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Demographic Trends in Nonmetropolitan America: Implications for Land Use Development and Conservation.

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**DEMOGRAPHIC TRENDS IN NONMETROPOLITAN
AMERICA: IMPLICATIONS FOR LAND USE DEVELOPMENT
AND CONSERVATION**

*By Kenneth M. Johnson**

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DEMOGRAPHIC TRENDS IN NONMETROPOLITAN AMERICA:
IMPLICATIONS FOR LAND USE DEVELOPMENT AND CONSERVATION

This research contributes new information delineating the rapidity and geographic scale at which demographic change is occurring in

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nonmetropolitan America. Rural areas are being buffeted by economic, social, and governmental transformations from far beyond their borders. These structural transformations are reflected in the demographic trends playing out across the vast rural landscape in the first decade of the twenty-first century. The patterns of demographic change in rural America are complex and subtle, but their impact is not. Population change has significant implications for the people, places, and institutions of rural America; for the natural environment that is a fundamental part of what rural America was, is, and will become; and for the laws and policies that seek to balance the rights of individuals with the needs of the larger society. This article examines the influence of demographic forces on nonmetropolitan population redistribution trends in the U.S. in the first decade of the twenty-first century.

Rural America is a deceptively simple term for a remarkably diverse collection of places. Popular images of rural America are often based on outdated stereotypes that equate rural areas with farming. Though farming remains important in hundreds of counties, rural America is now very diverse. Geographically, it encompasses the vast agricultural heartland of the Great Plains sprawling from the Canadian border deep into Texas; the arid range of the Southwest; the dense, mountainous forests of the Pacific Northwest; the hardscrabble towns and hollows of the Appalachians; the rocky shorelines and working forests of New England; and the flat and humid coastal plain of the Southeast. Economically, it includes auto supplier plants strung like pearls on a string along the expressways of the auto corridor; manufacturing, food processing, and warehouse distribution centers clustered around major interstate interchanges; farm towns, grain elevators, and ethanol plants scattered through the corn and wheat belts; as well as sprawling recreational areas proximate to mountains, inland lakes, and the Atlantic, Pacific, and Great Lakes coastlines. There is also considerable variation in the demographic trends in rural America. Far more people lived in some rural counties a century ago than do today, and in hundreds of these declining counties more people are dying than being born. Other rural areas have experienced substantial population gains because of an influx of migrants and high fertility. Racial and ethnic diversity is growing as well. Though much of rural America remains overwhelmingly white, there are substantial African-American concentrations in the Southeast; Hispanic areas of long-standing in the Southwest, as well as new Hispanic destinations in the Southeast and Midwest; and clusters of native Americans in the Great Plains and upper Great Lakes.

Rural America contains seventy-five percent of the land area of the United States and nearly 51 million residents. The demographic changes

underway in this vast area are as diverse as the people, places, and institutions that populate it. These demographic changes are important because they have implications for the natural environment, landscape change, and rural policy. Analysis of the longitudinal demographic change in rural America illustrates the complex interplay between migration, natural increase, aging, and diversity that produced the population redistribution trends evident today.¹

DATA AND METHODS

There is more than one way to define what rural America is. In fact, the federal government uses some fifteen “rural” definitions.² Here, I delineate rural areas using counties as the unit of analysis. Counties have historically stable boundaries and are a basic unit for reporting fertility, mortality, and census data. Counties are designated as metropolitan or nonmetropolitan using criteria developed by the U.S. Office of Management and Budget (county-equivalents are used for New England). A constant 2004 metropolitan/nonmetropolitan classification is used here because it removes the effect of reclassification from the calculation of longitudinal population change. Metropolitan areas include counties containing an urban core of 50,000 or more population (or central city), along with adjacent counties that are highly integrated with the core county as measured by commuting patterns. There are 1,090 metropolitan counties. The remaining 2,051 counties are nonmetropolitan (Figure 1). Nonmetropolitan counties are further subdivided into those that are contiguous to urban areas (adjacent) and those that are not near urban areas (non-adjacent). The terms “rural” and “nonmetropolitan” are used interchangeably here, as are the terms “metropolitan” and “urban.”

Counties are also classified using a typology developed by the Economic Research Service of the U.S. Department of Agriculture, which classifies nonmetropolitan counties along economic and policy dimensions.³ The county classification developed by Johnson and Beale⁴ is

1. Kenneth M. Johnson & John B. Cromartie, *The Rural Rebound and its Aftermath: Changing Demographic Dynamics and Regional Contrasts*, in *POPULATION CHANGE AND RURAL SOC'Y* 25, 28 (W. Kandel & D.L. Brown eds. 2006).

2. David A. Fahrenthold, *What Does Rural Mean? Uncle Sam Has More Than a Dozen Answers*, *WASH. POST* (Jun. 8, 2013) available at http://articles.washingtonpost.com/2013-06-08/politics/39834384_1_definition-lenoir-rural-communities.

3. See generally *2004 County Typology Codes*, USDA ERS, <http://www.ers.usda.gov/data-products/county-typology-codes.aspx#.UilUAnhWJHw> (last visited Aug. 8, 2013) (showing typology developed by the U.S. Dept. of Agriculture) [hereafter *Typology Codes*].

4. Kenneth M. Johnson & Calvin L. Beale, *Nonmetro Recreation Counties: Their Identification and Rapid Growth*, 17 *RURAL AM.* 12, 12–19 (2002).

also used to identify nonmetropolitan counties where recreation is a major factor in the local economy.

County population data come from the decennial Census of Population for 1990, 2000, and 2010. They are supplemented with data from the Federal-State Cooperative Population Estimates program (FSCPE) births and deaths in each county for April 1990 to July 2009.⁵ Births and deaths from July 2009 to the Census in April 2010 were estimated at seventy-five percent of the amount from July 2008 to July 2009. The estimates of net migration used here were derived by the residual method whereby net migration is what is left when natural increase (births minus deaths) is subtracted from total population change.

Data for racial and Hispanic origin of the population are from the 2000 and 2010 Censuses and include five racial/Hispanic origin groups: (1) Hispanics of any race; (2) non-Hispanic whites; (3) non-Hispanic blacks; (4) non-Hispanic Asians; and (5) all other non-Hispanics, including those who reported two or more races. To examine the uneven spatial distribution of different racial and ethnic populations, counties were also classified as having minority concentrations if more than ten percent of the population was from a specific minority group. Black, Hispanic, Asian, and Native American peoples were the four minority groups that reached the ten percent threshold in at least one county. Counties that had two or more minority groups that reached the ten percent threshold were classified as multi-ethnic.

Age-specific net migration is computed as a numerical residual between the census count in 2010 and an “expected population” for that year. The expected population is generated by taking the census count at the beginning of the decade from Census 2000, adjusting this count for undercount/overcount and misallocations, and “aging” the population forward to 2010, taking into account births and deaths during the decade. The procedure yields age-specific estimates of net migration for every U.S. county.⁶

5. U.S. CENSUS BUREAU, ANNUAL ESTIMATES OF THE RESIDENT POPULATION FOR COUNTIES: APRIL 1, 2000 TO JULY 1, 2009 (2011) available at <http://www.census.gov/popest/data/counties/totals/2009/CO-EST2009-01.html> (last visited Sept. 12, 2013).

6. Kenneth M. Johnson et al., *Age and Lifecycle Patterns Driving U.S. Migration Shifts*, 62 CARSEY INST. 1, 1 (2013); PAUL R. VOSS ET AL., COUNTY-SPECIFIC NET MIGRATION BY FIVE-YEAR AGE GROUPS, HISPANIC ORIGIN, RACE AND SEX 1990-2000 1, 2-3 (Univ. of Wis.-Madison, Ctr. for Demography & Ecology, Working Paper No. 2004-24, 2004); Richelle L. Winkler et al., *County-Specific Net Migration by Five-Year Age Groups, Hispanic Origin, Race and Sex 2000-2010* 1, 1-2 (Univ. of Wis.-Madison, Ctr. for Demography & Ecology, Working Paper No. 2013-04, 2013).

ANALYSIS

Historical Demographic Trends in Rural America

The United States has experienced a selective deconcentration of its population over the past several decades.⁷ This produced a spatially uneven pattern of population redistribution in rural America that favored some areas at the expense of others. Rural America is a big place encompassing nearly seventy-five percent of the nation's land area and 51 million people. Population redistribution trends in this vast area are far from monolithic. Some rural regions have experienced decades of sustained growth, while large segments of the agricultural heartland continued to lose people and institutions. Findings from other developed nations indicate deconcentration (often labeled "counterurbanization") is underway there as well.⁸

Population growth in rural America has always reflected a balance between natural increase (i.e., births minus deaths) and net migration (in-migration minus out-migration). Early in the nation's history, net in-migration fueled most rural growth as vast new frontiers of the country were opened to homesteading and commercial development (e.g., forestry and mining).⁹ Soon after settlement, natural increase began to contribute heavily to population growth due to high rural fertility and low mortality rates among a growing young rural population of reproductive age. By the 1920s, however, people were leaving rural America; they were attracted by the economic and social opportunities in the nation's booming big cities,

7. William H. Frey & Kenneth M. Johnson, *Concentration Immigration, Restructuring and the "Selective" Deconcentration of the U.S. Population*, PSC RESEARCH REPORT SERIES Nov. 1996, at 7–8; Johnson & Cromartie, *supra* note 1, at 25; See generally Larry Long & Alfred Nucci, *Accounting for Two Population Turnarounds in Nonmetropolitan America*, 7 RESEARCH IN RURAL SOC. AND DEV. 47, 47–70 (1998) (demonstrating the deconcentration of the American population); See Daniel R. Vining, Jr. & Anne Strauss, *A Demonstration That Current De-Concentration Trends Are a Clean Break With Past Trends*, 90 REG'L SCI. RESEARCH INST. 4, 16–17 (1976) (describing patterns of population redistribution between 1900 and the mid 1970s).

8. See generally PAUL BOYLE & KEITH HALFACREE, *MIGRATION INTO RURAL AREAS: THEORIES AND ISSUES* (1998) (illustrating the relationships between migration, counterurbanisation, social class, immigration, and the cultural competence in rural lifestyles); See generally Tony Champion, *Studying Counterurbanisation and the Rural Population Turnaround*, in *MIGRATION INTO RURAL AREAS: THEORIES AND ISSUES*, 21–40 (Paul Boyle & Keith Halfacree eds., 1998) (showing further deconcentration occurrences from developed nations); See also Tony Champion & John Shepherd, *Demographic Change in Rural England*, in *THE AGEING COUNTRYSIDE* 29, 31 (P. Lowe & L. Speakman eds., 2006) (explaining how counter-urbanisation is occurring in England).

9. See generally Claude S. Fischer & Michael Hout, *Preface to CENTURY OF DIFFERENCE: HOW AMERICA CHANGED IN THE LAST ONE HUNDRED YEARS* (2006) (examining how migration patterns contributed to changes in diversity in the 20th century); See GLENN V. FUGUITT ET AL., *RURAL AND SMALL TOWN AM. I*, 14, 263 (1989) (examining factors contributing to the changing percentage of American rural population over history, pointing to the transformation in American industrial economics as one of the factors).

and pushed from rural areas by the mechanization and consolidation of agricultural production.¹⁰ The magnitude of rural net out-migration varied from decade to decade and from place to place, but the general pattern was unchanging: more people left rural areas than came. Of course, there were exceptions to this trend in some industrializing regions, such as the Northeast, and at the urban fringe. Still, more than half of the nation's rural counties lost population between 1920 and 1970.¹¹

By the mid-20th century, rural net out-migration losses were so great that the modest rural population gains were fueled entirely by natural increase.¹² High rural fertility—helped along by the post-WWII Baby Boom—brought a surplus of births over deaths, which offset the substantial migration losses to urban areas. With the waning of the Baby Boom in the late 1960s, this large surplus of births over deaths that sustained modest nonmetropolitan population growth diminished. The relentless out-migration of young adults, along with aging in place, contributed heavily to the aging of the rural population, resulting in fewer births and increased deaths.¹³

The diminishing population gains that characterized rural America for the first two-thirds of the century ended abruptly with the onset of the remarkable rural demographic turnaround of the 1970s. For the first time in at least 150 years, population gains in nonmetropolitan areas exceeded those in metropolitan areas; indeed, nonmetropolitan areas grew at the expense of metropolitan areas, as more people left urban areas than arrived in them.¹⁴ Widespread net migration gains in rural counties were fueled by rural restructuring—job growth associated with rural retirement migration, natural resources (e.g., coal and gas), and recreational development—as

10. See generally Michael J. Greenwood, *Research on Internal Migration in the United States: A Survey*, 13 J. ECON. LITERATURE 397, 401 (1975) (explaining that some researchers have found that moving off farms has been profitable for migrants); Richard A. Easterlin, *Population Change and Farm Settlement in the Northern United States*, 36 J. OF ECON. HISTORY 45, 46, 70 (1976).

11. KENNETH M. JOHNSON, THE IMPACT OF POPULATION CHANGE ON BUSINESS ACTIVITY IN RURAL AMERICA, 15–18 (1985); Kenneth M. Johnson, *Demographic Trends in Rural and Small Town America*, 1 REPORTS ON AM. 1, 8 (2006).

