Internal Migration and the Great Recession in America: A Test of the Push-Pull Theory

As the Great Recession (2007-2009 Recession) was concluding and the sluggish recovery beginning, many researchers and federal officials bemoaned the lack of internal migration for jobs (Fletcher 2010). Specifically, CPS data revealed a substantial drop in interstate migration starting in 2006 and holding throughout the recession (Frey 2009). However, recent analysis suggests that a change in imputation procedure accounts for 90 percent of the dramatic decline in interstate migration from 2005-2006, and the Great Recession is not associated with any additional decline in migration relative to the 15-year trend (Kaplan and Schulhofer-Wohl 2011). We propose to analyze the demographic and economic correlates with migration and how they evolved during this period of rapid economic change. Additionally, we will assess our results in the context of the push-pull theory of migration.

Theory and Literature

Lee (1966) argues that both push and pull factors affect migration decisions, and individuals respond to these factors differently. Moreover, as obstacles to migration increase, pull factors become increasingly important. The push-pull theory predicts that out-migrating individuals should be relatively advantaged when compared with individuals at their origin location and relatively disadvantaged when compared with individuals at their destination location. Thus, individuals migrate to achieve improved conditions. Although originally applied internationally, this perspective offers a useful lens for American internal migration during the Great Recession. Given the tough economic conditions such as housing lock (Modestino and Dennett 2012) or limited resources that may have inhibited migration during the Great Recession, destination-specific characteristics are likely to be especially important for individuals deciding to migrate.

Previous research generally notes a strong link between economic conditions and migration flows. Empirical findings are not always consistent, but most find that personal unemployment and regional unemployment are associated positively with migration; departures from this trend are more common in research based on aggregate-level data rather than individual-level studies (Greenwood 1997; Herzog et al 1993; Mare and Choy 2001). One recent individual-level study notes that during the Great Depression, greater government spending on public works and relief jobs increased migration to counties (Fishback et al 2006). In addition to employment, individuals migrate in response to regional wage differentials, although estimates of the relationship vary from one of very slow pace (Barro and Sala-I-Martin 1992) to one of high elasticity between time periods (Kennan and Walker 2011). In addition to labor market conditions and prospective wages, housing affordability has been shown to be increasingly correlated with migration (Sasser 2010). Finally, in Canada, interprovincial migration is correlated strongly with differences in provincial economic conditions as measured by changing gross domestic product (GDP) from 1961-1990 (Milne 1993). To alleviate some of the discrepancies in research, it is helpful to control for future economic conditions as individuals tend to migrate based on predicted future returns (Gallin 1999, as cited in Mare and Choy 2001).

Previous research also suggests that the economy-migration relationship varies by the skill-level of workers. Both high- and low-skilled individuals are more likely to migrate when there is greater mismatch between their skills and regional wages; high-skilled workers in areas with low-skill wages and less-skilled workers in areas with high-skill wages are especially likely to migrate (Borjas et al 1992). Less-skilled workers also tend to respond to negative wage shocks and be pushed from a location, whereas higher-skilled workers may respond to pull factors that offer long-term potential for wage growth (Yankow 2003). Less-skilled workers usually migrate to areas with low wage dispersion, and high-skilled workers migrate to areas with high wage dispersion (Borjas et al 1992).

Although research generally suggests that individuals migrate in response to economic push and pull factors, it is less clear whether or not they benefit from migration. In Britain, migration is associated with better employment outcomes (Bailey and Turok 2000), particularly among higher-skilled individuals. However, it is rare for the unemployed to move regions without having already found a job (Gregg et al 2004). Using data from Finland, Pekkala and Tervo (2002) argue that these positive migration outcomes are the result of selection effects; unemployed individuals with greater human capital migrate at greater rates, and controlling for this, migration is insignificantly or perhaps negatively associated with employment. In the United States, data from the 1984 and 1985 Survey of Income and Program Participation (SIPP) demonstrate that inter-state migration is not associated with re-employment for the unemployed, but is instead only associated with re-employment for those who have given up looking for work (Herzog et al 1993).

Regarding wages, some research has found positive returns to migration in Britain (Boheim and Taylor 2007) and the United States (Yankow 2003). On the other hand, during the Great Migration, both black and white individuals leaving the South fared no better – and often worse – than those who remained (Eichenlaub 2010). In addition, during the Great Depression, although in-migration did not decrease the wages of current residents, it did decrease their odds of finding a relief job and reduced their overall hours worked (Boustan et al 2010). One potential explanation for this would be the saturation of jobs in receiving ("pulling") locations, but in reviewing the impact of foreign immigration, Boustan et al (2010) find that most research indicates little to no relationship with employment and wages. If job saturation was an explanation for the negative economic outcomes, it would seem to operate for both internal and foreign in-migrants.

