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**EMPLOYMENT AND THE RURAL RECESSION: CONTEXT AND SPATIAL VARIATION OF  
AMERICAN RECOVERY AND REINVESTMENT ACT SPENDING**

Alexander W. Marré<sup>1</sup>  
*amarre@ers.usda.gov*

John L. Pender  
*jpender@ers.usda.gov*

Daniel Monchuk  
*dmonchuk@gmail.com*

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<sup>1</sup> Marré and Pender are Economists in the U.S. Department of Agriculture's Economic Research Service. Monchuk is Assistant Professor in the Department of Economics at the University of Southern Mississippi. The views expressed in this paper are the authors' own and do not necessarily reflect the views of the U.S. Department of Agriculture. Copyright 2010 by Marré, Pender and Monchuk. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided this copyright notice appears on all such copies.

## Introduction

The current recession, beginning in December 2007, has had enormous effects on workers and the national labor market. These effects are summarized by high unemployment rates, high levels of job loss and stagnant wages. Although the employment experience across the rural-to-urban continuum has traditionally varied, unemployment rates in both nonmetropolitan and metropolitan America are at almost 30-year highs.<sup>2</sup> As of the fourth quarter of 2009, nonmetropolitan and metropolitan unemployment rates reached 9.5 and 9.6 percent, respectively. These are levels not experienced since 1982. Record high unemployment rates have significant effects on individuals, households, the demand and supply of public assistance, and the nonmetropolitan and metropolitan economies as a whole. An additional cause for concern is that many speculate the economic recovery from this recession will be accompanied by slow job growth, as employers are reluctant to hire new workers (Knotek and Terry, 2009).

The purpose of this paper is three-fold: to (1) discuss the salient features differentiating nonmetropolitan and metropolitan labor markets that differentiate them; (2) provide the latest metrics of the nonmetropolitan and metropolitan economies, especially focusing on spatial variation in the recession's effect on local labor markets; and (3) describe the spatial distribution of Federal funds provided by the American Recovery and Reinvestment Act of 2009 (ARRA), designed to address the economic effects of the current recession. The spatial distribution of contracts, grants and loans under ARRA will be compared with economic outcomes of particular importance to policymakers – unemployment, income and poverty – to see how funds are targeted to different geographies.

This paper begins by giving a brief overview of key differences between nonmetropolitan and metropolitan labor markets and reviews the literature in this area. A presentation of the most recent metrics and trends of how local labor markets across the rural-to-urban continuum are being affected by this recession follows. Next, spatial variation in Federal funds provided through ARRA is presented. It concludes with questions for future research on the role of economic development policy, especially with respect to its effect on heterogeneous local labor markets across the United States.

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<sup>2</sup> This paper uses the Office of Management and Budget's designation of "metropolitan" areas. These consist of central counties with one or more urbanized areas (defined as an urban nucleus with 50,000 or more people) and economically-tied outlying counties. These are counties that meet at least one of two criteria: (1) at least 25% of the employed residents of the outlying county work in the core urban area county or counties and (2) at least 25% of the jobs in the outlying county are accounted for by workers who reside in the core urban area county or counties. All other counties are classified as "nonmetropolitan". See Isserman (2005) for a discussion of measuring rurality.

## Features of Rural Labor Markets

In the economics profession, space is becoming increasingly important. Theoretical and quantitative advances reveal an interest in modeling the features of places that affect economic outcomes – spatial heterogeneity – and the relationships between places, most clearly evidenced by econometric techniques for spatial autocorrelation (Anselin, 2005). For policy-makers, place-based policies have always been in the economic development toolkit. Most recently, there is a renewed emphasis at the Federal level on place-based and regional economic development policies (OMB Memorandum, 2009).<sup>3</sup>

For those interested in the economics of rural places, there are features that distinguish them from urban places that may affect economic outcomes.<sup>4</sup> As discussed by Irwin *et al.* (2010), Hoover (1948) identifies three stylized facts of rural areas: many have natural resource advantages, a lack of economies of concentration, and high costs of transport and communication. Differences between the characteristics of rural and urban places points to spatial variation in the effects of the recession and the potential need for place-based policies. Four categories of these differences that most directly relate to local labor markets are discussed here, namely differences in demographics (affecting labor supply), industry (labor demand), labor market outcomes (wages, unemployment, poverty), and public services.

### *Demographic Differences*

Metropolitan areas have historically had a greater percentage of the population employed compared with nonmetropolitan areas (Figure 1). The gap in this percentage shrank in the mid-1990s, likely because economic growth in that period benefitted both metropolitan and nonmetropolitan areas. The latest figures from the fourth quarter of 2009 and the first quarter of 2010 show a precipitous drop in the percentage of the population employed, reflecting the severity of the most recent recession. There are several explanations for the nonmetropolitan and metropolitan gap in these percentages. Overall, nonmetropolitan areas of the country have a greater percentage of their populations over 65 years of age (Figure 2). Similarly, nonmetropolitan areas have a greater percentage of their populations with disabilities. For example, 18.7 percent of metropolitan residents and 21.3 percent of nonmetropolitan residents between the ages of 21 and 64 reported having some type of disability in the 2000 Census.

Another key demographic characteristic that is likely to have labor market ramifications is the gap in educational attainment between nonmetropolitan and metropolitan areas. Although the

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<sup>3</sup> For a discussion of the need for place-based policies in rural areas, see Partridge and Rickman (2006) and Kraybill and Kilkenny (2003).

<sup>4</sup> These features are often measurable, but may also be in all practicality un-measurable (Weber *et al.* 2005).



educational attainment gap between these areas is shrinking, it still remains true that nonmetropolitan areas have a greater percentage of their populations over the age of 25 who have not completed high school or college (Figure 3). Human capital theory, pioneered by Becker (1993), posits that educational attainment increases individual productivity. Spence (1973) argued that educational attainment acts as a signal to potential employers of a worker's ability. Both theories suggest that of two workers, similar in every other characteristic except for education, the worker with higher education will command a higher wage. Empirical work clearly shows the importance of education in increasing individual, household and regional economic growth (Mincer 1974, Psacharopoulos and Patrinos 2004, Krueger and Lindahl 2001; Gibbs 2005). The gap in educational attainment between nonmetropolitan and metropolitan areas is probably due in large part to differences in the economic return to education in rural areas (Kusmin 2010).

