

It is not Just the Economy: Declining Migration and the Rise of Secular Rootedness

Thomas J. Cooke*

Department of Geography, University of Connecticut, Storrs, CT, USA

ABSTRACT

Americans have always been viewed, both by themselves and by others, as a migrant society. However, migration rates have reached record lows: only 1.6% of Americans moved from one state to another in 2009, and only 3.7% moved from one county to another. This research conducts a decomposition of the change in migration rates between 1999 and 2009 using data from the Current Population Survey. The analysis concludes that about 63% of the decline in migration rates between 1999 and 2009 can be attributed to the direct effects of the economic crisis that began in 2007, and another 17% of the decline can be attributed to demographic changes (e.g. the aging of the population) but that the remaining 20% of the decrease in migration is due to a decline in migration behaviour, or increased rootedness, that applies to all demographic categories. The discussion focuses on the implications of the universal, or secular, rise in rootedness for migration studies. Copyright © 2011 John Wiley & Sons, Ltd.

Accepted 7 March 2011

Keywords: migration, immobility, mobility

INTRODUCTION

Americans have always been viewed, both by themselves and by others, as a migrant society. However, migration

rates have reached record lows: only 1.6% of Americans moved from one state to another in 2009, and only 3.7% moved from one county to another (U.S. Census Bureau, 2010). Most commentators link the decline in migration rates to the economic crisis that began in 2007 (e.g. Newman *et al.*, 2010), but there has also been a downward trend in migration rates since 1968 and a marked decline in migration rates since 2001. Thus, the decline in migration rates since 2007 is part of trend that is at least one decade old and which is not completely explained by immediate economic events. The purpose of this research is to explore the longer-term decline in migration rates between 1999 and 2009.

BACKGROUND

Historically, residential mobility and migration rates in the US have been relatively high in comparison with those of other developed countries (Long, 1991: 145):

Especially high rates of moving in New Zealand, Canada, the United States, and Australia apparently result from the interplay of relatively inexpensive housing, flexible housing and financial markets, limited government regulation of housing markets, and long-term historical forces. Such forces include customs and traditions that derive from immigrant ancestors who arrived on nearly empty continents and proceeded to move inland, accommodating subsequent immigrants and building cities that continue to sprawl with only modest government regulation.

However, migration rates in the US have been declining for several decades. Figure 1 shows the long-term trend in annual interstate

*Correspondence to: Thomas J. Cooke, Department of Geography, University of Connecticut, Storrs, CT, USA.
E-mail: thomas.cooke@uconn.edu

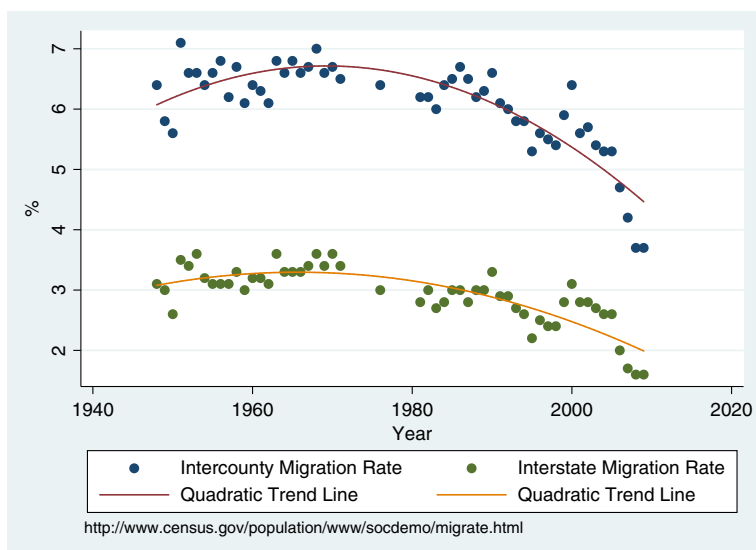


Figure 1. Annual migration rates from 1948 through 2009.

and intercounty migration rates between 1948 and 2009 (U.S. Census Bureau, 2010) along with a quadratic trend line for each. Annual interstate and intercounty migration rates peaked at 7.0% and 3.6%, respectively, in 1968 and reached respective lows of 3.7% and 1.6% in 2009. The trend has generally been downward since 1968, but the downward trend has been interrupted by short periods of rapidly increasing migration rates associated with periods of rapid economic growth (e.g. the mid-1980s and the late-1990s).

