variance Component (Random Effect): Intercept | 0.264 | 0.060 |
| Variance Component (Random Effect) : Level 1 | 0.998 | 1.135 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and County Business Patterns 2000.

Notes: Unit-specific models with robust standard errors. Results are weighted using normalized household weights.

Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Table 14 presents the results from hierarchical linear models (HLM) predicting the depth of absolute poverty for families. Following the modeling strategy for the previous multilevel models, two models provide results that explore the impact of economic climate measures on the depth of absolute family poverty. Model 1 shows the effects of only the economic climate measures on a family's depth of absolute poverty. Model 2 is the final hierarchical model that combines the locally oriented economic climate and both contextual and family-level controls in a full model that predicts a family's depth of absolute poverty.

Model 1 in Table 14 shows the direct effects of small business establishments and the self-employed labor force on a family's depth of absolute poverty. The reliability estimate for Model 1 is 0.991, which is much larger than the accepted 0.20 cut off and indicates that substantial variation in the depth of absolute family poverty does exist across migration PUMAs. Results demonstrate that both economic climate measures are significant predictors of the depth of absolute poverty for families. The coefficient for small establishments is positive, which indicates that greater concentrations of small businesses within places are associated with deeper absolute family poverty. This finding concurs with preliminary bivariate correlations that indicate that small businesses share a positive relationship with the depth of absolute family poverty. Again, this finding does not support theoretical explanations that these types of businesses are predicted to socially and economically enhance community context and in turn reduce the depth of absolute family poverty. The coefficient for the self-employed labor force is negative, which shows that these types of business persons are associated with reduced depths of family absolute poverty. This negative relationship supports the conceptual model informed by the civic community perspective positing that locally oriented business persons socially and economically enhance community context and in turn reduce the depth of absolute poverty

experienced by families. Utilizing the random effect coefficient for the intercept from the null model (0.017) and the same from Model 1 (0.016), it can be determined that $[(0.017 - 0.016) / 0.017 = 0.059]$ 6 percent of the across migration PUMA variation in the depth of absolute family poverty is explained by economic climate measures.

Model 2 in Table 14 is the full hierarchical model that includes both contextual and family controls along with the key explanatory variables. Focusing on the key explanatory variables, both economic climate measures maintain significant relationships with the depth of absolute family poverty even with the inclusion of contextual and family controls. Specifically, the coefficient for small establishments indicates a negative relationship with the depth of absolute poverty for families. This significant relationship does support theoretical expectations that the ecological influence of small business establishments should be associated with less severe absolute family poverty. The coefficient for the self-employed labor force is positive and indicates that greater proportions of this type of labor force participant with localities is associated with deeper absolute family poverty. These findings do not provide complete support for the conceptual model outlined in this chapter. Specifically, it was expected that the locally oriented nature of small business establishments and the self-employed would enhance bridging civic engagement and social capital and bolster local economies. In turn, this context of local capitalism would contribute to lessened absolute family poverty. However, multilevel results reveal that only one of the measures of the locally oriented economic climate, the influence of small establishments, meets these expectations.

Again, the findings for the economic climate measures change between Models 1 and 2 with a reversal in the respective influence of small businesses and the self-employed on the depth of absolute family poverty. This change in relationships indicates that another predictor in the

model is potentially affecting this reversal in influence. Supplementary analyses demonstrate the possible moderating effect of high SES, indicating that the influence of small businesses and economically independent business persons on the depth of absolute poverty experienced by families may depend on the prevailing socioeconomic atmosphere of a place.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, three of the four measures share significant relationships with the depth of absolute family poverty. The unemployment rate does not share a significant relationship with the depth of absolute poverty for families, while the high SES factor score, metro population, and residence in the South share significant and negative relationships with the depth of absolute family poverty. A number of family controls are also included in the model to account for various types of family householder and family characteristics. Each of the family-level controls shares a significant relationship with relative family poverty and these relationships meet expectations for impact on family poverty. Age, each of the education categories, and family employment share negative relationships with the depth of absolute family poverty, while, female, minority (black, Hispanic, and other), never married or widowed, separated, or divorced and related children each share a positive relationship with the depth of family absolute poverty. Using the intercept random effect coefficient from the null model (0.017) and from Model 2 (0.002), it can be determined that $[(0.017 - 0.002) / 0.017 = 0.882]$ 88 percent of the across migration PUMA variation in the depth of absolute family poverty is explained by all measures included in the model.

Table 15 presents the results from hierarchical linear models (HLM) predicting the depth of relative poverty for families. Following the modeling strategy for the previous multilevel

Table 14. Results of Hierarchical Linear Models (HLM) of Depth of Absolute Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | 0.7340 | 22.3167*** |
| Economic Climate | | |
| Small establishments | 0.1645*** | -0.0488*** |
| Self-employed | -0.1143*** | 0.0546*** |
| Contextual Controls | | |
| Unemployed | | -0.0259 |
| High SES | | -0.5818*** |
| South | | -0.0615* |
| Metro population | | -0.0041*** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0346*** |
| Female | | 0.5700*** |
| Non-Hispanic black ¹ | | 1.3596*** |
| Hispanic ¹ | | 1.7608*** |
| Non-Hispanic other ¹ | | 1.3623*** |
| High school ² | | -1.3406*** |
| Some college ² | | -2.3333*** |
| Bach. degree or more ² | | -4.5026*** |
| Never married ³ | | 2.1276*** |
| Wid./sep./div. ³ | | 1.6120*** |
| <i>Family characteristics</i> | | |
| Related children | | 0.9357*** |
| Family labor supply | | -1.5175*** |
| Reliability Estimate | 0.991 | 0.962 |
| Variance Component (Random Effect): Intercept | 0.016 | 0.002 |
| Variance Component (Random Effect) : Level 1 | 0.208 | 0.114 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and County Business Patterns 2000.

Notes: Unit-specific models with robust standard errors. Results are weighted using normalized household weights. Coefficients are multiplied by 100.

Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

models, two models provide multilevel results that explore the impact of economic climate measures on the depth of relative family poverty.

Model 1 in Table 15 shows the direct effects of small business establishments and the self-employed on a family's depth of relative poverty. The reliability estimate for Model 1 is 0.960, which is much larger than the accepted 0.20 cut off and indicates that substantial variation in the depth of relative family poverty exist across migration PUMAs. Results demonstrate that both economic climate measures are significant predictors of the depth of relative family poverty. The coefficient for small business establishments is positive, which indicates that these businesses are associated with deeper, or more severe, relative family poverty. This finding concurs with preliminary bivariate correlations that indicate small business establishments share a positive relationship with the depth of relative family poverty. Again, this finding does not support theoretical expectations that small businesses are predicted to enhance local community context and in turn reduce the depth of relative family poverty. The coefficient for the self-employed labor force is negative and shows that greater proportions of these business persons within places are associated with less severe relative family poverty. This negative relationship supports the theoretical explanation that self-employed business persons within places improve community context and in turn lessen the severity of relative family poverty. Utilizing the random effect coefficient for the intercept from the null model (0.039) and the same from Model 1 (0.037), it can be determined that $[(0.039 - 0.037) / 0.039 = 0.051]$ 5 percent of the between migration PUMA variation in the depth of relative family poverty is explained by economic climate measures.

Model 2 in Table 15 is the full hierarchical model that includes both family and contextual controls along with the key explanatory variables. Focusing on the key explanatory

variables, both economic climate measures share significant relationships with relative family poverty and these results are robust to the inclusion of other macro- and micro-level covariates. Specifically, the coefficient for small establishments indicates a negative relationship with the depth of relative family poverty. This significant relationship does support theoretical expectations that the ecological influence of small business establishments should be associated with less severe relative poverty for families. The coefficient for self-employed is positive and indicates that the presence of this type of labor force participant within areas is associated with deeper relative family poverty. These findings again provide mixed support for the conceptual model outlined guiding this study. Specifically, it was expected that the locally oriented nature of small business establishments and the self-employed labor force would provide a context of bridging civic engagement and social capital as well as bolster local economies. In turn, this climate of local capitalism would contribute to lessened depths of relative poverty for families. However, multilevel results reveal that only one aspect of the locally oriented economic climate, the influence of small establishments, supports the conceptual model.

As witnessed in the previous three analyses, the findings for the economic climate measures change between Models 1 and 2 with a reversal in the respective influence of small businesses and self-employed workers on the depth of relative family poverty. This change in relationships indicates that another predictor in the model is potentially affecting this reversal in influence. As with the previous analyses, supplementary regressions demonstrate the possible moderating effect of high SES, suggesting that the influence of small businesses and economically independent business persons on the depth of relative family poverty may depend on the prevailing socioeconomic atmosphere of a place.

Table 15. Results of Hierarchical Linear Models (HGLM) of Depth of Relative Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | 2.3138 | 35.7452*** |
| Economic Climate | | |
| Small establishments | 0.2532*** | -0.0754*** |
| Self-employed | -0.1657*** | 0.0843*** |
| Contextual Controls | | |
| Unemployed | | -0.0630* |
| High SES | | -0.8994*** |
| South | | -0.1200** |
| Metro population | | -0.0060*** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0460*** |
| Female | | 0.8296*** |
| Non-Hispanic black ¹ | | 1.9744*** |
| Hispanic ¹ | | 2.5704*** |
| Non-Hispanic other ¹ | | 1.9429*** |
| High school ² | | -1.8757*** |
| Some college ² | | -3.3366*** |
| Bach. degree or more ² | | -6.6531*** |
| Never married ³ | | 3.1088*** |
| Wid./sep./div. ³ | | 2.4343*** |
| <i>Family characteristics</i> | | |
| Related children | | 1.0646*** |
| Family labor supply | | -2.4532*** |
| Reliability Estimate | 0.992 | 0.964 |
| Variance Component (Random Effect): Intercept | 0.037 | 0.005 |
| Variance Component (Random Effect) : Level 1 | 0.450 | 0.251 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and County Business Patterns 2000.

Notes: Unit-specific models with robust standard errors. Results are weighted using normalized household weights.

Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, each of the four measures shares a negative significant relationship with the depth of relative family poverty. Each of the family-level controls shares a significant relationship with the depth of relative family poverty and these relationships meet expectations for impact on family poverty. Age, each of the education categories, and family employment share negative relationships with the depth of relative family poverty, while female, minority (black, Hispanic, and other), never married or widowed, separated, or divorced and related children each share a significant relationship with depth of relative family poverty. Using the intercept random effect coefficient from the null model (0.039) and from Model 2 (0.005), it can be determined that $[(0.039 - 0.005) / 0.039 = 0.872]$ 87 percent of the across migration PUMA variation in the depth of relative family poverty is explained by all measures included in the model.

Interaction Effects

Based upon findings from the multilevel analyses, additional multilevel models are carried out to explore the potential moderating effect of high SES on the relationship between the locally oriented economic climate and family poverty. To address possible moderating effects, multilevel regression models with interaction terms are utilized. The purpose of these models with interaction terms is to parse out if, and how, the high SES factor score is conditioning the relationships between small establishments and the self-employed labor force and each of the family poverty outcomes. Table 16 presents the results of multilevel regression models for each of the family poverty outcomes, which include economic climate measures-by-high SES interaction terms.

