# WOMEN AND WORK AFTER MIGRATION

by

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## ABSTRACT

This research explores the relationship between internal migration and the likelihood of employment among adult women during the 2001-03 economic recession period in the United States. The study examines employment outcomes of female migrants with comparisons across migration type (interstate and intrastate), marital status, family income level, and TANF receipt. This research explores both individual and state-level economic and welfare policy characteristics, providing a quasi-experimental design. Individual-level data from the 2001-03 panel of the Survey of Income and Program Participation are merged with state-level data from the Bureau of Labor Statistics and the Welfare Rules Database. Results show that women's employment is generally not affected by moving within state, but women that move across state borders do experience a significant decline in the probability of employment compared to non-movers. More advantaged women are likely to see the largest negative effects from moving across state borders, while more disadvantaged women experience smaller and non-significant interstate migration effects. This study finds that state level policies do impact the probability of employment among subsets of the female population.

## INTRODUCTION

Employment is an important outcome in migration studies, as migration is often motivated by work opportunity, or the lack thereof. Employment can act as a push factor when there are no jobs available in the current location or as a pull factor when improved work opportunities are available in another location. Sometimes, even, one's current job may require a person to move.

Much of what is known about the relationship between migration and employment comes from studies of men or from studies of married couples (for examples see: Boyle et al. 2001; Clark and Withers 2002; Lee and Roseman 1999). Few studies focus on the effect of migration on employment of women, despite women's growing presence in the labor market. Accordingly, there is growing motivation to study the employment outcomes of migrant women. Furthermore, there is a need to understand how the employment behaviors of specific subgroups of women are affected by a migration event.

This study uses data from the 2001 panel of the Survey of Income and Program Participation merged with state-level data from the Welfare Rules Database and the Bureau of Labor Statistics to explore the relationship between moving and change in employment status among adult women in the U.S. This study will address the following objectives:

- Examine changes in the probability of employment among women during the 2001-2003 national economic downturn period;
- Use difference-in-difference estimates to examine how the probability of employment among women was affected by migrating within or across state borders compares to women that do not move;

- Use difference-in-difference estimates to examine whether the impact of migration on the probability of employment is similar for: 1) women who have received versus never received TANF; 2) women who are married, previously married, and never married; and 3) women with low, medium, and high family income levels;
- Examine whether the inclusion of personal and state-level welfare eligibility policy and economic indicators affect the likelihood of working among any migrant and nonmigrant groups of women.

This study seeks to advance the current research on female migration with comparisons across migration type (interstate and intrastate), marital status, family income level, and TANF receipt. The study is also one of the first to explore both individual and state-level economic and welfare policy characteristics and will provide a quasi-experimental design to examine the impact of moving on changes in employment, by allowing comparisons between treatment and control groups.

## BACKGROUND AND SIGNIFICANCE

Much research on migration and its consequences has focused on males, assuming that women's migration decisions are determined by their husbands' careers. However, women's role in the family migration decision-making process has been changing as more women, including wives, are in the labor force, and as the number of female-headed household increases. A limited number of studies do examine the effect of migration on women's employment. For example, Clark and Withers (2002) have found that local moves have little effect on women's participation in the labor market. In fact, almost 75 percent of women in their study had re-

entered the labor force within five months. Generally speaking, migration events are expected to have a negative impact on women's employment.

A considerable amount of research has examined the effect of migration on the employment levels of married women. Generally, these studies have found that married women are less likely than men to be employed after moving (Boyle et al. 2001; Lee and Roseman 1999). This literature, however, often fails to examine post-migration employment outcomes of single women, who are less likely to be reliant on other sources of income such as husbands' earnings.

In one of the few studies to examine both married and single women, Morrison and Lichter (1988) compared the effects of migration on changes in underemployment among married and single women during the late 1960s and 1970s. They find that migrant married women are more likely to be underemployed than their nonmigrant counterparts; however, they show that single women also have difficulty in finding adequate employment after moving. The authors suggest part of the problem may be due to the types of jobs that women are likely to fill.

To better understand the post-migration employment outcomes of women, it may be helpful to also consider migration outcomes of the poor and the welfare-reliant. Research in Great Britain has found that low-skill workers are less likely to move compared to professional workers. Low-skill workers are most likely to move after a change in employment status, namely unemployment, but are unlikely to explore work opportunities in other areas (Kitching 1990). Low-skill workers have the most to lose by moving (Kitching 1990), so only those persons who have the most certainty in finding employment at a new location are expected to move.

The literature has long suggested that welfare recipients move in search of higher welfare benefits; however, most findings do not support the existence of welfare migration (Schram and Soss 1999). Welfare-reliant populations are believed to base their migration decisions on a host of factors including economic factors such as job availability and wages (Schram and Soss 1999), especially since the passage of the 1996 Personal Responsibility and Work Reconciliation Act (PRWORA), which implemented new time limit, work requirements, and sanction policies to encourage work among welfare recipients (Hughes 1996, as cited in Schram et al. 1998).

## HYPOTHESES

Based upon the review of the literature, I will test the following set of hypotheses:

1. It is hypothesized that there will be negative intrastate and interstate migration effects on employment because migration events disrupt employment behavior; however, the interstate migration effects will be larger than intrastate effects because local moves are less disruptive.
2. It is hypothesized that the intrastate and interstate migration effects will be less negative among welfare recipients because welfare policy requires them to find employment.
3. It is hypothesized that the intrastate and interstate migration effects will be more negative among married women because these relocation events are often motivated by male employment opportunities, while migration effects will be less negative among unmarried women because these women have fewer alternative sources of income aside from employment.