### *Industry Changes*

The demand for labor is a key determinant of local labor market outcomes. Increases in local labor demand are likely to increase local wages and reduce the unemployment rate (Topel, 1986). However, new jobs that are created in a community may simply attract in-migrants and have little or no effect on unemployment rates. Using data from North Carolina, Renkow (2003) found that between 70 and 80 percent of jobs created in the 1980s were accompanied by changes in commuting flows. This area of research provides a cautionary note when conducting analysis of the effects of new jobs in a region: expect migration and commuting to play some role in filling increases in local labor demand.

In general, the rural economy is becoming less reliant on jobs related to agriculture (Figure 4) and manufacturing. Technological change and globalization have been dominant forces in the national economy, and nonmetropolitan places are no exception. Rural areas have witnessed a decline in low-skill jobs due to technological changes within industries, and the employment in rural places is becoming more dependent on the service sector (Gibbs, Kusmin, and Cromartie, 2005).

### *Differences in Outcomes*

Labor markets in nonmetropolitan and metropolitan areas yield dramatically different economic outcomes. For example, Figure 5 shows a significant and growing difference in nonfarm earnings per job over time. New growth theory suggests that differences in wages and earnings between rural and urban areas are due to knowledge spillovers and the increasing returns associated with knowledge. Glaeser and Maré (2001) note that "the earnings gap between those who work in a large city and those who work outside a large city is still larger

than the earnings gap between the races or between union and nonunion members.” This may be due, in part, to higher levels of educational attainment in urban areas.

Differences in rural and urban earnings combined with other factors produces higher poverty rates in rural areas relative to urban areas (Figure 6). The gap between nonmetropolitan and metropolitan poverty rates has generated much scholarly interest. A variety of factors, both individual (e.g., educational attainment) and structural (e.g., labor market conditions) are likely to explain this gap (Rank, Yoon and Hirschl 2003, Cotter 2002, Fisher 2005, Fisher 2007). It should be noted that some of the gap between the nonmetropolitan and metropolitan poverty rates may be overstated if the lower cost of living in a nonmetropolitan area is taken into account (Jolliffe 2006). Nonmetropolitan counties are also more likely to be persistently poor, defined as counties with poverty rates greater than or equal to 20 percent for the 1970, 1980, 1990 and 2000 Censuses. For the most part, persistent poverty counties are concentrated along the Texas and New Mexico border with Mexico, the Mississippi Delta region, Appalachia, and in predominantly Native American communities in the Midwest and Alaska (Figure 7). Such high poverty rates have prompted policy responses at the state and Federal levels of government (Weber 2007, Pender and Reeder 2010)

Research has shown that local labor markets can have a powerful effect on individual and household economic outcomes. For example, Heckman, et al. (1998) found that the impacts of job training programs depend substantially on local labor market conditions. Using data from the Panel Study of Income Dynamics, Bartik (1996) found that “stronger labor demand helps the poor and reduces [income] inequality”. At the Census tract-level, Crandall and Weber (2004) use data from the long-form 2000 Census in a spatially-explicit model of the effects of job growth on poverty rates. They find that “job growth does have a poverty-reducing effect, and that this effect is larger in high-poverty tracts.” A one percentage-point increase in employment growth was estimated to result in declines in poverty rates of 0.011, 0.046 and 0.088 percentage points in low, medium and high poverty counties, respectively.

#### *Access to Public Services*

In part because of their remoteness, nonmetropolitan counties typically have less access to public services. These services include key work supports that are often available in metropolitan areas: public transportation, childcare, and workforce training programs are all examples. Public transportation and childcare can be critical to a person’s employment prospects and job stability (Davis, Grobe and Weber, 2010). A lack of affordable childcare in rural areas is well-documented and a policy consideration (Davis and Weber, 2001). In cases where work supports are available -- through Temporary Assistance for Needy Families (TANF), for example -- low job density in rural areas may make it difficult to match job seekers with employers (Howell, 2002).

## **Spatial Variation in Unemployment**

While the characteristics of nonmetropolitan and metropolitan local labor markets vary greatly in significant ways, the unemployment experiences of both geographies are roughly similar during this recession (Figure 8). Peak nonmetropolitan unemployment rates tended to be higher than in metropolitan places, especially during the mid-1980s. In contrast, the current recession appears to be affecting the unemployment situation of both nonmetropolitan and metropolitan places with equal vigor. The roots of the recession lay not only in banking and financial services, a sector more heavily weighted toward metropolitan employment, but also in housing and construction, which has had effects across the rural-to-urban continuum.

Figure 9 shows a broader measure of unemployment, U-6, which includes the unemployed plus all marginally attached workers and those employed part-time for economic reasons. The chart shows similar effects as the U-3 measure, except to a much greater magnitude. The last quarter of 2009 saw this measure of unemployment rise to roughly 16 percent in both nonmetropolitan and metropolitan areas. Nonmetropolitan areas have typically had higher U-6 unemployment rates, but again, this recession appears to be affecting both nonmetropolitan and metropolitan areas equally. This is also true for those employed part-time for economic reasons, as shown in Figure 10. This metric captures those workers who want full-time work but had to settle for part-time schedules.

These latest statistics beg the question: do the differing characteristics between nonmetropolitan and metropolitan labor markets no longer matter? Should economic development policies be tailored to these two different geographies?

## **The Geography of ARRA Funds**

To be completed with newly-released data from the first quarter of 2010.

Publicly available data from the Recovery Accountability and Transparency Board's website ([www.recovery.gov](http://www.recovery.gov)) will be used to show the geographic distribution of contracts, grants and loans across the rural-to-urban continuum. This geographic information will be compared with the geography of other factors affecting labor market supply and demand and with labor market outcomes, such as employment and wage levels to see how ARRA funds are targeted.