Table 16. Multilevel Regression Results of Family Poverty Models with Interaction Effects

| | Absolute Poverty | Relative Poverty | Absolute DOP | Relative DOP |
|--|-----------------------------|-----------------------------|-------------------------|-------------------------|
| Intercept | 2.2253*** | 3.8392*** | 22.0062*** | 35.2760*** |
| Economic Climate | | | | |
| Small establishments | -0.0242*** | -0.0335*** | -0.0461*** | -0.0714*** |
| Self-employed | 0.0384*** | 0.0541*** | 0.0581*** | 0.0898*** |
| Contextual Controls | | | | |
| Unemployed | 0.0689*** | 0.0469*** | -0.0294 | -0.0667* |
| High SES | 1.8921*** | 1.6494*** | 1.5909** | 2.1081* |
| South | 0.1019*** | 0.0868*** | -0.0755* | -0.1387** |
| Metro population | -0.0014*** | -0.0019*** | -0.0035*** | -0.0051*** |
| Interaction Effects | | | | |
| Small establishments * High SES | -0.0256*** | -0.0230*** | -0.0254* | -0.0345** |
| Self-employed * High SES | 0.0156** | 0.0100* | -0.0002 | -0.0056 |
| Family Controls | | | | |
| <i>Householder characteristics</i> | | | | |
| Age | -0.0367*** | -0.0234*** | -0.0346*** | -0.0460*** |
| Female | 0.5458*** | 0.4423*** | 0.5700*** | 0.8296*** |
| Non-Hispanic black ¹ | 0.5441*** | 0.6539*** | 1.3596*** | 1.9744*** |
| Hispanic ¹ | 0.6475*** | 0.9114*** | 1.7606*** | 2.5702*** |
| Non-Hispanic other ¹ | 0.7176*** | 0.7772*** | 1.3621*** | 1.9427*** |
| High school ² | -0.6750*** | -0.7700*** | -1.3406*** | -1.8756*** |
| Some college ² | -1.0996*** | -1.2834*** | -2.3333*** | -3.3366*** |
| Bach. degree or more ² | -1.8040*** | -2.2242*** | -4.5026*** | -6.6531*** |
| Never married ³ | 0.8404*** | 0.9440*** | 2.1276*** | 3.1088*** |
| Wid./sep./div. ³ | 0.6679*** | 0.7055*** | 1.6120*** | 2.4343*** |
| <i>Family characteristics</i> | | | | |
| Related children | 0.4507*** | 0.3995*** | 0.9357*** | 1.0646*** |
| Family labor supply | -1.6637*** | -1.3840*** | -1.5175*** | -2.4532*** |
| Reliability Estimate | 0.738 | 0.895 | 0.961 | 0.963 |
| Variance Component (Random Effect): Intercept | 0.047 | 0.058 | 0.002 | 0.005 |
| Variance Component (Random Effect) : Level 1 | 1.440 | 1.117 | 0.114 | 0.251 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and County Business Patterns 2000.

Notes: Results are weighted using normalized household weights. Results for absolute and relative poverty models are from the unit-specific model. Coefficients from absolute and relative DOP models are multiplied by 100.

Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Looking first at the model of absolute family poverty, both interaction terms are significant. This indicates that the impact of small business establishments exerts particular downward pressure, while the presence of more self-employed workers in the labor force exerts particular upward pressure, on absolute family poverty in higher socioeconomic contexts. In regards to relative family poverty, these effects operate in the same manner. The negative effect of small establishments on relative family poverty is especially pronounced in high SES contexts, while the positive effect of self-employed business persons is amplified in high SES contexts. For absolute and relative depths of family poverty, the interaction term between small establishments and high SES is significant and negative, indicating that small establishments exert particular downward pressure on both types of DOP in high SES contexts. There is no significant moderating effect between the self-employed labor force and high SES for either type of DOP.

Conclusion and Discussion

The objective of this chapter was to extend aggregate-level research in the civic community tradition that has demonstrated the dampening effect of local capitalism on family poverty rates. Drawing from recent developments in poverty research calling for the complementary use of structuralist and individualist approaches to studying poverty, this analysis sought to examine the relationship between the locally oriented economic climate and family poverty in a multilevel context that focused on the association between measures of local capitalism and family poverty over and above other place-based factors and family characteristics. Drawing from macro-level research in the civic community tradition, the conceptual model developed in this chapter suggested that the locally-focused nature of small business establishments and self-employed

business persons should enhance both the social and economic context of localities through bridging civic engagement and local capitalism, and thus provide a climate in which the risks of families experiencing poverty would be lower and the depth of family poverty less severe. The findings revealed here provide mixed support for these ideas.

Across models for each of the four family poverty outcomes, results for the locally oriented economic climate were consistent. In the reduced models, findings were consonant with bivariate correlations. Small business establishments were shown to be positively associated with family-level poverty, while the self-employed labor force was shown to be negatively associated with family-level poverty. However, these relationships witnessed a reversal in their respective influence on family poverty in the full hierarchical models. Supplementary analyses provided indication of a possible moderating effect between the locally oriented economic climate and the prevailing socioeconomic atmosphere of a place, as captured by the measure of high SES. That is, the influence of small businesses and the self-employed on family poverty is dependent upon on the overall amount of good jobs, college graduates, and per capita income within a place.

Informed by the reversals in influence of the economic climates measures between the reduced and full hierarchical models, additional multilevel models analyzing the possible moderating effect of high SES on the relationship between the locally oriented economic climate and each of the family poverty measures were carried out. Interaction models revealed that places with higher levels of socioeconomic status provide a context in which small business establishments exert stronger downward pressure on absolute and relative poverty risks. The opposite was true for aggregate self-employment and absolute and relative family poverty; in places with higher levels of socioeconomic status the self-employed work force exerts stronger upward pressure on absolute and relative family poverty risks. The models also revealed that

small businesses exert stronger downward pressure on both absolute and relative depth of poverty for families in places with higher aggregate SES. No significant interaction effects were found for the self-employed labor force and high SES in relation to either depth of poverty measures. In sum, interaction effects highlight the differential impact of economic civic community structures on specific forms of family poverty as moderated by other socioeconomic indicators.

In the full hierarchical models, small business establishments were shown to be associated with decreased poverty risks and depth of poverty for families. These results provide support for the conceptual model that was informed by the civic community perspective. Both civic engagement and social capital associated with small business establishments serve as community resources that can enhance the problem solving capabilities of communities and contribute to a higher quality of life. These economic entities also strengthen local economies and labor markets as they are embedded within local places and serve to buffer against various extra-local economic forces. These finding also substantiate expanding the focus of small business establishments beyond manufacturing firms, and including small establishments from all industrial sectors to better capture the contextual influence of small-scale economic civic community structures.

Self-employment on the other hand was shown to be associated with increased odds of family poverty and deeper or more severe family poverty. These results do not support the conceptual model developed in this chapter. Specifically, it was theorized that self-employed business persons are economically self-sufficient and therefore primed to be civically engaged in communities in order to ensure the economic viability of their businesses and in turn create a heightened sense of community cohesion that engenders beneficial social outcomes.

Explanations for this contradictory finding can be derived from research that has found self-employed workers to display higher incidences of poverty than other classes of workers, such as employees in the private and public sectors, as well as research that has indicated self-employed workers have lower earnings and fewer benefits (Lichter, Johnston, and McLaughlin 1994; Slack 2010). These findings withstanding, greater shares of self-employed workers may be indicative of local labor market contexts that offer few options for stable work or standard employment. While self-employed business persons contribute to a community context of local capitalism, their impact on communities may be primarily produced by their more unstable and precarious labor situation. Further, while the self-employed may be perceived as economically independent or self-sufficient based upon the civic community tradition, this freedom from traditional work structures may come at a price. While these business persons may be intrinsically tied to the localities they operate in, their overall impact on communities may come from their detachment from, yet susceptibility to, larger economic forces, such as widespread economic downturns and recessions.

Findings derived from the multilevel analyses in this chapter point to future considerations in civic community research. Specifically, it may be beneficial to develop a more detailed understanding of how economically independent business persons impact local economic structures. While the civic community perspective maintains that these persons are beneficial for local communities, it may be necessary to capture additional aspects of self-employed workers. To that point, measures that tap into tenure of self-employment as well as industrial sector and occupation may better capture how the self-employed impact the socioeconomic well-being of communities above and beyond what is proposed by the civic community literature. Such measures could potentially highlight if this class of worker provides

varied community impacts depending upon, for example, how long a worker has been self-employed, or self-employment in industrial sectors or occupations (e.g., FIRE or professional and managerial occupations) that have traditionally offered better employment outcomes, such as higher wages or stability, versus those that have not (e.g., agriculture, forestry, fishing or service and retail trade occupations). Moreover, considering the moderating influence of various place-based socioeconomic indicators—good jobs, educated workforce, and higher levels of income—on the associations between economic civic community structures and community welfare is of primary import in future research. Understanding how the predominant socioeconomic conditions within places affect the manner in which local capitalism operates within a community should be explicitly addressed in future civic community research, especially research that takes a multilevel approach, to provide a stronger assessment of how civic community economic structures influence community welfare within localities.

In regard to policy implications, the results shown in this chapter provide insight for policies and strategies that target economic growth and development. Specifically, economic strategies aimed at growing small-scale, local business enterprises and offering incentives for the creation and long-term viability of small businesses serve to create a locally-oriented economic base. In turn, communities accrue both the economic and social benefits engendered by such an economic base. Moreover, economic development plans should be implemented with consideration given to the opportunity structures—the range of social and economic opportunities available (Cotter 2002)—within localities. The socioeconomic advantages or disadvantages that characterize a place are primarily shaped by the basic building blocks of socioeconomic status (e.g., education, occupation, and wages/salary). The results shown here demonstrate the importance of considering and accounting for the opportunity structures of

places when seeking to implement strategies and policies that address the development of a locally oriented economic base. In particular, a specific policy or development strategy may be bolstered by or diminished by the overarching social and economic context of a community. This is an important consideration when developing economic policies within the context of communities. That is, the success or failure of an economic policy or initiative within a community should be understood within the socioeconomic context of that community. Lastly, such economic strategies in conjunction with other anti-poverty efforts within communities could provide a more comprehensive approach in ameliorating family poverty.

CHAPTER 4: EXPLORING THE INFLUENCE OF LOCALLY ORIENTED CIVIC COMMUNITY STRUCTURES ON FAMILY POVERTY

Introduction

The civic community perspective has proven useful in explicating aggregate-level poverty rates by demonstrating the association between social and economic structures that promote civic community and lower rates of poverty (Lyson et al. 2001; Tolbert et al. 1998; Tolbert et al. 2002). Further, multilevel poverty research has provided evidence of the simultaneous influence of both structural and individual characteristics in shaping and explaining micro-level poverty experiences (Brady et al. 2009; Cotter 2002; Cotter et al. 2007; Poston et al. 2010). Both the civic community perspective and multilevel poverty research hold important promise for understanding the poverty experiences of families. This chapter seeks to draw upon these two theoretical motivations to inform a more complete understanding of how civic community structures directly impact the poverty experiences of families. This objective serves two purposes. First, to address a dearth of multilevel civic community research, and second, to advance multilevel poverty research by identifying additional macro-level structures that influence family-level poverty. To that end, this chapter combines two key elements of the civic community perspective—the locally oriented religious environment and the locally oriented economic climate—with multilevel methods to understand how these aggregate-level structures are associated with micro-level family poverty net of other factors.

Civic Community Perspective and Locally Oriented Community Structures

Of primary import in the civic community perspective is the recognition that various components of communities are not disconnected or mutually exclusive, but rather the different realms that

comprise community life overlap and share interconnected relationships (Lee 2008). Tolbert (2005:1311) notes that the civic community perspective “focuses on social and economic structures and institutions that buffer communities from external, usually global, forces.” Specifically, noneconomic and economic institutions interact with one another, and when these institutions are locally oriented they serve to promote solidarity and cohesion within the community by “forging crosscutting social networks, encouraging voluntarism and political activism and by providing arenas and resources that facilitate problem solving by the local citizenry” (Ousey and Lee 2010:553). This overall sense of community cohesion embeds institutions and individuals within local networks that facilitate active civic engagement and create place-based social capital. Community social capital can then be mobilized to address and attenuate various forms of social inequality within communities (Ousey and Lee 2010).