4. It is hypothesized that the intrastate and interstate migration effects will be less negative among the poor because this group would only move if they had secured employment opportunities at the destination site.
5. It is hypothesized that state-level economic and welfare policy will affect the employment opportunities of the most disadvantaged groups: women who receive TANF, are unmarried, and belong to low-income families.

**DATA**

This study uses data from the 2001 Panel of the Survey of Income and Program Participation (SIPP) supplemented with data from the Urban Institute's Welfare Rules Database (WRD), and the Bureau of Labor Statistics. Data from the SIPP is appropriate for this analysis because it provides a monthly migration indicator for each study respondent. Though difference-in-difference analyses often utilize cross-sectional, rather than longitudinal, data, the SIPP data will be used in a way to simulate such an analysis.

Data from the SIPP also provide rich information on monthly income, labor force participation, government program participation, and a host of other personal and family characteristics. This nationally representative survey was based on a multistage, clustered sampling design, with high-poverty areas oversampled at a rate 1.66 times greater than low-poverty areas. Respondents were interviewed every four months and asked to report their activities for each month within that four-month period for a total of thirty-six months. All individuals 15 years of age or older who identified the sampled address as their usual residence were interviewed. The SIPP provides numerous sample weights to suit the needs of various research designs.

Data from the WRD will be used to control for the effects that certain state-level TANF policies have on employment outcomes. The WRD records the complexity of state welfare rules in a single source. This database provides detailed longitudinal data on a variety of TANF policies for all fifty states and the District of Columbia. Data for the years 1996 through 2003 were compiled from caseworkers' manuals, state regulations, AFDC state plans, and Waiver Terms and Conditions. Welfare-rule coding schemes are adopted from De Jong et al. (forthcoming).

Data from the Bureau of Labor Statistics will provide annual unemployment rates and average wages to control for the effects of state economic conditions on employment outcomes. The Local Area Unemployment Statistics (LAUS) provides annual female unemployment rates in each state, and the Occupational Employment Statistics (OES) survey provides median hourly wages for personal care and service occupations in each state. This study focuses on this class of occupations because it most closely resembles the types of jobs and wages that low-skill women are likely to take, including personal and home care aids, childcare workers, and hairdressers.

## METHODS AND DATA ANALYSIS

This analysis will examine the probability that a woman is employed at two arbitrarily chosen points in time. Time 1 will correspond to month four in the SIPP panel and was collected in 2001, while Time 2 corresponds to month 36, which was collected in 2003. Because difference-in-difference modeling techniques are used, each time period is treated as a cross-section; thus, women do not have to be in sample for both Time 1 and Time 2. In each analysis, person-level monthly weights are used to make respondents in that month look like the target

population. Weights are particularly important for the Time 2 sample, which correct for sample attrition.

At each time point a separate sample of women is used. All women who are between ages 18 and 64, are not enrolled in school, and do not live in Maine, Vermont, North Dakota, South Dakota, and Wyoming in Time 1 and/or Time 2 are eligible for inclusion in the study sample. To avoid selecting women who are unlikely to be engaged in the labor market, the age and enrollment restrictions are employed. The state restriction is imposed because SIPP aggregates persons living in these states and state level data cannot be applied to these people. Accordingly, the Time 1 sample consists of 26,287 women and the Time 2 sample of 19,179 women.

Migration status is determined by examining whether a sample respondent moves any time between Time 1 and Time 2. The SIPP data includes a monthly indicator of whether a respondent moved within or across state borders. At Time 1, women are classified as interstate or intrastate movers if they moved across state borders or within state borders, respectively, sometime after Time 1, but before Time 2. Women are categorized as interstate or intrastate movers at Time 2 if they moved across state borders or within state borders, respectively, prior to Time 2, but after Time 1. Non-movers are those women who did move between Times 1 and 2. Women who moved both within and across state borders between Time 1 and Time 2 are considered as both intrastate and interstate movers.

**Estimating Migration Effects: Difference-in-Difference Analysis**

This analysis makes use of difference-in-difference estimators, which compare changes in the probability of employment of interstate and intrastate movers between 2001 and 2003 with changes in the probability of employment for a comparison group that did not migrate during this

time period. Usual difference-in-difference analysis first computes changes in the outcomes and then compares these differences between interstate movers and intrastate movers with the reference group of non-movers (Weber et al. 2003). To illustrate the analytic strategy, the mean probability of employment is computed at both Times 1 and 2 using all eligible women in each group (non-movers, intrastate movers, and interstate movers). For each group, the mean probability of employment at Time 1 is subtracted from the mean probability of employment at Time 2, creating the "difference" estimate. The "difference" for the reference group (non-movers) is subtracted from the "difference" for intrastate movers and interstate movers to create the "difference-in-difference" estimates (Weber et al. 2003).

