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# Residential Mobility in the U.S. and the Great Recession: A Shift to Local Moves

**Michael A. Stoll**

*Luskin School of Public Affairs, UCLA*

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Americans are very mobile. Over the last three decades the share of Americans who moved in a given year was always more than 10%. But mobility has been declining in this period. More telling, in the last decade and especially in the years just before and during the Great Recession, there was a consistent decline in long-range migrations and a rise in local moves. Inter-state residential mobility, already in decline for the past thirty years, slowed to a near standstill by the end of the 2000 decade (Frey 2009a, 2008a). This study shows several ways in which the Great Recession was implicated in these trends. The Great Recession impacted many persons by limiting financial resources through job loss or pay cuts, or through the loss of one's home or its value. Falling home prices made staying (especially in formally high cost areas) more plausible for more folks. Moreover, the Great Recession probably increased fear about future economic security. Because it was nationwide it shut off the lure of “better job pastures” elsewhere. People seeking better jobs (or any job) could not simply move West, South, East or North. All these factors may have prompted many people to stay put who otherwise would have moved, thus reinforcing already low U.S. inter-state residential mobility by the end of the decade (Frey, 2009b).

Local moves in recent times have increased, and they have been especially high in metropolitan areas with the highest unemployment and the highest foreclosures – particularly the West and South, areas hard hit by the Great Recession. Unlike the past decades, when local movers were moving up economically – from an apartment to a house, from one house to a better one – these movers were moving down, seeking a cheaper home. Black residents were particularly vulnerable. Not only did more black residents, proportionally, lose jobs or have their homes foreclosed, those losses were more likely to force black residents to move.

This study examines residential moves especially at the local level, how they have changed over the past thirty years and particularly over the recent decade, and the characteristics of those who moved before and during the Great Recession. It also explores self-reported answers to questions about residential moves, and whether these answers are consistent with factors associated with the recession as the reason for the move. Finally, the study explores whether, to what extent, and how factors at the local level such as unemployment and foreclosure rates influence local move rates.

Data from the Current Population Survey (CPS) and the American Community Survey (ACS) are used to show whether those who moved during the Great Recession were more likely to be unemployed, poor, or not to own homes than in other periods. The CPS also provides respondents' answers to questions about the reasons for their move. The expectation is that respondents' answers to these questions will be more directly related to factors associated with the recession. Finally, I study what parts of the country experienced more local moves, asking how they are affected by unemployment and foreclosure in the area.

## **Residential Movement over the Past Thirty Years**

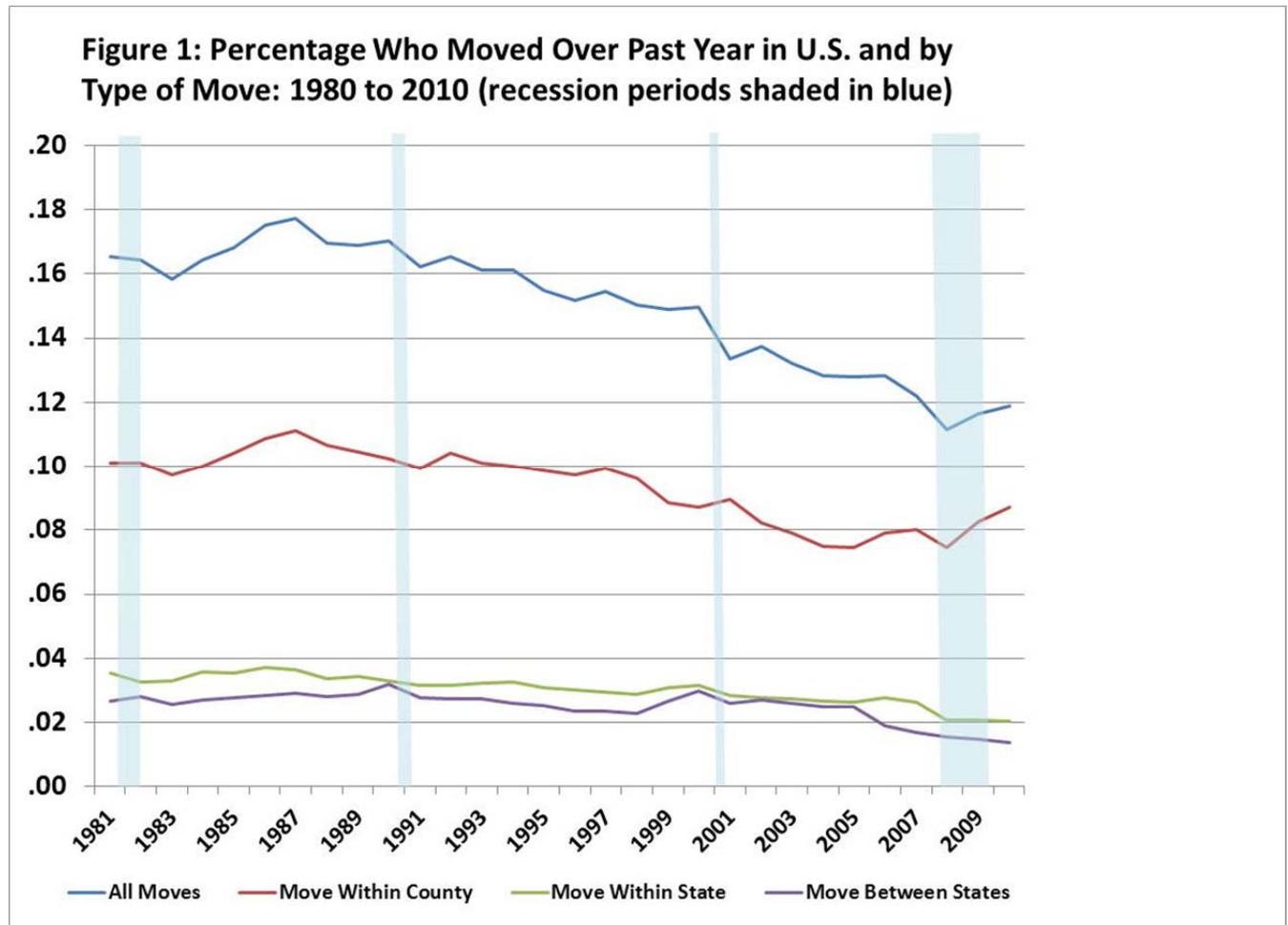
Figure 1 uses data from the CPS to show how population migration has changed over the past thirty years in the U.S., and the different types of moves people made over this period.<sup>1</sup>

Movers are defined as adults (ages 18 and above) who responded affirmatively to the question of

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<sup>1</sup> There are two basic migration questions: the one year and five year questions. The one year migration question is best suited for the purposes of this study. The five year question asks where respondents lived five years prior to the survey. The major problems of this migration question are that it misses those who moved before the interceding five year period, misses those who may have had multiple migrations during this period, and that the long time period examined may be too long to identify push or pull factors that influence the move. Thus, this question will miss those who moved in shorter time periods, perhaps in response to the major events that influence the questions of this study.

whether they moved in the past year prior to the survey.<sup>2</sup> The one year migration question is asked fairly consistently from 1964 to the present, thus making it possible for mobility to be observed over long time periods at the national level.<sup>3</sup> Local movers are identified as those that moved within county, and the move rate is determined by taking the fraction of the total relevant population (ages 18 and above) that moved over the past year.



<sup>2</sup> The literature has historically defined the move rate with a population of those aged 5 years old and above (see Long, 1988). In this chapter, the population used is that aged 18 years and older because the factors, such as whether unemployed, examined to influence moving are those that would only affect those that are at least younger adults. However, the basic results (i.e., move rate estimates, and reasons for moving among others) were not significantly different when those aged 5 to 17 years old were included, nor were they significantly different when heads of households were only included in the sample.

<sup>3</sup>There are exceptions. One year migration questions were not asked in 1980, 1985 or 1995. The time series thus begins in 1981, and data for 1985 and 1995 are interpolated using data from the previous and next years.

There are a number of important highlights in Figure 1. First, the percentage of people who move has dropped significantly over the past two decades. Indeed, by 2010, that value at 12 percent is near the lowest level recorded over this period, although a recent uptick in moving is observed towards the end of the recent decade. This slowdown in American domestic migration has been noticed and various reasons have been suggested. Traditional demographic causes such as the aging of the population, the rise of two-earner households or of household income levels, or regional or other types of compositional changes, have all been ruled out. On the other hand, some scholars argue that technological and other transportation and communication advances have led to a decline in the geographic requirements of place thus decreasing job related moves (Kaplan and Schulhofer-Wohl, 2011). Others cite greater affluence and security in American society over time as well as non-economic and historical factors, such as the end of great migrations (which in turn spurred local moves), as reasons for long run declines in residential mobility (Fischer, 2002).

More recently some researchers speculate that economic and housing crises played a major role in reinforcing the low level of inter-state migration that had been in decline for quite some time (Frey, 2009a, b; 2008a,b). Many states, such as California and Florida, which saw large in-migration during the boom period, saw reversal to out-migration during the Great Recession. Moreover, those metro areas that experienced the greatest increases in migration during the earlier housing boom period at the middle of the decade, such as cities in the West and South including Phoenix, Riverside, Las Vegas, Tampa, Orlando and Atlanta, demonstrated the greatest recent migration declines during the Great Recession (Frey, 2009c).

Second, the recent uptick in all moves in the U.S. towards the end of the decade was driven entirely by those moving locally. The local move rate increased from 2008 to 2010, while

the inter-state migration rate remained low and flat over this period. Thus, especially at the end of the decade there was a shift from long distance to local moves. Counter to overall migration trends, the percentage of local movers increased over the decade, and at just below 9 percent was at its highest level in ten years.

Local movers also represent the majority of moves made in the U.S.<sup>4</sup> However, the percentage of people who moved farther, especially to another state, declined over this period to less than 2 percent, the lowest level observed over the past two decades.<sup>5</sup>

While the changes in percentage of movers over the latter part of the decade may not seem large, they translate into larger changes in the absolute number and percentages of people who moved locally or inter-state since the initial impact of the Great Recession. According to estimates from the CPS and shown in the appendix, Table A.1, in 2010 about 24.2 million people moved locally, up nearly 3.7 million movers from 2008, representing an 18 percent increase in local movers from 2008. On the other hand, in 2010 about 3.8 million people moved across state lines, representing a decline of about 400,000 movers from 2008, translating to a 10 percent decrease.

Two other important trends are observed in the table. More people moved locally in 2010 than in any other point in the 2000 decade and fewer people moved across states lines than in any time period over the past thirty years. Moreover, in 2010 there were more people moving locally than in 1980 (at 20 million people) even though the percentage of those who moved was lower

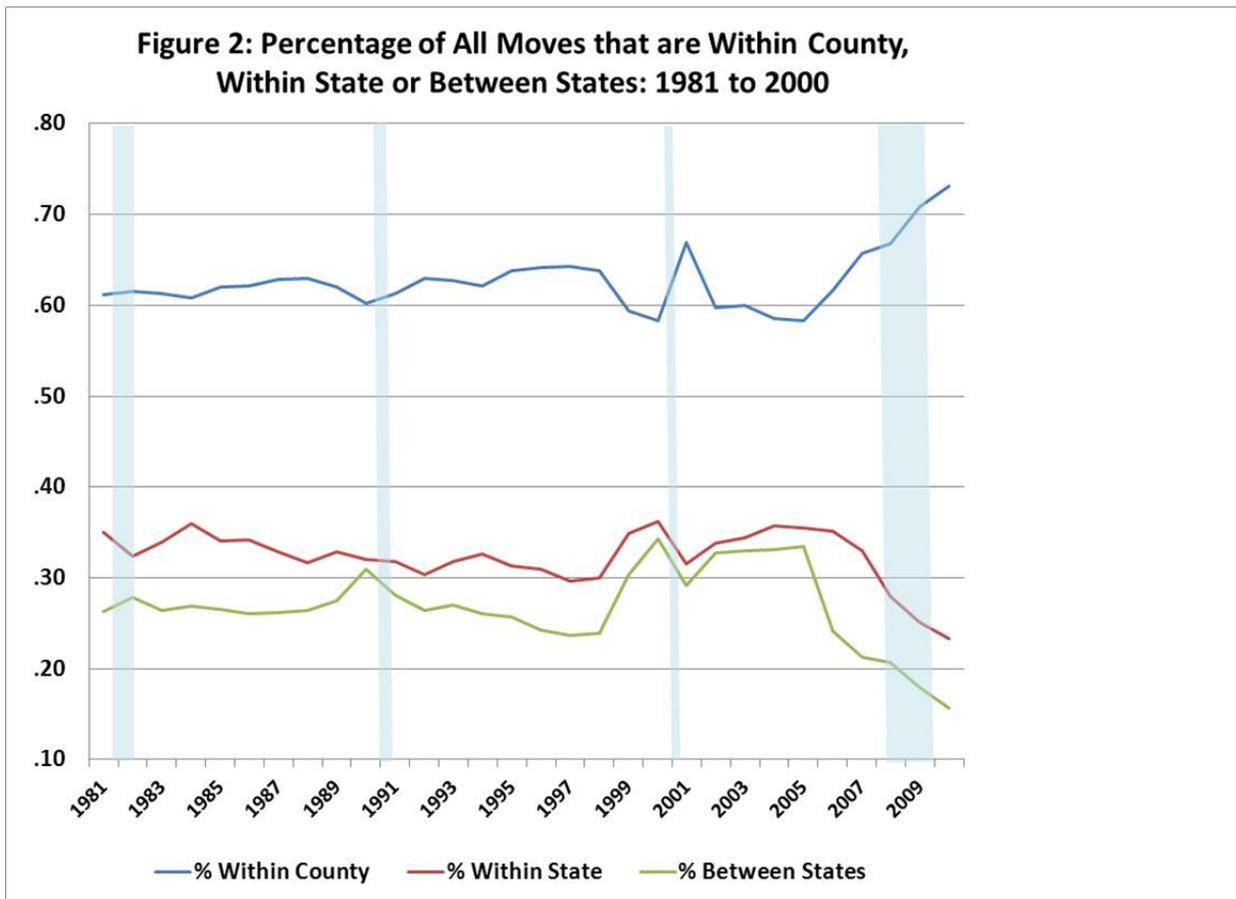
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<sup>4</sup> This should be no surprise and is attributable to a variety of factors including moving costs, family ties, etc. (Long, 1988; Quigley and Weinberg, 1977).

<sup>5</sup> To be sure, a shift to local moves from more distant ones also speaks to notions about the meaning of migration or mobility. Many have argued that there is a significant difference between migration and strictly local moving. The former is viewed more as an avenue towards social and economic mobility and as more disruptive, often entailing a multitude of other changes such as job relocations and the need to alter social networks and the like. Shorter distance or local moves are thought to entail changes in daily habits such as commuting, but not the more disruptive changes associated with migration (Long, 1988).

than that in 2010. That's because since 1980 the U.S. population increased by nearly 80 million over this period.

These trends indicate a greater shift to local moves at the end of the 2000 decade. Figure 2 highlights this shift by showing the composition of all moves over the past thirty years according to the type of move made. That is, for this period, it shows the percentage of all moves that are within county, within state or across states.



The figure shows that the percentage of all moves that are local increased rather dramatically at the end of the 2000 decade, while these percentages declined or remained flat for across state and within state movers. Over the past 25 years or so, the share of local moves hovered between 59 and 65 percent, but by the end of the 2000 decade it increased to nearly 73 percent. However, the increase in this ratio from 2005 to 2007 was driven almost entirely by the

decline in interstate and within state moves, while its increase from 2008 to 2010 was driven more by the increase in the local move rate. That is, from 2005 to 2007 the local move rates remained basically the same, while the combined inter-state and within state move rate decreased by 1 and a half percentage points.<sup>6</sup>

On the other hand, from 2008 to 2010, the period during the height of the Great Recession, the local move rate increased by almost one and a half percentage points while the combined inter-state and within state move rate remained virtually flat. By the end of this decade, the shares of within state and across state moves, at nearly 20 and 17 percent respectively, dropped to their lowest level in thirty years.