While independently examining noneconomic and economic institutions in order to understand micro-level family poverty experiences, as carried out in the previous two chapters, helps to parse out the significance of each in relation to poverty, it is also useful to integrate these concepts to build a more holistic picture of how civic community factors contribute to the economic well-being of families. The primary objective in this chapter is to assess the combined influence of the locally oriented religious environment and the locally oriented economic climate on family poverty. As in previous chapters, the analytic strategy will recognize both individualist and structuralist explanations of poverty by accounting for various family characteristics and place-based measures in a multilevel context. This strategy allows for a broadened understanding of how civic community structures are associated with family-level poverty over and above the established macro-level relationship.

Locally Oriented Civic Community Structures and Poverty

Empirical research utilizing the civic community perspective has demonstrated the importance of considering civically engaged religious denominations as well as small-scale business enterprises and economically independent business persons as key civic community structures that contribute to enhanced community well-being (Livermore 2000; Lyson et al. 2001; Tolbert et al. 1998; Tolbert et al. 2002). This chapter seeks to extend this research to further understand the interplay between the locally oriented religious environment and the locally oriented economic climate within communities in the attenuation of family poverty; particularly, how the presence of civically engaged religious denominations (i.e., Mainline Protestants and Catholics) and civically engaged economic institutions (i.e., small business establishments and the self-employed) are associated with the micro-level poverty experiences of families. In order to do so, I outline the primary mechanisms through which the locally oriented religious environment and the locally oriented economic climate are related to poverty, which include civic engagement and bridging social capital.

Civic Engagement and Social Capital

Focusing on social institutions within communities, it is the externally oriented character of Mainline Protestant and Catholic religious traditions that encourages congregations and adherents within these denominations to be civically engaged and form bridging social capital with the surrounding community (Ammerman 2002; Beyerlein and Hipp 2005; Putnam 2000; Wuthnow 1999). These congregations and adherents not only utilize social capital to benefit their own members, but can mobilize their social capital to assist others external to their congregations within the larger community (Foley et al. 2001). Specifically, the social capital generated by religious bodies can serve as a crucial structural asset by shaping the social framework of

communities as these denominations bring attention to social problems, provide physical spaces in which civic engagement can occur and proffer opportunities for civic engagement, as well as hold authoritative positions that serve to bring attention and legitimacy to civic action aimed at attenuating social injustice (Foley et al. 2001; Warren et al. 2001).

Turning to economic institutions within communities, both small, locally based businesses and economically independent business persons have the propensity to positively contribute to community-level civic engagement and social capital. These economic entities are not only financially invested in the local community, but tend to be socially invested as well, as the success or failure of their business enterprises is dependent upon community well-being. As such, owners and managers of small businesses are more inclined to actively participate in local associations and organizations and utilize leadership and managerial skills in civic associations (Lee and Thomas 2010; Mencken et al. 2006; Tolbert et al. 2002). Further, small, local establishments orient both production and consumption toward the locality in which they are located, as well as rely upon the local population as potential employees and customers (Lee and Thomas 2010). Taken together, these economic institutions are rooted in place and have the potential to heighten place-based well-being.

Theoretically, it has been argued that community civic engagement and social capital are facilitated by the locally oriented religious environment and the locally oriented economic climate and thus have positive implications for community well-being (Tolbert et al. 1998). Therefore, it is expected that in places where both the religious environment and the economic climate are locally oriented family poverty will be less prevalent.

Poverty

As outlined in Chapter 2, this analysis will employ four measures poverty: 1) absolute; 2) relative; 3) depth of relative poverty; and 4) depth of absolute poverty.

Summary and Research Objective

Previous research has highlighted both individual and structural determinants of poverty, the former often captured by householder characteristics and the latter often captured by community characteristics (Cotter 2002; Cotter et al. 2007; Poston 2010). Previous research has also provided significant evidence of the relationship between civic community structures and lower poverty rates (Livermore 2000; Lyson and Tolbert 1996; Lyson et al. 2001; Tolbert et al. 1998; Tolbert et al. 2002). This chapter seeks to examine the relationship between civic community structures—the *locally oriented religious environment* and the *locally oriented economic climate*—and family poverty by modeling both individual and structural determinants of poverty in a multilevel context. The guiding question is: Above and beyond the characteristics of families and other structural considerations, how are the religious environments and economic climates of places related to family-level poverty? The extant literature suggests that locally oriented religious environments and locally oriented economic climates will be associated with enhanced socioeconomic well-being and lessened family-level poverty in particular. A conceptual model outlining these relationships is illustrated by Figure 5.

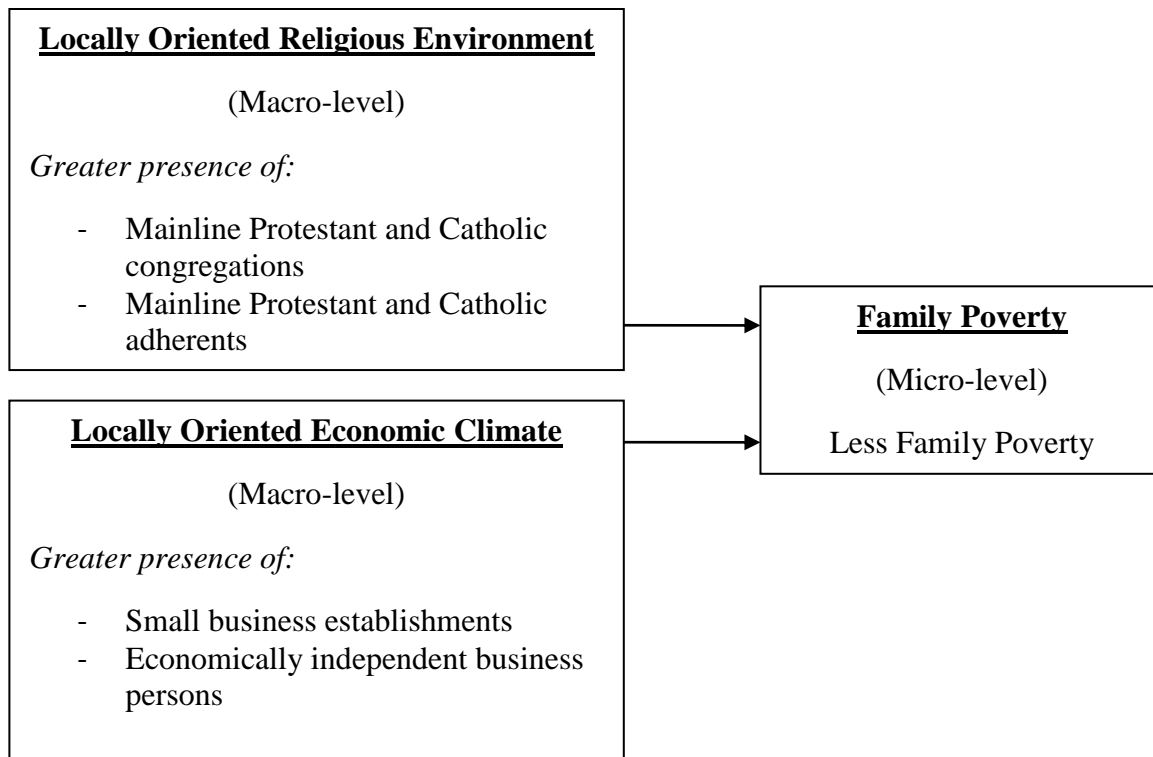


Figure 5. Civic Community Structures and Family Poverty Conceptual Model

Methods

For a complete discussion of the methods, data and measures, and dependent and independent variables please refer to the corresponding section in Chapters 2 and 3.

Analysis

Descriptive Analysis

For a complete discussion of the descriptives see Chapters 2 and 3.

Bivariate Analysis

See Chapters 2 and 3 for bivariate correlations between the civic community measures and each of the family poverty outcomes.

Guided by mixed bivariate correlations between civic community measures and family-level poverty, presented in Tables 3 and 10 in the previous chapters, as well as bivariate

correlations, presented in Table 17, and ancillary regression analyses that indicate no multicollinearity between the economic climate measures,³² no data reduction method is used to reduce the civic community measures into a composite index. This is a departure from much previous civic community research, wherein data reduction is utilized to develop indices from multiple civic community indicators (see Lee and Bartkowski 2004; Lee and Thomas 2010; Lee 2008, 2010; Lyston et al. 2004). Rather, each measure will be used as a separate variable in the following multilevel analysis to determine the unique relationship between each civic community structure and family poverty net of other family and contextual factors.

Table 17. Bivariate Correlations between Locally Oriented Civic Community Measures

| Civic Community Measures | Small business establishments | Self-employed |
|--|--------------------------------------|----------------------|
| Mainline Protestant and Catholic congregations | 0.391** (0.000) | 0.305** (0.000) |
| Mainline Protestant and Catholic adherents | -0.070** (0.000) | -0.060** (0.000) |
| | N=2,395,608 | N=1,024 |

Notes: **Correlation significant at $p < 0.01$.

Multilevel Analysis

This analysis utilizes multilevel modeling to parse out how macro-level civic community structures influence micro-level family poverty, while accounting for other contextual and family characteristics. Two types of hierarchical models will be assessed in this analysis. This includes HGLM models, which are appropriate for dichotomous outcome variables, and HLM models,

³² Multicollinearity would be indicated by bivariate correlations greater than 0.8 and variance inflation factors (VIFs) greater than 4.

which are appropriate for continuous outcome variables (Raudenbush et al. 2004). In this analysis, the HGLM models are utilized to model the two dichotomous measures of family absolute and relative poverty, while the HLM models are utilized to model the two continuous depth of family poverty measures. The primary focus of this analysis will be the direct effect of macro-level civic community measures on the micro-level dependent variables measuring family poverty (see Figure 6).³³

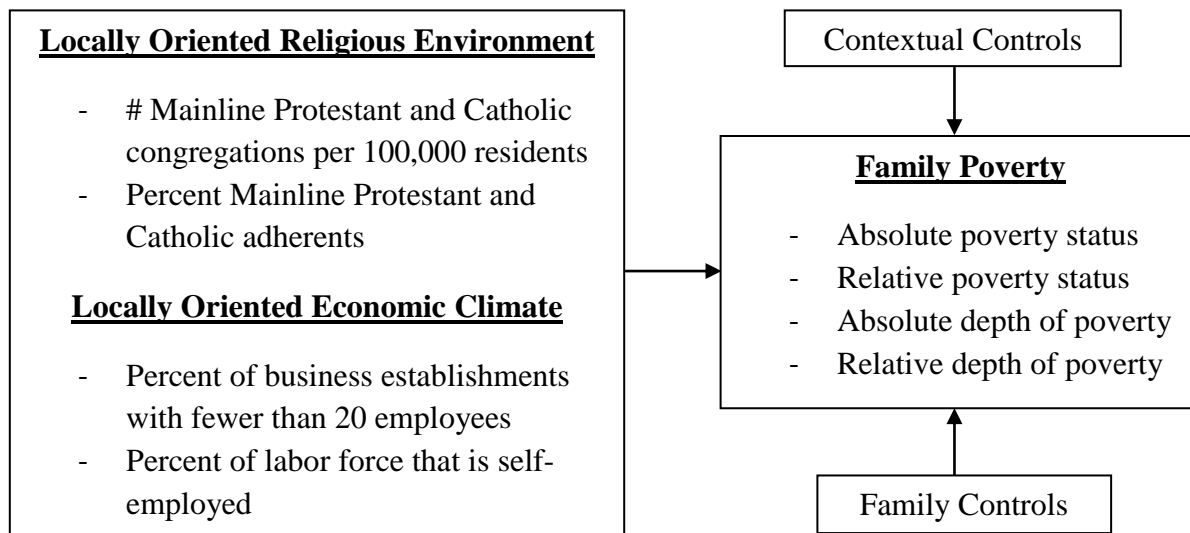


Figure 6. Locally Oriented Civic Community Structures and Family Poverty Operational Multilevel Model

