

IMMIGRANT REDISTRIBUTION, LIFE COURSE TRANSITIONS, AND STATE
WELFARE POLICIES: THEORY AND EVIDENCE FROM THE UNITED STATES

by

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Abstract

While immigration and immigrant assimilation have been salient research topics in European population science, the analysis of immigrant redistribution (secondary migration within the EU) has rarely been studied. This paper provides an exemplar of theory and evidence on life course transitions and state welfare policy explanations for immigrant redistribution in the U.S. and lessons for possible application to European countries. Utilizing longitudinal individual- and family-level migration, human capital, and life course transitions data from the 1996-1999 and 2001-2003 panels of the Survey of Income and Program Participation, integrated with state welfare rule data and state economic conditions data, we apply a discrete-time event history approach in a nested logit model to estimate both departure decision and destination choice models of immigrants. The results provide consistent evidence that family life course transitions exert independent effects on the redistribution of immigrants, and that stringent state welfare eligibility policies affect both the departure and destination state relocation decisions of immigrants, controlling for state economy and co-ethnic population composition indicators. .

Introduction

Immigration and immigrant assimilation have been major themes in European population science literatures, but immigrant redistribution (the secondary migration of immigrants within the EU) has only rarely been studied (Nekby 2006; Salt and Clarke 2000). One of the great dreams of European integration since the Treaty of Rome has been the creation of a completely unified labor market, which implies the free movement of persons and labor market access for workers, including, in principle, legal immigrants (OECD 2004). The development of data bases to document the location and redistribution histories of immigrants, and particularly of irregular immigrants, is currently under development for the EU (Broeders 2007), but these administrative databases may not provide the basis for hypothesis testing of life course transition as well as state economic and welfare policy explanations for immigrant relocation behavior. In this paper, we provide an exemplar of theory and evidence on life course transitions and state welfare policy explanations for immigrant redistribution within the United States based on longitudinal individual- and family-level migration, human capital, and life course transition data integrated with state welfare eligibility rules and state economic data.

Among the more salient post-2000 migration patterns in the U.S. is the redistribution of the immigrant population to new state and local community destinations

(Census Bureau 2003). While some of this redistribution results from growth in international migration streams directly to new “ports of entry,” other new streams may form along network ties, with family and friends engaging in secondary internal migration to follow “pioneers” from established U.S. gateway states to new areas promising a better life (Newbold 1999).

Recent research on post-immigration internal migration in the U.S., based largely on census or one-interview cross-sectional survey data, yields several key findings. First, state and local economic conditions such as job growth and unemployment rates clearly affect the location decisions of immigrants (Aslund 2005, Fang and Brown 1999, Newbold 1996). Second, the strong, independent effect of co-ethnic immigrant population concentration on interstate migration of immigrants implies that immigrant social capital has an important role (Gurak and Kritz 2000, Kritz and Nogle 1994, Zavodny 1999). Third, individual human capital, measured as educational attainment, employment experience, and occupational skills, affects the location decisions of both immigrant and native workers (Bartel and Koch 1991, Gurak and Kritz 2000, Zavodny 1999).

Other migration-motivating factors not systematically addressed by this body of scholarship are the impact of state-level welfare rules toward immigrants and the impact of individual and family life course transitions. The influence of state-level welfare rules

toward immigrants potentially increased dramatically as the 1996 federal welfare reform legislation excluded recent immigrants from receiving federally funded benefits, but gave states authority to allocate state monies for immigrant welfare assistance and to adopt stringent or lenient eligibility policies overall. Consequently, not only economic conditions, but also immigrant-relevant welfare rules can vary across states, resulting in migration “pushes” where rules are stringent or the economy offers few opportunities and “pulls” where rules are more lenient or job opportunities are plentiful. Utilizing longitudinal individual- and family-level life course, migration, and human capital data from the 1996-1999 and 2001-2003 panels of the Survey of Income and Program Participation (SIPP), integrated with state welfare rules data from the Urban Institute and state economic conditions data from the Bureau of Labor Statistics, we apply multilevel event-history modeling techniques to address the following study objectives:

1. We examine the migration of recent and non-recent immigrant families from and to states with stringent-to-lenient immigrant eligibility welfare rules by explicitly modeling both a destination benefit model (pull effect) and a departure disincentive model (push effect).
2. We test whether state economic conditions (race/ethnic specific unemployment rates and job growth measures) and co-ethnic immigrant population concentrations are

alternative contextual explanations to state welfare policies for the interstate migration behavior of poor immigrant families.

3. We explicitly model the impact of longitudinally-measured family life-course events (getting and losing a job, marriage and divorce, adding children, etc.) on the internal migration of poor immigrant families.

4. We test whether family life course events are important in explaining the interstate migration of poor immigrant families, net the effect of family social capital networks and individual human capital characteristics.

Background

The enactment of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996 renewed the debate among welfare and migration scholars alike with regard to the incentive effects of the U.S. welfare system (Schram and Soss 1999; Schram, Nitz, and Krueger 1998; Frey, Liaw, Xie, Carlson 1996). In the post-welfare reform era, the wide state variation in lenient-to-stringent welfare policy eligibility rules, including rules for immigrant eligibility, along with employment opportunities argued by traditional microeconomics to drive migration, are important components of the interstate migration cost-benefit calculus for poor immigrant families. Alternatively, from the life course perspective, family status transitions in marriage,

separation, divorce, and childbearing, along with family socioeconomic status transitions to and from work, education, and welfare program participation are hypothesized as alternative explanations for the interstate migration of immigrant families.

Conceptualizing these alternative explanations requires attention to both the explanations related to the decision to migrate from a state (departure decision) and the decision to migrate to a state (destination choice). Contextual aspects expected to influence the departure decision are not only stringent welfare policies but also state economic conditions, such as poor job opportunities and co-ethnic immigrant population concentration. These state characteristics might be expected to matter particularly for those who lose a job or who experience family composition changes that have impacts on welfare eligibility or the need for employment. For example, poor immigrant families in which a birth occurs may be less likely to move given preoccupation with the needs of a new baby, but may be more likely to move if the birth creates an economic disadvantage for those living in states with stringent welfare eligibility rules. Economic disadvantage may push immigrant families to migrate to locations where social support – particularly from extended family members – is available. Job loss may be a particularly salient migration-motivating event for immigrants in states with poor job growth or high unemployment rates as well as more stringent welfare eligibility rules. Thus the relationship between state contextual characteristics and migration behavior of

immigrants may be explained alternatively by life course events that make migration a relevant option. Likewise, state welfare policy and economic contexts may “pull” immigrant families who experience disadvantaging family life events.