The most recent spike in migration rates occurred in the late 1990s with annual interstate and intercounty migration rates reaching 6.4% and 3.1%, respectively in 2000. Since then, the trend has once again been downward with acceleration in the trend beginning in 2007 in association with the economic crisis that began that same year (Frey, 2009: 2):

First, in many parts of the country, including large parts of Florida, Nevada and Arizona, a housing 'bubble' arose during the middle part of the decade due to overbuilding and easy mortgage credit. Second, the financial market crisis that began in September 2008 led to sharp reductions in credit. As a result, potential buyers had difficulty obtaining mortgages, and potential sellers saw reductions in the values of their homes. Third, the financial crisis greatly exacerbated the national recession that

had begun in December 2007, reducing job availability in most regions of the country. This triple whammy of forces made it riskier for would-be homebuyers to find financing, would-be sellers to receive good value for the home, and potential long-distance movers to find employment in areas where jobs were previously plentiful.

Largely ignored is the long-term downward trend in migration rates over the last half century reflected in the quadratic trend line of Figure 1. A handful of studies, largely descriptive and a few not yet published (Wilson, 1985; Long, 1988; Fischer, 2002; Wolf and Longino, 2005; Theodos, 2006; Shauman, 2009), attribute much of the decline to the increased rates of homeownership, the aging of the population, and the increased number of dual-earner couples. However, several of these studies also point toward structural processes applying to the entire spectrum of US population. For example, Fischer (2002: 193) finds that the decline in migration generally applies across groups defined by gender, race, housing tenure, and age and concludes that '... [t]he social forces that have encouraged stability ... must be deep and pervasive'. Speculation in these studies about the decline in high rates of migration hinges on an increased value of leisure time that would reduce job-related migration, increased ability to remain rooted and yet travel

long distances for leisure and work – such as in the growth of couples who live and work apart and in the ability to commute long distances by low-cost airlines (e.g. Haskey, 2005) – and convergence in regional housing and labour markets.

The idea of a secular shift toward a more rooted society runs counter to the stereotype of a hypermobile society and presumptions about the importance of migration for the operation of regional housing and labour markets, for regional economic and cultural convergence, and for the role of mobility in shaping individual and community well-being. If true, it would require a radical rethinking about some basic American institutions, public policy, and the field of migration research. However, even the most basic of these ideas – for example, the effect of increased homeownership on a decline in migration rates – have not been empirically tested, to say nothing of the more speculative idea of a transition to secular rootedness. Therefore, this analysis takes an explicitly empirical approach aimed at identifying as many of the processes related to the migration decline as possible within the limitations of available data. It is expected that these results will serve as the benchmark for further research.

DATA AND METHODS

The data are drawn from the Integrated Public Use Microdata Series version of the Current Population Survey (CPS) (King, 2010).

IPUMS-CPS is an integrated set of data from 48 years (1962-20[10]) of the March Current Population Survey (CPS). The CPS is a monthly U.S. household survey conducted jointly by the U.S. Census Bureau and the Bureau of Labor Statistics. Initiated in the 1940s in the wake of the Great Depression, the survey was designed to measure unemployment. A battery of labor force and demographic questions, known as the ‘basic monthly survey,’ is asked every month. Over time, supplemental inquiries on special topics have been added for particular months. Among these supplemental surveys, the March Annual Demographic File and Income Supplement (hereafter referred to as the March CPS) is the most widely used by social scientists and

policymakers, and it provides the data for IPUMS-CPS. To make cross-time comparisons using the March CPS data more feasible, variables in IPUMS-CPS are coded identically or ‘harmonized’ for 1962 to 20[10].

The decision to use the CPS rather than the American Community Survey (ACS) or the Panel Study of Income Dynamics (PSID) is driven by an evaluation of the limitations of each data source. In particular, the CPS is representative of the US population, whereas preliminary estimates of interstate migration using the PSID indicated that the PSID sample of interstate migrants is too small to be representative. In addition, the CPS provides a county-based definition of migration that is not available from either the ACS or the public-use version of the PSID. Finally, the CPS reports a greater amount of origin-specific data than the ACS.

The analysis focuses on how annual inter-county migration rates for two dates, 1999 and 2009, change as a function of rate and composition effects as estimated using the Oaxaca–Blinder decomposition technique (Blinder, 1973; Oaxaca, 1973). Following Jann (2008a), consider two regression models of the probability of migrating as a function of a vector of individual characteristics for 1999 and 2009:

$$Y_{i,1999} = X_{i,1999} \beta_{1999} + \varepsilon_{i,1999},$$

and

$$Y_{i,2009} = X_{i,2009} \beta_{2009} + \varepsilon_{i,2009};$$

therefore,

$$\begin{aligned} \bar{Y}_{2009} - \bar{Y}_{1999} = & \left[(\bar{X}_{2009} - \bar{X}_{1999}) \hat{\beta}_{1999} \right] \\ & + \left[\bar{X}_{1999} (\hat{\beta}_{2009} - \hat{\beta}_{1999}) \right] \\ & + \left[(\bar{X}_{2009} - \bar{X}_{1999}) (\hat{\beta}_{2009} - \hat{\beta}_{1999}) \right]. \end{aligned}$$

The first term on the right hand side (RHS) is an estimate of the effect of changing population composition on the overall change in the intercounty migration rate based on year 1999 parameter estimates (i.e. composition effects). The second term on the RHS is an estimate of the effect of changing parameter estimates on the overall change in the intercounty migration rate based on year 1999 population characteristics (i.e. rate effects). The third term is a residual interaction effect. These values are then reported as percentages by dividing all terms by the

overall change in intercounty migration rates. The estimates for the Oaxaca–Blinder decomposition are implemented using the *Oaxaca* module (Jann, 2008b) for STATA (StataCorp, College Station, TX; StataCorp, 2009) and are weighted using the CPS person weight.