12. See Johnson, *supra* note 11, at 8 (identifying natural increase was sufficient to offset migration losses).

13. Kenneth M. Johnson, *The Continuing Incidence of Natural Decrease in American Counties*, 76 RURAL SOC. 74–100 (2011); Kenneth M. Johnson et al., *Temporal and Spatial Variation in Age-Specific Net Migration in the United States*, 42 DEMOGRAPHY 791, 791, 797 (Nov. 2005); Daniel T. Lichter et al., *Components of Change in the Residential Concentration of the Elderly Population: 1950-1975*, 36 J. GERONTOLOGY 480, 481 (1981).

14. Glenn V. Fugitt, *The Nonmetropolitan Population Turnaround*, 11 ANN. REV. OF SOC., 259, 259 (1985).

well as by urban sprawl and changing residential preferences.¹⁵ The rural-urban turnaround was short-lived. Rural population growth slowed in the 1980s with the return of widespread net out-migration from rural areas (Figure 2). But just as unexpectedly, rural population growth rebounded in the 1990s as migration to rural areas accelerated.¹⁶ However, as the 1990s came to an end, there was evidence that nonmetropolitan population gains were slowing.¹⁷ Thus, at the dawn of the twenty-first century, the demographic implications of natural increase and net migration for the future of rural America were once again in question.

Recent Demographic Change in Rural Areas

Nonmetropolitan population growth slowed precipitously after 2000. Between 2000 and 2010, rural counties gained 2.2 million residents (4.5%) to reach a population of 51 million in April of 2010. This growth rate was roughly half that during the 1990s, when the rural population grew by 4.1 million. Rural population gains between 2000 and 2010 were greatest in the West and Southeast, as well as on the periphery of large urban areas in the Midwest and Northeast (Figure 3). Scattered population gains also were evident in recreational areas of the upper Great Lakes, the Ozarks, and Northern New England. Population losses were common in the Great Plains and Corn Belt; in the Mississippi Delta; in parts of the Northern Appalachians; and in the industrial and mining belts of New York and Pennsylvania.

This slowdown was evident in rural counties both proximate to and remote from urban areas. Gains were greater in nonmetropolitan counties adjacent to metropolitan areas, just as they were from 1990 to 2000. In these adjacent counties the population gain was 5.5% between 2000 and 2010; only 57% of what it had been during the 1990s (Figure 4). In all, 63.4% of the adjacent counties gained population between 2000 and 2010. Among more remote nonmetropolitan counties, the gain was considerably smaller (2.7%). This was significantly less than the 6.4% gain such counties experienced during the 1990s. Only 44% of the non-adjacent counties

15. David L. Brown & John M. Wardwell, *Population Redistribution in the United States during the 1970s*, in *NEW DIRECTIONS IN URBAN-RURAL MIGRATION: POPULATION TURNAROUND IN RURAL AM.* 1, 12, 14 (David L. Brown & John M. Wardwell eds., 1981); Fugitt, *supra* note 14, at 266.

16. Kenneth M. Johnson & Calvin L. Beale, *The Recent Revival of Widespread Population Growth in Nonmetropolitan Areas of the United States*, 59 *RURAL SOC.* 655, 656-59 (1994).

17. Calvin L. Beale, *Nonmetro Population Growth Rate Recedes in a Time of Unprecedented National Prosperity*, 11 *RURAL CONDITIONS & TRENDS* 27, 27 (2000); JOHN B. CROMARTIE, *RURAL AMERICA: NONMETRO OUTMIGRATION EXCEEDS IMMIGRATION FOR THE FIRST TIME IN A DECADE* 16, 35-37 (2001); Johnson & Cromartie, *supra* note 1, at 35.

gained population between 2000 and 2010. Metropolitan population gains also diminished (from 14.0% to 10.8%), but the reduction was much more modest. A key question is: how did the demographic components of change combine to produce the smaller nonmetropolitan population gains during the post-2000 period?

Natural Increase and Net Migration Produce the Rural Demographic Change

During the 1990s, migration accounted for nearly two-thirds of the nonmetropolitan population gain of 4.1 million, but after 2000, less than half (46%) of the smaller population gain of 2.2 million came from migration. Nonmetropolitan counties gained 2.7 million residents from migration during the 1990s, but only about one million between 2000 and 2010.¹⁸ Migration gains also occurred in fewer rural counties during the last decade. Only 46% of the rural counties experienced a net migration gain between 2000 and 2010 compared to 65% between 1990 and 2000. Because natural increase in rural areas remained relatively stable over those two decades, the reduced migration gains after 2000 were the primary cause of the sharply diminished rural population growth.

In rural counties remote from metropolitan areas, there was a minimal net migration gain estimated at 46,000 (0.3%) between 2000 and 2010. Just 35% of these non-adjacent counties gained migrants. In contrast, such counties had a migration increase of 544,000 during the 1990s. Migration gains were greater (980,000) in counties that were adjacent to metropolitan areas. This represents a 3% gain from migration. Overall, 53% of the adjacent counties gained migrants between 2000 and 2010. Nonetheless, this recent migration gain was considerably smaller than that during the 1990s, when adjacent counties gained 2.4 million migrants (7.4%). With migration gains diminishing, natural increase produced most of the nonmetropolitan population growth between 2000 and 2010; accounting for 1.2 million of the gain of 2.2 million rural residents (54%). In fact, in non-adjacent nonmetropolitan counties, the natural increase of 418,000 (2.5%) accounted for 90% of the population gain. In adjacent nonmetropolitan counties, natural increase was 760,000 (2.4%). Here the contributions of natural increase and net migration were more balanced with natural

18. Immigration contributed more to rural migration gains between 2000 and 2010 than it did during the 1990s. No definitive immigration data are currently available for the period, but estimates from 2000 to 2009 suggest a substantial inflow of immigrants to both adjacent and nonadjacent counties. However, even with immigration on the rise, overall migration gains were significantly smaller in rural areas during the first decade of the twenty-first century.

increase, accounting for 44% of the population increase of 1.7 million. Though natural increase provided the majority of the rural population gain between 2000 and 2010, the absolute gain from natural increase in nonmetropolitan counties was smaller than during the 1990s. Rural natural increase was already slowing in the 1990s, when it supplied 1.4 million new residents. By the first decade of the new century, it produced just 1.2 million new residents.

Further evidence of the diminishing excess of births over deaths in nonmetropolitan areas is reflected in a sharp increase in the incidence of natural decrease there. Natural decrease occurs when more people die than are born in an area. It has been unusual in the American experience. However, recent Census Bureau estimates of births and deaths suggest that natural decrease is now at the highest level in U.S. history with deaths exceeding births in 1,135 (36%) of all U.S. counties.¹⁹ More than 90% of U.S. counties with episodes of natural decrease are nonmetropolitan; in parts of rural America deaths have exceeded births for decades.²⁰ Between 2000 and 2009, nearly 750 nonmetropolitan counties (36%) experienced an overall natural decrease. This is up from approximately 29% in the 1990s and is the highest level of sustained natural decrease in U.S. history. Within rural areas, the incidence of natural decrease is influenced by proximity to metropolitan areas. Nearly 43% of non-adjacent counties had natural decrease between 2000 and 2010 compared to 30% of the adjacent counties. Natural decrease is not a fleeting concern. Once natural decrease occurs in a rural county, the probability that it will reoccur is extremely high.²¹

The Great Recession Has Influenced Rural Demographic Trends

The recent Great Recession has been compared to the Great Depression of the 1930s because during each of these economically troubled periods migration rates were at extremely low ebb.²² The Great Recession's impact

19. Kenneth M. Johnson, *Deaths Exceeded by Births in Record Number of U.S. Counties*, THE CARSEY INST. AT THE SCHOLARS' REPOSITORY Paper 191 at 1 (2013).

20. Kenneth M. Johnson, *The Continuing Incidence of Natural Decrease in American Counties*, 76 RURAL SOC. 74-100 (2011).

21. *Id.*

22. WILLIAM H. FREY, BROOKINGS INST., THE GREAT AMERICAN MIGRATION SLOWDOWN: REGIONAL AND METROPOLITAN DIMENSIONS (Dec. 9, 2009) available at <http://www.brookings.edu/research/reports/2009/12/09-migration-frey>; JOHNSON, *supra* note 11, at 17; Leah Platt Boustan et al., *The Effect of Internal Migration on Local Labor Markets: American Cities during the Great Depression*, 28 J. LABOR ECON. 719, 725 (2010); See Joshua L. Rosenbloom & William A. Sundstrom, *The Decline and Rise of Interstate Migration in the United States: Evidence from the IPUMS, 1850-1990*, (Nat'l Bureau of Econ. Research, Working Paper No. 9857, 2003), available at <http://nber.org/papers/w9857> (discussing the decreased migration rate at the time of the Great Depression).

on migration has reverberated through the entire nonmetropolitan hierarchy. The overall nonmetropolitan population gain between 2010 and 2012 was just 24,000 because rural areas suffered a net migration loss. To examine how the recession influenced rural migration between 2000 and 2012, the period is divided into four segments: the pre-boom (April 2000 to July 2004); the boom (July 2004 to July 2007); the recession (July 2007 to July 2010), the post-recessionary period (July 2010 to July 2012). In rural America as a whole, population growth slowed in the recessionary and post-recessionary periods. The annual population gain between 2004 and 2007 was 304,000, but this slowed to 178,000 between 2007 and 2010, and to just 11,000 between 2010 and 2012 (Figure 5). Natural increase also slowed recently because of the recession. However, the population slowdown was primarily due to the sharp reduction in net migration during recessionary and post-recessionary years.

Recent research demonstrates that the impact of the recession on migration was spatially uneven.²³ It was greater in adjacent nonmetropolitan areas, where the booming economy fueled peripheral growth and spatial sprawl from nearby urban areas during the peak years. In adjacent counties, the downturn reduced net migration gains because the number of people moving to these urban proximate counties sharply diminished. Paradoxically, in remote rural areas, which have historically experienced slow growth or population decline, the impact of the recession on migration has not been as great. Remote rural counties suffered migration losses early in the decade and gained migrants during the mid-decade boom, and then migration gain diminished during the recession. However, the reduction in net migration during the recession was far more modest in these remote rural counties.²⁴

Data from the Pew Hispanic Center shows that the net flow of new immigrants into the United States also slowed during the recessionary period.²⁵ Immigrants are an important source of new growth in nonmetropolitan areas, so any recessionary slowdown in immigration is likely to influence rural areas.²⁶ In addition, new data from the National Center for Health Statistics show a fertility decline of nearly 7.3% in the

23. Kenneth M. Johnson, *Rural Demographic Change in the New Century: Slower Growth, Increased Diversity*, 44 CARSEY INST. 3, 4 (2012).

24. *Id.*

25. Jeffrey S. Passel, Pew Hispanic Cent., *Comings & Goings: Unauthorized Immigrants & the Great Recession*, Cornell Population Program Seminar Series (Mar. 4, 2011).

26. See Daniel T. Lichter & Kenneth M. Johnson, *Emerging Rural Settlement Patterns and the Geographic Redistribution of America's New Immigrants*, 71 RURAL SOC. 109, 110, 128 (2006) (discussing rural settlement trends among twenty-first century immigrants).

last three years.²⁷ Given the importance of natural increase and immigration to nonmetropolitan growth, fertility declines and reduced immigration have significant implications for future rural demographic trends.

Demographic Trends in New England and Vermont

How do demographic trends in New England compare to those for America as a whole? With 14.4 million residents, New England is home to just five percent of the U.S. Yet the region reflects many of the diverse strands that together comprise the country's demographic fabric: densely settled urban cores, expanding suburbs, struggling industrial towns, fast-growing recreational and retirement areas, and isolated rural villages. Overall, New England's population gain between 2000 and 2010 was modest, but there are distinct regional differences in the demographic trends in New England. In northern New England (Maine, New Hampshire, and Vermont), population gains have generally been larger, with migration fueling much of the growth (Figure 6). This trend is more pronounced in New Hampshire and Maine than in Vermont, but migration made a positive contribution to each state's population growth. Natural increase also contributed to population growth in northern New England. In southern New England (Massachusetts, Connecticut, and Rhode Island), the situation was quite different. Here, natural increase produced the bulk of the population gain, even offsetting migration losses in Massachusetts and Rhode Island. Prior research suggests that the migration gains in northern New England were primarily due to a net influx of migrants from elsewhere in the U.S. (including southern New England), whereas the southern tier is losing substantial numbers of domestic migrants, but gaining immigrants.²⁸

Rural residents represent just 12.5% of New England's population. Since 2000, nonmetropolitan New England has grown by 4% (70,000), reaching a population of 1.8 million by 2010. In contrast, the region's metropolitan population grew by 3.7% to 12.6 million. Migration fueled most growth in rural New England (84%). In contrast, 98% of the population gain in metropolitan New England came from natural increase.

