Race, Ethnicity, Gender, and the Pursuit of Economic Opportunity in the Age of the Migration Decline

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A dissertation

submitted in partial fulfillment of the

requirements for the degree of

Doctor of Philosophy

University of Washington

2019

Reading Committee:

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Program Authorized to Offer Degree:

Sociology

University of Washington

Abstract

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It is frequently assumed that today's population is more mobile than ever, exhibiting little attachment to the origin places of their youth. Indeed, scholars and commentators espouse this supposed rootlessness as one of the fundamental distinctions between recent generations of young adults and previous generations. However, these assumptions belie the reality that internal migration rates have been declining steadily and quite steeply since 1980. Rather than an increasing tendency towards rootlessness, something seems to be keeping individuals in place. While scholars have recently investigated a number of potential explanations for this decline, no study has been able to fully explain the decline and much about it remains a mystery. In particular, we have very little knowledge about the potential implications of this decline for individuals. It is unclear whether contemporary generations of migrants and/or non-migrants are faring worse economically than their predecessors, which could suggest that the migration

decline is associated with harmful economic changes, or whether the migration decline is suggestive of harmless or even beneficial changes that may make migration increasingly unnecessary. We have even less knowledge of how the potential implications of the internal migration decline are structured by race, ethnicity, and gender.

In this dissertation I compare two cohorts of the National Longitudinal Survey of Youth to investigate these gaps in our understanding. In Chapter 2, I utilize 25 waves of the National Longitudinal Survey of Youth-1979 (NLSY79) to explore whether race, ethnicity, and gender intersect to shape the economic returns associated with internal migration, as well as racial and ethnic disparities in these relationships across gender. I find that internal migration is associated with larger economic benefits for white relative to black and Hispanic men and, as a result, larger racial and ethnic disparities in economic outcomes for men. For women, in contrast, internal migration is associated with larger wage benefits for white women, but larger work hour benefits for black and Hispanic women that cumulatively correspond to slightly narrower racial and ethnic disparities in economic outcomes. These findings illustrate the importance of employing an intersectional lens for internal migration research and point to the possibility that internal migration reinforces the privileged position of white men. In Chapter 3, I link both the NLSY79 and the National Longitudinal Survey of Youth-1997 (NLSY97) and examine whether the returns to migration and the economic wellbeing of young adult migrants and non-migrants have changed across these two cohorts, the former cohort having been young adults early in the migration decline and the latter cohort having been young adults late in the decline. While the economic returns to migration have not changed across these cohorts and the economic wellbeing of migrants has remained largely unchanged, the economic outcomes of non-migrants have deteriorated over time. As such, non-migrants may increasingly be left behind

geographically and economically, potentially hindering their abilities to migrate should they wish to. In Chapter 4, I integrate the insights garnered in Chapters 2 and 3 to explore whether changes in the returns to migration and in the economic wellbeing of migrants and non-migrants vary across race, ethnicity, and gender. The findings from this chapter complicate the findings from Chapter 3, illustrating that it is largely white men and women that have experienced changes in their economic wellbeing, while black men and, especially, black women exhibit declines in their returns to migration. Hispanic women and men, in contrast, have experienced little change in their economic outcomes across cohorts. Chapter 5 concludes by pointing to the importance of taking an intersectional perspective when studying the internal migration decline and internal migration more broadly. Chapter 5 also highlights the potential role of internal migration in shaping disparities in outcomes, particularly between blacks and whites.

The findings from this dissertation offer a number of important contributions to the internal migration and racial/ethnic stratification literature. In particular, they demonstrate that our understanding of internal migration and the internal migration decline are incomplete without considering the unique contexts in which individuals find themselves, including their racial/ethnic and gender backgrounds, as well as the time periods in which they live and work. I also illustrate that black women and men are experiencing declines in their average probabilities of migrating, as well as declines in their returns to migration. These findings suggest potentially fruitful areas for future research, such as investigating whether the migration decline has been exacerbated by experiences that are particularly prevalent among the black community. Migration's historically important role in improving blacks' economic outcomes suggests that it is important to understand why migration may be less beneficial for blacks now than in the past

and whether these changes threaten to further exacerbate inequality in an already unequal society.

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Acknowledgements

First and foremost, I would like to thank my adviser, Stew Tolnay, for the invaluable mentorship and support he has given me throughout my graduate student career. I feel remarkably fortunate to have had the opportunity to do research with and to be an advisee of someone who gives so selflessly to his students and who guides his students to be the best researchers they can be with unwavering patience, kindness, and understanding. I know I would not be the researcher I am today, nor would I have the same passion for research were it not for the opportunities I received to work with him way back in my second year. Thank you so much Stew for your faith in me, the opportunities you have given me, and for always being there, endless draft after endless draft, countless email after countless email. I am also so grateful for the support of my committee members Kyle Crowder, Jerry Herting, and Scott Allard. Your kindness, understanding, invaluable feedback and statistical know-how have been irreplaceable resources that have not only made this dissertation far better than it would have been without your help, but also made me a far better researcher. Kyle and Jerry also taught some of the earliest classes I took as a graduate student, so it feels highly appropriate that both of you should be guiding me both at the very beginning and at the very end of my time as a graduate student, as well as all of the time in between.

I am deeply indebted to my colleague Erin Carll for her support, friendship, and patience, particularly during my countless frantic moments when I sought out her advice and wisdom. I would also like to thank Savannah Larimore for organizing our weekly writing groups, without which I would have dragged my heels even more on writing the last chapter of this dissertation. Benjamin and Leocie, thank you for being there for the past 6 years while I attended graduate

school and for the almost 20 years before that. Your friendship has been and always will be my anchor, I am not sure I would have stayed sane without you.

Finally, I would like to thank my family: my parents, Carol and Brad, and my siblings Lara, Robbie, and Michelle. I would not have gone to graduate school without your encouragement, but you have always had an uncanny way of knowing what was right for me when I didn't know myself. Because of you, I have found a field I am passionate about and it is because of your love, support, and encouragement, that I have finished. I love you infinitely and will forever be grateful that I have had the insane luck to be born into our family.

Chapter 1:

Introduction

Internal migration has long been an important resource for individuals and families seeking to improve their access to economic opportunities. Within the United States, migrants have moved from rural to urban areas, from the South to the North during the Great Migration, from the Dust Bowl to the West, and more recently, from across the U.S. to tech hubs such as San Francisco and Seattle in order to pursue economic opportunities. These migration streams have transformed the geography of opportunities and the demography of the United States for hundreds of years. Internal migration has also facilitated upward economic mobility among individuals who faced few opportunities in their origin areas, as was the case during the Great Migration of southerners and, especially, black southerners from the South to the North between 1915 and 1970 (Gregory 2005; Tolnay 2003; Wilkerson 2010).

However, the continued role of migration in enhancing individuals' and families' economic wellbeing is far from a foregone conclusion. Since 1968, the probability that individuals migrate across counties and states has declined by roughly 50 and 56 percent, respectively (Cooke 2011). This decline calls the role of internal migration into question and suggests that migration may be less beneficial, desirable, and/or accessible than in previous decades. For example, as the cost of housing has skyrocketed (Bennefield 2003; Terrazas 2018) and as income inequality has risen (Alvaredo et al. 2018), the ability to move for economic opportunities may increasingly be a privilege reserved for the advantaged who can afford to migrate and/or who are provided with job opportunities that facilitate migration. Alternatively, it is possible that the spread of information and technology has made finding a job in one's origin location easier and migration less beneficial. Additionally, with the end of the Great Migration in

the 1970s (Tolnay 2003) and the rise of incarceration, particularly the incarceration of black and Hispanic men (National Research Council 2014), migration may have become a less prevalent and accessible channel for enhancing racial and ethnic minorities' economic outcomes and potentially ameliorating racial and ethnic stratification. In contrast, with the increasing entry of women into the labor force and the gradual narrowing of women's wage gap with men (Women's Bureau 2017a; 2017b), women may be facing *more* opportunities for economically-motivated migration than in the past.

These social changes suggest that the characteristics and economic wellbeing of migrants relative to non-migrants could have changed over time, and, in some cases, changed in ways that negate migration's potential role in improving individuals' economic outcomes. They also indicate that these changes may be occurring to different degrees and through different pathways for women and men of different races and ethnicities. However, we do not know whether the economic wellbeing of migrants and non-migrants has changed during the period of the migration decline, nor do we know whether the returns to migration have changed during this period. The potential economic implications of the decline and the plausibility of some of these proposed mechanisms is therefore unclear.

The U.S. is thus facing a host of economic and geographic transformations that could have important consequences for individuals' wellbeing and for our understanding of internal migration's role in enhancing individuals' economic outcomes, regardless of their race and ethnicity (once the selectivity of migration, itself, has been accounted for). However, few studies have explored the ways in which the economic returns to internal migration are shaped by the intersection of race, ethnicity, and gender during the contemporary time period, with the exception of some work on regionally-specific migration streams such as return migration to the

U.S. South. Even fewer studies have examined how the returns to migration and the economic status of migrants and non-migrants have changed during the period of the migration decline and no study that I know of has teased out how these relationships might vary across race, ethnicity, and gender. In this dissertation, I explore these issues.

Contributions

By exploring these relationships, my dissertation provides a number of contributions to the literature on internal migration and the literature on race, ethnicity, and gender. Much of the literature on internal migration within the U.S. has either controlled for race, ethnicity, and gender, without attending to the ways in which these forces interact to shape migration decisions and outcomes,[1] or it has focused on the migration decisions of men only (and, in many cases, white men) (Bartel 1979; Dahl 2002; Flippen 2013; Kennan and Walker 2011; Knapp et al. 2013; Yankow 2003). Moreover, while there is a substantial literature on the disparate migration outcomes of women and men, this literature frequently ignores the influence of race and ethnicity or focuses on white women and men (Clark and Withers 2002; Cooke et al. 2009; Geist and McManus 2012; Jacobsen and Levin 1997; Krieg 1997; McKinnish 2008; Shauman and Noonan 2007). The decision to focus on men and, especially, white men is generally motivated by the desire to limit variation in empirical analyses, because women and racial/ethnic minorities tend to face unique sets of economic and social opportunities, obstacles, and constraints. By removing the potential influence of race, ethnicity, and/or gender, this kind of variation can be limited and any causal relationships between migration and economic opportunity can more easily be untangled, though any generalizations associated with these findings will, inevitably, be

[1] An important exception to this, is the literature on regionally-specific internal migration, such as the Great Migration or return migration to the U.S. South, which does often explicitly focus on race and, in a few cases, on gender as well.

limited to the demographic group of migrants being observed. While this rationalization is understandable from an empirical viewpoint, the result of this focus has been a dearth of literature on the potentially unique relationships between migration and economic opportunity for women and racial/ethnic minority men. The migration outcomes of racial/ethnic minority women have been especially neglected in the literature. Moreover, the particular focus on white men, a relatively advantaged population, may lead to an upwardly biased sense of the benefits of migration and a downwardly biased sense of the costs of migration. This focus could lead scholars to create theories of internal migration that do not adequately represent the experiences of other demographic groups. For example, the migration literature's traditional reliance on rational choice theories (Greenwood 2015) and the theoretical expectation that migration will be associated with economic benefits for migrants who make adequate cost-benefit calculations, may be challenged if the potentially unique migration outcomes of racial/ethnic minority men and women and white women are examined. I utilize multiple waves of both the National Longitudinal Survey of Youth-1979 (NLSY79) and the National Longitudinal Survey of Youth-1997 (NLSY97) to explore how race, ethnicity, and gender intersect to shape the returns to migration for both of these cohorts of young adults. In doing so, I provide a more representative and inclusive view of how migration is associated with economic outcomes for a diverse group of individuals. These findings have important implications for how we theorize about migration and for our understanding of the generalizability of research findings that focus on particular demographic subgroups or that study the relationship between migration and economic outcomes without accounting for race, ethnicity, and gender effects.

I am also able to provide suggestive insights into how internal migration may widen or narrow racial and ethnic disparities in outcomes for women and men and how these relationships

may have changed over time. This is vitally important to understand because racial and ethnic disparities in economic outcomes remain wide and have stagnated in recent decades, with black men experiencing even larger gaps in their wages with white men in 2017 relative to 2000 (Gould et al. 2018). Examining whether internal migration is associated with wider or narrower racial and ethnic disparities in economic outcomes therefore provides valuable insights into how these disparities may be shaped, reinforced, and potentially combatted.

Additionally, I explore how the economic returns to migration and the economic status of migrants and non-migrants have changed across the 1979 and 1997 cohorts, the former of whom were young adults relatively early in the migration decline and the latter of whom were young adults in the 2000s, well into the migration decline. In following these two cohorts, I am able to show how the returns to migration and the economic wellbeing of migrants and non-migrants have changed within the context of the migration decline. This is valuable because numerous studies have explored why the decline might be occurring, but no study that I know of has examined whether migrants and non-migrants are faring better or worse as the migration decline proceeds. Understanding how individuals' economic wellbeing has changed across migration status, race/ethnicity, and gender during the migration decline offers suggestive insights into the potential implications of the decline, indicating whether the decline might be associated with harmful economic changes for individuals and whether the implications of the decline may differ for individuals based on their race, ethnicity, and gender. Given the increase in income inequality in the U.S. and the hollowing out of the middle-class over recent decades (Foster and Wolfson 2009; Kochhar et al. 2016; Pressman 2007), exploring whether migrants and/or non-migrants are experiencing declines in their economic wellbeing offers valuable insights into whether the migration decline may play into or exacerbate declines in economic wellbeing among some

groups. By examining for whom changes may be occurring, I am also able to offer directions for future research on the migration decline, particularly for research that is interested in more directly exploring the reasons behind the decline.

Data and Methods

In order to examine these relationships, I utilize the National Longitudinal Survey of Youth-1979 (NLSY79) for the years 1979 to 2012 and the National Longitudinal Survey of Youth-1997 (NLSY97) for the years 1997 to 2014. The NLSY79 is a nationally representative sample composed of 12,686 men and women interviewed annually between 1979 and 1994, and interviewed biennially thereafter. By the latest NLSY79 survey conducted in 2012, approximately 73.3 percent of the original respondents remained in the sample, representing a relatively high response rate given the extensive length of the survey. Each participant in the NLSY79 has therefore been observed up to 25 times between 1979 and 2012. Throughout this time period, approximately 40-50 percent of respondents have moved from their county of residence at least once, depending on their race/ethnicity and gender, and 22-27.5 percent have moved from their state of residence at least once, providing an ample comparison sample of individuals who have moved and individuals who have not.

The NLSY97 is designed to be a highly comparable survey relative to the NLSY79 but it surveys a more recent, younger cohort. Like the NLSY79, the NLSY97 is a nationally representative survey. It began in 1997 with 8,984 young adults and has continued until the most recent survey completed in 2013-2014, providing 16 waves of data. Approximately 80 percent of the original sample was surveyed in the latest, wave 16 survey, indicating that, like the NLSY79, it claims a relatively high response and retention rate.

It is important to utilize longitudinal data such as the NLSY79 and the NLSY97 in order to investigate the outcomes associated with migration because it may take months or even years for the benefits and/or costs of internal migration to unfold. Indeed, many individuals may experience temporary declines in wages or hours worked as they adjust to their new surroundings and develop their job networks. However, migrants may find themselves better placed to advance in their careers in subsequent years after migrating. Solely utilizing cross-sectional data would miss this unfolding of costs and benefits. Indeed, migration research utilizing longitudinal data has shown that the benefits of migration unfold over the course of at least a few years (Knapp et al. 2013; Krieg 1997; Yankow 2003). Additionally, some studies have shown that the costs individuals and, particularly, married women experience from migrating are relatively short-lived and are only felt within the first few years after migrating (Borjas et al. 1992; Clark and Withers 2002; Cooke et al. 2009; Spitze 1984).

The long durations of the NLSY79 and NLSY97 are especially valuable for exploring the economic outcomes of non-migrants over time. This is because the residential tenure of non-migrants is expected to be longer, on average, than the residential tenure of migrants. Thus, examining non-migrants' outcomes over a long period of time helps to provide a more representative and expansive view of how non-migrants are faring relative to migrants. Utilizing both the NLSY79 and the NLSY97 is therefore very advantageous because it allows me to examine how the economic status of migrants and non-migrants differ, and how the returns to migration unfold across the lifetimes of individuals.

Additionally, employing both studies allows me to explore how the economic wellbeing of migrants and non-migrants and how the returns to migration have changed across NLSY cohorts. Solely using only one these studies would prevent me from understanding how the

economic costs and benefits of migration have changed during the period of the migration decline because the probability of migration declines with age (Lee 1966; Spring et al. 2013; White and Lindstrom 2005). It is therefore impossible to determine whether a cohort is migrating less over time and perhaps receiving varying returns to migration over time because of their age or because of factors associated with the migration experience.

The NLSY79 and the NLSY97 are also useful data sources because of the rich set of information collected on individuals. For example, I am able to use restricted, geocoded data for both surveys in order to identify respondents' inter-county and inter-state moves and the distance of those moves. Moreover, I can account for a vast array of demographic, socioeconomic, and familial characteristics. This extensive availability of information means that I can examine a wide host of outcomes and reduce the probability of confounded relationships by controlling for a variety of potentially relevant individual and familial characteristics. Particularly relevant for my focus on the influence of migration on socioeconomic outcomes is the availability of information concerning wages and work hours for each survey wave.

Finally, the NLSY79 and the NLSY97 offer important advantages for studying the migration and mobility outcomes of racial/ethnic minorities because each survey includes a substantial number of black and Hispanic respondents. For the NLSY79, 2,002 respondents (15.8 percent of the sample) are Hispanic and 3,174 respondents are non-Hispanic black (25 percent of the sample). The NLSY97 claims an even more diverse sample, with 1,901 respondents reporting that they are Hispanic (21.2 percent of the sample) and 2,335 respondents (26 percent of the sample) reporting that they are non-Hispanic black. Consequently, both surveys include a tractable number of black and Hispanic respondents, as well as a relatively large number of observations (i.e., survey waves) per person, allowing for an analysis of the racial/ethnic

structuring of the returns to migration and the economic wellbeing of migrants and non-migrants over time.

For all of my analyses, I utilize multilevel growth curve models with individual and county- or state-level random intercepts. Including these random intercepts allows observations to be nested within individuals and individuals to be nested within counties (or, in the case of the final chapter, within states). This strategy addresses the bias that is introduced from including multiple observations from a single individual. Multilevel growth models also better accommodate missing data and unequally spaced time points than more traditional longitudinal methods, such as fixed-effects models, and they are capable of estimating results for individuals with only one observation (Curran et al. 2010). An especially important benefit of multilevel growth curve models over fixed-effects models is the ability to include time invariant characteristics such as race/ethnicity, gender, and cohort status. Fixed-effects models do not allow me to compare how individuals are faring across cohorts or race/ethnicity given that they eliminate the influence of characteristics that do not change across individuals. Moreover, multilevel growth curve models allow for the modeling of complex growth trajectories for multiple groups, which few traditional methods can do (Curran et al. 2010). Growth curve models are therefore highly valuable for my analyses given my interest in modeling wage and work hour trajectories over time and my focus on comparing cohort, racial/ethnic, and gender groups.