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*Figures for:*

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Alexander W. Marré<sup>1</sup>  
*amarre@ers.usda.gov*

John L. Pender  
*jpender@ers.usda.gov*

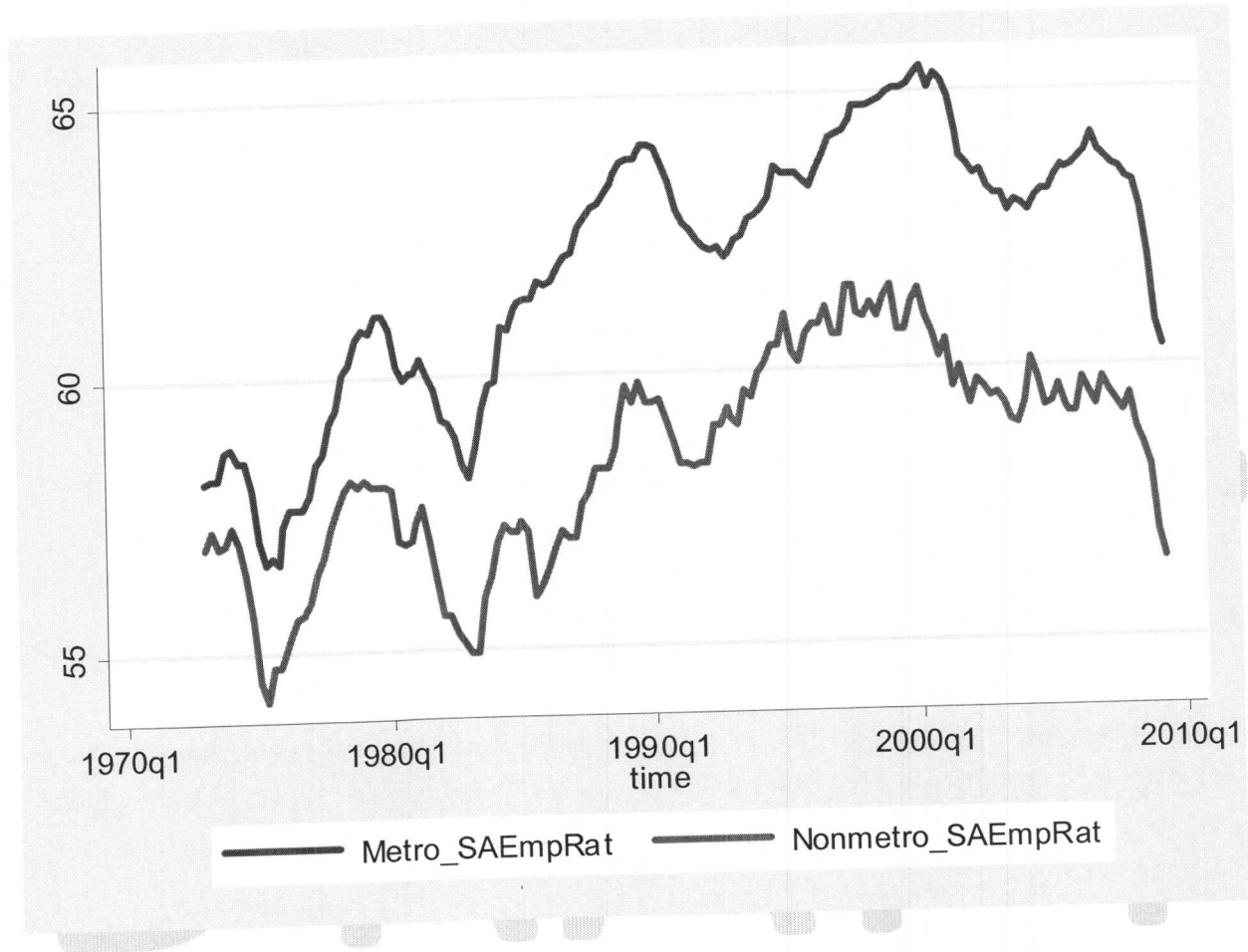
Daniel Monchuk  
*dmonchuk@gmail.com*

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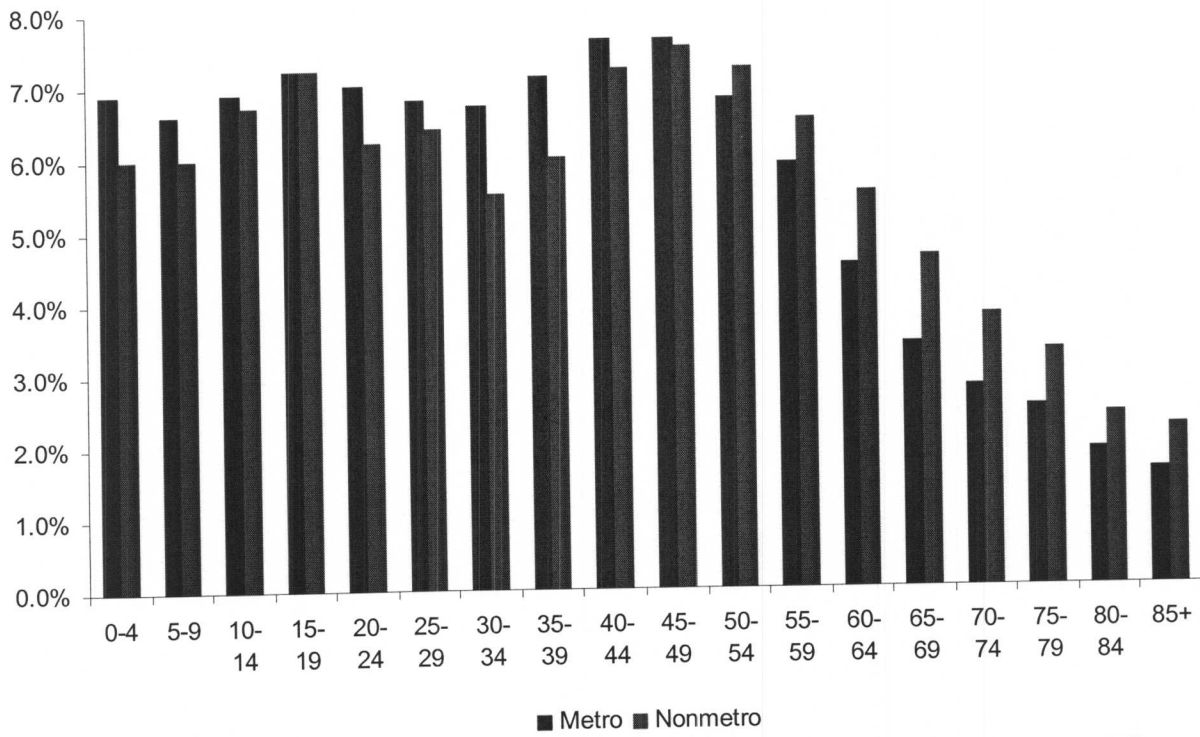
<sup>1</sup> Marré and Pender are Economists in the U.S. Department of Agriculture's Economic Research Service. Monchuk is Assistant Professor in the Department of Economics at the University of Southern Mississippi. The views expressed in this paper are the authors' own and do not necessarily reflect the views of the U.S. Department of Agriculture. Copyright 2010 by Marré, Pender and Monchuk. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided this copyright notice appears on all such copies.