## Residential Moves and Recessions

The secular and cyclical trends of migration come into fuller view when American residential movement is viewed in context of major economic recessions. As noted, over the last two decades, for all types of moves, migration's secular trend has been downward. But during periods of economic recession such migration appears to have a cyclical nature too, although such trends differ by whether the residential move is farther or local.

Figure 1 also indicates periods of economic recession as defined by the NBER.<sup>7</sup> The figure illustrates that inter-state moves tend to fall at the start of recessions, to rise years later after the recessions end, only to fall again during the next recession (and with the caveat of a

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<sup>6</sup> It is arguable that the housing boom during this period could have led to a slowdown in farther moves. The Case-Schiller home price index shows that housing prices on average reached their peak over the 2000 decade during this 2005-07 period. The high housing prices especially in high flying states could have influenced this slowdown in farther moves because of relatively higher costs of moving. Frey (2008b) shows that migration slowed in hot housing markets towards the end of the 2005-07 period.

<sup>7</sup> These periods of recession are those defined by the NBER as technical recessions, or periods where there is at least two straight quarters (i.e., six months) of economic decline as measured by the GDP. However, the period of economic hardship associated with these recessions likely lasts much longer than that shown here.

secular downward trend in these moves over the past twenty five years). Inter-state migration slowed even further during the course of the Great Recession probably for all the reasons mentioned earlier - that is, more limited financial means, fewer attractive alternative places to move, and declines in home values in many places (thus making these same places more affordable) may have prompted many to stay put who otherwise would have moved. In contrast local moves tend to fall at the start of recessions but tick upwards immediately after; this has been especially true during the Great Recession. Local moves may increase after a recession because of growing pent up demand to move, or, in the case of the Great Recession, because persistent job or housing affordability problems made staying put financially impossible.

### **Regional Variation in Residential Movement**

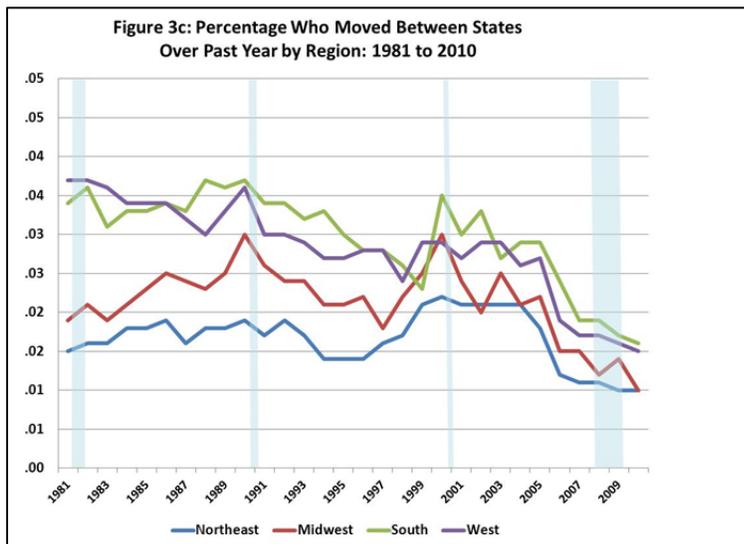
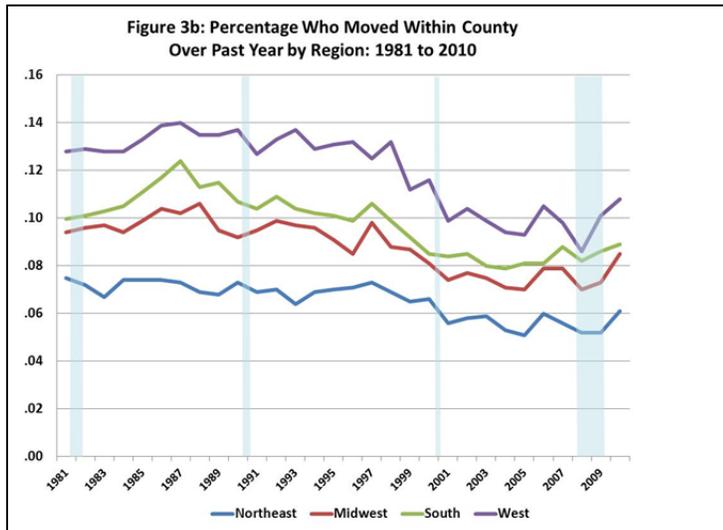
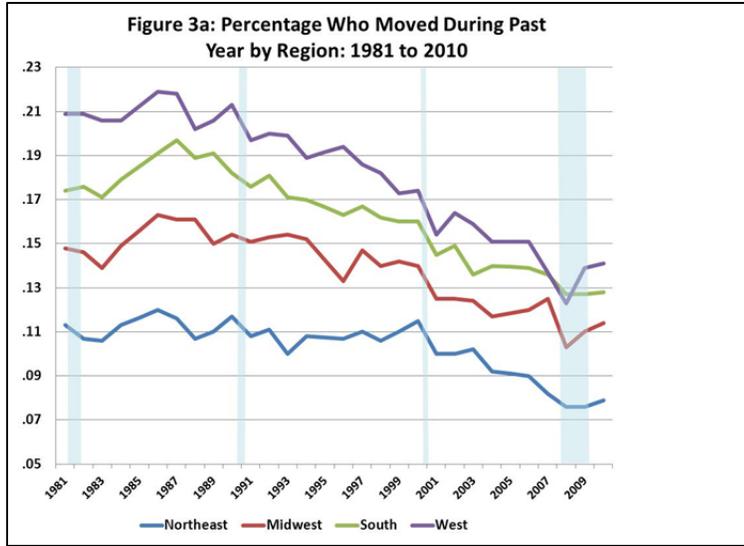
Did these trends vary at the regional level, especially recently? This is an important question since it could be the case that the recession had uneven impacts on at the regional level. Figure 3 presents similar graphs to that shown in Figure 1 but at the regional level. Figure 3a displays these for the overall move rate over the same time period, while Figure 3b and 3c shows these for the move rate within counties and the between state move rate, respectively.<sup>8,9</sup>

A couple of important trends appear in Figure 3a for the total move rate at the regional level. First, in general, the patterns at the regional level reflect those at the national level. The move rate over the past thirty years has followed a downward secular trend; however, like the nation as a whole, it shows a slight upward tick during the Great Recession, though this is more true in the West, Midwest and to a lesser extent Northeast. Second, the move rates are consistently higher in the West and South, even during the Great Recession. It is not entirely

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<sup>8</sup> For those that moved within the last year, the region of residence refers to that region where they lived previous to the move, irrespective of whether that move was within county, between states or within the state.

<sup>9</sup> A figure for those that moved within state is not presented since results are similar to those that moved between states. Those that moved within state, however, are included in the total move rate calculation.



clear why move rates are higher in these regions than elsewhere.<sup>10</sup> But demographic composition differences across regions are not a factor.<sup>11</sup>

Figure 3b shows move rates within county by region. Again, these patterns are similar to that for the nation as a whole. However, local move rates jumped slightly more noticeably in the West and Midwest than the South and Northeast during the Great Recession, possibly because factors likely to have influenced these rates such as unemployment and foreclosures hit fairly hard in Western and some Midwestern areas. Note also, again, that local move rates are consistently higher in the West and South over this thirty year period and again, demographic factors play little role in determining these differences across regions.<sup>12,13</sup>

Finally, Figure 3c shows between state moves at the regional level over the past thirty years. The regional trends for these data also reflect those of the nation as a whole. There is a clear secular decline in inter-state migration in each region, and these declines continue through the Great Recession. Like before, the inter-state move rates are higher in the South and West. However, the greatest decline in inter-state moving was also in the South and West. One potential reason for this pattern is that these regions housed many of the economic boom states

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<sup>10</sup> Some argue that areas with greater in-migration are also likely to have higher levels of within county migration. This is because in-migrants after gaining increased knowledge of the local housing market are more likely to move locally (Long, 1988). In-migration has been much higher in the West and South for the past couple of decades.

<sup>11</sup> This conclusion was based on results of regressions of total move rates over the 2000 decade that first included dummy variables only for the region of residence, and then included the list of demographic characteristics (listed in Table 1) as controls. The statistically significant differences in move rates still remained across regions after inclusion of these demographic control variables and the magnitude of the regional coefficients remained nearly identical to those in regressions without these controls. This same pattern was observed in regressions that were estimated in periods before or during the Great Recession as well.

<sup>12</sup> Similar regressions to those described in footnote 11 were run except for local move rates. Once again, the statistically significant differences in local move rates still remained after inclusion of these demographic control variables and their magnitude of the regional coefficient remained nearly identical to those in regression without these controls. Estimating these regressions for periods before or during the Great Recession did not change these results.

<sup>13</sup> In separate analysis using local move rate data for metropolitan areas in 2010, age of oldest central city and unemployment rates alone can help account for almost all the differences in metropolitan move rates across regions. Local (or within) metropolitan move rates are lower in areas that are older, and older metropolitan areas are found more in the Northeast and Midwest, and to a lesser extent South, than the West.

during the 1980s and 1990s, and inter-state moves were high because so many people were migrating there from Midwest and Northeast. The sharp declines in the South and West could have occurred because the recessions in the 2000 decade likely cut migration back hitting the South and West hardest.

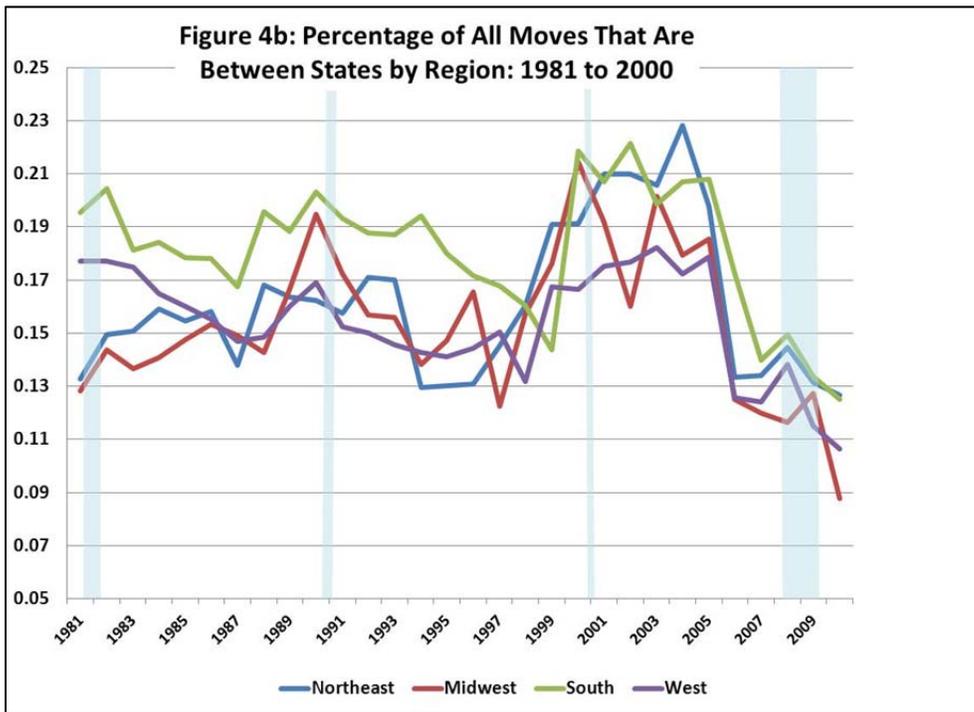
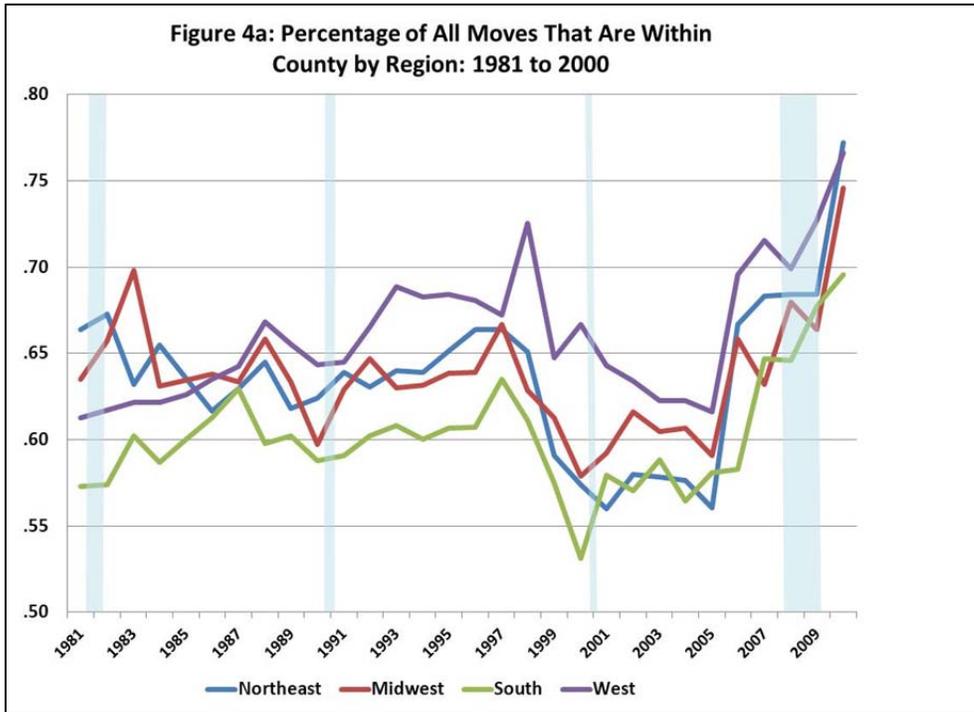
The following analysis demonstrates that regional patterns of moving largely followed national trends. This suggests that the patterns of shifts to local moves that are observed for the nation as a whole should have also occurred in each region. Figures 4a and b explore this question by showing at the regional level the composition of all moves over the past thirty years according to the type of move made. Figure 4a shows at the regional level the percentage of all moves that are within county, while Figure 4b shows this for these moves that are across states. The within state portion of this calculation mirrors that of the between state data so that component of total moves is not shown here.

Viewed together, the data in the figures demonstrate that the shift to local moves observed at the national level during the Great Recession occurred in each region of the U.S. Although the regional differences in move rates by the end of the decade were not that large, the percentage of all moves that were local increased fairly strongly in the West, Midwest and Northeast.<sup>14</sup> The figures show that for all regions the high point for the local move share was at the end of the decade in 2010, and jumped from 2005 to 2010. However, like the national data,

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<sup>14</sup>A related question is whether the Great Recession led to more local inter-state moves. This could occur if those who moved out of state are constrained in the distance of their move by moving costs or other related factors. Table A.2 in the appendix shows inter-regional migration patterns over the 2000 decade before and during the Great Recession. It reports at the regional level where individuals who moved across states moved from and to. The data show the opposite of this prediction. In each region, the percentage of those who moved within region actually decreased during the Great Recession and in most instances by large amounts. For example, for those who moved between states from the Northeast, about 60 percent moved to another state in the Northeast before the Great Recession, while about 47 percent did so during the Great Recession. Similar patterns are observed in each region. Thus, while overall inter-state migration slowed to a crawl during the Great Recession, those who moved between states were more likely to move out of region over this period than before.

for all regions the increase in this ratio from 2005 to 2008 was driven almost entirely by the decline in interstate and within state moves, while its increase from 2008 to 2010 was driven more by increases in the local move rate.



These combined results suggest that the Great Recession influenced moving decisions. The remainder of this analysis focuses on the 2000 decade to examine to what extent and how the Great Recession affected moving decisions. To do so, characteristics of movers are examined over different time periods associated with the Great Recession. Then, the subjective reasons individuals provided for moving are analyzed. Since moving decisions occur in and are influenced by local contexts, attention then turns to local move rates at the metropolitan level, examining factors associated with the Great Recession, such as unemployment and foreclosure, that may influence local move rates.

