Patterns of Interstate Migration in the United States from the Survey of Income and Program Participation

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The authors describe the Survey of Income and Program Participation (SIPP) as a data source for migration studies. The SIPP is a panel dataset that provides information on income, employment outcomes, and participation in government programs. Survey participants are interviewed for up to four years even if they move to a new household or that household migrates within the United States. This unique longitudinal design gives the survey a strong advantage over traditional data sources. The authors illustrate differences in the propensity for interstate migration among different demographic groups over the 12-year period from 1996 to 2008. They also analyze the relationship between migration choices and life-changing events, such as becoming jobless or dissolution of a marriage. Their findings suggest that future research should consider the migration choices of individuals near retirement age. (JEL J11, J24, J61, R23)

The continued rise in the unemployment rate in the aftermath of the most recent recession has been a significant concern among policymakers. Analysts have hypothesized that a mismatch in the skills of workers and the skills required for available jobs in a particular location may be hampering the opportunities for economic recovery and contributing to chronic unemployment (see, e.g., Valleta and Kuang, 2010). This problem may be exacerbated by financial difficulties following the housing crisis as unemployed workers may be unable to sell their homes and move to alternative locations where job vacancies demand the skills they can provide (see Chan, 2001, among others). Given these circumstances, understanding the determinants of the migration propensity may prove useful for policy design.

Several studies analyzing the determinants of migration have used data from the Current Population Survey (CPS). The Survey of Income and Program Participation (SIPP) is an alternative source of data that has been relatively underutilized in the migration literature.

The SIPP was designed to obtain information about the income and the participation in government programs of individuals and households in the United States. Until the SIPP was implemented in the early 1980s, the March Income Supplement (Annual Demographic Survey) of the CPS was the main source of data on income and program participation. The SIPP was designed to follow individuals for a longer period and with more detail than the CPS. The SIPP chooses households based on location and then tracks the individual household members, new individuals who join

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the household, and individuals if they move to a new household. The CPS, in contrast, fixes the physical address of the households that are interviewed and does not track households or household members if they migrate. The CPS identifies whether an individual resided in a different state in the year before the interview as well as the "state of origin," defined as the state in which the individual was living before the move (available in the Integrated Public Use Microdata Series). The SIPP also identifies the state of origin and the destination state (the state to which an individual has moved), but at a monthly frequency. The SIPP can also be used to identify moves between approximately 100 of the largest metropolitan areas in the nation. These features of the SIPP make it appealing as a source of migration data.

Dahmann (1989) was the first to recognize the SIPP as a source of data for geographic mobility research, but since then only a handful of studies have used SIPP to analyze migration issues. In an early study, Shumway (1993), using the 1984 SIPP panel, found that immigration influences the duration of unemployment spells. Additional studies have also used the SIPP after the survey was redesigned in 1996. De Jong, Graefe, and St. Pierre (2005) analyzed the effect of changes in welfare rules on interstate migration incentives of poor families. Graefe, De Jong, and May (2006) also analyzed the effects of welfare reform on the migration incentives of families with members limited in their ability to work due to an illness or disabling condition.

In this article, we argue that as a source of data for migration studies, the SIPP provides several advantages compared with traditional data sources. We illustrate the contents of the SIPP by reporting summary statistics of migration propensities across various demographic groups using pooled data from the 1996, 2001, and 2004 panels of the survey. We also evaluate migration propensities in relation to significant life events, such as changes in marital status and the onset of disability. We examine differences in local economic conditions in origin and destination locations in addition to differences in an individual's wages and employment outcomes sur-

rounding the time of a move. Finally, we discuss potential research questions that could be analyzed using the rich set of SIPP household-level information pertaining to the migration decisions of individuals.

This article is organized as follows. In the next section, we review the literature on intranational migration. The following section describes the SIPP data. We then present summary statistics from the SIPP on overall migration rates, as well as migration rates for subgroups including various demographic groups and individuals who have experienced life-changing events. In the final section, we discuss potential avenues for migration research.

LITERATURE REVIEW

There are three main subtopics in the migration literature. The first describes how differences in the demographic characteristics of individuals, such as age, education, gender, and race, affect the probability of an individual moving to another state. The second subtopic explores the relationship between the migration decision and characteristics external to the individual, such as local labor market conditions, area quality-of-life measures, and national economic conditions. Finally, migration scholars commonly analyze differences in the labor market outcomes—wages and employment—of movers before and after a move. In this section, we discuss the migration literature organized in terms of these three approaches. The appendix provides a list of papers organized by approach and data source.

Individual Characteristics

The migration literature posits several contributors to the propensity to move, including age, gender, race, and, most popularly, education level. Many recent studies have analyzed the relationship between these characteristics and the decision to migrate. Differences in the likelihood of migration based on education levels are generally larger than the differences resulting from other factors. Therefore, we focus our literature discus-

sion on the relationship between education levels and geographic mobility.[1]

Using data from the 1980 U.S. Census, Malamud and Wozniak (2010) study the causal effects of college education on geographic mobility. They observe that an additional year of higher education is associated with a relatively large increase in the probability of residing outside one's birth state later in life. The authors find that the causal link between education and mobility is economically important, and this finding allows them to interpret geographic mobility as one of the returns to higher education. Using CPS data from 1980 to 2000, Basker (2003) also finds that the probability of migration increases with education. This relationship holds with the inclusion of age, state of origin, and year fixed effects.