The first analysis compares intrastate and interstate movers to non-movers. Model 1 shows raw difference-in-difference estimates in which no control variables are included. All other models show logit difference-in-difference estimates. Model 2 includes all personal-level control variables except the Time 2 indicator of having had a job during the panel, and model 3 adds this employment indicator. Model 4 adds the state-level welfare eligibility policy and state economic controls[1]. All subsequent analyses include two models: one with all personal-level controls and another with all personal and state-level controls. In the second analysis, female respondents are subdivided into those that received any TANF during the SIPP panel and those that received none. The third analysis subdivided female respondents into those who are married, never married, and previously married. The final analysis subdivides women by their average family income across the panel: family incomes less than or equal to 50 percent of the poverty line make up the low-income category; those between 51 and 200 percent of the poverty line make up the medium-income category; and those greater than 201 percent of the poverty line make up the high-income category.

[1] All logistic regression results are available upon request.

Though this study is nonexperimental, it is enhanced by the inclusion of a comparison group (non-movers). Without the comparison group of non-movers, it cannot be ascertained how much of the change in the probability of employment among movers is due to the migration event and how much is due to other factors. By adding the non-movers, this study shows whether the migration groups experience change in the probability of employment – the migration effect - that is above and beyond that experienced by non-movers. If there is no migration effect on the probability of employment, the migrant groups should experience a change in employment similar to that of non-migrants.

Two significance tests are shown in the results. The first is for the change measure for each migration group, which determines whether there is a statistically significant level of change in probability of employment between Times 1 and 2 for each group. In other words, is the change in the probability of employment significantly different from zero? This test of change between Times 1 and 2 assumes dependent samples, and standard errors are calculated accordingly. The second significance test examines the null hypothesis that the change in the probability of employment between Times 1 and 2 is no different among a migration group than among non-movers. Significant results for this test indicate that the change in the probability of employment among a migration group is significantly different from the level of change among non-movers (the reference group). In each type of significance test, change scores and their associated standard errors are used to calculate the Z test statistic, which is used for assessing significant results.

**Variables**

The outcome of interest in this study is the probability of being employed, which is found using logistic regression models that treat employment in the month of interest (vs. non-

employment) as the dependent variable. Based upon the independent variables used in each model, the regression coefficients are used to find the predicted probability of employment for each sample member. The predicted probabilities for each woman in a group are averaged to determine the overall probability of employment for that group.

This study controls for several individual-level characteristics. Race is measured by a series of dummy variables (Black, Latino, and Other), with White as the reference category. Marital status is captured by dummy variables indicating that the respondent has previously been married or has never been married; women currently married are the reference category. Metropolitan residence (versus non-metropolitan residence) is measured with a dummy variable. Educational attainment is captured by a set of dummy variables indicating that a respondent has less than a high school degree or at least some college, with having a high school degree as the reference category. Respondent's current welfare receipt status is measured with an indicator of TANF receipt status in the month of interest. Number of children and current age are continuous variables. Among the movers at Time 2, the number of months since the most recent move is included to control for those who recently moved and may not have had time to find a job. The Time 2 estimates include a variable indicating whether the respondent held a job since Time 1 to control for recent work experience.

A variety of state-level characteristics are also included in this analysis to control for factors that could affect women's likelihood of being employed. The primary goal of PRWORA was to promote employment among welfare recipients. Accordingly, the following state welfare rules are included in this analysis: activity sanctions, maximum benefit levels, work activity requirements, earned income disregards, and time limits. Activity sanctions indicate the worst-case sanction that the state would employ and are coded such that increasing values represent

more stringent policy (0=partial loss of benefits; 1=partial loss of benefits and sanction; 2=$100 penalty for two months, after which all benefit is lost until compliance; 3=unit loses eligibility for a specified time or until compliance; and 4=eligibility lost for life). The maximum benefit level is the maximum dollar benefit that a family of four with no reported income is eligible to receive in each month. Activities requirements are a summary score of each state's five activities requirements rules, with higher scores indicating more stringent policy. Each rule is coded as 0 if a wide variety of activities including community service or child care are allowed or if the state has no activities requirement, 1 if work and school activities are allowed, and 2 if only work or only school activities are allowed. Earned income disregards measure the maximum amount of income that a family of 4 can disregard over a 2-year period of time assuming that welfare participation is continuous during the period, the unit head works at least 40 hours a week continuously during the period, and that earned income is equal to $978 per month[2]. Values were put into standardized scores with a mean of 0 and standard deviation of 1. The measure of time limits captures how the extension policy is implemented in each state. This rule is indicated by a set of dummy variables: States that do not allow any extensions are the most stringent; states that do not have time limits are the most lenient. Serving as the reference group are states that implement extensions based on specific rules or on a case-by-case basis.

Two state economic indicators are also included in this analysis. Unemployment is captured by the female unemployment rate in each state expressed as a percentage. Expected wages are measured by the median hourly wage for personal care and service occupations in each state.

[2] Based upon previous analysis, this value was found to be the average monthly income of TANF recipients in the SIPP panel.

## RESULTS

Weighted frequencies and means for the total sample and by migration status are presented in Table 1. In general, the intrastate movers appear more disadvantaged than the other groups, in that this group has the highest percentage of women who are black or Latina, previously and never married, have less than a high school degree, and are receiving TANF. Interstate movers are more likely to be white and have some schooling beyond a high school degree. Non-movers are the most likely to be married, to have only a high school degree, and to be older. The state-level characteristics are similar across women of the three migration statuses. The exceptions might be that women who move across state borders are slightly less likely to live in a state that does not employ time limits and to live in states with lower earned income disregards.