Furthermore, multilevel growth curve models help mitigate one of the fundamental analytical issues associated with migration research: the issue of selectivity. Migrants tend to be selective individuals, exhibiting higher average socioeconomic statuses and unmeasurable qualities such as potentially greater propensities for risk-taking (Spring et al. 2013). My use of a

wide host of covariates helps to partially address this selectivity, and the multilevel growth curve models further help to account for selectivity by modeling both group- or sample-level trends, as well as individuals' deviations from those trends. This is accomplished through the inclusion of the individual- and county- or state-level random intercepts and by allowing individuals' slopes to vary across individuals, as mentioned above. These models do not, however, account for selective attrition out of a sample. Random effects models also rely on the assumption that the random variance of the slopes and intercepts are uncorrelated with other elements not included in the models. To the extent that this assumption does not hold, this means that migrant selectivity is not fully accounted for in the models. However, the advantages mentioned above and the extent to which these models help ameliorate concerns about migrant selectivity make multilevel growth curve models good fits for these analyses.

Dissertation Outline

The three chapters that follow empirically explore the gaps in the literature outlined above. Specifically, Chapter 2 examines whether race, ethnicity, and gender shape the economic trajectories of migrants and non-migrants throughout their lives. Chapter 3 introduces the issue of the internal U.S. migration decline and assesses whether the economic wellbeing of migrants and non-migrants and the returns to migration have changed during the period of the migration decline. Chapter 4 explores the same issues introduced in Chapter 3 but brings in an intersectional perspective by separately examining these relationships for black, Hispanic, and white women and men.

In Chapter 2, I use NLSY79 data from 1979 to 2012 to analyze whether internal migration is associated with improved wage and work hour trajectories over time for migrants relative to non-migrants and whether these relationships differ across race, ethnicity, and gender.

Racial and ethnic disparities in economic outcomes continue to remain wide (Gould et al. 2018). This is, in part, due to the often vastly different neighborhoods in which blacks, Hispanics, and whites live (Jackson 1987; Massey and Denton 1993; Sharkey 2013); racial/ethnic segregation in job and peer networks (Mouw 2002), and the discrimination faced by racial and ethnic minorities, among other factors (Pager and Shepherd 2008). Likewise, gender shapes access to economic and migration opportunities in fundamental ways. For example, migration frequently benefits males' employment outcomes at the expense of their female partners' outcomes (Cooke 2008; Cooke et al. 2009; Geist and McManus 2012; Jacobsen and Levin 1997; Lee and Roseman 1999; McKinnish 2008; Shauman and Noonan 2007; Wright and Ellis 2015). Women are also more likely to work in careers that do not require migration (such as nursing or teaching jobs that can be performed in almost any location) and that offer fewer opportunities for migration, both of which are associated with lower earnings (Shauman and Noonan 2007). Thus, race, ethnicity, and gender are likely to shape migration opportunities, employment outcomes, and the relationship between the two. Additionally, a growing literature has recognized the importance of understanding the ways in which race, ethnicity, and gender intersect to shape life experiences (Bowleg 2012; McCall 2005; Shields 2008). It is therefore plausible that differences in the life experiences and outcomes of black, Hispanic, and white women and men influence their abilities to move and their returns to internal migration in disparate ways. However, very few studies explore how race, ethnicity, and gender intersect and shape the economic wellbeing of migrants and non-migrants and the economic returns to migration.

In Chapter 2, I find that race, ethnicity, and gender do structure the wage and work hour trajectories of migrants and non-migrants in important ways. Specifically, for men, internal migration is associated with widening racial/ethnic disparities in economic outcomes, with white

men experiencing the largest economic benefits associated with migration relative to black and Hispanic men. In contrast, internal migration is associated with slightly wider racial/ethnic disparities in hourly wages for women but narrower gaps in work hours. Cumulatively, these findings indicate that internal migration largely does not exacerbate racial/ethnic disparities in outcomes for women. These findings demonstrate the importance of taking an intersectional perspective when examining the outcomes of migrants and non-migrants and offer valuable insights into migration's potential role in exacerbating or ameliorating racial/ethnic disparities in economic outcomes for women and men.

While the findings from Chapter 2 provide important insights into the ways in which internal migration is associated with economic outcomes for black, Hispanic, and white women and men, my analyses focus on only one cohort of individuals who were young adults in the late 1970s and early 1980s. However, the probability that individuals migrate has been declining steadily since the 1980s (Cooke 2011; Fischer 2002; Molloy et al. 2011; Spring et al. 2013; Wilson 1985). This decline suggests that the opportunities for and/or the benefits associated with migration may be changing in fundamental ways that could alter the relationships I observed in Chapter 2. In Chapter 3 I therefore utilize both the NLSY79 and the NLSY97 surveys to examine how the returns to migration and the economic wellbeing of migrants and non-migrants have changed across these cohorts.

Exploring these relationships is important because we have little insight into the potential implications of the migration decline for migrants' and non-migrants' economic wellbeing and whether migrants and/or non-migrants are doing better or worse economically than in the past. In Chapter 3, I help to address this gap in our understanding. I find that inter-state migration is associated with somewhat larger economic returns over time for migrants in terms of lower wage

costs and greater work hour benefits for the 1997 cohort relative to the 1979 cohort. However, non-migrants in the 1997 cohort exhibit significantly worse economic outcomes relative to non-migrants in the 1979 cohort, while migrants in both cohorts fare comparably. Thus, economic changes may be occurring that are associated with the declining economic wellbeing of non-migrants, potentially making migration an increasingly inaccessible option for some individuals and, in turn, playing into the migration decline. However, the NLSY79 and NLSY97 cohorts do not exhibit signs of experiencing declines in their average probabilities of migrating, calling into question the usefulness of these surveys for studying the migration decline itself.

In Chapter 4, I expand the focus of Chapter 3 to assess whether the potential implications of the decline are structured by race, ethnicity, and gender. There are numerous reasons to believe that this may be the case. Indeed, as outlined in the overview to Chapter 2, the economic outcomes and migration opportunities of black, Hispanic, and white women and men are influenced by important differences in their residential contexts, experiences of discrimination, and the types of jobs individuals have access to and are sorted into. If the outcomes and experiences of white women and racial and ethnic minority women and men have not changed over time, there would be little reason to expect that these demographic characteristics influence changes in the returns to migration or the economic wellbeing of migrants and non-migrants over time. However, the past few decades have seen transformations in these relationships that may play into the migration decline in vital ways.

For example, changing norms and laws surrounding the employment of women and racial/ethnic minorities may have altered the relationship between migration, employment, and economic outcomes for racial/ethnic minority men and women and white women by improving their access to economic opportunities. Additionally, the outlawing of discrimination in housing,

declines in segregation (Glaeser and Vigdor 2012; Iceland 2004; Logan et al. 2004), and (arguable) reductions in the acceptability of racist behavior (particularly outright racist behavior) (Firebaugh and Davis 1988; Pager and Shepherd 2008) may have expanded the kinds of neighborhoods and areas minorities are able to move into. As such, recent cohorts of racial and ethnic minorities may face more opportunities to move into economically vibrant areas than previous cohorts. As such, the location and employment choices of black and Hispanic migrants in the 1970s and 1980s may have been more constrained than they were for black and Hispanic migrants in the 1990s and 2000s. If this is the case, migration may be associated with greater returns for black and Hispanic migrants belonging to the NLSY97 cohort than for black and Hispanic migrants belonging to the NLSY79 cohort. Likewise, as women have made greater inroads into non-stereotypically female occupations over time (Blau et al. 2013; England 2010; Jacobs 1989; Reskin 1993), their returns to migration may have increased as well.

At the same time, the dramatic rise in incarceration rates over the past few decades (National Research Council 2014) has severely constrained economic opportunities for formerly incarcerated individuals (Holzer et al. 2005; Huebner 2007; Pager et al. 2009; Pettit and Lyons 2009). Because Hispanic and, especially, black men are at a much greater risk of experiencing incarceration (Bonczar 2003; Pettit and Western 2004), the growing prevalence of incarceration may have touched their employment and migration outcomes in particularly profound ways. While black and Hispanic women are not as likely to experience incarceration themselves (DuMonthier et al. 2017), they too are at a disproportionate risk of being incarcerated relative to white women and they may also be affected by the rise in incarceration through their partners and other family members. Consequently, there have been profound societal changes that may have influenced the opportunities for migration, the economic returns to migration, and the

economic wellbeing of migrants and non-migrants in ways that intersect with race, ethnicity, and gender. These changes motivate Chapter 4's exploration of the unique ways in which the relationships between migration and economic outcomes are structured by race, ethnicity, and gender and how those relationships have changed over time.

My findings from Chapter 4 demonstrate that it is predominantly black women and men who are migrating at lower rates, on average, relative to other demographic groups. In contrast, white men are experiencing very modest declines in their average probabilities of migrating, and white women and Hispanic women and men are tending to migrate more, on average. These changes generally track with changes in each group's predicted returns to migration. Specifically, the economic returns to migration have declined overall for black women and men, changed little for white women and men and for Hispanic women, and have increased for Hispanic men.

In Chapter 5, I offer concluding remarks on how the findings from my three empirical chapters inform the internal migration and racial, ethnic, and gender stratification literature. I discuss how the findings from my dissertation cumulatively demonstrate the importance of considering intersectionality when studying the opportunities for and outcomes associated with migration. I also review the value of my findings for understanding the migration decline and the broader import of attending to the ways in which the returns to migration and the economic wellbeing of migrants and non-migrants might change over time. Bringing these two contributions together, I then consider the importance of taking an intersectional perspective when examining changes in the returns to migration and in the economic wellbeing of migrants and non-migrants during the period of the migration decline.

Cumulatively, my dissertation demonstrates that race, ethnicity, and gender structure the returns to migration, the economic wellbeing of migrants and non-migrants, and changes in these relationships in integral ways. My findings have valuable implications for how we understand and theorize about migration's role in enhancing individuals' access to economic opportunities and suggest that that role may be highly dependent on the characteristics of individuals. Likewise, our understanding of the migration decline may be incomplete without attending to race, ethnicity, and gender effects. While the NLSY largely did not exhibit a decline in average migration probabilities or changes in the returns to migration across cohorts when the cohorts were compared without concern for race, ethnicity, and gender, once these demographic groups were broken apart, it became apparent that some groups *are* experiencing inter-cohort declines in their average probabilities of migration and in their returns to migration while others are not. Future research should explore why this decline in the returns to migration is particularly occurring among black women and men. Additionally, my findings could inform potential policy interventions aimed at reducing racial/ethnic and gender disparities in economic outcomes. Because non-migrants represent an increasing proportion of the black population, emphasizing investment in individuals' origin areas may be especially important for ameliorating racial stratification. Enhancing individuals' opportunities to receive training in skilled, technology-based industries may also be valuable for increasing their abilities to obtain jobs both in their origin areas and in growing, economically-dynamic regions for migrants. It is vital to ensure that the economic changes identified in my dissertation do not further undermine individuals' wellbeing or contribute to widening racial, ethnic, and gender inequality.

References

Alvaredo, Facundo, Lucas Chancel, Thomas Piketty, Emmanuel Saez, and Gabriel Zucman. 2018. "World Inequality Report 2018: Executive Summary." *World Inequality Lab*.

Bartel, Ann. 1979. "The Migration Decision: What Role Does Job Mobility Play?" *The American Economic Review* 69(5): 775-786

Bennefield, Robert. 2003. "Home Values: 2000." *Census 2000 Brief*. https://www.census.gov/housing/census/data/HousingBriefs/c2kbr-20.pdf

Blau, Francine, Peter Brummund, and Albert Yung-Hsu Liu. 2013. "Trends in Occupational Segregation by Gender 1970-2009: Adjusting for the Impact of Changes in the Occupational Coding System." *Demography* 50(2): 471-492.

Bonczar, Thomas. 2003. "Prevalence of Imprisonment in the U.S. Population 1974-2001." *Bureau of Justice Statistics*.

Borjas, George, Stephen Bronars, and Stephen Trejo. 1992. Self-Selection and Internal Migration in the United States." *Journal of Urban Economics* 32(2): 159-185.

Bowleg, Lisa. 2012. "The Problem with the Phrase "Women and Minorities": Intersectionality—an Important Theoretical Framework for Public Health." *American Journal for Public Health* 102(7): 1267-1273.

Clark, William and Suzanne Withers. 2002. "Disentangling the Interaction of Migration, Mobility, and Labor-Force Participation." *Environment and Planning* 34(5): 923-945.

Cooke, Thomas. 2008. "Migration in a Family Way." *Population, Space, and Place* 14(5): 255-265.

Cooke, Thomas. 2011. "It is Not Just the Economy: Declining Migration and the Rise of Secular Rootedness." *Population, Space, and Place* 17: 193-203.

Cooke, Thomas, Paul Boyle, Kenneth Couch, and Peteke Feijten. 2009. "A Longitudinal Analysis of Family Migration and the Gender Gap in Earnings in the United States and Great Britain." *Demography* 46(1): 147-167.

Curran, Patrick, Khawla Obeidat, and Diane Losardo. 2010. "Twelve Frequently Asked Questions about Growth Curve Modeling." *Cognitive Development* 11(2): 121-136.

DuMonthier, Asha, Chandra Childers, and Jessica Milli. 2017. "The Status of Black Women in the United States." *Institute for Women's Policy Research Report #478*.

England, Paula. 2010. "The Gender Revolution: Uneven and Stalled." *Gender and Society* 24: 149-166.

Firebaugh, Glenn and Kenneth Davis. 1988. “Trends in Antiblack Prejudice, 1972-1984: Region and Cohort Effects.” *American Journal of Sociology* 94(2): 251-272.

Fischer, Claude. 2002. “Ever-More Rooted Americans.” *City & Community* 1(2): 177-198.

Foster, James and Michael Wolfson. 2009. “Polarization and the Decline of the Middle Class: Canada and the US.” *OPHI Working Paper No. 31*.

Geist, Claudia and Patricia McManus. 2012. “Different Reasons, Different Results: Implications of Migration by Gender and Family Status.” *Demography* 49(1): 197-217.

Glaeser, Edward and Jacob Vigdor. 2012. “The End of the Segregated Century: Racial Separation in America’s Neighborhoods, 1890-2010.” *Manhattan Institute for Policy Research,* New York.

Gould, Elise, Janelle Jones, and Zane Mokhiber. 2018. “Black Workers Have Made No Progress in Closing Earnings Gaps with White Men Since 2000.” *Economic Policy Institute*.

Gregory, James. 2005. *The Southern Diaspora: How the Great Migrations of Black and White Southerners Transformed America.* Chapel Hill, NC: University of North Carolina Press.

Holzer, Harry, Paul Offner, and Elaine Sorensen. 2005. “Declining Employment among Young Black Less-Educated Men: The Role of Incarceration and Child Support.” *Journal of Policy Analysis and Management* 24(2): 329-350.

Huebner, Beth. 2007. “The Effect of Incarceration on Marriage and Work Over the Life Course.” *Justice Quarterly* 22(3): 281-303.

Iceland, John. 2004. “Beyond Black and White: Residential Segregation in Multiethnic America.” *Social Science Research* 33, 2: 248-271.

Jackson, Kenneth. 1987. *Crabgrass Frontier: The Suburbanization of the United States.* Oxford University Press.

Jacobs, Jerry. 1989. “Long-Term Trends in Occupational Segregation by Sex.” *American Journal of Sociology* 95(1): 160-173.

Jacobsen, Joyce and Laurence Levin. 1997. “Marriage and Migration: Comparing Gains and Losses from Migration for Couples and Singles.” *Social Science Quarterly* 78(3): 688-709.

Johnson, Kenneth, Katherine Curtis, and David Egan-Robertson. 2017. “Frozen in Place: Net Migration in Sub-National Areas of the United States in the Era of the Great Recession.” *Population and Development Review* 43(4): 599-623.

Klarman, Michael. 1994. “Brown, Racial Change, and the Civil Rights Movement.” *Virginia Law Review* 80(1): 7-150.

Knapp, Thomas, Nancy White, and Amy Wolaver. 2013. “The Returns to Migration: The Influence of Education and Migration Type.” *Growth and Change* 44(4): 589-607.

Kochhar, Rakesh, Richard Fry, and Molly Rohal. 2016. “America’s Shrinking Middle Class: A Close Look at Changes Within Metropolitan Areas.” *Pew Research Center*.

Krieg, Randall. 1997. “Occupational Change, Employer Change, Internal Migration, and Earnings.” *Regional Science and Urban Economics* 27: 1-15.

Lee, Everett. 1966. “A Theory of Migration.” *Demography* 3(1): 47-57.

Lee, SeongWoo and Curtis Roseman. 1999. “Migration Determinants and Employment Consequences of White and Black Families, 1985-1990.” *Economic Geography* 75(2): 109-133.

Logan, John, Richard Alba, Tom McNulty, and Brian Fisher. 2004. “Segregation of Minorities in the Metropolis: Two Decades of Change.” *Demography* 41: 1-22.

Massey, Douglas and Nancy Denton. 1993. *American Apartheid: Segregation and the making of the underclass*. Harvard University Press.

McCall, Leslie. 2005. “The Complexity of Intersectionality.” *Signs* 30(3): 1771-1800.

McKinnish, Terra. 2008. “Spousal Mobility and Earnings.” *Demography* 45(4): 829-849.

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2011. “Internal Migration in the United States.” *NBER Working Paper No. 17307.*

Mouw, Ted. 2002. “Are black workers missing the connection? The effect of spatial distance and employee referrals on interfirm racial segregation.” *Demography*, 39(3), 507-528.”

National Research Council. 2014. *The Growth of Incarceration in the United States: Exploring Causes and Consequences.* Washington, D.C.: National Academies of Science.

Pager, Devah and Hana Shepherd. 2008. “The sociology of discrimination: Racial discrimination in employment, housing, credit, and consumer markets.” *Annual Review of Sociology*, 34, 181-209.

Pager, Devah, Bruce Western, and Bart Bonikowski. 2009. “Discrimination in a Low-Wage Labor Market: A Field Experiment.” *American Sociological Review* 74(5): 777-799.

Pettit, Becky and Christopher Lyons. 2009. “Incarceration and the Legitimate Labor Market:

Examining Age-Graded Effects on Employment and Wages." *Law & Society Review* 43(4): 725-756.

Pettit, Becky and Bruce Western. 2004. "Mass Imprisonment and the Life Course: Race and Class Inequality in U.S. Incarceration." *American Sociological Review* 69(2):151-169.

Pressman, Steven. 2007. "The Decline of the Middle Class: An International Perspective." *Journal of Economic Issues* 41(1): 181-200.

Reskin, Barbara. 1993. "Sex Segregation in the Workplace." *Annual Review of Sociology* 19:241-270.

Sharkey, Patrick. 2013. *Stuck in Place: Urban Neighborhoods and the End of Progress Toward Racial Equality*. Chicago, IL: University of Chicago Press.

Shauman, Kimberlee and Mary Noonan. 2007. "Family Migration and Labor Force Outcomes: Sex Differences in Occupational Context." *Social Forces* 85(4): 1735-1764.