Rosenbloom and Sundstrom (2003) analyze the long-run trends in interstate migration using microdata from the U.S. Census from 1850 to 1990. They find that the overall interstate migration rate in the United States has followed a U-shaped trend since 1850, falling until around 1900 and then rising until around 1970. Using probit models, they estimate that the rise in migration of families since 1990 is attributable to the rise in educational attainment of the parents.

Aggregate Characteristics

The human capital theory of migration (Sjaastad, 1962) states that the decision to migrate involves choosing among candidate labor markets and therefore comparing locations in terms of the differences in local economic conditions that affect the expectations for future earnings. An individual will take into account the discounted value of earnings at the potential destinations and compare them with the relocation costs and the time required for job searching at the potential destinations. Complementing this line of research, a recent strand of the literature also considers differences in indicators of quality of life or con-

sumption amenities in addition to differences in labor market factors.

Theoretical models of migration show that, holding the cost of migration fixed, workers move between local markets (i) to arbitrage spatial differences in economic opportunities, measured by real wages or unemployment rates, or (ii) for personal reasons related to the life cycle or preferences.

Using data from the National Longitudinal Survey of Youth (NLSY) for 1979 to 1986, Borjas et al. (1992) found that interstate differences in the returns to skills are an important determinant of the migration decision. Regions that pay higher returns to skills attract more skilled workers than regions that pay lower returns. Their analysis emphasizes that individuals whose skills are more mismatched with the reward structure of their current state of residence are those most likely to leave that state and relocate to states that offer higher rewards for their skills. Other papers in the literature have similarly considered the relationship between migration and local labor market conditions as estimated by unemployment rates (see, e.g., Basker, 2003, who uses CPS data; Nakosteen et al., 2008, who use data from Statistics Sweden; and Haurin and Haurin, 1988, who use the NLSY and CPS).

Studies have used some unique approaches to control for differences in local conditions. For example, in considering the role of information on migration propensities for both first-time and repeat migrants, Herzog and Schlottman (1983) use the *Places Rated Almanac* to construct an index of the migrant stock, which captures the concentration of migrants from a potential mover's current location that already live in the destination location. The *migrant stock* is taken into consideration by individuals considering a move and may reduce move-related psychic and search costs. Using Internal Revenue Service (IRS) area-to-area migration flow data and a conditional logit approach to model domestic migration, Davies, Greenwood, and Li (2001) also include a measure of migrant stock. Both papers also control for distance between the origin and destination locations.

Herzog and Schlottman (1986, using Census data) and Whisler et al. (2008, using Census data and *Places Rated Almanac*) study the migration

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[1] An alternative way of examining the relationship between education and migration considers how the ability of an individual to engage in labor-market arbitrage to exploit differences across locations varies in terms of skills. In this sense, migration is viewed as an investment in human capital.

decision motivated by considering differences in quality-of-life indicators of potential destination cities. In both studies, housing costs (a proxy for costs of living), recreation, and crime are all significant factors in the decision to migrate. The more recent study by Whisler et al., however, finds that a poor economic climate contributes to out-migration, whereas the earlier study found the opposite effect. Both studies highlight the importance of a variety of environmental factors on locational decisions.

In addition to the models in which locations are chosen in response to labor market arbitrage opportunities, recent studies have analyzed how workers with different levels of education and/or experience vary in their ability to take advantage of different economic opportunities that result from migration. For example, Wozniak (2010) analyzes whether highly educated workers are more likely to decide to relocate to areas with high labor demand compared with workers with low education levels. Using data from three decennial U.S. censuses, she estimates a conditional logit model of residential location choice in which workers respond to economic conditions in their current market and to conditions in all potential destinations. Wozniak's results show that college graduates are more responsive to distant labor market opportunities than less-educated workers.

Factors at the national level may also influence an individual's decision to move. Saks and Wozniak (2007) use historical reports of the CPS and IRS area-to-area migration flow data to analyze the response of migration flows to national economic conditions and the effect of changes in the distribution of local economic opportunities. The authors establish an empirical relationship between rates of internal migration and the business cycle in the United States. They find that migration is strongly procyclical, even after accounting for relative variations in local economic conditions over the business cycle. They argue that their results suggest that the net cost of moving changes systematically over the cycle. They also find that the procyclicality of migration is more closely related to labor markets than to housing market cycles.

Migration Outcomes

Having established the factors (both internal and external) that contribute to migration, numerous studies examine the impact of migration on several employment outcomes. Economists typically consider two types of outcomes, employment status and wages. Herzog and Schlottmann (1983), for example, use Census data to calculate post-migration unemployment rates as a function of individual and aggregate characteristics for both first-time migrants and non-return repeat migrants (i.e., people who move from a first location to a second and then on to a third location).[2] They find that non-return repeat migrants are less likely to be unemployed than first-time migrants. Education reduces the probability of unemployment for both groups, whereas migrants employed in blue-collar jobs before the move are more likely to be unemployed after the move. However, none of the destination variables in this study had a significant effect on post-migration unemployment. Basker (2003) compares employment rates several months after a move using the CPS and concludes that workers who have a job offer before they migrate are 16 percent more likely to be employed at that time than workers who migrate without a job offer. However, the author notes that the estimates are an upper bound due to unobservable characteristics that likely make migrants who move with a job offer more employable overall.