Vermont has the second largest proportion of rural inhabitants of any state (66%), so demographic change in rural Vermont is important to the

27. Compare Brady E. Hamilton et al., *Births: Preliminary Data for 2010*, 60 NAT'L VITAL STAT. REPORTS 1, 2–3 (2011), with Joyce A. Martin et al., *Births: Final Data for 2008*, 59 NAT'L VITAL STAT. REPORTS 1, 1 (2010), and Brady E. Hamilton et al., *Births: Preliminary Data for 2012*, 62 NAT'L VITAL STAT. REPORTS 1, 3 (2013) (detailing the decline in fertility rates between 2007–2012).

28. Kenneth M. Johnson, *The Changing Faces of New England: Increasing Spatial and Racial Diversity*, 1 REPORTS ON NEW ENGLAND, 20, 20–23 (2008).

state's future. Yet, Vermont's rural population grew by just 1% between 2000 and 2010. In contrast, the state's urban population grew by nearly 6% (Figure 7). The minimal rural population gain was due almost entirely to natural increase. Rural Vermont had little net migration. The recession's impact is also evident. Since 2010, rural Vermont has lost population because there was a net migration loss from rural areas and little natural increase to offset this net outflow of migrants. The migration loss to rural Vermont after 2010 was consistent with national rural trends; however, nationally, there was a sufficient excess of births over deaths to produce an overall population gain. This was not the case in Vermont.

Demographic Change Varies Across Rural America

Rural America is a simple term describing a large agglomeration of counties spread across a vast region. So, it is not surprising that there is significant variation in the patterns of demographic change across this region. Demographic processes at work in nonmetropolitan counties are reflected in the contrasting patterns of population change across the spectrum of counties that reflect the continuum from the most traditional to the most contemporary rural places.

Farming and mining represent the most traditional elements of the rural economy. Though they no longer monopolize the overall rural economy, these industries remain important in nonmetropolitan America. Farming still dominates the local economy of some 403 rural counties. Mining (which includes oil and gas extraction) is a major force in another 113 counties. Between 2000 and 2010, the population of farming dependent counties grew by just 0.3% and only 29% of them gained population (Figure 8). This minimal population gain was due to a natural increase gain of 3%, which was large enough to offset a migration loss. In contrast, farm counties grew by 5% during the 1990s because of the contribution of natural increase and migration. Mining counties were also entirely dependent on natural increase for their modest population gain of 2.7%. In all, just 56% of mining counties gained population between 2000 and 2010.

Manufacturing counties have traditionally been a bright spot of rural demographic change. In fact, rural development strategies traditionally focused on expanding the manufacturing base. Manufacturing is important to the rural economy because it employs a larger proportion of the rural labor force than it does in urban areas.²⁹ In all, there are 584 rural manufacturing counties (including those that specialize in meat and poultry

29. JOHNSON, *supra* note 11, at 1–2.

processing) whose population grew 8.1% during the 1990s, due mostly to migration. However, growth slowed dramatically to just 3.1% between 2000 and 2010, though most manufacturing counties (57%) did continue to grow. Natural increase accounted for 75% of this population gain. In contrast, migration contributed only modestly to the population gain with just 47% of the manufacturing counties gaining migrants. Globalization, coupled with the recent economic downturn, adversely impacted the rural manufacturing sector, which includes many low-technology, low-wage jobs that are increasingly shifting offshore or disappearing as technology replaces labor.³⁰

The demographic story was quite different in rural counties endowed with natural amenities, recreational opportunities, or quality of life advantages rather than dependant upon traditional rural extractive activities. Major concentrations of these counties exist in the mountain and coastal regions of the West, in the upper Great Lakes, in coastal and scenic areas of New England and upstate New York, in the foothills of the Appalachians and Ozarks, as well as in coastal regions from Virginia to Florida.³¹ Such high amenity counties have consistently been the fastest growing in rural America. The 277 rural counties that are destinations for retirement migrants exemplify this trend (Figure 9). In each of the past several decades, they have grown faster than any other rural county type. For example, their population gain was 13.4% between 2000 and 2010. The 299 nonmetropolitan recreational counties were close behind at 10.7%. Overall, 84% of the retirement destination counties and 69% of the recreational counties gained population during the decade. Migration fueled almost all this growth, accounting for 89% of the population gain in retirement counties and 81% in recreational counties. These migration streams include both the amenity migrants themselves and other migrants attracted by the economic opportunities generated by such rapid growth.³² However, recent population gains were considerably smaller than those during the 1990s, when retirement counties grew by 26% and recreational counties by 20%.

The Rural Population is Aging

30. Johnson & Cromartie, *supra* note 1, at 44–45; JOHNSON, *supra* note 11, at 17.

31. See generally DAVID A. MCGRANAHAN, USDA ERS, NATURAL AMENITIES DRIVE POPULATION CHANGE (1999) (demonstrating various counties with such amenities); Johnson & Beale, *supra* note 4, at 12–19; See Typology Codes *supra*, note 3 (referring to the USDA's typology).

32. Johnson et al., *supra* note 6, at 2, 4.

Rural America is also aging; this is a trend likely to accelerate in the near future. The rural population is already considerably older than that of the U.S. as a whole. In 2010, the rural population had 18% more people ages 60 to 69 and 23% more over age 70 than the U.S. as a whole (Figure 10). In contrast, rural areas had proportionally fewer young adults and fewer children than the overall U.S. population. For example, there were 12% fewer people in their 20s and 30s in rural America. Rural America's proportion of seniors is increasing rapidly. Between 2000 and 2010, the rural population ages 60 to 69 increased by 36% and that of people ages 50 to 59 grew by 30%.

The primary driver of this rapid increase in the older rural population is the aging in place of those residing in rural America. This is reflected in the 2010 age structure data (Figure 11). These cohorts, born between 1946 and 1964, represent the Baby Boom. They were ages 46 to 64 in 2010. The bulge representing these age groups is considerably larger than the cohorts older than or younger than it. Having a large population in late-middle-age has distinct advantages for rural areas right now. It means the working-age population is large compared to those either too old or too young to work. As such, it represents a large pool of social, economic, and intellectual human capital. However, as we look to the future, the rural age structure presents significant challenges. There are currently 4.5 million 65 to 74 year-olds in rural America. In contrast, there are 6.8 million 55 to 64 year-olds and 7.5 million 45 to 54 year-olds in the Baby Boom cohorts. Although mortality will modestly diminish these numbers, most will celebrate their 65th birthday in rural America. As this group "ages in place," the number and proportion of seniors will grow.

Age-specific net migration to rural America is also contributing to the aging of the rural population. Rural areas have lost young adults through net out-migration in each of the last three decades (Figure 12). Between 2000 and 2010, the rate of net migration loss among those in their late 20s was -171 per 1000, indicating that there were 17.1% fewer residents ages 25 to 29 than would have been expected had no migration occurred. Rural areas sustained similar migration losses in the 1980s and 1990s. Prior research suggests migration losses from this age group were even greater in the 1950s and 1960s.³³ In contrast, rural areas gained migrants in their 30s and 40s in the two most recent decades. Migration gains were even greater among those over the age of 50, with the gains generally accelerating in the 1990s and 2000s. Thus for decades, migration drained young adults from

33. JOHNSON, *supra* note 11, at 17–18, 24–29; Johnson et al., *supra* note 6, at 2–3; See Kenneth M. Johnson & Glenn V. Fuguitt, *Continuity and Change in Rural Migration Patterns 1950–1995*, 65 RURAL SOC. 27, 27–49 (2000) (examining migration patterns between 1950 and 1995).

rural areas, while the older population aged in place and grew through migration. The combined effects of these migration trends accelerated the aging of the rural population. The demographic implications of the age structure shifts underway in the rural America are already evident in the steady decline in the number of rural births and the rising number of deaths. However, age structure shifts are not the only factor changing the rural demographic structure; the population is also becoming more racially diverse.

The Growing Minority Population is Contributing to Rural Demographic Change

Any analysis of recent demographic trends in rural America must also be cognizant of the growing impact that minority populations are having on rural population change. Between 2000 and 2010, minorities accounted for 83% of the nonmetropolitan population gain, though they represented just 21% of the rural population. Overall, the nonmetropolitan minority population grew by 1.8 million (21.3%) compared to a gain of just 382,000 (.95%) among the much larger non-Hispanic white population (Figure 13). Thus, while nonmetropolitan America remains less diverse than urban America (which is 36% minority), minority growth now accounts for most rural population increase, just as it does in urban areas.

There is considerable geographic variation in the levels of diversity in rural America (Figure 14). Large concentrations of African-Americans remain in the rural Southeast despite the migration of millions of blacks from the South during the first two-thirds of the 20th century. This outflow of blacks from the South has ended and the region is now seeing an influx of black migrants, though most are going to metropolitan areas.³⁴ Long-standing Hispanic population concentrations in the Southwest indicate that there have been Hispanic rural residents for centuries. Recent research also documents the spread of Hispanics from these historical areas into rural areas of the Southeast and Midwest.³⁵ Though small in overall numbers, native peoples are an important part of many rural communities in the Great Plains as well as in parts of the West. There are scattered areas in the Southwest where native peoples and Hispanics are found in the same counties, as well as growing areas where blacks and Hispanics reside in the

34. FREY, *supra* note 22, at 24.

35. WILLIAM KANDEL & JOHN CROMARTIE, USDA ERS, NEW PATTERNS OF HISPANIC SETTLEMENT IN RURAL AMERICA 1, 1 (2004); Kenneth M. Johnson & Daniel T. Lichter, *Natural Increase: A New Source of Population Growth in Emerging Hispanic Destinations in the United States*, 34 POPULATION & DEV. REV. 327, 342 (2008).

same county in the Southeast and East Texas. But, in general, the growing diversity in rural America is on a modest scale with two or, at most, three racial groups residing in the same rural county. There are also large areas of nonmetropolitan America that remain overwhelmingly non-Hispanic white.

The driving force behind this substantial minority population gain in nonmetropolitan areas is the sustained growth of the Hispanic population. Hispanics remain spatially concentrated in urban areas. However, Hispanics—both native and foreign-born—are rapidly diffusing spatially, especially into smaller metropolitan cities³⁶ and small towns and rural areas in the South and Midwest.³⁷ Hispanics account for a rapidly accelerating share of rural population growth over the past two decades. During the 1990s, Hispanics accounted for 25% of the entire rural population gain, though they represented only 3.5% of the rural population in 1990. Between 2000 and 2010, Hispanics accounted for 54% of the rural gain, though they represented only 5.4% of the population in 2000. By 2010, the Hispanic population of rural America stood at 3.8 million, a gain of 45% from 2000.

Children are in the vanguard of this growing diversity in rural America. Nearly 28% of the nonmetropolitan population under the age of 18 in 2010 was minority compared to 18% of the adult population (Figure 15). Hispanics represent the largest share of this minority nonmetropolitan youth population, which is more than 12% of all rural children.³⁸ The conventional wisdom is that growing child diversity is largely a big-city phenomenon. However, minority child gains were particularly important in rural areas, where the overall child population actually declined by nearly 900,000 (-10%) between 2000 and 2010. This decline occurred because there were 940,000 (-10%) fewer non-Hispanic white children in rural areas, and the black child population also declined (-11.6 %). The overall loss of children was cushioned somewhat by a rural Hispanic child population gain of 434,000 (45.1%). The significant loss of white children coupled with a growing Hispanic child population accelerated the diversification of the rural child population.³⁹

36. AUDREY SINGER, BROOKINGS INST., THE RISE OF NEW IMMIGRANT GATEWAYS 1, 9 (2004).

37. See Daniel T. Lichter & Kenneth M. Johnson, *supra* note 26, at 121, 127 (examining geographic settlement trends among Hispanic immigrants).

38. See generally Kenneth M. Johnson & Daniel T. Lichter, *Growing Diversity Among America's Children and Youth: Spatial and Temporal Dimensions*, 36 POPULATION & DEV. REV. 151, 162 (2010) (explaining how the Hispanic youth population has grown).

39. Johnson & Lichter, *supra* note 35, at 335.

CONCLUSIONS AND IMPLICATIONS

This research contributes new information delineating the rapidity and geographic scale at which demographic change is occurring in nonmetropolitan America. Rural areas are being buffeted by economic, social, and governmental transformations from far beyond their borders. These structural transformations are reflected in the demographic trends playing out across the vast rural landscape in the first decade of the twenty-first century. Such demographic trends have important implications for land use and the environment, as well as for the legal and policy frameworks that govern rural areas. Demography may not be destiny, but rural scholars, practitioners, and policy-makers ignore it at their peril.

In the first decade of the twenty-first century, rural population gains were considerably smaller than they had been during the rural rebound of the 1990s. Nonmetropolitan areas grew by just 2.2 million people between 2000 and 2010—a gain barely half as great as the 4.1 million person gain of the 1990s. Migration contributed far less to the growth of rural America in the first decade of the twenty-first century than it had in the last decade of the twentieth. It did continue to account for the majority of the population gain in rural counties adjacent to metropolitan areas as well as in fast-growing recreational and retirement counties. But, even here, population gains were considerably smaller than they had been during the 1990s, because migration gains diminished. Natural increase accounted for more than half of the rural population gain between 2000 and 2010, far more than it did in the 1990s. It was especially important in remote rural areas, including those dependent on farming. In contrast, migration contributed little to the growth of these non-adjacent counties. In many rural areas, natural decrease (when deaths exceed births) is now on the rise. Natural decrease is the eventual demographic consequence of the protracted outmigration of generations of young adults from rural areas.

