



## How the Great Recession Changed U.S. Migration Patterns

Brief No. 01-16

May 2016

Kenneth M. Johnson, Katherine J. Curtis, and David Egan-Robertson

### Slowing Migration

The Great Recession and the housing-market crisis that preceded it caused the most extreme economic displacement since the Great Depression. It occasioned the collapse of the stock market, falling housing prices, high foreclosure rates, and rising unemployment. These economic shocks also profoundly impacted U.S. migration trends. Here we find that in response to these constricted economic circumstances, fewer Americans migrated. As a result, counties with histories of migration loss experienced smaller losses and those with histories of migration gain had smaller migration gains during the recession. Though the recession is now waning, we show that its impact continues to reverberate through U.S. migration trends.

Here we examine net migration to understand these trends. Net migration is the difference between the number of people moving into and out of an area. Because migration is an important source of demographic change, migration shifts have important implications for local areas that range from overall population size to the characteristics of community members. Migration has always been important in the U.S. because it redistributes the population in response to changing economic, social and demographic conditions. To understand how net migration was influenced by recent economic circumstances, we examine it before, during and after the Great Recession in both rural and urban America. Through most of the 20th century, rural areas lost migrants to urban areas, and within urban areas, the net flow of migrants has been from urban cores to suburban areas. We find that net migration slowed in response to the Great Recession and that this had a differential impact along the rural-urban continuum.

Our research provides an up-to-date empirical benchmark of unfolding shifts in net migration before, during and after the Great Recession. Now that the economic impact of the recession is finally diminishing, it is critical that we understand how net migration trends changed during the recession so we can ascertain whether migration patterns are now reverting to pre-recessionary trends, or whether the Great Recession ushered in a new era of net migration.

#### Key Findings

The economic shocks of the housing-market crisis and Great Recession were associated with striking changes in net migration patterns in both rural and urban America.

As the economic situation deteriorated, fewer Americans migrated, leading to a convergence in county migration trends.

Counties with histories of net migration losses or minimal migration gains prior to the recession had smaller losses or actually gained migrants during the recession.

In contrast, counties with histories of significant migration gain prior to the recession experienced smaller net gains, or lost migrants during the recession.

### Migration Trends Changed During the Great Recession

Our key finding is that the severe economic shocks of recent years caused a slowdown in overall migration and a convergence in county migration patterns. The housing crisis and recession decreased

overall U.S. migration. Consistent with this change in migration, most places that experienced migration losses prior to the recession experienced smaller losses or, in some cases, migration gains during the recession. For many of these counties, losses were even smaller or gains were greater in the post-recessionary period. In contrast, among counties with migration gains prior to the recession, the vast majority experienced smaller gains or migration loss during the recession and, for many, the situation did not improve during the post-recessionary period.

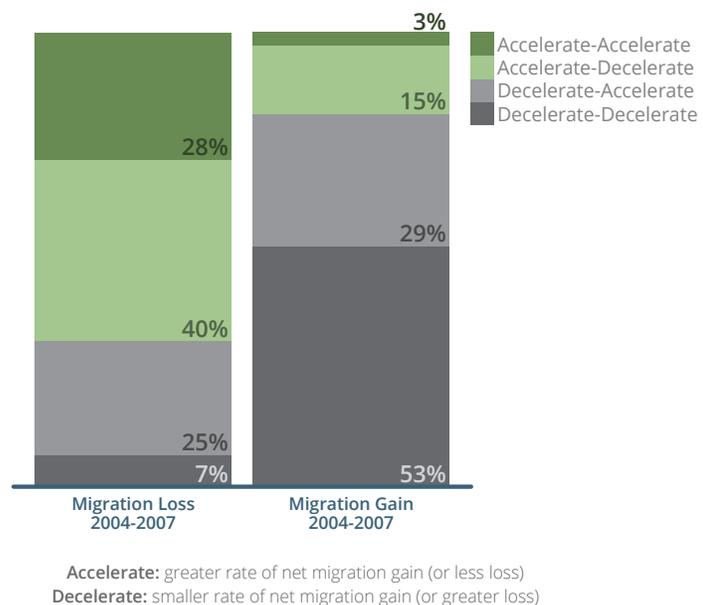
To examine these migration patterns, we serially compare annual rates of net migration from the pre-recession (2004-07) to those during the recession (2007-10); and then compare the recession period to the post-recession (2010-14). In each of the two comparisons: if the rate of net migration loss diminished; or if loss was replaced by net migration gain; or if the rate of net migration gain increased, we refer to it as **migration acceleration**. In contrast, if the rate of migration gain slowed; or if migration gain was replaced by loss; or if the rate of net migration loss increased, we refer to it as **migration deceleration**. Thus, from the base 2004-07 period, counties could display one of four patterns: accelerate-accelerate, accelerate-decelerate, decelerate-accelerate, decelerate-decelerate.