Shields, Stephanie. 2008. "Gender: An Intersectionality Perspective." *Sex Roles* 59(5): 301-311.

Spitze, Glenna. 1984. "The Effect of Family Migration on Wives' Employment: How Long Does It Last?" *Social Science Quarterly* 65(1): 21-36

Spring, Amy, Stewart Tolnay, and Kyle Crowder. 2013. "Moving for Opportunities? Changing Patterns of Migration in North America." In *Handbook of Migration* edited by Michael White. New York: Springer.

Terrazas, Aaron. 2018. "Rents Drop Year-Over-Year for the First Time Since 2012." *Zillow Research*. https://www.zillow.com/research/rents-drop-september-2018-21655/.

Tolnay, Stewart. 2003. "The African American 'Great Migration' and Beyond." *Annual Review of Sociology* 29: 209-232.

White, Michael and David Lindstrom. 2005. "Internal Migration." Pp. 311-346 in *Handbook of Population*, edited by D.L. Poston and M. Micklin. New York: Springer.

Wilkerson, Isabel. 2010. *The Warmth of Other Suns: The Epic Story of America's Great Migration*. New York, NY: Vintage.

Wilson, William Julius. 1996. *When Work Disappears: The World of the New Urban Poor*. New York: Vintage.

Women's Bureau. 2017. "Women in the Labor Force." *United States Department of Labor*. https://www.dol.gov/wb/stats/NEWSTATS/facts/women_lf.htm#one.

Women's Bureau. 2017. "Earnings and Earnings Ratios." *United States Department of Labor.* https://www.dol.gov/wb/stats/NEWSTATS/facts/earn_earnings_ratio.htm#three.

Wright, Richard and Mark Ellis. 2015. "Perspectives on Migration Theory—Geography." Pp. 11-30 in *The Handbook of Migration and Population Distribution*. Springer.

Yankow, Jeffrey. 2003. "Migration, Job Change, and Wage Growth: A New Perspective on the Pecuniary Return to Geographic Mobility." *Journal of Regional Science* 43(3): 483-516.

Chapter 2:

Internal Migration and the Long-Term Economic Outcomes of Black, Hispanic, and White Women and Men

Abstract

Internal U.S. migration, across counties or states for example, plays an important role in increasing individuals' access to economic and social opportunities. At the same time, race and gender have frequently shaped the opportunities and obstacles individuals face. It is therefore likely that the returns to internal migration are also shaped by race/ethnicity *and* gender, though we have relatively little knowledge of whether this is the case for contemporary internal U.S. migration. To explore this possibility, I utilize restricted, geocoded National Longitudinal Survey of Youth-1979 data from 1979-2012. I find that white men gain the most economically from migrating, relative to black and Hispanic men, suggesting that migration may widen racial/ethnic disparities in economic outcomes among men. For women, the associations between migration and racial/ethnic disparities in economic outcomes are more ambiguous, with white women experiencing modestly larger wage gains associated with migration than black or Hispanic women, but with black and Hispanic migrant women experiencing substantial gains in work hours. Together, these findings indicate that migration may maintain or even narrow racial/ethnic disparities in economic outcomes among women, but widen them among men.

Introduction

Internal U.S. migration, across counties or states for example, can be a costly and risky process. It is therefore generally expected that few people would go through the economically and mentally expensive process of leaving their home, uprooting, and starting over with fewer or no social connections unless the process substantially benefitted them. For some people, predicting the benefits and costs of migration and acquiring information about the migration experience may be relatively straightforward. For others, however, this calculation may be fraught with difficulties. For example, racism and sexism in the workplace have historically and contemporaneously limited minorities' and women's abilities to obtain jobs and then advance in their careers. Given that one of the most important advantages of migration is often considered to be the ability to obtain new (and ideally better) jobs in the destination location, these stereotypes and experiences of discrimination may limit the economic benefits of migration for minorities and women and may make the benefits (and costs) of migration more difficult to predict. Racial/ethnic minorities' choice of destinations locations can also be complicated by the desire to avoid areas that might be more discriminatory. As a result, the decision to migrate may be especially complex for racial/ethnic minority men and women and for white women, and the costs and obstacles associated with realizing the benefits of internal migration may also be larger than the costs and obstacles faced by white men. It is therefore important to account for the unique migration experiences of women and racial/ethnic minority men, in order to better understand how migration shapes economic opportunities for diverse populations.

Moreover, race/ethnicity and gender interact to create uniquely different life experiences for each demographic group. For example, black and Hispanic women are more likely to be single mothers than white women (Pew Research Center 2016), potentially hindering black and

Hispanic women's abilities to move to desirable locations. Prospective employers also form stereotypes surrounding black women as single mothers, tending to believe that because black women are more likely to be single mothers, they may also be less reliable and qualified workers (Kennelly 1999). These stereotypes may then decrease the probability that black women find employment regardless of whether they are single mothers or are qualified for their jobs[2]. At the same time, white women's higher probabilities of being married may translate into higher probabilities of being tied movers, or individuals who move for the benefit of their partner or family, often at the expense of their own employment outcomes (Cooke et al. 2009; Geist and McManus 2012; Jacobsen and Levin 1997; McKinnish 2008; Shauman and Noonan 2007).

For Hispanic and, especially, black men, incarceration and even employer stereotypes surrounding Hispanic and black male incarceration are strong and important forces limiting their abilities to migrate and/or to obtain jobs in origin and destination locations (Pager and Shepherd 2008). These are just a few of the many ways that migration outcomes can be uniquely shaped by both race/ethnicity *and* gender. It is therefore important to separately assess the unique relationships between migration and economic opportunity for racial/ethnic minority women and men and for white women.

However, relatively little research has examined how contemporary[3] inter-county and inter-state migration outcomes are influenced by race/ethnicity and gender effects. Moreover, while previous research has assessed the influence of state and local welfare policies and wages on the migration decisions of black and white women (Enchautegui 1997; Kennan and Walker

[2] However, experimental evidence suggests that black and white women pay similar employment penalties for being mothers, including lower starting salaries, fewer days allowed late, and lower probabilities of being promoted, though black mothers are even less likely to be considered for promotion than white mothers (Correll et al. 2007). These findings cumulatively suggest that black women may suffer more from employers' expectations that they are mothers, though black and white women who are actually mothers pay similar penalties.

[3] A considerable literature examines inter-racial and, to a lesser extent, inter-gender differences in the returns to migration during the period of the Great Migration (about 1915-1970) (Tolnay 2003).

2010), we have less insight into how minority women fare after they migrate across counties or states, how they fare compared to those who decide not to migrate, and how the costs and benefits of migration for minority women compare to the more well-researched costs and benefits of migration for white women and women in general (without regard to racial effects).

I endeavor to address these gaps in the literature by using National Longitudinal Survey of Youth-1979 (NLSY79) data from 1979-2012 in order to examine 12,686 individuals, their migration decisions, and their economic trajectories over approximately 33 years as they decide to migrate or remain in place. This research is focused on four central questions:

Is inter-state migration associated with (1) changes in hourly wages and/or (2) weekly hours worked as residential tenure in a location increases?

How do these relationships vary by (3) race/ethnicity and (4) gender?

By examining these questions, I will provide important insights into how internal migration shapes economic opportunity and whether it does so in similar or different ways for black, Hispanic, and white women and men. These results will inform our understanding of migration as a driver of individual and societal economic growth and will help demonstrate whether migration is a means of creating opportunities for diverse populations or whether it exacerbates racial/ethnic and gender gaps in economic outcomes. Further, as protests have erupted in response to societal racism and as the political rhetoric concerning women, minorities, and the economic opportunities available to the American people has become more heated and contentious, the issue of economic opportunity and the manner in which economic opportunity is shaped by race/ethnicity and gender will have enduring importance for the health and wellbeing of the United States population.

Background

The Benefits of Migration

It has long been assumed that migration economically benefits individuals and families (Greenwood 2015; Lee 1966; Ravenstein 1895; White and Lindstrom 2005). Indeed, research has shown that many individuals are motivated to migrate for economic reasons. For example, approximately 30 percent of people surveyed in the 1985 and 2011 AHS surveys reported economic and/or financial reasons for moving (Spring et al. 2013). Moreover, expected economic benefits are important motivators for destination choices, and this is particularly so for migrating black families (Lee and Roseman 1999). Income differences (Kennan and Walker 2010), varying returns to skill (Borjas et al 1992a), and varying returns to a college degree (Dahl 2002) are also important determinants of the location decisions of migrants. It is therefore apparent that many migrants are motivated by the desire to increase their income and attempt to choose locations that arguably best enable them to do so. However, do migrants appear to be successful in their search for economic opportunity? In other words, are migrants actually experiencing increases in their income, wages, or other measures of economic wellbeing?

Considerable research has shown that many migrants are, indeed, successful in improving their economic outcomes upon or shortly after their arrival. For example, Yankow (2003) finds that migrants with more than 12 years of schooling experience substantial gains in wages a year after migrating, with gains in wages persisting for more than 5 years after migrating. Likewise, Knapp et al. (2013) find that primary, inter-county migration (or a first inter-county move) is associated with significant increases in wages, and that onward, inter-county migration (which refers to subsequent inter-county moves) is associated with significantly greater wages for college-educated migrants. Clark and Withers (2002) also find that both inter-labor market and

intra-labor market migration are associated with gains in wages for men, though these gains are particularly great for those who move across labor markets.

The literature on the Great Migration, one of the largest internal migration streams produced by the United States, further reinforces the argument that migration is important for enhancing economic opportunity. The Great Migration refers to the migration of blacks and whites from the South to the North between 1915 and 1970. Much of the research on the Great Migration shows that millions of individuals were motivated to migrate north for economic reasons (Berry 2000; Boustan 2016, Gregory 2005; Tolnay 2003; Wilkerson 2010). Additionally, many black, southern-born migrants appeared to be economically successful relative to their northern-born counterparts, exhibiting higher probabilities of employment (Tolnay 2001) and employment in full-time jobs (Lieberson and Wilkinson 1976) and higher incomes (Lieberson 1978; Long and Heltman 1975) relative to native northerners. In contrast, few economic benefits have been found for white migrants moving from the South to the North during this time period (Berry 2000; Gregory 2005).

These studies are a selection of a variety of studies that have found significantly positive relationships between internal migration and employment outcomes including wages, income, and occupational status, though many of these studies only find benefits for or only study men and few untangle potential racial/ethnic *and* gender differences in the returns to migration[4] (Bartel 1979; Cooke et al. 2009; Flippen 2013; Geist and McManus 2012; Krieg 1997; McKinnish 2008; Shauman and Noonan 2007).

[4] The research on residential mobility (which largely refers to short-distance mobility within counties or metro areas) and the research on regionally-specific migration streams such as the Great Migration and return migration to the South are important exceptions to this, though this study focuses on longer-distance, inter-state migration, which is more likely to correspond to job changes and changes in economic wellbeing than short-distance migration and this study is focused on general (not regionally-specific) migration streams.

Complicating the Narrative of Economically Beneficial Migration

However, there are some countervailing findings in the literature that complicate the narrative of internal migration as a creator of economic opportunities. Specifically, some studies have shown that internal migration does not always correspond to observed economic benefits. For example, Jacobsen and Levin (1997) find that inter-state migration has negative associations with wage growth rates. Likewise, Borjas et al. (1992b) find that young, inter-state migrants earn about 7 percent less than natives of the destination area in the first couple of years after a move, though the authors did not examine whether these inter-state migrants improved their circumstances relative to non-migrants in their origin areas. Moreover, Eichenlaub et al. (2010) show that black and white Great Migration migrants who moved from the South to the North experienced no or even negative returns to migration in terms of absolute and relative income, occupational status and labor force attachment relative to southern stayers, providing an important contrast to much of the Great Migration literature that compares Great Migration migrants to *northern* stayers and that finds positive economic benefits associated with migration. Boustan (2016) finds, however, that southern-born blacks who migrated north between 1935 and 1940 earned substantially more than their brothers who remained in the South, providing a contrasting view of the returns to the Great Migration, at least for the Depression era.

These findings would seem to challenge the notion that migrants are frequently motivated by rational decisions to increase their economic returns or that migrants are consistently able to perform accurate calculations of the costs and benefits of migration. However, the returns to migration may depend on the characteristics of migrants, such as their gender, race/ethnicity, or socioeconomic status. For example, individuals with low incomes tend to receive negative returns to local and interstate moves, while individuals with high incomes tend to receive fairly

large returns (Yankow 2003). Dahl (2002) also showed that the tendency to migrate in search of the best job offer is an important component behind college graduates' higher pay relative to those with less education. Likewise, research has shown that migration offers larger benefits for males than for females (Bartel 1979; Clark and Withers 2002; Cooke et al. 2009; Geist and McManus 2012; Knapp et al. 2013; Krieg 1997; McKinnish 2008; Shauman and Noonan 2007). It may therefore be the case that migration holds substantial benefits for relatively well-off individuals who are thereby more able to make informed choices that closely align with their preferences, while the moves made by those whose choices may be more constrained—such as those with lower incomes, racial/ethnic minorities, single mothers, families in poverty, and tied movers—may correspond to fewer economic and social benefits.

For example, research has shown that migration tends to widen the income gap between male partners and female partners (the latter of whom are more likely to be tied movers), thereby increasing "gender specialization" and reducing women's wages, while increasing men's wages and overall family income (Cooke et al. 2009; Geist and McManus 2012; Jacobsen and Levin 1997; McKinnish 2008; Shauman and Noonan 2007). In part, this is because families often move when the male partner is expected to increase his income by migrating or when he is in a high-mobility occupation, but this relocation rarely occurs when migration is expected to benefit the female partner (Cooke 2008; McKinnish 2008; Shauman and Noonan 2007; Wright and Ellis 2015). These gender disparities are particularly pronounced for women with children (Cooke 2008; Geist and McManus 2012; Jacobsen and Levin 1997). Women's exit out of the labor force following or directly preceding a move is partially responsible for these decreases in wages and increases in gender specialization (Clark and Withers 2002; Clark and Withers 2006; Cooke 2008; Jacobsen and Levin 1997; Lee and Roseman 1999; Shauman and Noonan 2007).

Nevertheless, migration is negatively associated with earnings even among women who stay in the labor force (McKinnish 2008; Shauman and Noonan 2007).

Moreover, women tend to earn less than men, in part, because of gender stereotyping (Bobbitt-Zeher 2011), the sex composition of workplaces and the lack of female managers (Bobbitt-Zeher 2011; Hultin and Szulkin 1999; Ngo et al. 2003), the dearth of maternity leave policies that guarantee women can return to their jobs after taking time off to have a baby (Waldfogel 1998), and discrimination in hiring practices (Cleveland et al. 2005). As such, women may experience lower returns to migration and families may be less motivated to migrate for women's careers because their wages tend to be lower and their promotion opportunities fewer relative to males.

The benefits of migration may also be smaller for racial and ethnic minorities because the residential choices of minorities have, historically, been limited. Discriminatory lending (Oliver and Shapiro 2006; Stuart 2003), redlining (Massey and Denton 1993), restrictive covenants excluding minority residents from certain neighborhoods (Jackson 1987; Loewen 2005; Sharkey 2013), racially motivated violence (Massey and Denton 1993), exclusionary and nonexclusionary discrimination (Roscigno et al. 2009; Ross and Turner 2005), and a lack of affordable housing and ill-supported housing programs (DeLuca et al. 2013), among other factors have limited the neighborhoods minorities have been able to safely and affordably move into. The homes of black residents also appreciate less quickly than the homes of white residents, constraining families' abilities to sell their homes at a profit (Oliver and Shapiro 2006; Squires and Kubrin 2005). All of these things would suggest that the homes of minorities may be less valuable than the homes of whites, limiting the housing capital minorities can harness to finance moves to more prosperous areas. These experiences of discrimination may also limit minorities' perceptions of

the areas they can safely move to, to areas that already have larger minority communities. As such, blacks and Hispanics may be less able or willing to move to economically dynamic areas, especially if those areas have small minority communities and/or high housing costs, lowering the potential benefits of migration.

Likewise, racial/ethnic minorities may face more obstacles in obtaining new jobs across businesses and industries and receiving promotions within industries because of discrimination in the job market and in job search processes (Kirschenman and Neckerman 1991; Pager 2003; Pager and Shepherd 2008) and because of racially segregated job networks. Racial disparities in employment outcomes may therefore also influence the opportunities for and potential returns to migration.

These housing- and job-related forces may be shaped by gender, in addition to race. For example, single mothers tend to experience discrimination in the housing (Desmond 2016) and job market (Kennelly 1999). Because black and, to a lesser extent, Hispanic females are more likely than white females to be single parents, minority females could be exposed to greater levels of discrimination because of their single-mother (or perceived single-mother) status, corresponding to worse migration and neighborhood attainment outcomes. Incarceration may also limit individuals' abilities to move to advantageous locations, given that previously incarcerated individuals may have fewer resources to enter into the private housing market or pay moving costs, are often restricted from public housing options, and that parole and supervised release is often associated with limited geographic mobility (Travis et al. 2001). These limitations may be felt particularly acutely by black men, followed by Hispanic and then white men, given the relatively higher probability that black men experience incarceration and given that landlords and employers often discriminate against black men because of stereotypes

surrounding black males and incarceration (Pager and Shepherd 2008). Minorities may therefore face lower returns to migration because their ability to choose utility-maximizing locations and to leave locations that do not maximize their utility may be constrained and these obstacles may further be shaped by the interaction between race/ethnicity and gender.

At the same time, migration has historically been an important means of increasing economic opportunities for blacks, by, for example, allowing southern-born black migrants to take advantage of economic opportunities in the North during the period of the Great Migration (Boustan 2016; Tolnay 2003). These patterns may hold contemporarily as well. For example, Flippen (2013) finds that inter-regional migration is associated with significant increases in occupational attainment among black men moving from the South to the North. It is therefore possible that, on the one hand, internal migration across counties or states is associated with larger economic benefits for blacks and, potentially, Hispanics than for whites. This could be the case if, for example, whites are more able than blacks or Hispanics to find jobs in their origin locations, perhaps because of the prevalence of largely white job networks and because whites do not experience racial/ethnic discrimination when they search for and obtain jobs, mitigating the need for and benefits associated with migration. On the other hand, it is possible that inter-county and inter-state migration hold fewer benefits for minorities because of discrimination in housing and employment markets at both the origin and destination locations, the lower average quality of education in poor, segregated neighborhoods (Massey, Condran and Denton 1987; Massey and Denton 1993; Williams and Collins 2001), and the lower average socioeconomic status of minorities, as illustrated above.

It is also possible that men may benefit more from migration than women because of different norms and stereotypes surrounding female employment and because women have

tended to exhibit lower labor force attachment and are more likely to work in geographically ubiquitous jobs that are less likely to require migration (Shauman and Noonan 2007). However, these relationships may also differ across race and ethnicity because minority females may be less likely to leave the labor force than white women if their families depend on their incomes to a greater extent and because stereotypes surrounding female employment may differ for black, Hispanic, and white women, among other potential reasons.