Intuitively, composition effects – the first term on the RHS – relate how changes in the composition of the population affect the change in the migration rate between 1999 and 2009. For example, it is expected that the composition effect associated with older age categories will be negative; as the share of the population in older age categories increases, the overall migration rate will decrease because older populations move less often than younger populations. Similarly, rate effects – the second term on the RHS – relate how changes in behaviour among a specific subgroup affect the change in the migration rate between 1999 and 2009. For example, because of the effects of the housing crisis that began in 2007, it is expected that homeowners will be less likely to move in 2009 than in 1999. This will be reflected in a negative value for the composition effect associated with the homeownership variable indicating the degree to which changing housing-market conditions contributed to the decline in migration between 1999 and 2009.

The sample excludes residents of group quarters and is restricted to internal migrants, households without any members in the military, and individuals over the age of 24. The unit of analysis is the individual, but it is important to consider that many of the individuals are members of households with other individuals included in the sample. Ignored, this would bias the standard errors downward. This is resolved by adjusting the errors for clustering of observations on the basis of the CPS household serial number using the *cluster* option in STATA (StataCorp, 2009).

Table 1 lists the dependent and the independent variables. The modelling strategy is to estimate the most comprehensive model of migration within the limitations of the availability of CPS data to capture as many sources of the migration decline as possible. Ideally, this would include defining migration by comparing the place of residence between year t and $t-1$ and defining all independent variables on the basis of year $t-1$. The CPS does report intercounty

migration on this basis, but the one limitation of the CPS is limited data on year $t-1$. Age, race/ethnicity, and foreign-born status are safely assumed to be time-invariant and are therefore based on year t . Educational status relative to having a college degree is also assumed to be time-invariant because the sample is limited to individuals who are at least 24 years of age.

The only geographic variable available for year $t-1$ is the state of residence. Owing to small sample sizes, fixed effects for state of residence in year $t-1$ are unreliable. Therefore, fixed effects for year $t-1$ residence in each of the nine US Census Bureau Divisions are included. These are assumed to measure the effects of regional labour and housing-market conditions and regional amenities on migration.

To measure migration due to job displacement, an important consideration when comparing the change in overall migration rates between 1999 and 2009, the number of weeks an individual was unemployed between t and $t-1$ is added to the model. Values are set to zero if the individual was not in the labour market or reported no weeks of unemployment.

The two remaining independent variables merit extended discussion. First, the effect of homeownership and the foreclosure crisis on the migration decline are of central importance. It is assumed that the migration decline is associated both with a composition effect (an increased rate of homeownership since 1999 should cause a decline in migration because homeowners are less likely to move than renters) and a rate effect (the foreclosure crisis has caused a decline in the rate of migration among homeowners). However, the CPS does not directly provide information on homeownership in year $t-1$. Rather, individuals are classified as having rented in $t-1$ if (i) they currently rent and have not moved or (ii) have moved and report that the reason for moving was to own a home rather than to rent. The remaining individuals are classified as having owned in year $t-1$. This is obviously an underestimate of how many individuals rented in $t-1$ because it excludes many people who transitioned from renting to owning because of reasons other than just wanting to own a home. If the focus of the analysis were static, this would present more of an issue than in this case where the focus is on change in behaviour and in composition. As

Table 1. Variable sample means.