Figure 1 illustrates how the onset of the Great Recession produced widespread reversals of the long-standing migration trends. It shows that among the 1,599 counties that experienced migration losses before the recession, net migration losses diminished, or shifted from loss to gain in 68 percent of the counties during the recession (accelerate-decelerate or accelerate-accelerate). In contrast, only 32 percent of the counties that lost migrants during the pre-recession suffered larger migration losses during the recession (decelerate-decelerate or decelerate-accelerate).

These migration reversals continued for many counties in the post-recessionary period. Between 2010 and 2014, 53 percent of the counties that lost migrants prior to the recession did better during the post-recessionary period than they did during the recession (decelerate-accelerate, accelerate-accelerate). The remaining 47 percent experienced greater migration losses or smaller gains during the post-recessionary period than during the recession. Just 7 percent of the counties that had migration losses prior to the recession saw their migration losses decelerate during each period.

The contrast between the recessionary experience of counties that lost migrants prior to the recession and those that gained migrants between 2004 and 2007 is striking. Some 82 percent of the 1,543 counties that gained migrants immediately prior to the recession either experienced smaller migration gains or outright migration loss during the recession (Figure 1, right chart). Migration gains accelerated in only 18 percent of those counties with migration gains before the recession. In the post-recessionary period, only 32 percent of the pre-recession gainers experienced migration acceleration. When the recession and post-recession periods are combined, 53 percent of the counties with migration gain prior to the recession experienced migration deceleration during the recession and further deceleration in the post-recessionary period.