Figure 1. U.S. Metropolitan and Nonmetropolitan Employed-to-Population Ratio, %



Source: Bureau of Labor Statistics

Figure 2. Age Composition of Nonmetropolitan and Metropolitan Areas



Source: Census Bureau, American Community Survey, 2005-2007

Figure 3. Educational Attainment

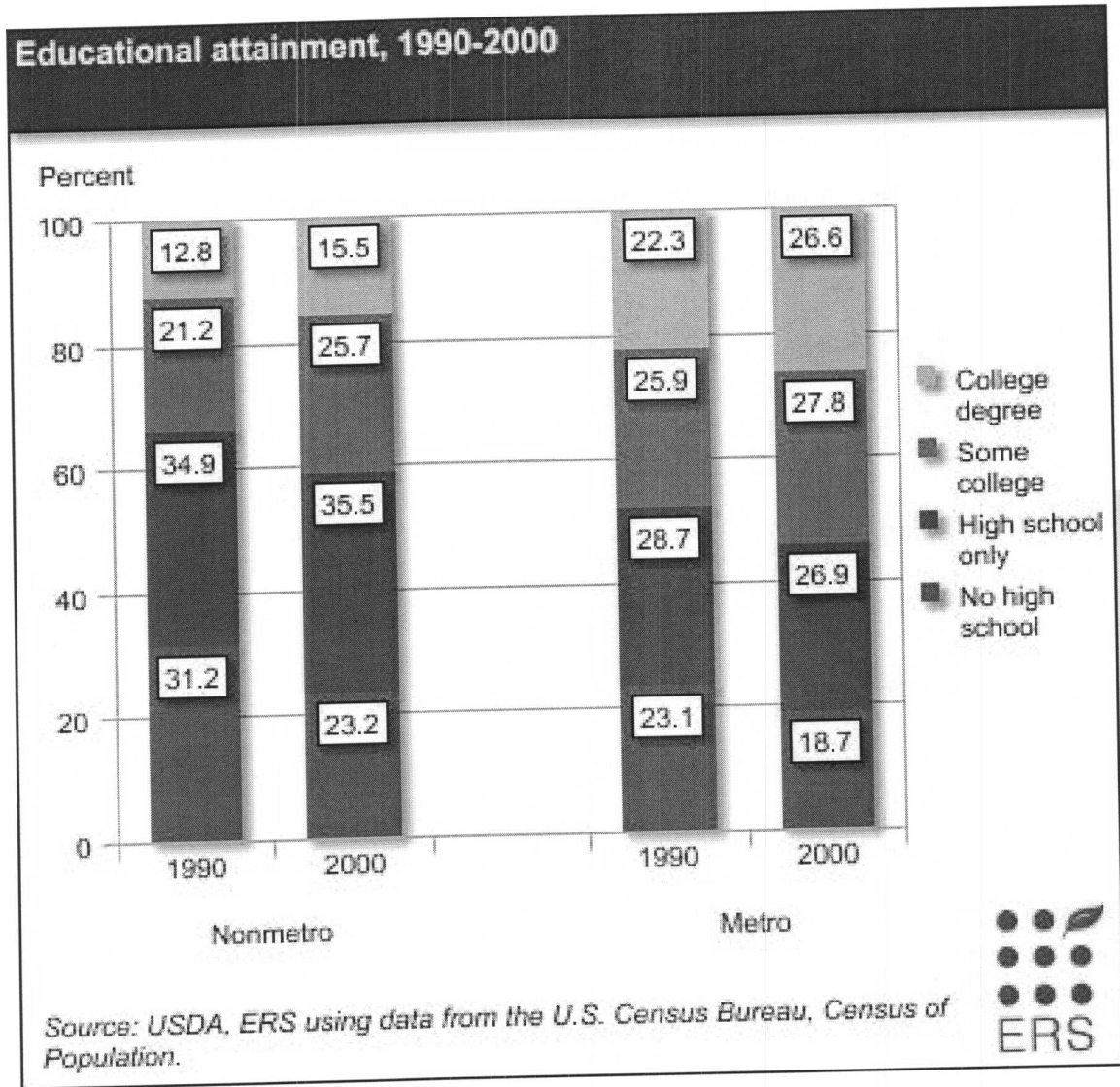
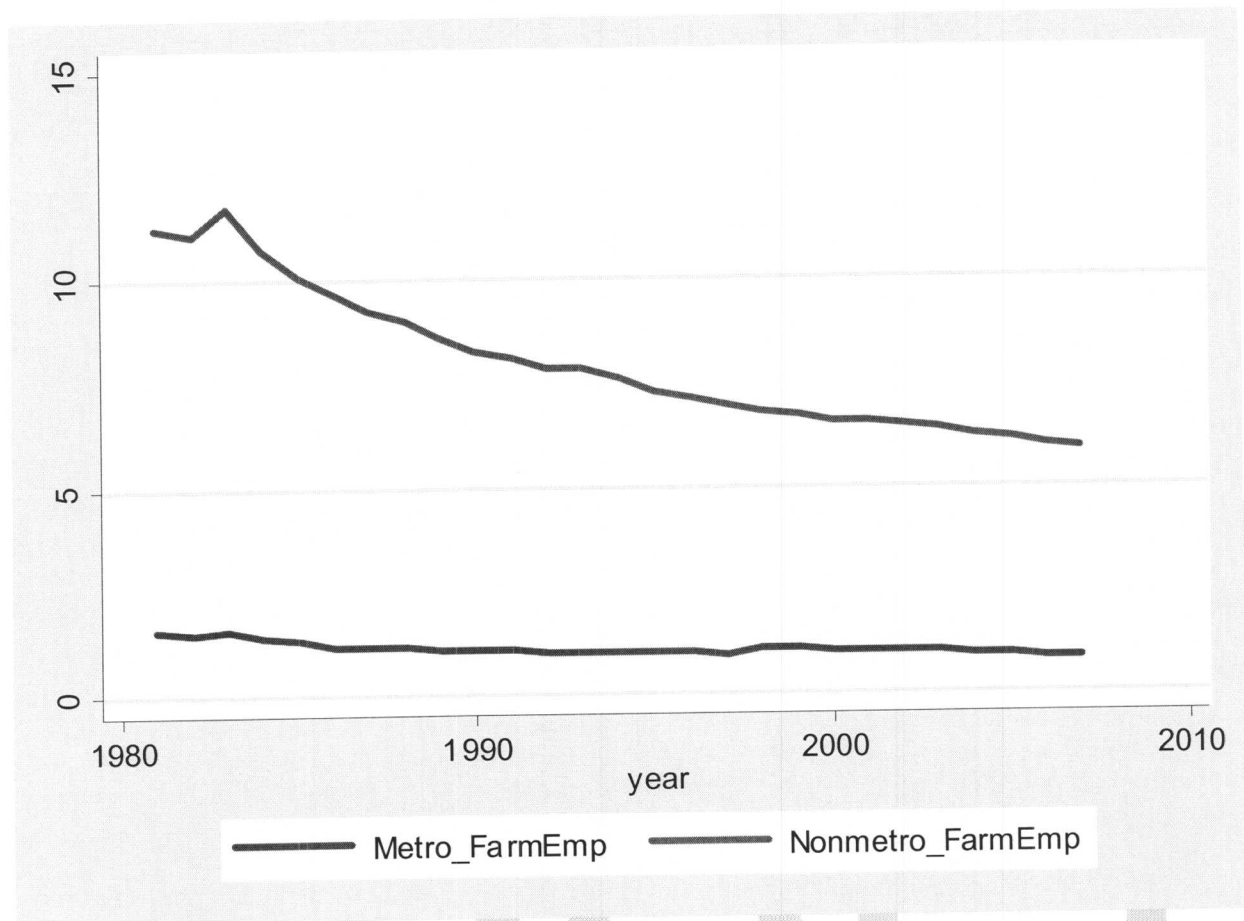
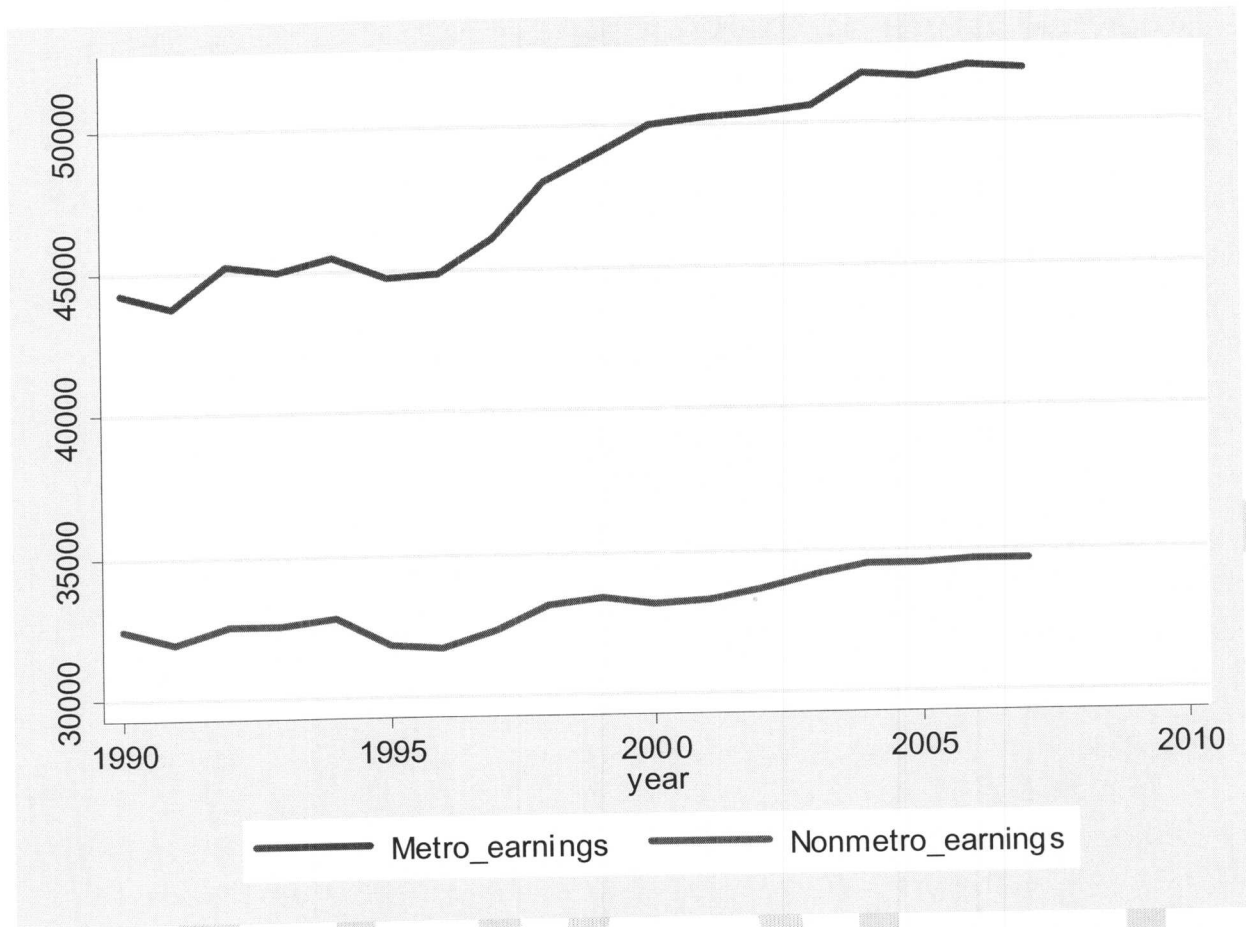