Welfare Policy and Immigrant Relocation

One of the most contentious issues in the 1996 welfare reform debate was the access for non-citizens to public assistance benefits. The law as originally passed denied benefits during the first five years of residency in the US. However, PRWORA also gave states the option to use federal funds for pre-enactment immigrants for TANF and Medicaid. Most states decided to do so. Furthermore, twenty-three states, have also created state-funded TANF programs for some or all of the legal immigrants who are ineligible for federal TANF during the first five-year ban period (Singer 2004). A result of this policy evolution has been considerable variation between states in the access for non-citizens to public assistance benefits.

We argue that the immigrant-specific policy environment created by the 1996 federal welfare reform legislation has expanded the set of research questions addressing the motivations for and benefits of migration among the nation’s foreign born.

PRWORA’s devolution of welfare policy and programs to the states means welfare benefits now differ on more than dollar amounts (De Jong, Graefe, Irving, and St. Pierre 2006). Variations in the total welfare package due, for example, to different rules on

immigrant eligibility, time limits, and work requirements, in addition to benefit level, can result in receipts being evaluated as more or less attractive across localities in the individual or family cost-benefit analysis of the potential to migrate.

But what is the empirical evidence concerning the impact of welfare policy on immigrant relocation in the US? Prior studies of welfare migration present mixed results as to whether immigrants, as well as the population as a whole, move as an economically rational behavior to maximize their welfare benefits. Most researchers studying welfare migration among immigrants find them to be attracted to states with generous welfare programs (Dodson 2001; Buckley 1996; Bartel 1989), although these studies have data limitations and estimation restrictions that potentially bias their results. Kaushal's (2005) findings, using models incorporating state and county fixed effects, are that this attraction is much smaller than previous studies indicated and are nonexistent for the low-skilled, unmarried immigrant women targeted by welfare reform. Past studies for all welfare poor use varied methods and samples to arrive at mixed conclusions (Cebula 1979; Long 1974; De Jong and Donnelly 1973; Sternlieb and Indik 1973; Beale 1971; Piven and Cloward 1971; Steiner 1971; De Jong and Ahmad 1976; Dye 1990; Blank 1988; Gramlich and Lauren 1984; Schram, Nitz, and Krueger 1998; Levine and Zimmerman 1995; Hanson and Hartman 1994; Walker 1994). Most recently, however, research by De Jong, Graefe, and St. Pierre (2005) utilizing a multi-level event history approach that

simultaneously models the departure decision and destination choice, as used here, found clear “push” effects of stringent welfare policies, but no “pull” of lenient policy states for all welfare poor families.

In sum, PRWORA created significant state heterogeneity in welfare eligibility for immigrants, and welfare-related migration now may be a motivating factor. We extend prior interstate migration of immigrants research in several ways. First, we examine the migration of poor immigrant families from and to states with stringent immigrant welfare eligibility rules by explicitly modeling both a destination benefit model (pull effect) and a departure disincentive model (push effect). A nested discrete-choice analytical strategy is used to specify the model to avoid erroneous assumptions about the independence of alternative choices. Second, we extend prior interstate migration of immigrants research by using longitudinal data which permits measures both before and after the migration event. Third, our models include explanations based on the past scholarship, such as state economic, ethnic population concentration, and human capital indicators, but add unique tests of the impact of life course transition indicators, along with state fixed effects to avoid unmeasured variable bias.

Data and Methods

Data – The Study Sample and Variables

Analyses to address our research questions use data from three sources:

Information on individual and family characteristics, including demographic, work and welfare participation, and migration behavior, is taken from the 1996 and 2001 Panels of the Survey of Income and Program Participation (SIPP). State welfare rules about TANF eligibility of immigrants and regarding TANF time limits and work exemptions are from the Welfare Dimensions Summary Scores (WDSS) data developed using the Urban Institute's Welfare Rules Database (WRD). State-level economic characteristics include annual job growth rates created using Regional Economic Information System (REIS) data and race/ethnic- and gender- specific annual unemployment figures provided by the Bureau of Labor Statistics Local Area Unemployment Statistics (LAUS). State demographic information was obtained from the decennial censuses of 1990 and 2000 and from annual Immigration and Naturalization Service data on immigrants' intended destinations.

Individual and Family Characteristics

The SIPP longitudinal panels surveyed approximately 40,000 U.S. households every 4 months from 1996 through 1999 and 2001 through 2003, collecting monthly information on income, public program participation, and life course and demographic characteristics. The study sample includes individuals who were aged 15 and older and

were interviewed at the second wave of each SIPP Panel, when migration histories were collected; the weighted study sample is thus representative of the non-institutionalized U.S. population in 1996 and in 2001 and their migration experiences over the following 3 to 4 years. In this paper, we focus on 14,760 foreign-born individuals who provide over 128,000 person-observations based on 12 interview waves from the 1996 panel and 9 interview waves from the 2001 panel. Among the foreign-born study sample, 3 percent of immigrant respondents migrated to another state, around 2 percent emigrated, 6 percent left the study through attrition, and about 18 percent migrated within state. Distributions of respondent characteristics, and the characteristics of states in which they resided, are shown in Table 1 for the sample of person-observations, which are survey wave based.

Table 1 about here

Among monthly data collected in the SIPP are U.S. state of residence and the reason for leaving the survey if the respondent was not interviewed, which we use to create the migration outcome variable. An interstate migration is recorded as having occurred when the case's state of residence in a month is not the same as the state of residence in the previous month. In addition, moves are determined to have occurred when respondents left the survey: We categorize the move according to the reason for survey departure, if the respondent did not die or become institutionalized. Using this

SIPP item, we designate migration outcome as either no migration, interstate migration, intrastate migration, emigration, or attrition from the survey for each month. To reduce computational burden for our models, migration experience is then summarized for each wave of data collection, each of which covers a 4-month period. When an individual engages in more than one type of migration during the 4 months, we select one type determined according to the following scheme: If a interstate migration occurs, the outcome is coded as interstate migration, regardless of other types of migration that occur. If no interstate migration occurs, but emigration occurs, the outcome is coded as emigration. If neither interstate migration nor emigration occur, but intrastate migration occurs, the outcome is coded as intrastate migration. Thus attrition is the coded outcome only when attrition is the only type of migration that occurs.