Table 2 shows the difference-in-difference estimates for all women, by migration status. In all models, regardless of migration status, the likelihood of employment at Time 2 is lower than at Time 1. Intrastate movers have the highest levels of employment. Interstate movers and non-movers have similar levels of employment at Time 1, but interstate movers have a lower Time 2 probability of employment. The decrease in the probability of employment is greater among intrastate movers as compared to the control group of non-movers and even greater among interstate movers. Among both groups, the migration effect decreases (in absolute value) as covariates are added to the model. In fact, the effect of making an intrastate move reduces to non-significance after an indicator of having a job prior to Time 2 is added in model 3, whereas the interstate migration effect remains significant in all four models. Results from Model 4 of Table 2 suggest that women who move within state borders do not experience a significantly greater decline in the probability of employment compared to women who do not move. On the

other hand, women who move across state borders experience a decline in the probability of employment that is more than 7 percent greater than that of non-movers.

Tables 3, 4, and 5 examine the same migration effects but subdivide women by TANF receipt status, marital status, and average family income[3]. For each subgroup, two models are shown. The first shows estimates for a model that includes all individual-level covariates, while the second shows all state and individual-level covariates. Comparison of the two models shows whether the state-level characteristics impact the probability of employment.

Table 3 shows difference-in-difference estimates for women who received TANF sometime during the SIPP panel and for those who did not. Women who received TANF have employment levels about 20 percent lower than women never on TANF. There is no significant intrastate migration effect for women ever on TANF or those never on TANF, replicating results from Models 4 in Table 2. Among women who did not receive TANF anytime throughout the SIPP panel, interstate movers experience a decline in the likelihood of employment that is more than 7 percent greater than the effect of non-movers, similar to effects in Table 2. On the other hand, TANF recipients face a smaller interstate migration effect compared to women never on TANF; though they do have overall lower probabilities of employment. Interestingly, there does appear to be some effect of state-level variables on the probability of employment among this group of TANF recipients. The migration effect in the model that does not include state-level covariates is -0.0606 and drops to -0.0477 in the model including state-level covariates. This suggests that stringent state-level TANF policy help, to some extent, to minimize the negative effect of an interstate move on the probability of employment. The effects of state economic indicators are not in the expected direction, suggesting the need for a more thorough analysis.

[3] Analyses examining TANF receipt status include an indicator of current TANF receipt for the group ever on TANF. Analyses subdividing by marital status exclude these variables as covariates in the logistic regression analysis.

The Time 1 probability of employment decreases when state-level characteristics are added, but the Time 2 probability increases. This Time 1 decrease is due in part to the stronger negative effects of current TANF receipt and age net state-level effects, added with a negative effect of wages on the likelihood employment[4]. On the other hand, adding state-level variables to the Time 2 analysis changes the direction of the effects of race (black and other), being previously married, and the number of months since last move in the positive direction, with positive effects of activities requirements, high unemployment rates, high wages and no time limit extensions on the probability of employment.

Difference-in-difference estimates by migration and marital status are presented in Table 4. In general, never married women have the highest employment levels, while married women have the lowest. Both married and previously married women experience a small, but statistically significant, negative intrastate migration effect. Never married women who move within state borders experience a decline in the probability of employment that is not statistically significant from non-movers. Similarly, never married women do not experience a significant interstate migration effect, whereas both married and previously married women do. In fact, previously married women experience a decline in employment that is over 13 percent greater than non-movers. Whether it is the migration event itself, or a factor that triggers this move, previously married women experience a large set-back in their probability of employment, particularly when moving across state borders. On the other hand, among never married women, the likelihood of employment is no different among interstate or intrastate movers as among non-movers.

[4] Results from the logistic regression analysis are available upon request. Few of these effects on the probability of employment are statistically significant due to small sample size.

Finally, Table 5 shows difference-in-difference estimates by migration and family income status. The employment levels of low-income women are the lowest, while high-income women have the highest employment levels. The greatest negative intrastate migration effect is experienced by women in families averaging less than 50 percent of the poverty line, though this effect is not statistically significant. Women in families with average income between 51 and 200 percent of the poverty line do experience a significant, though somewhat smaller, negative intrastate migration effect. There is virtually no intrastate migration effect among women in families with averaging more than 200 percent of the poverty line; however, these same women experience the largest interstate migration effect. Medium income women experience a slightly smaller, and statistically significant, interstate migration effect, while women in low income families experience the smallest, and not statistically significant, interstate migration effect. Among low income women, the addition of state-level covariates increases the negative effect of making an interstate move. In the model that includes state-level covariates compared to the model without, the probability of employment at Time 1 increases, while it decreases at Time 2. This increase in the probability at Time 1 is due to stronger positive effects of having some college, being previously married, and living in a metropolitan area, combined with positive effects of unemployment and wages. The Time 2 decrease in the probability of employment is likely due to the effects of being black, having less than a high school degree, and living in a metropolitan area, which change from positive to negative when state-level variables are added to the model. Also, in this model all the state-level variables, with the exception of activities requirements, have negative effects on the probability of employment[5].

[5] Results from the logistic regression analysis are available upon request. Few of these effects on the probability of employment are statistically significant due to small sample size.

## DISCUSSION AND CONCLUSION

This study provides an insightful look into the migration effects on women's likelihood of employment. An important contribution of this study is the use of a comparison group (non-movers).