Figure 4. Metropolitan and Nonmetropolitan Farm Employment, %



Source: Census Bureau, County Business Patterns Data

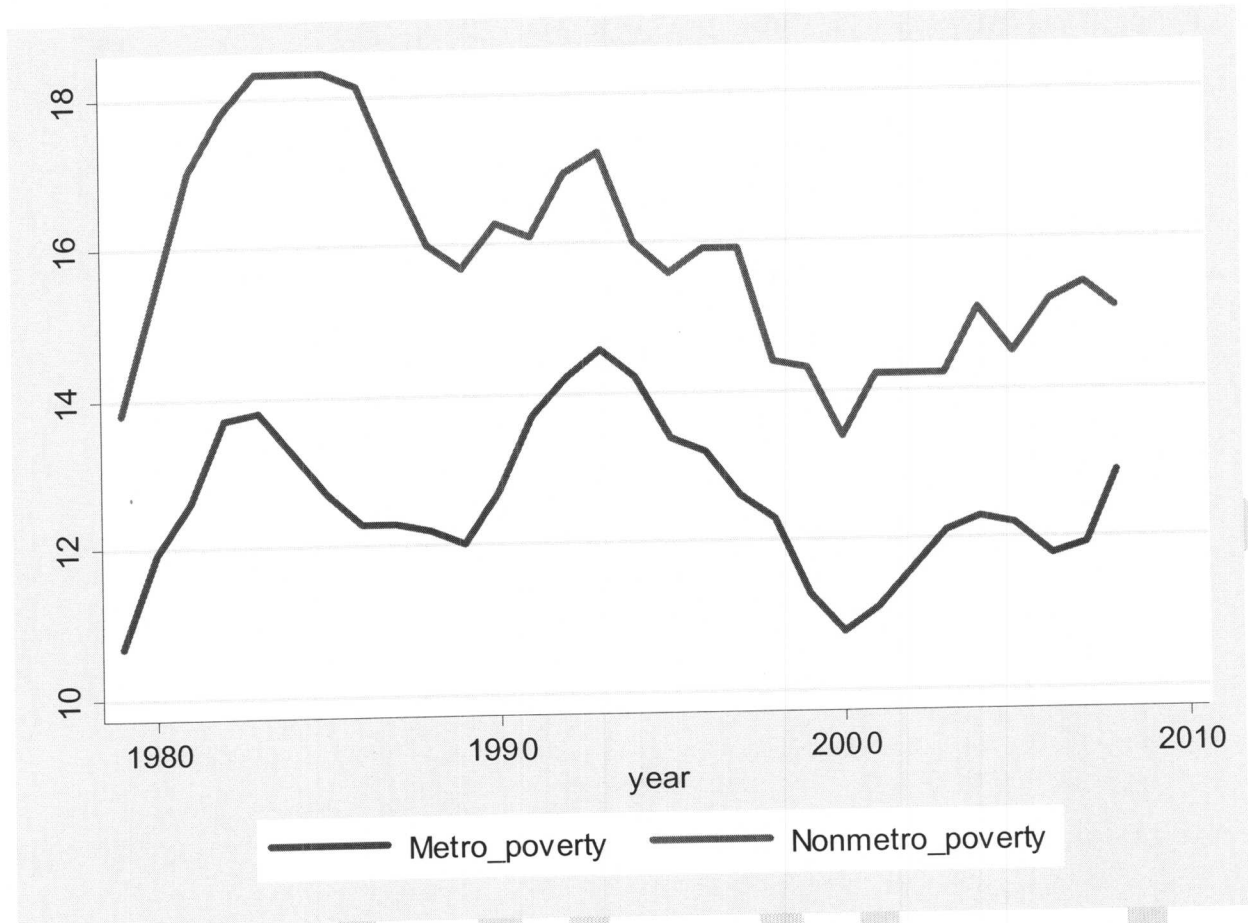
Figure 5. Metropolitan and Nonmetropolitan Nonfarm Earnings per Job, 2007 dollars



Source: USDA, ERS using data from the Bureau of Economic Analysis



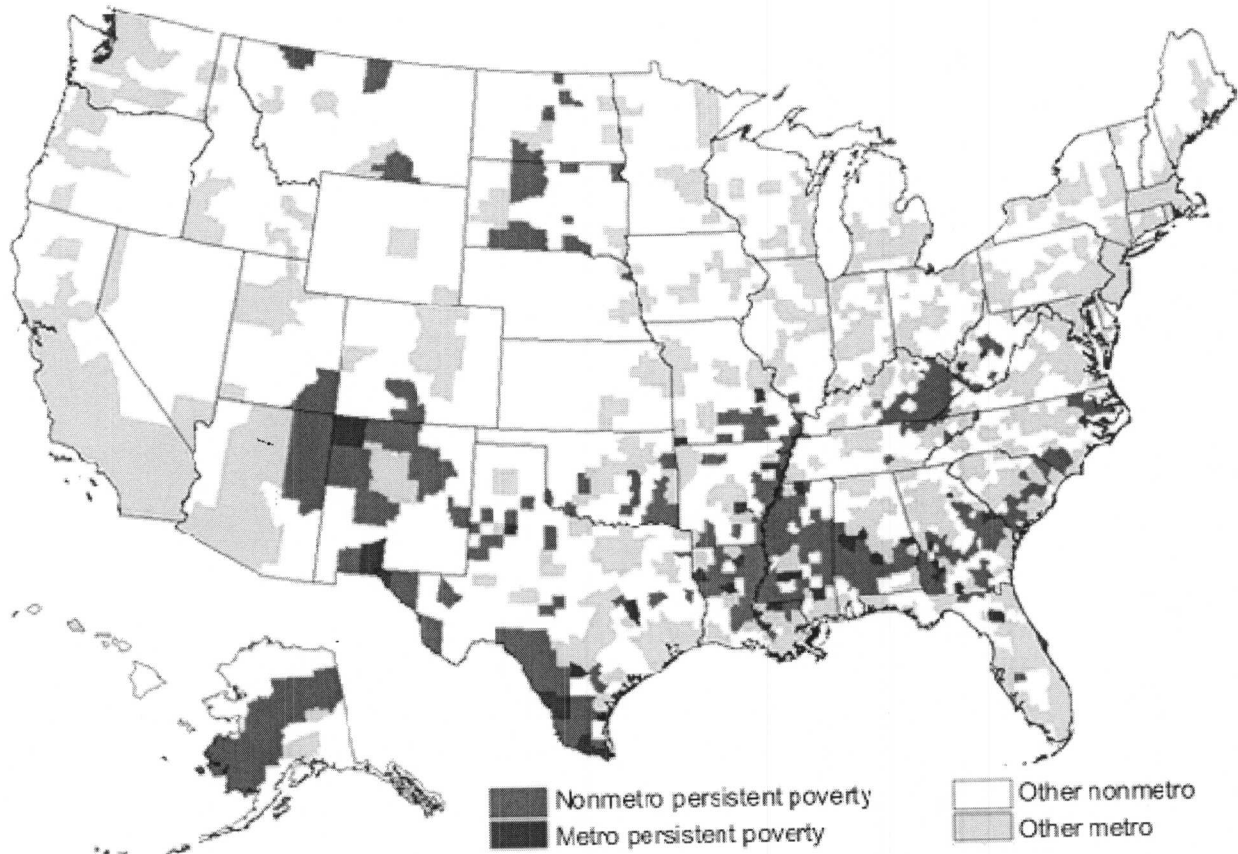
Figure 6. Nonmetropolitan and Metropolitan Poverty Rates, % of Population