The focus of the HGLM models is to predict the direct effect of locally oriented civic community structures on the risk of families being poor by both absolute and relative standards, while the HLM models predict the direct effect of locally oriented civic community structures on

³³ Multilevel modeling also allows for cross-level interactions. Essentially, cross-level interactions are mediating effects in that a second-level variable is allowed to condition the relationship between a first-level variable and the dependent variable. Due to theoretical considerations, the primary focus of this analysis is the direct effect of the locally oriented economic climate on family poverty with no cross-level interactions.

the depth of absolute and relative poverty experienced by families. Preliminary multilevel regressions indicate that variation for family-level measures does not exist across contextual units. This is important to note for conceptual reasons in that the influence of family effects are significant predictors of a family's likelihood of being poor, yet these effects do not vary across migrations PUMAs. Thus, family-level effects are not treated as random, but rather family-level effects are fixed and are uniform across contextual-level units.³⁴ Level 1 and 2 models are expressed as equations below.

$$\text{Level 1 model:} \quad \text{Log} \left[\frac{P_{ij}}{(1-P_{ij})} \right] = \beta_{0j} + \beta_1 X_{ij} + r \quad (\text{HGLM})$$

$$Y_{ij} = \beta_{0j} + \beta_1 X_{ij} + r \quad (\text{HLM})$$

$$\text{Level 2 model:} \quad \beta_{0j} = \gamma_{00} + \gamma_{01-04}(\text{Civic Community Measures})_j + \gamma_{05-09}W_j + u_0$$

The HGLM Level 1 model is a micro-level model that identifies the effects of family characteristics on the probability of being poor (1=yes), where $\text{Log} [P_{ij} / (1 - P_{ij})]$ is the log odds of family i in MIGPUMA j being in poverty; β_{0j} is the intercept for MIGPUMA j ; β_1 represents a matrix of family-level variables; X_{ij} is a vector of coefficients that indicates the effects of family variables on the probability of being poor in MIGPUMA j ; and r is the Level 1 error term.³⁵

³⁴ Because family-level effects are treated as fixed rather than random, multilevel regression coefficients for family-level measures are essentially global regression coefficients and their effects are the same for each individual migration PUMA. Further, family-level coefficients are similar to those produced by linear or logistic regression. While family-level effects are important in understanding family poverty risks, the primary focus of this analysis is the influence of contextual measures above and beyond family measures.

³⁵ It should be noted that nonlinear hierarchical models do not report a Level 1 error term. In order to provide an estimate of the Level 1 random effect, the nonlinear (HGLM) models use the over dispersion parameter. Also, results for these models are from the unit-specific model.

The HLM Level 1 model identifies the effects of family characteristics on the depth of poverty experienced by a family, where Y_{ij} is the depth of poverty experienced by family i situated within MIGPUMA j . β_{0j} is the intercept for MIGPUMA j ; β_1 represents a matrix of family-level variables; X_{ij} represents a vector of coefficients that indicates the effects of family variables on the depth of poverty experienced by a family in MIGPUMA j ; and r is the Level 1 error term.

The Level 2 model is a macro-level equation where contextual measures are used to explain variation in the intercept β_{0j} , which represents the average probability that a family will be poor, or the average depth of poverty, in MIGPUMA j and is treated as an outcome variable predicted by contextual-level variables. γ_{00} is the average probability that a family will be poor, or the average depth of poverty, across MIGPUMAs. The coefficients γ_{01-04} represent the influence of civic community measures on β_{0j} , which are of primary theoretical interest and provide the empirical evidence necessary to answer the overarching research question. Coefficients γ_{05-09} represent the effects of W_{ij} , which is a matrix of contextual-level control variables. Lastly, u_0 is the Level 2 random effect.

The mixed hierarchical models combine Level 1 and Level 2 models to simultaneously capture the effects of family characteristics and contextual measures on the probability of a family being poor, or the depth of family poverty.³⁶ These models are expressed below:

$$\text{Mixed model:} \quad \text{Log} \left[\frac{P_{ij}}{(1-P_{ij})} \right] = \gamma_{00} + \gamma_{01-04}(\text{Civic Community Measures})_j + \gamma_{05-09}W_j + \beta_1 X_{ij} + u_0 + r \quad (\text{HGLM})$$

³⁶ All multilevel models are carried out using restricted maximum likelihood estimation, which is the default estimation procedure in the HLM software. All multilevel results are reported from models with robust standard errors, which is the default method of estimating standard errors in the HLM software.

$$Y_{ij} = \gamma_{00} + \gamma_{01-04}(\text{Civic Community Measures})_j + \gamma_{05-09}W_j + \beta_1 X_{ij} + u_0 + r \quad (\text{HLM})$$

The following analysis is comprised of separate multilevel analyses for each of the four measures of family poverty. Each analysis includes two multilevel models. Model 1 includes only civic community measures with no contextual or family controls. This model allows for a preliminary understanding of the basic relationships between civic community indicators and family poverty. Model 2 is the full, or final, hierarchical model with civic community measures and all controls. The full model provides the most robust results by accounting for varying contextual conditions and family characteristics while allowing civic community measures to covary with family poverty. Null model results were discussed in Chapter 2, and results from these models are utilized in the following analyses as the dependent variables remain the same.

Results

Table 18 presents the results from hierarchical generalized linear models (HGLM) predicting the probability that a family will be poor (poor=1) as defined by the official U.S. poverty measure. Two separate models provide multilevel logistic results that explore the impact of civic community measures on absolute family poverty. Coefficients from these models are log odds estimates, or logistic coefficients, and their corresponding effects on absolute family poverty are interpreted by converting the logistic coefficients into odds ratios by exponentiation ($\exp(\beta)$).

Model 1 in Table 18 shows the direct effect of each civic community indicator on a family's likelihood of being poor and provides an initial understanding of how civic community structures are associated with absolute family poverty without the influence of other contextual and family characteristics. The reliability estimate for Model 1 is 0.959, which is much larger

than the accepted 0.20 cut off and indicates that substantial variation across migration PUMAs in the probability of a family being poor. The results from Model 1 show that both of the religious-based civic community measures are significant predictors of the probability of a family being poor. Focusing first on the religious environment, the logistic coefficient for Mainline Protestant and Catholic congregations is 0.004 and the exponentiation of this estimate indicates that a unit increase in these types of congregations leads to an increase in the odds that a family will be poor by a factor of 1.004. Interpreted another way, this result indicates that in places with more Mainline Protestant and Catholic congregations, the odds of a family experiencing absolute poverty are 0.4 percent higher. The logistic coefficient for Mainline Protestant and Catholic adherents is -0.011, which when exponentiated indicates that a unit increase in these types of adherents results in a decrease in the odds that a family will be poor by a factor of 0.989. This translates into a 1 percent decrease in the odds of a family experiencing absolute poverty in places with more Mainline Protestant and Catholic adherents.

Focusing on the economic climate, results show that only one measure of the locally oriented economic climate is significant, this being the measure of economically independent business persons. The logistic coefficient for self-employed workers is -0.046 and the exponentiation of this estimate indicates that a unit increase in this type of labor force participant leads to a reduction in the odds that a family will be poor by a factor of 0.955. This result indicates that in places with a greater presence of self-employed workers families experience about a 5 percent decrease in the odds of being poor by absolute standards. No significant relationship is found between small establishments and absolute family poverty.³⁷ Utilizing the random effect coefficient for the intercept from the null model (0.280) and the same from Model

³⁷ If a less stringent significance level ($p < 0.10$) is used, this measure is marginally significant with a p-value of 0.077.

1 (0.204), it can be determined that $[(0.280 - 0.204) / 0.280 = 0.271]$ 27 percent of the across migration PUMA variation in the probability of a family being poor is explained by civic community measures. This indicates that civic community structures are significant in shaping the likelihood that a family will be poor by official standards.

Model 2 in Table 18 is the full hierarchical model that includes both family and contextual controls along with the key explanatory variables. Focusing on the civic community variables, each of the four measures shares a significant relationship with absolute family poverty above and beyond other contextual and family controls. The logistic coefficient for Mainline Protestant and Catholic congregations is 0.002 and indicates that a unit increase in these types of congregations leads to an increase in the probability of a family being poor by a factor of 1.002. This result demonstrates that families in places with a greater presence of Mainline Protestant and Catholic congregations are 0.2 percent more likely to be poor. Working in the opposite direction, Mainline Protestant and Catholic adherents share a negative relationship with absolute family poverty. The logistic coefficient for this covariate is -0.003 and indicates that a unit increase in Mainline Protestant and Catholic adherents results in a decrease in the probability of absolute family poverty by a factor of 0.997. This finding indicates that a 0.3 percent decrease in the odds of a family being poor is associated with residence in places with a greater prevalence of Mainline Protestant and Catholic adherents.

Turning to the economic climate measures, the logistic coefficient for small establishments is -0.023 and indicates that a unit increase in this type of business establishment leads to a decrease in the probability of a family being poor by a factor of 0.977. This result demonstrates that in places with more small business establishments, the odds of a family being poor are 2 percent lower. The log odds estimate for the self-employed is 0.032 and indicates that

a unit increase in this type of labor force participant leads to an increase in the probability of a family being poor by a factor of 1.032. This indicates that a 3 percent increase in the odds of a family being poor is associated with places that have greater percentages of self-employed workers. Notable here for the economic climate is the change in effects for small establishments and the self-employed from those witnessed in Model 1. Once controls are included in the model, the self-employed do not maintain a negative relationship with absolute family poverty. Rather, self-employed workers now demonstrate a positive relationship with absolute family poverty. While not significant at the $p < 0.05$ level in Model 1, the influence of small establishments also changes. This change in effects for the economic climate measures is similarly demonstrated in the analysis in Chapter 3. Supplementary analyses again indicate the moderating effect of the index capturing good jobs, college graduates, and per capita income on the relationship between the economic climate and relative family poverty risks. In the context of communities, it is important to understand that the impact of local capitalism measures on absolute family poverty may be conditioned by the prevailing socioeconomic conditions within communities.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, all four measures share significant relationships with absolute family poverty. The unemployment rate and geographic residence in the South are shown to be associated with increased risks of absolute poverty for families, while the high SES factor score and metro population are associated with decreased risks of absolute poverty for families. These contextual controls meet expectations based upon previous poverty research (see Cotter 2002). A number of family controls are also included in the full model to account for various types of family householder and family characteristics. Each of the family-level controls shares a

Table 18. Results of Hierarchical Generalized Linear Models (HGLM) of Absolute Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | -2.6406*** | 2.2054*** |
| Civic Community | | |
| Mainline Protestant and Catholic congregations | 0.0035*** | 0.0023*** |
| Mainline Protestant and Catholic adherents | -0.0108*** | -0.0034*** |
| Small establishments | 0.0145 | -0.0232*** |
| Self-employed | -0.0463*** | 0.0322*** |
| Contextual Controls | | |
| Unemployed | | 0.0876*** |
| High SES | | -0.1078*** |
| South | | 0.0514* |
| Metro population | | -0.0008** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0367*** |
| Female | | 0.5261*** |
| Non-Hispanic black ¹ | | 0.5447*** |
| Hispanic ¹ | | 0.6541*** |
| Non-Hispanic other ¹ | | 0.7193*** |
| High school ² | | -0.6749*** |
| Some college ² | | -1.0991*** |
| Bach. degree or more ² | | -1.8029*** |
| Never married ³ | | 0.8408*** |
| Wid./sep./div. ³ | | 0.6678*** |
| <i>Family characteristics</i> | | |
| Related children | | 0.4507*** |
| Family labor supply | | -1.6640*** |
| Reliability Estimate | 0.959 | 0.730 |
| Variance Component (Random Effect): Intercept | 0.204 | 0.045 |
| Variance Component (Random Effect): Level 1 | 0.996 | 1.441 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); Religious Congregations and Membership Survey 2000; and County Business Patterns 2000.