Immigrant status is categorized by a set of dummy indicators as native-born, recent immigrant, not recent immigrant, and immigrant, date of immigration unknown. Years in which immigrants came to the United States are reported by SIPP in intervals of years. Thus we code 1996 Panel respondents who immigrated between 1990 and 1996 and 2001 respondents who immigrated between 1995 and 2001 as recent immigrants. Immigrants who report earlier dates of immigration are coded “1” on not recent immigrant.

Individual/family characteristics included in our models are racial/ethnic origin (European, African, Mexican, other Hispanic, and other group), being poor (versus being above 200 percent of the federal poverty level for the family's size), months of employment, months of AFDC/TANF receipt, educational attainment (categorized as less than high school, high school, and more than high school), residence as a subfamily in the household of another family, number of children in the family, and family structure (categorized as married couple family, single-parent-headed family, and single), plus gained and lost employment, began or ended AFDC/TANF receipt, the birth of a child, and change in family structure. Previous migration research shows these characteristics to influence migration decision making, and AFDC/TANF receipt is an indicator of the respondent's ties to the welfare system which would render welfare policy a salient issue.

Racial/ethnic origin dummy variables are fixed-time indicators determined using race and ethnic-origin information collected at the second wave of each panel. The family-level poverty measure is a time-varying indicator calculated using monthly income divided by the monthly poverty income threshold for that family. Having a high school diploma is the reference category for educational attainment in our models; having more than high school education denotes having a post-secondary degree. This set of dummy variables is time-varying to allow for educational upgrades over the four-year observation period. Months of employment and months of AFDC/TANF receipt are time-

varying continuous variables giving the number of months to date for each month, beginning with the first month of observation. We also create dummy variables – gained employment, lost employment, gained AFDC/TANF, and lost AFDC/TANF – which are coded 1 if true in the current month and not true in the previous month. Subfamily status is included in SIPP as a family-type indicator, and the number of children in the family is among variables available in SIPP. We code the variable “birth of a child” as “1” in a month where a child aged 0 is in the family but was not in the family in the preceding month, or if a child at the first observation has a birth date within the previous year. We then created a time-varying indicator of the family experiencing a birth sometime over the previous 12 months. Finally, family structure is measured as a set of time-varying variables, with married couple families as our reference category in models. A lag situates these characteristics temporally for correct causal ordering, taking into account the month during the wave in which the designated migration occurs.

State Welfare Policy

Our second source of data, the Urban Institute’s Welfare Rules Database (WRD), provides textual descriptions of the AFDC/TANF requirements in each of the 50 states (and the District of Columbia) for the years 1996 through 2003. These textual data were coded as numerical data and factor analyzed as a data-reduction measure to create

measures of policy stringency. This process yielded 15 summary measures (see De Jong, Graefe & St. Pierre, 2001), including two first-order factor scores that are key indicators for this study – 1) rules regarding green card and refugee immigrants and 2) rules regarding new and battered immigrants. The first dimension comprises four items coded from the WRD – whether immigrants admitted to the United States for emergency reasons are eligible for TANF, whether IRCA and green card-holding immigrants are eligible for TANF after their first 5 years in the United States, whether immigrants admitted for humanitarian reasons are eligible for TANF, and whether immigrants admitted with a stay of deportation are eligible for TANF – and has an alpha reliability of 0.9. Rules regarding eligibility of new and battered immigrants comprises three items coded from the WRD – whether recent immigrants are eligible in their first 5 years in the United States, whether immigrants who came to the United States before welfare reform and who have been battered are eligible for TANF, and whether immigrants who came to the United States after welfare reform was passed and have experienced battering are eligible for TANF benefits – and has an alpha reliability coefficient of 0.8. These immigrant-eligibility dimensions should influence behavior of immigrants only.

A third dimension – rules regarding time limits and work exemptions – was created by submitting first-order dimensions to a second-order factor analysis and is expected to be salient for natives and immigrants alike. This dimension results from

second-order factoring of three first-order factor dimensions – illness exemption rules, work exemption rules, and time limit rules – and has a Cronbach’s alpha reliability score of 0.6. Illness exemption rules comprises two items coded from the WRD – whether welfare participants may be exempted from work activities due to their own illness and whether they may be exempted in order to care for an ill member of their TANF unit – and has an alpha reliability of 0.9. Work exemption rules comprises four items coded from the WRD – whether welfare participants may be exempted from work activities if there is no work activities program in their geographic area, whether they may be exempted if they serve as a VISTA volunteer, whether the welfare unit may receive an exemption, and the number of work hours required before an exemption may be granted – and has an alpha reliability of 0.8. The time limits rules dimension comprises two items coded from the WRD – whether time limit extensions are permitted and the types of time limits that are employed – and has an alpha reliability of 0.6.

Each study sample case was coded with the year-specific value for their state of residence in the prior month (“origin state”) for each month, yielding time-varying welfare policy indicators, where higher scores indicate greater stringency. Maps presented in Figures 1 through 3 show the distributions of scores for these dimensions across the states in 2003 and change in each state’s score between 1996 and 2003. For each figure, dimension scores for states in 2003 are categorized according to standard

deviations from the mean score, and these categories are shown by shading, with darker shades indicating greater stringency in comparison with other states in 2003. A change score is calculated by subtracting the 1996 score from the 2003 score and then categorizing the change as “little or no change,” “became more stringent” (positive change), or “became more lenient” (negative change).

Figures 1-3 about here

State Unemployment Rates and Other State Characteristics

Yearly race/ethnic-group- and gender-specific unemployment rates were obtained for each state of residence in the prior month for each month of observation per study sample case – again, a time-varying indicator. Annual state-level unemployment rates, which represent the percent of the labor force that was not employed, are important indicators of economic opportunity that not only may correlate with welfare policy stringency, but also are expected to influence migration behavior. Unemployment rates are merged to respondent records by state, year, and race/ethnicity of the respondent. If a respondent's state does not have large enough sub-populations for gender/race/ethnicity unemployment estimates, the state's gender-specific rate is used.