These relationships are, however, unclear, because research on contemporary inter-state and inter-county migration has rarely examined both race/ethnicity and gender effects. This study is therefore informed by the desire to bring an intersectional perspective to internal migration research. Towards that end, I examine the relationships between inter-state migration and wages and between inter-state migration and weekly hours worked over time, with special attention devoted to the ways in which race, ethnicity, and gender structure these relationships

I hypothesize that:

1) Migration will be associated with initially higher wages and greater wage growth over time for all race/ethnic and gender groups.
2) White men will benefit more from migration than minority men.
3) It is somewhat unclear whether black, Hispanic, or white women would gain the most from migrating. I therefore do not hypothesize about potential race/ethnicity effects for women.
4) The association between race/ethnicity and the returns to migration will vary for males and females.

5) Finally, women will benefit less from migrating than same race/ethnicity men, given that women are more likely to receive lower wages and fewer opportunities for promotion and are more likely to be tied movers than men.

Data and Methods

In order to examine these relationships, I utilize the National Longitudinal Survey of Youth-1979 (NLSY79) for the years 1979 to 2012, as well as the restricted, geocoded data associated with this sample. The NLSY79 is a nationally representative sample composed of 12,686 men and women who were between 14-22-years-old at the beginning of the survey in 1979 and between 47-55-years-old in 2012, the last year for which data are currently available. Individuals in the NLSY79 were interviewed annually between 1979 and 1994, and interviewed biennially thereafter. Each participant has therefore been observed up to 25 times between 1979 and 2012. Individuals attending school are excluded from this analysis, as are individuals under 20-years-old in order to reduce the probability that young adults attending school full- or part-time are included in the analysis.

Focal Independent Variables: Internal Migration

In this analysis, I focus on inter-state migration because inter-state migration is considerably more likely to correspond to changes in labor markets and employment than shorter-distance migration, such as inter-county migration (Spring et al. 2013; White and Lindstrom 2005) [5]. Throughout this time period, approximately 22-27.5 percent of respondents have moved from their state of residence at least once, depending on their race, ethnicity and

[5] I also examined inter-county moves and inter-county moves in which the individual moved 50 miles or more. However, the results for these moves were substantively very similar to the results for inter-state moves, though the benefits of inter-county moves of 50 miles or more were somewhat more modest than the benefits of inter-state moves, and the benefits of inter-county moves not restricted by distance were more modest than either of these types of moves. The gender and racial dynamics in these models were, however, very similar (results available upon request).

gender, providing an ample comparison sample of individuals who have moved and individuals who have not. I use restricted, geocoded data in order to identify whether respondents moved in each time period and, if so, whether this move was inter-state. My focal independent variables include (1) whether the respondent has ever engaged in an inter-state move[6] (if an individual moves across states for the first time in 1985, for example, this variable registers a 1 in 1985 and in every subsequent year, but registers a 0 in previous years because the respondent had never moved up to that point), (2) the number of years the respondent has lived in their state of residence as an adult who is not enrolled in school[7] (when an individual moves to a new state, this measure resets so that an individual lives in their new state for 0 years upon migrating, for 1 year 1 year after migrating, etc.) (3) an interaction between the ever moved dummy variable and the years the respondent lived in the state of residence, and (4) the number of moves conducted. This strategy follows that used by Cooke et al. (2009), though Cooke et al. use the number of years since the migration event instead of years of residence in a state. Table 2.1 provides an example of what these variables would look like for a hypothetical individual who lives in New York at the beginning of the observation period in 1979 and who then engages in an inter-state move from New York to California in 1981 and a subsequent move in 1983 from California to Oregon.

Table 2.1: Focal Independent Variables for a Hypothetical Individual

	Example Move	**Ever Migrated**	**Residential Tenure**	**Number of Moves**
1979	Lives in NY	0	0	0
1980		0	1	0
1981	NY → CA	1	0	1
1982		1	1	1
1983	CA → OR	1	0	2

[6] Inter-state moves do not here distinguish between inter-metro and intra-metro moves, though the results do not differ when moves are restricted to inter-metro moves or to moves that span 50 miles or more.
[7] Residential tenure is counted starting when an individual is 20 years or older and not enrolled in school. Residential tenure still counts up in the years an individual is not employed, but these observations are excluded from the analysis given that they have missing observations for the economic outcomes I observe.

1984		1	1	2
1985		1	2	2

Because I am interested in understanding how both migrants' and non-migrants' wages and work hours change over time, the years of residence variable allows me to tap how non-migrants' wages and work hours change over time in addition to how migrants' wages and work hours change over time. Moreover, I examine years of residence as an adult not enrolled in school because this helps capture residential tenure in a particular labor market for migrants and non-migrants, which is relevant for shaping employment experiences. The dummy "ever moved inter-state" variable helps to account for the influence of a move on employment outcomes. The continuous "years of residence" measure shapes the wage/work hour *slope* of non-migrants, illustrating how non-migrants' wages or work hours grow over time as their residential tenures increase in length. The interaction "ever moved*years of residence" shapes the wage/work hour *slope* of migrants, illustrating how migrants' wages or work hours grow over time in the years following a move into a different state. This interaction also enables me to determine the impact of a move on economic outcomes at the point of migration or at 0 years of residential tenure. Finally, the count variable "number of moves" should not influence the results for non-migrants (who have 0 moves) but should capture the influence of additional or onward moves on migrants, which tend to have a particularly large influence on wages and employment outcomes (Knapp et al. 2013; Tolnay and Eichenlaub 2006).

Economic Outcomes

In each wave, respondents are asked to provide their hourly wages and weekly work hours. I use the responses to these questions to assess how migration is associated with logged

hourly wages[8] (in 2012 dollars, adjusted using the Consumer Price Index) and weekly hours worked.[9] I focus on both of these outcomes because the hourly wage measure is a fairly conventional outcome to examine in the internal migration literature and because it provides important insights into the economic wellbeing of individuals and families, as well as insights into the quality of the job the individual is employed in. However, hourly wages, while indicative of economic wellbeing, do not by themselves mean that families are well-off. Some individuals may work in jobs with relatively few hours and, even if these jobs have relatively high wage rates, individuals might be underemployed (Jensen and Slack 2002; Slack and Jensen 2002), a situation that is becoming increasingly prevalent with the rise of unstable work schedules and the service sector (Kalleberg 2009). Moreover, a migrant may take a pay cut to move into a full-time job. The number of hours an individual works therefore has important cumulative implications for their yearly income as well as for their job stability, while also being reflective of whether they are underemployed.[10] Moreover, underemployment may be a particularly prevalent experience for women and minorities (Slack and Jensen 2003). Examining only one of these outcomes can therefore mask some of the benefits (and costs) associated with migration and can obscure important changes in U.S. opportunity structures that could play into the migration decline. I therefore investigate both of these outcomes in order to provide a more holistic picture of the returns to migration.

A host of personal and familial characteristics are accounted for, including the quadratic relationship with age (age and age-squared), marital status, educational attainment, job tenure

[8] The hourly rate of pay variable comes from the NLSY79's created wage variable, which is computed using respondents' answers about their "usual wage, time unit of pay, and usual hours worked per day/per week" (http://nlsinfo.org/content/cohorts/nlsy79/topical-guide/employment/wages).
[9] Individuals' weekly hours worked are created from the NLSY79's survey question asking respondents about the number of hours they *usually* work at their listed job.
[10] Underemployment refers to an individual being employed in a job that is less than full-time or that underutilizes their skills and training (Merriam Webster 2018).

(years spent with the same employer), and occupational status (whether the respondent has a "professional" job or not), the number of children the respondent has, whether the respondent is in the armed forces, or resides in a rural or urban location, and the respondent's region of residence (South, Northeast, North Central, or West). A lagged measure representing the average wage gain over the three years prior to the observation year is also included in order to control for the potentially steeper earnings trajectories of migrants prior to moving. In the models examining hourly wages, I include a control for weekly hours worked as well.[11]

Analytic Strategy

In order to examine the relationship between internal migration and economic outcomes, I utilize multilevel growth curve models that include individual and county-level random intercepts, thereby nesting person-period observations within individuals and individuals within counties and, as a result, accounting for the nested non-independence of the error terms that occurs when including multiple observations for a single person in the regression models. I also include county-level random intercepts to help address across-county variation in characteristics such as cost-of-living and opportunity structures. Because these are growth curve models, the slopes, as well as the intercepts, are allowed to vary across individuals. The value of these models are discussed further in Chapter 1.

This analytic strategy is represented by the equation below, where *y* represents the outcome of interest for person *i* at time *t* in county *j*; π_{0ij} and π_{1ij} represent the intercept and slope for individual *i* in county *j*, respectively; $YrofRes_{tij}$ represents the numerical measure of time at time *t* for individual *i* in county *j* (this measure allows the slopes of individuals to vary, as well as

[11] I did not include a control for year because it was highly correlated (>0.90) with age in this sample.

the intercepts), βx_{tij} captures the influence of covariates on the relationship, and ε_{tij} represents the residual for individual *i* at time *t* in county *j*.

$$y_{tij} = \pi_{0ij} + \pi_{1ij} YrsofRes_{tij} + \beta x_{tij} + \varepsilon_{tij}$$

I separately analyze men and women because the results of Chow tests suggested that model effects on economic outcomes systematically differed by gender and were strong enough to merit splitting the sample by gender rather than analyzing the sample jointly and conducting interaction effects (wage bivariate model—F: 1580.41, $p < 0.0001$; wage multivariate model—F: 3317.29, $p < 0.0001$; work hours bivariate model—F: 3504.09, $p < 0.0001$; work hours multivariate model—F: 4641.42, $p < 0.0001$). Within these gender-based models, I conduct interactions with race/ethnicity and the migration-related variables, including whether the respondent ever moved across a state by the survey wave in question, the years of residence in the state, the interaction between ever moved and the years of residence, and the number of moves the individual has undertaken since the beginning of the survey. The interactions between these migration-related variables and race/ethnicity allow me to assess whether migration is associated with different levels of returns for blacks and Hispanics, relative to whites. To facilitate the interpretability of these results and allow for comparisons in the returns to migration across race/ethnicity and gender, I separately graph predicted hourly wages and weekly hours worked (y-axis) by years of residence in a state (x-axis), holding all covariates at their means, for black, Hispanic, and white women and men.

Results

Descriptive statistics for female and male migrants and non-migrants are presented in Table 2.2 below. Non-migrant person-years represent individuals who have not migrated up to the observation year in question (though non-migrant person-years do not exclude individuals

who will migrate in the future), migrant person-years only include individuals who have migrated by the observation year in question. The descriptive statistics illustrate that migrants exhibit greater lagged income growth, higher probabilities of being married, more years of schooling, and higher probabilities of being employed in professional jobs than non-migrants. However, migrants and non-migrants exhibit similar weekly hours of employment and years of job tenure. Predictably, non-migrants, on average, spend more years in their counties and states of residence as adults. These descriptive results provide an initial indication that migrants may be better off than non-migrants, though this may be a result of the positive selectivity of migrants, rather than the influence of the migration event itself.

Table 2.2: Descriptive Statistics by Gender and Migration Status

	Female Migrant	Female Non-Migrant	Male Migrant	Male Non-Migrant
Outcome Variables	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Logged Weekly Wages	2.602 (0.702)	2.542 (0.633)	2.879 (0.702)	2.752 (0.595)
Weekly Wages	15.32 (13.27)	13.97 (11.28)	20.92 (17.75)	17.41 (13.38)
Hours/Week	39.90 (11.73)	36.25 (10.99)	43.15 (11.44)	41.82 (10.91)
Migration Variables				
Yrs of Residence (State)	4.593 (4.135)	10.58 (6.347)	4.332 (3.977)	9.692 (6.184)
Number of State Moves	2.272 (1.375)	0 (n/a)	2.207 (1.364)	0 (n/a)
Covariates				
White (ref.)	0.614 (0.487)	0.504 (0.500)	0.608 (0.488)	0.506 (0.500)
Black	0.253 (0.435)	0.276 (0.447)	0.252 (0.434)	0.268 (0.443)
Hispanic	0.125 (0.331)	0.184 (0.387)	0.130 (0.336)	0.197 (0.398)
Lagged Wage Growth	1.141 (5.347)	0.918 (4.966)	1.352 (6.873)	0.993 (5.754)
Age	33.33 (8.377)	31.819 (8.949)	33.18 (8.239)	31.242 (8.686)
Married	0.541 (0.498)	0.494 (0.500)	0.506 (0.500)	0.475 (0.499)
Years of Tenure	3.604 (4.095)	4.906 (5.352)	4.066 (4.541)	5.072 (5.544)
Years of Ed.	13.60 (2.415)	12.987 (2.159)	13.498 (2.715)	12.473 (2.184)
In Military	0.008	0.001	.001	0.001

	(0.088)	(0.032)	(0.037)	(0.039)
Professional Job	0.424	0.325	0.393	0.241
	(0.494)	(0.468)	(0.488)	(0.427)
Live in Urban Area	0.776	0.766	0.775	0.759
	(0.417)	(0.424)	(0.418)	(0.428)
Northeast (ref.)	0.149	0.178	0.156	0.177
	(0.356)	(0.382)	(0.363)	(0.382)
North Central	0.209	0.241	0.235	0.243
	(0.406)	(0.428)	(0.424)	(0.429)
West	0.191	0.185	0.210	0.199
	(0.393)	(0.389)	(0.407)	(0.399)
South	0.449	0.394	0.397	0.380
	(0.497)	(0.489)	(0.489)	(0.485)
N	21,305	53,371	23,020	54,505

[a]Descriptive statistics are calculated using person-years; *Source NLSY79*

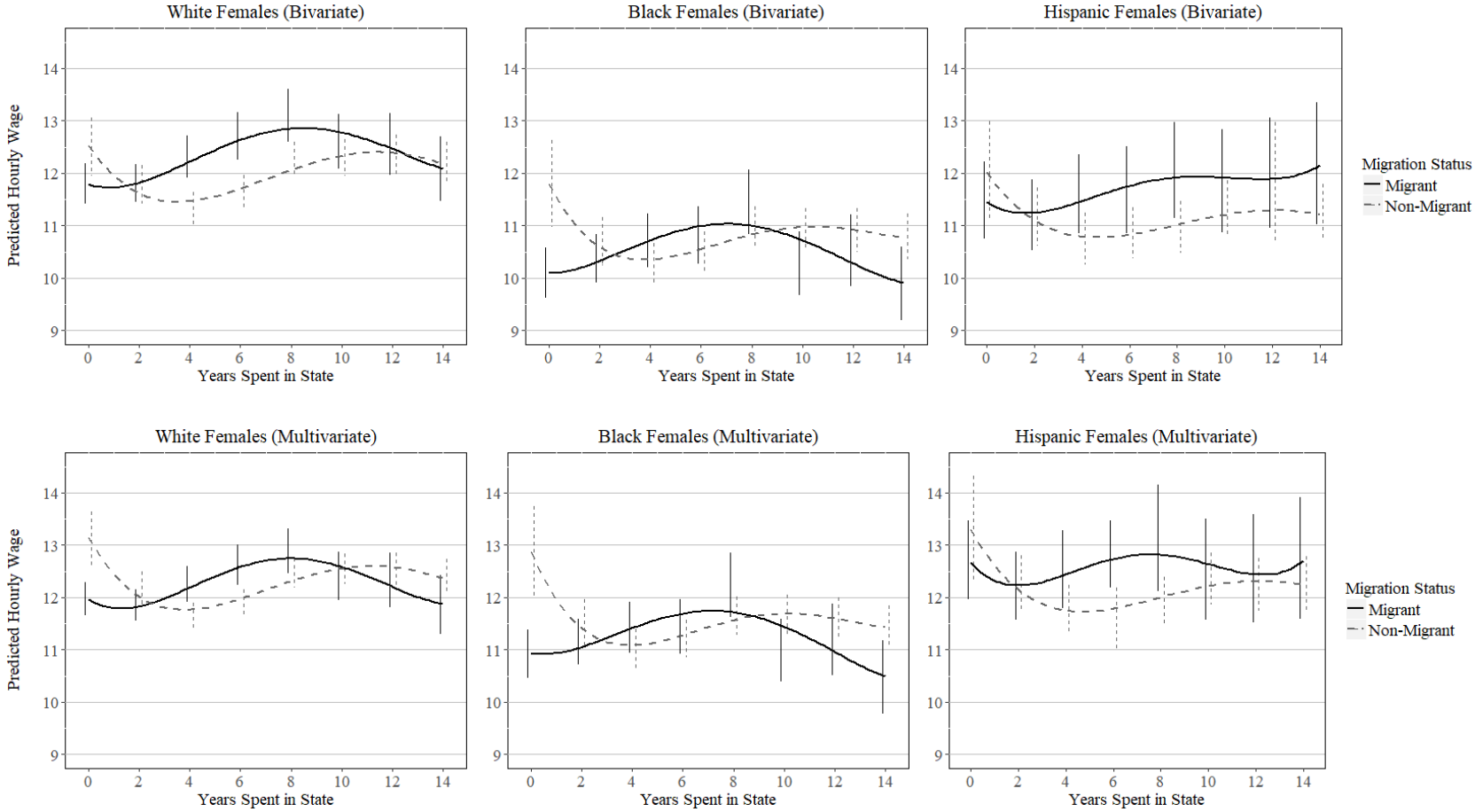
Wage Analyses

Females

I next turn to the bivariate and multivariate analyses in order to examine these relationships. Towards that end, Figures 2.1 and 2.2 present the bivariate[12] and multivariate results from the multilevel growth curve models (the full set of results is presented in Appendix Table 2.1) for females and males, respectively. The predicted results from the multivariate models hold covariates at their means. In these graphs, only individuals with wages over $0 are included in the analysis to prevent the downward pressure on the results that would result from including those who leave the labor force following a move.

[12] The bivariate analyses include controls for age and age-squared (and are therefore not true bivariate analyses) in order to account for the dependency between age and years spent in a state. Excluding age confounds these relationships because, if age is excluded from the analysis, years spent in a state captures not only the influences of residential tenure and years since migration on the relationships, but also the importance of aging and experience for advancing in one's careers. This is problematic when comparing migrants who have spent, for example, five years in a state to non-migrants who have spent five years in a state. The former group is likely to be older than the latter group and therefore more likely to exhibit higher incomes because of their age, rather than because of their migration status. Excluding age therefore corresponds to artificially large relationships between migration, residential tenure and income.

Figure 2.1: The predicted relationship between inter-state migration and hourly wages for NLSY79 women, Source: *NLSY-79*



In contrast, white and Hispanic migrant women and black, white, and Hispanic non-migrant women earn statistically equivalent wages. These findings of higher wages for white and, to a somewhat lesser extent, Hispanic migrant women, relative to black migrant women are roughly consistent with the racial disparities in wages Alon and Haberfeld (2007) found among women in the NLSY-79, though Alon and Haberfeld did not examine racial/ethnic wage disparities by migration status.

Following this initial period, migrant and non-migrant black women earn statistically equivalent wages at all time points, suggesting that migration is not associated with gains in wages for black women and is even associated with initial wage *costs* for black women. Likewise, Hispanic women who migrate do not earn significantly more than non-migrant Hispanic women at any time point. In contrast, the wages of migrant white women increase as the years they spend in a state increase, with migrant white women earning significantly more than non-migrant white women when they have lived in a state for 4 or more years, but less than 10 years. Thus, in bivariate models, migration offers wage benefits for white women in the mid-, but not long- or short-term. Migration offers no apparent wage benefits for Hispanic women, however, and migration is associated with an initial drop in wages for black women, as well as a limited recovery in wages over time.