Notes: Unit-specific models with robust standard errors. Results are weighted using normalized household weights. Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

significant relationship with absolute family poverty and these relationships meet expectations for their projected association with family poverty. Age, each of the education categories, and employed family members share significant negative relationships with absolute family poverty, indicating that older family householders, family householders with more education, and employed family members results in lower probabilities of absolute family poverty. Female, minority (non-white), never married or widowed, separated, or divorced family householders and related children each share a positive significant relationship with absolute family poverty. These results demonstrate that female householders, minority householders, non-married householders, and more children increase the probability of absolute family poverty.

Taking the Level 2 random effect coefficient from the null model (0.280) and the same from Model 2 (0.045), it can be calculated that $[(0.280 - 0.045) / 0.280 = 0.839]$ 84 percent of the across migration PUMA variation in the probability of absolute family poverty is explained by all measures included in the model. The inclusion of contextual and family controls increases the percentage of variation between migration PUMAs in the likelihood of family poverty explained—from 27 percent to 84 percent—and also ensures that results for the primary explanatory variables are robust. Speaking to theoretical expectations informed by the civic community perspective, only two of the four civic community structures are associated with the attenuation of family-level absolute poverty. These structures—Mainline Protestant and Catholic adherents and small business establishments—provide support for the conceptual model outlined in this chapter. Conversely, Mainline Protestant and Catholic congregations and the self-employed contradict the conceptual model and, rather, are associated with a greater likelihood of absolute family poverty.

Table 19 presents the results from hierarchical generalized linear models (HGLM) predicting the probability that a family will be poor (poor=1) by a relative standard—50 percent of the national median family income. Two models provide multilevel logistic results that explore the impact of civic community measures on relative family poverty. Coefficients from these models are logistic coefficients and their corresponding effects are interpreted by converting the logistic coefficients into odds ratios by exponentiation ($\exp(\beta)$).

Model 1 in Table 19 shows the direct effects of civic community indicators on the likelihood of a family being poor. The reliability estimate for Model 1 is 0.977, which is much larger than the accepted 0.20 cut off and indicates that substantial variation in the probability of a family being poor does exist across migration PUMAs. Results demonstrate that each of the four civic community measures is a significant predictor in the likelihood of a family experiencing relative poverty. The log odds estimate for Mainline Protestant and Catholic congregations is 0.004 and the exponentiation of this estimate indicates that a unit increase in these types of congregations leads to an increase in the likelihood of relative family poverty by a factor of 1.004. Interpreted differently, this finding demonstrates a 0.4 percent increase in the odds of a family experiencing relative poverty is associated with places with a greater concentration of Mainline Protestant and Catholic congregations. The log odds estimate for Mainline Protestant and Catholic congregations is -0.011 and the exponentiation of this estimate indicates that a unit increase in these types of adherents leads to an increase in the likelihood of relative family poverty by a factor of 0.989. This finding indicates that families in places with a greater prevalence of Mainline Protestant and Catholic are 1 percent less likely to experience relative poverty.

Focusing on the economic climate measures, the logistic coefficient for small business establishments is 0.020 and the exponentiation of this estimate indicates that a unit increase in this type of business establishment leads to a 1.020 increase in the odds that a family will be poor. This relationship indicates that in places with a greater presence of small businesses, families experience a 2 percent increase in the odds of being poor by relative standards. The logistic coefficient for the self-employed is -0.035 and the exponentiation of this estimate indicates that a unit increase in this type of labor force participant leads to a reduction in the probability that a family will be poor by a factor of 0.965. This result demonstrates about a 4 percent decrease in the odds of a family being poor is associated with places that have a greater percentage of self-employed workers. Utilizing the random effect coefficient for the intercept from the null model (0.273) and the same from Model 1 (0.184), it can be determined that $[(0.273 - 0.184) / 0.273 = 0.326]$ 33 percent of the across migration PUMA variation in the probability of a family being poor is explained by civic community measures alone.

Model 2 in Table 19 is the full hierarchical model that includes contextual and family controls along with the key explanatory variables. Focusing on the key explanatory variables, each civic community measure shares a significant relationship with relative family poverty even with the inclusion of other contextual and family. The log odds estimate for Mainline Protestant and Catholic congregations is 0.003 and indicates that a unit increase in these types of congregations leads to an increase in the likelihood that a family will be poor by a factor of 1.003. This relationship demonstrates a 0.3 percent increase in the odds of a family being poor is associated with places that have a greater prevalence of Mainline Protestant and Catholic congregations. Conversely, the log odds estimate for Mainline Protestant and Catholic adherents is -0.005 and indicates that a unit increase in these types of adherents leads to a decrease in the

likelihood that a family will be poor by a factor of 0.995. This result indicates that in places with more Mainline Protestant and Catholic adherents, the odds of a family experiencing relative poverty are reduced by almost 1 percent.

Results for the economic climate measures also demonstrate both positive and negative relationships with relative family poverty. The log odds estimate for small establishments is -0.032 and indicates that a unit increase in this type of business establishment leads to a decrease in the probability of a family being poor by a factor of 0.968. This relationship indicates that families in places with more small businesses experience a 3 percent reduction in the odds of being poor. The log odds estimate for the self-employed is 0.046 and indicates that a unit increase in this class of worker leads to an increase in the probability of a family being poor by a factor of 1.047. This result demonstrates that in places with a larger proportion of self-employed workers, families are about 5 percent more likely to be poor by relative standards. Again, effect changes are witnessed for the economic climate measures between the full model and Model 1. As witnessed in Chapter 2, this reversal in relationships can be contributed the moderating effect of the index for high SES.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, three of the four measures share significant relationships with family poverty. Geographic residence in the South and aggregate unemployment share positive relationships with relative family poverty, while the high SES index and metro population share negative relationships with relative family poverty. Residence in the South does not demonstrate a significant relationship with relative family poverty.

A number of family controls are also included in the model to account for various types of family householder and family characteristics. Each of the family-level controls shares a

significant relationship with relative family poverty and these relationships meet expectations for their projected influence on family poverty. Age, each of the education categories, and employed family members share significant and negative relationships with relative family poverty, indicating that older family householders, family householders with more education, and employed family members results in lower probabilities of relative family poverty. Female, minority (non-white), never married or widowed, separated, or divorced family householders and related children each share a positively significant relationship with relative family poverty. These results demonstrate that female householders, minority householders, non-married householders, and the presence of related children under the age of 18 increase the probability of relative family poverty.

Using the intercept random effect coefficient from the null model (0.273) and from Model 2 (0.060), it can be determined that $[(0.273 - 0.051) / 0.273 = 0.813]$ 81 percent of the across migration PUMA variation in the probability that a family will be poor is explained by all measures included in the model. The inclusion of contextual and family controls increases the percentage of variation across migration PUMAs in the likelihood of relative family poverty explained—from 33 percent to 81 percent—and also confirms the robustness of the regression results. Speaking to theoretical expectations informed by the civic community perspective, multilevel results do not provide complete support for the conceptual model developed in this chapter. Specifically, only two of the four civic community structures are associated with the attenuation of family-level relative poverty. These structures—Mainline Protestant and Catholic adherents and small business establishments—provide support for the conceptual model. Conversely, Mainline Protestant and Catholic congregations and self-employed workers

Table 19. Results of Hierarchical Generalized Linear Models (HGLM) of Relative Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | -2.2208*** | 3.8359*** |
| Civic Community | | |
| Mainline Protestant and Catholic congregations | 0.0044*** | 0.0032*** |
| Mainline Protestant and Catholic adherents | -0.0113*** | -0.0048*** |
| Small establishments | 0.0202** | -0.0322*** |
| Self-employed | -0.0350*** | 0.0456*** |
| Contextual Controls | | |
| Unemployed | | 0.0379*** |
| High SES | | -0.1638*** |
| South | | 0.0063 |
| Metro population | | -0.0009*** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0234*** |
| Female | | 0.4425*** |
| Non-Hispanic black ¹ | | 0.6536*** |
| Hispanic ¹ | | 0.9147*** |
| Non-Hispanic other ¹ | | 0.7778*** |
| High school ² | | -0.7699*** |
| Some college ² | | -1.2831*** |
| Bach. degree or more ² | | -2.2237*** |
| Never married ³ | | 0.9443*** |
| Wid./sep./div. ³ | | 0.7055*** |
| <i>Family characteristics</i> | | |
| Related children | | 0.3995*** |
| Family labor supply | | -1.3842*** |
| Reliability Estimate | 0.977 | 0.880 |
| Variance Component (Random Effect): Intercept | 0.184 | 0.051 |
| Variance Component (Random Effect) : Level 1 | 0.998 | 1.135 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); Religious Congregations and Membership Survey 2000; and County Business Patterns 2000.

Notes: Unit-specific models with robust standard errors. Results are weighted using normalized household weights. Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

contradict the conceptual model and, rather, are associated with a greater likelihood of relative family poverty.

Table 20 presents the results from hierarchical linear models (HLM) predicting the depth of absolute poverty for families. Following the modeling strategy for the previous multilevel models, two models provide results that explore the impact of civic community measures on the depth of absolute family poverty. Model 1 shows the effects of only the civic community measures on a family's depth of absolute poverty. Model 2 combines civic community measures and contextual and family controls in a full model that predicts a family's depth of absolute poverty.

Model 1 in Table 20 shows the direct effects of each civic community indicator on a family's depth of absolute poverty. The reliability estimate for Model 1 is 0.987, which is much larger than the accepted 0.20 cut off and indicates that substantial variation in the depth of family absolute poverty does exist across migration PUMAs. Results demonstrate that each civic community measure is a significant predictor of the depth of absolute poverty for families. The coefficient for Mainline Protestant and Catholic congregations indicates a positive association with the depth of absolute family poverty. This finding demonstrates that these congregations are associated with deeper absolute family poverty. Mainline Protestant and Catholic adherents share a negative relationship with the depth of absolute family poverty, indicating that a greater presence of these adherents in places is associated with less severe absolute family poverty.

Results for economic climate measures indicate a positive and significant relationship between small establishments and the depth of absolute family poverty, indicating that these businesses are associated with deeper absolute family poverty. The coefficient for the self-employed labor force is significant and negative, which demonstrates that these types of business

persons are associated with less severe absolute family poverty. Utilizing the random effect coefficient for the intercept from the null model (0.017) and the same from Model 1 (0.011), it can be determined that $[(0.017 - 0.011) / 0.017 = 0.353]$ 35 percent of the across migration PUMA variation in the depth of absolute family poverty is explained by civic community measures alone.

Model 2 in Table 20 is the full hierarchical model that includes both contextual and family controls along with the key explanatory variables. Focusing on the key explanatory variables, each civic community measure maintains a significant relationship with the depth of absolute family poverty even with the inclusion of contextual and family controls. The coefficient for Mainline Protestant and Catholic congregations demonstrates a positive relationship with depth of absolute family poverty, which indicates that in places with a greater presence of these congregations families experience deeper absolute poverty. This finding is contradictory to theoretical arguments posited in this chapter. Based upon previous civic community research, it was expected that the presence of these congregations within places would be associated with less severe absolute family poverty. In contrast, results demonstrate that Mainline Protestant and Catholic adherents are associated with less severe absolute family poverty. This finding provides support for the conceptual model outlined in this chapter. That is, a greater presence of Mainline Protestant and Catholic adherents within places is associated with families experiencing deeper absolute poverty.