### **Characteristics of Local Movers**

Before directly addressing the question of whether the Great Recession impacted moving, however, it is useful to examine the characteristics of those who move (and by type of move) and those who do not more generally. This is because the literature on migration points to the importance of the selectivity of movers. That is, movers are not typical of the overall characteristics of the area population from which they have moved. Rather, they are highly selective (on certain characteristics such as age) for a number of reasons that are well documented (Long, 1988). The following section examines whether this selectivity is different for those who move locally as opposed to those who move farther such as between states.

### **The General Selectivity of Movers**

Table 1 uses CPS data and shows means for a host of demographic characteristics for those that moved (and by type) and did not move over the entire 2000 decade. Here, the entire 2000 decade is examined to capture the general characteristics of movers. Note that those who

moved within state are included with those who moved between states because their characteristics are not statistically different.<sup>15</sup>

The data in Table 1 reveal that movers are different in many ways than those that do not move. Moreover, these differences depend on the type of move made. In relation to those who do not move, local movers are both similar and different than those who move farther (between and within states). In regards to similarities, local movers and those that move farther are both younger, and, perhaps as a consequence, are also less likely to be married, retired, or homeowners than those who do not move. They are also more likely to be recent immigrants, have younger children, in poverty and live in a metropolitan area or in the South and West (as opposed to the Northeast and Midwest). Finally, they are also more likely to be both employed and unemployed; that is, to be in the labor force.

Major theories of why people move, including push/pull factors, life-cycle events, or benefit-cost decisions, would all predict these factors to be important in the decision to move (Long, 1988; Mincer, 1978; Quigley and Weinberg, 1977). For example, life-cycle and cost-benefit frameworks would predict younger, single people who do not have homes to be more likely to move because they would be more likely to search for new schooling or employment (after completing school) opportunities and because they have fewer social and economic transactions costs to moving (i.e., no children, no need to sell a home).

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<sup>15</sup> Further analysis also indicates that these observables predict moving similarly for those moving within state or between states, and thus for the rest of the analysis these moving categories are combined.

<b>Table 1: Mean Characteristics of Movers (by Type of Move) and Non-Movers during 2000-2010</b>			
	<b>No Move</b>	<b>Move Within County</b>	<b>Move Longer Distance</b>
<b>Age</b>			
18-25	.109	.257**	.246**
26-35	.178	.350	.340
36-55	.401	.301	.292
56-65	.143	.051	.070
Over 65	.169	.041	.053
<b>Education</b>			
Less than high school	.153	.182#	.131**
High school degree	.318	.320	.286
Some College	.272	.286	.288
College Graduate or more	.257	.212	.295
<b>Race</b>			
White	.720	.612**	.711#
Black	.113	.154	.119
Latino	.122	.184	.119
Asian	.046	.049	.051
Other	.050	.007	.080
Married	.583	.388*	.431*
Homeowner	.771	.344*	.395*
Male	.479	.487	.491
Foreign Born	.157	.192*	.153#
Recent Immigrant	.023	.058*	.046*
Children Under 5	.109	.184*	.156*
Retired	.082	.020*	.035*
Disability	.008	.006	.004
Enrolled in School	.055	.083*	.078*
Poverty	.094	.198*	.163*
Income (2009\$)	\$37,071	\$30,210*	\$32,899*
<b>Labor Market Status</b>			
Employed	.626	.705**	.669**
Unemployed	.036	.068	.071
Not in labor force	.338	.227	.260
Non-Metropolitan Area	.173	.134*	.162
<b>Region</b>			
Northeast	.199	.135**	.140**
Midwest	.227	.214	.212
South	.355	.369	.412
West	.219	.282	.235

\* Difference from non-movers is significant at <.05.  
\*\*Chi-square distribution statistically different at <.05 from that for non-movers  
# Difference between local and farther movers is significant at <.05.  
Age, education, race, labor market status, and region categories sum to one.  
Based on annual data from the 2000 to 2010 CPS.

In addition, those who move farther are different than those who move locally in a few important dimensions (relative to those who do not move); they are more likely to be college educated. Such workers arguably face a broader geographic labor market and would be prompted to make more distant moves in search of opportunity. Local movers are more likely to be black and Latino (a factor explored in more detail below) and foreign born.

### **Key Characteristics of Movers before and during the Great Recession**

Having established that movers are selected on certain characteristics, the key question is whether the Great Recession influenced moving. If it did, the expectation is that the observable characteristics of movers most likely influenced by the Great Recession such as unemployment, homeownership and poverty status should be different (and normatively worse) during than before the Great Recession. These are characteristics that are observable with the CPS at the individual level.

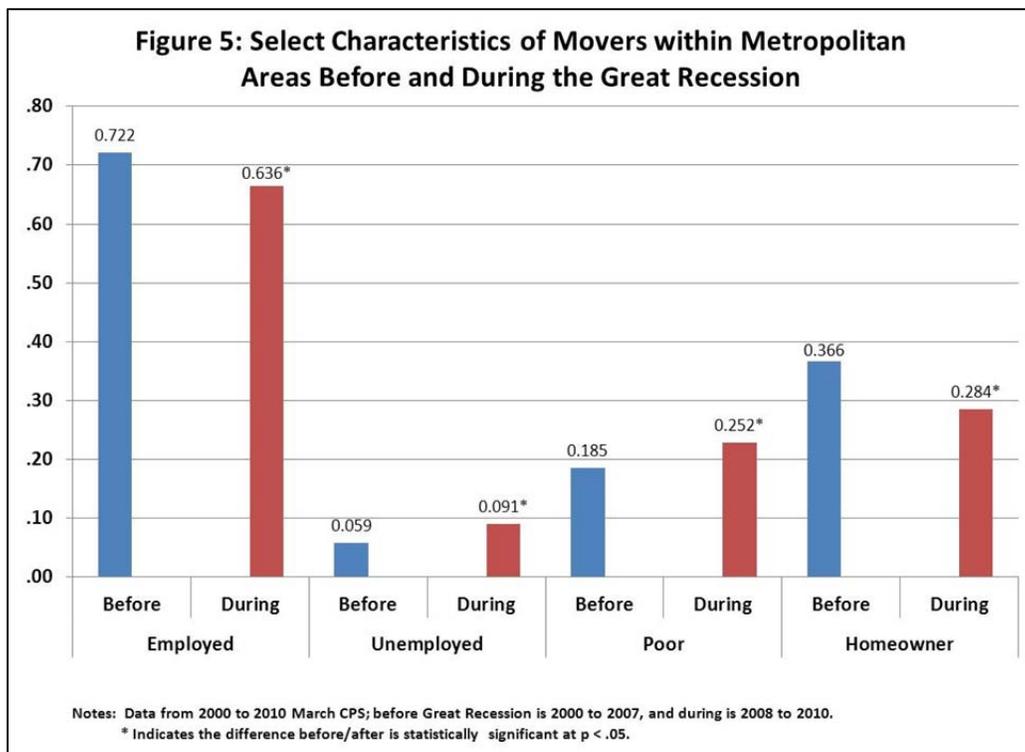
Figure 5 first focuses on the largest share of movers, those moving locally whose move rate rose quickly during the height of the Great Recession at the end of the 2000 decade. It also focuses on those characteristics associated with the Great Recession (employment, homeowner and poverty status) that are observable by the CPS. The figure highlights these select characteristics of individuals who moved locally before and during the Great Recession.

The 2000 decade is split between periods termed before and during the Great Recession. These periods coincide with years 2000 to 2007 and from 2008 to 2010, a period when the local move rate jumped.<sup>16</sup> The data are disaggregated in this way to coincide with the height of and therefore the full impact of the Great Recession. The National Bureau of Economic Research's

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<sup>16</sup> In reality, the 2000 period could best be disaggregated into three periods: 2000-2003 (prior to the housing boom and characterized by a mild recession and weak recovery), 2004-2007 (height of the housing boom), and 2008 to 2010 (housing bust and period of severe economic recession). Analysis demonstrates that the grouping the first two periods did not change the studies' results and thus only two periods are shown in the analysis for sake of simplicity and space conservation.

(NBER) Business Cycle Dating Committee, the most respected authority to date recessions, identifies December 2007 as the start of the Great Recession (with an end date in June 2009). Moreover, the Case-Schiller housing price index, a leading indicator of housing prices in large U.S. metropolitan areas, shows that in most metropolitan areas, housing prices began to fall dramatically during the period of late 2007 (after the credit squeeze entered full effect) and continued to fall through the end of the decade. The period 2008 to 2010 should thus be treated as one indicating the height of the impact of the Great Recession.<sup>17</sup>



<sup>17</sup> One could argue for alternative periods characterizing before and during the Great Recession. For example, in Figure 2 (as well as the corresponding figures for regions), the share of all moves that are local begins to increase sometime between 2005 and 2006. To the extent that the impacts of the oncoming recession were felt at that time and influence local move rates, for instance, then the periods could arguably be disaggregated from 2000 to 2005(or 6) and from 2006(or 7) to 2010. When this is done, the differences in characteristics observed in Figure 5 become less salient, especially when the periods are defined as 2000 to 2005 and from 2006 to 2010. This should be expected because the unemployment and foreclose rates do not increase significantly until 2008, at least nationally, and thus are unlikely to show up in individual data measuring unemployment or homeownership. Also, disaggregating in this way smoothes out the jump in the local move rate, thus obscuring the extent to which it increases over the period characterized by the height of Great Recession. A concern in using these alternative timing periods based on the local moving share increasing around 2005-2006 is that the increase in this share from 2005 to 2008 was driven almost entirely by the continuing secular decline in interstate and within state moves over this period that appears not to be strongly related to the Great Recession.

The results in Figure 5 are consistent with expectations of the consequences of the Great Recession on moving locally. It demonstrates that those moving locally during the recession were statistically less likely to be homeowners than before; they were also more likely to be without work and poor.<sup>18</sup> These data are consistent with expected impacts of the Great Recession; it resulted in more people without work, in poverty, losing their home, or unable to afford rent, thus prompting local moves.

However, the biggest differences over the period were for homeownership, as opposed to unemployment or poverty status. For example, the difference in percentage points in homeownership status for local movers before than during the recession is about 9 percentage points, where as the differences in these for unemployment and poverty status are 3 and 6 percentage points, respectively. This suggests that housing related factors associated with the Great Recession were more important than job or poverty related ones as motivations for moving locally.

A reasonable conclusion is that Great Recession caused the uptick in local moves, i.e., that it pushed more people to move locally who were without work, in poverty or were renters (possibly because they lost either their homes or could no longer afford rent). Clouding this interpretation, however, is the possibility that these changes in characteristics could have been caused by changes in the composition of people irrespective of whether they moved during the period of the Great Recession. That is, more people would have experienced more unemployment and poverty as a result of the recession, whether they moved or stayed put.

Another approach to this question is a difference-in-difference approach. Table 2 presents difference-in-difference estimates of effects on moving of employment status,

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<sup>18</sup> Homeownership status is attributed to individuals based on household head status, irrespective of the age of individual/observation in the data.

homeownership and poverty. The approach first calculates the difference in each of the select characteristics for movers and non-movers before the recession. For example, before the Great Recession, about 2.7 percent of non-movers were unemployed while 6 percent of movers were unemployed, for a difference of about 3 percentage points. This same calculation is done for non-movers and movers during the period of the Great Recession, a difference of about 4 percentage points. Then the approach calculates the *differences in these differences* between movers and non-movers over the period before and during the Great Recession. A statistically significant difference in this difference would indicate that the change in characteristics for movers before and during the recession was systematically distinct from that for non-movers.

	Before			During			Difference-in-Difference
	Non-Movers	Local Movers	Difference	Non-Movers	Local Movers	Difference	
<b>Unemployed</b>	0.030	0.059	0.029*	0.048	0.091	0.043*	0.014*
<b>Homeowners</b>	0.775	0.366	-0.409*	0.764	0.286	-0.478*	-0.069*
<b>Poverty</b>	0.091	0.185	0.094*	0.099	0.229	0.130*	0.036*

Notes: \* indicates difference is statistically significant at at least the 5% level.  
 Before recession, 2000 to 2007; during, 2008 to 2010.  
 Data from the 2000 to 2010 CPS.

Table 2 indicates that all differences-in-differences for these select characteristics were statistically significant and in the expected direction. These results strongly suggest that the Great Recession influenced the increase in local moves over the decade.<sup>19</sup> For example, the difference in homeownership between non-movers and movers was about 38 percentage points before the Great Recession and climbed to 46 points during this period. This results in a statistically significant difference-in-difference estimate of 8 percentage points. This strongly suggests that homeowners were less likely to move - because they were likely fewer of them - as

<sup>19</sup>Table A.3 in the appendix provides difference-in-difference estimates of these same data by race/ethnicity. The results are largely very similar for all racial and ethnic groups with few exceptions. For example, for Asians, only homeownership status was significant based on the difference-in-difference estimate.

a result of the Great Recession, i.e., higher foreclosures or more people unable to afford their home, thus selling, and fewer people buying homes.

This same pattern was observed for the variable measuring unemployment status. The difference-in-difference estimate for the unemployed is .015 percentage points indicating that relative to non-movers, local movers were more likely to be unemployed during than before the Great Recession. However, consistent with the results in Figure 5, the difference-in-difference estimates are larger in magnitude for homeownership as opposed to unemployment or poverty status, suggesting again that housing related factors associated with the Great Recession were more important than job or poverty related ones as motivations for moving locally.

Interestingly, these recession-related variables appear to be the only ones to be systematically different for local movers during as compared to before the Great Recession. Table 3 presents several demographic variables available from the CPS.<sup>20</sup> These characteristics were mostly not affected by the Great Recession. For example, the fraction of those with a college degree or more was similar for local movers before and during the Great Recession. There is an exception: local movers were more likely to live in metropolitan (than non-metropolitan) areas during than before the Great Recession. This would make sense to the extent that local move rates were influenced by factors related to the recession and that those factors were more influential in metropolitan than non-metropolitan areas.

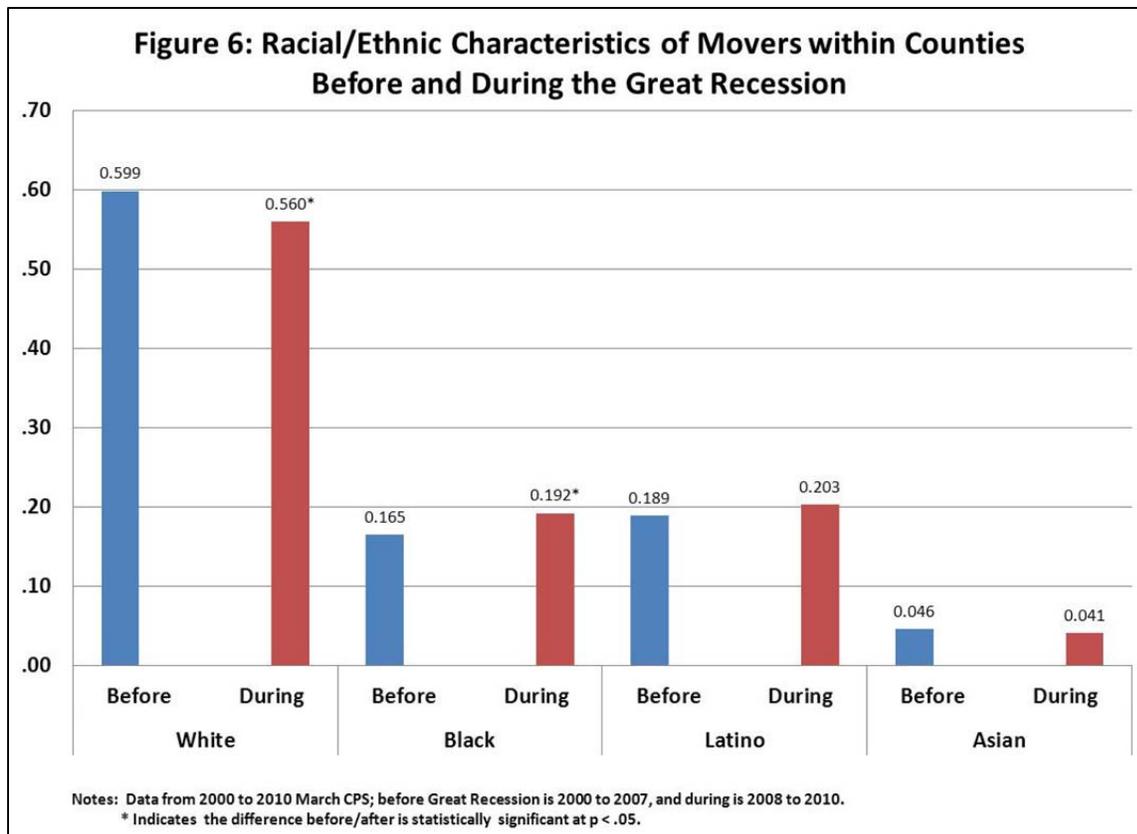
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<sup>20</sup>Educational attainment status is calculated only for those who completed schooling. Median income is calculated only for those with positive income.