I next turn to the multivariate models (Figure 2.1, row 2), which include controls for gender, age, socioeconomic status, and family characteristics, and thereby help to account for the selectivity of migrants and potential differences in characteristics such as SES across race/ethnicity. In multivariate models, these relationships remain similar, though the benefits of migration narrow for white women and increase for Hispanic women. Specifically, in multivariate models, Hispanic women who migrate exhibit significantly higher wages relative to

non-migrants when they have spent 6-8 years in a state. The suppression of the benefits of migration for Hispanic women in bivariate models is largely due to the exclusion of educational attainment and the number of children in bivariate models, once these are controlled for, the benefits of migration become larger for Hispanic women. In their analysis of wage gaps among black, Hispanic, and white women, Alon and Haberfeld (2007) also found that Hispanic women's wages were suppressed by the absence of controls and, in fact, when they introduced controls, they found that Hispanic women earned significantly *more* than white women.

In multivariate analyses, white migrant women now only earn significantly more than white non-migrant women when they have spent 4 to (less than) 8 years in a state and these differentials are narrower than they were in bivariate models. As before, black migrant women experience an initial drop in wages, and no wage benefits (or costs) associated with migration thereafter. After accounting for the selectivity of migrants, migration therefore appears to offer modest benefits for white and Hispanic, but not black women. These findings contrast with the expectation that migration would be associated with initial and sustained improvements in wages for all groups and suggest that migration may modestly widen disparities in wages between white/Hispanic women and black women.

Males

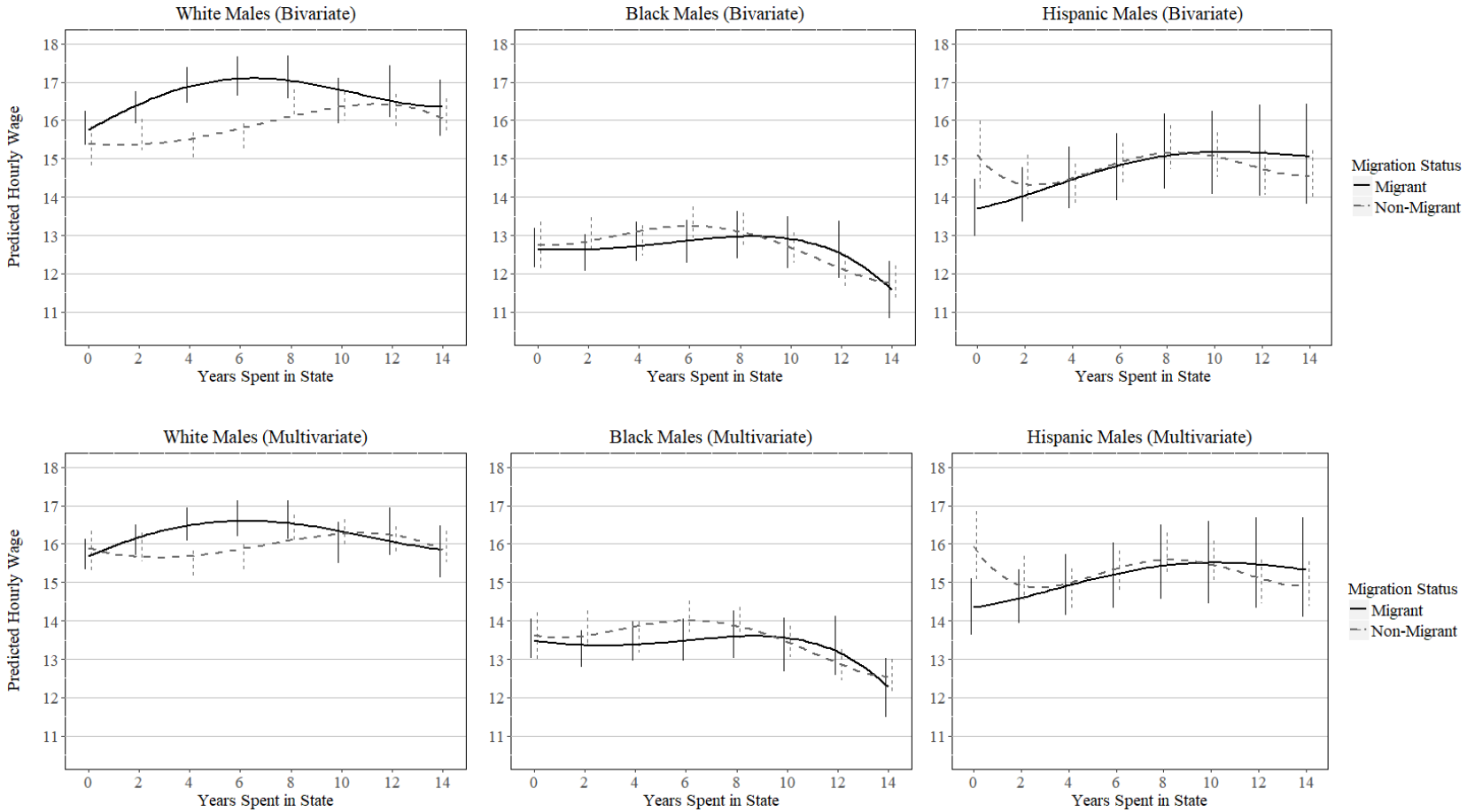
In bivariate models (Figure 2.2, row 1), white migrant men earn significantly more than Hispanic and black migrant men, and white and Hispanic non-migrant men earn significantly more than black non-migrant men. Moreover, while migration offers no significant benefits in terms of wages among black or Hispanic men, for white men, migration is associated with significant increases in wages and significantly greater wage growth over time relative to non-migrant white men. The disparities between migrant and non-migrant white men disappear once

men have spent ten years in a state, but these advantages are very persistent until that point.

Accounting for the full set of covariates in Figure 2.2, row 2 narrows the wage benefits associated with migration for white men, but white migrant men still earn significantly more than white non-migrant men when they have spent 4 to (less than) 6 years in a state. Migration is associated with significantly lower wages among Hispanic men initially, though otherwise, Hispanic migrant men earn statistically equivalent incomes to Hispanic non-migrant men. Likewise, at all time points, black migrant men earn statistically equivalent incomes to black non-migrant men. Consequently, migration largely only appears to be associated with wage benefits for white men and, as a result, migration may increase racial/ethnic disparities in wages.

These results illustrate that white men gain the most from migrating, relative to black and Hispanic men. Among women, white women tend to benefit the most from migration, followed by Hispanic women, while black women experience wage *costs* associated with migration. Migration may therefore widen racial and ethnic disparities in wages, both among men and women.

Figure 2.2: The Predicted Relationship between Inter-State Migration and Hourly Wages for NLSY79 Men, Source: *NLSY-79*



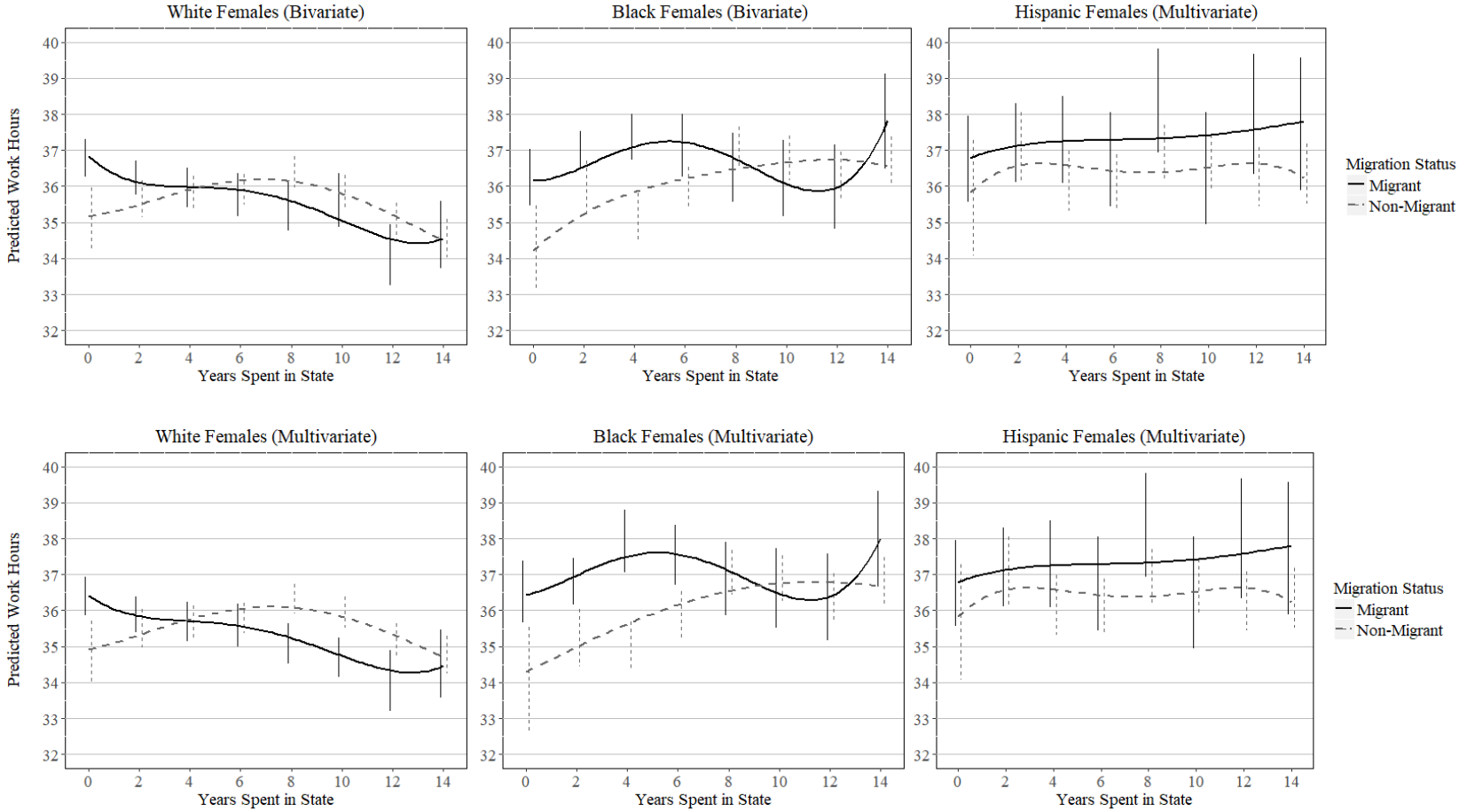
Hours Worked per Week

Females

I next turn to the analyses examining weekly hours worked. Towards that ends, Figures 2.3 and 2.4 graph the predicted number of hours worked per week by migration status, race, and gender. As with the results examining wage rates, these results are based on the predicted values obtained from multilevel growth curve models with the values of covariates held at their means. The bivariate models include controls for age, while the multivariate models include all controls. Only individuals working more than 0 hours per week are included in the analysis.

Turning first to the bivariate analyses for women (Figure 2.3, row 1), migration is associated with working significantly more hours initially (at year zero) among black and white women, but not among Hispanic women. For black women, these initial gains in work hours relative to non-migrant women are maintained until they have spent 6 years in a state. In contrast, migrant white women only work more hours than non-migrant white women initially. After year 0, white migrant women's work hours decrease steadily and quite steeply as the number of years they spend in a state increases. Hispanic women, however, experience no work hour benefits or costs associated with migration. Thus, by the end of the period, both migrant and non-migrant white women work fewer hours than minority women, while migrant and non-migrant Hispanic and black women work statistically equivalent hours.

Figure 2.3: The Predicted Relationship between Inter-State Migration and Weekly Work Hours for NLSY79 Women, Source: *NLSY-79*

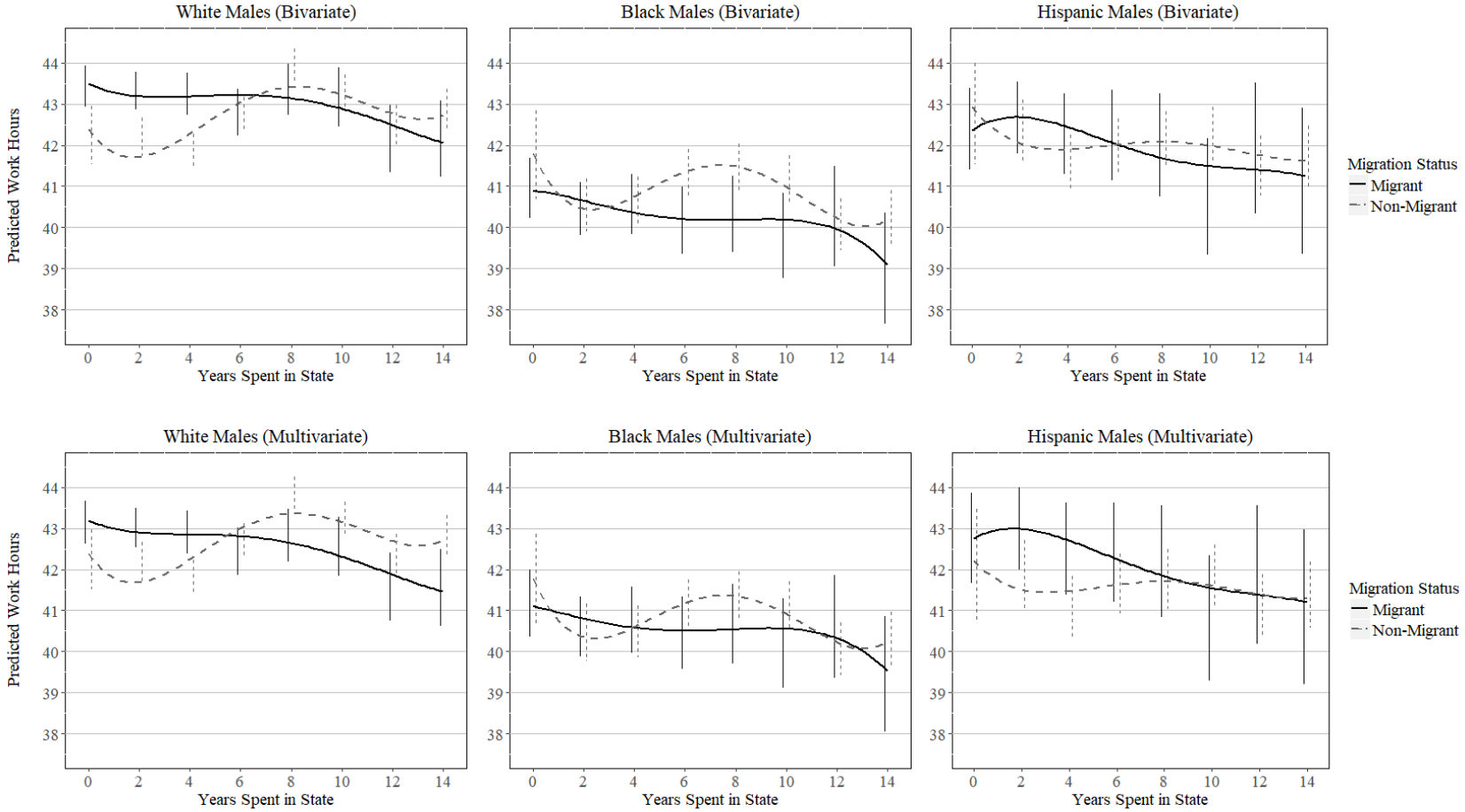


These relationships are similar when controls are included in the models (Figure 2.3, row 2), the two main differences being that migrant black women now work significantly more hours than non-migrant black women until they have spent 8 (rather than 6) years in a state and that white migrant women now work significantly fewer hours than non-migrant women when they have spent 8-12 years in a state. In sum, the results indicate that migration is initially associated with significant increases in work hours for black and white women and, for black women, these gains are maintained over time. While migration appears to benefit Hispanic women less, inter-state migration is associated with significantly greater increases in work hours over time for Hispanic migrant women than for Hispanic non-migrant women in multivariate analyses. Migration may therefore benefit minority women by increasing the hours they work and, as a result, increasing the probability that they are fully employed. For white women, however, migration is associated with initial increases in hours, but also with long-term decreases, these decreases may reflect active choices by women to decrease their level of involvement in the labor force, or they may reflect the possibility that some white women are underemployed. As such, over time, migration may narrow racial/ethnic disparities in economic outcomes by increasing the amount of hours minority women work relative to white women.

Males

The bivariate results for men (Figure 2.4, row 1) indicate that inter-state migration is associated with significantly greater numbers of hours worked for migrant white men relative to non-migrant white men when they have spent 0-4 years in a state, while inter-state migration is not associated with significant increases or decreases in work hours for black or Hispanic men at any time point. However, as the number of years spent in a state increase, migrant men of all races experience steady declines in the number of hours they work. While Hispanic non-migrant

Figure 2.4: The Predicted Relationship between Inter-State Migration and Weekly Work Hours for NLSY79 Men, Source: *NLSY-79*



men do not significantly increase or decrease the number of hours they work, black and white non-migrant men experience irregular changes in their work hours over time and these irregular changes tend to increase racial disparities in work hours because the gains in work hours for white non-migrant men tend to be larger and the losses in work hours over time smaller than the gains and losses experienced by non-migrant black men.

As for women, the results for men vary little when controls are added to the model. The only significant differences are that white migrant men do not initially (at year 0) work significantly more hours than white non-migrant men and that racial disparities in the number of hours worked are narrower among migrants in multivariate models than they were in bivariate models. Thus, migration is largely only associated with gains in hours for white men, but these gains are relatively short-lived once differences in human capital and individual and familial characteristics are included in the models. Otherwise, inter-state migration is not associated with significant changes in work hours for Hispanic or black men.

Supplementary Analyses

While my analyses have largely focused on intra-gender differences in the returns to migration by race, I am also interested in *inter-gender* differences in the returns to migration. To explore these relationships directly, I conduct separate models for each racial/ethnic group and interact gender with my migration-related variables (results available upon request). As expected, I find that in multivariate growth curve models (controlling for all of the variables mentioned above), black, Hispanic, and white migrant and non-migrant women earn less and work fewer hours than same-race men ($p < 0.000$ for all models). Moreover, white women tend to benefit less from migration than white men: they experience lower wage and work hour growth over time and earn fewer wage and work hour returns to onward moves, though they do

not experience significantly different initial returns to migration. While black females also earn fewer work hour returns to onward moves than black males, they earn larger wage returns to onward moves than black males, experience larger work hour benefits at the point of migration, and otherwise do not exhibit significant gender differences in the returns to migration. Additionally, Hispanic females earn fewer wage and work hours returns to onward moves than Hispanic males and they experience smaller work hour benefits at the point of migration, though they experience larger initial wage benefits to migration than Hispanic males. Hypothesis 5 is therefore largely supported for whites, for whom females tend to benefit less from migration than males, though it is largely not supported for blacks and it is only tentatively supported by Hispanics.