The coefficient for small business establishments demonstrates a significant and negative relationship with the depth of absolute family poverty. This finding indicates that in places with more small businesses, families experience less severe absolute poverty. The coefficient for self-employed business persons is significant and positive, indicating that greater percentages of this

type of labor force participant within places is associated with deeper absolute family poverty. As informed by the conceptual model developed in this chapter, it was anticipated that both local capitalism measures would share negative relationships with the depth of absolute family poverty. However, only the relationship between small business establishments and the depth of absolute family poverty supports this expectation, while the relationship between aggregate self-employment and the depth of absolute family poverty is contradictory to theoretical expectations. Again, effect changes are demonstrated for the economic climate measures between Model 1 and the full model. As witnessed in Chapter 2, this reversal in relationships can be contributed the moderating effect of the index for high SES.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, three of the four measures share significant relationships with the depth of absolute family poverty. The unemployment rate does not share a significant relationship with the depth of absolute family poverty, while the high SES factor score, residence in the South, and metro population each share significant and negative relationships with the depth of absolute family poverty. A number of family controls are also included in the model to account for various types of family householder and family characteristics. Each of the family-level controls shares a significant relationship with the depth of absolute family poverty and these relationships meet expectations for impact on family poverty. Age, each of the education categories, and family employment share significant and negative relationships with family absolute poverty, indicating that older family householders, family householders with more education, and more employed family members results in less severe absolute family poverty. Female, minority (black, Hispanic, and other), never married or widowed, separated, or divorced and more children each share a positive significant relationship with the depth of absolute family poverty.

Table 20. Results of Hierarchical Linear Models (HLM) of Depth of Absolute Family Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | 8.9432*** | 21.9968*** |
| Civic Community | | |
| Mainline Protestant and Catholic congregations | 0.0142*** | 0.0062*** |
| Mainline Protestant and Catholic adherents | -0.0280*** | -0.0089*** |
| Small establishments | 0.0818*** | -0.0438*** |
| Self-employed | -0.1276*** | 0.0417*** |
| Contextual Controls | | |
| Unemployed | | 0.0045 |
| High SES | | -0.4774*** |
| South | | -0.2340*** |
| Metro population | | -0.0015** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0346*** |
| Female | | 0.5702*** |
| Non-Hispanic black ¹ | | 1.3591*** |
| Hispanic ¹ | | 1.7626*** |
| Non-Hispanic other ¹ | | 1.3623*** |
| High school ² | | -1.3405*** |
| Some college ² | | -2.3330*** |
| Bach. degree or more ² | | -4.5023*** |
| Never married ³ | | 2.1279*** |
| Wid./sep./div. ³ | | 1.6121*** |
| <i>Family characteristics</i> | | |
| Related children | | 0.9357*** |
| Family labor supply | | -1.5175*** |
| Reliability Estimate | 0.987 | 0.955 |
| Variance Component (Random Effect): Intercept | 0.011 | 0.002 |
| Variance Component (Random Effect) : Level 1 | 0.208 | 0.114 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); Religious Congregations and Membership Survey 2000; and County Business Patterns 2000.

Notes: Results are weighted using normalized household weights. Families=2,395,608.

Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Using the intercept random effect coefficient from the null model (0.017) and from Model 2 (0.002), it can be determined that $[(0.017 - 0.002) / 0.017 = 0.882]$ 88 percent of the across migration PUMA variation in the depth of absolute family poverty is explained by all measures included in the model, which is an increase from 35 percent witnessed in Model 1. Overall, results from the full model provide mixed support for the conceptual model. Consonant with theoretical expectations, both Mainline Protestant and Catholic adherents and small business establishments are associated with reduced depths of absolute family poverty. Contrary to theoretical expectations, both Mainline Protestant and Catholic congregations and economically independent business persons are associated with increased depths of absolute family poverty.

Table 21 presents the results from hierarchical linear models (HLM) predicting the depth of relative poverty for families. Following the modeling strategy for the previous multilevel models, two separate models provide multilevel results that explore the impact of civic community measures on the depth of relative family poverty. Model 1 shows the effects of only civic community measures on a family's depth of relative poverty. Model 2 combines all contextual and family-level measures in a full model that predicts a family's depth of relative poverty.

Model 1 in Table 21 shows the direct effects of all civic community measures on a family's depth of relative poverty. The reliability estimate for Model 1 is 0.987, which is much larger than the accepted 0.20 cut off and indicates that substantial variation in the depth of relative family poverty exists across migration PUMAs. Results demonstrate that each civic community measure is a significant predictor of the depth of relative family poverty. Both religious environment measures share a unique relationship with family poverty, with Mainline

Protestant and Catholic congregations being associated with deeper relative family poverty and adherents being associated with less severe relative family poverty. That is, the presence of Mainline Protestant and Catholic congregations within places is related to families experiencing deeper relative poverty. Conversely, the presence of Mainline Protestant and Catholic adherents within places is related to families experiencing less severe relative poverty. The economic climate measures also demonstrate dissimilar influences on family poverty. The coefficient for small business establishments is significant and positive, which indicates that these businesses are associated with deeper relative family poverty. The coefficient for the self-employed labor force is significant and negative, which indicates that these business persons are associated with lessened depths of relative poverty for families. Utilizing the random effect coefficient for the intercept from the null model (0.039) and the same from Model 1 (0.024), it can be determined that $[(0.039 - 0.024) / 0.039 = 0.385]$ 39 percent of the across migration PUMA variation in the depth of relative family poverty is explained by civic community measures alone.

Model 2 in Table 21 is the full hierarchical model that includes both contextual and family controls along with the key explanatory variables. Focusing on the key explanatory variables, each civic community measures shares a significant relationship with the depth of relative family poverty net of other contextual and family factors. Both Mainline Protestant and Catholic congregations and small business establishments are shown to be significantly related to deeper relative family poverty. Conversely, Mainline Protestant adherents and self-employed business persons demonstrate negative relationships with the depth of relative family poverty. The economic climate measures again demonstrate a change in effects between Model 1 and Model 2. Supplementary analyses indicate a potential interaction effect between the economic climate and high SES in the relation to the depth of relative family poverty.

Assessed collectively, results from the full model provide mixed support for the conceptual model. Consonant with theoretical expectations, both the presence of Mainline Protestant and Catholic adherents and small business establishments within localities is associated with reduced depths of relative poverty for families. Contrary to theoretical expectations, increased concentrations of Mainline Protestant and Catholic congregations and economically independent business persons within local areas is associated with increased depths of relative poverty for families.

Included in Model 2 are a number of controls at both the contextual and family level. For the contextual controls, three of the four measures share a significant relationship with family poverty. The high SES factor score, residence in the South, and metro population share negative significant relationships with the depth of relative family poverty. A number of family controls are also included in the model to account for various types of family householder and family characteristics. Each of the family-level controls shares a significant relationship with the depth of relative family poverty and these relationships meet expectations for impact on family poverty. Age, each of the education categories, and family employment share significant and negative relationships with family relative poverty, indicating that older family householders, family householders with more education, and employed family members results in less severe relative family poverty. Female, minority (black, Hispanic, and other), never married or widowed, separated, or divorced and more children each share a positive significant relationship with depth of relative family poverty. Using the intercept random effect coefficient from the null model (0.039) and from Model 2 (0.004), it can be determined that $[(0.039 - 0.004) / 0.039 = 0.897]$ 90 percent of the across migration PUMA variation in the depth of relative family poverty is explained by all measures included in the model.

Table 21. Results of Hierarchical Linear Models (HGLM) of Depth of Family Relative Poverty

| | Model 1 | Model 2 |
|--|----------------|----------------|
| Intercept | 14.9465*** | 35.2401*** |
| Civic Community | | |
| Mainline Protestant and Catholic congregations | 0.0224*** | 0.0096*** |
| Mainline Protestant and Catholic adherents | -0.0423*** | -0.0134*** |
| Small establishments | 0.1253*** | -0.0680*** |
| Self-employed | -0.1871*** | 0.0648*** |
| Contextual Controls | | |
| Unemployed | | -0.0153 |
| High SES | | -0.7398*** |
| South | | -0.3746*** |
| Metro population | | -0.0019** |
| Family Controls | | |
| <i>Householder characteristics</i> | | |
| Age | | -0.0460*** |
| Female | | 0.8298*** |
| Non-Hispanic black ¹ | | 1.9737*** |
| Hispanic ¹ | | 2.5730*** |
| Non-Hispanic other ¹ | | 1.9430*** |
| High school ² | | -1.8755*** |
| Some college ² | | -3.3362*** |
| Bach. degree or more ² | | -6.6527*** |
| Never married ³ | | 3.1091*** |
| Wid./sep./div. ³ | | 2.4343*** |
| <i>Family characteristics</i> | | |
| Related children | | 1.0646*** |
| Family labor supply | | -2.4533*** |
| Reliability Estimate | 0.987 | 0.957 |
| Variance Component (Random Effect): Intercept | 0.024 | 0.004 |
| Variance Component (Random Effect) : Level 1 | 0.450 | 0.251 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); Religious Congregations and Membership Survey 2000; and County Business Patterns 2000.

Notes: Results are weighted using normalized household weights. Families=2,395,608.

Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Interaction Effects

Findings from the multilevel analyses suggest the necessity to carry out additional regressions to further explore the potential moderating effect of high SES on the relationship between civic community measures and family poverty. To address possible moderating effects, multilevel regression models with interaction terms are utilized. The purpose of these models with interaction terms is to parse out if, and how, the high SES factor score is conditioning the relationships between small establishments and self-employed and each of the family poverty outcomes. Table 22 presents the results of multilevel regression models for each of the family poverty outcomes, which include economic climate measures-by-high SES interaction terms.

Looking first at the model of absolute family poverty, both interaction terms are significant. For absolute family poverty, the impact of small establishments exerts particular downward pressure, while the presence of more self-employed workers exerts particular upward pressure, on absolute family poverty in higher socioeconomic contexts. In regards to relative family poverty, only one moderating effect operates in the same manner. The negative effect of small establishments on relative family poverty is especially pronounced in high SES contexts. No moderating effect is demonstrated by high SES in the relationship between aggregate-levels of self-employed workers and relative family poverty. For absolute and relative depths of family poverty, the interaction terms between the economic climates measures and high SES are not significant.