Several papers in the migration literature additionally focus on the impact of migration on wages. Rodgers and Rodgers (2000) use the Panel Study of Income Dynamics (PSID) to estimate the effect of migration on earnings by computing earnings for movers and a control group of non-movers with similar characteristics.[3] Their results show positive returns to moving for every post-move year. In the final year of estimation, six years

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[2] These characteristics include age, education, employment status, nature of work (white collar versus blue collar), distance between origin and destination, migrant stock in the destination state, the unemployment rate, growth in employment, and nonagricultural employment in the destination state.

[3] The authors control for individual characteristics, particularly those related to employment, as well as location characteristics of the control group. They also use fixed and random effects methods to control for unobserved characteristics.

after a move, migrants' hourly wages are 16 to 20 percent higher and annual earnings are 20 percent higher compared with non-movers. When the results are stratified by age, returns are slightly higher for men younger than 40 years of age, but migration has either no effect or a negative effect on the wages and earnings of men older than 40.

Along similar lines, Yankow (2003) uses the NLSY79 to estimate the returns to migration but uses local job changers as the control group. Results of this method indicate that immediately after a move, migration has positive returns for those with a high school diploma or less education but that wages decline for those with more than a high school education. In the longer term, however, the situation is reversed: Those with at least a high school education have significant increases in earnings 1 to 5 years after migration, and those with less education do not experience significant additional returns.

Wozniak (2010) poses the question of whether location choice has lasting effects on wages. She separately estimates equations for the propensity to migrate and location choice and then evaluates a specification that estimates a proxy for labor market conditions at the beginning of one's career. Her results indicate that a one-standard-deviation decline in state conditions can cause a decrease in wages ranging from 1 to 6 percent.

DATA

In addition to using a variety of conceptual and methodological approaches, the migration literature also examines a wide range of datasets. These datasets include the CPS (Basker, 2003, and Blank, 1988), the decennial Census data (Wozniak, 2010; Malamud and Wozniak, 2010; Whisler et al., 2008; Herzog and Schlottmann, 1986), the Integrated Public Use Microdata Series, based on Census data (Herzog and Schlottmann, 1983, and Rosenbloom and Sundstrom, 2003), the NLSY (Haurin and Haurin, 1988; Yankow, 2002/2003, 2003; Borjas et al., 1992), and the PSID (Rodgers and Rodgers, 2000, and Blackburn et al., 2010). Additionally, studies have used the Social Security Administration's Continuous Work History Sample

(Greenwood, 1986) and data from the IRS (Davies et al., 2001).

In this article, we use the SIPP, a dataset that has been relatively underutilized in migration studies. The SIPP produces data that are nationally representative. The SIPP was specifically designed to study longitudinal or dynamic features of the population, such as changes in income, eligibility for and participation in transfer programs, household and family composition, and labor force participation. The survey selects households based on geographic location but then tracks individual household members for up to four years, even if they move from the initial location. It is precisely this feature of tracking individuals over time and across locations that allows us to analyze migration across the entire country.

SIPP interviews are retrospective: Individuals are interviewed every four months, so every month is accounted for. For example, an individual interviewed in October would be asked for information from July, August, September, and October. The sample of interviewed individuals is divided into four *rotation groups*, and each group is interviewed in a separate month. The set of interviews over the four-month period constitutes a *wave*, and the entire sample of consecutive interviews over the full interviewing period constitutes a *panel*. Starting in 1996, each panel spans between 9 and 12 waves, or 3 to 4 years. We consider three panels of data: 1996, 2001, and 2004, which cover the period from 1996 to 2008, although the panels do not overlap. The sample size of the 1996 panel included about 40,000 households; in the most recent panels, the sample sizes were close to 90,000 households.

The SIPP provides various geographic identifiers to aid in the study of migration, with some caveats. First, the survey identifies states of residence. It also identifies a set of about 100 metropolitan areas and generically classifies other areas as "nonmetropolitan" if the household is located outside a metropolitan area or the metropolitan area is small. However, only the 1996 and 2001 panels identify metropolitan areas. Therefore, for our analysis, we define *movers* as individuals who report living in a different state in the current month than they did in the previous month. Both the state of origin and the destination state are

identified in the SIPP.[4] This definition primarily accounts for long-distance moves but may identify short-distance moves as well (e.g., moving from St. Louis, MO, to St. Louis, IL). Our definition may also ignore long-distance moves that occur within state borders, such as a move from San Diego, CA, to San Francisco, CA. Nevertheless, the majority of the literature defines "moves" in this manner and we believe this approach is sufficient to identify a large number of long-distance moves.