Discussion

Four central questions oriented this paper: (1/2) Is inter-state migration associated with changes in hourly wages or weekly hours worked over the lifetimes of individuals? (3/4) And how do these relationships vary by race/ethnicity and gender? With regards to the first question, I find that inter-state migration is largely only associated with gains in wages for white men and women and, to a lesser extent, for Hispanic women. While I had expected to find that migration would be associated with gains in wages for all race, ethnicity, and gender groups (Hypothesis 1), the finding that white males tended to benefit more consistently from migration than other groups is supportive of Hypothesis 2. Moreover, the finding that white men *and* white women tended to experience larger wage benefits associated with migration than black and Hispanic men and women is consistent with the possibility that discrimination in the job and housing market limits the potential returns to migration for minorities. The finding that Hispanic women experience wage gains associated with migration does, however, suggest that migration may be

associated with benefits for a more diverse group of individuals and that the experiences of men and women from different racial/ethnic groups should not be conflated.

For men, the results for hours worked are largely consistent with the results for hourly wages, with only white men experiencing increases in work hours associated with migration, supporting Hypothesis 2. Nevertheless, even for white men, these gains are only felt in the very short-term. For women, in contrast, the results for work hours differ considerably from the results for hourly wages. Specifically, while migrant white women initially work more hours than non-migrant white women, migration is associated with declines in work hours over time. For black women, however, migration is associated with initial gains in work hours and relatively steady, slightly increasing work hours as the number of years spent in a state increase. These work hour increases can translate into important gains in yearly income. Indeed, migrant black women work about 2 more hours per week than non-migrant black women between years 0-4. This translates into a predicted yearly gain in income of $1404 (given the average wage of $13.50 for migrant women) for those years. Thus, migration may be associated with wider racial/ethnic disparities in economic outcomes among men because it is largely white men that benefit from migration. However, migration may be associated with narrower racial/ethnic disparities in economic outcomes for women because of its positive association with work hours among black women and its negative association with work hours among white women. That being said, inter-state migration was associated with modest gains in wages for white and Hispanic women, but not black women, suggesting that the role of migration in narrowing racial/ethnic disparities in outcomes for women is somewhat ambiguous. Moreover, these varying relationships suggest that the association between race/ethnicity and the returns to

migration *do* differ for males and females, consistent with Hypothesis 4 and illustrating the value of an intersectional analysis.

The greater benefits associated with migration for white men relative to black or Hispanic men could be due to the possibility that the discrimination faced by blacks and Hispanics lessens the benefits associated with migration. For example, it may take longer for minorities to find jobs because of discrimination in the job search process (Pager and Shepherd 2008). Minorities may also be less likely to receive promotions within and across firms because of largely-white job networks and discrimination (Mouw 2001). Alternatively, it is possible that white men are more risk averse than black or Hispanic men and will only move if they are relatively certain that a move will benefit them. Indeed, research suggests that whites tend to be more risk averse than blacks and, particularly, Hispanics (Halek and Eisenhauer 2001; Schooley 1996). These explanations for the racial/ethnic disparities observed among men are not mutually exclusive and could be operating simultaneously. However, women tend to be more risk averse than men (Borghans et al. 2009; Jianakoplos and Bernasek 1998; Sapienza et al. 2009), risk aversion can therefore not be used to explain gender differences in the returns to migration.

These forces are likely to operate for black and Hispanic women as well. However, black and Hispanic women may still benefit more from migration than white women if they are less likely to leave the labor force or decrease their level of labor force participation prior to and/or following a move. For example, because black and Hispanic women are more likely to live in families with lower average incomes, it is possible that black and Hispanic women are less able to leave the labor force. Black and Hispanic women may therefore exhibit stronger ties to the labor force both before and after a move, enhancing earnings and job mobility and thereby increasing the potential returns to migration. Nevertheless, these hypotheses have not been

explored in this study. Future research should continue to examine why racial/ethnic and gender gaps in migration and economic outcomes exist.

Contributions

These findings have important implications for internal migration research and for research on racial/ethnic and gender stratification. Contemporary internal U.S. migration research has rarely focused on how race, ethnicity, *and* gender shape the unique migration decisions and outcomes of individuals. The internal migration outcomes of racial/ethnic minority women are particularly understudied. However, my findings demonstrate the utility of employing an intersectional perspective. Without doing so, the smaller benefits of migration for racial/ethnic minority men are obscured and, likewise, the larger work hour benefits of migration for racial/ethnic minority women relative to white women are masked. Yet, these findings have important implications for considering the ways in which racial/ethnic and gender disparities are shaped, reinforced, and, for minority women, even challenged.

The findings for women are particularly interesting and complicate the common narrative in the migration literature of migration as a means for allowing women to exit the labor force or otherwise decrease their labor force participation. Indeed, these findings suggest that migration may be important for enhancing economic opportunities for racial/ethnic minority women and thereby decreasing disparities among females. Neglecting race/ethnicity and gender effects may miss the possibility that black and Hispanic women face different constraints, norms, stereotypes, obstacles and opportunities than white women and that the economic and migration experiences of white women are likely not generalizable to those of black and Hispanic women. This study is consequently important for informing discussions about equitable opportunities for individual economic advancement.

Another contribution of my study is its utilization of a rich and uniquely long-term longitudinal dataset that allows me to examine how the employment outcomes of migrants and non-migrants are shaped over a long period of time. In doing so, I am able to differentiate initial shocks associated with migration from the longer-term associations between migration and economic outcomes. Because of this, I am able to examine how migration is associated with racial/ethnic and gender disparities in the long-term, giving a fuller view of the ways in which migration is associated with stratification.

Additionally, many studies only examine how migrants' economic outcomes change as the time since the migration event unfolds. My ability to compare migrants and non-migrants longitudinally is therefore an important contribution, that allows me to better assess the benefits and costs of migration over time compared to the counterfactual non-migrant population as well as to better assess the benefits and costs of remaining in place. As the United States population has continued to migrate at lower and lower rates (Cooke 2011; Fischer 2002; Long 1988; Molloy et al. 2011, 2014, 2017; Shauman 2009; Spring et al. 2013), the investigation of how non-migrants are faring is becoming increasingly important for understanding how the United States population is doing economically and why migration seems to be a less appealing or accessible option for individuals now than in the past.

Indeed, my finding that inter-state migration holds relatively few benefits for black and Hispanic men is somewhat concerning and may suggest that migration propensities have been declining over time, in part, because of the costliness of migration (Frey 2009; Molloy et al. 2011). It is also concerning that migratory *and* non-migratory black men experience no increase and even decreases in their wages and in the number of hours they work as their residential tenure increases. Even among white and Hispanic men, wage growth over time is extremely

marginal and non-migrant women experience irregular wage growth. Non-migrants may therefore be stagnant both geographically and economically, which has important implications for the health, wellbeing, and dynamism of the United States economy and its population.

Limitations

This study is subject to limitations. While multilevel growth curve models offer important benefits over many other types of models, they cannot fully account for unobserved heterogeneity. This is problematic because, as mentioned above, migrants are a select group and they may exhibit characteristics that are difficult to measure and account for and that may also be associated with income levels, such as higher propensities for risk-taking and/or greater ambition. My findings may therefore be subject to omitted variable bias.

My inability to explore individuals' motivations for moving is also a limitation of this study because we would likely see larger returns to migration for white males if, for example, white males are the most likely to migrate for employment-related reasons. While this is a problematic limitation, there are a number of reasons to believe that blacks and whites exhibit relatively similar motivations for moving. For example, Lee and Roseman (1999) demonstrate that the determinants of moving across states are similar for blacks and whites and, if anything, expected economic benefits are more important for determining the location choices of blacks. Likewise, Crowder (2001) finds that migrants' characteristics are associated with expectations in similar ways for blacks and whites and that blacks are more likely to consider their economic standing when forming expectations surrounding mobility. If blacks and whites were moving for substantially different reasons, we would expect that the characteristics of migrants would be associated with migration and expectations of migrating in different ways for blacks and whites. For example, if whites were more likely to migrate for economic reasons, we would expect that

characteristics that are important for employment, such as educational attainment, income, and professional job status would be more strongly related to migration probabilities for whites than for blacks, though this does not seem to be the case. Nevertheless, it is well-established that women are more likely to be tied movers than men, as explored above, suggesting that the motivations for migrating might frequently be different for women. Given my inability to definitively explore individuals' reasons for moving, the potential role of motivations in influencing my results must be considered.

Finally, this is a sample of middle-aged individuals who were in their twenties and early thirties in the 1980s and who are, on average, in their late forties and early fifties as of 2012. The relationships between migration and economic outcomes and the structuring influence of race/ethnicity and gender on these relationships may therefore be somewhat different among a younger cohort of individuals. The continued entry of women into the labor force, for example, may correspond to smaller gaps in outcomes between men and women in younger cohorts. Future research should therefore investigate these relationships for more recent cohorts and longitudinal data collection should remain a priority so that these relationships can continually be investigated. Indeed, migration has long been an important component behind the health and dynamism of the United States' economy. The extent to which migration continues to enhance opportunities for the United States' increasingly diverse population will therefore be important for racial/ethnic and gender equality and for the economic wellbeing of the U.S. population.

References

Alon, Sigal and Yitchak Haberfeld. 2007. "Labor Force Attachment and the Evolving Wage Gap between White, Black, and Hispanic Young Women." *Work and Occupations* 34(4): 369-398.

Bartel, Ann. 1979. "The Migration Decision: What Role Does Job Mobility Play?" *The American Economic Review* 69(5): 775-786.

Berry, Chad. 2000. *Southern Migrants, Northern Exiles.* Urbana, IL: University of Illinois Press.

Bobbitt-Zeher, Donna. 2011. "Gender Discrimination at Work: Connecting Gender Stereotypes, Institutional Policies, and Gender Composition of Workplace." *Gender & Society* 25(6): 764-786.

Borghans, Lex, James Heckman, Bart Golsteyn, and Huub Meijers. 2009. "Gender Differences in Risk Aversion and Ambiguity Aversion." *IZA Discussion Paper No. 3985.*

Borjas, George, Stephen Bronars, and Stephen Trejo. 1992. "Assimilation and the Earnings of Young Internal Migrants." *The Review of Economics and Statistics* 74(1): 170-175.

Borjas, George, Stephen Bronars, and Stephen Trejo. 1992. "Self-Selection and Internal Migration in the United States." *Journal of Urban Economics* 32: 159-185.

Boustan, L.P. (2016). *Competition in the promised land: Black migrants in northern cities and labor markets*. Princeton: Princeton University Press.

Clark, William and Suzanne Davies Withers. 2002. "Disentangling the Interaction of Migration, Mobility, and Labor-Force Participation." *Environment and Planning* 34(5): 923-945.

Cleveland, Jeanette, Theresa Vescio, and Janet Barnes-Farrell. 2005. "Gender Discrimination in Organizations in *Discrimination at Work: The Psychological and Organizational Bases* edited by R. Dipboye and A. Colella. Mahwah, NJ: Lawrence Erlbaum Associates.

Cooke, Thomas. 2008. "Migration in a Family Way." *Population, Space, and Place* 14(5): 255-265.

Cooke, Thomas. 2011. "It Is Not Just the Economy: Declining Migration and the Rise of Secular Rootedness." *Population, Space, and Place* 17: 193-203.

Cooke, Thomas, Paul Boyle, Kenneth Couch, and Peteke Feijten. 2009. "A Longitudinal Analysis of Family Migration and the Gender Gap in Earnings in the United States and Great Britain." *Demography* 46(1): 147-167.

Correll, Shelley, Stephen Benard, and In Paik. 2007. "Getting a Job: Is There a Motherhood Penalty?" *American Journal of Sociology* 112(5): 1297-1339.

Crowder, Kyle, Stewart Tolnay, and Robert Adelman. 2001. "Inter-Metropolitan Migration and Locational Improvement for African American Males, 1970-1990. *Social Science Research* 30(3): 449-472.

Dahl, Gordon. 2002. "Mobility and the Return to Education: Testing a Roy Model with Multiple Markets." *Econometrica* 70(6): 2367-2420.

DeLuca, Stefanie, Philip Garboden, and Peter Rosenblatt. 2013. "Segregating Shelter: How Housing Policies Shape the Residential Locations of Low-Income Minority Families." *Annals of the American Academy of Political and Social Sciences* 647(1): 268-299.

Desmond, Matthew. 2016. *Evicted: Poverty and Profit in the American City.* Danvers, MA: Crown.

Eichenlaub, Suzanne, Stewart Tolnay, and J. Trent Alexander. 2010. "Moving Out but Not Up: Economic Outcomes in the Great Migration. *American Sociological Review* 75(1): 101-125.

Enchautegui, Maria. 1997. "Welfare Payments and Other Economic Determinants of Female Migration." *Journal of Labor Economics* 15(3): 529-554.

Fischer, Claude. 2002. "Ever-More Rooted Americans." *City & Community* 1(2): 177-198.

Flippen, Chenoa. 2013. "Relative Deprivation and Internal Migration in the United States: A Comparison of Black and White Men." *American Journal of Sociology* 118(5): 1161-1198.

Frey, William. 2004. *The New Great Migration: Black Americans Return to the South, 1965-2000.* Washington, D.C.: The Brookings Institute.

Geist, Claudia and Patricia McManus. 2012. "Different Reasons, Different Results: Implications of Migration by Gender and Family Status." *Demography* 49(1): 197-217.

Greenwood, Michael. 2015. "Perspectives on Migration Theory—Economics." Pp. 31-40 in *International Handbook of Migration and Population Distribution, Vol. 6,* edited by Michael White. Berlin: Springer, Dordrecht.

Gregory, James. 2005. *The Southern Diaspora: How the Great Migrations of Black and White Southerners Transformed America*. Chapel Hill: University of North Carolina Press.

Halek, Martin and Joseph Eisenhauer. 2001. "Demography of Risk Aversion." *The Journal of Risk and Insurance* 68(1): 1-24.

Hultin, Mia and Ryszard Szulkin. 1999. "Wages and Unequal Access to Organizational Power: An Empirical Test of Gender Discrimination." *Administrative Science Quarterly* 44: 453-472.

Jackson, Kenneth. 1987. *Crabgrass Frontier: The Suburbanization of the United States.* Oxford University Press.

Jacobsen, Joyce and Laurence Levin. 1997. "Marriage and Migration: Comparing Gains and Losses from Migration for Couples and Singles." *Social Science Quarterly* 78(3): 688-709.

Jianakoplos, Nancy Ammon and Alexandra Bernasek. 1998. "Are Women More Risk Averse?" *Economic Inquiry* 36(4), 620-630.

Kennan, John and James Walker. 2010. "Wages, Welfare Benefits, and Migration." *Journal of Econometrics* 156(1): 229-238.

Kennelly, Ivy. 1999. "That Single-Mother Element:" How White Employers Typify Black Women." *Gender and Society* 13(2): 168-192.

Kirschenman, Joleen and Kathryn Neckerman. 1991. "We'd Love to Hire Them but…": The Meaning of Race to Employers." In C. Jencks & P. Peterson (Ed.), *The urban underclass* (pp. 203-232). Washington, D.C.: Brookings.

Knapp, Thomas, Nancy White, and Amy Wolaver. 2013. "The Returns to Migration: The Influence of Education and Migration Type." *Growth and Change* 44(4): 589-607.

Krieg, Randall. 1997. "Occupational Change, Employer Change, Internal Migration, and Earnings." *Regional Science and Urban Economics* 27: 1-15.

Krysan, Maria and Reynolds Farley. 2002. "The Residential Preferences of Blacks: Do They Explain Persistent Segregation?" *Social Forces* 808(3):937-980.

Krysan, Maria, Mick P. Couper, Reynolds Farley, Tyrone A. Forman. 2009. "Does Race Matter in Neighborhood Preferences? Results from a Video Experiment." *American Journal of Sociology* 115(2): 527-529.

Lee, Everett. 1966. "A Theory of Migration." *Demography* 3(1): 47-57.

Lee, SeongWoo and Curtis Roseman. 1999. "Migration Determinants and Employment Consequences of White and Black Families, 1985-1990." *Economic Geography* 75(2): 109-133.

Lieberson, Stanley. 1978. "A Reconsideration of the Income Differences Found between Migrants and Northern-born Blacks. *American Journal of Sociology* 83(4): 940-966.

Lieberson, Stanley and Christy Wilkinson. 1976. "A Comparison between Northern and Southern Blacks Residing in the North. *Demography* 13(2): 199-224.

Loewen, James. (2005). *Sundown Towns: A hidden Dimension of American Racism.* New York, NY: The New Press.

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

Long, Larry and Lynne Heltman. 1975. "Migration and Income Differences between Black and White Men in the North." *American Journal of Sociology* 80(6): 1391-1409.

Massey, Douglas and Nancy Denton. 1993. *American Apartheid: Segregation and the Making of the Underclass*. Boston, MA: Harvard University Press.

Massey, Douglas, Gretchen Condran and Nancy Denton. 1987. "The Effect of Residential Segregation on Black Social and Economic Well-Being." *Social Forces* 66(1): 29-56.

McKinnish, Terra. 2008. "Spousal Mobility and Earnings." *Demography* 45(4): 829-849.

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2011. "Internal Migration in the United States." *NBER Working Paper No. 17307.*

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2014. "Declining Migration Within the United States: The Role of the Labor Market." *IZA Discussion Paper No. 8149.*

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2017. "Job Changing and the Decline in Long-Distance Migration in the United States." *Demography* 54(2): 631-653.

Mouw, Ted. 2002. "Are Black Workers Missing the Connection? The Effect of Spatial Distance and Employee Referrals on Interfirm Racial Segregation." *Demography* 39(3): 507-528.

Ngo, Hang-yue, Sharon Foley, Angela Wong, and Raymond Loi. 2003. "Who Gets More of the Pie? Predictors of Perceived Gender Inequity at Work." *Journal of Business Ethics* 45(3): 227-241.

Oliver, Melvin and Thomas Shapiro. 2006. *Black Wealth, White Wealth: A New Perspective on Racial Inequality*. New York, NY: Routledge.

Pager, Devah. 2003. "The Mark of a Criminal Record." *American Journal of Sociology* 108(5): 937-975

Pager, Devah and Hana Shepherd. 2008. "The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets." *Annual Review of Sociology* 34: 181-209.

Pew Research Center. 2016. "On Views of Race and Inequality, Blacks and Whites are Worlds Apart." Retrieved August 13, 2018 (http://www.pewsocialtrends.org/2016/06/27/1-demographic-trends-and-economic-well-being/).

Ravenstein, Ernst. 1885. “The Laws of Migration.” *Journal of the Royal Statistical Society* 48(78): 167-235.

Roscigno, Vincent, Diana Karafin, and Griff Tester. 2009. “The Complexities and Processes of Racial Housing Discrimination.” *Social Problems* 56(1): 49-69.

Ross, Stephen and Margery A. Turner. 2005. “Housing Discrimination in Metropolitan America: Explaining Changes between 1989 and 2000.” *Social Problems* 52(2): 152–80.

Rugh, Jacob and Douglas Massey. 2010. “Racial Segregation and the American Foreclosure Crisis.” *American Sociological Review* 75(5): 629-651.