State job growth over the preceding year, determined from REIS data for 1995-2003, is merged with to the study data by state and year. Job growth provides an indicator of employment opportunities that are expected to retard out-migration and

motivate in-migration when they are greater. However, because greater social network ties also are expected to have both anchoring and attraction effects, we include a measure of the percentage of the foreign born population of the state that shares the respondent's national origin as well as a measure of the proportion of the population that is foreign born. Co-ethnics as a percentage of foreign born is a proxy for network ties in our analysis. U.S. Bureau of the Census provides detailed information for creating these measures, which are linearly interpolated and projected based upon 1990 and 2000 U.S. decennial census data and post-2000 American Community Survey data.

Neighboring states are expected to have greater attraction to migrants, and final models control for whether the destination alternative borders the state of residence in the previous month. In addition, because return migration is a sizable component of interstate migration (Dublin 1998; Schram et al. 1998), control for a potentially higher propensity to choose destinations of previous residence is also important. We define a state as a previous state of residence in all months following a departure from that state, using a dummy coded indicator. Finally, all models control for state fixed effects.

Methods

We apply a discrete-time event history approach, first using a multinomial logit model in SUDAAN to determine preliminary estimates of out migration, and then to a nested logit model to estimate departure-decision and destination-choice models. Our

multinomial logit model yields conditional logit model results, i.e., results from a nested logit model where the inclusive term is restricted to be 1. An event history methodology allows us to take into account the dynamic nature of variables that change over time – thus accounting for fluctuations that may influence a family’s probability of migrating. Clustering in the SIPP sample design, including multiple respondents from the same household, and multiple spells per respondent requires a Huber-White adjustment of standard errors. We base our results on these adjusted standard errors. Furthermore, all models control for duration in the model, and models including state welfare policy and unemployment rates control for state fixed effects using dummy-coded indicators for each state.

The Nested Logit Model

Conceptualizing both departure (push) and destination (pull) effects is consistent with the microlevel migration literature, which views migration decision making as a two-part, but interrelated process – 1) the decision to stay or move controlling for the pull of potential destinations and 2) the decision where to move for migrants. Based on this logic and following the migration-modeling strategy of Frey et al. (1996), we estimate a nested discrete-choice logit model that predicts a binomial response among multiple migration outcomes. Dummy indicators control for both departure and destination state fixed effects. The nested logit model assumes an integrated decision making process

according to a decision tree where the independence of choices is assumed only at each step in the decision tree. This model thus avoids the independence-from-irrelevant-alternatives (IIA) property that occurs when the random components of the utility across choices are erroneously assumed to be independent, as with simple multinomial and conditional logit models. Our decision tree is shown in Figure 4, where level 1 choices below the interstate move choice (at level 2) are 46 separate destination alternatives, including 45 states and the District of Columbia. (Wyoming, North and South Dakota, Vermont, and Maine are not considered in our models because SIPP identifies these states as two combined residence areas, precluding estimation of state-level characteristics.)

Figure 4 about here

Level 2 alternatives are interstate migration, intrastate migration, emigration, and attrition from survey versus no migration. This model estimates the departure decision.

The Departure Model

Departure models are logit discrete-time event history models in which spells begin at the start of the SIPP observation period in 1996 or 2001, or in the wave following a migration event (in the case where the individual provided multiple observation spells). Right censoring occurs with a migration event, a death, attrition from the survey, or the last survey interview.

Our models estimate the likelihood of migration when the origin state has the particular characteristics specified by the model -- specifically, characteristics defined by state welfare policy and job opportunities and individual/family characteristics and life course events. Alternatives are coded as “0” when they are not chosen and “1” in a wave in which they are chosen. Likewise, when no move is observed (the reference category in departure models), the no-move choice is coded as “1.” Including attrition as an alternative reduces bias in the estimate of migration versus no migration, our outcome of interest, by reducing measurement error in the non-mover outcome category.

Destination Model

For destination-choice models, our estimation is restricted to those who moved to another state. Here we are interested in the relationship between the choice of a state as the destination when migration occurs and the leniency versus stringency of the state’s welfare policy as well as state economic opportunities. The effects of these characteristics plus neighboring the origin state, being a state in which the respondent previously resided, and proportion of the population that is foreign born, controlling for state fixed effects, are estimated for the binomial choice of each alternative state at level 1 of our nested logistic regression model.

Results

Table 2 presents multinomial logit estimates of interstate migration versus no migration, given that other types of migration had not occurred in the spell of observation. Results for intrastate migration, emigration, and attrition are not shown, but are available from the authors upon request. Table 3 presents preliminary results for destination choice among interstate migrants.

Interstate Migration Departure Decision

As seen in Models 1, 3 and 4, recent immigrants are more likely than established immigrants to move to another state – about 70 percent more likely ($e^{0.51}=1.69$). This effect is explained collectively by personal characteristics (Model 5). Control for these characteristics reveals that immigrants who did not report their date of immigration are also less likely to move across state lines than immigrants who came to the US more than 6 years before.

Welfare policy stringency matters for interstate relocation. Stringent TANF eligibility rules regarding refugees and immigrants with green cards who have been in the US for at least 5 years “push” immigrants to other states. Stringent rules regarding time limits and work-related exemptions also appear to promote interstate out migration. While the unexpected result that stringency in eligibility rules for recent immigrants and for battered immigrant women appears in model 3 to reduce the likelihood of out

migration, this effect is attenuated with the addition of state economic and demographic characteristics in model 4. The latter model shows that where immigrant groups are a larger share of the foreign born population, their members are less likely to migrate to another state, supporting the hypothesis that network ties in origin states will inhibit interstate migration.

As expected from prior study based on the US 2000 Decennial Census (Perry and Schachter 2003), males and those with a higher education are more likely than others to engage in interstate relocation. Furthermore, immigrants with longer employment histories are less likely to move to another state. Although this measure is based only on months observed in the survey, it provides indicators of both employment-based and social network ties in the origin community and, for some, job-specific capital that inhibits out-migration. Our purpose for including these measures in the model, however, is to ensure that direct welfare rules effects are net of the effects of personal characteristics that motivate migration. These results confirm that welfare policies influence interstate migration of immigrants beyond the influences of personal and family characteristics typically found to be important predictors of relocation.