<b>Table 3: Characteristics of those Who Moved Within Counties Before and During the Great Recession</b>		
	<b>Before</b>	<b>During</b>
<b>Age</b>		
<b>18-25</b>	.258	.254
<b>26-35</b>	.351	.348
<b>36-55</b>	.301	.300
<b>56-65</b>	.049	.057
<b>Over 65</b>	.041	.042
<b>Education</b>		
<b>Less than high school</b>	.185	.176
<b>High school degree</b>	.320	.319
<b>Some College</b>	.283	.290
<b>College Graduate or more</b>	.211	.215
<b>Married</b>	.402*	.351
<b>Male</b>	.487	.491
<b>Foreign Born</b>	.191	.194
<b>Recent Immigrant</b>	.055	.051
<b>Median Income (2009\$)</b>	\$30,775	\$31,338
<b>Children Under 5</b>	.184	.173
<b>Retired</b>	.021	.018
<b>Disability</b>	.020	.020
<b>Enrolled in School</b>	.082	.088
<b>Non-Metropolitan Area</b>	.134	.113*
* p < .05		

Another notable exception to this pattern is race and ethnicity – Figure 6 shows that a smaller share of whites and a larger share of blacks were movers during than before the Great Recession. For example, about 19 percent of movers after the recession were black whereas about 16 and a half percent were before. Hence racial differences in move rates increased during the Great Recession, and by implication the increase in local moves at the end of the decade was partly fueled by black and to a lesser extent Latino movers.<sup>21</sup> This trend suggests that the recession itself had stronger impacts on minorities, an issue explored in more detail below.<sup>22</sup>

<sup>21</sup>Table A.4 in the appendix provides data on the same characteristics for local movers before and during the Great Recession by race/ethnicity. Differences in characteristics for those who moved locally before and during the recession were similar across racial/ethnic groups, with a few exceptions. There were fewer differences in these



Similar comparisons were conducted for those who moved farther before and during the Great Recession. Recall, however, that move rates for this group declined and then stagnated over the 2000 period - before and during the Great Recession. Though not shown here, those moving farther were more likely to be unemployed and impoverished and less likely to be homeowners before than during the recession. But only the difference in unemployment status survived as significant after the more strict difference-in-difference test was conducted, and the effect was quite small. Therefore the remainder of this study focuses on local moves.

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before and during the Great Recession for Asians; for Latinos, smaller shares of movers were immigrants and recent immigrants after the recession. This same pattern was not observed for Latino non-movers raising questions about whether and how Latino immigrants were impacted by the Great Recession in making decisions about local moves.

<sup>22</sup>Of course, this result could also occur if the population share of these groups grew over this period. However, similar changes were not observed for these non-movers before and during the recession thus making this explanation implausible.

## Changing Reasons for Local Moves

Self-report data on moving can also provide clues about whether the Great Recession prompted local moves. The CPS is unique in that in the recent decade it asked those who moved the reason for their move. It provided respondents with a number of predetermined answers to the question, and this information provides an opportunity to unearth more direct evidence on the factors driving recent increases in local move rates.<sup>23</sup> Figure 7 provides data on local movers' responses to questions regarding the reasons for their move. These data are summarized and presented for periods before and during the Great Recession. If the Great Recession events prompted local moves, it is expected that those responses related to it, such as finding cheaper housing, owning a home, or looking for work, to be more affected over this period than other answers, and in the expected direction.<sup>24</sup>

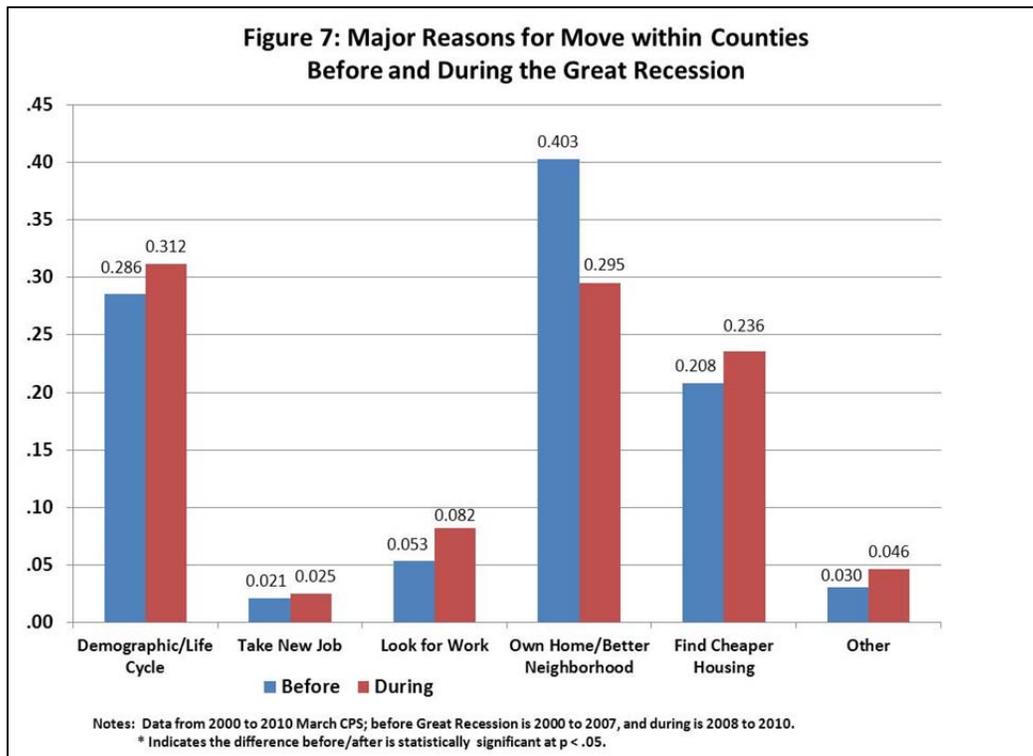
First, at the general level, Figure 7 indicates that in either period (both before and during), housing related and other demographic/life cycle changes are primary drivers of local moves. For example, about 41 percent of movers (a plurality of responses) before the Great Recession indicated that they moved to purchase a home or to live in a better neighborhood. Moreover, when combined with the response of finding cheaper housing as a reason for moving, housing related reasons represent the majority of responses in either period. To the extent that

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<sup>23</sup> These predetermined answers were grouped into six logical and mutually exclusive categories, thus the data across this set of answers sums to one.

<sup>24</sup> Alternatively, I stratified the CPS respondent data according to different local move rate levels. I calculated move rates at the local level, and then sorted these local move rates are sorted into quartiles (four equal parts). Individual responses to questions about why respondents moved are reported for each quartile, and these responses are then be compared across these different quartile levels of local move rates. These data are presented in Figure A.1. They show that in local areas with higher overall move rates, respondents who moved were more likely to cite reasons such as looking for work or cheaper housing as major reasons for the move. In addition, in areas with higher move rates, they were less likely to cite looking for another home or looking for a better neighborhood as reasons for the move. A similar exercise was performed for the change in local move rates between 2008 and 2010 (Figure A.2), and the results were very similar to these; respondents in areas where local move rates changed more significantly were much more likely to cite looking for work or cheaper hosing as reasons why they moved.

demographic/life cycle events, such as getting married, also prompt the search for new living arrangements, housing related issues become even more important reasons for moving locally.



Second, Figure 7 indicates that the percentage of residents who moved locally to find cheaper housing or look for work increased during the Great Recession.<sup>25</sup> The biggest change in responses during than before the Great Recession include moving to own a home or to live in a better neighborhood. The percentage that indicated they moved for these reasons declined by over 10 percentage points.<sup>26</sup>

Although more people are moving locally during than before the Great Recession, fewer are doing so to purchase homes or find better neighborhoods, perhaps because they have lost

<sup>25</sup> On a year to year basis from 2000 to 2010 these responses remain fairly constant from 2000 to 2007 and then change significantly starting in 2008 in the direction of those reported in the during recession category.

<sup>26</sup> A number of interesting differences emerge when these responses are compared to that for farther (inter-state and within state) movers. First, farther movers indicate that they are much more likely to move than local movers to take a job or find work, either before or during the Great Recession. Interestingly, the reasons for moving for inter-state movers were no different before than during the Great Recession offering little evidence that the Great Recession influenced farther moves. On the other hand, this result should be expected given that the move rate for those moving farther did not change appreciably over these two periods.

their homes or cannot afford to live in better places. Further, the differences in these responses across the two time periods are statistically significant.<sup>27</sup> This evidence is consistent with the idea that more people moved locally partly as a consequence of housing and job related problems brought on by the Great Recession.<sup>28</sup> These findings are also consistent with those in Figure 5 and Table 2 and suggest that housing issues related to the Great Recession appear more important than job related reasons for moving locally.

## Racial differences in local moves

I turn now to racial differences in local move rates and the effect of the Great Recession on them. This is an important topic in light of earlier findings that the local move rate increased during the recession, and that the share of those moving locally that were black and Latino increased as well, implying that racial gaps in local move rates increased during the recession. CPS data are used to explore at the individual level whether racial differences in local moves changed over the period of the Great Recession, and whether unemployment, homeownership, and poverty status help explain these changing racial gaps in local moves.

Table 4 examines racial and ethnic differences in local move rates in select years over the 2000 decade. Table 4 also presents differences in levels of unemployment, homeownership and poverty status. (Table A.6 in the appendix presents more detailed racial differences in these variables over the same years.) Table 4 provides means of these key variables by race/ethnicity

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<sup>27</sup>Table A.5 in the appendix displays these same data by race/ethnicity. The data show a strong similarity in responses across racial/ethnic groups both before and during the Great Recession. In addition, the changes in responses before and during the recession are also similar across racial and ethnic groups. For all groups, the share looking for cheaper housing (especially in the case of Latinos) and work increased significantly during the Great Recession.

<sup>28</sup> In 2011, the CPS added foreclosure eviction as an additional reason for moving. About 1.2 percent indicated that they moved locally for this reason. However, when the data is disaggregated by the levels of local move rates as in Figure A.1, the data conform to expectation. More people responded that they moved in areas with the highest level of local move rates - 2.5 percent - than at the lowest level of these move rates - 0.5 percent.

over the 2000 decade in key years; 2000, 2008 and 2010. 2008 represents the low point of local move rates over the decade as well as the onset of the Great Recession, while 2010 represents the peak period for the increase in local move rates over the decade, as well as the period in the midst of the Great Recession. 2000 is provided as the starting point at the beginning of the decade.<sup>29</sup>

<b>Table 4: Means of Key Great Recession Variables Over 2000 Decade</b>				
	<b>Local Mover</b>	<b>Unemployed</b>	<b>Homeowner</b>	<b>Poverty</b>
<b>White</b>				
<b>2000</b>	.071	.022*	.778	.071*
<b>2008</b>	.068	.027*	.789	.075*
<b>2010</b>	.070	.056	.777	.088
<b>Black</b>				
<b>2000</b>	.109*	.050*	.548*	.192*
<b>2008</b>	.111*	.060*	.568*	.195*
<b>2010</b>	.124	.106	.521	.215
<b>Latino</b>				
<b>2000</b>	.105*	.046*	.494*	.187*
<b>2008</b>	.103*	.048*	.527*	.179*
<b>2010</b>	.118	.090	.512	.212
<b>Asian</b>				
<b>2000</b>	.101*	.026*	.594*	.101*
<b>2008</b>	.079	.025*	.644	.095*
<b>2010</b>	.086	.051	.645	.119

\* p < .05

The table reveals a few noteworthy patterns. First, it documents that for each period blacks' and to a lesser extent Latinos' and Asians' local move rates are higher than that for whites, an observation that is interestingly not found for farther moves.<sup>30</sup> The magnitudes of these differences are shown in Table A.6 in the appendix. Second, the data show that local moves increased significantly for blacks and Latinos only over the period of the Great Recession (i.e.,

<sup>29</sup> The means for these variables for racial and ethnic groups remain similar and fairly stable over the 2000 to 2007 period, so only data for the years 2000, 2008 and 2010 are highlighted to conserve space.

<sup>30</sup> Interestingly, the data show that there are no racial/ethnic differences in moving farther (within or between states), and that this observation did not change during the Great Recession.

between 2008 and 2010), such that the racial gaps (relative to that of whites) in local moves increased from 2008 to 2010. For example, the black-white gap in local move rates was .038 in 2000, grew slightly to .043 in 2008, a period at the start of the Great Recession, and grew a little over a percentage point to 0.054 by 2010, a period near the end of the Great Recession. Thus, racial gaps exist in local move rates and grew during the period of the Great Recession.<sup>31</sup>

Table 4 also demonstrates that in each period for most racial and ethnic groups that the normative outcomes for variables related to the Great Recession (i.e., unemployed, homeowner and poverty status) worsened, as should be expected. Moreover, in each period, the normative outcomes for these variables are worse for blacks and to a lesser extent Latinos as compared to those of whites, as should also be expected. Racial inequality in these outcomes is well documented. What is also noteworthy is that racial inequality in these gaps grew from 2008 to 2010, as Table A.6 in the appendix shows. For example, blacks' homeownership rate drops by nearly 5 percentage points from 2008 to 2100, while that for whites (and others) drop by a little over a percentage point, thus increasing the black-white homeownership gap during the Great Recession.

What accounts for these racial gaps in local moving rates? To what extent did the Great Recession fuel these? Simple regression analysis can help answer these questions. Figure 8 presents coefficients from race/ethnicity indicator variables from a series of (linear probability OLS) regressions that are intended to address these questions.<sup>32</sup> All the regressions predict local moves (with those not moving at all as the reference group), and do so for the years 2000, 2008, and 2010. Each year represents a separate regression. Panel A includes only baseline

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<sup>31</sup> This pattern is confirmed by more rigorous methods as well. In a regression predicting local moves that pooled the 2000 to 2010 data and included variables for race, year and interactions between race and year, the racial gaps in local moves (between blacks and whites and between Latinos and whites) increased from 2008 to 2010.

<sup>32</sup> Logit models were also used and the exact results were found as those shown here. OLS linear probability models are shown because of the ease of coefficient interpretation.

independent variables for race and ethnicity (with whites the reference category); Panel B includes controls for Great Recession related variables (i.e., unemployment, homeownership, and poverty).

The empirical strategy to assess whether and the degree to which the racial gaps in local move rates (as indicated by the coefficients on the race and ethnicity variables) are accounted for by the Great Recession related variables (i.e., unemployment, homeownership, and poverty) is to first enter the racial and ethnic variables into the model to assess baseline racial gaps in move rates as shown in Panel A. Then, the Great Recession related variables are entered into the model in Panel B. Changes in the racial and ethnic variable coefficients after these variables are entered will indicate whether and to what extent Great Recession related variables can account for the racial gaps in local moves, and how this may change over time.<sup>33,34</sup>

This strategy is based on the expectation that that the decision to move locally is influenced by factors (among many others) related to the Great Recession, in this case unemployment, homeownership, and poverty status. That is, it is expected that higher unemployment and poverty, and lower homeownership should be associated with a higher likelihood of moving locally. Unemployment and poverty status may prompt local moves either because limited income or financial assets make current living arrangements unaffordable, prompting locally moves, or because of the need to find work. On the other hand, lower homeownership implies lower transactions costs of moving, thus making relocating

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<sup>33</sup> Of course, this method relies on the assumption that the Great Recession variables influence local moves for each racial and ethnic group similarly. Further empirical probes of the data indicate that this is indeed the case. The coefficients of the Great Recession variables were very similar for each racial and ethnic group when separate regressions were estimated for each group.