The dataset highlighted in this paper, the SIPP, has many advantages in identifying movers within the United States. The main advantage we have identified is the longitudinal nature of the data, which allows researchers to identify changes in residence across states and, to some extent, within states. Other large, nationally representative longitudinal datasets include the PSID and the NLSY. Both of these datasets follow survey respondents for an extended time (the PSID could potentially follow an individual over an entire lifetime) and collect information that could be used to identify moves, including state and county of residence, and in the case of the NLSY, dates of residential moves.[5]

The SIPP offers several advantages over the PSID and NLSY. The first is frequency of data collection; the SIPP collects data three times per year, while the NLSY collects data once per year and the PSID currently collects data every other year. The second advantage over the NLSY is that the SIPP covers a range of individuals, whereas the NLSY samples from an age cohort spanning only four years in the most recent data collection. As mentioned above, the PSID and NLSY have previously been used to study internal migration, given the detailed migration data contained in the surveys. Depending on the scope of research and population of interest, all three datasets may provide valuable information on internal migration. In this paper, we present the advantages of working with the SIPP.

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[4] In the 1996 and 2001 panels, Maine and Vermont are grouped together and North Dakota, South Dakota, and Wyoming are grouped together.

[5] After 1993, the PSID stopped including information on county of residence.

MIGRATION STATISTICS FROM THE SIPP

In this section, we use the SIPP to identify simple correlations between individual and aggregate characteristics that influence migration. It is important to emphasize that these statistics are not causal; instead, we are noting relationships that may be important to explore more formally.

We begin by presenting statistics that influence the propensity to move. These correlates are divided into two categories: (i) population groups, denoting different demographic characteristics of the movers, and (ii) life-changing events. The demographic characteristics considered include personal traits that are either permanent (such as gender and race) or categorical for a certain period of an individual's life (such as marital status, education level, or employment). The life-changing events capture important changes that an individual may experience, such as unemployment or birth of a child.

Characteristics of Movers and Stayers

Tables 1A and 1B present statistics on the propensity to move for various population groups and describes the characteristics of both movers and *stayers* (individuals who do not move during the survey period). Overall, we identified 208,472 unique individuals, among whom 7,823 (about 3.8 percent of the total sample) moved at least once during the 3- to 4-year sample period. Table 1A is organized as follows: Column 1 lists the total number of individuals in each subgroup, column 2 shows the number of movers in each subgroup, and column 3 reports propensities to migrate by subgroup.[6] Table 1A reveals significant differences across many of these demographic groups. For example, women have a higher propensity to move than men. Individuals also move less frequently as they age. This finding is in line with

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[6] For the purposes of this article, we ignore the survey weights that would allow us to construct nationally representative migration probabilities and simply report propensities in terms of the individuals interviewed in the survey panels. Additionally, the migration events we identify occur on a *monthly* basis, and therefore the propensities reported cannot be compared directly with the *annual* migration rates usually reported using other datasets.

Table 1A

Propensity to Move

Characteristic	(1) N	(2) No. of movers	(3) % of movers
Total sample	208,472	7,823	3.8
Men	100,753	3,502	3.5
Women	107,719	4,321	4.0
Age 18-24	26,690	1,353	5.1
Age 25-54	141,294	5,634	4.0
Age 55-65	40,488	836	2.1
White	169,375	6,499	3.8
Non-white	39,097	1,324	3.4
High school dropout	27,316	699	2.6
High school graduate	69,297	1,916	2.8
Some college	63,474	2,470	3.9
Bachelor's degree or above	48,385	2,738	5.7
Never married	53,439	2,298	4.3
Married	117,321	4,244	3.6
Divorced/separated	32,202	1,147	3.6
Widowed	5,510	134	2.4
No children	119,851	4,393	3.7
1-2 children	68,762	2,618	3.8
3 or more children	19,859	812	4.1
Disabled (at any point in survey)	42,915	1,592	3.7
Never disabled	165,557	6,231	3.8
Homeowner (before the move)	138,385	3,516	2.5
Non-homeowner	70,087	4,307	6.1
Jobless	59,688	3,105	5.2
Employed	148,784	4,718	3.2

labor theory on migration, which posits that migration is a form of human capital investment and older workers have a shorter time to collect returns to such an investment. Additionally, those with a higher education level move more frequently. This fact is also explained by theory suggesting that even when the percentage difference in regional wages is equal across education levels, the absolute difference is likely higher for the highly educated, who typically command higher salaries. The propensity to move also differs by marital status: Those who have never been married move most frequently and those who are widowed move least frequently. These differences, however, may simply be detecting variations in age. The largest difference within subcategories is between homeowners and non-homeowners; the latter move about twice as often as homeowners. Differences also occur according to employment status: Jobless individuals move more frequently than people who are employed. The smallest differences in moving rates are 3.7 percent for people with disabilities and 3.8 percent for people without disabilities.