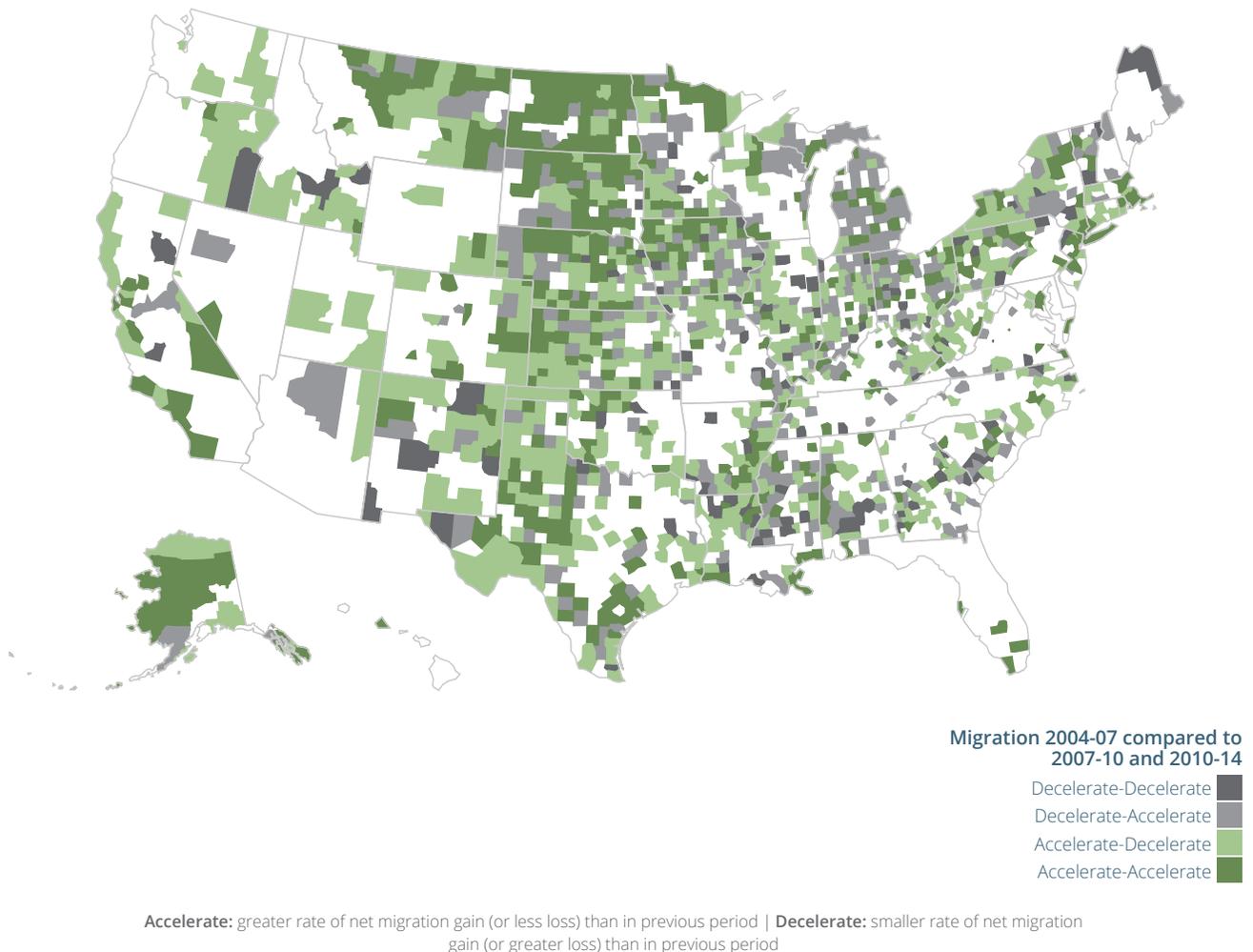
Figure 1: Migration 2004-07 Compared to 2007-10 and 2010-14