The analysis also emphasizes the growing importance of minorities to the demographic future of rural America. The minority population represents just 21% of the rural population, but minorities produce nearly 83% of the rural population increase between 2000 and 2010. Hispanics, in particular, represent a new source of demographic vigor in many parts of rural America, accounting for more than half of the entire rural population gain between 2000 and 2010. Young people are in the vanguard of rural America's new diversity because the minority child population is growing and because there was an absolute decline in the non-Hispanic white youth population.

Rural America is also aging. It is already considerably older than urban America, and this aging will accelerate in the near future. The primary

driver of it is aging in place among those currently residing in rural America. This is supplemented by differential age-specific migration, which has produced a sustained outflow of younger adults from rural America and a modest net inflow of older adults into it. The aging of the Baby Boom will further swell the ranks of older adults in rural America.

These demographic changes have important policy implications. First, as rural America becomes more racially and ethnically diverse, rural institutions that serve young people—such as education and health care—will be the first to feel the impact. Such institutions are among the most expensive for local governments. Financial problems are not the only challenges rural communities face in dealing with diversity. Minorities are transforming the social fabric of many small towns, raising important policy questions (e.g., schooling, political participation, racial tensions, etc.) about their successful incorporation into American society.⁴⁰ Second, age structure changes have important implications for policy-makers as well as for rural business, service, and non-profit communities. Rural America's youngest and oldest residents are big consumers of government services such as education and health care. In contrast, the working age population provides the human capital and skilled labor force needed to fuel economic growth and provides much of the consumer base for goods and services. Thus, impending changes in the rural age structure will reverberate through the region's government, health care, and economic sectors. Policymakers must understand the varied patterns of demographic change in rural communities and design policies that are comprehensive enough to address the multi-faceted challenges these communities face.

Population growth is slowing in rural America, but it is doing so at a highly differential rate. In remote rural agricultural areas, the population slowdown has been profound. In hundreds of these counties, more people are now dying than being born, and young adults continue to leave as they have for decades. Here, rural policy must ameliorate the adverse impacts of a diminishing population on the provision of critical services and support programs, as well as provide access to the resources (education, internet, capital, and expertise) needed to expand the local infrastructure and enhance future development opportunities.

In fast growing rural counties, policies and expertise are needed to manage growth and development. Coping with a rapid influx of people and businesses is a serious challenge that many rural governments are not fully prepared to meet. A population surge accelerates the demand for new

40. Charles Hirschman & Douglas S. Massey, *Places and Peoples: The New American Mosaic*, in *NEW FACES IN NEW PLACES: THE CHANGING GEOGRAPHY OF AMERICAN IMMIGRATION* 1, 11 (Douglas S. Massey ed., 2008).

schools, roads, sewers, emergency services, and the myriad of other things required to support a growing population. Yet, the substantial upfront cost of improvements often exceeds the short-term revenue gains they provide, especially during a major recession that is stretching limited resources even thinner. When this is combined with declines in intergovernmental revenues due to devolution, many rural governments face serious risks of fiscal stress.⁴¹ To plan for the future, local governments need the staff, training, legal framework, and resources to produce and enforce plans that simultaneously allow growth and protect the environment, public access, open space, and farmland. Yet, rural local governments, already stretched thin by the demands of a growing population and short of revenue and expertise, are hard-pressed to develop such multi-dimensional plans. Also, the need for rural governments to cooperate at a regional level is often at odds with the fierce local independence that characterizes many rural communities.⁴²

Selective population deconcentration has significant environmental implications as well. In agricultural areas near sprawling metropolitan centers, development can consume thousands of acres of prime farmland, quickly making farmers a dwindling minority despite their centrality to the economy, character, and appeal of the area. Development also fragments the remaining agricultural land, making it difficult for farmers to operate efficiently. In addition, development pushes up land prices, making it difficult for new farmers to get started and for older farmers to pass on their farm to the next generation. In some agricultural areas, family farms are being replaced by large-scale meat, poultry, and dairy processors who create jobs but generate enormous amounts of concentrated wastes, which produce serious environmental hazards. Rural recreational areas endowed with natural resources including lakes, rivers, forests, and scenic views are of concern as well because they contain many environmentally sensitive areas. Population growth puts additional pressure on riparian and environmentally sensitive areas. Growing population density along the forest edge also results in a greater inter-mix of forests and people, increasing the risk of forest fires, which complicates fire suppression and makes management of the increasingly fragmented forests more challenging.⁴³

41. Kenneth M. Johnson et al., *Local Government Fiscal Burden in Nonmetropolitan America*, 60 RURAL SOC. 381, 381 (1995).

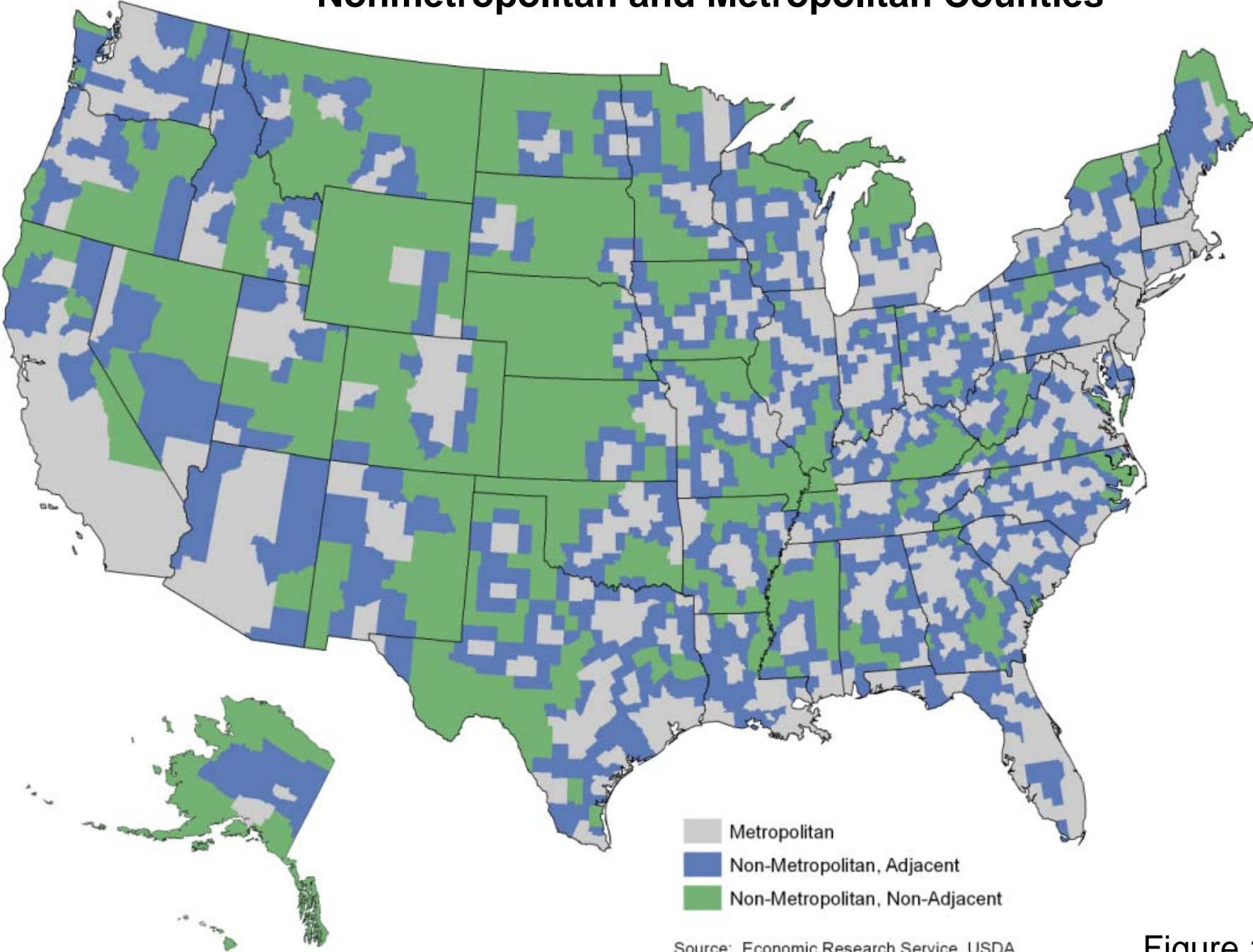
42. E.g., Michele Dillon, *Stretching Ties: Social Capital in the Rebranding of Coos County, New Hampshire*, 27 CARSEY INST. 2, 3 (2011) (demonstrating such a struggle in Coos County, NH).

43. Miranda H. Mockrin et al., *Spatial and Temporal Residential Density Patterns from 1940 to 2000 in and Around the Northern Forest of New England*, 34 POPULATION AND ENV'T 400, 402

As is critical to any effort to address the policy needs of rural America deriving from the demographic change underway, there is a clear recognition that policy developed to address the needs of nonmetropolitan areas must be cognizant of the unique demographic, social, economic, geographic, and racial/ethnic diversity of the vast rural landscape. Policies appropriate to traditional agricultural communities may not work well in fast-growing recreational communities or those just beyond the urban edge. Though the Great Recession has dampened growth in such areas recently, it may well accelerate again as the recession wanes. In a similar vein, policies proposed to address the needs of America's 100 largest metropolitan areas may not produce similar results in rural areas where distances are greater, isolation is common, and agglomeration advantages are fewer and further between. Comprehensive policies fully cognizant of the special needs of rural communities and informed by input from local rural leaders may serve to mitigate the demographic, economic, and spatial challenges that face many rural communities. Improving the opportunities, accessibility, and viability of rural areas is critical both to their 51 million residents and to the larger nation that depends on the contributions rural America makes to the material, environmental, and social well-being of the nation.

(2013); See also Volker C. Radeloff et al., *Human Demographic Trends and Landscape Level Forest Management in the Northwest Wisconsin Pine Barrens*, 47 *FOREST SCI.* 229, 238 (2001) (stating that housing density along the southern Pine Barrens may make forest management more challenging).

Nonmetropolitan and Metropolitan Counties



Source: Economic Research Service, USDA

Figure 1.

Nonmetropolitan Demographic Change, 1970 to 2010

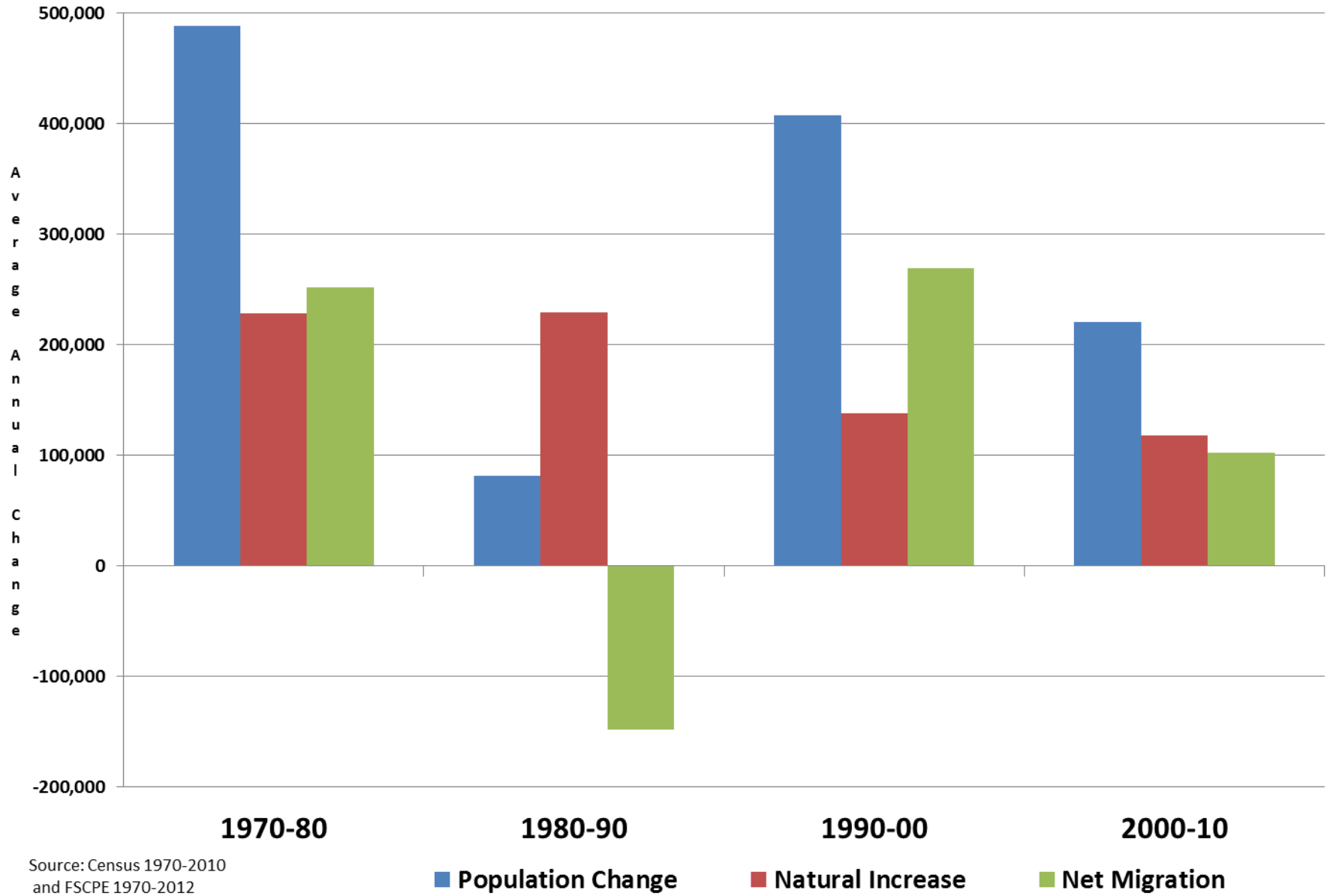


Figure 2.