<sup>34</sup>It should be noted that the static measures of homeownership and unemployment included here are likely to produce pretty conservative estimates of the effects of the recession (and the ability of these factors to explain racial differences in mobility). These measures do not fully capture the changes in housing tenure and employment that are likely to have been generated in the recession and are most likely to have prompted mobility.

administratively easier. To the extent that lower homeownership is influenced by foreclosure, the act of moving would be required.

Table A.7, Panel B., in the appendix provides evidence that this is the case. For each year the coefficients for unemployment, homeownership and poverty status predict moving locally in these expected ways. Thus, given that these Great Recession related variables influence local moves, and that blacks and Latinos suffer disproportionately from the Great Recession (that is, that they display worse outcomes among these variables as demonstrated Table 4), it should be expected that these variables should account for some of the racial gaps in moving locally, especially over the period of the Great Recession.

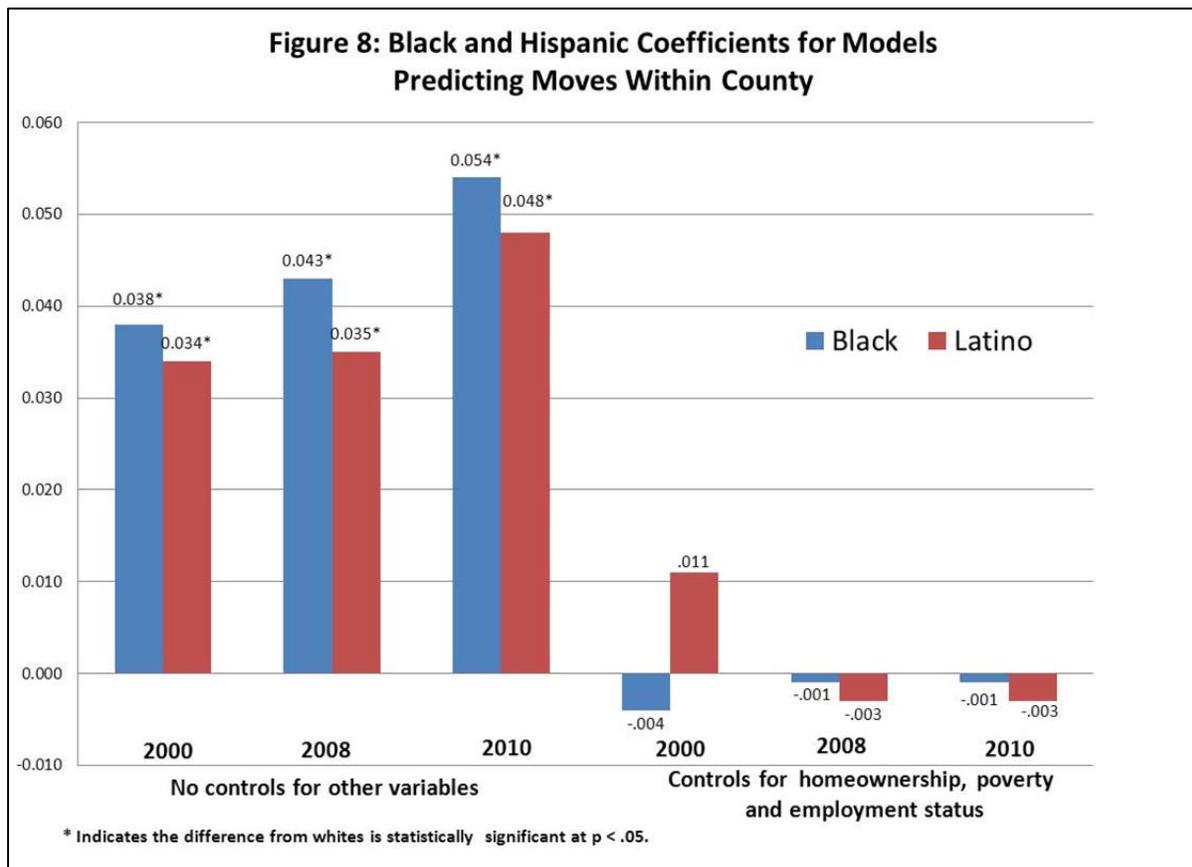


Figure 8 (first panel) presents the baseline models that only include dummy variables for race/ethnicity (non-Hispanic whites are the reference category). The coefficient results for

Asians are not reported because few were statistically significant. In the figure, the black coefficient in 2000 indicates that a gap in local moves between blacks and whites of about 3.8 percentage points. This gap increased in 2010 to 5.4 percentage points at the height of the Great Recession. The magnitudes of these gaps are identical to those shown in Table 4. A similar pattern of increasing disparities is observed between Latinos and whites over this period.

The second set of coefficients in Figure 8 reflects inclusion of controls for homeownership, poverty, and employment status.<sup>35</sup> Their inclusion eliminates racial gaps in local moves between blacks and whites, and between Latino and whites over the period of the Great Recession.<sup>36</sup> There are two possible explanations. The first is that the influence of these factors related to the Great Recession on local moves could have increased in importance during the recession (relative to before it). That is, these variables are likely to influence local moves more generally, but that their coefficients could have increased in importance during the period of the Great Recession, even if these groups experienced (hypothetically) only slight changes in unemployment, poverty or loss of homeownership over this period.

The second explanation is that unemployment, homeownership and poverty could have always influenced local moves in a consistent way over time, but that these groups experienced increases in unemployment, poverty or loss of homeownership over this period (as demonstrated in Table 4) as a result of the recession. This would result in greater racial gaps in moving locally. That is, the effect (i.e., the coefficients) of these variables could be constant over time,

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<sup>35</sup> For the unemployment variable, the reference variable is the employed. Other categories of persons not in the labor force were also included in the regression (schooling, etc.). The results of these variables are shown in Table A.7, Panel B in the appendix.

<sup>36</sup> Further controlling for demographic characteristics listed in Table 3 does not change these results. In similar regressions to those shown in Table A.7 in the appendix, when demographic characteristic variables are added to the equation that only included race indicator variables, the coefficients drop by about half for blacks and by about 70 percent for Latinos, yet still remain statistically significant. After adding the Great Recession related variables into the equation the race/ethnicity variables are not significant.

while the means of these variables increased over time such that the exposure to the risk of moving increased over this period.

The evidence in Figure 8 (also see appendix Table A.7) is consistent with both explanations. I believe the former is a more plausible explanation of the role of homeownership, but the latter is more plausible for the influence of unemployment and poverty. This is because Table A.7 indicates that the influence of unemployment and poverty on local moves remains consistent over the three periods in the 2000 decade. For example, the data show that those unemployed (relative to those employed) are more likely to move locally by about 1.3 percentage points. The magnitude of this coefficient is similar in 2000, 2008 and 2010. On the other hand, the influence of homeownership on local moves strengthens during the Great Recession. In 2000 and 2008, periods before the Great Recession, the coefficient for homeownership is about 0.13, indicating that homeowners are 13 percentage points less likely to move than their non-home-owning counterparts. The negative influence of home ownership on moving strengthens however during the period of the Great Recession in 2010. Note that homeownership rates declined over this period, especially for blacks.

Hence, variables such as unemployment, poverty and homeownership status, appear to have always influenced local moves, and account for much of the racial and ethnic gap in local moves during this period though in differing ways. Housing related factors led to the increase in racial gaps in local moves by the height of the Great Recession in 2010 as a result of both the increased likelihood of moving locally for those who do not own homes as well as the increased loss in homeownership status by blacks and Latinos (especially relative to whites) over this period.

On the other hand, unemployment and poverty related factors led to the increase in racial gaps in local moves by the height of the Great Recession because over time, and irrespective of recessions, there is a fairly constant risk of moving locally given being unemployed or impoverished. During the recession more blacks and Latinos became unemployed and impoverished. Moreover, though not shown, there is also evidence that housing related factors are more important than the unemployment or poverty status in helping to account for these racial gaps in moving locally, a finding consistent with results reported above.<sup>37</sup>

## Sources of variation across regions

So far, local moves have been examined mostly at the national level. Such moves, however, occur in specific places and these places likely vary in the extent to which people move locally more generally and over the period of the Great Recession. Moreover, the previous analysis used individual level data to assess whether and to what extent the Great Recession influenced local moves by examining individual characteristics such as homeownership status that were likely directly impacted by the forces of the Great Recession. This is a reasonable approach, but it cannot assess directly how the changes in the larger economic environment may have influenced local moves. The Great Recession led to a number of specific concerns including high unemployment, record foreclosures, as well as other measures of economic pain such as loss in income or wealth, or disruptions in the stock market, among others. Moreover, the impacts of the Great Recession on local economic environments likely varied as well with some places hit harder than others. This in turn likely influenced local moves accordingly. This

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<sup>37</sup> The evidence comes from two approaches. First, entering homeownership, unemployment, and poverty status variables into the regression equation separately indicates that homeownership status reduces the racial gaps in moving locally by the greatest amount in each year and by similar magnitudes. Second, entering homeownership, unemployment, and poverty status variables into the regression equation together and using standardized beta coefficients indicates that the influence of homeownership status has the biggest influence in each year.

section turns to examine the variation in local moves rates across places, as well as whether some measures of the local economic environment such as unemployment and foreclosure rates that were significantly impacted by the Great Recession influenced local moves in expected directions.

### **Ranking Metro Areas by Local Move Rates**

First, local areas are ranked by their local move rates during the Great Recession to assess those areas with high and low local move rates. To do this, the American Community Survey (ACS) is used because the CPS is not designed to sample smaller geographic areas. The ACS has a much larger sample size, thus allowing for analysis of local movers in areas with greater than 50,000 in population, and like the CPS, it also has a relatively full set of demographic variables. Moreover, the ACS has a one year migration question so movers are measured in the same way as in the CPS, i.e., as those (ages 18 and above) that responded affirmatively to the question of whether they moved in the past year prior to the survey. Again, the move rate is determined by taking the fraction of the total relevant population (ages 18 and above) that moved over the past year.

Another issue in using the ACEs is that it provides reliable data for local movers only at the metropolitan level, while that asked in the CPS is for within county movers.<sup>38</sup> While some metro areas overlap perfectly with county lines, this is not always the case, so local movers are not perfectly comparable across the two surveys. Still, these local areas share much common

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<sup>38</sup> The ACS also asks respondents about local moves in the last year at the city level and Public Use Microdata Area - PUMA. However, the city level data is unreliable and is unreported in most instances, and the PUMA level data is arguably less a geographic match for counties than the metro data.

geographic turf since some metro areas are counties and/or made up of contiguous counties, and comparison of move rate estimates using these two data sets did not provide cause for concern.<sup>39</sup>

Tables 5 and 6 use data from the ACS and look behind the aggregate national values to rank the top and bottom 25 of the 100 largest U.S. metro areas, respectively, in the percentage of residents who moved in the local metropolitan area in 2010, as well as the change in this percentage from 2008.<sup>40</sup> These years were selected because 2008 is the onset of the Great Recession and 2010 is the height of it. As well, this period represented the biggest percentage change in local move rates (and movers) over the 2005 to 2010 period.<sup>41</sup> Data limitations also played a role; the ACS series begins in 2005 and foreclosure data at the metro level are readily available starting in 2007. In addition, unemployment and foreclosure data for each metro area in the list are also presented for the relevant year(s) to provide initial assessment of whether such factors are correlated with local move rates in the expected direction.<sup>42</sup>

Table 5 indicates the top metro areas with respect to local move rates are mostly located in the West and South. Las Vegas, Phoenix, and many metropolitan areas in California and

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<sup>39</sup> As one test, I calculated local move rates using the ACS for the ten largest metro areas, and then using the CPS for the same metro areas I calculated within county local moves rates. (Because of the limited sample size of the CPS only a limited number of the largest metro areas is likely to have a representative sample.) I did so by selecting the respondent's current metro area of residence and then calculating move rates for those who indicated they moved within county the past year (in theory capturing those within metro areas made up of multiple counties.) Though the local move rates were not identical for each metro areas using both of these methods, the two calculations were highly correlated across the ten metro areas and their ordering by local move rates was the same. This provides some confidence in using these alternative measures of local move rates together: they do not appear to generate completely different results for local move rate estimates.

<sup>40</sup> The largest 100 metro areas are selected because foreclosure data are readily available for these large metro areas, and because the larger areas and therefore samples generate more confidence in the local move rate estimates.

<sup>41</sup> The ACS began to ask one year migration questions about local moves starting in 2005, so a longer period of analysis is not possible with the data. However, local move rates were calculated from 2005 to 2010 (and averaged to the national level) and the basic patterns shown in Figure 1 using the CPS data were replicated. Local move rates were fairly flat and if anything declined somewhat between 2005 to 2007, and then jumped slightly from 2008 to 2010. Selecting the years 2008 and 2010 does not bias results or conclusions.

<sup>42</sup> The unemployment rate data come from author's calculations using the CPS for the respective years and metro areas, and is calculated in the standard way for those between 16 and 65 years old and out of school. The metropolitan area foreclosure data come from the Local Support Initiatives Corporation (LISC), who analyzed data from LPS Applied Analytics. The unemployment and foreclosure rate data rise slightly from 2005 to 2007 and then jump from 2008 to 2010, consistent with the impacts of the Great Recession.

Texas highlight those areas with the highest movement of residents within metro areas. Many of these states are known to have suffered disproportionately in job loss and foreclosures during the Great Recession, in particular Nevada, Arizona, Florida and California. In Las Vegas, nearly 20 percent of its residents, or 1 in 5, moved over the past year at the end of the decade.