Sapienza, Paola, Luigi Zingales, and Dario Maestripieri. 2009. “Gender Differences in Financial Risk Aversion and Career Choices Are Affected by Testosterone.” *Publications of the National Academy of Sciences of the United States of America* 106(36): 15268-15273.

Schooley, Diane and Debra Worden. 1996. “Risk Aversion Measures: Comparing Attitudes and Asset Allocation.” *Faculty Publications School of Business*. Paper 24.

Sharkey, Patrick. 2013. *Stuck in Place: Urban Neighborhoods and the End of Progress Toward Racial Equality*. Chicago, IL: University of Chicago Press.

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

Shauman, Kimberlee and Mary Noonan. 2007. “Family Migration and Labor Force Outcomes: Sex Differences in Occupational Context.” *Social Forces* 85(4): 1735-1764.

Spring, Amy, Stewart Tolnay, and Kyle Crowder. 2013. “Moving for Opportunities? Changing Patterns of Migration in North America.” In *Handbook of Migration* edited by Michael White. New York: Springer.

Squires, Gregory and Charis Kubrin. 2005. “Privileged Places: Race, Uneven Development and the Geography of Opportunity in Urban America.” *Urban Studies* 42(1): 47-68.

Stuart, Guy. 2003. *Discriminating Risk: The U.S. Mortgage Lending Industry in the Twentieth Century*. Ithaca, NY: Cornell University Press.

Tolnay, Stewart. 2001. “The Great Migration Gets Underway: A Comparison of Black Southern Migrants and Nonmigrants in the North, 1920.” *Social Science Quarterly* 82(2): 235-252.

Tolnay, Stewart. 2003. “The African American ‘Great Migration’ and Beyond.” *Annual Review of Sociology* 29: 209-232.

Tolnay, Stewart and Suzanne Eichenlaub. 2006. “Southerners in the West: The Relative Well-Being of Direct and Onward Migrants.” *Social Forces* 84(3): 1639-1663.

Travis, Jeremy, Amy Solomon, and Michelle Waul. 2001. “From Prison to Home: The Dimensions and Consequences of Prisoner Reentry.” *Urban Institute.* Washington, D.C.

Waldfogel, Jane. 1997. “The Effect of Children on Women’s Wages. *American Sociological Review* 62(2): 209-217.

Waldfogel, Jane. 1998. “Understanding the ‘Family Gap’ in Pay for Women with Children.” *Journal of Economic Perspectives* 12(1): 137-156.

White, Michael and David Lindstrom. 2005. “Internal Migration.” Pp. 311-346 in *Handbook of Population* edited by D.L. Poston and M. Micklin. New York, NY: Springer.

Wilkerson, Isabel. 2010. *The Warmth of Other Suns.* New York, NY: Random House.

Williams, David and Chiquita Collins. 2001. “Racial Residential Segregation: A Fundamental Cause of Racial Disparities in Health.” *Public Health Rep* 116: 404-416.

Wright, Richard and Mark Ellis. 2015. “Perspectives on Migration Theory—Geography.” Pp. 11-30 in *International Handbook of Migration and Population Distribution, Vol. 6,* edited byMichael White. Berlin: Springer, Dordrecht.

Yankow, Jeffrey. 2003. “Migration, Job Change, and Wage Growth: A New Perspective on the Pecuniary Return to Geographic Mobility.” *Journal of Regional Science* 43(3): 483-516.

Chapter 2 Appendix

Appendix Table 2.1: Multilevel Growth Curve Model Regressions of Relationship between Inter-State Migration and Logged Hourly Wages

	(1) Females	(2) Females	(3) Males	(4) Males
Focal Independent Variables				
Yrs of Residence (State)	0.005***	0.003**	0.003*	0.002
	(0.001)	(0.001)	(0.001)	(0.001)
Ever Moved (State)	0.030	-0.001	0.043**	0.016
	(0.018)	(0.016)	(0.017)	(0.015)
Ever Moved*Yrs of Res.	0.002	0.001	-0.001	0.000
	(0.002)	(0.001)	(0.001)	(0.001)
Number of Inter-State Moves	-0.008	0.001	-0.001	0.004
	(0.006)	(0.005)	(0.005)	(0.005)
Race/Ethnicity Interactions				
White (ref.)	Ref.	Ref.	Ref.	Ref.
Black	-0.112***	-0.065***	-0.122***	-0.095***
	(0.016)	(0.015)	(0.015)	(0.014)
Hispanic	-0.062**	0.006	-0.050**	-0.017
	(0.019)	(0.017)	(0.017)	(0.016)
Yrs of Res*Black	-0.004*	-0.003*	-0.015***	-0.010***
	(0.001)	(0.001)	(0.001)	(0.001)
Yrs of Res*Hispanic	-0.002	-0.002	-0.007***	-0.005***
	(0.002)	(0.002)	(0.002)	(0.001)
Ever Moved*Black	-0.043	-0.026	-0.114***	-0.079**
	(0.033)	(0.029)	(0.030)	(0.027)
Ever Moved*Hispanic	0.021	0.037	-0.128***	-0.089**
	(0.042)	(0.037)	(0.038)	(0.034)
YrsRes*EvMove*Black	-0.004	-0.001	0.010***	0.007**
	(0.003)	(0.003)	(0.003)	(0.002)
YrsRes*EvMove*Hispanic	0.001	0.000	0.013***	0.010***
	(0.004)	(0.003)	(0.003)	(0.003)
Number moves*Black	0.028**	0.026**	-0.006	-0.000
	(0.011)	(0.009)	(0.010)	(0.009)
Number moves*Hispanic	-0.012	-0.008	0.010	0.002
	(0.014)	(0.012)	(0.013)	(0.012)
Covariates				
Age	0.056***	0.061***	0.080***	0.062***
	(0.002)	(0.002)	(0.002)	(0.002)
Age^2	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Lagged wage growth		0.040***		0.032***
		(0.000)		(0.000)
Married		0.015**		0.089***
		(0.005)		(0.005)
Number of Children		-0.050***		0.004
		(0.003)		(0.002)
Years of Job Tenure		0.023***		0.017***
		(0.001)		(0.001)
Years of Education		0.060***		0.046***
		(0.002)		(0.001)
Hours Worked/Week		-0.000		-0.001***
		(0.000)		(0.000)
In Military		-0.037		-0.031
		(0.036)		(0.047)

Professional Job		0.073***		0.049***
		(0.005)		(0.005)
Urban Area		0.054***		0.039***
		(0.006)		(0.006)
Northeast		Ref.		Ref.
North Central		-0.144***		-0.116***
		(0.012)		(0.013)
West		-0.061***		-0.028*
		(0.013)		(0.013)
South		-0.132***		-0.093***
		(0.011)		(0.012)
Constant	1.345***	0.541***	1.188***	0.919***
	(0.039)	(0.040)	(0.034)	(0.037)
Variance Components				
Between Counties	0.010***	0.003***	0.007***	0.003***
	(0.002)	(0.001)	(0.002)	(0.001)
Rate of Change (Yr of Res)	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Between Individuals	0.156***	0.119***	0.202***	0.165***
	(0.004)	(0.003)	(0.004)	(0.003)
Covariance(Individual, Yr. of Res)	-0.278***	-0.523***	-0.277***	-0.474***
	(0.026)	(0.023)	(0.023)	(0.021)
Residual	0.219***	0.178***	0.158***	0.122***
	(0.001)	(0.001)	(0.001)	(0.001)
Observations	74676	74676	77525	77525
BIC	118841.170	101871.132	103123.731	83610.208

[a]Standard errors in parentheses
[b]Wages are adjusted to 2012 prices
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Table 2.2: Multilevel Growth Curve Model Regressions of Relationship between Inter-State Migration and Weekly Work Hours

	(1) Females	(2) Females	(3) Males	(4) Males
Focal Independent Variables				
Yrs of Residence (State)	-0.028	-0.016	0.023	0.005
	(0.022)	(0.021)	(0.020)	(0.020)
Ever Moved (State)	0.631	0.497	0.787*	0.655*
	(0.348)	(0.341)	(0.330)	(0.328)
Ever Moved*Yrs of Res.	-0.096**	-0.100***	-0.110***	-0.112***
	(0.030)	(0.029)	(0.028)	(0.028)
Number of Inter-State Moves	0.032	0.139	0.324**	0.330***
	(0.104)	(0.101)	(0.099)	(0.098)
Race/Ethnicity Interactions				
White (ref.)	Ref.	Ref.	Ref.	Ref.
Black	-0.517	-0.071	-1.200***	-1.066***
	(0.335)	(0.332)	(0.315)	(0.315)
Hispanic	0.794*	1.256**	-0.373	-0.372
	(0.387)	(0.382)	(0.359)	(0.361)
Yrs of Res*Black	0.148***	0.106***	-0.089***	-0.077**
	(0.027)	(0.026)	(0.025)	(0.025)
Yrs of Res*Hispanic	0.000	-0.003	-0.047	-0.033
	(0.031)	(0.030)	(0.029)	(0.028)
Ever Moved*Black	0.850	0.855	-1.042	-0.885
	(0.637)	(0.622)	(0.590)	(0.585)
Ever Moved*Hispanic	-0.628	-0.061	0.549	0.501
	(0.801)	(0.782)	(0.733)	(0.727)
YrsRes*EvMove*Black	0.054	0.075	0.092	0.091
	(0.052)	(0.051)	(0.051)	(0.050)
YrsRes*EvMove*Hispanic	0.191**	0.159*	0.020	0.013
	(0.066)	(0.065)	(0.064)	(0.063)
Number moves*Black	-0.128	-0.244	-0.243	-0.259
	(0.198)	(0.192)	(0.186)	(0.184)
Number moves*Hispanic	-0.386	-0.489	-0.497*	-0.422
	(0.257)	(0.250)	(0.241)	(0.238)
Covariatees				
Age	0.406***	0.880***	1.132***	1.008***
	(0.044)	(0.047)	(0.042)	(0.044)
Age^2	-0.004***	-0.012***	-0.014***	-0.013***
	(0.001)	(0.001)	(0.001)	(0.001)
Lagged wage growth		-0.099***		-0.112***
		(0.007)		(0.006)
Married		-1.173***		1.323***
		(0.100)		(0.108)
Number of Children		-1.416***		-0.005
		(0.052)		(0.050)
Years of Job Tenure		0.206***		0.071***
		(0.012)		(0.011)
Years of Education		0.027		-0.030
		(0.032)		(0.031)
Hours Worked/Week		-0.206**		-0.488***
		(0.074)		(0.082)
In Military		-1.713*		-0.636
		(0.755)		(1.089)
Professional Job		1.481***		1.622***
		(0.095)		(0.107)

Urban Area		-0.117		-0.391**
		(0.132)		(0.129)
Northeast		Ref.		Ref.
North Central		0.498*		-0.296
		(0.250)		(0.243)
West		0.945***		0.004
		(0.259)		(0.253)
South		1.985***		0.851***
		(0.224)		(0.220)
Constant	27.754***	20.391***	21.604***	24.696***
	(0.732)	(0.843)	(0.690)	(0.804)
Variance Components				
Between Counties	0.559	0.200**	0.441*	0.190*
	(0.197)	(0.120)	(0.174)	(0.129)
Rate of Change (Yr of Res)	0.451***	0.420***	0.316***	0.319***
	(0.017)	(0.016)	(0.014)	(0.014)
Between Individuals	72.575***	68.003***	69.463***	68.200***
	(1.767)	(1.695)	(1.613)	(1.599)
Covariance(Individual, Yr. of Res)	-0.845***	-0.871***	-0.820***	-0.832***
	(0.021)	(0.021)	(0.024)	(0.024)
Residual	73.624***	72.367***	71.772***	70.903***
	(0.441)	(0.434)	(0.420)	(0.416)
Observations	74397	74397	77327	77327
BIC	552032.562	550125.064	570530.635	569602.284

[a]Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Chapter 3:

Does Geographic Stagnation Correspond to Economic Stagnation? Understanding the Implications of the Internal Migration Decline

Abstract

Internal migration has long played an important role in increasing individuals' and families' access to economic opportunities and, as a result, improving their economic wellbeing. However, the United States has been experiencing a continuous decline in internal migration rates since the 1980s. While numerous scholars have explored why this migration decline is occurring, we have little knowledge about how the returns to migration and the economic wellbeing of migrants and non-migrants have changed during the period of the migration decline. In this chapter, I explore this gap in our understanding and examine whether the migration decline is suggestive of harmful changes to the U.S. opportunity structure and to individuals' economic wellbeing. To do this, I utilize restricted, geocoded National Longitudinal Survey of Youth (NLSY) data and harmonize these data for the 1979 and 1997 cohorts. I find that the economic returns to inter-state migration have increased modestly over time. However, non-migrants in the 1997 cohort are economically worse off than both migrants and non-migrants in the 1979 cohort. These findings suggest that the migration decline may be reflective of declines in the economic wellbeing of non-migrants, which may make migration increasingly unaffordable for some families.

Introduction

Migration has long played an important role in the United States' cultural imagination. From being considered a "nation of immigrants" to Manifest Destiny, from the Great Migration of southerners from the South to the North to the westward migration that occurred during the Dust Bowl, the U.S. has experienced numerous important migration events that have shaped the culture of the country and the opportunities available to its citizens. Perhaps because of this, the U.S. has historically had one of the most mobile populations relative to other developed countries (Spring et al. 2013). Recent trends in migration and residential mobility within the U.S., however, suggest that internal migration is becoming a less and less common means of expanding one's access to economic and social opportunities. Indeed, postwar rates of internal U.S. migration peaked around 1968, with approximately 7 percent of the American population moving across counties and 3.6 percent of the population moving across states each year (Cooke 2011). By 2009, these annual rates had plunged to 3.7 percent for inter-county moves and 1.6 percent for inter-state moves (Cooke 2011). Moreover, migration rates have declined continuously from the early 1980s to 2009 (Cooke 2011; Molloy et al. 2011; Molloy et al. 2014; Molloy et al. 2017; Spring et al. 2013), suggesting that this is a long-term trend and not a short-term reaction to events such as the 2008 recession.

While there has been growing awareness of the migration decline in the past few years, it has still flown somewhat under the radar of scholars and policymakers alike. Recent research has begun to explore why the migration decline has occurred (Cooke 2011; Cooke 2013; Foster 2017; Molloy et al. 2011; Molloy et al. 2014; Molloy et al. 2017). However, we have very little knowledge of the potential economic implications of this decline for individuals and families, specifically, whether the migration decline means that recent cohorts of migrants and non-

migrants are worse off than previous cohorts of migrants and non-migrants. This is an important gap in our understanding because the migration decline raises the possibility that migration is becoming less economically beneficial and/or a less prevalent means of increasing individuals' and families' access to economic opportunities. If either of these is the case, the migration decline could be reflective of harmful changes to the U.S.'s opportunity structure and, as a result, declines in the economic wellbeing of individuals as they face fewer economic opportunities. Alternatively, it is possible that the migration decline is suggestive of more positive changes, such as there being smaller returns to migration but greater overall economic opportunities that do not require individuals and families to move. It is also possible that the migration decline is unrelated to changes in economic wellbeing over time and is instead due to demographic changes such as the aging of the population.

Yet, we have little knowledge of how the returns to migration and the economic status of migrants and non-migrants have changed within the context of the migration decline. We therefore do not know whether migrants and/or non-migrants are better or worse off than their counterparts of the past. As income inequality has risen (Sommeiller and Price 2018), the exploration of how individuals' economic wellbeing has changed is becoming increasingly important. Understanding how both migrants' and non-migrants' economic outcomes have changed over time may therefore provide valuable insights into whether this geographic stagnation is corresponding to economic stagnation for some parts of the population and whether interventions may be advisable in order to facilitate individuals' access to economic opportunities.

I explore these possibilities by utilizing multilevel growth curve models in conjunction with linked National Longitudinal Survey of Youth-1979 (NLSY79) and National Longitudinal Survey of Youth-1997 (NLSY97) data to examine the following questions:

1. Have the economic returns (in terms of logged hourly wages, logged weekly wages, and weekly work hours) to inter-state migration changed across these cohorts?
2. How does the economic wellbeing of migrants and non-migrants in the 1997 cohort compare to the economic wellbeing of migrants and non-migrants in the 1979 cohort?[13] In other words, are individuals in the 1997 cohort worse off than their migratory and non-migratory counterparts in the 1979 cohort?

I find that the economic returns to inter-state migration have actually increased over time. However, non-migrants in the 1997 cohort are economically worse off than both migrants and non-migrants in the 1979 cohort, suggesting that migration may be an increasingly out-of-reach option for families.

Background

The Historical and Contemporary Importance of Migration

It is important to study the potential implications of the migration decline because, as mentioned above, internal U.S. migration across counties and states has historically and contemporaneously been an important means of improving individuals' and families' wellbeing. For example, the Great Migration of black and white southerners from the South to the North was associated with higher levels of employment (Tolnay 2001), higher incomes (Lieberson 1978; Long and Heltman 1975; Masters 1972), and more stable family lives (Tolnay 1997) for

[13] As elaborated on in the "Data and Analysis" section, the term "migrants" here refers to individuals who have engaged in a move by the observation period in question, while "non-migrants" refers to individuals who have never migrated up to the observation period in question, but who may migrate in the future.

black migrants relative to native northerners. Some studies have also found that black southern-born migrants to the North performed better economically than southern stayers (Boustan 2016)[14], and this remained the case for their second-generation children (Alexander et al. 2017). Just as migrants from the South ventured north in search of greater employment opportunities during the Great Migration, migrants during the Great Depression were more likely to move to areas that had experienced sizeable influxes of federal spending, particularly federal spending on large public works that generally involved increases in employment opportunities (Fishback et al. 2001). Likewise, the Dust Bowl and the resulting devastation it wrought for local economies prompted many southerners from states such as Oklahoma, Arkansas, Missouri, and Texas to migrate west (Gregory 1989). This westward migration was associated with improved incomes and lower overall poverty levels for the southern migrants, particularly those who had been settled in the West for five or more years (Gregory 1989). These are just a few examples of the ways in which migration has historically been an important means of improving individuals' and families' economic wellbeing.

These patterns tend to hold contemporarily as well. For example, Yankow (2003) studied young male migrants and non-migrants and found that interstate job changes are associated with economic benefits, particularly for whites and higher income individuals. Along similar lines, Ham et al. (2011) found that internal migration is associated with wage gains for 20-29-year-old male college graduates, a finding confirmed by Lkhagyasuren (2014) for a wider range of ages. While migration appears to offer smaller economic benefits to less educated and advantaged individuals, migration may offset wage declines among individuals with less than a high school degree (Yankow 2003). Onward moves, or subsequent inter-county or inter-state moves (Knapp

[14] See Eichenlaub et al. (2010) for alternative findings, however.

et al. 2013; Tolnay and Eichenlaub 2006), migrating and changing occupations (Krieg 1997), and migrating and changing employers (Krieg 1997) have also been found to be associated with greater earnings and improved economic outcomes initially and/or over time.

Why Are Migration Rates Declining?