Nonmetropolitan Population Change 2000 to 2010

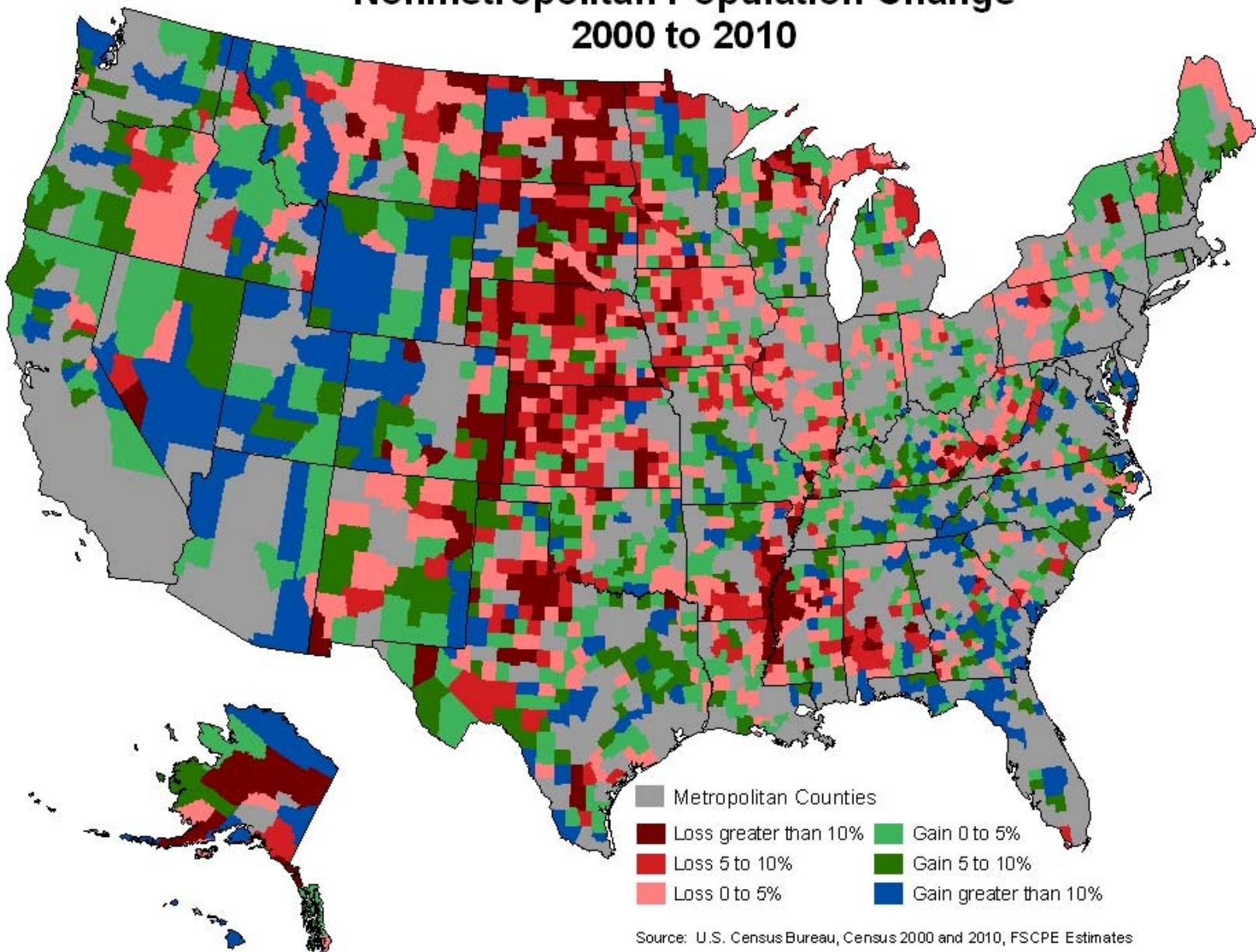


Figure 3.

Demographic Change in Nonmetropolitan and Metropolitan Areas, 2000 to 2010

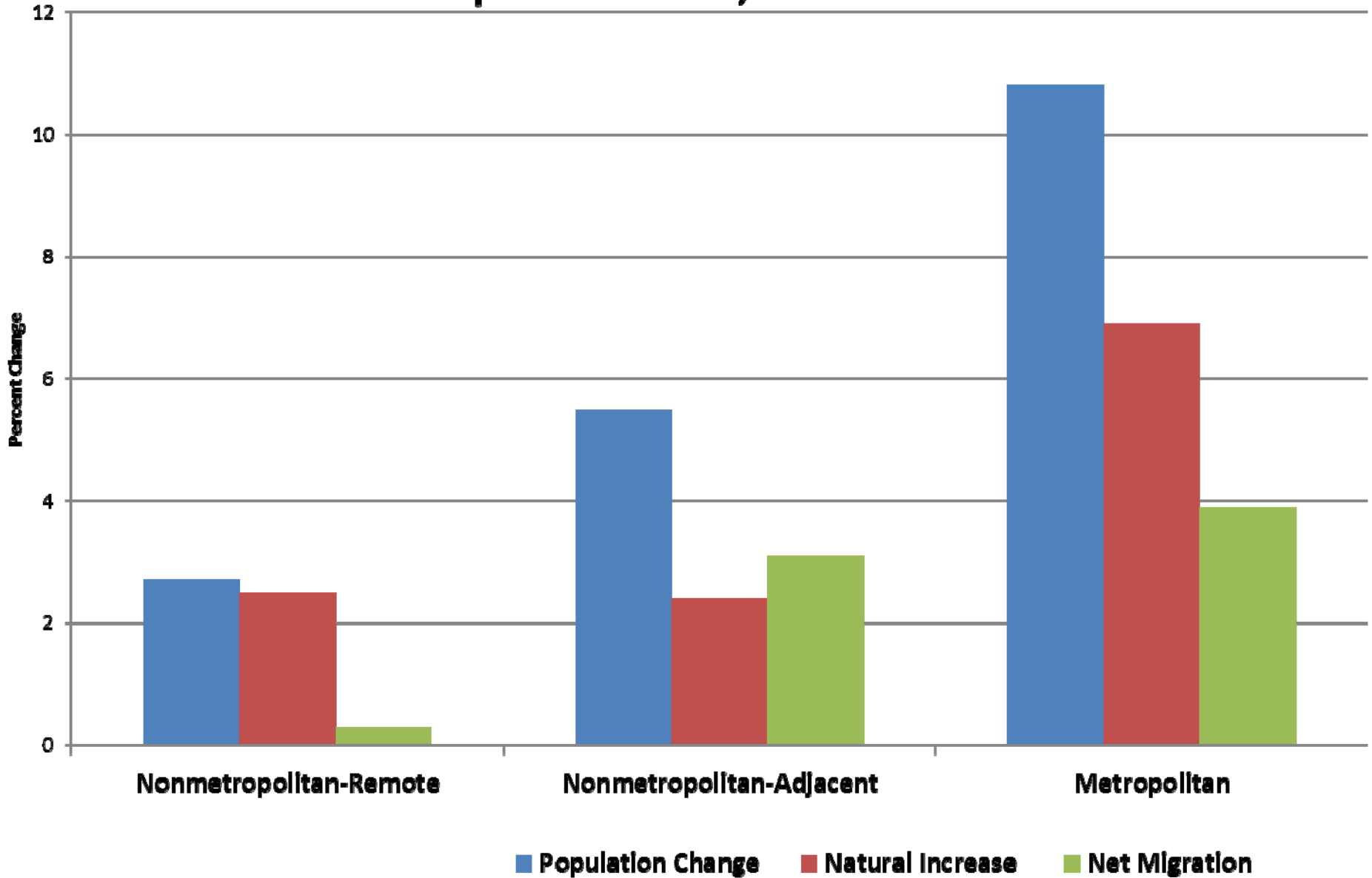
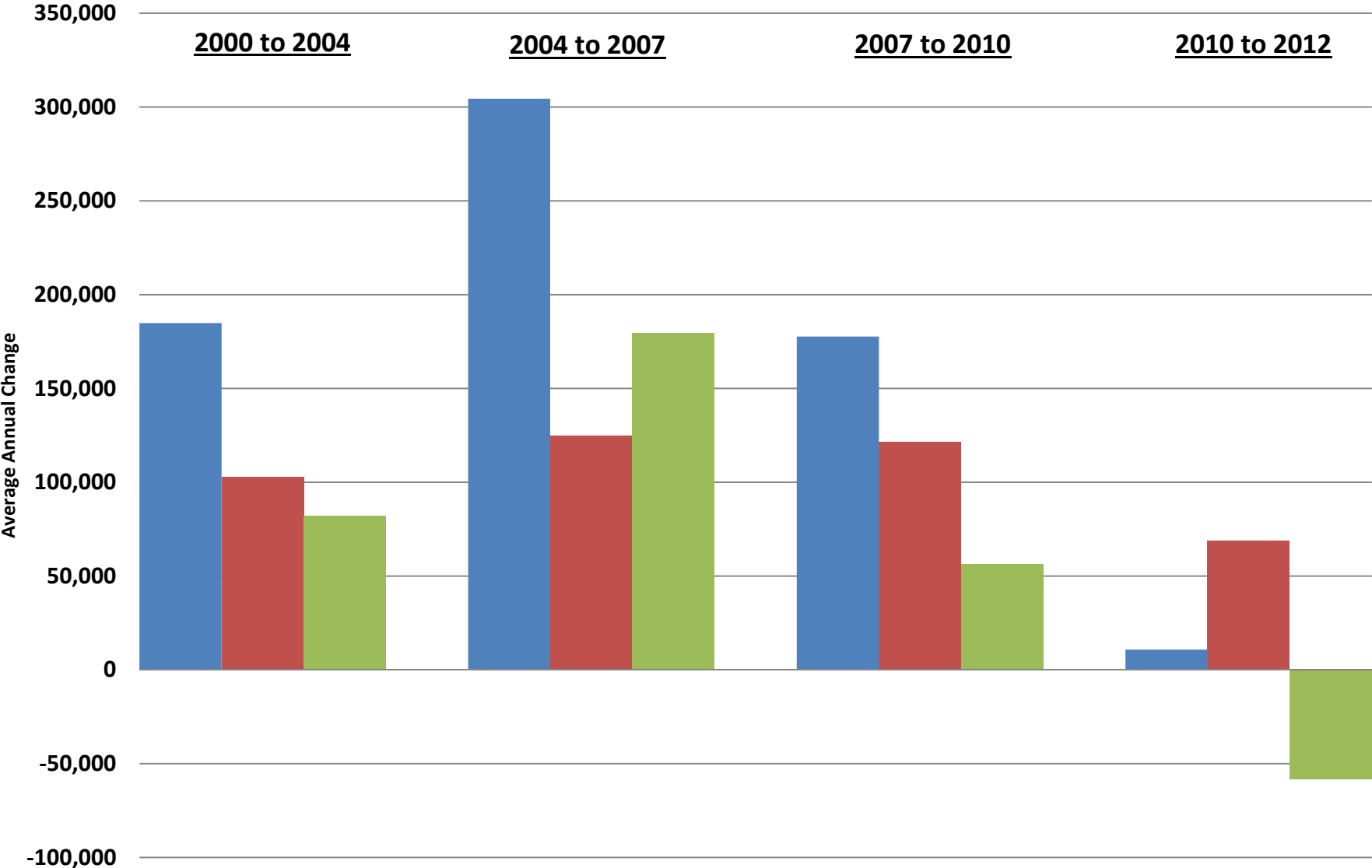


Figure 4.