## Geographic Patterns of Migration Changed in the Era of the Great Recession

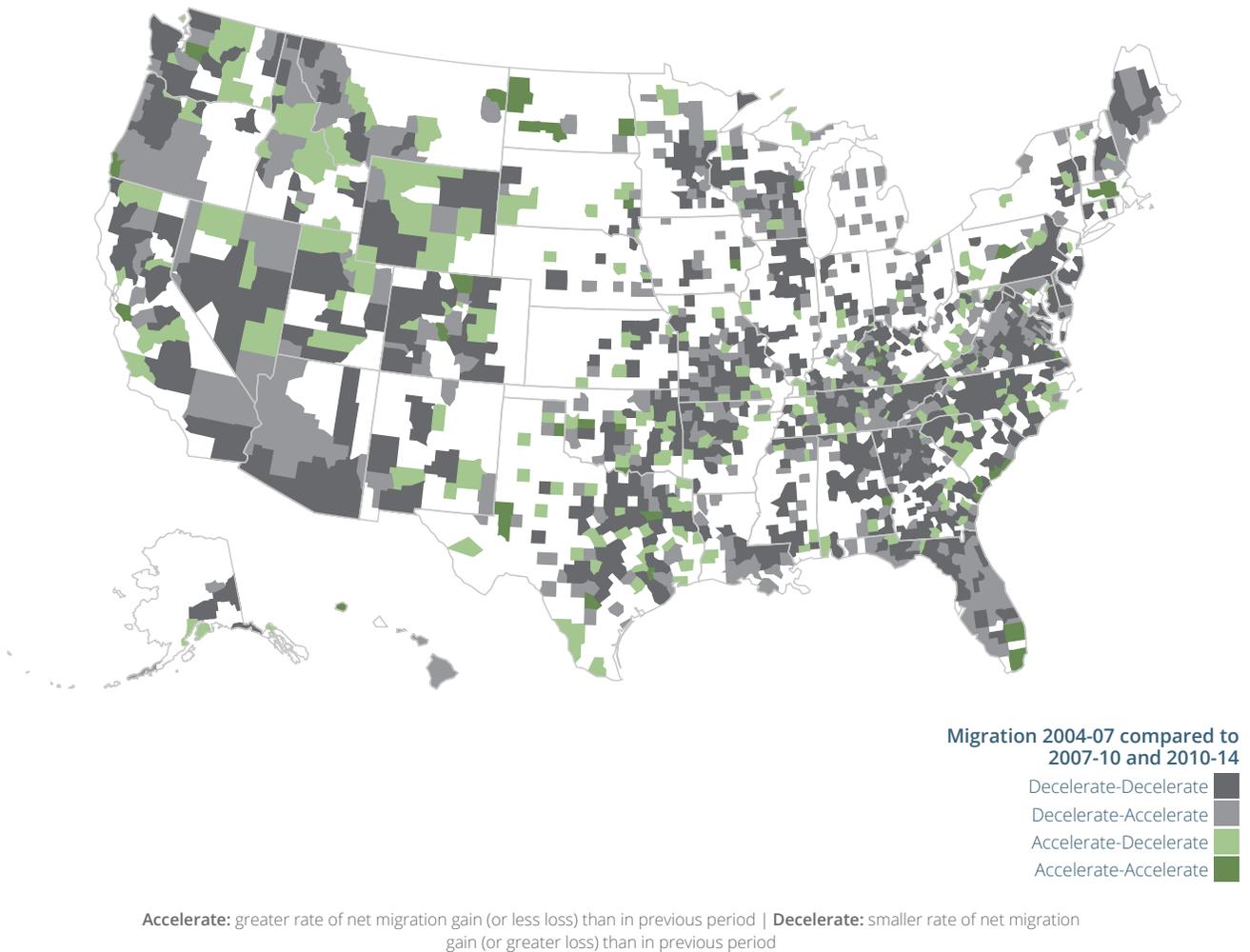
There is clear geographic variation in the patterns of migration change before, during and after the recession. Just before the Great Recession, migration patterns across the nation were consistent with those of the past several decades. Net migration gains were greatest in large areas of the West and Southeast, in suburban counties of many large metropolitan areas, and the recreational areas of New England, the Upper Great Lakes and the Mountain West. In contrast, migration losses were greatest in rural areas of the Great Plains and the Corn Belt, in much of the industrial belt of the Great Lakes and East, as well as in the Mississippi Delta and the urban cores of large metropolitan areas in the East and Midwest.

**Figure 2: Migration in the Wake of the Recession**  
Counties with Migration Loss 2004-07



Among those counties with migration losses prior to the recession, most show migration acceleration during the recession and post-recession period (Figure 2). The patterns are most distinct in the Northern Great Plains, where the impact of the energy boom on migration in the Dakotas is clearly reflected. However, diminished migration losses are widely scattered through the Great Plains, along the Mississippi and in the Northern industrial belt, with the exception of Michigan.

Figure 3: Migration in the Wake of the Recession  
Counties with Migration Gain 2004-07



Among counties that were gaining migrants prior to the recession, the deceleration of migration during the recession is also clear. Migration deceleration is evident in most traditionally fast growing areas in the West and South (Figure 3). Florida, for example, which had nearly universal migration gain during 2004-07, had widespread migration deceleration during the recession. Much of North Carolina and Virginia also experienced migration deceleration as well.