Variable	Weighted sample means		
	1999	2009	Difference
Migration rate	5.63%	3.08%	-2.56%
Household structure			
Households without children			
Single, no BA degree	25.15%	26.69%	1.54%
Single, with BA degree	7.49%	9.24%	1.75%
Married, both with BA degrees	5.32%	6.87%	1.54%
Married, neither with BA degree	21.57%	19.79%	-1.78%
Married, wife only has BA degree	2.62%	3.19%	0.57%
Married, husband only has BA degree	4.30%	4.14%	-0.16%
Household with children			
Single, no BA degree	4.98%	4.98%	-0.01%
Single, with BA degree	0.79%	1.02%	0.23%
Married, both with BA degrees	5.65%	6.49%	0.84%
Married, neither with BA degree	16.09%	12.19%	-3.90%
Married, wife only has BA degree	2.82%	3.09%	0.27%
Married, husband only has BA degree	3.22%	2.33%	-0.89%
Age (years)			
24 to 34	22.78%	21.85%	-0.93%
35 to 44	24.96%	19.74%	-5.21%
45 to 54	20.62%	21.85%	1.23%
55 to 64	13.21%	17.48%	4.27%
65 to 74	10.06%	10.35%	0.30%
75 and older	8.37%	8.72%	0.35%
Owned home in previous year	79.29%	78.57%	-0.71%
Weeks unemployed in previous year	0.72	1.69	0.96
Foreign born	13.53%	17.25%	3.72%
Race/ethnicity			
Non-Hispanic White	74.62%	69.23%	-5.39%
Non-Hispanic Black	11.16%	11.13%	-0.02%
Hispanic	9.81%	13.27%	3.46%
Other race/ethnicity	4.41%	6.37%	1.96%
Division of residence in previous year			
New England	5.09%	4.97%	-0.13%
Middle Atlantic	14.52%	13.61%	-0.91%
East North Central	16.20%	15.23%	-0.97%
West North Central	6.77%	6.62%	-0.15%
South Atlantic	18.49%	19.58%	1.10%
East South Central	6.07%	5.94%	-0.12%
West South Central	10.83%	11.12%	0.29%
Mountain	6.09%	6.99%	0.90%
Pacific	15.93%	15.93%	0.00%
Unweighted sample size	85,703	131,324	

BA, Bachelor of Arts.

long as the variable is consistently defined, there should still be an increase in the negative effect of owning a home, as defined here, in $t-1$ on migration because of the aforementioned rate and composition effects.

The second variable that deserves consideration is a measure of marital and household structure. First, just like with housing, the CPS does not report marital and household structure in $t-1$. This analysis bases marital and

household structure on year t . Thus, individuals who have recently divorced are treated as having been single, and individuals who have recently married are treated as having been married. The effects on the results are assumed to be minimal: treating the recently divorced, who almost by definition are highly likely to be migrants, as single is not inconsistent with the higher rate of migration among single than married individuals, and treating the newly married as having been married in $t - 1$ is also assumed to be unproblematic because so few newly married individuals engage in migration upon marriage. But secondly, it is also important to properly define household structure. This analysis opts for a 12-level categorisation on the basis of gender, marital status, presence of children, and education (Table 1).

RESULTS

Table 1 shows the changes in population composition between 1999 and 2009. Only the more meaningful changes are highlighted here because Table 1 will be referred to when needed in the discussion of the decomposition results. First, among this sample, the 1999 migration rate was 5.63%, and the 2009 migration rate was 3.08% for an overall decline of 2.56%. This is comparable to the population values of 5.7% in 1999 and 3.7% in 2009 (U.S. Census Bureau, 2010). Second, the data indicate an increase in the share of the sample living in households without children (most notably, single households and dual-degree couples) and a sharp decline in the share of the sample living in households with children in which neither spouse has a college degree. Third, Table 1 also reflects the aging of the population with a decline in the share of the sample aged 35 to 44 years of 5.21% and a similar increase in the share of the population aged 55 to 64 years of 4.27%. Finally, the sample reflects the growing diversity of the American population.

Table 2 shows the results of the linear regression models of the probability of migration for 1999 and 2009. Two aspects of these regressions deserve mention. First, the parameters for the categorical variables are estimated using deviation coding based on the *devcon* (Jann 2005) module in STATA (StataCorp, 2009) whereby the parameters indicate deviation of the individual category from the grand mean.

Second, linear probability models are estimated rather than logit or probit models. This is a choice based on the ease in interpreting the results of the decompositions. Although the major statistical problem associated in estimating linear probability is heteroscedasticity (Gujarati 1995), this is not of concern in this case because the emphasis is on the parameter estimates rather than on the statistical inference. In any event, the comparisons of estimates with both logit and probit models produced broadly similar results to the linear probability model.

Just as with Table 1, only the more meaningful changes are highlighted here because Table 2 will be referred to when needed in the discussion of the decomposition results. First, there were significant shifts upward and downward in the propensity to move for several household types. What is driving these changes is reduced variation in the parameters linking the probability of migration and household type between 1999 and 2009. In 1999, the parameters associated with household type ranged from -0.0286 to 0.0407 , whereas in 2009, the parameters ranged from -0.0136 to 0.0249 . In effect, household structure was less important in determining individual migration behaviour in 2009 than it was in 1999. Second, there was also a distinct change in the relationship between age and migration. Younger age groups moved less often in 2009 than they did in 1999, and older age groups moved more often in 2009 than they did in 1999. Finally, homeowners were less likely to move in 2009 than they were in 1999.