Demographic Change in Nonmetropolitan Counties, 2000 to 2012

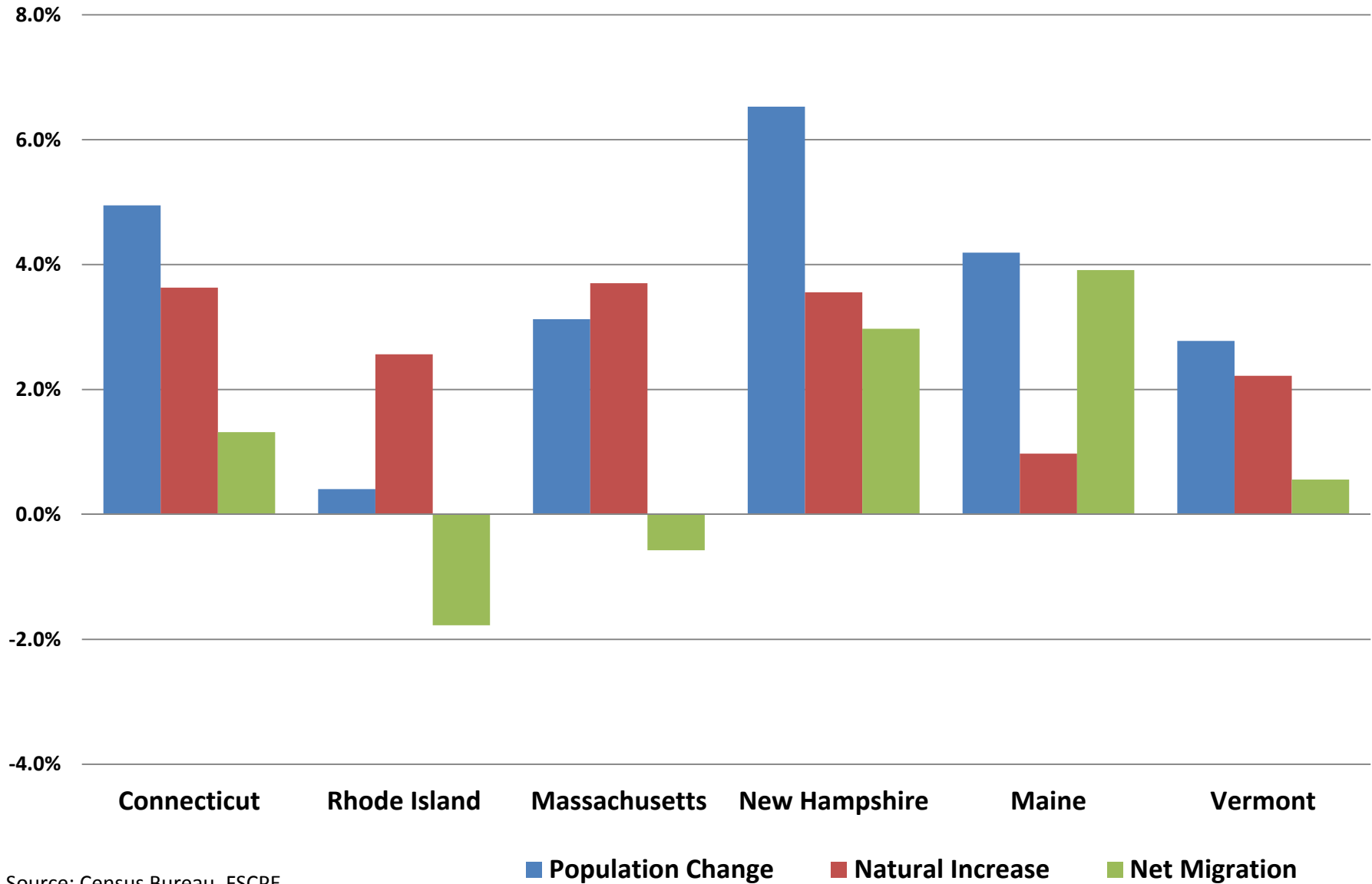


Source: US Census Bureau, FSCPE
 Analysis: K.M. Johnson

■ Population Change ■ Natural Increase ■ Net Migration

Figure 5.

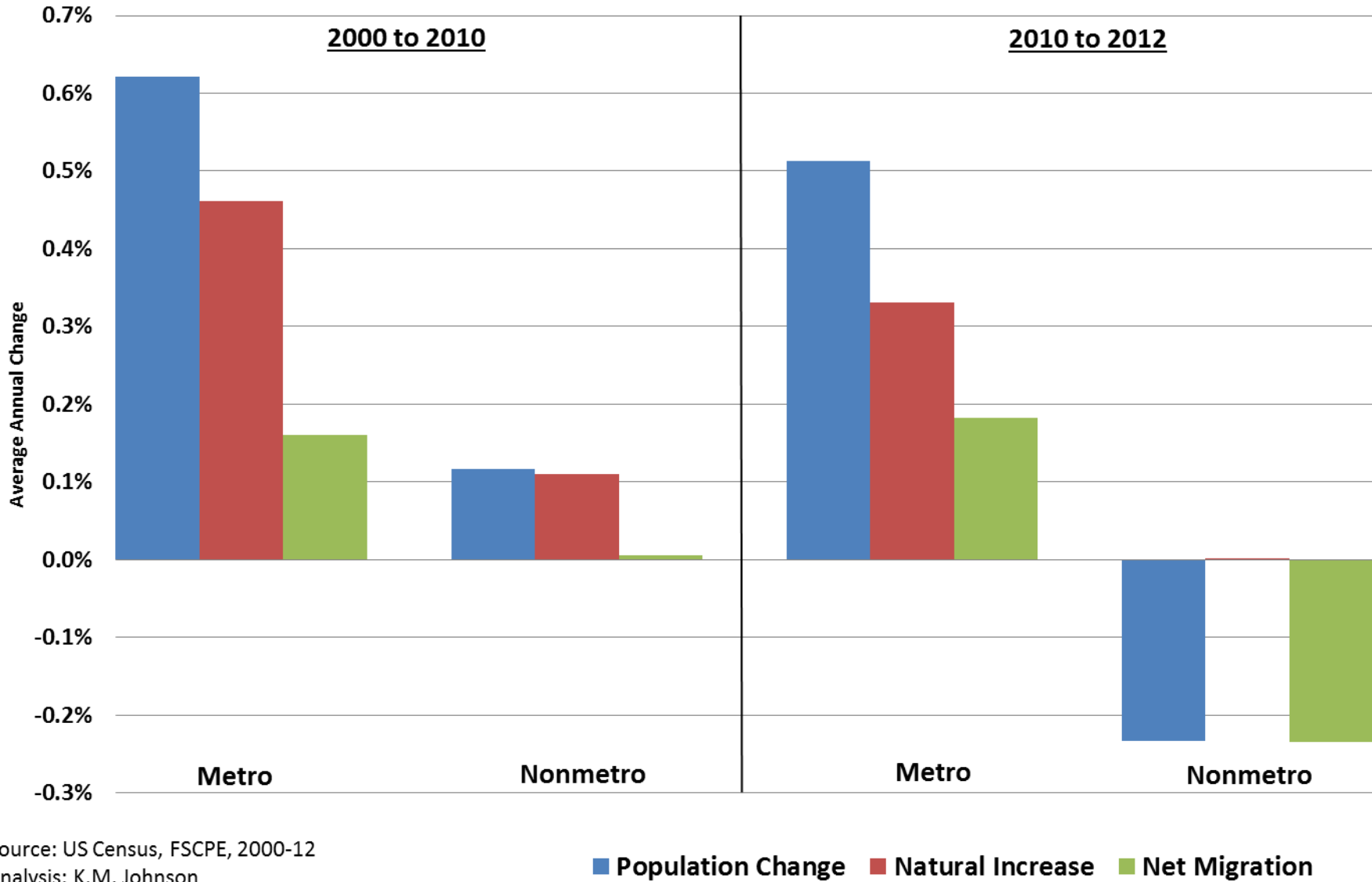
Demographic Change in New England, 2000-2010



Source: Census Bureau, FSCPE

Figure 6.

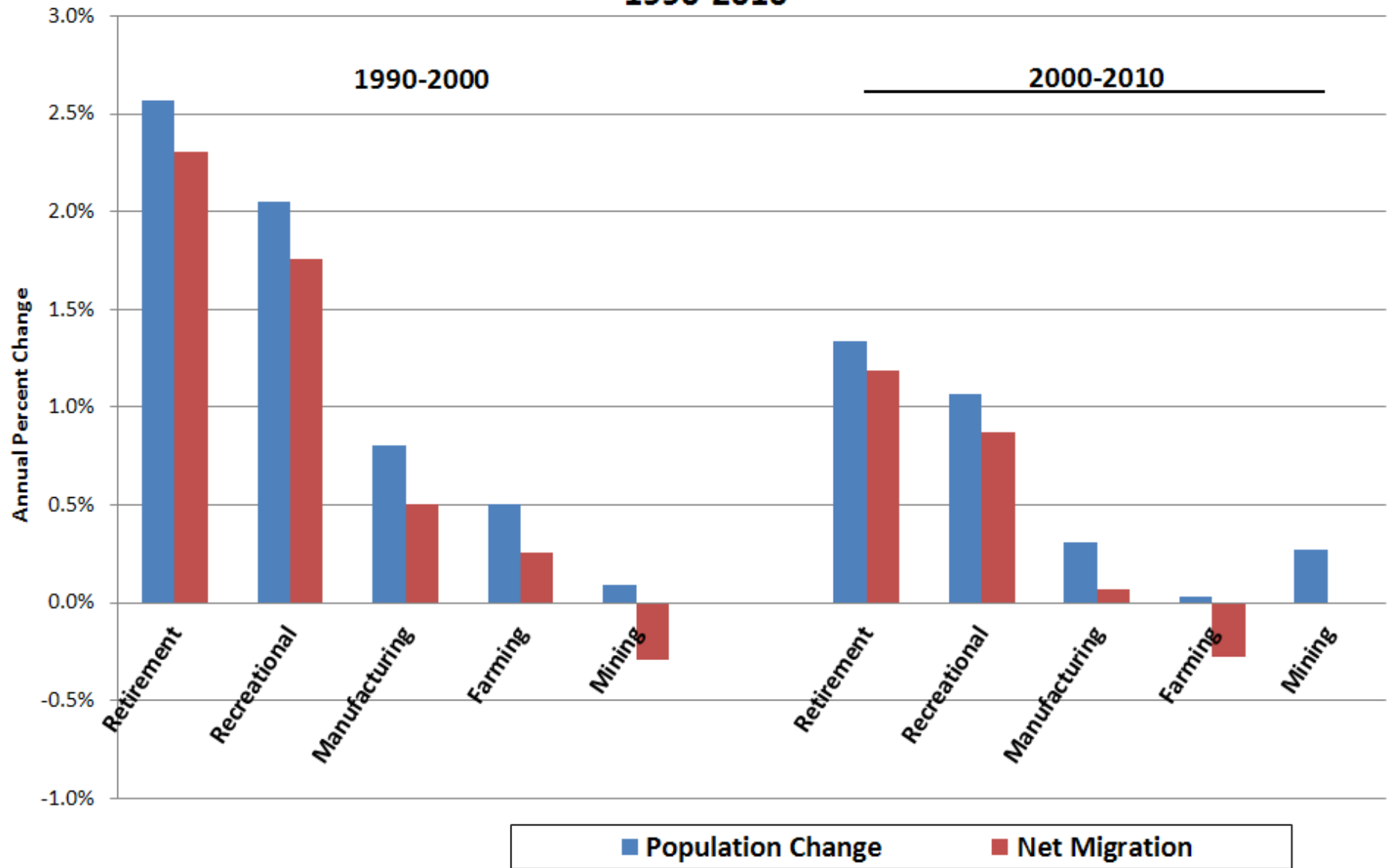
Percent Population Change in Vermont, Metropolitan Counties and Nonmetropolitan Counties, 2000 to 2012



Source: US Census, FSCPE, 2000-12
 Analysis: K.M. Johnson

Figure 7.