Life course events that are important positive predictors of interstate migration include changes in union status – both getting married and becoming single – and having a birth in the family. These findings are unsurprising since each may precipitate the need

to change residence or to find another, possibly better, job. Surprisingly, however, we find no evidence that changes in employment status or welfare receipt motivate interstate migration in this analysis. These measures are lagged only one month, and more research is needed to determine whether a longer lag is more appropriate, as individuals and families may need more time following employment and income changes before undertaking migration in search of new income sources. Furthermore, the non-significant positive effects of gaining employment and gaining welfare suggest that income sources may be located before migration occurs.

Interstate Migration Destination Choice

The destination choice models shown in Table 3 provide evidence on the types of destinations immigrants choose when moving to another state. Model 1 shows that only stringency of policies regulating eligibility of recent and battered immigrants influence this choice; model 2 shows that this effect is not explained by state economic characteristics or population composition. Immigrants are drawn to states where these rules are more lenient. As expected, immigrants are drawn as well to states with lower unemployment rates for their racial/ethnic and gender group. The negative effect of state foreign born population on destination choice is counterintuitive, but may reflect the fact that states with more foreign born residents are interstate migrants' origin states rather

than destinations. This interpretation of the results is consistent with a pioneer migrant-initiated interstate redistribution of immigrants model.

Conclusions and Discussion

The major objective of this paper was to expand the literature on the redistribution of immigrants in the U.S. by testing the impact of state-level variation in welfare rules toward immigrants and the impact of individual and family life course transitions of immigrants. The influence of state-level eligibility rules toward immigrants potentially increased dramatically as a result of the 1996 federal welfare reform legislation which excluded recent immigrants from receiving federally funded TANF benefits, but gave states authority to adopt stringent or lenient eligibility policies and to allocate state funds for immigrant assistance.

A key question is: Do stringent state welfare policies create disincentives (“push” factors) for immigrants to stay in origin states? From our departure model results we conclude that state welfare policy stringency does result in higher probabilities for immigrant families leaving these states. In particular, stringent state eligibility rules for Green Card immigrants (> 5 years since immigration) and refugees push these immigrant families to engage in interstate migration. Furthermore, stringent state welfare rules on eligibility limits and exemptions were marginally significant in pushing immigrants to migrate to other states. The destination choice decision of immigrants was also affected

by state welfare rules, particularly the reduced likelihood of relocation in states with stringent new and battered immigrant eligibility rules. This consistent evidence of welfare policy impacts (whether intended or unintended) adds a new and not previously documented public policy explanation for the interstate migration departure and destination choice decisions of immigrants after welfare reform.

Furthermore, our departure model evidence supports the conclusion that, controlling for state welfare policy, state economy job growth or unemployment rate indicators become largely non-significant explanations for interstate migration of immigrants – a finding clearly at odds with the dominant explanation for the internal migration of immigrants literature (Aslund 2005, Fang and Brown 1999, and Newbold 1996). Our use of longitudinal data plus the ability to separately model departure and destination choice internal migration decisions of immigrants may help explain why our findings are not consistent with the dominant literature. Consistent with the social network literature (Gurak and Kritz 2000, Kritz and Nogel 1994, Zavodny 1999), our results show the importance of network ties (increasing size of the co-ethnic population in the state) for reducing interstate departure decisions of immigrants. But in these early years of rapid immigrant redistribution in the US, our evidence supports the conclusion that co-ethnic population concentration affects immigrant interstate migration departure and destination choice decisions in unique ways that must be modeled separately.

The migration-inhibition of co-ethnic presence appears to be highly correlated with the roles of personal characteristics. We suspect it is closely tied with employment history, which also inhibits interstate migration. One explanation for our finding is that where immigrants have larger co-ethnic ties, ethnic enclaves provide for steady employment, driving down the motivation to seek different labor markets.

Importantly, other personal characteristics and life course events play a part in migration departure decisions. However, none of these has unexpected effects and none overrides the “push” of stringent welfare policies directed at immigrant eligibility for TANF.

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Table 1. Descriptive Statistics for Study Variables ($n = 128,707$ person-observations).

Variables	Proportion or Mean (sd)
<u>Migration</u>	
Intrastate	2.32 %
Interstate	0.18 %
Emigration	0.29 %
<u>Duration of US Residence</u>	
Immigrated >6 years before survey began	66.06 %
Immigrated 1-6 years before survey began	18.63 %
Immigration date unknown	15.31 %
<u>State Policy</u>	
Stringency of Rules Regarding Green Card & Refugee Immigrants	0.43 (1.19)
Stringency of Rules Regarding New and Battered Immigrants	-0.004 (1.08)
Stringency of Limits & Exemptions	-0.52 (1.15)
<u>State Economy</u>	
Unemployment rate (Race/ethnicity & gender specific)	6.51 (2.42)
Job Growth	0.02 (0.01)
<u>State Demographics</u>	
Proportion of the population that is foreign born	0.22 (0.12)
Co-ethnic proportion of foreign-born population	16.23 (20.16)
<u>Personal Characteristics</u>	
Race/Ethnicity	
Mexican	28.14%
European	17.77 %
Black	8.53 %
Other Hispanic	14.53 %
Other Group	31.03 %
Age	43.28 (16.75)
Female	52.62 %
Education < High School	36.10 %
High School Education	35.27 %
Education > High School	28.63 %
Poor (at or below 200 percent of poverty level)	28.63 %
Months worked	11.58 (12.45)
Months received welfare	0.04 (0.19)
Family Structure	
Married-couple headed family	63.85 %
Single-parent headed family	10.52 %
Single individual	25.63 %
Number of children in family	1.01 (1.29)
Subfamily – resides with a primary family	5.35 %

Variables	Proportion or Mean (sd)
<u>Life Course Events</u>	
Lost employment	3.81 %
Gained employment	4.46 %
Lost welfare	0.07 %
Gained welfare	0.64 %
Became married	0.41 %
Became single	2.20 %
Birth in family	3.95 %

Table 2. Effects of Duration in U.S., State Policy, Economy, and Demographics, Personal Characteristics, and Life Course Events on the Probability of Interstate Migration among Immigrants.