Source: Census Bureau

Figure 7. Persistently Poor Counties

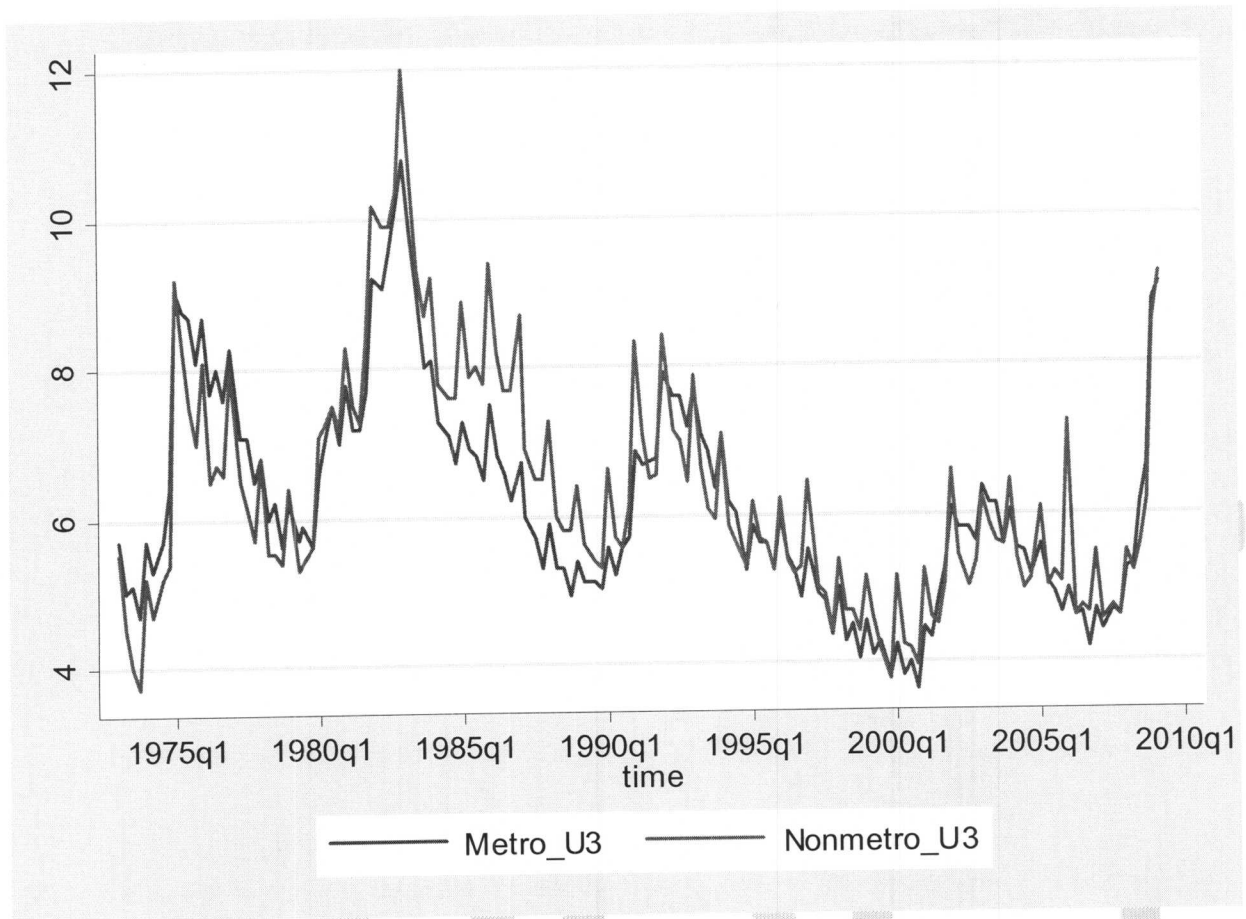
### Persistent Poverty Counties, 1970-2000



Persistent poverty counties—20 percent or more residents were poor as measured by each of the last four censuses, 1970, 1980, 1990, and 2000.

Source: Economic Research Service, USDA.

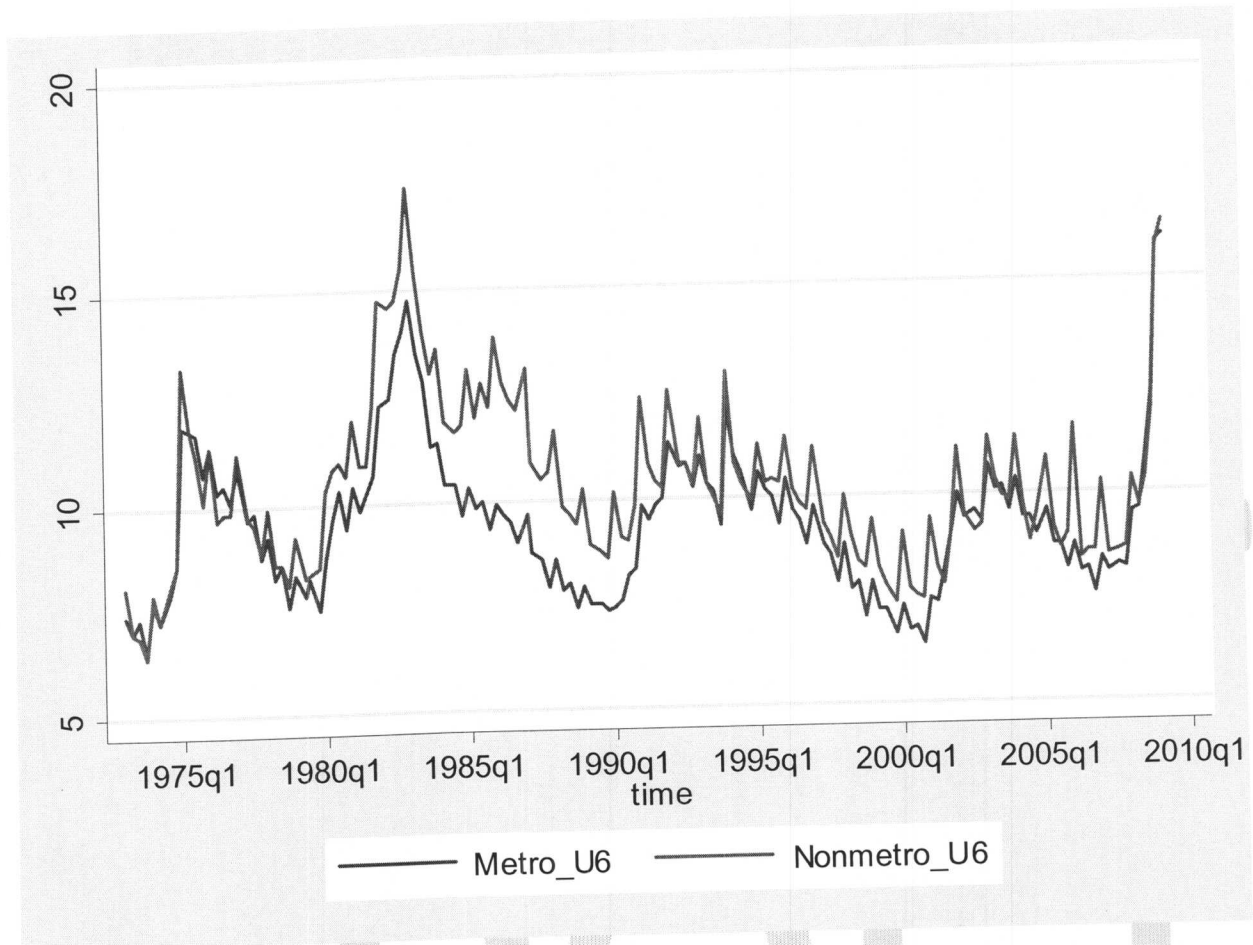
Figure 8. Nonmetropolitan and Metropolitan U-3 Unemployment Rates, % of Labor Force