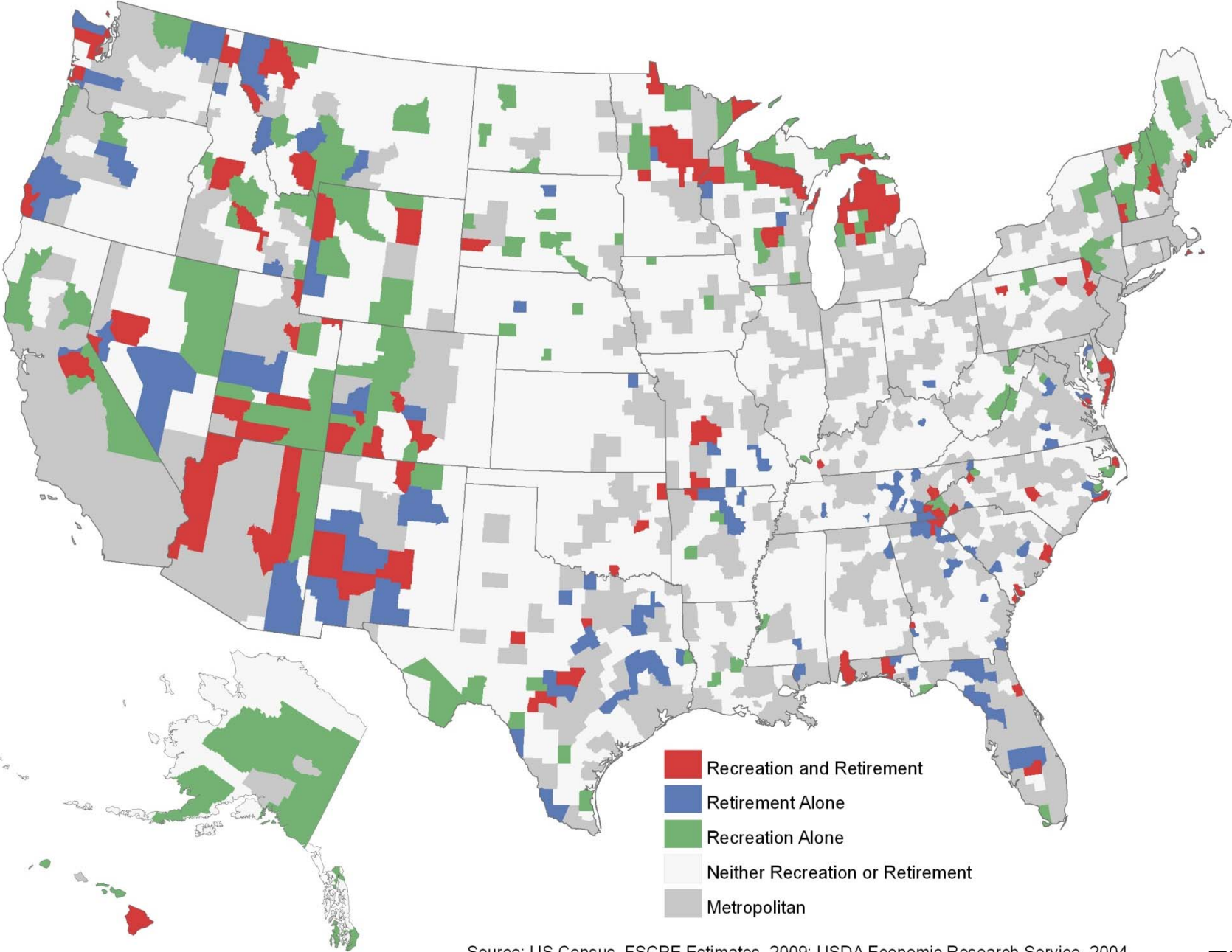
Demographic Change by Nonmetropolitan County Type 1990-2010



Source: US Census 1990-2010 and USDA Economic Research Service 2004

Figure 8.

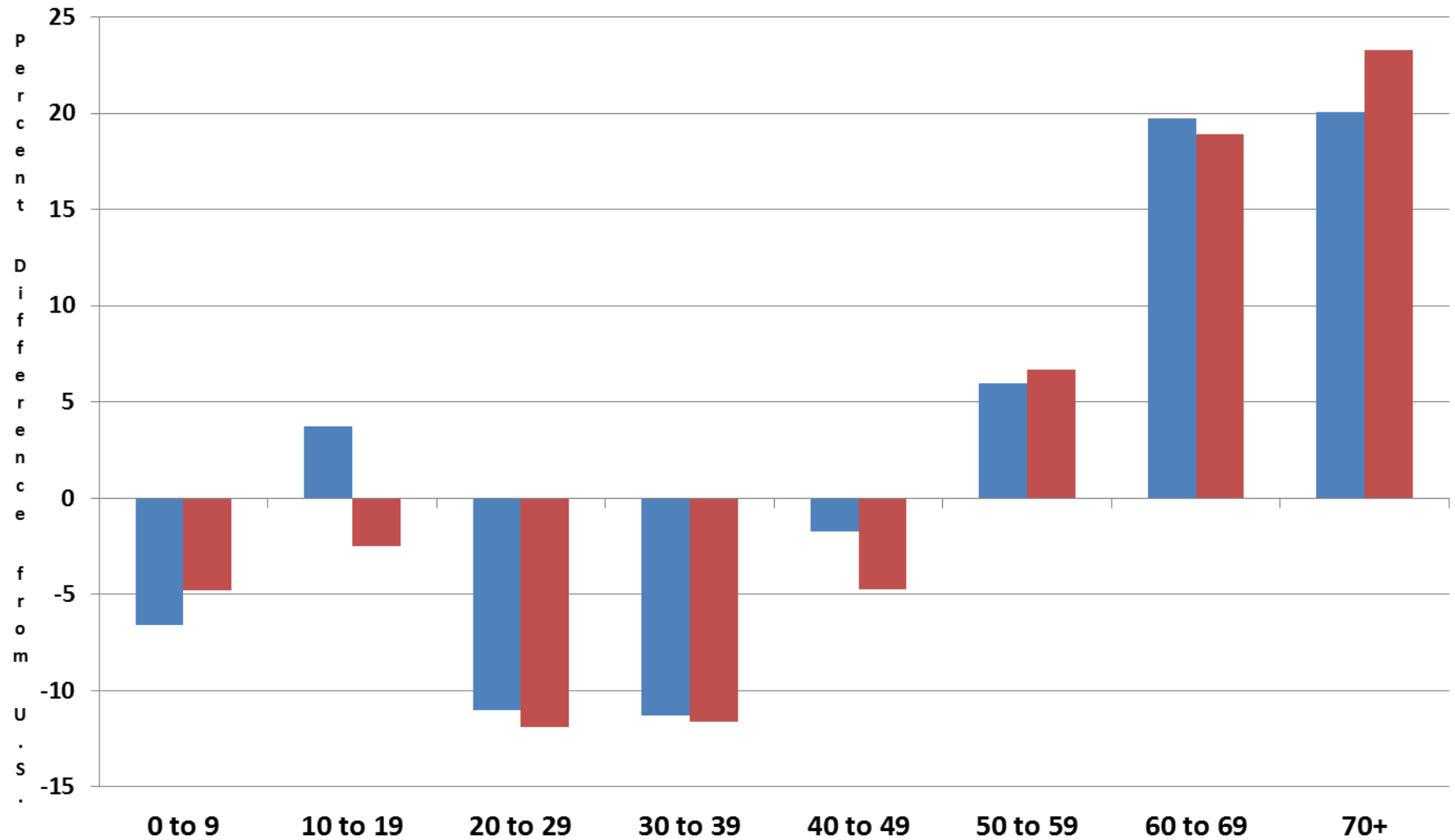
Recreation and Retirement Status for Nonmetropolitan Areas



Source: US Census, FSCPE Estimates, 2009; USDA Economic Research Service, 2004

Figure 9.

Age Structure Differences Between Nonmetropolitan Counties and U.S., 2000 and 2010

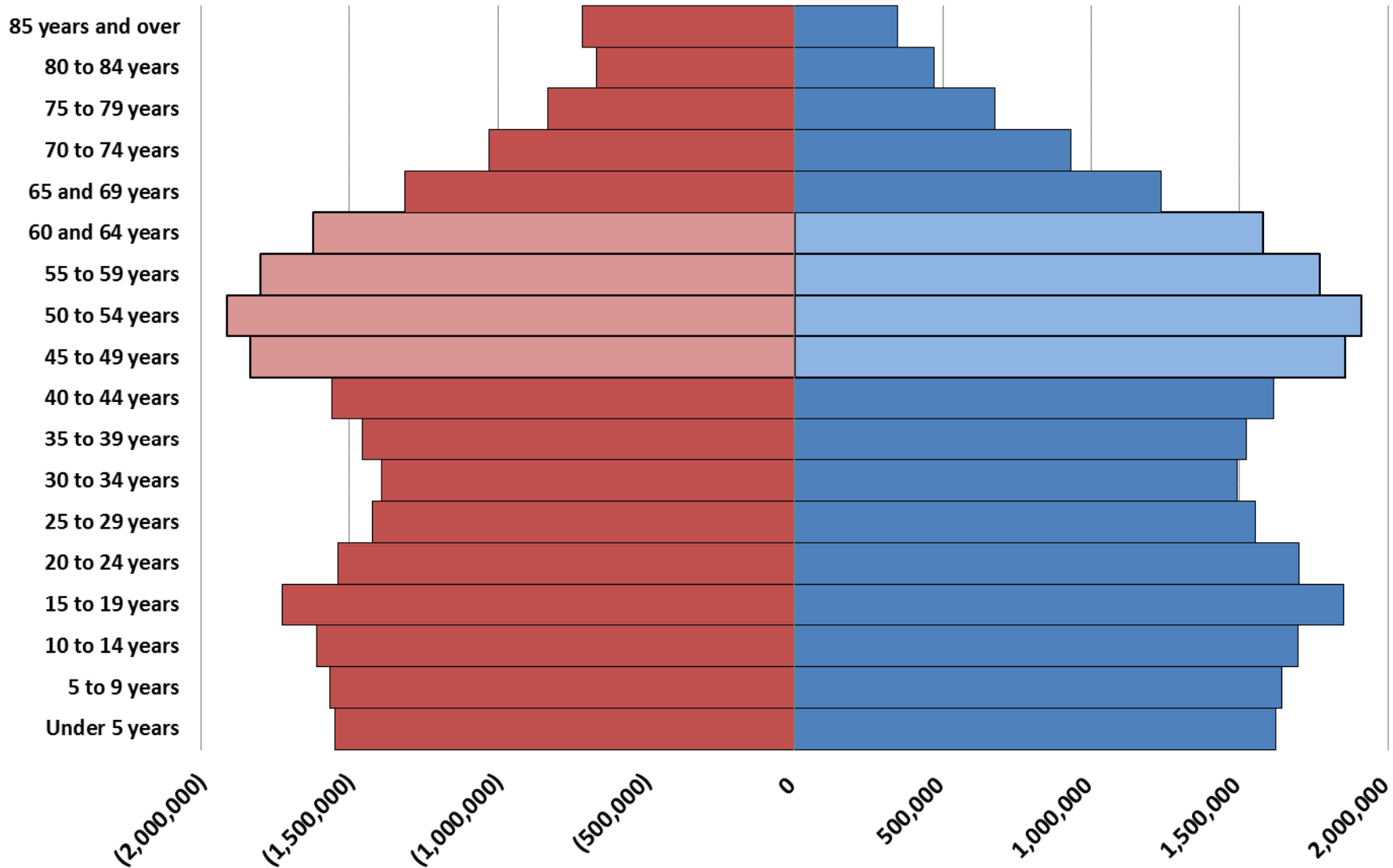


Source: Census 2000 and 2010

■ 2000 ■ 2010

Figure 10.

Age Structure for Non-Metropolitan Counties, 2010

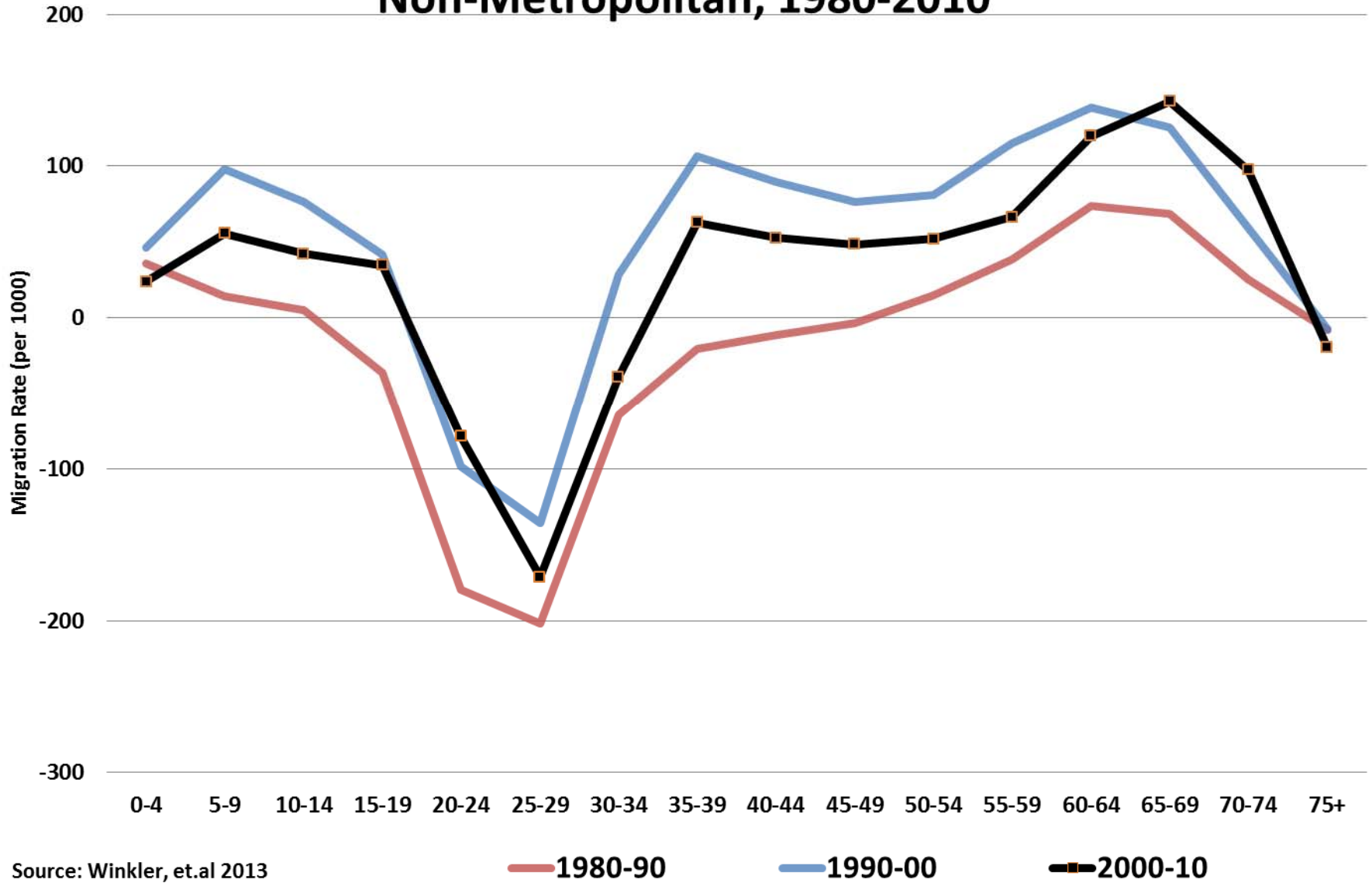


Source: U.S. Census, 2010
 Analysis: K.M. Johnson

Female Male

Figure 11.