In almost every analysis, the probability of employment among women in this sample is lower at Time 2 compared to Time 1. The one exception is women of middle income families that made an intrastate move. While almost all women see a decline in their probability of employment between Times 1 and 2, most intrastate movers do not experience a decline in employment above and beyond that of non-movers. These results suggest that women's employment is generally not affected by moving within state. As the literature would suggest, however, women that move across state borders do experience a decline in their probability of employment that is significantly larger than that of non-movers, suggesting that some aspect of making an interstate move disrupts women's labor force attachment. Further research is needed to examine employment outcomes over a longer time span. Perhaps, if given enough time, women who move across state borders have employment outcomes no different from non-movers, or perhaps not, suggesting a real interstate migration effect.

Regardless of a woman's recent TANF receipt history, there is no indication of an intrastate migration effect. There are, however, significant, but small, negative intrastate migration effects among married and previously married women and positive effects among women of medium income families. The negative effect of intrastate migration among married women replicates previous findings that married women are most likely to be unemployed following a migration event (Boyle et al. 2001; Lee and Roseman 1999). The negative effect among previously married women is curious, and may reflect the instability faced by the women

in this group, rather than anything to do with the migration event itself. Women of middle income families have employment levels above those of women from low income families, but below those of high-income families. Their increase in the probability of employment between Times 1 and 2 may reflect a growing need for the women in these families to take jobs that help support families near the poverty line.

Interstate versus intrastate migration and non-migration effects are much more pronounced among most groups of women, not surprising, given the unsettling consequence of migration events for many people. In general, these interstate migration results suggest that most women are not moving to job opportunities. Rather, most groups see a decline in their levels of employment that surpasses the declines among non-movers. The largest interstate migration effects are seen among women never on TANF, married or previously married, and those belonging to medium and high-income families. In other words, the most advantaged women are likely to see the largest negative effects from moving across state borders. On the other hand, more disadvantaged women – those with TANF receipt histories, never married, and of low-income families – experienced smaller and non-significant interstate migration effects. With the exception of never married women, these groups have lower employment levels that the other groups. Never married women have employment levels on par with never married women, both of which exceed the levels of married women. It seems plausible that these more disadvantaged groups would have smaller effects of migration. Those engaged in the labor force prior to moving will likely seek immediate employment after making a move; whereas those receiving welfare prior to a move will likely seek to re-establish benefit receipt at their new location unless employment opportunities are available.

Finally, this analysis includes several state welfare policies and state economic characteristics which are hypothesized to affect both the decision to migrate and the likelihood of being employed. The welfare related rules should impact the probability of employment only for the welfare-reliant population, just as the unemployment rates and average low-skill wages should impact low-income workers. Results indicate that this does appear to be the case. The only noticeable differences in the probability of employment between models with and without state-level variables is for the group of women who received welfare during the SIPP panel and those in families averaging less than 50 percent of the poverty level. While state-level variables helped minimize the interstate migration effect of TANF recipients, it actually hurt women belonging to low-income families. All other groups are not greatly affected by the addition of these state-level variables to the model. These preliminary results suggest that these state-level characteristics indeed have some impact on the employment outcomes of female migrants, though only among subsets of the female population.

**LIMITATIONS**

This study contributes to our knowledge about the relationship between migration and employment among women, an understudied group on the topic. As women are increasingly involved in the labor force and are single heads of household, there is growing motivation to understand the extent to which migration experiences impact the likelihood of female employment. Despite its contributions, this study does have several shortcomings. First, results from Table 1 indicate that movers are quite dissimilar from non-movers, suggesting the need for sensitivity analyses. Unless movers and non-movers are sufficiently similar to each other prior to migration events, there is a greater possibility that factors other than migration could be

contributing towards changes in employment among female sample respondents. While I can control for many characteristics of women that would affect migration and employment behavior, there are some unmeasured characteristics of interest that I am unable to control for. A matched sample analysis could correct for differences between movers and non-movers.

Second, this study examines employment and migration behavior only within a limited time span (just less than three years). Clearly, respondents need to be studied over a longer time frame, preferably taking into account all past employment and migration histories. Third, this analysis does little to control for change in study respondent's lives between Time 1 and Time 2. The subdivision of respondents by marital status is most notable. For example, the Time 2 analyses of previously married women might include women who have been divorced for several years and those who became divorced since Time 1. Obviously, there is a need to further classify women with stable personal characteristics and those experiencing change since the initial observation; however, small sample sizes limited the ability to do so in this analysis. Already, some groups had dangerously low sample sizes.

Finally, there may be serious implications of the role of attrition in this study. Obviously, some respondents leave the study because they move to another location and are not followed-up. On the other hand, some people enter the sample because they have moved in with a SIPP family. In each case these people are coded as non-movers because there is no information about them prior to or following a migration event. SIPP sample weights are designed to correct for sample attrition, but the issue still poses a serious problems for analysis.