**Table 5: Top and Bottom 25 Metropolitan Areas Ranked by Within Metropolitan Area Move Rate, 2010**

Top 25	Rates:			Bottom 25	Rates		
	Move	Unemployed	Foreclosed		Move	Unemployed	Foreclosed
Las Vegas-Paradise, NV	19.3	15.1	13.1	San Francisco-Oakland-Fremont, CA	9.9	10.5	3.6
Austin-Round Rock, TX	16.0	6.5	1.8	Greenville-Mauldin-Easley, SC	9.9	13.9	3.8
Phoenix-Mesa-Scottsdale, AZ	15.7	9.3	6.5	Boston-Cambridge-Quincy, MA-NH	9.9	8.4	3.5
Stockton, CA	15.3	16.3	6.5	Buffalo-Niagara Falls, NY	9.8	8.4	4.7
Bakersfield, CA	15.3	22.1	6.8	Greensboro-High Point, NC	9.5	12.1	3.9
Modesto, CA	15.0	21.7	6.4	New Orleans-Metairie-Kenner, LA	9.4	3.7	6.1
Sacramento, CA	14.5	12.2	5.2	Augusta-Richmond County, GA-SC	9.4	10.7	4.4
Provo-Orem, UT	14.2	5.6	3.9	Baltimore-Towson, MD	9.3	8.4	3.9
Tucson, AZ	14.0	12.7	4.4	Hartford-West Hartford-East Hartford, CT	9.1	8.6	3.9
San Antonio, TX	13.6	5.7	2.8	Washington, DC-VA-MD-WV	9.0	7.9	3.3
Columbus, OH	13.5	10.1	6.4	Worcester, MA	9.0	10.1	5.4
Milwaukee-Waukesha, WI	13.5	11.7	5.7	Allentown-Bethlehem-Easton, PA-NJ	8.9	7.9	5.5
Atlanta-Sandy Springs-Marietta, GA	13.4	11.3	5.4	Knoxville, TN	8.7	8.9	3.4
Cape Coral-Fort Myers, FL	13.4	14.9	15.1	Honolulu, HI	8.5	5.9	3.9
Seattle-Tacoma-Bellevue, WA	13.3	8.9	4.1	Providence-New Bedford, RI-MA	8.5	12.9	5.9
Ogden-Clearfield, UT	13.2	8.7	3.8	New Haven-Milford, CT	8.3	8.2	5.6
Salt Lake City, UT	13.2	10.5	4.5	Scranton--Wilkes-Barre, PA	8.2	7.8	5.8
Memphis, TN-MS-AR	13.1	9.0	7.7	Albany-Schenectady-Troy, NY	8.1	9.3	5.7
Dallas-Fort Worth-Arlington, TX	13.0	9.3	3.3	New York-Northern New Jersey, NY-NJ-PA	8.1	10.1	7.1
Grand Rapids-Wyoming, MI	12.9	13.5	3.6	Youngstown-Warren-Boardman, OH-PA	7.9	18.3	9.7
Riverside-San Bernardino, CA	12.9	16.4	6.8	Akron, OH	7.9	14.1	7.9
Little Rock-North Little Rock, AR	12.7	7.7	4.5	Philadelphia-Camden, PA-NJ-DE-MD	7.9	9.8	5.3
Nashville, TN	12.6	7.8	4.2	Pittsburgh, PA	7.6	11.2	4.5
Houston-Sugar Land-Baytown, TX	12.4	9.8	2.9	Bridgeport-Stamford-Norwalk, CT	5.5	8.3	5.0
Birmingham-Hoover, AL	12.3	10.1	4.4	Chattanooga, TN-GA	2.8	4.9	5.6

On the other hand, an overwhelming majority of those metro areas with the lowest metro move rates include areas in the Northeast including Bridgeport, Pittsburgh, Philadelphia, Akron and New York among others, followed by those in the South. Still, these local move rate differences correlate with long standing regional differences in move rates observed earlier in the chapter, so care must be taken in attributing the observed metropolitan differences in move rates to factors related to the Great Recession.

Unemployment and foreclosure rates indicate initial positive correlation with these local move rates. The highest absolute unemployment and foreclosure rates are found in the top 25 list for local move rates. Also, the average unemployment and foreclosure rates are higher in the

top 25 list than in the bottom 25 list of metro areas. For example, the average unemployment rate in the top 25 metro list is 11.5 percent while that in the bottom 25 is 9.6 percent.

Table 6 ranks the top and bottom 25 of the 100 largest U.S. metro areas in the change in the percentage of people who moved within metropolitan areas from 2008 to 2010. Like Table 6, almost all of the metro areas with the greatest change in this percentage were located in the West, and to a lesser extent the South, including areas such as Fort Myers, Las Vegas, and Bakersfield, areas known to have been particularly hard hit by the jobs and housing crises fueled by the Great Recession.

Top 25	Change in Rates:			Bottom 25	Change in Rates:		
	Move	Unemployed	Foreclosed		Move	Unemployed	Foreclosed
Cape Coral-Fort Myers, FL	4.2	4.9	4.2	Honolulu, HI	-0.7	3.2	2.1
San Jose-Sunnyvale-Santa Clara, CA	3.5	7.3	0.3	Toledo, OH	-0.8	11.1	-3.4
Las Vegas-Paradise, NV	3.4	9.6	3.2	Virginia Beach-Norfolk, VA-NC	-0.8	5.6	-0.1
Bakersfield, CA	2.7	12.6	3.7	Raleigh-Cary, NC	-0.9	3.1	0.1
Provo-Orem, UT	2.6	2.6	1.2	Buffalo-Niagara Falls, NY	-0.9	-2.7	0.2
San Francisco-Oakland-Fremont, CA	2.5	5.7	0.1	Youngstown-Warren, OH-PA	-1.0	10.2	0.0
Phoenix-Mesa-Scottsdale, AZ	2.5	5.8	0.0	Jacksonville, FL	-1.0	11.2	3.7
Los Angeles-Long Beach-Santa Ana, CA	2.4	0.3	5.2	Little Rock-North Little Rock, AR	-1.1	3.9	1.1
Omaha-Council Bluffs, NE-IA	2.3	3.9	-1.1	Albuquerque, NM	-1.1	4.1	1.6
Salt Lake City, UT	2.1	4.9	1.9	Albany-Schenectady-Troy, NY	-1.2	4.3	1.9
Ogden-Clearfield, UT	2.1	3.1	0.1	Des Moines-West Des Moines, IA	-1.4	6.1	0.0
Milwaukee-Waukesha-West Allis, WI	2.0	7.6	-1.3	Syracuse, NY	-1.7	1.4	2.1
Miami-Fort Lauderdale-Pompano Beach, FL	1.9	4.7	9.5	Augusta-Richmond County, GA-SC	-1.7	5.3	-1.3
Austin-Round Rock, TX	1.9	1.8	-0.1	Greenville-Mauldin-Easley, SC	-1.8	10.8	-0.2
Grand Rapids-Wyoming, MI	1.9	8.8	-2.5	Knoxville, TN	-2.0	2.4	-0.7
Palm Bay-Melbourne-Titusville, FL	1.8	7.9	3.9	Memphis, TN-MS-AR	-2.0	0.8	1.2
Charleston-North Charleston, SC	1.6	4.9	0.0	Lakeland-Winter Haven, FL	-2.2	16.0	4.3
Minneapolis-St. Paul, MN-WI	1.6	4.1	-1.6	Baton Rouge, LA	-2.3	4.0	-0.1
Modesto, CA	1.5	12.3	-4.5	Colorado Springs, CO	-2.4	5.0	-2.6
Harrisburg-Carlisle, PA	1.5	7.2	0.2	El Paso, TX	-2.4	7.2	-2.5
Stockton, CA	1.4	7.7	-5.1	Dayton, OH	-2.7	1.2	-1.3
Seattle-Tacoma-Bellevue, WA	1.1	4.9	2.2	Madison, WI	-2.8	4.7	2.3
Oxnard-Thousand Oaks-Ventura, CA	1.1	4.9	-1.5	Jackson, MS	-3.1	2.1	-0.2
Hartford-West Hartford-East Hartford, CT	1.0	2.1	0.0	Boise City-Nampa, ID	-3.2	7.5	1.4
New York-Northern New Jersey, NY-NJ-PA	0.8	3.4	5.5	Wichita, KS	-4.3	2.4	-0.1

On the other hand, metro areas with the smallest (or negative) changes in these move rates are those mostly found in the South, including Jackson, El Paso, and Baton Rouge, followed by those in the Northeast. Moreover, an initial review indicates that the change in unemployment and foreclosure rates are correlated with the change in local move rates in the expected direction. For example, the average changes in the unemployment and foreclosure rates

over the period are higher in the top 25 list than in the bottom 25. Below, the strength of the association between local move rates and indicators of the Great Recession such as unemployment and foreclosure rates are further explored.

### **Metro Area Local Move Rates and the Great Recession**

The central question is whether and to what extent the Great Recession influenced local move rates. The recession was characterized by high levels of unemployment and foreclosures, among other factors. To the extent that the recession influenced an uptick in local moves, the method by which it did so could have occurred in one or two ways. The first is that the influence of these factors such as unemployment or foreclosures could have increased in importance during the recession than before. Alternatively, unemployment and foreclosures could have always predicted local moves, but when more people are in metro areas with greater risks of becoming unemployed or losing their homes (as occurred during the Great Recession), more local moves are likely to occur as well.

These two possibilities are tested using regression analysis. Regressions of local move rates are estimated as a function of local unemployment and foreclosures rates in both 2008 and 2010.<sup>43</sup> Did economic predictors become more important during the Great Recession than before, or was the increase in local move rates driven simply by the changing economic risks?<sup>44</sup>

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<sup>43</sup>Easily available foreclosure data at the metro level was not available before 2007 so inclusion of previous years data in the analysis is not possible. Also, the estimates for 2009 move rates using 2008 unemployment and foreclosure data are similar to that shown for 2008. 2008 and 2010 are shown because they represent periods when the local move rates were near the lowest and highest, respectively, periods in the 2000 decade, a period characterized as the height of the Great Recession.

<sup>44</sup> Arguably a better test is to conduct first difference regression of the change in the local move rate from 2008 to 2010. This would demonstrate how the change in unemployment rate (and foreclosure rate) influenced the change in the local move rate over the Great Recession. This was conducted, and the change in the unemployment rate (and the change in the foreclosure rate) predicted the change in the local move rate in the expected direction but the coefficients were never statistically significant. One reason for this is that there was too little variation around the means of the change in local move rate, unemployment rate and foreclosure rate variables from 2008 to 2010. The empirical rule indicates that for a normally distributed variable, about 68 percent of the observations should fall within one standard deviation of the mean, 95 percent should fall within two standard deviation of the mean, and 100 percent within three standard deviations. For these variables, at least 78 percent of the observations fell within

Figure 9 presents OLS regressions of the local move rates in 2008 and 2010 for the total population for the 100 largest metro areas as a function of unemployment rates in the appropriate periods.<sup>45</sup> Separate regression of the local move rates in 2008 and 2010 are also estimated as a function of the foreclosure rate.<sup>46</sup> Thus, each bar represents a separate regression, and the coefficient estimates for either the unemployment or foreclosure rate for the relevant period are presented.<sup>47</sup>

All regressions include control variables for a set of metropolitan area characteristics: metro area size, region, percentage of the population that is black (Latino), is aged 65 or over, or possess four or more years of college, median income, and the industrial composition of the workforce. Their inclusion, however, does not alter the basis findings presented here.

Figure 9 shows a positive and statistically significant relationship between overall local move rates and local unemployment rates in both 2008 and 2010, nearly identical in both periods. The coefficients indicate that a 10 percentage point increase in the local unemployment rate is predicted to increase the local move rate by about 2.2 points. This prediction is close to the actual changes in the local move rate and unemployment rate from 2008 to 2010 observed in

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one standard deviation of the mean and 100 percent within two standard deviations, indicating that the percentage point changes in these variables across metropolitan areas from 2008 to 2010 were very similar. Moreover, in separate stacked regressions of either the local move rate, the unemployment rate and the foreclosure rate (including 2008 and 2010 values) with dummy variables for the metropolitan areas, the  $R^2$  for all regressions was over .90, indicating that there is vastly greater variation in these variables across metropolitan areas than within metro areas over time. The  $R^2$  in these types of regressions indicates the percent of variation in these variables that is explained by across metropolitan area variation.

<sup>45</sup>These regressions are weighted by metropolitan area population. Of course, weighting would place more emphasis on more populous metropolitan areas. For example, New York, Los Angeles, and Chicago would all receive relatively large weights, given their large populations. Weighting by population size, however, does not appreciably change the estimated relationship between local move rates and unemployment (foreclosure) rates.

<sup>46</sup>Multicollinearity problems prevented the unemployment and foreclosure rates from being entered into the equation simultaneously. With their inclusion, the standard errors in each variable increased markedly and coefficient estimates became unstable and unreliable (relative to entering into the model separately). The correlation between the unemployment and foreclosure rate in 2010 was 0.55. This makes sense since unemployment is a leading cause of foreclosures (Ergungor, 2001). Unfortunately, there is no easily available instrument to break this problem, and so each independent variable is entered separately in separate regressions.

<sup>47</sup>The 2007 and 2009 unemployment (foreclosure) rates are used because respondents moved one year prior to the survey. For example, for those interviewed by the CPS in 2010, respondents who moved did so between 2009 and 2010.

the ACS data. The average metropolitan move rate increased from 2008 to 2010 by a little over a percentage point (from 11.4 to 12.6), while the average unemployment rate for the metropolitan areas in the sample rose by about 5 percentage points (from 5.3 to 10.3 between 2008 and 2010).

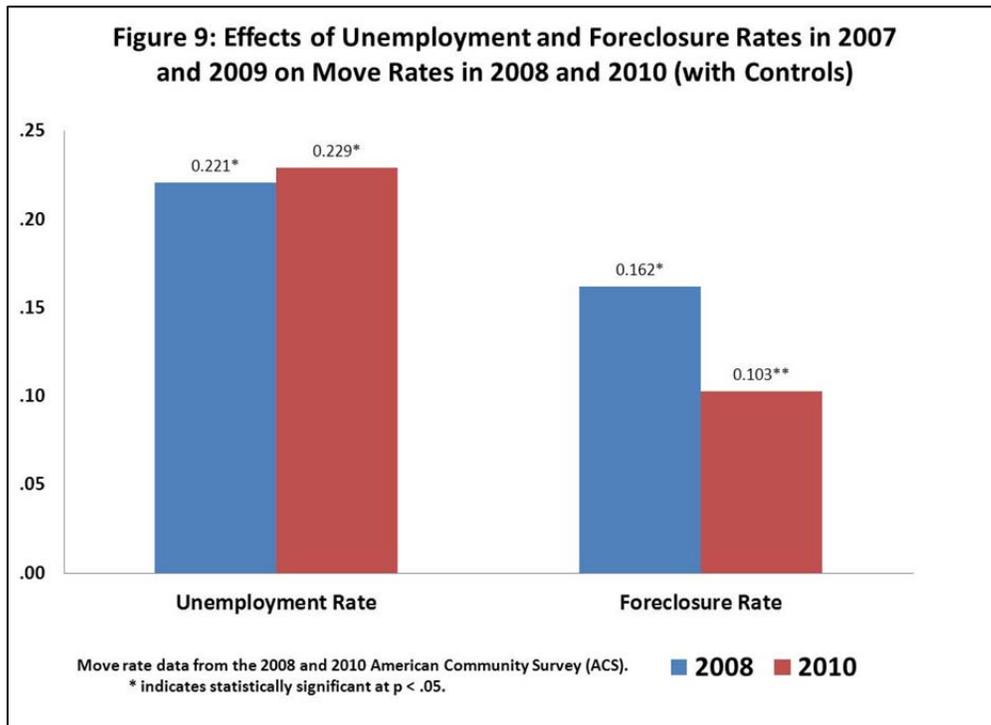


Figure 9 also shows a positive and statistically significant relationship between local move rates and local foreclosure rates in both 2010 and 2008. However, the coefficient in 2008 is larger than that in 2010. The 2008 coefficient indicates that a 10 percentage point increase in the local foreclosure rate is predicted to increase the local move rate by 1.6 points. The average metropolitan foreclosure rate increased from 2008 to 2010 by a little over two percentage points (from 3.6 to 5.8), while, as noted above, the average metropolitan move rate increased from 2008 to 2010 by a little over a percentage point (from 11.4 to 12.6).

This evidence is consistent with the conclusion that the Great Recession, especially in the case of unemployment, led to increases in local move rates. The influence of unemployment on

moving did not change, but moving increased because of the rise in unemployment.<sup>48</sup> The effect of foreclosures declined somewhat even though the rate at which people lost their home to foreclosure increased.<sup>49</sup>

I conclude that the unemployment rate is a stronger predictor of local moves than foreclosures. However the region's foreclosure rate measures only one aspect of housing market challenges – the point at which the bank takes ownership of the home. It does not measure other aspects of housing, such as the affordability of rent or short sales by homeowners, which are better captured in the individual-level measures used in the previous section.