Table 22. Multilevel Regression Results of Family Poverty Models with Interaction Effects

| | Absolute Poverty | Relative Poverty | Absolute DOP | Relative DOP |
|--|-----------------------------|-----------------------------|-------------------------|-------------------------|
| Intercept | 2.1215*** | 3.7144*** | 21.7838*** | 34.9191*** |
| Civic Community | | | | |
| Mainline Protestant and Catholic congregations | 0.0022*** | 0.0030*** | 0.0061*** | 0.0095*** |
| Mainline Protestant and Catholic adherents | -0.0031*** | -0.0046*** | -0.0087*** | -0.0132*** |
| Small establishments | -0.0226*** | -0.0312*** | -0.0421*** | -0.0654*** |
| Self-employed | 0.0340*** | 0.0472*** | 0.0446*** | 0.0694*** |
| Contextual Controls | | | | |
| Unemployed | 0.0811*** | 0.0635*** | 0.0032 | -0.0156 |
| High SES | 1.5874*** | 1.2062** | 0.7474 | 0.8211 |
| South | 0.0461 | 0.0020 | -0.2370*** | -0.3777*** |
| Metro population | -0.0005 | -0.0007* | -0.0011* | -0.0014* |
| Interaction Effects | | | | |
| Small Establishments * High SES | -0.0214*** | -0.0168*** | -0.0137 | -0.0167 |
| Self-Employed * High SES | 0.0135** | 0.0071 | -0.0057 | -0.0139 |
| Family Controls | | | | |
| <i>Householder characteristics</i> | | | | |
| Age | -0.0367*** | -0.0234*** | -0.0346*** | -0.0460*** |
| Female | 0.5261*** | 0.4425*** | 0.5702*** | 0.8298*** |
| Non-Hispanic black ¹ | 0.5442*** | 0.6535*** | 1.3591*** | 1.9738*** |
| Hispanic ¹ | 0.6531*** | 0.9143*** | 1.7624*** | 2.5728*** |
| Non-Hispanic other ¹ | 0.7186*** | 0.7775*** | 1.3622*** | 1.9428*** |
| High school ² | -0.6747*** | -0.7698*** | -1.3405*** | -1.8755*** |
| Some college ² | -1.0988*** | -1.2830*** | -2.3330*** | -3.3362*** |
| Bach. degree or more ² | -1.8029*** | -2.2237*** | -4.5023*** | -6.6527*** |
| Never married ³ | 0.8408*** | 0.9443*** | 2.1278*** | 3.1091*** |
| Wid./sep./div. ³ | 0.6678*** | 0.7055*** | 1.6121*** | 2.4343*** |
| <i>Family characteristics</i> | | | | |
| Related children | 0.4507*** | 0.3995*** | 0.9357*** | 1.0646*** |
| Family labor supply | -1.6639*** | -1.3842*** | -1.5175*** | -2.4533*** |
| Reliability Estimate | 0.724 | 0.878 | 0.955 | 0.957 |
| Variance Component (Random Effect): Intercept | 0.043 | 0.050 | 0.002 | 0.004 |
| Variance Component (Random Effect) : Level 1 | 1.440 | 1.135 | 0.114 | 0.251 |

Source: American Community Survey 2006-2008; Decennial Census 2000 (SF3); and County Business Patterns 2000.

Notes: Results are weighted using normalized household weights. Coefficients from absolute and relative DOP models are multiplied by 100. Families=2,395,608. Migration PUMAs=1,024.

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

¹Reference is Non-Hispanic white. ²Reference is less than high school. ³Reference is married.

Conclusion and Discussion

This chapter sought to extend aggregate-level research in the civic community tradition by employing a multilevel framework to understand how macro-level civic community structures are associated with micro-level family poverty. This research design was dually informed by civic community research demonstrating the aggregate level relationship between religious and economic civic community structures and lower family poverty rates, as well as recent developments within sociological poverty research calling for the use of multilevel frameworks to account for both structural, or macro-level, and individual, or micro-level, factors when explicating family poverty outcomes. To that end, the primary objective of this chapter was to assess the combined aggregate-level influence of the locally oriented religious environment—Mainline Protestants and Catholics—and the locally oriented economic climate—small business establishments and the self-employed—on micro-level family poverty. As informed by the civic community perspective and previous aggregate-level research in this tradition, it was proposed that the presence of locally oriented religious denominations and locally oriented economic institutions would be associated with the attenuation of family poverty. As demonstrated in the two previous chapters, these guiding theoretical propositions were not fully supported. Results, however, from multilevel analyses highlight the importance of contextual civic community measures in shaping the poverty experiences of families by indicating the varied effects of each civic community construct on family poverty. Last, regression models with interaction effects also provide another layer of evidence in regards to understanding the relationship between the locally oriented economic climate and family poverty.

First for the religious environment measures, Mainline Protestant and Catholic adherents were found to share a negative association with family poverty across all models. This finding

conforms to theoretical expectations informed by the civic community perspective. Specifically, as Mainline Protestant and Catholic adherents enhance the social network structures of places, families experience lessened poverty risks and depths of poverty. However, Mainline Protestant and Catholic congregations were found to share a positive association with family poverty across all models, which is contradictory to the conceptual model.

Secondly, mixed results were also found for the economic climate measures. Small business establishments were found to be associated with decreased risks of families being poor and less severe family poverty. This result corresponds to theoretical expectations developed in the chapter. Both civic engagement and social capital associated with small business establishments serve as community resources that can enhance the problem solving capabilities of communities and contribute to a higher quality of life, lower risks of families experiencing poverty and less severe poverty in particular. Yet, economically independent business persons, or the self-employed, are found to be associated with higher risks of family poverty and deeper family poverty. Again, this does not provide empirical support for the theoretical expectations developed in this chapter.

Also important in regards to the impact of local capitalism on family poverty was the moderating effect of high SES on the relationship between the economic climate and family poverty. For specific family poverty outcomes, it was revealed that high SES index conditioned the relationship between small business establishments and family poverty. Specifically, across models for absolute and relative family poverty, results revealed that places with higher levels of socioeconomic status provide a context in which small business establishments exert stronger downward pressure on absolute and relative family poverty. Results also shown that in places with higher levels of socioeconomic status the self-employed work force exerted stronger

upward pressure on absolute family poverty. This significant mediating effect was not found in the relationship between self-employed workers and relative family poverty. No significant interaction effects were revealed for either of the depth of poverty measures. In sum, interaction models highlight the importance of understanding how the predominant socioeconomic context of a locality moderates the relationship between the locally oriented economic climate and specific family poverty outcomes.

A key finding of this analysis is the understanding that each civic community indicator is a distinct construct. While some research has focused on the overall effect of civic community by reducing local capitalism and faith-based measures of civic engagement into composite indices, it is important to recognize the potential of each aspect of civic community to uniquely impact community context in both positive and negative ways. That is, using data reduction methods to produce a composite index of civic community may potentially mask variation among civic community measures in how each measure influences community civic engagement and social capital. Unless statistically justified, reducing civic community factors into a single composite score or index may lead to inaccuracies in capturing the true impact of civic community structures, particularly in relation to understanding family poverty in a multilevel context as witnessed here.

Lastly, based upon results from the full models for each of the family poverty outcomes in this chapter, it is important to note that the relationships produced by these regressions are substantively the same as those produced by the full models in each of the previous two chapters separately examining the religious environment and the economic climate in relation to family poverty. These static findings across each of the analyses provide evidence of the absence of possible interaction or moderating effects between religious environment measures and

economic climate measures in relation to family poverty. That is, for example, the religious environment does not impact family poverty via the economic climate, or vice versa. Rather, each civic community construct has an independent effect on a family's poverty experience over and above other aspects of civic community.

CHAPTER 5: CONCLUSION AND DISCUSSION

This dissertation aimed to advance prior research in the civic community tradition exploring the impact of civic community structures on community welfare. Empirical research using the civic community perspective has primarily focused on this relationship at the macro-level, demonstrating the heightening effects of civic community structures on various aspects of community-wellbeing.³⁸ Specific among significant findings within this research is the demonstrated macro-social relationship between civic community indicators and lower rates of family poverty. This dissertation also drew upon recent developments in poverty research that have identified the dual role of structuralist and individualist forces in shaping and understanding family poverty experiences. That is, both macro-level structural forces and micro-level family characteristics simultaneously impact the poverty experiences of families embedded in varying place-based contexts. Guided by these issues, the overarching research objective of this dissertation was to employ a multilevel theoretical and analytical strategy that integrated both macro-level civic community considerations and other structuralist and individualist considerations to assess how civic community religious bodies and economic institutions shape a variety of family poverty outcomes.

The key contribution of this dissertation to the larger bodies of civic community and poverty research is the use of a multilevel framework that accounts for both community structures and family characteristics in shaping family poverty outcomes. This approach dually advances research using the civic community perspective as well as sociological poverty research. The use of multilevel methods has largely been underutilized in civic community

³⁸ For exceptions of multilevel civic community research see Irwin et al. 2004, which examines migration/nonmigration, and Tolbert 2005, which is the presidential address for the 67th annual meeting (2004) of the Southern Sociological Society and uses states as the second-level units of analysis.

research in general and has not been used in civic community studies examining poverty in particular. Furthermore, multilevel research has only recently emerged as a developing body of research in the sociological study of poverty (see Brady et al. 2009; Cotter 2002; Cotter et al. 2007; Poston et al. 2010).

Through a series of three analyses wherein civic community indicators were examined in relation to various conceptualizations of family poverty, multilevel results indicated the significance of civic community structures in understanding family poverty outcomes above and beyond the influence of various contextual and family characteristics. However, universal support was not provided for the conceptual models that guided the analyses, with both supportive and contradictory relationships between civic community structures and family poverty being revealed.

The first analysis examined the relationship between religious-based structures of civic community and family-level poverty. Results indicated that the ecological context of religion is significant in understanding the poverty experiences of families. Specifically, multilevel models demonstrated the negative effect of Mainline Protestant and Catholic adherents on family-level poverty, which provided empirical support for the conceptual model. Conversely, it was shown that Mainline Protestant and Catholic congregations have a positive effect on family-level poverty, which did not provide support for the conceptual model.

The second analysis examined the influence of economic-based structures of civic community on family-level poverty. Results indicated that the economic climate of places is significant in understanding the poverty experiences of families. Specifically, multilevel regressions suggested that small business establishments are negatively associated with family-level poverty outcomes, which provided empirical support for the conceptual model. Conversely,

regression results revealed that self-employed business persons share a positive relationship with family-level poverty outcomes, which did not provide empirical support for the conceptual model. Additionally, an interaction effect was demonstrated between the locally oriented economic climate measures and aggregate socioeconomic status on certain family poverty outcomes.

The third and final analysis combined both religious and economic structures of civic community in the examination of family-level poverty outcomes. Results indicated that the presence of civic community structures within places significantly influence family-level poverty. Specifically, multilevel regressions demonstrated that Mainline Protestant adherents and small business establishments were negatively associated with family-level poverty, which provides empirical support for the conceptual model. However, Mainline Protestant congregations and economically independent business persons were positively associated with family-level poverty. These relationships are counter to the conceptual model developed in that chapter. Additionally, a moderating effect was demonstrated by aggregate socioeconomic conditions on the relationship between the locally oriented economic climate and specific family poverty measures. Table 23 presents a summary of the findings demonstrated in this dissertation.

Findings

In assessing the relevant findings of this dissertation, four key points are important: 1) the lack of complete empirical support for the theoretical propositions guiding the analyses; 2) each civic community structure, either religious- or economic-based, is a distinct construct with a unique impact on family poverty; 3) in relation to economic-based civic community measures specifically, the moderating effect of the high SES index is of primary import in understanding

Table 23. Summary of Findings Regarding Civic Community Structures and Family Poverty

| Civic Community Structure | Expected Relationship | Demonstrated Relationship | | | | Finding |
|--|---|---------------------------|---------------------|-----------------|-----------------|---|
| | | Absolute Poverty | Relative Poverty | Absolute DOP | Relative DOP | |
| | Each civic community measure will demonstrate a negative association with family poverty. | | | | | Multilevel results show relationships that both support and contradict the expected relationships between civic community structures and family poverty. |
| Mainline Protestant and Catholic congregations | Negative association (-) | + | + | + | + | Multilevel results indicate that families experience higher probabilities of poverty and deeper poverty in places with a greater density of Mainline Protestant and Catholic congregations. |
| Mainline Protestant and Catholic adherents | Negative association (-) | - | - | - | - | Results from multilevel models reveal negative relationships between larger percentages of Mainline Protestant and Catholic adherents within places and family-level poverty. |
| Small business establishments | Negative association (-) | - | - | - | - | Multilevel regressions indicate that families experience decreased risks of poverty and less severe poverty in places with greater percentages of small business establishments. |
| Self-employed | Negative association (-) | + | + | + | + | Multilevel models demonstrate positive relationships between a greater presence of self-employed workers within places and family-level poverty. |

Notes: + indicates a significant positive effect; - indicates a significant negative effect.

how the locally oriented economic climate operates within a community to impact family-level poverty; and 4) the uniform impact of civic community structures on each of the four measures of family-level poverty.