Table 3 presents the results of the decomposition.¹ The results are reported two ways: both in terms of the actual coefficients and in terms of the percentage of the total change in migration rates due to each effect. The discussion focuses on the latter and is generally limited to values that are greater than 5%. Positive values indicate an effect that would cause an increase in migration rates absent other effects, and negative effects indicate an effect that would cause a decrease in migration rates absent other effects. For example, the rate effect value of -5.81% associated with the variable 'foreign born' indicates that the foreign-born individuals were less likely to move in 1999 than in 2009 and that this effect is equal to -5.81% of the total decline in migration between 1999 and 2009. Similarly, the composition-effect value of 5.67% associated with the 'weeks unemployed' variable indicates that the increased duration of

Table 2. Linear regression results for probability of migrating, 1999 and 2009.

Variable	1999		2009		Difference
	Coefficient (in %)	Standard error	Coefficient (in %)	Standard error	
Household structure					
Households without children					
Single, no BA degree	1.86%	0.001923	1.50%	0.0011232	-0.36%
Single, with BA degree	4.07%	0.002866	2.49%	0.0015885	-1.58%
Married, both with BA degrees	1.71%	0.0033265	-0.17%	0.0018232	-1.88%
Married, neither with BA degree	-0.67%	0.0020933	-0.34%	0.0012697	0.33%
Married, wife only has BA degree	-0.36%	0.0045362	-0.69%	0.0025163	-0.33%
Married, husband only has BA degree	-0.17%	0.0036972	-0.36%	0.002278	-0.19%
Household with children					
Single, no BA degree	0.96%	0.0034779	1.52%	0.0021049	0.56%
Single, with BA degree	0.76%	0.0080492	0.29%	0.0043178	-0.48%
Married, both with BA degrees	-2.74%	0.0032455	-1.27%	0.0018649	1.47%
Married, neither with BA degree	-2.86%	0.0022025	-1.15%	0.0014547	1.72%
Married, wife only has BA degree	-1.52%	0.0043925	-1.36%	0.0025553	0.17%
Married, husband only has BA degree	-1.04%	0.0041395	-0.47%	0.0029106	0.57%
Age (years)					
24 to 34	7.01%	0.0017136	4.00%	0.001039	-3.00%
35 to 44	2.14%	0.0016982	0.90%	0.0011066	-1.24%
45 to 54	-0.55%	0.0016393	-0.47%	0.0009713	0.08%
55 to 64	-1.81%	0.0019955	-1.00%	0.0010856	0.80%
65 to 74	-3.46%	0.0022335	-1.33%	0.0013402	2.13%
75 and older	-3.33%	0.0024098	-2.10%	0.0014358	1.23%
Owned home in previous year	6.51%	0.0020246	4.70%	0.001221	-1.81%
Weeks unemployed in previous year	0.15%	0.0001841	0.10%	0.0000684	-0.05%
Foreign born	1.59%	0.0028491	0.49%	0.0015644	-1.10%
Race/ethnicity					
Non-Hispanic White	0.05%	0.0017169	0.06%	0.0009538	0.02%
Non-Hispanic Black	0.07%	0.0022967	0.30%	0.0013047	0.23%
Hispanic	-0.54%	0.0023454	-0.59%	0.0012549	-0.06%
Other race/ethnicity	0.42%	0.0030783	0.23%	0.0015627	-0.19%
Division of residence in previous year					
New England	-1.06%	0.0031523	0.04%	0.0019395	1.10%
Middle Atlantic	-0.33%	0.0020008	-0.88%	0.0012473	-0.55%
East North Central	-0.87%	0.0019097	-0.57%	0.0011903	0.30%
West North Central	0.57%	0.0027698	0.55%	0.0017027	-0.02%
South Atlantic	1.31%	0.0018248	0.33%	0.0010838	-0.98%
East South Central	0.65%	0.0029193	0.14%	0.0017913	-0.50%
West South Central	0.28%	0.0022677	0.39%	0.0013676	0.11%
Mountain	0.21%	0.0029073	0.26%	0.0016592	0.04%
Pacific	-0.76%	0.001985	-0.27%	0.0012019	0.50%
Constant	-1.08%	0.0026097	-1.59%	0.0014945	-0.51%
Adjusted R^2	0.0384		0.0285		
Prob > F	<0.0001		<0.0001		

BA, Bachelor of Arts.

unemployment was associated with an increase in migration equal to 5.67% of the total decline in migration between 1999 and 2009. That is, the unemployed individuals are more likely to move,

and as the economy entered the recession starting in 2007, unemployment rates went up, and this actually caused the migration rate to be 5.67% higher than it would have been otherwise.

Table 3. Blinder–Oaxaca decompositions for 1999 and 2009.