Independent Variables	1	2	3	4	5	6
<u>Duration of US Residence (Ref=>6 years)</u>						
1-6 years	0.51#		0.51#	0.52#	-0.04	-0.05
Immigration date unknown	-0.15		-0.15	-0.20	-0.56#	-0.60#
<u>State Policy</u>						
Stringency of Green Card/Refugee Rules		0.38#	0.37#	0.55**	0.51*	0.50*
Strincency of New/Battered Immigrant Rules		-0.14*	-0.15*	-0.10	-0.13	-0.13
Strincency of Limits & Exemptions		0.30#	0.30#	0.45#	0.44#	0.44#
<u>State Economy</u>						
Unemployment rate				0.02	-0.01	-0.00
Job Growth				-17.50	-17.60	-17.98
<u>State Demographics</u>						
% Foreign born				2.86	3.27	3.20
Co-ethnic % of Foreign born				-0.01**	-0.01	-0.01
<u>Personal Characteristics</u>						
Race/Ethnicity (Ref=Mexican)						
European					-0.08	-0.10
Black					-0.18	-0.19
Other Hispanic					-0.02	-0.04
Other Group					-0.45	-0.45
Age					-0.11#	-0.11#
Age squared					0.00	0.00
Female					-0.08**	-0.08**
Education < High School					-0.18	-0.15
Education > High School					0.83**	0.83**
Poverty					0.37#	0.39#
Months Worked					-0.03**	-0.03**
Months Received Welfare					0.14	0.08
Family Structure (Ref=Married couple headed)						
Single-parent headed					0.34#	0.34#
Single					0.60	0.61
Number of children in family					-0.07	-0.07
Subfamily					0.29	0.20

Independent Variables	1	2	3	4	5	6
<u>Life Course Events</u>						
Lost Employment						-0.62
Gained Employment						0.11
Lost Welfare						-8.48
Gained Welfare						0.29
Became Married						1.92**
Became Single						2.14**
Birth in Family						0.27**

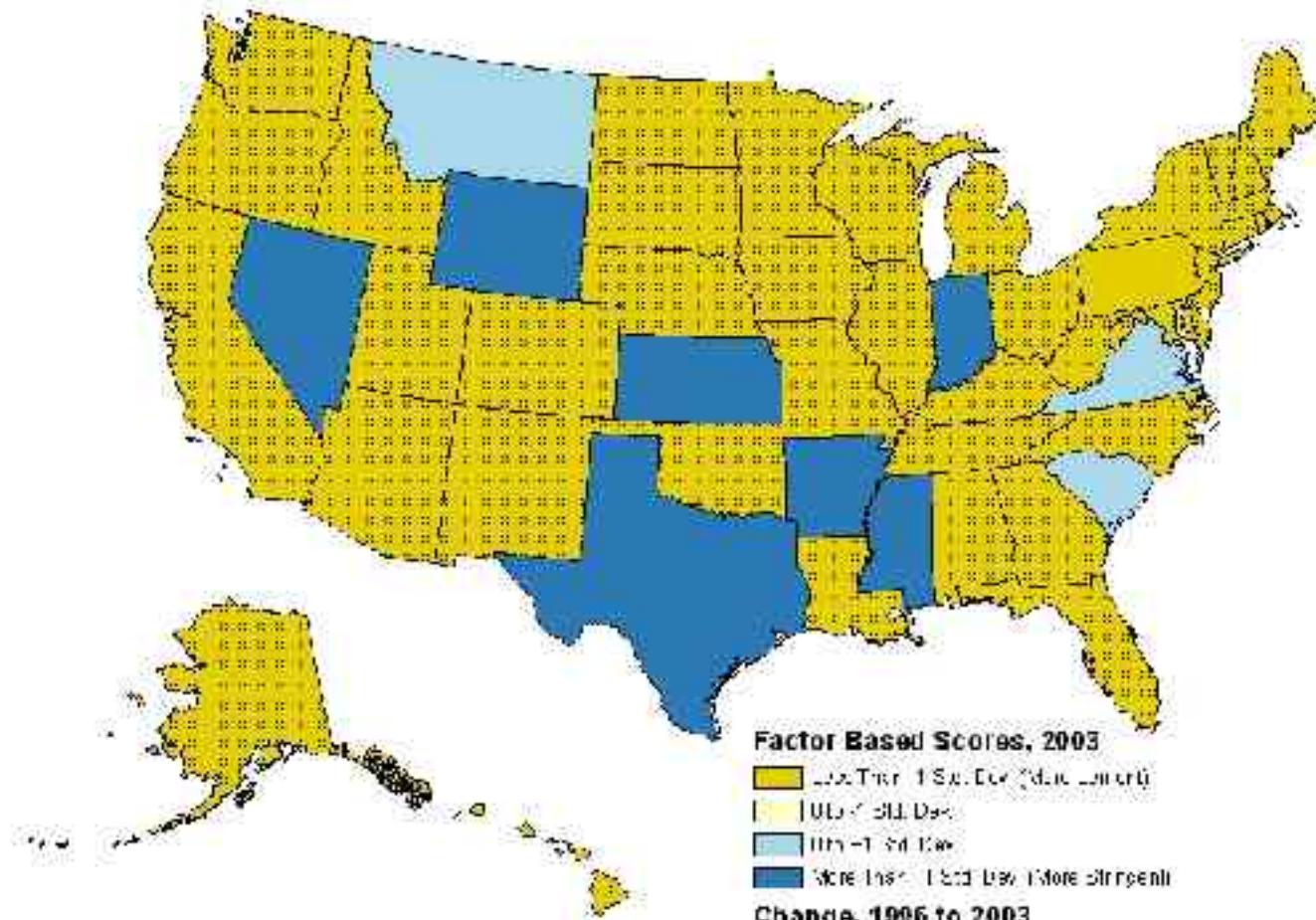
$p \leq 0.10$ * $p \leq 0.05$ ** $p \leq 0.01$

Table 3. Effects of Destination State Policy, Economy, and Demographics on the Probability of Interstate Migration among Immigrants.

Independent Variables	1	2
<u>State Policy</u>		
Stringency of Green Card/Refugee Rules	0.17	0.13
Stringency of New/Battered Immigrant Rules	-0.16#	-0.29*
Stringency of Limits & Exemptions	0.08	0.08#
<u>State Economy</u>		
Unemployment rate		-0.03*
Job Growth		-6.71
<u>State Demographics</u>		
% Foreign born		-41.54*
Co-ethnic % of Foreign born		-0.01**

$p \leq 0.10$ * $p \leq 0.05$ ** $p \leq 0.01$

Figure 1. State Welfare Policy Regarding Green-card and Refugee Immigrants, 2003 and 1996-2003 Change.