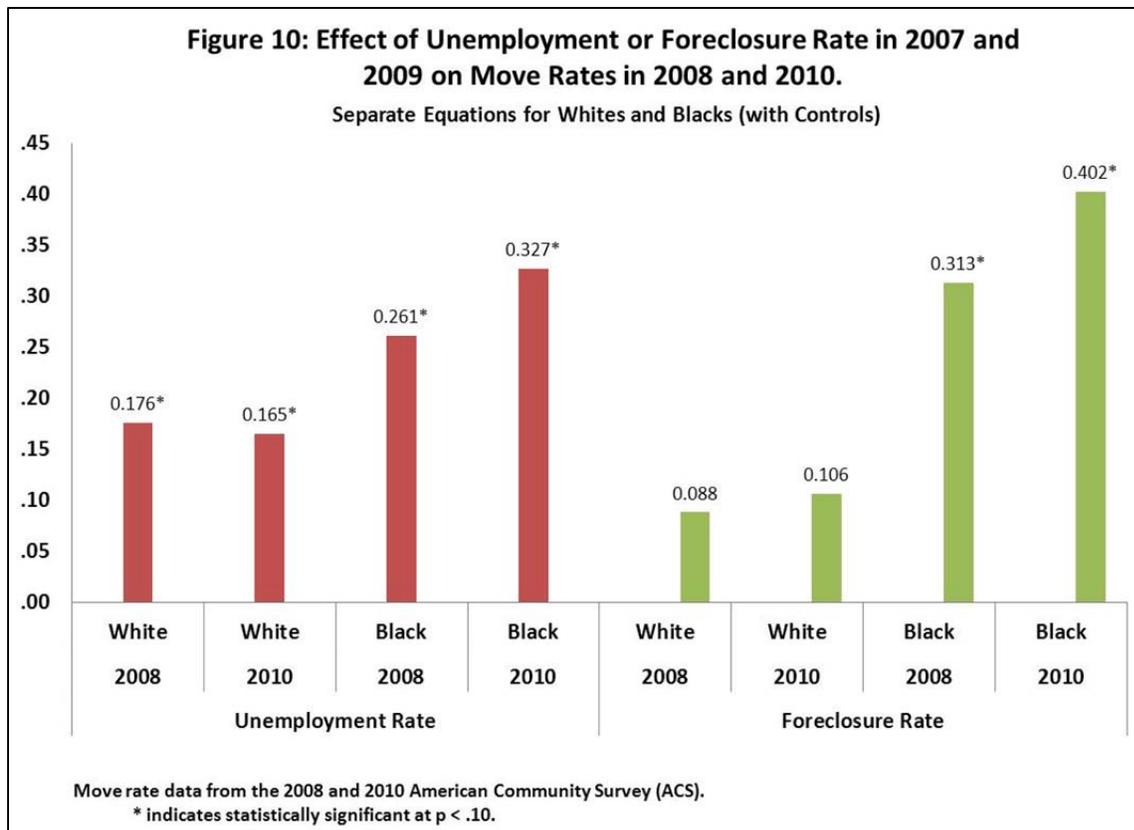
Given the large racial differences in observed local move rates, and the finding that blacks and to a lesser extent Latinos helped fuel the increase in local move rates, Figure 10 presents similar regressions using 2008 and 2010 data for racially specific measures of local move rates. (Only the results for whites' and blacks' metro area move rates are shown since none of them are significant for Latinos or Asians. There is no evidence that local unemployment or foreclosure rates influence local move rates of Latinos or Asians in either 2008 or 2010.) Each bar in Figure 10 represents a separate regression for each year and each racially specific local move rate measure.

There are three key findings. First, there are positive and statistically significant relationships between local move rates and local unemployment rates in both 2010 and 2008 for blacks and whites. Metropolitan areas with higher unemployment rates are predicted to have higher move rates for both races.

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<sup>48</sup>Further analysis of the CPS data indicates that the unemployment rate trends across metropolitan areas are more temporally aligned with the trends in local move rates

<sup>49</sup> The timing of the height of foreclosures might be one reason why the foreclosure rate may not predict local move rates as strongly in 2010 as in 2008. For some metropolitan areas, the foreclosure crises preceded the 2007/08 period, the period in which observed metropolitan local move rates average was lowest. In San Diego and Boston, for example, the Case-Schiller Home Price Index shows that the housing market bubble burst before this period. On the other hand, federal housing programs through the federal stimulus may have altered the extent to which people negotiated foreclosures by the end of 2010 thus weakening the influence of foreclosure on moving over this period.



Secondly, the pattern of results across the two time periods is different for these groups. For whites, the magnitude of the unemployment rate coefficient is nearly identical in both periods. This indicates that whites who lived in areas with higher unemployment rates faced the same propulsion to move in 2008 as in 2010. More whites moved in 2010 than in 2008 because the unemployment risk increased in metropolitan areas over this period. On the other hand, for blacks, the magnitude of the unemployment rate coefficient is greater in 2010 than in 2008.<sup>50</sup> This indicates that the increase in their local move rates is driven both by blacks being exposed to higher unemployment risks, and by the greater influence of unemployment on moving during the Great Recession than before it.

<sup>50</sup> Further statistical probes confirm that the difference in effects of unemployment (and foreclosures) in 2008 and 2010 on blacks' local move rates are statically significantly different at at least the five percent level. This was confirmed by pooling the 2008 and 2010 data, including a year dummy variable and interacting the year dummy with the unemployment rate. The year-unemployment rate interaction was statistically significant indicating that the effect of unemployment on blacks' move rate was statistically greater in 2010 (at the height of the recession) than in 2008.

Third, in each year, the impact of the unemployment rate on moving exerted more influence on blacks than whites.<sup>51</sup> Possibly blacks had less savings or less wealth to shield them during periods of increased risks to joblessness, had fewer family members who could contribute or mitigate the impacts, or had greater debt from re-financing or subprime mortgages, or greater expenses. All of these reasons would exert more pressure to move as a result of the unemployment shock.

The same pattern is noted for foreclosures. Figure 10 shows very little influence of foreclosure rates on white's local move rates. However, this effect is statistically significant in the case of blacks, and the coefficient estimate is larger in 2010 than in 2008. On the one hand, the foreclosure crisis hit African Americans and Latinos harder than whites. On the other hand, greater risk of foreclosure (represented by higher foreclosure rates in the metropolitan area) was more likely to force blacks to move. Foreclosure is a process that can last as long as two years. During that time the owners may pay rent, may live in the house without paying rent, or may be negotiating a reduced payment schedule or a short sale. White owners may be better able to extend that process, even end up avoiding eviction.<sup>52</sup>

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<sup>51</sup> This was confirmed using an approach that tests the equality of coefficients across different models through seemingly unrelated estimation commands in Stata v11.

<sup>52</sup> This finding is consistent with journalistic accounts. A recent Associated Press article highlights that older Americans were hit hardest by the foreclosure crises with African American and Latinos hit hardest among these (see "Foreclosures Hit Older Americans Hard", published by CNBC on Thursday July, 19, 2012, accessed on "[http://www.cnbc.com/id/48240142/Foreclosure\\_Crisis\\_Hits\\_Older\\_Americans\\_Hard](http://www.cnbc.com/id/48240142/Foreclosure_Crisis_Hits_Older_Americans_Hard)" on September 17, 2012. This is also consistent with recent evidence showing that for recent borrowers (or those who borrowed shortly before the Great Recession), the foreclosure rate was much higher for African Americans (and Latinos) than that for whites. Moreover, during 2007 to 2009, while whites represented the majority of at risk borrowers to foreclosure, African American and Latino borrowers were more likely to be at imminent risk of foreclosure (Center for Responsible Lending, 2010).

## Conclusion

By the end of the decade, there was a shift from long distance to local moves. Inter-state migration had slowed to a crawl, while local residential movement increased to its highest level in over a decade. This increase was fueled to some extent by black and to a lesser extent Latino movers, and local move rates were fairly large by the end of the decade in metropolitan areas known to have been hit particularly hard by the Great Recession. Indeed, in some metro areas with the highest move rates in 2010, nearly 1 in 5 residents moved in one year.

Did the Great Recession help cause this increase in local moves? The evidence presented here makes a strong case that it did. Local movers were more likely to report recession-related reasons for their move, such as to find affordable housing or look for work, during the recession than before. At the level of the individuals, local movers were more likely than non-movers to be poor, unemployed, and renters over the period of the Great Recession. Moreover, movers were also more likely to cite these reasons related housing and job difficulties as reasons for moving as the recession continued.

At the metropolitan level, further statistical analysis of local movers also highlighted the recession's impact. In particular, local areas with higher unemployment and foreclosure rates also had higher move rates. Unemployment limits income and therefore limits people's ability to afford current housing, thus prompting moves. Moreover, the evidence strongly indicates that local unemployment rates have a fairly consistent effect on local moves over time, so that the increase in local moves that occurred during the Great Recession resulted from more people becoming unemployed and facing a similar risk of moving during this period.

These effects hit African Americans and Latinos particularly hard. Indeed, the increase in local moves over this period was driven almost entirely by these groups, leading to increased

racial gaps in local move rates by the end of the decade. Local unemployment and foreclosure rates strongly predict blacks' local move rates, and these effects were stronger during the recession than before.

The consequences of the increase in local moves are likely to be both short and longer term. At the individual level, to the extent that Great Recession spurred many to move as a matter of last resort, the short term costs must have been severe. The immediate disruption to daily (family) life, the psychological pain of losing one's place called home, and the direct monetary and non-monetary costs of moving and setting up anew are surely painful. To the extent that those who moved doubled up with family or friends for either the short or longer term, additional costs in the form of lost privacy and greater sharing of space and resources are borne by those who welcomed them, even while economies from living together could provide some benefits. These impacts compound pressures already faced by the economically marginal, such as the poor, who are more likely to move locally, and did so to a greater degree during the recession.

For homeowners who could no longer afford their homes or lost them to foreclosure, the short to medium term costs were no less severe. Credit scores were negatively hit for those who suffered foreclosure and even short sales. Moreover, renting became more expensive as more people searched for rentals whose supply could not grow appreciably in the short term. Those with credit problems surely faced even more obstacles to renting. Finally, for those who hoped to own homes again, credit standards and down payment requirements were made more rigorous and demanding by banks and federal regulators, thus making it more difficult to regain that part of the American dream.

Communities likely suffered short term costs as well, particularly in those areas where move rates increased the most. To the extent that these moves were driven by those losing ownership of their homes, communities surely suffered through vacated properties, neighborhood deterioration, and loss in municipal income and therefore services, among other ways.

The longer term consequences are less clear. For communities, market based responses over the longer term should militate against long term or permanent economic distress caused by the Great Recession from its impact on local moves. Vacated properties eventually become realistically available for those who previously could not afford homes, or become bargains for investors, who may rehabilitate and refurbish thus helping to restore market and neighborhood stability and the local tax base. Federal policy, such as the Neighborhood Stabilization Program (NSP), also provided resources to communities hit hard by the Great Recession with the goal of increasing neighborhood social and economic stability.

Of greater concern is that those that move locally are more likely to have children than non-movers (though fortunately the share of those moving with children did not increase during the recession). There are likely negative long term consequences for children. Forced moves lead to negative outcomes for children mostly through school performance (as a result of school disruption) and behavioral adjustments.<sup>53</sup> Yet there is considerable evidence from other studies that the long term effects of residential disruption on adults are modest,<sup>54</sup> in the same way that residential mobility of the poor to more prosperous areas has little positive long term impact on

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<sup>53</sup> In the same way, residential mobility of the poor to more prosperous areas has had more beneficial effects on children than on adults through better self esteem and certain schooling outcomes (Ludwig, Duncan, and Ladd, 2001).

<sup>54</sup> For example, see the older literature on this question in Newman and Owen (1982).

adults.<sup>55</sup> Having to move could lead to more affordable (or better income matched) housing options in the longer run, thus allowing for greater savings ability and investment in productive activities or making other compensatory adjustments.

Many Americans have moved historically to improve their lives. In the Great Recession more people moved locally just to cope with their losses.

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<sup>55</sup> See Goering, Fines, and Richardson (2002) for a summary of the effects of the Moving to Opportunity program.

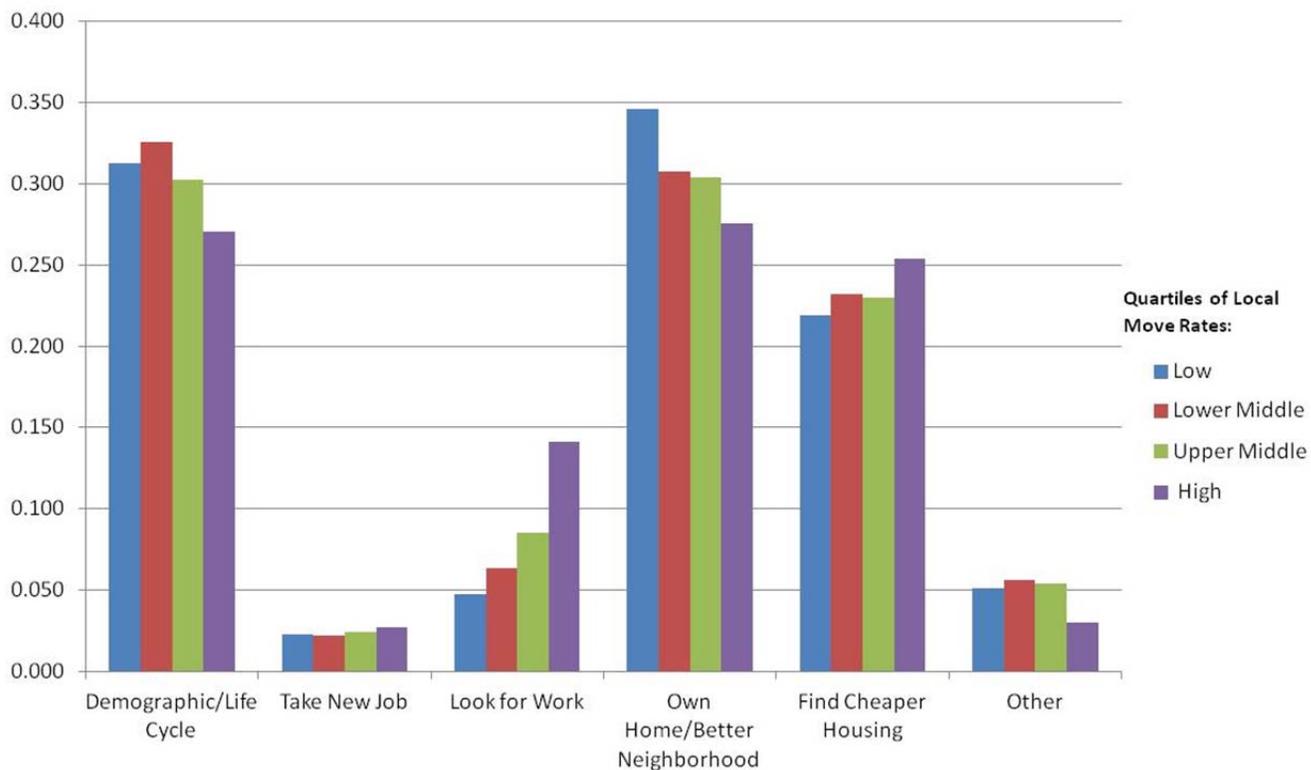
## References

- Bocian, Debbie Gruenstein, Wei Li, and Keith S. Ernst, 2010, Foreclosures by Race and Ethnicity: The Demographics of a Crises, Center for Responsible Lending,
- Ergungor, O. Emre, 2007, Foreclosures in Ohio: Does Lender Type Matter? Federal Reserve Bank of Cleveland, Working Paper 07-24.
- Fischer, Claude S., 2002, "Ever More Rooted Americans," *City and Community*, 1(2): 177-198.
- Frey, William, 2009a, Housing Bust Shatters State Migration Patterns, Washington DC: Brookings Institution, Metropolitan Policy Program.
- Frey, William, 2009b, Bursting "Migration Bubble" Favors Coastal Metros, Urban Cores, Washington DC: Brookings Institution, Metropolitan Policy Program.
- Frey, William, 2009c, The Great American Migration Slowdown: Regional and Metropolitan Dimensions, Washington DC: Brookings Institution, Metropolitan Policy Program.
- Frey, William, 2009b, Bursting "Migration Bubble" Favors Coastal Metros, Urban Cores, Washington DC: Brookings Institution, Metropolitan Policy Program.
- Frey, William, 2008a, Economy, Housing Woes Slow Migration, Census Shows, Washington DC: Brookings Institution, Metropolitan Policy Program.
- Frey, William, 2008b, Migration to Hot Housing Markets Cools off, Washington DC: Brookings Institution, Metropolitan Policy Program.
- Frey, William H., 2001, *Census 2000 Shows Large Black Return to the South, Reinforcing the Region's "White-Black" Demographic Profile*, Population Studies Center Research Report, No. 01-473, Institute for Social Research, University of Michigan.
- Goering, John, Judith D. Feins, and Todd M. Richardson, 2002, "A Cross-Site Analysis of Initial Moving to Opportunity Demonstration Results," *Journal of Housing Research*, 13(1): 1-30.
- Johnson, Jr., James H., and Stanley D. Brunn, "Spatial and Behavioral Aspects of Counterstream Migration of Blacks to the South," in Stanley D. Brunn and James O. Wheeler (eds.), *The American Metropolitan Systems: Present and Future*, New, NY: V. H. Winston and Sons.
- Kaplan, Greg and Sam Schulhofer-Wohl, 2012, "Understanding the Long-Run Decline in Interstate Migration," Working Paper 697, Federal Reserve Bank of Minneapolis.
- Long, Larry, 1988, *Migration and Residential Mobility in the United States*, New York: Russell Sage Foundation.
- Ludwig, Jens, Greg Duncan and Helen Ladd, 2001, "The Effects of MTO on Baltimore Children's Educational Outcomes," *Poverty Research News*, January-February.
- Mincer, Jacob, 1978, "Family Migration Decisions," *Journal of Political Economy*, 86(5): 749-773.
- Newman, Sandra J., Michael S. Owen, 1982, "Residential Displacement: Extent, Nature, and Effects," *Journal of Social Issues*, 38(3): 135-148.