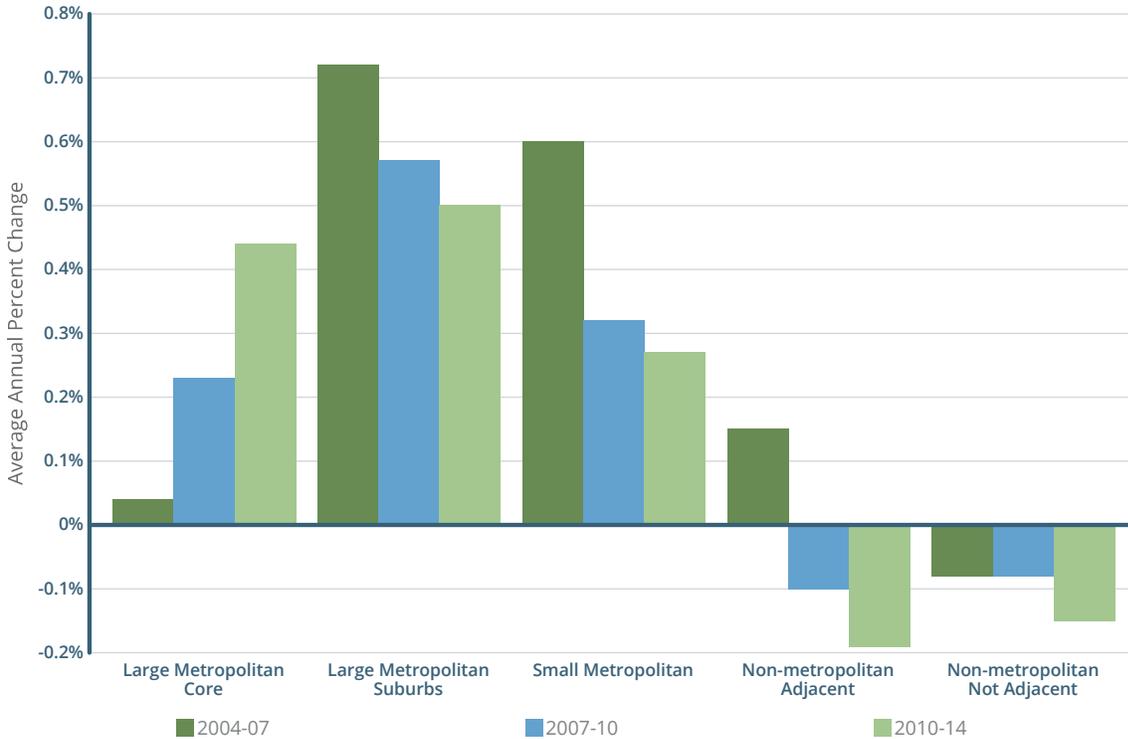
### Migration Trends along the Rural-Urban Continuum

Analysis of migration along the rural-urban continuum sheds further light on the differential impact of the Great Recession on net migration. During the pre-recession, the urban core counties of large metropolitan areas had a minimal annual average migration gain of just .04 percent (Figure 4). This is consistent with historical trends, which generally reflect little, if any, net migration gains in large urban cores. However, with the onset of the recession, this migration gain increased to .23 percent annually and it was even greater in the post-recessionary period.

Historically, suburban counties in large metropolitan areas have enjoyed substantial net migration gains, often at the expense of their urban cores. Such counties had an average annual migration gain of .72 percent during the pre-recession, 18 times as great as that in the big urban cores. Yet, there was a substantial decline in their net migration gains during the recession and it continued in the post-

recessionary period. During the recession, the ratio of suburban to large core migration gain was barely two-to-one, and it continued to diminish in the post-recessionary period. Thus, migration trends in large metropolitan areas during and after the recession contrast sharply with those during the pre-recessionary period as well as with historical trends.

**Figure 4: Annualized Net Migration Rates by Metropolitan and Non-Metropolitan Status, 2004 to 2014**



In smaller metropolitan areas, migration gains were also relatively high during the pre-recession period, and then diminished during the recession. Small metro areas had an average annual net migration gain of .60 percent prior to the recession, but this dropped to just .32 percent during the recession. Nor is there any evidence of a migration rebound in the post-recession period in smaller metropolitan areas.