Variable	Parameters		% of total change	
	Composition effects	Rate effects	Composition effects	Rate effects
Household structure				
Households without children				
Single, no BA degree	0.0002867	-0.0009024	1.12	-3.53
Single, with BA degree	0.0007111	-0.0011841	2.78	-4.63
Married, both with BA degrees	0.0002632	-0.0010011	1.03	-3.91
Married, neither with BA degree	0.0001183	0.0007011	0.46	2.74
Married, wife only has BA degree	-0.0000205	-0.0000854	-0.08	-0.33
Married, husband only has BA degree	2.76E-06	-0.0000797	0.01	-0.31
Household with children				
Single, no BA degree	-5.54E-07	0.0002788	0.00	1.09
Single, with BA degree	0.0000176	-0.0000377	0.07	-0.15
Married, both with BA degrees	-0.0002291	0.0008327	-0.90	3.26
Married, neither with BA degree	0.001117	0.0027629	4.37	10.80
Married, wife only has BA degree	-0.0000409	0.0000469	-0.16	0.18
Married, husband only has BA degree	0.000092	0.0001829	0.36	0.72
Household structure total			9.06	5.92
Age (years)				
24 to 34	-0.0006539	-0.0068448	-2.56	-26.77
35 to 44	-0.0011158	-0.0030847	-4.36	-12.06
45 to 54	-0.0000673	0.0001648	-0.26	0.64
55 to 64	-0.0007706	0.0010622	-3.01	4.15
65 to 74	-0.0001028	0.0021386	-0.40	8.36
75 and older	-0.0001171	0.0010298	-0.46	4.03
Age total			-11.06	-21.64
Owned home in previous year	-0.0004653	-0.0143743	-1.82	-56.21
Weeks unemployed in previous year	0.0014511	-0.0003471	5.67	-1.36
Foreign born	0.0005908	-0.0014851	2.31	-5.81
Race/ethnicity				
Non-Hispanic White	-0.0000249	0.0001336	-0.10	0.52
Non-Hispanic Black	-1.59E-07	0.000256	0.00	1.00
Hispanic	-0.0001856	-0.0000548	-0.73	-0.21
Other race/ethnicity	0.000082	-0.0000844	0.32	-0.33
Race/ethnicity total			-0.50	0.98
Division of residence in previous year				
New England	0.0000137	0.0005592	0.05	2.19
Middle Atlantic	0.0000299	-0.0007954	0.12	-3.11
East North Central	0.0000848	0.0004908	0.33	1.92
West North Central	-8.56E-06	-0.0000169	-0.03	-0.07
South Atlantic	0.0001439	-0.0018089	0.56	-7.07
East South Central	-8.05E-06	-0.0003042	-0.03	-1.19
West South Central	8.17E-06	0.0001212	0.03	0.47
Mountain	0.0000193	0.0000253	0.08	0.10
Pacific	3.79E-07	0.0007943	0.00	3.11
Division total			1.11	-3.65
Constant		-0.0050747	0.00	-19.84
Grand total			4.78	-101.61

BA, Bachelor of Arts.

The largest effect in Table 3 is related to owning a home in $t-1$: relative to 1999 homeowners in 2009 were significantly less likely to move, translating to a decrease in migration equal to 56.21% of the migration decline. In addition to this direct effect of the economic crisis, indirect effects are reflected in three other variables. First, a decreased rate of migration among residents of South Atlantic states translates to a decrease in overall migration rates equal to 7.07% of the migration decline. Frey refers to Florida, in particular, as a 'poster child for the recent housing slump ... long a magnet for retirees, and more recently for broader segments of the population, Florida led the nation in domestic in-migration for the first half of this decade. Yet overbuilding and a high level of foreclosures made it one of the first states to show dramatic decline in migration, including a surprising switch from net in- to net out-migration between 2006–2007 and 2007–2008 (Frey 2009: 8).' Second, an increase in unemployment caused an *increase* in migration equal to 5.67% of the migration decline. In contrast to Frey's (2009) emphasis on the effect of the housing bubble on decreasing migration, this demonstrates that at least one consequence of the economic crisis that began in 2007 actually increased migration rates. Finally, the rate-effect value of 5.81% associated with the variable 'foreign born' indicates that the foreign born individuals were less likely to move in 1999 than in 2009 and that this effect is equal to 5.81% of the total decline in migration between 1999 and 2009. This is attributed to the economic crisis of 2007. Immigration dropped dramatically after 2007, and, as a result, the 2009 sample of the foreign-born population had a higher share of less-mobile long-term residents than the 1999 sample of the foreign born. Together, these four effects – decreased mobility among homeowners, decreased mobility among residents of the South Atlantic, increased migration due to increased duration of unemployment, and decreased mobility among the foreign born – can be directly and indirectly linked to the economic crisis that began in 2007 and account for 63.41% of the total decline in migration between 1999 and 2009.