Table 1B illustrates the distribution of the overall population (column 1), movers (column 2),

Table 1B

Characteristics of Movers and Stayers

Characteristic	(1) % of group in sample	(2) % of movers	(3) % of stayers
Total sample	100.0	100.0	100.0
Men	48.3	44.8	48.5
Women	51.7	55.2	51.5
Age 18-24	12.8	17.3	12.6
Age 25-64	67.8	72.0	67.6
Age 55-65	19.4	10.7	19.8
White	81.2	83.1	81.2
Non-white	18.8	16.9	18.8
High school dropout	13.1	8.9	13.3
High school graduate	33.2	24.5	33.6
Some college	30.4	31.6	30.4
Bachelor's degree or above	23.2	35.0	22.7
Never married	25.6	29.4	25.5
Married	56.3	54.3	56.4
Divorced/separated	15.4	14.7	15.5
Widowed	2.6	1.7	2.7
No children	57.5	56.2	57.5
1-2 children	33.0	33.5	33.0
3 or more children	9.5	10.4	9.5
Disabled (at any point in survey)	20.6	20.4	20.6
Never disabled	79.4	79.6	79.4
Homeowner (before move)	66.4	44.9	67.2
Non-homeowner	33.6	55.1	32.8
Jobless	28.6	39.7	28.2
Employed	71.4	60.3	71.8

and stayers (column 3) over the various demographic subgroups considered. Because moves are relative rare events, stayers more closely resemble the overall population than movers. For example, only 8.9 percent of movers are high school dropouts, while 13.3 percent of stayers and 13.1 percent of the overall population are high school dropouts. Similarly, only 44.9 percent of movers are homeowners, while 66.4 percent of the overall population and 67.2 percent of stayers are homeowners. The largest differences between movers and stayers occur across age and education levels in terms of homeownership and employment status.

Propensity to Move and Life-Changing Events

Table 2 illustrates the propensity to move in conjunction with the following life-changing events: becoming divorced, separated, or widowed; getting married; having a first child; having an additional child; having the oldest child turn 5; becoming disabled; becoming jobless; changing employers; and becoming employed. Column 1 indicates the baseline population of individuals present in the sample for a 6-month window of observations around the month of the life-changing event, while columns 2 and 3 indicate the number

Table 2

Propensity to Move and Life-Changing Events

Life-changing event	(1) Individuals with ±6 months of observations around life-changing event*	(2) No. of people who moved within ±6 months of life-changing event†	(3) % in group who move‡	(4) No. of movers with life-changing event within ±6 months of the move§	(5) % of movers with life-changing event¶
Becoming divorced/ separated/widowed	4,087	142	3.5	248	5.1
Getting married	7,068	202	2.9	382	7.9
Having first child	6,377	134	2.1	271	5.6
Having an additional child	4,959	69	1.4	155	3.2
Oldest child turning 5	8,941	352	3.9	518	10.8
Becoming disabled	14,422	85	0.6	352	7.3
Becoming jobless	30,782	547	1.8	2,174	45.1
Changing employers	21,550	344	1.6	1,872	38.9
Becoming employed	28,609	169	5.9	1,963	40.7

NOTE: *The sample of individuals with life-changing events in column (1) includes only those individuals with ±6 months of observations around the month of the life-changing event. Similarly, column (4) lists only movers with a life-changing event within ±6 months of the move. †Column 2 notes the number who move within a ±6-month window for the narrowed sample of individuals with a life-changing event. ‡Column 3 illustrates the incidence of a life-changing event within a ±6-month window for the narrowed sample of movers. §Column 5 illustrates the propensity of a life-changing event to occur within a ±6-month window for the sample of movers. ¶The denominator for the entries in column 5 is 4,818 movers who are present in the sample for all months within a ±6-month window around the time of the move. ±6 months indicates a window 6 months before and after an event.

and percent of individuals who moved at any time within 6 months of experiencing the life-changing event.

At first glance, it appears that the majority of life-changing events are associated with low moving probabilities compared with the 3.8 percent of the total sample who move (see Table 1A). However, recall that the overall moving propensity calculated in Table 1 occurs over a three- to four-year period and the moving propensities in Table 2 represent a one-year period.

Individuals who become disabled have the lowest moving propensity over the one-year window surrounding a life-changing event: just 0.6 percent.[7] Becoming jobless (1.8 percent) and changing jobs (1.6 percent) are also associated with low moving propensities. In contrast, dissolution of a marriage through separation, divorce, or death is associated with a relatively high propensity to move: 3.5 percent. Getting married is associated with a 2.9 percent propensity to move. When a household's oldest child turns 5, there is almost a 4 percent probability of moving. Five is the age at which most children begin school, and this statistic could indicate that parents move (perhaps to a better school district) when their children are about to start school. Finally, the life-changing event with the highest moving probability is becoming employed, with almost a 6 percent probability of moving.

Table 2 also illustrates the presence of life-changing events among those who have moved. Column 4 indicates the individuals who moved and experienced a life-changing event at any time during a 6-month window around the month of the move, and column 5 shows the incidence of the life-changing event. The baseline population in this exercise is only movers who are present in the sample in all months during a 6-month window around the time of the move, and we exclude movers who are present for a shorter period. The events with higher incidence among movers are becoming jobless (45.1 percent), chang-

ing employers (38.9 percent), and becoming employed (40.7 percent).[8]

As clarification, column 2 represents the propensity for members of the general population to move when they experience a life-changing event, and column 5 represents the propensity for those who have moved to have experienced a life-changing event.