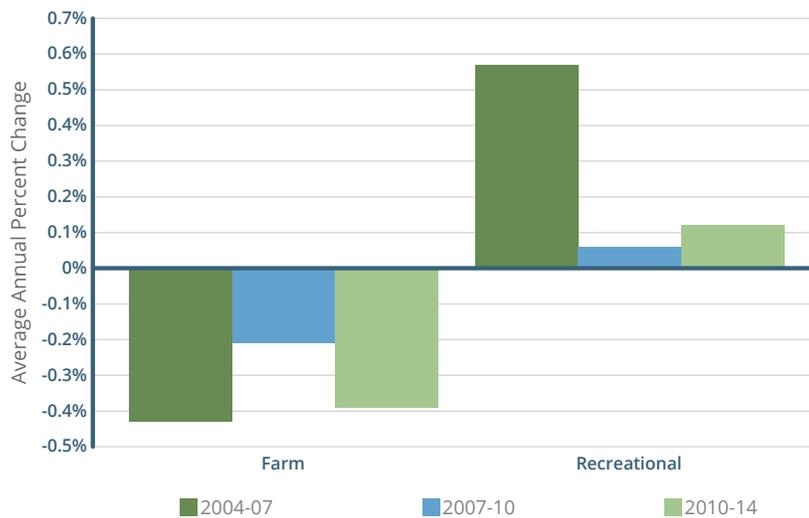
In nonmetropolitan America, the contrast between historical migration trends and those during and after the recession is also striking. Over the past several decades, rural migration gains have consistently been larger in nonmetropolitan counties that are adjacent to metropolitan areas. Residents of these proximate nonmetropolitan counties have easier access to nearby metropolitan labor markets (i.e., commuting) and the array of economic, social and health services that are generally urban based. In addition, as metropolitan areas sprawled outward, migration spilled over into these adjacent nonmetropolitan counties. In contrast, over the past several decades, nonadjacent nonmetropolitan counties have had much more modest net migration gains or even net out-migration. These traditional patterns were evident before the recession when net migration gain in adjacent counties was .15 percent compared to a migration loss of .08 percent in the non-adjacent counties.

The situation in nonmetropolitan areas changed during the recession and post-recession periods. Adjacent counties had a significant deceleration in migration, actually shifting from net migration gain to loss. In contrast, net migration rates remained stable in remote non-adjacent counties and, consequently, they experienced smaller migration losses than adjacent counties. To have remote rural counties lose fewer migrants at the same time that those proximate to metropolitan areas are experiencing out-migration is extremely unusual. Further, there is little evidence of any recovery in net migration rates in

nonmetropolitan areas in the post-recessionary period; migration losses actually worsened in both adjacent and non-adjacent counties.

There is considerable variation in migration trends among these 1,976 nonmetropolitan counties. To illustrate this finding, migration is compared in two types of rural counties with very different migration histories. The 368 farm counties represent the most traditional of rural areas with an economic base and employment structure heavily dependent on agriculture. In contrast, the economy of the

**Figure 5: Annualized Net Migration in Selected Non-Metropolitan County Types, 2004 to 2014**



287 nonmetropolitan recreational counties is based on natural and built amenities, services and recreation. Farm counties have a long history of out-migration, particularly among young adults. During the pre-recession, the average annual loss among farm counties was -.43 percent (Figure 5). This migration loss diminished to -.21 percent during the recession before increasing again to -.39 percent after the recession. In contrast, recreational counties have been among the fastest growing nonmetropolitan counties in each of the last four decades. Migration has fueled almost all of this growth as reflected in the .57 percent average annual migration gain just before the recession. However, with the onset of the Great Recession, net migration to the recreational counties diminished to just .06, with only a modest recovery to .12 in the post-recession period. The contrast between these county groups illustrates how the recession disrupted traditional net migration patterns in nonmetropolitan America just as it did in urban America.