A second set of effects is related to the aging of the population. First, the composition of the population is shifting from younger, more mobile age cohorts and toward older, less mobile age

cohorts. This is reflected in the sum compositional effect associated with age structure indicating that the shifting age profile of the population decreased migration equal to 11.06% of the migration decline. Second, the rate effects associated with age structure indicate a distinct change in the age-migration profile: the two youngest age groups migrated less often in 2009 than in 1999, and the three oldest age groups migrated more often in 2009 than in 1999. The former effect is likely linked to decreased opportunities for young workers. These are longer-term trends most highly visible in the 'boomerang' generation of college graduates who migrate back home.² The latter effect is due to the increased mobility of baby boomers, as their relative affluence and long-life expectancy is associated with an increased rate of mobility compared with previous generations of the 'young elderly' (Plane and Jurjevich, 2009). The total effect in this shift in migration rates by age group is a decrease in migration equal to 21.64% of the migration decline, absent any other effects. Combined, shifting age composition (–11.06%) and age-specific migration rates (–21.64%) between 1999 and 2009 contributed to a net decrease in migration equal to 32.70% of the migration decline.

Finally, the value associated with the constant translates to a reduction in migration equal to 19.84% of the migration decline, absent any other effects, that applies to the entire sample. This should not be interpreted as a residual because it represents a downward shift in the intercept parameter of the migration models between 1999 and 2009. Several alternative specifications of the models resulted in a similar finding and is consistent with Fischer's (2002: 193) argument that '[t]he social forces that have encouraged stability ... must be deep and pervasive'. Indeed, the quadratic trend line plotted in Figure 1 is also consistent with a long-term downward trend in migration rates that cuts across the demographic subgroups analysed in this study.

To synthesise, the economic downturn accounts for 63.41% of the decline in migration, the changing age composition and age-specific migration rates accounts for another 32.70%, and shifts in migration rates that apply to all population groups account for another 19.84% of the migration decline. Together, these factors account for 115.96% of the migration decline and suggest that if these factors operated alone then migration rates would have fallen even lower

than they actually did between 1999 and 2009. The remaining effects, by definition, sum to 15.96%. In other words, processes associated with variables not discussed actually acted to increase migration rates by an amount equal to 15.96% of the actual decline. Further synthesising, the total migration decline can be thought of as the effect of the economic crisis (63.41%), processes that apply to all demographic subgroups (19.84%) and the balance of subgroup-specific rate and composition effects (16.74%).

CONCLUSION

This study finds that 63% of the migration decline can be associated with the economic crisis that began in 2007, that 17% of the migration decline can be associated with shifts in migration rates and population composition associated with the age and the household structure of the population, and that 20% of the migration decline is due to a more fundamental decline in migration propensities that cuts across the entire population and is consistent with the long-term decline in migration observed since the late 1960s. With the eventual clearing of housing markets and effects of an economic recovery, migration rates will likely increase for several years, but the long-term effects of population aging and secular rootedness on migration rates will continue to pull migration rates lower than they would be otherwise.

These results suggest several avenues for future research. First, this analysis focuses only on intercounty moves and is restricted by the available data to the last 10 years. Alternative data sources should be identified that allow for the analysis of interstate and residential mobility over a longer period. Second, one concern with the short period used in this analysis is that the impacts of the 2007 economic crisis may overwhelm the results. Using a data source with a longer time horizon would allow for the analysis to be fixed with an end period just before the 2007 economic crisis thus eliminating a potential source of conflicting results. Third, one negative result concerns the finding of no effect of the rise of dual-degree couples on the migration decline (for a contradictory result, see Shauman (2009)) and, indeed, except for one household type – married couples in which neither spouse has a degree – the effects of household structure on the migration decline are modest. Future research should consider why changing

household structures have so little influence on changing migration patterns.

But the more important question remains on the source of increasing levels of secular rootedness. Fischer's (2002) observation regarding the paradox between easily available data demonstrating that migration rates have been declining for nearly 40 years and social and behavioural science's assumption that Americans are as mobile as ever offers both an explanation for the rise of secular rootedness and a direction for new research.

One possibility is that increasing rootlessness fits too well the 'grand narrative' of modernization latent in sociology and much other social science – that modernity is socially disorganizing and psychologically alienating – to be abandoned. When a fact like [the long-term decline in migration rates] clashes with a grand narrative, the fact is soon forgotten and the narrative chatters on (Fischer 2002: 194).

The likelihood is that US has long ago entered into a post-modern period of reduced mobility because of increased value of leisure time, increased ability to remain rooted and yet travel for leisure and work, and convergence in regional housing and labour markets. If so, this would mark the fifth stage in Zelinsky's (1971) mobility transition whereby as national economies develop as they move through a series of migration transitions akin to the better-known demographic transition³:

In advanced societies, urban-to-rural moves become more common, more moves are motivated by a search for amenities or improved quality of life, and the total volume of movement is high, though it may fluctuate. In a future superadvanced society, residential mobility may decline if long-distance commuting substitutes for some moves, telecommuting and in-home employment substitute for other moves, and organizational changes alter work-residence relationship and the need to change residence (Long, 1991: 2).