The most significant finding of this dissertation is the lack of complete empirical support for the theoretical expectations proposed in each chapter. Conceptual models guiding each of the three analyses posited that both religious and economic measures of civic community would have attenuating effects in relation to family poverty. However, analytical findings indicated that the civic community measures did not have universally diminishing effects on family poverty. Mainline Protestant and Catholic congregations and the self-employed labor force, specifically, were found to heighten the likelihood of families being poor as well as increase the depth of poverty experienced by families. While it was projected that the locally oriented nature of these civic community structures would improve the economic well-being of families, the findings witnessed in previous aggregate-level civic community research did not persist for the multilevel analyses carried out in this study. That is, heightened aggregate-level socioeconomic well-being associated with civic community does not directly translate into heightened socioeconomic well-being for individual families. While places with more civically engaged religious bodies and local capitalism may experience less aggregate poverty, individual families may experience the direct effect of aggregate-level civic community structures in more varied ways.³⁹ For example in this case, attempting to disaggregate macro-level civic community processes and relationships may obscure differences in how these processes and relationships operate in a multilevel context; there may be more variation in civic community processes that occur across various levels of

³⁹ See Appendix II for OLS regression of aggregate (MIGPUMA-level) family poverty. Findings from this analysis indicate that Mainline Protestant and Catholic congregations and adherents are not significantly related to aggregate-level family poverty, while findings for small establishments and the self-employed are consonant with the multilevel findings in this study.

analysis than processes that occur at the aggregate level. Results from this dissertation indicate that macro-level civic community processes operate in a disparate manner in relation to macro-level family poverty and micro-level family poverty and that confounding factors are potentially involved when it comes to how civic community operates in a multilevel context. More information and further analyses are needed to explicate these confounding factors.

A second key takeaway of this dissertation is the understanding that each civic community indicator is a distinct construct with a unique impact on the ecological context of localities. While some research has focused on the overall effect of civic community by reducing local capitalism and faith-based measures of civic engagement into composite indices (see Lee and Bartkowski 2004; Lee and Thomas 2009; Lee 2008; Lee 2010; Lyson et al. 2001), it is important to recognize the potential of each aspect of civic community to uniquely impact community context in both positive and negative ways. That is, using data reduction methods to produce a composite index of civic community may potentially mask variation among civic community measures in how each measure influences community civic engagement and social capital. Unless statistically justified, reducing civic community factors into a single composite score or index potentially results in deficiencies in identifying the actual impact of civic community structures, particularly in relation to understanding family poverty in a multilevel context as witnessed here.

Third, results from this dissertation reveal significant differences in the effects of the economic climate measures—small business establishments and the self-employed workforce—on specific measures of family poverty in varying socioeconomic contexts. These differences were demonstrated by the statistical significance of interaction terms between each of the economic climates measures and the high SES factor score. That is, higher aggregate-levels of

socioeconomic status, as indicated by the high SES index capturing good jobs, a highly educated population, and greater per capita income, within places moderated the relationship between the economic climate and family poverty. This finding is particularly important because it highlights that how economic civic community structures contribute to a civically engaged community context, and in turn community well-being, is dependent upon overarching socioeconomic conditions.

Last, findings also suggest that regardless of the conceptualization and measurement of poverty, whether it is a dichotomous indicator of poverty as defined by absolute standards or in comparative terms or a continuous measure of the depth of poverty, the influence of civic community structures were consistent in their association with each of these poverty measurements. While it was not expected that the type of family poverty modeled would be differentially impacted by civic community structures, it is important to note that how poverty is conceptualized does have consequences for understanding and measuring poverty in general. This last point is pertinent given recent calls for an amended official measure of poverty in the U.S. (Citro and Michael 1995).

Limitations

In regards to this study, there are a number of limitations that require discussion. The first limitation of this study is the inherent time lag in the data utilized in this dissertation. The micro-level data is from the ACS 2006-2008 3-Year estimates, while the macro-level data is from the 2000 U.S. Census. The use of these data results in an approximate 7 year time lag between the two levels of data. While it cannot be directly inferred, it is plausible that using multilevel data from two different time periods may be interfering with regression estimates. The use of more

current datasets may resolve this issue, as well as be a logical next step in future research in this vein as newer data is subsequently being released. These datasets include the 2010 U.S. Census, County Business Patterns, the 2010 Religious Congregations and Membership Study,⁴⁰ and the ACS 2006-2010 5-Year Estimates. The use of these datasets in future analyses would be beneficial to further examine the core empirical questions in this study.

A second notable limitation of this dissertation is the focus on family households and the poverty experiences of individuals in this type of living arrangement. Defining poverty in the U.S. is based upon the family as the basic unit. However, recent social changes in the U.S. note increasing numbers of people living in nonfamily arrangements where people are not related by blood, marriage, or adoption, such as cohabiting couples or roommates. Within this dissertation these units are not analyzed. Given the growing concern over increasing numbers of people living in non-family arrangements and how this impacts measuring the poor (see Iceland 2000, 2006), future analyses should explore poverty not only among families but expand the focus to poverty among nonfamily households as well.

Last, the civic community perspective conceptualizes the *community* as the primary ecological unit in which civic community processes occur. As demonstrated throughout this dissertation, civic community studies have primarily focused on counties as the primary units of analysis. Aggregate-level analyses often utilize county-level data as most datasets provided by the U.S. government, such as those provided by the Census Bureau, have a plethora of information available at the county level that allow for numerous empirical questions to be assessed. In this dissertation the use of migration PUMAs as the contextual unit to approximate *community* may be pointed to as a potential issue as these ecological units are geographically

⁴⁰ This dataset is set to be released August 2012.

different from counties and may mask important variation that is occurring within migration PUMAs. Again, this limitation is one that is naturally inherent in the data. As the focus of this dissertation was to utilize a multilevel framework, this orientation restricts the data available to be used as most data that can situate individuals into geographic units must take precaution to protect anonymity and confidentiality. As such, this data restriction only allows for the use of data that provides public use microdata areas so that the geographic location of individuals can be identified while maintaining confidentiality.

Future Research and Policy Implications

The results of this study contribute to the well-developed body of literature and empirical research rooted in the civic community tradition. While mixed results supporting the civic community perspective were demonstrated, such contradictory findings provide conceptual and analytical considerations for future civic community research. Future multilevel civic community research is certainly called for and could prove insightful in further identifying how civic community structures operate in multilevel contexts, especially in regards to other socioeconomic outcomes (e.g., crime, mortality, residential segregation). Additionally, future multilevel research should explore cross-level interaction effects, such that a key macro-level measure of civic community moderates the relationship between a micro-level variable and the dependent variable. This research would highlight how aggregate-level civic community structures impact micro-level relationships. This point is especially pertinent given research demonstrating, for example, the macro-level relationship between racial disparities in arrest rates and the protective effect of specific civic community structures. This research suggests that civic community indicators differentially impact the arrest rates of blacks and whites, such that

congregations have a significant protective effect on black drugs violation arrest rates, while this relationship does not hold for drugs violation arrest rates for whites (Ousey and Lee 2010).

Future multilevel analyses could explore if racial/ethnic differences are at play. More specifically, how macro-level civic community structures moderate the influence of individual characteristics (e.g., race/ethnicity) on various micro-level outcomes (e.g., poverty, crime).

Future civic community research, both aggregate and multilevel, could also parse out if, and how, civic community differentially operates in varying poverty contexts, such as in persistent poverty regions for example. Persistent poverty regions are those areas of the U.S. (e.g., Appalachia, the Texas Borderland, the Lower Mississippi Delta) that are identified as having high and concentrated poverty. While civic community may have negative effects on poverty across the U.S. in general, it is important to understand if these effects maintain in areas that are home to particularly deep-seated and long-standing poverty. Such comparative research could offer additional insights into the distinctive influence of civic community across varying poverty contexts.

This study also contributes to the growing body of poverty research utilizing multilevel frameworks. As findings from this study indicate significant relationships between contextual factors and micro-level family poverty, this provides further substantiation for pursuing multilevel poverty research to continue exploring the structural and individual correlates of poverty.

Addressing policy implications specifically, this study provides insight into policy suggestions aimed at addressing economic disadvantage and hardship. Inferred from the analytical findings in this dissertation, policies should take a threefold approach to addressing

poverty reduction efforts. This approach should first address issues of civic community related to both religious and economic structures in communities. Findings from this study provide some support for focusing on community-based initiatives aimed at addressing social issues.

Specifically, policies that encourage or enable coordinated efforts among various community organizations and groups could prove beneficial in promoting poverty reduction efforts that have long-term impacts on community well-being. Secondly, policies should also address the opportunity structures of places directly as the social and economic resources and arrangements within places are of import in understanding poverty. This particular point is essential given that it was demonstrated in this dissertation that community features do not operate in isolation from one another. Rather the social and economic features of a place interact to shape the overall well-being of a community. By understanding that the predominant socioeconomic opportunity structures within places can either augment or diminish the impact of poverty reduction initiatives, policies should not take a one-size-fits-all approach to reducing poverty. Instead, taking into account the unique opportunity structures of places will afford policymakers a better understanding of how a particular policy will impact a community and produce the desired outcome. Third, of primary import for policymakers at all levels of government is to understand and address both macro- and micro-level forces when creating and legislating policy. By acknowledging both structural and individual factors shape poverty experiences, policies could provide a more comprehensive approach to addressing poverty reduction efforts.

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APPENDIX I: POVERTY THRESHOLDS

| Family Size | Relative Poverty Equivalence Scale (square root of family size) | Relative Poverty Threshold 2008 | Absolute Poverty Threshold 2008 (weighted average) |
|--------------------|--|--|---|
| 1 person | 0.500 | 18912 | 10991 |
| 2 persons | 0.707 | 26742 | 14051 |
| 3 persons | 0.866 | 32756 | 17163 |
| 4 persons | 1 | 37824 | 22025 |
| 5 persons | 1.118 | 42287 | 26049 |
| 6 persons | 1.225 | 46334 | 29456 |
| 7 persons | 1.323 | 50041 | 33529 |
| 8 persons | 1.414 | 53483 | 37220 |
| 9 or more | 1.5 | 56736 | 44346 |

APPENDIX II: OLS REGRESSION OF MACRO-LEVEL FAMILY POVERTY

| | Analysis 1 | Analysis 2 | Analysis 3 |
|--|------------|------------|------------|
| Civic Community Measures | | | |
| Mainline Protestant and Catholic congregations | -0.005 | | -0.006 |
| Mainline Protestant and Catholic adherents | 0.003 | | 0.005 |
| Self-employed | | 0.147*** | 0.157*** |
| Small establishments | | -0.133** | -0.136** |
| Contextual Controls | | | |
| Unemployed | 2.631*** | 2.717*** | 2.686*** |
| High SES | -1.037*** | -1.077*** | -1.160*** |
| South | 3.235*** | 3.242*** | 3.309*** |
| Metro population | -0.016*** | -0.012*** | -0.015*** |
| Intercept | -0.275 | 9.261** | 9.608** |
| Adjusted R ² | 0.700 | 0.703 | 0.703 |

Source: Decennial Census 2000 (SF3); County Business Patterns 2000; and Religious Congregations and Membership Survey 2000.

Cell entries are unstandardized coefficients.

N=1,024. * p<.05; ** p<.01; *** p< .001.

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