### Why Did Migration Patterns Change?

Why did net migration trends during the turbulent period of the Great Recession differ in significant ways from those common prior to the economic shock? Overall migration rates slowed to record lows during the Great Recession. We suspect that the recession “froze people in place” with houses they couldn’t sell, retirement plans that lost value, and a precarious labor market that offered little incentive to relocate. Our speculation is supported by examination of migration flows into and out of counties using Internal Revenue Service data. We found that counties that many migrants were leaving prior to the recession had fewer migrants leaving during it (data not shown). In contrast, counties with big migration inflows prior to the recession had smaller inflows during it. For example, in large urban cores the number of out-migrants declined during the Great Recession, while the number of in-migrants stayed about the same. In contrast, in areas that typically received large in-flows of migrants prior to the recession, such as the suburbs of large urban areas, the number of migrants moving in diminished during the recession. Fewer people left the suburbs as well, but the reduction in out-migrants was less than the slowdown in in-migrants, so the net suburban gain diminished. Patterns were similar in nonmetropolitan counties just beyond the urban edge and in recreational counties. Here the number of in-migrants diminished, while the number of out-migrants stayed about the same. As a result, there were much smaller net migration gains or a shift from

gain to loss. In contrast, in remote rural counties as well as in farm counties, the inflow and outflow of migrants stayed roughly the same, so there was little change in net migration. In essence, the recession diminished migration outflows from counties with histories of migration loss, and reduced the inflow to counties with histories of substantial in-migration.

Immigration also slowed during the Great Recession. Census Bureau estimates suggest that international migration diminished by 16 percent during the recession before increasing again in the post-recession period (data not shown). Immigration had the greatest impact in large urban cores, where the significant flow of immigrants into urban cores offset the outflow of domestic migrants. During the recession, the reduced levels of immigration were overshadowed by the substantial reduction in residents moving from the urban cores to other areas. The result was a smaller net domestic migration loss during the recession, even though immigration to the cores diminished. In the suburban areas of large urban cores, smaller gains from immigration combined with the smaller inflows of migrants from other areas of the U.S. to produce a smaller net migration gain. A similar pattern was evident in smaller metro areas. Immigration gains in nonmetro areas tend to be much more modest, although immigration did slow with the onset of the recession.

## Conclusion

There is little question that the economic shocks of the Great Recession were associated with striking changes in net migration patterns across the rural-urban continuum. In response to constricted economic circumstances, fewer Americans migrated. This shift led to a convergence in county migration trends. Counties that suffered net migration losses or minimal migration gains prior to the recession had smaller losses or greater migration gains during the recession. In contrast, counties with histories of significant migration gain prior to the recession experienced smaller net gains, or lost migrants during the recession.

Our findings are consistent in both urban and rural areas. For example, in the large urban cores with long histories of small net migration gains or net migration losses prior to the Great Recession, migration gains during the recession actually exceeded those before the recession. A similar trend is evident in the most remote rural counties, where migration losses were smaller during the recession than pre-recession. In contrast, in the suburban counties of large metropolitan areas that have long been the recipients of substantial net inflows of migrants, migration gains sharply diminished during the recession. A similar pattern is evident in rural counties just beyond the metropolitan edge that have long gained migrants at a faster pace than their more remote rural counterparts. Here there was a shift from net migration gain to loss with the onset of the Great Recession. We found a similar trend among different types of nonmetropolitan counties. Recreational counties, where migration has fueled decades of substantial population gains, experienced minimal net migration gain or loss during the recession. In contrast, migration losses diminished in farm counties that have long histories of substantial migration losses.

A critical question is: what will happen to net migration now that the economic impact of the recession is finally waning? Will it revert to pre-recessionary patterns, or did the Great Recession usher in a new era of migration? Our analysis suggests that the issue remains in flux. Housing markets have been slow to recover, mortgage markets remain tight, and there have been minimal increases in real wages. So far, there are few indications of a reversion to historic urban-rural migration patterns. In large metropolitan areas, migration gains remain modest in suburban counties and relatively high in the urban cores, though suburban migration gains have picked up in the last year or two as have those in recreational areas. Nonmetropolitan adjacent counties that have traditionally benefited from their proximity to metropolitan areas have seen little recovery in their net migration rates. However, nonadjacent rural counties have seen their migration losses begin to rise again. Thus, while the recession may be waning, its demographic impacts continue to be felt in both rural and urban areas.