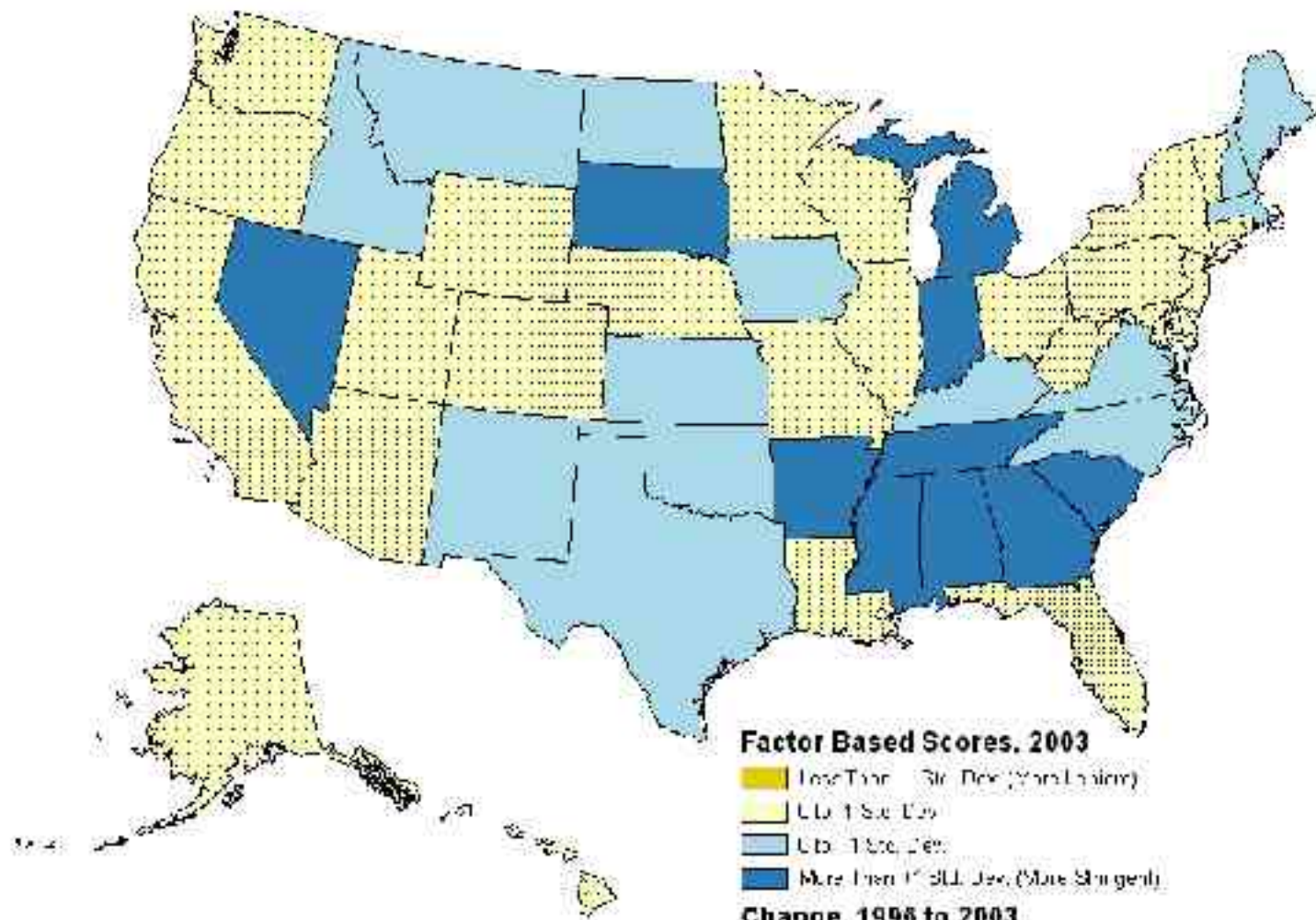
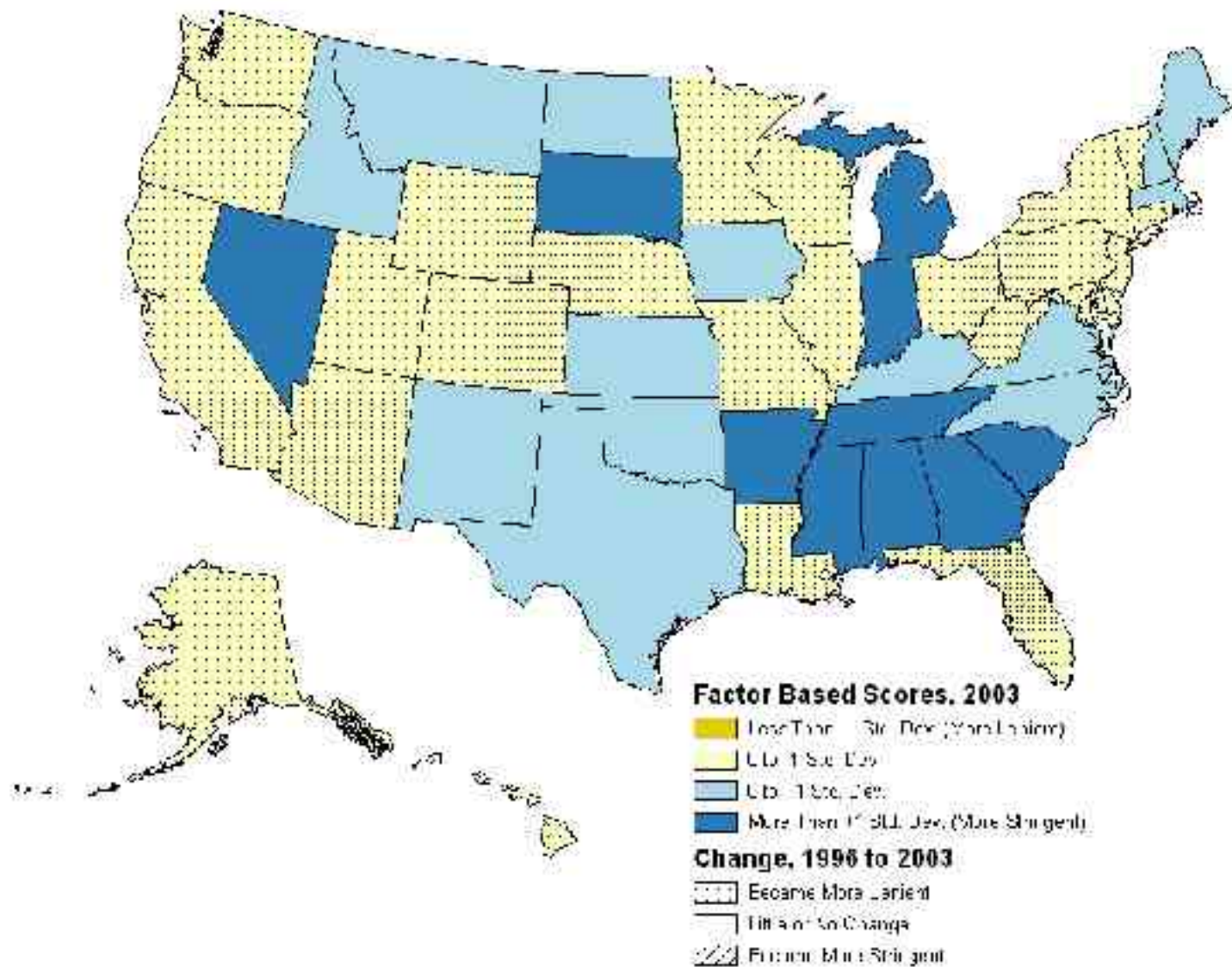
Factor Based Scores, 2003