Differences in Local Economic Conditions between Origin and Destination

Since external factors may also influence migration, in Table 3A we compare state-level characteristics of the state of origin with those of the destination state.[9] Surprisingly, there seems to be little difference between the majority of the characteristics. For example, the average school rankings and average foreclosure rates are practically identical across locations. Furthermore, the differences seem to indicate that people move to slightly *worse* locations. Compared with the origin states, the destination states have about 1.5 percent lower average incomes and about 1.6 percent higher average homicide rates per 100,000 individuals. The average unemployment rates appear to be slightly lower in the destination states—4.9 percent compared with 5.0 percent in the origin states. A more careful analysis of these differences would need to consider additional amenities, such as weather. In the latter part of the twentieth century, cities with warm, dry climates dominated the list of fastest-growing areas in terms of population growth.

Tables 3B and 3C present the differences in the same measures of local economic conditions as in Table 3A further subdivided by age and education levels, respectively. The patterns are largely similar to those in Table 3A. Unemployment rates are slightly lower and homicide rates slightly higher in destination states than in origin

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[7] In a recent paper that uses the SIPP, Graefe, De Jong, and May (2006) find that although families of individuals with disabilities are less likely to migrate than other families in general, they are "pushed" to migrate if they live in states where they are not exempt from welfare work activity requirements.

[8] Movers may experience multiple life-changing events surrounding a move. For example, a mover may become jobless in January and find a new job and move in March. In this case, the mover would be counted as experiencing both becoming jobless and becoming employed.

[9] The unemployment rate is calculated at the state level during the *month* of the move. Other statistics are calculated at the state level during the *year* of the move.

Table 3A

Characteristics of Origin and Destination States

Characteristics	Origin	Destination	Difference
Average unemployment rate (%)			
Mean	5.0	4.9	–0.10
SD	1.1	1.1	–0.02
Median	4.9	4.9	0
Average annual income ($US)			
Mean	31,511	31,039	–472
SD	6,347	5,984	–363
Median	30,679	30,521	–158
Average foreclosure rate (%)			
Mean	1.14	1.15	0.01
SD	0.59	0.58	–0.01
Median	1.06	1.10	0.03
Average school ranking*			
Mean	229.6	229.7	0.17
SD	9.9	9.4	–0.44
Median	230.0	230.0	0
Average homicide rate†			
Mean	4.29	4.36	0.07
SD	1.08	1.07	–0.01
Median	4.32	4.46	0.14

NOTE: *Information on average school ranking was available only for about 7,200 movers. †Homicide rates are per 100,000 individuals.

states across all age groups and education levels. Table 3B indicates that the largest differences between origin and destination states occur in the 55- to 65-year-old age group, who experience the largest absolute differences in averages between the origin and destination states in all categories. Across education levels, Table 3C illustrates that high school dropouts experience the largest differences in average income, foreclosure rates, and homicide rates between the origin and destination states. For individuals who move, we found only minor differences between average unemployment rates, income, foreclosure rates, school rankings, and homicide rates in the origin and destination states. One potential reason for this finding is that our focus on state-level data could be missing the variation in measures of location quality that exist across cities and counties within a state.

Another possibility is that individuals may select their destination locations based on the reason for their move. For example, a family facing a decline in income who moves will likely relocate to a location with relatively fewer amenities, whereas a family who moves after having children will likely move to a location with relatively more amenities, such as good schools. These opposite motives would create the appearance of little to no change in location characteristics.

Labor Market Outcomes of Movers

The previous tables list conditions that may increase an individual's propensity to migrate. Here we turn to post-move outcomes. Although individuals may migrate for a variety of personal reasons, we focus on the economic outcomes surrounding a move. In particular, we look at

Table 3B

Characteristics of Origin and Destination States by Age

Characteristic	Origin				Destination			
	N	Mean	SD	Median	N	Mean	SD	Median
Average unemployment rate (%)								
Age 18-24	1,353	5.0	1.1	5.0	1,353	5.0	1.1	4.9
Age 25-54	5,634	5.0	1.1	4.9	5,634	4.9	1.0	4.9
Age 55-65	836	5.0	1.1	4.9	836	4.9	1.0	4.9
Average annual income ($US)								
Age 18-24	1,353	30,668	5,928	30,144	1,353	30,826	5,746	30,469
Age 25-54	5,634	31,543	6,402	30,667	5,634	31,062	5,993	30,557
Age 55-65	836	32,665	6,436	32,324	836	31,233	6,292	30,592
Average foreclosure rate (%)								
Age 18-24	1,353	1.16	0.60	1.08	1,353	1.12	0.56	1.06
Age 25-54	5,634	1.14	0.60	1.06	5,634	1.15	0.58	1.10
Age 55-65	836	1.10	0.58	1.05	836	1.17	0.60	1.11
Average school ranking*								
Age 18-24	1,252	229.4	9.7	230.0	1,240	229.7	9.3	230.0
Age 25-54	5,159	229.5	9.9	230.0	5,173	229.6	9.4	230.0
Age 55-65	788	230.6	9.6	231.0	793	230.9	9.5	232.0
Average homicide rate†								
Age 18-24	1,353	4,298	1,062	4,348	1,353	4,383	1,052	4,488
Age 25-54	5,634	4,288	1,086	4,293	5,634	4,352	1,064	4,439
Age 55-65	836	4,241	1,090	4,290	836	4,353	1,123	4,543

NOTE: The number of observations for average school rankings differs between origin and destination because of missing data.
*Information on average school ranking was available only for about 7,200 movers. †Homicide rates are per 100,000 individuals.

wages and employment during a three-month window before and after the move.