Shaw, R. Paul, 1975, *Migration Theory and Fact: A Review and Bibliography of Current Literature*, Philadelphia: Regional Science Research Institute.

Quigley, John M., and Daniel H. Weinberg, 1977, "Intra-Urban Residential Mobility: A Review and Synthesis," *International Regional Science Review*, 2:41-66.

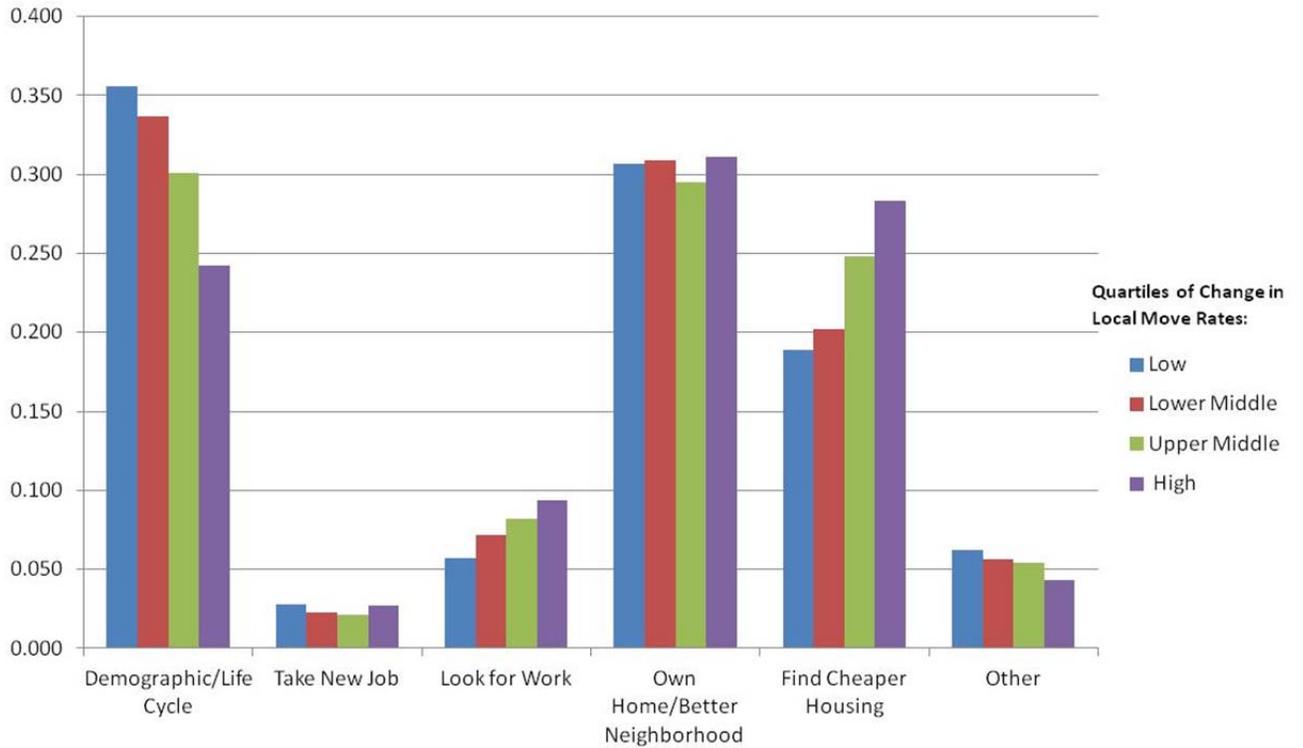
**Figure A.1: Reasons for Local Moves in 2010 by Level of Local Move Rates in 2010**



Notes: Data from 2010 March CPS.

Chi-square distributions are statistically different at at least the 5 percent level across local move rate levels.

**Figure A.2: Reasons for Local Moves between 2008 and 2010 by Change in Level of Local Move Rates between 2008 and 2010**



Notes: Data from 2008 and 2010 March CPS.  
 Chi-square distributions are statistically different at at least the 5 percent level across local move rate levels.

**Table A.1: The Number of People Who Moved Over Past Year by Type of Move**

	<b>All Moves</b>	<b>Move Within County</b>	<b>Move Within State</b>	<b>Move Between States</b>
<b>1981</b>	32,415,032	20,242,406	6,770,298	5,402,305
<b>1982</b>	32,515,202	20,253,637	6,508,180	5,753,382
<b>1983</b>	31,982,542	20,071,426	6,605,478	5,305,639
<b>1984</b>	33,805,965	20,885,632	7,293,276	5,627,064
<b>1985</b>	35,409,633	22,060,436	7,510,110	5,839,097
<b>1986</b>	37,013,302	23,235,240	7,726,944	6,051,130
<b>1987</b>	37,761,205	24,022,103	7,890,782	5,848,301
<b>1988</b>	36,317,365	23,258,926	6,916,175	6,142,251
<b>1989</b>	36,543,618	23,067,532	7,131,080	6,344,994
<b>1990</b>	37,208,348	22,823,927	7,319,094	7,065,337
<b>1991</b>	35,655,982	22,302,526	7,100,280	6,253,180
<b>1992</b>	36,954,969	23,575,343	7,144,477	6,235,142
<b>1993</b>	36,082,654	23,158,635	6,910,556	6,013,458
<b>1994</b>	36,808,124	23,485,761	7,438,240	5,884,124
<b>1995</b>	36,552,839	23,436,426	7,333,466	5,782,957
<b>1996</b>	36,297,554	23,387,091	7,228,692	5,681,789
<b>1997</b>	37,512,746	24,695,645	7,135,545	5,681,576
<b>1998</b>	36,667,332	24,007,369	7,048,764	5,611,202
<b>1999</b>	36,562,012	22,317,799	7,627,440	6,616,781
<b>2000</b>	36,898,050	21,632,660	7,834,857	7,430,520
<b>2001</b>	33,525,351	20,068,293	6,875,890	6,581,175
<b>2002</b>	34,733,541	20,852,517	7,059,595	6,821,403
<b>2003</b>	34,471,983	20,752,026	6,887,654	6,832,322
<b>2004</b>	33,729,608	20,082,729	7,088,275	6,558,628
<b>2005</b>	33,912,034	20,185,104	7,067,557	6,659,378
<b>2006</b>	34,434,942	22,150,353	7,234,662	5,049,939
<b>2007</b>	33,572,024	22,506,227	6,705,079	4,360,723
<b>2008</b>	30,459,688	20,548,935	5,698,997	4,211,776
<b>2009</b>	32,181,618	22,780,172	5,720,583	4,082,893
<b>2010</b>	33,038,676	24,227,589	5,649,010	3,804,706

Note: Data from the 1981 to 2010 March CPS.

**Table A.2: Inter-Regional Migration Before and During the Great Recession**

Moved To:	Moved From:							
	Northeast		Midwest		South		West	
	Before	During	Before	During	Before	During	Before	During
<b>Northeast</b>	.594	.465	.053	.075	.101	.180	.057	.070
<b>Midwest</b>	.057	.097	.570	.421	.133	.151	.123	.160
<b>South</b>	.261	.315	.200	.281	.603	.520	.126	.230
<b>West</b>	.087	.124	.177	.223	.164	.149	.694	.540

Notes: Before recession, 2000 to 2007; during 2008 to 2010.

Data from the 2000 to 2010 CPS.

**Table A.3: Difference-in-Difference Estimates by Race/Ethnicity:  
Within County Movers v. Non Movers, Before v. During Great Recession**

	Before			During			Difference-in-Difference
	Non-Movers	Movers	Difference	Non-Movers	Movers	Difference	
<b>A. White</b>							
<b>Unemployed</b>	.024	.051	.027*	.037	.080	.043*	.016*
<b>Homeowners</b>	.820	.443	-.377*	.808	.360	-.448*	-.071*
<b>Poverty</b>	.073	.156	.083*	.078	.192	.114*	.031*
<b>B. Black</b>							
<b>Unemployed</b>	.046	.100	.054*	.064	.129	.065*	.011*
<b>Homeowners</b>	.573	.222	-.351*	.555	.167	-.388*	-.037*
<b>Poverty</b>	.215	.331	.116*	.219	.360	.141*	.025*
<b>C. Latino</b>							
<b>Unemployed</b>	.035	.064	.029*	.056	.095	.039*	.010*
<b>Homeowners</b>	.545	.268	-.277*	.558	.181	-.377*	-.100*
<b>Poverty</b>	.201	.278	.077*	.209	.329	.120*	.043*
<b>D. Asian</b>							
<b>Unemployed</b>	.025	.040	.015*	.033	.050	.017*	.002
<b>Homeowners</b>	.662	.389	-.273*	.682	.306	-.376*	-.103*
<b>Poverty</b>	.100	.165	.065*	.109	.182	.073*	.008

Notes: \* p < .05

Before recession, 2000 to 2007; during recession, 2008 to 2010.

Data from the 2000 to 2010 CPS.

**Table A.4: Characteristics of those Who Moved within Counties  
Before and During the Great Recession by Race/Ethnicity**

	White		Black		Latino		Asian	
	Before	During	Before	During	Before	During	Before	During
<b>Age</b>								
18-25	.258	.266	.253	.235	.281	.268	.199	.193
26-35	.335	.332	.343	.337	.400	.391	.398	.406
36-55	.303	.285	.331	.340	.267	.288	.317	.309
56-65	.055	.066	.044	.055	.033	.033	.046	.054
Over 65	.050	.051	.029	.032	.019	.021	.041	.040
<b>Education</b>								
Less than high school	.117	.107	.200	.183	.433	.394	.104	.098
High school degree	.316	.312	.401	.385	.299	.315	.207	.195
Some College	.314	.320	.285	.309	.189	.197	.235	.249
College Graduate or more	.253	.261	.114	.123	.080	.094	.454	.458
<b>Labor Market</b>								
Employed	.743	.685#	.652	.587#	.713	.662#	.698	.677
Unemployed	.048	.081	.101	.133	.064	.098	.040	.051
Not in Labor Force	.209	.235	.247	.280	.224	.240	.262	.272
Poor	.147	.186*	.290	.321*	.241	.291*	.152	.18*
Homeowner	.429	.352*	.229	.177*	.261	.178*	.375	.292*
Married	.408	.394	.258	.230	.468	.431	.538	.521
Male	.484	.491	.432	.444	.528	.534	.508	.477
Foreign Born	.053	.047	.079	.087	.606	.583	.778	.744
Recent Immigrant	.014	.012	.024	.027	.202	.189	.247	.242
Median Income (2009\$)	\$32,732	\$34,352	\$23,093	\$25,862	\$22,646	\$23,914	\$35,640	\$37,238
Children Under 5	.165	.156	.198	.186	.263	.246	.189	.187
Retired	.028	.024	.013	.013	.006	.005	.010	.011
Disability	.020	.022	.025	.030	.011	.011	.010	.010
Enrolled in School	.089	.097	.076	.078	.054	.061	.110	.112
Non-Metropolitan Area	.178	.163	.096	.073*	.069	.062	.035	.030
<b>Region</b>								
Northeast	.150	.139	.128	.110	.108	.102	.144	.149
Midwest	.259	.262	.212	.200	.091	.077	.124	.119
South	.326	.345	.552	.575	.374	.381	.212	.213
West	.264	.255	.109	.115	.426	.440	.519	.520

\* Difference before/during recession is significant at  $p < .05$

# chi-square distribution of variable before/during recession is significant at  $p < .05$

**Table A.5: Major Reasons for Move within Counties  
Before and During the Great Recession by Race/Ethnicity**

	White		Black		Latino		Asian	
	Before	During	Before	During	Before	During	Before	During
<b>Demographic/Life Cycle</b>	.294	.332	.290	.313	.269	.285	.223	.256
<b>Take New Job</b>	.020	.025	.017	.017	.025	.026	.025	.052
<b>Look for Work</b>	.049	.077	.051	.080	.062	.093	.069	.109
<b>Own Home/Better Neighborhood</b>	.400	.291	.383	.296	.411	.293	.471	.345
<b>Find Cheaper Housing</b>	.203	.213	.227	.253	.214	.268	.190	.192
<b>Other</b>	.034	.064	.032	.041	.019	.035	.023	.044

Chi-square test for distribution across categories before/during recession is significant at  $p < .05$  for all groups

**Table A.6: Racial Differences in Means of  
Recession-Related Variables Over 2000 Decade**

	Local Move	Unemployed	Homeowner	Poverty
<b>Black-White</b>				
<b>2000</b>	.038*	.028*	-.230*	.121*
<b>2008</b>	.043*	.033*	-.221*	.120*
<b>2010</b>	.054*	.050*	-.256*	.127*
<b>Latino-White</b>				
<b>2000</b>	.034*	.024*	-.284*	.116*
<b>2008</b>	.035*	.021*	-.262*	.104*
<b>2010</b>	.048*	.034*	-.265*	.124*
<b>Asian-White</b>				
<b>2000</b>	.030*	.004*	-.184*	.030*
<b>2008</b>	.011	-.002	-.145*	.020
<b>2010</b>	.016	-.005	-.132*	.031*

\* Racial difference is significant at  $p < .05$

**Table A.7: Effects of Recession-Related Variables  
Predicting Moves Within County**

	<b>2000-10</b>	<b>2000</b>	<b>2008</b>	<b>2010</b>
<b>Race (white is reference)</b>				
<b>Black</b>	.040*	.038*	.043*	.054*
<b>Latino</b>	.041*	.034*	.035*	.048*
<b>Asian</b>	.014*	.030*	0.011	0.016
<b>Homeowner</b>	--	--	--	--
<b>Poverty</b>	--	--	--	--
<b>Unemployed</b>	--	--	--	--
<b>Demographics controlled</b>	No	No	No	No
<b>N</b>	1,412,326	88,658	130,134	131,639
<b>Race (white is reference)</b>				
<b>Black</b>	-.001	-.004	-.001	-.001
<b>Latino</b>	.002*	.011*	-.003	-.003
<b>Asian</b>	-.009*	0.002	-.013*	-.007*
<b>Homeowner</b>	-.138*	-.131*	-.135*	-.158*
<b>Poverty</b>	.043*	.045*	.045*	.042*
<b>Unemployed</b>	.013*	.013*	.014*	.013*
<b>Not in Labor Force - standard reason</b>	-.043*	-.047*	-.043*	-.042*
<b>Not in labor Force - other reasons</b>	-.051*	-.053*	-.051*	-.050*
<b>N</b>	1,412,326	88,658	130,134	131,639

\* p < /05