In summary, existing findings on the economy-migration relationship generally validate the importance of economic factors in push-pull analysis of migration. Nevertheless, some research fails to detect significant economic push and pull factors in migration decisions, and other research suggests that such factors contribute only modestly. Still other research argues that individuals' skills moderate the relationship between economic conditions and migration. Along with skills, age is systematically associated with migration, and the relationship between race and migration is unclear (Mare and Choy 2001). Perhaps even more problematic for the push-pull theory, evidence is mixed as to whether many of the anticipated gains from migration have been realized.

Based on the extant literature, we have several hypotheses regarding the relationship between migration and push and pull factors. First, we expect economic pull factors to take on greater

importance during the Great Recession than during both the prior period as well as the recovery. Second, based on the experience of recovery jobs during the Great Depression (most of which likely required an industry switch), we expect individuals to be more willing to change industries in response to the Great Recession, and thus for more migrations to occur between destinations characterized by different industries.

Data, Methods, and Expected Findings

We will test the application of push-pull migration theory during rapidly-changing economic climates. Specifically, we will assess how rapidly migration flow responds to regional heterogeneity in economic conditions. Research generally – with a few exceptions – finds some relationship between migration and economic conditions, although it may be quite slow, of varying size, and subject to skills differentials and other demographic differences. However, the Great Recession generated economic shocks of substantially greater caliber than any period since the Great Depression, and we now have high-quality, low-level data with which to analyze these changes. It is plausible to think that these larger economic shocks may reveal relationships of greater magnitude and significance.

We will use data from the American Community Survey (ACS) and the SIPP to compare migration patterns during the sharp economic downturn (Great Recession) and slow recovery (2010-2011) with normal economic times (2005-2006). To the extent that additional data are necessary to establish baseline migration correlates during normal economic conditions, decennial census data on five-year migration patterns are available. Not only will these data allow for the isolation of relationships between our independent variables and migration that vary across economic contexts, but they also will precisely measure these migration relationships using annual data at low levels of geography that can detect sub-state heterogeneity in the variables.

ACS data offer substantial geographic precision, enabling estimation of annual migration flows to and from the roughly 2,000 Public Use Microdata Areas (PUMAs). PUMAs encompass the entire United States and include between 100,000 and 200,000 persons. These data will allow us to compare how the correlates of migration evolved during the Great Recession and permit measurement of these correlates with much more precision than interstate models.

ACS data provide rich information on a number of variables of interest for migration research. Two of the more common economic indicators for migration analysis included in the ACS are income and employment. In addition, the ACS estimates prevalence of industries and occupation groups at the PUMA level. This study's contribution of industry data will be unique within migration research and should provide valuable context on the roles of economic conditions and skills mismatch in migration during an economic downturn. Also, the industry information will augment the standard measure of skills (education level) in migration research to disentangle the unique relationship each has with migration. Demographic variables like race and age, both of which are related to migration outcomes (Crowder and South 2008; Sampson and Sharkey 2008; Sharma 2012), also are available in the ACS and will be included in our analysis.

SIPP data track individuals and families over time, and they include measures of industry changes made by individuals – a limitation of the ACS, which only measures industry at time of survey. Thus, the SIPP allows us to estimate job losers' sensitivity to changing industries based on economic conditions. Public-use SIPP data provide geographic information at the state-level, so some precision in measurement of other independent variables is lost in capturing these industry changes. By tracking individuals over time, however, the SIPP is able to capture multiple migration decisions made over the course of two-and-a-half to four years.

Additional independent variables of significance in the literature will include migration distance, housing affordability, and temperature. To the extent that key variables are available at the county level rather than the PUMA level, PUMAs can be converted to county equivalents and vice versa.

To test our hypotheses, we will estimate mixed logit models (McFadden and Train 2000) that allow individuals to weight destination attributions uniquely and maintain their own utility functions. This is a relatively-novel technique for the migration literature (see Gottlieb and Joseph 2006 and Nowotny and Pennerstorfer 2012 for applications) and conforms to a world where destination hierarchy and preferences for destination characteristics vary by individual. We will model the decision of individual k to settle in area a as a function of demographic, economic, and control variables (X). Our preliminary utility function is represented below:

$$U_{ka} = \beta_k X_{ka} + \varepsilon_{ka}$$

Expected Findings

Substantively, the economic impacts of the Great Recession are still being felt, and discussions of migration for jobs and skills mismatch remain at the forefront. This research will efficiently estimate key economic and demographic correlates with migration flows at low-levels of geography, specifically adding industry and occupational contexts to the analysis. It will address how these relationships change in response to a rapidly-shifting economic climate. The results also will allow us to assess how the migration flows resulting from the Great Recession re-configured economic and racial compositions across America.

Theoretically, this research will examine the push-pull migration theory at a low level of analysis for the entire United States during a period of rapid economic change. Such a period should offer an ideal test for the push-pull theory as substantial heterogeneity of economic conditions across states and communities creates strong incentives to migrate. Moreover, the frequent, large-scale data available from the ACS offer opportunities not available to researchers testing this theory using the case of the Great Depression.

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