Table 4A presents individual wages for various demographic groups in the origin and destination states. Wages in destination states increase relative to wages in origin states by about 0.4 percent on average. Wages for men decline slightly, by $0.03 per hour or about 0.1 percent, while wages for women increase by $0.24 per hour or about 1.2 percent. Wages for all age groups tend to decrease in the destination states; the exception is wages for the 55- to 65-year age group, for whom wages increase by $2.91 per hour or almost 10 percent. This group includes individuals who are near retirement age but are still employed at the time of the move. These individuals may be

willing to move close to the end of their career only if the move involves a higher wage. In terms of race, wages for whites increase, while wages for non-whites decrease in the destination states. Interestingly, wages in destination states tend to increase for all education groups except those who completed high school but did not complete college.

Table 4B shows that the employment rate falls for all subgroups of movers analyzed. Employment rates decline the most for women, older people, minorities, and individuals with a high school diploma or some college. The generalized decline in employment rates is likely consistent with a short period of adjustment surrounding the move. For example, an individual may move to a location

Table 3C

Characteristics of Origin and Destination States by Education

Characteristic	Origin				Destination			
	N	Mean	SD	Median	N	Mean	SD	Median
Average unemployment rate (%)								
High school dropout	699	5.1	1.0	5.0	699	5.0	1.0	5.0
High school graduate	1,916	5.0	1.1	5.0	1,916	4.9	1.0	4.9
Some college	2,470	5.0	1.1	5.0	2,470	4.9	1.1	4.9
Bachelor's degree or above	2,738	4.9	1.1	4.9	2,738	4.9	1.1	4.9
Average annual income ($US)								
High school dropout	699	30,761	5,922	30,093	699	29,911	5,639	29,586
High school graduate	1,916	31,136	6,280	30,479	1,916	30,635	5,823	30,185
Some college	2,470	31,601	6,270	31,082	2,470	31,102	5,957	30,619
Bachelor's degree or above	2,738	31,885	6,536	31,124	2,738	31,554	6,147	30,679
Average foreclosure rate (%)								
High school dropout	699	1.17	0.58	1.12	699	1.14	0.55	1.10
High school graduate	1,916	1.15	0.59	1.09	1,916	1.17	0.59	1.13
Some college	2,470	1.13	0.60	1.05	2,470	1.15	0.58	1.09
Bachelor's degree or above	2,738	1.13	0.59	1.05	2,738	1.14	0.59	1.06
Average school ranking*								
High school dropout	637	228.2	9.9	229.0	623	228.5	9.5	229.0
High school graduate	1,762	229.3	9.8	230.0	1,762	229.8	9.4	230.0
Some college	2,285	230.0	10.0	230.0	2,292	230.4	9.2	231.0
Bachelor's degree or above	2,515	229.8	9.7	230.0	2,529	229.4	9.6	230.0
Average homicide rate†								
High school dropout	699	4.41	1.04	4.39	699	4.52	1.11	4.61
High school graduate	1,916	4.35	1.09	4.36	1,916	4.39	1.05	4.50
Some college	2,470	4.29	1.09	4.33	2,470	4.40	1.06	4.52
Bachelor's degree or above	2,738	4.20	1.08	4.16	2,738	4.26	1.07	4.28

NOTE: The number of observations for average school rankings differs between origin and destination because of missing data.
*Information on average school ranking was available only for about 7,200 movers. †Homicide rates are per 100,000 individuals.

several months before he or she begins employment. Alternatively, the statistics may reflect individuals who move to a new location in search of a job.

CONCLUSION

In this article, we contend that the Survey of Income and Program Participation (SIPP) is a useful source of data for migration research. The SIPP collects longitudinal information on demographic and employment characteristics over a period of three to four years that can be used to study the determinants of migration choices. The SIPP also identifies both the origin and destination locations, whereas other surveys identify only the destination.

We present summary statistics on the migration propensities of individuals across several demographic characteristics to illustrate some of the individual-level information available in the

Table 4A

Wages of Movers

Wages*	N	Before†			After†			Difference	
		Mean	SD	Median	Mean	SD	Median	Mean	Median
All movers	3,878	24.22	60.39	16.25	24.31	59.62	16.08	0.10	–0.17
Men	2,077	27.86	74.37	18.75	27.83	74.53	18.75	–0.03	0.00
Women	1,801	20.01	37.98	13.98	20.25	34.93	13.33	0.24	–0.64
Age 18-24	632	14.25	17.55	10.61	14.20	17.21	10.80	–0.05	0.19
Age 25-54	3,013	25.86	67.13	17.50	25.77	65.63	17.59	–0.09	0.09
Age 55-65	233	30.04	35.49	20.00	32.94	47.93	19.05	2.91	–0.95
White	3,254	24.59	64.66	16.42	24.96	64.48	16.24	0.37	–0.18
Non-white	624	22.27	29.35	15.63	20.93	19.95	15.16	–1.34	–0.47
High school dropout	214	13.02	15.49	8.91	13.54	15.56	9.62	0.52	0.71
High graduate	835	15.27	13.62	11.83	15.46	17.29	11.67	0.19	–0.16
Some college	1,257	20.34	43.52	15.00	19.15	24.95	14.40	–1.19	–0.60
Bachelor's degree or above	1,661	32.16	82.78	22.23	33.11	86.75	22.50	0.94	0.27

NOTE: *Hourly wage figures are reported in dollar amounts and calculated as monthly earnings divided by the product of usual hours worked per week and the number of weeks the respondent held a job. †Before and after wages are designated as the maximum wage observation within a ±3-month window of the move. Only respondents with positive earnings before and after the move were considered.