- Less Than 1 Std. Dev. (More Convergent)
- 1 Std. Dev.
- 1/3 to 1 Std. Dev.
- More than 1 Std. Dev. (More Divergent)

Change, 1996 to 2003

- Became More Divergent
- Little or No Change
- Became More Convergent

Figure 2. State Welfare Policy Regarding New and Battered Immigrants, 2003 and 1996-2003 Change.



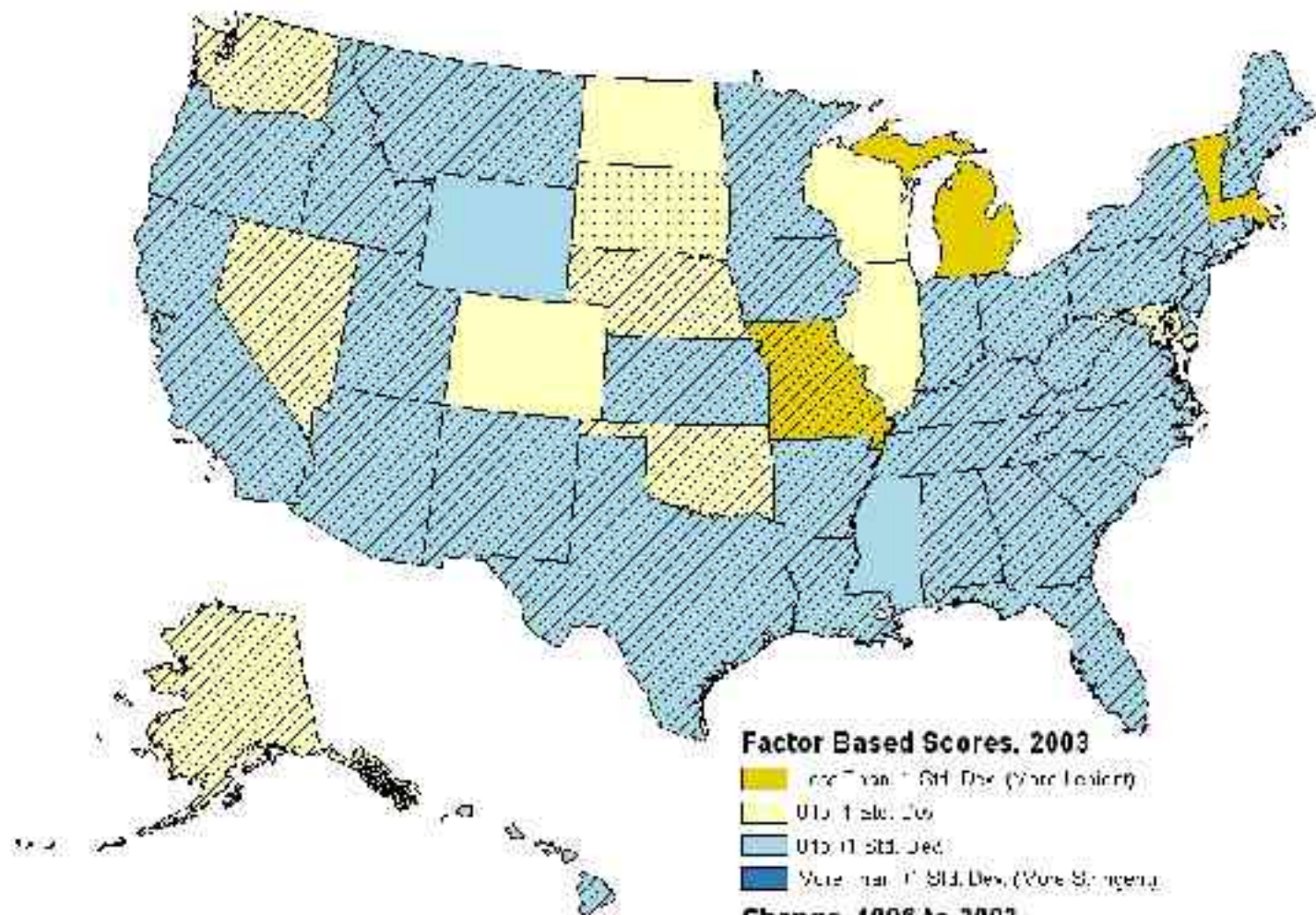
Factor Based Scores, 2003

- Less Than 1st Dec. (More Lenient)
- 1st to 3rd Dec.
- 4th to 7th Dec.
- More Than 7th Dec. (More Stringent)

Change, 1996 to 2003

- Became More Lenient
- Little or No Change
- Became More Stringent

Figure 3. State Welfare Policy Regarding Limits and Exemptions (2nd Order Factor Score), 2003 and 1996-2003 Change.



Factor Based Scores, 2003

- More than 1 Std. Dev. (More Liberal)
- 0.5 to 1 Std. Dev.
- 0 to 0.5 Std. Dev.
- More than 1 Std. Dev. (More Stringent)

Change, 1996 to 2003

- Escame More Liberal
- Little or No Change
- Escame More Stringent

Figure 4. Migration Departure and Destination Choice Decision Tree

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