Source: Census Bureau, Current Population Survey

Note: U-3, total unemployed, as a percent of the civilian labor force (this is the definition used for the official unemployment rate)

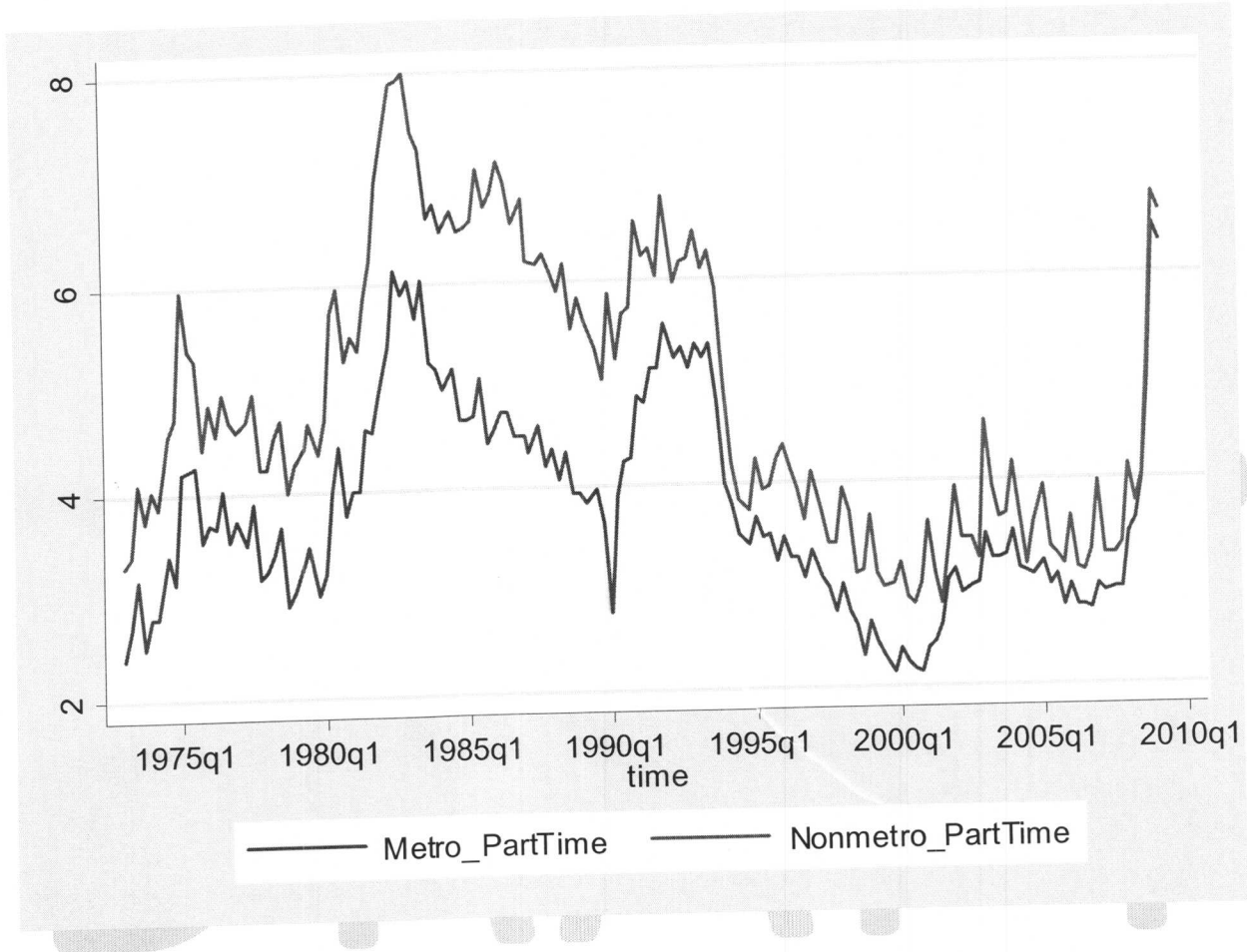
Figure 9. Nonmetropolitan and Metropolitan U-6 Unemployment Rates, % of Labor Force



Source: Census Bureau, Current Population Survey

Note: U-6, total unemployed, plus all marginally attached workers, plus total employed part time for economic reasons, as a percent of the civilian labor force plus all marginally attached workers.

**Figure 10. Nonmetropolitan and Metropolitan Part-Time Employment for Economic Reasons, % of Labor Force**



Source: Census Bureau, Current Population Survey