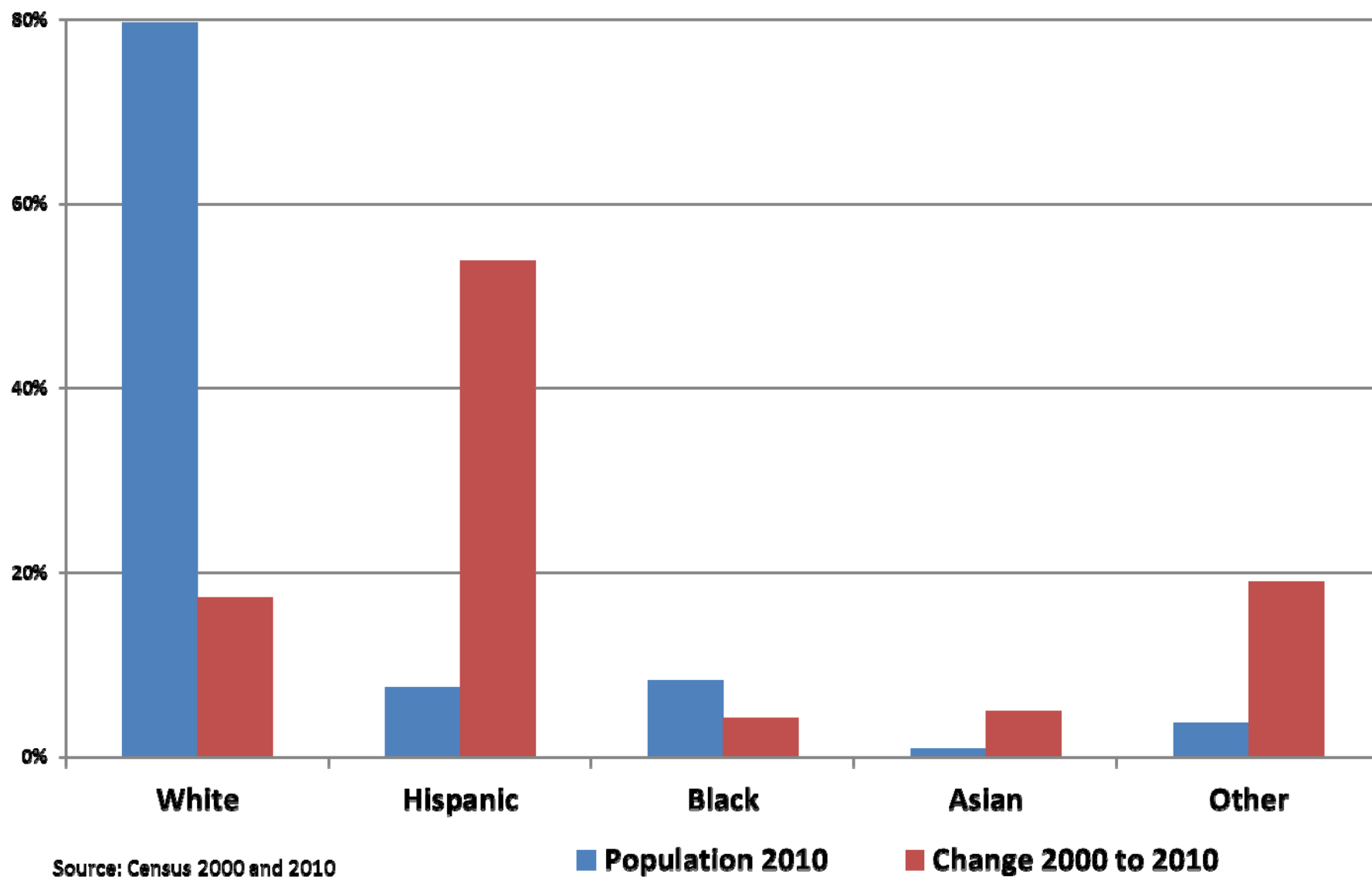
Age-Specific Net Migration Rate, Non-Metropolitan, 1980-2010



Source: Winkler, et.al 2013

Figure 12.

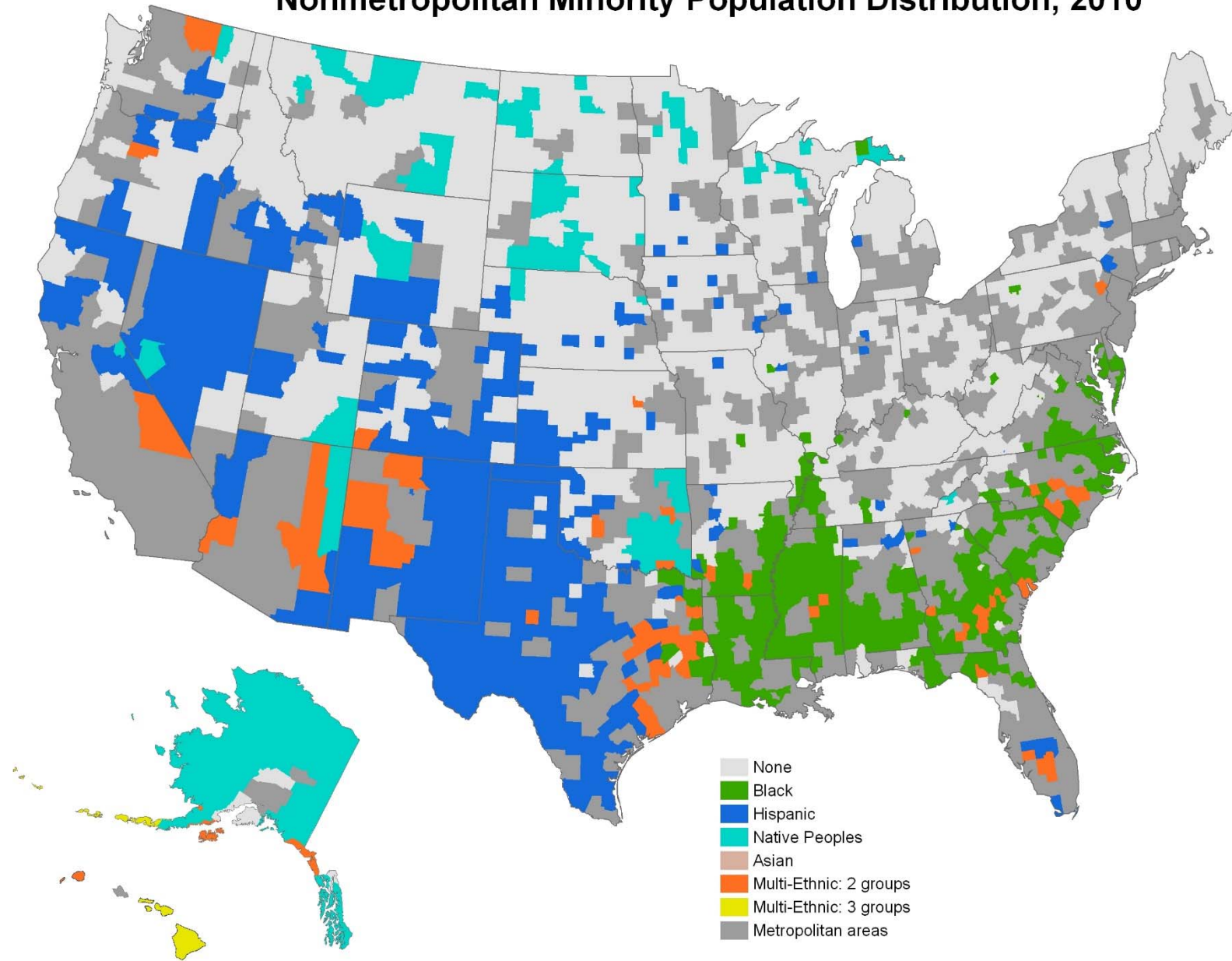
Nonmetropolitan Population and Population Change by Race and Hispanic Origin, 2000 to 2010



Source: Census 2000 and 2010

Figure 13.

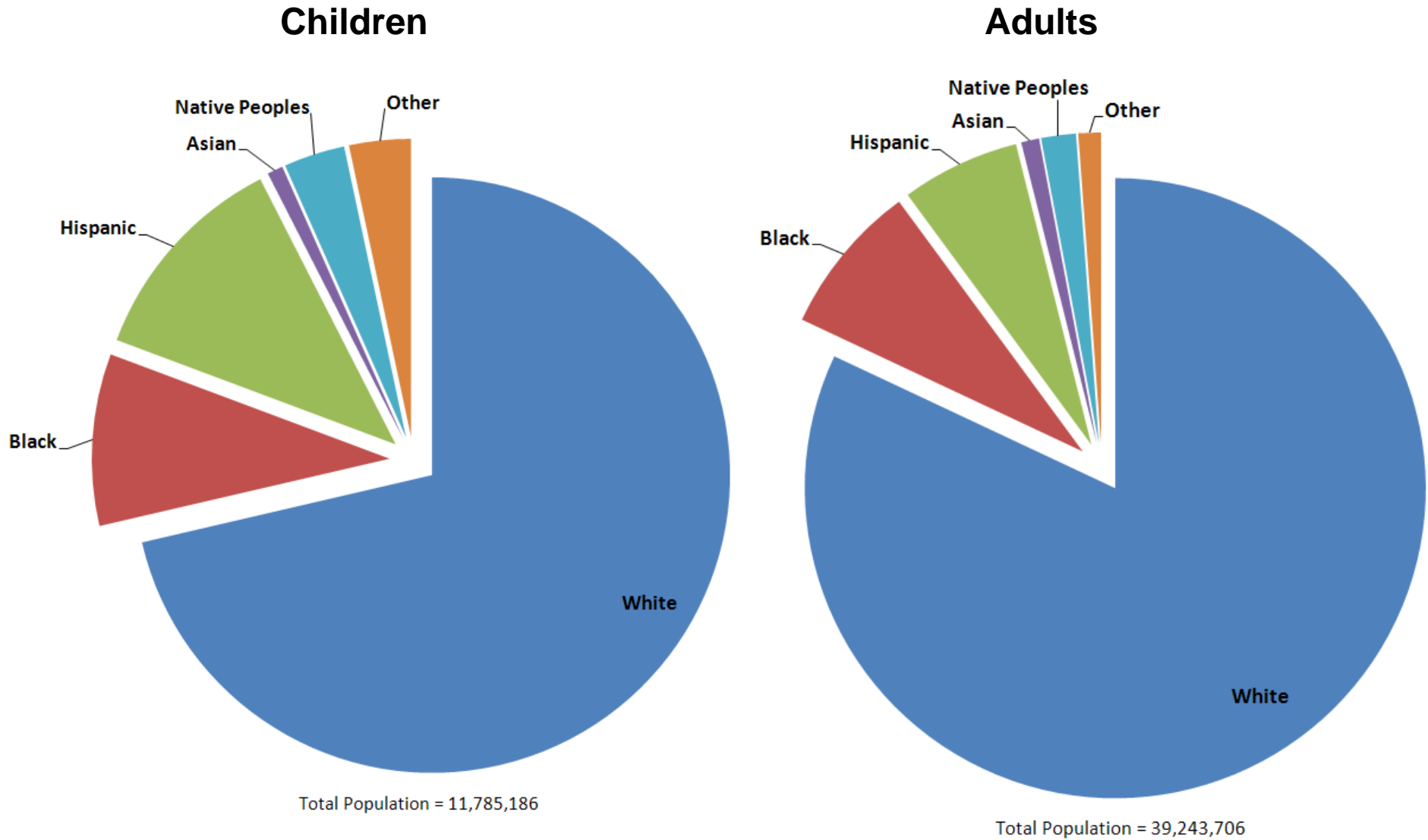
Nonmetropolitan Minority Population Distribution, 2010



Source: U.S. Census Bureau, Census 2010

Figure 14.

Nonmetropolitan Population by Race/Hispanic Origin, 2010



Source: U.S. Census 2010

Figure 15.