## Data

This research uses the county as the unit of analysis because they have historically stable boundaries and are a basic unit for reporting demographic data including migration. Counties are designated as metropolitan or nonmetropolitan as of 2013 using criteria developed by the U.S. Office of Management and Budget. For some analysis, we examined subsets of nonmetropolitan counties representing farm dependent and recreation dependent counties using the Economic Research Service, U.S.D.A county typology from 2004. We use the terms rural and nonmetropolitan interchangeably here, as we do the terms urban and metropolitan.

We subdivided the counties into five categories that represent population concentration along the urban-to-rural continuum. The 67 large metropolitan “Core” counties include the major city (or twin cities) of metropolitan areas containing more than one million people in 2010. More than 97.5 million people resided in these counties in 2014, representing 31 percent of the U.S. population. Most of these large urban core counties contain both the central city and some of the older, inner suburbs. An additional 365 large metropolitan counties adjoin these large core counties. These suburban counties include 78.5 million residents, which is 25 percent of the U.S. population. They encompass newer suburban areas and the periphery of large metropolitan areas. All counties in metropolitan areas that had fewer than a million residents in 2010 are classified as “Small Metro” counties. They contain 96.7 million residents, 31 percent of the population, dispersed across 734 counties.

The remaining 1,976 counties are outside of metropolitan areas. They contain 46.2 million people (15 percent of the U.S. population) and approximately 70 percent of the land area of the U.S. These nonmetropolitan counties are subdivided into “Adjacent Nonmetro” counties that are contiguous to a metropolitan area and “Nonadjacent Nonmetro” counties that do not share a boundary with a metropolitan area. There are 1,027 adjacent counties with a total population of 30.4 million (10 percent of the U.S. population) and 949 nonadjacent counties with 15.8 million resident (5 percent of the population).

The analysis uses longitudinal net migration data covering three time periods that represent: the pre-recession (2004-07); the recession (2007-10); and the post-recession (2010-14). Net migration is calculated using the Census Bureau’s intercensal estimates for 2000-10 released after the 2010 Census, and 2014 county postcensal estimates for 2010-14. To obtain net migration, we subtracted natural increase from population change for each period. Net migration was calculated for the periods 7/1/2004 – 7/1/2007, 7/1/2007 – 4/1/2010 and 4/1/2010 – 7/1/2014. Because these time periods vary in length, we calculated annualized values for 2004-07 and 2007-10 divided by the Bureau’s Census 2000 estimate base, and the 2010-14 values were divided by the Bureau’s Census 2010 estimate base.

---

## About the Authors

**Kenneth M. Johnson** is Senior Demographer at the Carsey School of Public Policy and a Professor of Sociology at the University of New Hampshire.

**Katherine J. Curtis** is Director of the Applied Population Laboratory and Associate Professor in the Department of Community and Environmental Sociology at the University of Wisconsin-Madison.

**David Egan-Robertson** is a Demographer at the Applied Population Laboratory at the University of Wisconsin-Madison.

## Acknowledgments

Dr. Johnson’s research was funded by the New Hampshire Agricultural Experiment Station and by sabbatical support from the College of Liberal Arts and Carsey School of Public Policy at the University of New Hampshire and by the University of Wisconsin-Madison Applied Population Laboratory, Department of Community and Environmental Sociology and Center for Demography and Ecology. Dr. Curtis’s research was funded by the Wisconsin Agricultural Experiment Station.

This work was supported by the Applied Population Laboratory at UW-Madison, Community and Regional Development Institute at Cornell University, and the Center for Population Studies at the University of Mississippi. The W3001 committee is funded by the Western Association of Agricultural Experiment Directors (WAAESD).