Table 4B

Employment Rates of Movers

Employment rate	N	Before		After		Difference
		Mean	SD	Mean	SD	Mean
All movers	6,662	0.79	0.41	0.74	0.44	–0.05
Men	2,968	0.89	0.32	0.86	0.35	–0.03
Women	3,694	0.70	0.46	0.64	0.48	–0.06
Age 18-24	992	0.81	0.39	0.80	0.40	–0.01
Age 25-54	4,942	0.81	0.39	0.77	0.42	–0.04
Age 55-65	728	0.58	0.49	0.45	0.50	–0.13
White	5,544	0.79	0.41	0.75	0.44	–0.05
Non-white	1,118	0.76	0.43	0.69	0.46	–0.06
High school dropout	554	0.59	0.49	0.55	0.50	–0.04
High school graduate	1,597	0.73	0.44	0.68	0.47	–0.05
Some college	2,099	0.80	0.40	0.74	0.44	–0.06
Bachelor's degree or above	2,412	0.86	0.35	0.82	0.38	–0.04

NOTE: Before and after employment status is determined by whether or not a person held a job within a ±3-month window of the move. Employment status is a binary variable, so the median is either 0 or 1, and we omit it.

SIPP and how it relates to the study of interstate migration. We also describe migration propensities in conjunction with significant life events surrounding the time of the move. Finally, we describe differences in local economic conditions between origin and destination states and differences in labor market outcomes before and after a move.

Among our findings we note that, in addition to previously known facts regarding the higher migration propensity of younger or more educated individuals, there are notable differences in migration propensities (i) between men and women, (ii) in terms of marital status, (iii) in terms of employment status, and (iv) between homeowners and non-homeowners. We also found differences in migration propensities after changes in the family, such as a marriage separation, divorce, widowhood, or children attaining school age. There appear to be only small differences in local economic conditions between origins and destinations; if anything, individuals seem to move to less desirable locations—those with lower average income and higher crime rates.

The SIPP provides a rich set of individual- and household-level information that can improve the study of migration. Data from the 1996, 2001, and 2004 panels suggest that future avenues for research should consider especially the migration choices of those aged 55 to 65, as the state characteristics and individual employment rates and wages between the origin and destination states exhibit the most variability for this subgroup before and after a move.

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APPENDIX

A Summary of the Literature

Paper	Topic	Data source
	Mobility research using SIPP data	
Dahmann (1989)	Geographic mobility	SIPP
De Jong, Graefe, and St. Pierre (2005)	Effect of welfare reform on interstate migration for poor families	SIPP
Graefe, De Jong, and May (2006)	Effects of welfare reform on migration incentives for the work-disabled	SIPP
Shumway (1993)	Immigration and unemployment duration	SIPP
	Individual characteristics	
Basker (2003)	Causal effects of college education on geographic mobility	CPS
Malamud and Wozniak (2010)	Causal effects of college education on geographic mobility	Census
Rosenbloom and Sundstrom (2003)	Long-run trends in interstate migration with microdata	Census
	Aggregate characteristics	
Saks and Wozniak (2007)	Response of migration flows to national and local economic conditions	CPS and IRS
Basker (2003)	Relationship between migration and local labor market conditions, unemployment rates	CPS
Haurin and Haurin (1988)	Relationship between migration and local labor market conditions, unemployment rates	NLSY and CPS
Borjas, Bronars, and Trejo (1992)	Effect of interstate differences in returns to skills on migration decision	NLSY
Davies, Greenwood, and Li (2001)	Relationship between migration and local labor market conditions, unemployment rates	IRS
Herzog and Schlottman (1983)	Relationship between migration and local labor market conditions, unemployment rates	*Places Rated Almanac*
Whisler et al. (2008)	Role of quality-of-life indicators on migration decision	Census and *Places Rated Almanac*
Herzog and Schlottman (1986)	Role of quality-of-life indicators on migration decision	Census
Wozniak (2010)	Relationship between migrant educational attainment and labor market demand in new location	Census
Nakosteen et al. (2008)	Relationship between migration and local labor market conditions, unemployment rates	Statistics Sweden
	Migration outcomes	
Basker (2003)	Post-migration employment rate	CPS
Herzog and Schlottmann (1983)	Post-migration employment status and wage outcomes	Census
Wozniak (2010)	Lasting effects of location choice on wages	Census
Rodgers and Rodgers (2000)	Effect of migration on earnings	PSID
Yankow (2003)	Returns to migration	NLSY79

NOTE: CPS, Current Population Survey; IRS, Internal Revenue Service; NLSY, National Longitudinal Survey of Youth; PSID, Panel Study of Income Dynamics; SIPP, Survey of Income and Program Participation.