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Table 1 - Weighted frequencies and means for total sample and by migration status

| | Total sample | | Nonmovers | | Intrastate movers | | Interstate movers | |
|---|---|---|---|---|---|---|---|---|
| | Time 1 | Time 2 | Time 1 | Time 2 | Time 1 | Time 2 | Time 1 | Time 2 |
| *Individual level characteristics* | | | | | | | | |
| White | 70.64 | 69.48 | 71.32 | 70.58 | 66.44 | 64.34 | 73.87 | 72.55 |
| Black | 12.17 | 12.15 | 11.78 | 11.58 | 14.65 | 14.92 | 9.40 | 9.46 |
| Latino | 12.10 | 13.15 | 11.89 | 12.73 | 13.88 | 15.37 | 9.53 | 11.36 |
| Other | 5.09 | 5.22 | 5.02 | 5.12 | 5.04 | 5.36 | 7.20 | 6.63 |
| Married | 61.00 | 61.30 | 63.68 | 63.85 | 46.65 | 50.53 | 56.12 | 62.94 |
| Previously married | 19.48 | 19.31 | 18.75 | 18.26 | 23.68 | 24.05 | 19.45 | 17.06 |
| Never married | 19.51 | 19.40 | 17.58 | 17.88 | 29.67 | 25.41 | 24.43 | 20.00 |
| Metro | 78.68 | 78.38 | 79.03 | 78.53 | 76.96 | 78.03 | 76.32 | 75.24 |
| Less than high school | 13.36 | 12.38 | 12.89 | 11.95 | 16.50 | 14.96 | 9.90 | 8.57 |
| High school | 31.57 | 29.20 | 32.10 | 30.15 | 29.83 | 26.58 | 22.10 | 19.10 |
| More than high school | 55.07 | 58.42 | 55.01 | 57.90 | 53.67 | 58.46 | 68.00 | 72.33 |
| Currently receiving TANF | 1.89 | 1.74 | 1.63 | 1.49 | 3.47 | 2.81 | 1.48 | 1.79 |
| Number of kids | 0.95 | 0.93 | 0.93 | 0.89 | 1.06 | 1.07 | 0.93 | 1.04 |
| Age | 41.11 | 42.02 | 42.30 | 43.46 | 35.24 | 36.66 | 36.05 | 37.01 |
| Months since moved | - | 3.21 | - | - | - | 14.90 | - | 13.51 |
| Had job since Time 1 | - | 83.28 | - | 82.61 | - | 85.97 | - | 84.60 |
| Received TANF during panel | 4.05 | 4.76 | 3.27 | 3.93 | 8.24 | 8.28 | 5.46 | 5.67 |
| Average % poverty level | 379 | 380 | 391 | 395 | 311 | 318 | 360 | 363 |
| Currently have a job | 73.93 | 71.80 | 73.60 | 71.79 | 75.78 | 72.91 | 73.61 | 64.20 |
| *State level characteristics* | | | | | | | | |
| Activity sanctions | 2.08 | 2.12 | 2.09 | 2.12 | 2.01 | 2.08 | 2.15 | 2.34 |
| Maximum benefits | 479 | 490 | 480 | 492 | 472 | 485 | 473 | 460 |
| Activity requirements | 1.61 | 1.60 | 1.58 | 1.56 | 1.81 | 1.79 | 1.60 | 1.54 |
| Earned income disregards | 0.058 | 0.071 | 0.054 | 0.066 | 0.087 | 0.104 | 0.025 | 0.000 |
| No time limits | 5.73 | 7.58 | 5.78 | 7.95 | 5.66 | 6.55 | 4.47 | 4.27 |
| Extensions allowed | 76.77 | 85.73 | 76.41 | 85.10 | 78.68 | 87.88 | 77.83 | 89.46 |
| No extensions allowed | 17.50 | 6.69 | 17.81 | 6.95 | 15.66 | 5.57 | 17.70 | 6.27 |
| Unemployment rates | 4.16 | 5.67 | 4.16 | 5.66 | 4.21 | 5.72 | 4.11 | 5.61 |
| Wages | 7.96 | 8.40 | 7.97 | 8.41 | 7.92 | 8.35 | 7.99 | 8.33 |
| Unweighted N | 26,287 | 19,179 | 21,777 | 15,068 | 3,990 | 3,632 | 723 | 650 |

Table 2 - Difference-in-difference estimates of the probability of employment for all women

| | Non-Movers | | | Intrastate movers | | | | Interstate movers | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time 1 (a) | Time 2 (b) | Change (c) =(b)-(a) | Time 1 (d) | Time 2 (e) | Change (f)=(e)-(d) | Migration effect (g)=(f)-(c) | Time 1 (h) | Time 2 (i) | Change (j)=(i)-(h) | Migration effect (k)=(j)-(c) |
| Model 1 - no covariates | | | | | | | | | | | |
| Probability of employment | 0.7360 | 0.7179 | -0.0181 | 0.7578 | 0.7291 | -0.0287 | -0.0106 | 0.7361 | 0.6420 | -0.0941 | -0.0760 |
| z-score | | | -3.527** | | | -2.802** | -3.562** | | | -3.684** | -6.607** |
| standard error | | | 0.005 | | | 0.010 | 0.003 | | | 0.026 | 0.012 |
| Model 2 - individual (except job) | | | | | | | | | | | |
| Probability of employment | 0.7326 | 0.7143 | -0.0183 | 0.7512 | 0.7251 | -0.0261 | -0.0078 | 0.7363 | 0.6411 | -0.0952 | -0.0769 |
| z-score | | | -3.552** | | | -2.531** | -2.725** | | | -3.726** | -6.650** |
| standard error | | | 0.005 | | | 0.010 | 0.003 | | | 0.026 | 0.012 |
| Model 3 - individual (with job) | | | | | | | | | | | |
| Probability of employment | 0.7326 | 0.7120 | -0.0206 | 0.7512 | 0.7268 | -0.0244 | -0.0038 | 0.7363 | 0.6417 | -0.0946 | -0.0740 |
| z-score | | | -3.993** | | | -2.368** | -1.352 | | | -3.704** | -6.414** |
| standard error | | | 0.005 | | | 0.010 | 0.003 | | | 0.026 | 0.012 |
| Model 4 - individual and state | | | | | | | | | | | |
| Probability of employment | 0.7325 | 0.7120 | -0.0205 | 0.7511 | 0.7270 | -0.0241 | -0.0036 | 0.7357 | 0.6418 | -0.0939 | -0.0734 |
| z-score | | | -3.974** | | | -2.339** | -1.288 | | | -3.671** | -6.383** |
| standard error | | | 0.005 | | | 0.010 | 0.003 | | | 0.026 | 0.011 |
| N | 21,777 | 15,068 | | 3,990 | 3,632 | | | 723 | 650 | | |