And just as many European countries have moved into a second demographic transition (Vande Kaa, 1987), it could be that the US has entered into a period of secular rootedness that is in contrast with the dominant narrative regarding

modernism, migration, and dislocation. These are speculations, but ones that deserve greater interest from the social and behavioural sciences.

Indeed, the time may be right to attack the 'grand narrative' of hypermobility, modernity, and dislocation and call for social and behavioural scientists to ask new questions not just about migration but also about immobility. Traditional questions generally focus on the role of migration: does migration increase income? Is migration a positive or negative event for children? What is the effect of out-migration on the economic vitality of sending regions? However, it appears as if migration is an increasingly rare event. In this case, the questions should be about immobility, and especially long-term immobility, and not about migration: does immobility reduce income? What is the effect of having an immobile population on regional economic vitality? Are children better off now that they are less likely to move? Answers to these questions require a rethinking about migration studies that, paradoxically, may require a shift toward focusing on the reasons for increased immobility.

NOTES

- (1) Results for the interaction parameters are not reported because they are all effectively zero. These are available from the author.
- (2) Although small in scale and therefore not directly interpreted here, the rate-effect values for college-educated singles supports this interpretation.
- (3) Credit goes to Richard Wright for the idea of discussing this in the context of Zelinsky's Mobility Transition.

REFERENCES

Blinder AS. 1973. Wage discrimination: reduced form and structural estimates. *The Journal of Human Resources* 8(4): 436–455.

Fischer CS. 2002. Ever-more rooted Americans. *City & Community* 1(2): 177–198.

Frey WH. 2009. *The Great American Migration Slowdown: Regional and Metropolitan Dimensions*. Brookings Institution: Metropolitan Policy Program: Washington, DC.

Gujarati DN. 1995. *Basic Econometrics*. McGraw-Hill: New York, NY.

Hasky J. 2005. Living arrangements in contemporary Britain: having a partner who usually lives elsewhere

and living apart together (LAT). *Population Trends* 122: 35–45.

Jann B. 2005. *Devcon: Stata Module to Apply the Deviation Contrast Transform to Estimation Results*. Boston College Department of Economics: Boston, MA.

Jann B. 2008a. The Blinder–Oaxaca decomposition for linear regression models. *The Stata Journal* 8(4): 453–479.

Jann B. 2008b. *Oaxaca: Stata Module to Compute the Blinder–Oaxaca Decomposition*. Boston College Department of Economics: Boston, MA.

King M, Ruggles S, Alexander JT, Flood F, Genadek K, Schroeder MB, Trampe B, Vick R. 2010. Integrated Public Use Microdata Series, Current Population Survey: Version 3.0. [Machine-Readable Database]. U. o. Minnesota. Minneapolis.

Long L. 1988. *Migration and Residential Mobility in the United States*. Russell Sage Foundation: New York, NY.

Long L. 1991. Residential mobility differences among developed countries. *International Regional Science Review* 14(2): 133–147.

Newman KS, Florida R, Frey WH, Francese P, Bishop B, Katz LF, Gelman A, Sum A. 2010. Comments on A Nation of Hunkered-Down Homebodies. Room for Debate. The New York Times, New York, NY.

Oaxaca R. 1973. Male-female wage differentials in urban labor markets. *International Economic Review* 14(3): 693–709.

Plane DA, Jurjevich JR. 2009. Ties that no longer bind? The patterns and repercussions of age-articulated migration up and down the U.S. urban hierarchy. *The Professional Geographer* 61(1): 4–20.

Shauman KA. 2009. *Migration and Changing Family Characteristics in the U.S. 1981–2005*. Department of Sociology, University of California-Davis: Davis, CA.

StataCorp. 2009. *Stata Statistical Software: Release 11*. StataCorp LP: College Station, TX.

Theodos BA. 2006. Geographic Mobility and Geographic Labor Mobility in the United States. Labour Mobility in the EU and the US: Trends and Challenges Ahead. Brussels, Belgium, European Commission and U.S. Department of Labor.

U.S. Census Bureau. 2010. Current Population Survey, 2009 Annual Social and Economic Supplement. Available at <http://www.census.gov/population/www/socdemo/migrate/cps2009.html> [accessed 9 November 2010].

Vande Kaa DJ. 1987. Europe's Second Demographic Transition. *Population Bulletin* 42(1): 1–59.

Wilson FD. 1985. Cohort size effects and migration. *International Migration Review* 17: 485–504.

Wolf D, Longino C. 2005. Our "increasingly mobile society"? The curious persistence of a false belief. *The Gerontologist* 45: 5–11.

Zelinsky W. 1971. The hypothesis of the mobility transition. *Geographical Review* 61: 219–249.