*p<0.05, **p<.0.1

Table 3 - Difference-in-difference estimates of the probability of employment by TANF receipt status

| | Non-Movers | | | Intrastate movers | | | | Interstate movers | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time 1 (a) | Time 2 (b) | Change (c) =(b)-(a) | Time 1 (d) | Time 2 (e) | Change (f)=(e)-(d) | Migration effect (g)=(f)-(c) | Time 1 (h) | Time 2 (i) | Change (j)=(i)-(h) | Migration effect (k)=(j)-(c) |
| Ever on TANF - individual | | | | | | | | | | | |
| Probability of employment | 0.5196 | 0.4593 | -0.0603 | 0.5260 | 0.4574 | -0.0686 | -0.0083 | 0.5687 | 0.4481 | -0.1206 | -0.0603 |
| z-score | | | -2.160* | | | -1.761* | -0.493 | | | -1.087 | -1.152 |
| standard error | | | 0.028 | | | 0.039 | 0.017 | | | 0.111 | 0.052 |
| Ever on TANF - individual and state | | | | | | | | | | | |
| Probability of employment | 0.5190 | 0.4582 | -0.0608 | 0.5251 | 0.4557 | -0.0694 | -0.0086 | 0.5585 | 0.4500 | -0.1085 | -0.0477 |
| z-score | | | -2.139* | | | -1.782* | -0.508 | | | -0.976 | -0.953 |
| standard error | | | 0.028 | | | 0.039 | 0.017 | | | 0.111 | 0.050 |
| N | 816 | 639 | | 364 | 328 | | | 45 | 40 | | |
| Never on TANF - individual | | | | | | | | | | | |
| Probability of employment | 0.7409 | 0.7234 | -0.0175 | 0.7735 | 0.7529 | -0.0206 | -0.0031 | 0.7462 | 0.6514 | -0.0948 | -0.0773 |
| z-score | | | -3.357** | | | -1.970* | -1.124 | | | -3.628** | -1.659* |
| standard error | | | 0.005 | | | 0.010 | 0.003 | | | 0.026 | 0.047 |
| Never on TANF - individual and state | | | | | | | | | | | |
| Probability of employment | 0.7408 | 0.7234 | -0.0174 | 0.7733 | 0.7532 | -0.0201 | -0.0027 | 0.7457 | 0.6516 | -0.0941 | -0.0767 |
| z-score | | | -3.338** | | | -1.922* | -0.989 | | | -3.601** | -1.651* |
| standard error | | | 0.005 | | | 0.010 | 0.003 | | | 0.026 | 0.046 |
| N | 20961 | 14429 | | 3626 | 3304 | | | 678 | 610 | | |

*p<0.05, **p<.0.1

Table 4 - Difference-in-difference estimates of the probability of employment by marital status

| | Non-Movers | | | Intrastate movers | | | | Interstate movers | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time 1 (a) | Time 2 (b) | Change (c) =(b)-(a) | Time 1 (d) | Time 2 (e) | Change (f)=(e)-(d) | Migration effect (g)=(f)-(c) | Time 1 (h) | Time 2 (i) | Change (j)=(i)-(h) | Migration effect (k)=(j)-(c) |
| Married - individual | | | | | | | | | | | |
| Probability of employment | 0.7140 | 0.6988 | -0.0152 | 0.7020 | 0.7001 | -0.0019 | 0.0133 | 0.6576 | 0.5711 | -0.0865 | -0.0713 |
| z-score | | | -2.290* | | | -0.124 | 8.155** | | | -2.517** | -5.040** |
| standard error | | | 0.007 | | | 0.015 | 0.002 | | | 0.034 | 0.014 |
| Married - individual and state | | | | | | | | | | | |
| Probability of employment | 0.7139 | 0.6988 | -0.0151 | 0.7020 | 0.7003 | -0.0017 | 0.0134 | 0.6568 | 0.5705 | -0.0863 | -0.0712 |
| z-score | | | -2.274* | | | -0.111 | 8.412** | | | -2.510** | -5.038** |
| standard error | | | 0.007 | | | 0.015 | 0.002 | | | 0.034 | 0.014 |
| N | 13644 | 9409 | | 1838 | 1774 | | | 398 | 398 | | |
| Never married - individual | | | | | | | | | | | |
| Probability of employment | 0.7916 | 0.7480 | -0.0436 | 0.8263 | 0.7922 | -0.0341 | 0.0095 | 0.8303 | 0.7956 | -0.0347 | 0.0089 |
| z-score | | | -3.814** | | | -1.858* | 1.325 | | | -0.726 | 0.544 |
| standard error | | | 0.011 | | | 0.018 | 0.007 | | | 0.048 | 0.016 |
| Never married - individual and state | | | | | | | | | | | |
| Probability of employment | 0.7913 | 0.7479 | -0.0434 | 0.8261 | 0.7914 | -0.0347 | 0.0087 | 0.8268 | 0.7920 | -0.0348 | 0.0086 |
| z-score | | | -3.795** | | | -1.889* | 1.207 | | | -0.723 | 0.500 |
| standard error | | | 0.011 | | | 0.018 | 0.007 | | | 0.048 | 0.017 |
| N | 3919 | 2705 | | 1161 | 915 | | | 181 | 133 | | |
| Previously married - individual | | | | | | | | | | | |
| Probability of employment | 0.7376 | 0.7222 | -0.0154 | 0.7541 | 0.7145 | -0.0396 | -0.0242 | 0.8360 | 0.6940 | -0.1420 | -0.1266 |
| z-score | | | -1.332 | | | -1.949* | -3.524** | | | -2.620** | -3.947** |
| standard error | | | 0.012 | | | 0.020 | 0.007 | | | 0.054 | 0.032 |
| Previously married - individual and state | | | | | | | | | | | |
| Probability of employment | 0.7377 | 0.7221 | -0.0156 | 0.7539 | 0.7145 | -0.0394 | -0.0238 | 0.8359 | 0.6900 | -0.1459 | -0.1303 |
| z-score | | | -1.350 | | | -1.939* | -3.470** | | | -2.686** | -4.017** |
| standard error | | | 0.012 | | | 0.020 | 0.007 | | | 0.054 | 0.032 |
| N | 4214 | 2954 | | 991 | 943 | | | 144 | 119 | | |

*p<0.05, **p<.0.1

Table 5 - Difference-in-difference estimates of the probability of employment by average family income level

| | Non-Movers | | | Intrastate movers | | | | Interstate movers | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time 1 (a) | Time 2 (b) | Change (c) =(b)-(a) | Time 1 (d) | Time 2 (e) | Change (f)=(e)-(d) | Migration effect (g)=(f)-(c) | Time 1 (h) | Time 2 (i) | Change (j)=(i)-(h) | Migration effect (k)=(j)-(c) |
| Low income - individual | | | | | | | | | | | |
| Probability of employment | 0.4013 | 0.3417 | -0.0596 | 0.4879 | 0.4082 | -0.0797 | -0.0201 | 0.4891 | 0.3997 | -0.0894 | -0.0298 |
| z-score | | | -3.353** | | | -2.681** | -1.542 | | | -1.069 | -0.860 |
| standard error | | | 0.018 | | | 0.030 | 0.013 | | | 0.084 | 0.035 |
| Low income - individual and state | | | | | | | | | | | |
| Probability of employment | 0.4012 | 0.3417 | -0.0595 | 0.4878 | 0.4084 | -0.0794 | -0.0199 | 0.4915 | 0.3857 | -0.1058 | -0.0463 |
| standard error | | | -3.347** | | | -2.671** | -1.529 | | | -1.269 | -1.242 |
| z-score | | | 0.018 | | | 0.030 | 0.013 | | | 0.083 | 0.037 |
| N | 2438 | 1472 | | 688 | 556 | | | 86 | 70 | | |
| Medium income - individual | | | | | | | | | | | |
| Probability of employment | 0.6122 | 0.6023 | -0.0099 | 0.6781 | 0.6827 | 0.0046 | 0.0145 | 0.6549 | 0.5695 | -0.0854 | -0.0755 |
| z-score | | | -0.725 | | | 0.204 | 4.786** | | | -1.472 | -2.827** |
| standard error | | | 0.014 | | | 0.023 | 0.003 | | | 0.058 | 0.022 |
| Medium income - individual and state | | | | | | | | | | | |
| Probability of employment | 0.6124 | 0.6021 | -0.0103 | 0.6789 | 0.6827 | 0.0038 | 0.0141 | 0.6519 | 0.5794 | -0.0725 | -0.0622 |
| z-score | | | -0.754 | | | 0.169 | 4.863** | | | -1.250 | -2.827** |
| standard error | | | 0.014 | | | 0.023 | 0.003 | | | 0.058 | 0.022 |
| N | 3775 | 2556 | | 922 | 857 | | | 151 | 140 | | |
| High income - individual | | | | | | | | | | | |
| Probability of employment | 0.8105 | 0.7862 | -0.0243 | 0.8527 | 0.8249 | -0.0278 | -0.0035 | 0.8044 | 0.6929 | -0.1115 | -0.0872 |
| z-score | | | -4.502** | | | -2.514** | -0.755 | | | -3.844** | -5.784** |
| standard error | | | 0.005 | | | 0.011 | 0.005 | | | 0.029 | 0.015 |
| High income - individual and state | | | | | | | | | | | |
| Probability of employment | 0.8105 | 0.7863 | -0.0242 | 0.8527 | 0.8252 | -0.0275 | -0.0033 | 0.8032 | 0.6938 | -0.1094 | -0.0852 |
| z-score | | | -4.484** | | | -2.488** | -0.714 | | | -3.770** | -5.698** |
| standard error | | | 0.005 | | | 0.011 | 0.005 | | | 0.029 | 0.015 |
| N | 15564 | 11040 | | 2380 | 2209 | | | 486 | 440 | | |

*p<0.05, **p<.0.1