These studies, and others, have provided compelling evidence that internal migration, across counties, states, or even regions, can economically benefit those who move. The continuous decline in individuals' propensities to migrate is therefore difficult to reconcile with findings that migration is frequently beneficial for individuals and families. Indeed, as mentioned above, individuals are about half as likely to migrate across counties or states now as they were in 1968 (Cooke 2011). Thus, the migration decline prompts a number of important questions. Specifically, if migration is a vital creator of economic opportunities, what does it mean that fewer and fewer people are migrating? Does migration hold smaller benefits for families now than it used to or are individuals less able to migrate than in the past? Or, does this migration decline speak to a benign and even beneficial phenomenon, perhaps reflecting the aging of the population or indicating that individuals more easily find jobs in their origin locations? In other words, what are the implications of the migration decline for migrants and non-migrants?

No study that I know of has explored how the returns to migration and the economic wellbeing of migrants and non-migrants have changed within the context of the migration decline. However, numerous researchers have begun to explore why the migration decline has occurred, and this research has some bearing on what we might expect to find in terms of changes in the returns to migration and the economic status of migrants and non-migrants over time. For example, some work finds that the increasing age profile of the U.S. and greater homeownership rates provide partial explanations for the decline, particularly for within-county

migration (Cooke 2011; Foster 2017; Karahan and Rhee 2017; Molloy et al. 2011, 2014, 2017). Likewise, Cooke (2011) finds that the increase in dual-earner families partially explains the migration decline, though others have not found this (Molloy et al. 2011, 2014). Given that older individuals, homeowners, and dual-earner couples are consistently less likely to migrate (Spring et al. 2013), the migration decline is therefore partially due to the changing characteristics of the population and the selective characteristics of migrants. If changing demographics are entirely responsible for the migration decline, it would suggest that the returns to migration and the economic wellbeing of migrants and non-migrants have not changed once these characteristics are accounted for. However, these characteristics do not explain all or even the majority of the decline, especially for inter-state migration (Cooke 2011; Foster 2017; Kaplan and Schulhofer-Wohl 2015; Molloy et al. 2011).

These same studies also find that the 2008 economic recession, lower returns to job changes, and fewer job transitions provide potential partial explanations for the decline (Cooke 2011; Foster 2017; Johnson et al. 2017; Molloy et al. 2014; Molloy et al. 2017), suggesting that migration may provide fewer benefits to individuals and families now than in previous decades. Nevertheless, the economic crisis cannot explain the longer-run trend in declining mobility propensities (Cooke 2011). Additionally, fewer job transitions and lower returns to job changes have only been explored in aggregate data and for 22-29-year-old males (Molloy et al. 2014; Molloy et al. 2017). The influence of lower returns to job changes on migration propensities was also primarily deduced from correlations between these two outcomes (Molloy et al. 2014). It is therefore still unclear whether the migration decline is due, in part, to changing short- and long-term returns to migration across cohorts, particularly when the focus is on a diverse group of migrants and non-migrants. Along similar lines, Partridge et al. (2012) find that migration has

become less responsive to shifts in labor-market demand within industries. While Partridge et al.'s study is unable to determine why this shift has occurred, it too suggests the possibility that individuals are less likely to benefit economically from migration, are less able to migrate, and/or are given fewer opportunities to migrate. If these economically-oriented mechanisms explain the migration decline, then the decline could have harmful implications for migrants' economic outcomes if they experience lower returns to migration, and for non-migrants' outcomes if they face fewer opportunities to migrate or perceive migration to be economically unbeneficial.

It is also possible that the decline in internal migration is driven by the increasing geographic and market power concentration of businesses and industries, potentially leading to lower returns to migration. Indeed, Kronenberg and Carree (2012) find that firm size is negatively related to the probability that individuals move. However, as Grullon et al. (2016) observe, the vast majority of industries in the U.S. have experienced an increase in concentration[15], and industries with the greatest concentration levels tend to be the most profitable. Likewise, publicly-traded firms have become, on average, about three times larger than their counterparts of 20 years ago (Grullon et al. 2016). Moretti (2012) also documents the importance of geographic clustering among firms in the technology industry (such as the Microsoft, Amazon, Google cluster in Seattle), so that firms can exchange ideas and take advantage of employee talent from other firms. Firms' and industries' increasing market power and geographic concentration, may correspond to lower rates of migration. This could be the case if individuals more easily find jobs in larger and more geographically and economically concentrated firms and industries, if their partners also more easily find jobs (something that has become increasingly relevant with the increase of dual-earner families), and/or if other firms are

[15] This article specifically examines product market concentration using the Herfindahl index, which examines the number of firms in an industry and their share of production in that industry.

less able to compete with the salaries and benefits offered by larger firms, creating less incentive to change jobs and move to other regions that might offer a lower concentration of opportunities. Indeed, the reduction of small businesses and business start-up rates over time (Decker et al. 2014) suggests that the decline of small businesses and entrepreneurship could play an important and reinforcing role in explaining the decline of job turnover and, in turn, migration. While exploring the role of these contextual changes is beyond the scope of my analysis, these explanations suggest that migration may be a less economically beneficial option than it used to be, particularly for those who live in areas with concentrated opportunities and who may have less need to migrate in search of jobs. However, migrants and non-migrants might not be worse off and could even be better off as they take advantage of more concentrated industries.

Important Remaining Questions and Hypotheses

These explanations for the migration decline suggest that the returns to migration and the economic wellbeing of migrants and non-migrants have likely changed over time, though in ways that are unclear and difficult to predict because of the plethora of explanations for the decline and the varying consequences these explanations would have for individuals' economic outcomes and their returns to migration. Directly studying how the returns to migration and the economic wellbeing of migrants and non-migrants have changed over time therefore offers distinct contributions because it illustrates more clearly how migrants and non-migrants are doing economically than studies exploring explanations for the migration decline. As such, this study helps illustrate whether the variety of economic- and migration-related changes the U.S. is undergoing have translated into changes in individuals' economic outcomes.

Because these explanations also suggest different things about the continuing role of migration in enhancing access to economic opportunities, studying whether the returns to

migration have actually changed provides greater clarity about the consistency (or not) of migration's economic benefits over time. This, in turn, offers insight into the potential implications of the migration decline, as well as the continuing value of internal migration for enhancing individuals' access to economic opportunities. Investigating these relationships is valuable because if migration is associated with lower economic returns over time and/or if individuals are faring worse than their predecessors, then it suggests that the geographic stagnation of the migration decline could correspond to economic stagnation and appropriate policies may be needed in order to enhance economic and social wellbeing.

Towards this end, I examine how the returns to inter-state migration have changed across the NLSY79 and NLSY97 cohorts and how the economic status of migrants and non-migrants in the 1997 cohort compares to the economic status of migrants and non-migrants in the 1979 cohort.

I hypothesize that: (1) Because of the literature suggesting that the migration decline is associated with less frequent and less economically beneficial job changes, migrants in the 1997 cohort will receive lower returns to inter-state migration than migrants in the 1979 cohort. In other words, I expect that internal migration will be associated with smaller gains in hourly and weekly wages and weekly work hours for migrants in the 1997 cohort than migrants in the 1979 cohort. Additionally, given the literature on the changing nature of job opportunities and the changing frequency of job changes mentioned above, I hypothesize that (2) migrants and non-migrants in the 1997 cohort will differ in terms of their predicted wages and work hours from migrants and non-migrants in the 1979 cohort. It is possible that only the most advantaged individuals are able to move in more recent cohorts, because of high housing prices and the greater availability of opportunities in high education sectors like technology (Moretti 2012).

Migrants in the 1997 cohort may therefore be more advantaged than migrants in the 1979 cohorts, while non-migrants are the same or worse off than non-migrants in the 1979 cohort. Alternatively, it could be migrants in the 1997 cohort who have seen their economic status decline if, as some authors have found, individuals are experiencing lower returns to job changes (Molloy et al. 2014) and are therefore not experiencing the same benefits to migration as previous generations. Finally, it is possible that non-migrants in the 1997 cohort are *better off* than non-migrants in the 1979 cohort, perhaps because of a greater concentration of opportunities in non-migrants' origin areas. This would likely correspond to lower probabilities that individuals in the 1997 cohort migrate. Given that each of these expectations receives indirect, compelling support from a variety of studies, I do not hypothesize about the direction of these relationships.

Data and Methods

To examine these hypotheses, I harmonize the NLSY79 and NLSY97 data. As mentioned in Chapter 1, both datasets are designed to be similar and to have the capability of being made comparable. I therefore merge these datasets and solely utilize variables that are consistent across the NLSY79 and NLSY97. The NLSY79 consists of a cohort (panel) of 12,686 individuals who were young adults as of the first interview in 1979, and who were interviewed annually between 1979 and 1994 and biennially after 1994. The 12,686 participants in the NLSY79 include a supplemental oversample of black and Hispanic individuals. I include this oversample in my analysis, though I add controls for race and ethnicity to account for their presence. The NLSY97 consists of a separate cohort of 8,984 young adults interviewed annually between 1997 and 2011, at which point the NLSY97 switched to biennial interviews (though only the 2013 interview was available at the time these analyses were conducted). The NLSY97 also consists of an

oversample of Hispanic respondents, whom I maintain in the sample but account for by controlling for race and ethnicity in the main regressions.

I restrict my analysis to individuals who are between 20 and 34 years of age. Restricting my attention to this age range serves two purposes. First, it ensures that the ages of the NLSY79 and the NLSY97 cohort are comparable. Because the oldest respondents in the NLSY97 are 34-years-old as of the 2013 survey, I cannot create a comparable NLSY97 sample for respondents in the NLSY79 who are older than 34. Second, young adults are the most likely to experience a migration event (Lee 1966; Spring et al. 2013; White and Lindstrom 2005) and studies on internal migration frequently restrict themselves to studying younger adults (Dahl 2002; Ham et al. 2003; Yankow 2003). Consequently, restricting my analysis to individuals who are between 20- and 34-years-old allows me to focus on a period in the life course where migration is particularly likely and especially influential for the economic trajectories of individuals. That being said, it should be emphasized that because of this focus, my results are not generalizable to migrants and non-migrants who are over 34-years-old. I also exclude individuals who are enrolled in school to limit the potential biases associated with examining students who are largely unable to engage in full-time careers and to limit biases associated with moving specifically to attend school.

Focal Independent Variables

I utilize restricted, geocoded data from both the NLSY79 and the NLSY97 to identify inter-state moves. I also use these data to identify the years of residential tenure within a state (i.e. the number of years an individual has lived in their current state of residence), and the number of moves the respondent has engaged in at the time of the given survey year. These migration-related characteristics comprise my four focal independent variables. The first focal

independent variable is whether the respondent has ever engaged in an inter-state move as an adult[16] (if an individual moves across states for the first time in 1999, for example, this variable registers a 1 in 1999 and in every subsequent year, but registers a 0 in previous years because the respondent had never moved up to that point). This variable is created from the NSLY79 and NLSY97's survey questions asking respondents for their states of residence. A move is therefore registered when individuals change states between survey waves. When I examine migrants, I am therefore examining individuals who have *already* moved, while the group of non-migrants includes all individuals who have not migrated up to the observation year in question but who may migrate at some subsequent point in their life. I choose to define migrants and non-migrants in this way because I am interested in changes in the short- and long-term returns to migrating. Defining migrants and non-migrants by whether they *will* ever move or not obscures my ability to look at the associations between the migration event and economic returns. It is possible that non-migrants who will migrate in the future are more select individuals than non-migrants who will never migrate. For example, they may claim higher levels of education, be more likely to work in professional jobs with future opportunities for promotions or transfers, or they may be more prone to taking risks. Nevertheless, I hope that by controlling for a wide host of covariates and by nesting my observations within individuals, I help account for much of this selectivity. If anything, the inclusion of individuals who will migrate in the future in the non-migrant category obscures the differences between migrants and non-migrants I observe, rather than enhances them.

[16] Moves occurring during childhood or adolescence are therefore not counted. Additionally, inter-state moves do not here distinguish between inter-metro and intra-metro moves, though the results do not differ when moves are restricted to inter-metro moves or to moves that span 50 miles or more.

The second focal independent variable is the number of years the respondent has lived in their state of residence as an adult who is 20-years-old or older and who is not enrolled in school (when an individual moves to a new state, this measure resets so that an individual lives in their new state for 0 years upon migrating, for 1 year 1 year after migrating, etc.).[17] For non-migrants, year 0 captures the first year at which that non-migrant was observed as an adult (i.e. 20-years-old or older) and not enrolled in school so that residential tenure captures the period of time during which an individual was economically active in their state of residence. This variable is referred to as "Yrs of Res" in the analyses below. Third, I include an interaction between the ever-moved dummy variable and the years the respondent lived in their state of residence, and fourth, I include the cumulative number of moves conducted.

As mentioned in Chapter 2, this strategy is similar to the one used by Cooke et al. (2009), though Cooke et al. use the number of years since the migration event instead of years of residence in a state. However, examining the number of years since the migration event precludes an examination of the long-term economic trajectories of non-migrants, which substantially limits this analysis given that I am interested in exploring the implications of the migration decline for the growing population of non-migrants.

Additionally, I examine residential tenure over a relatively long period of time—14 years. The reason I choose to examine such a long duration is that numerous studies have shown that the benefits and costs of migration unfold over years and the returns to migration often differ in the short versus the long-run (Clark and Withers 2002; Cooke et al. 2009; Kennan and Walker 2011; Knapp et al. 2013; Krieg 1997; Yankow 2003). Furthermore, the residential tenure of non-migrants tends to be longer, on average, than that of migrants. It is therefore particularly

[17] Because residential tenure captures the number of years of residence within a given state, within-state moves would not change one's residential tenure.

important to examine these relationships over a long duration for non-migrants in order to understand what remaining in place means for these individuals and their long-term economic outcomes, especially as the migration decline has made the non-migrant experience particularly prevalent.

Outcomes

In order to examine how internal migration is associated with migrants' and non-migrants' economic outcomes, I examine three dependent variables: 1) individuals' logged hourly wages[18], 2) individuals' weekly hours worked, and 3) individuals' logged weekly wages (adjusted hourly wages*hours worked per week). The information for these variables comes from questions asked in each wave of both the NLSY79 and the NLSY97 concerning respondents' hourly rate of pay and the average number of hours they work per week. I convert the hourly and weekly rates of pay to constant 2012 dollars using the Consumer Price Index (CPI). I discuss the reason for examining both the hourly wage rate and weekly hours worked in greater detail in the Data and Methods section of Chapter 2. By also examining weekly wages, I am able to reconcile the findings from these two outcomes and provide a clearer picture of the economic wellbeing of migrants and non-migrants in the 1979 and 1997 cohorts.

These outcomes are solely examined for individuals who work non-zero hours and earn positive, non-zero wages. Because I do not include employment status as an outcome (given the further expansion in the scope of my analysis doing so would require and because this outcome is deserving of its own detailed treatment), including non-employed respondents would obscure my results and make it unclear whether the relationships I observe are due to migration's

[18] The hourly rate of pay and weekly hours worked variables for the NLSY97 are created in the same way as they are for the NLSY79. This process is described in greater detail in the Data and Methods section of Chapter 2 in Footnotes 8 and 9.

association with employment status or to migration's association with economic outcomes among employed individuals.

Covariates

Migrants tend to be select individuals. Specifically, they tend to be younger and have higher socioeconomic statuses even prior to the migration event than non-migrants (Spring et al. 2013). It is therefore important to account for individuals' characteristics in order to tease out the benefits of migration from the preexisting characteristics of migrants. As a result, I control for a number of potentially important individual and familial characteristics. I include the quadratic relationship with age (age and age-squared) because younger individuals are more likely to migrate but older individuals have likely advanced farther in their careers and may therefore exhibit better economic outcomes. I also control for marital status and the number of children the respondent has as family ties may raise the costs associated with migrating and influence employment outcomes, particularly for women. To account for migrants' potential economic selectivity, I control for the respondent's years of educational attainment, occupational status (whether the respondent has a "professional" job or not), and whether the respondent is in the armed forces (this represents less than 1 percent of the sample). A lagged (not logged) measure representing the average wage gain over the three years prior to the observation year is also included in order to control for the earnings trajectories of migrants prior to moving. Finally, to help account for the possibility that migrants move to more economically dynamic areas, I include contextual characteristics such as whether the respondent resides in a rural or urban location and the respondent's region of residence (Northeast, North Central, South or West). As mentioned below, I nest observations within counties in order to further account for contextual characteristics that may influence the opportunity structures faced by migrants and non-migrants.

Analytic Strategy

I employ linear multilevel growth curve models with individual and county-level random intercepts, thereby nesting observations within individuals and individuals within counties. The value of these models is described in greater detail in the "Data and Methods" section of Chapter 1. As described in Chapter 2, this analytic strategy is represented by the equation below, where *y* represents the outcome of interest for person *i* at time *t* in county *j*; π_{0ij} and π_{1ij} represent the intercept and slope for individual *i* in county *j*, respectively; $YrofRes_{tij}$ represents the numerical measure of time at time *t* for individual *i* in county *j* (this measure allows the slopes of individuals to vary, as well as the intercepts), βx_{tij} captures the influence of covariates on the relationship, and ε_{tij} represents the residual for individual *i* at time *t* in county *j*.

$$y_{tij} = \pi_{0ij} + \pi_{1ij} YrsofRes_{tij} + \beta x_{tij} + \varepsilon_{tij}$$

I conduct interactions between an indicator variable for cohort status (if the respondent belongs to the 1997 cohort, *ind.=1*) and my three focal features, including whether the respondent has ever moved, the number of years of residence in a state, and the number of moves. A three-way interaction is conducted between the cohort dummy variable, the dummy variable for "ever moved", and the continuous years of residence variable. These interactions allow me to examine how the relationship between migration and my economic outcomes has changed over time.

To facilitate the interpretability of the results, I graph predicted hourly/weekly wages and predicted weekly work hours as the number of years a migrant or non-migrant has spent in a state increases. These predicted values are obtained using Stata 14's *margins* command on the results from the growth curve models. Separate lines are graphed for migrants and non-migrants in the 1979 and the 1997 cohorts. Utilizing these graphs provides a more concise illustration of

how the economic returns to migration change as the years since the migration event increase (for migrants) or the years spent in the residential location increase (for non-migrants) and how the returns to migration have changed across cohorts.

Results

Because the focus of this study is on changes in the economic wellbeing of migrants and non-migrants within the context of the migration decline, I first examine whether the NLSY97 cohort does, indeed, migrate less than the NLSY79 cohort. Table 3.1 illustrates the proportion of respondents who have ever moved across states by age, this strategy helps to account for the fact that all participants in the NLSY79 have reached age 34, while only some of the participants in the NLSY97 cohort have reached age 34.

Table 3.1: The Percentage and Number (n) of Respondents in the NLSY79 and NLSY97 Cohorts That Have Ever Moved by Age

% Ever Moved Inter-State (n)		
	1979 Cohort	1997 Cohort
20-21	14.48 (1,280)	14.09 (1,052)
22-23	20.08 (2,629)	19.69 (1,820)
24-25	25.67 (3,842)	24.74 (2,571)
26-27	28.81 (4,206)	27.97 (2,863)
28-29	31.83 (4,513)	30.72 (2,462)
30-31	33.01 (4,412)	33.31 (1,658)
32-34	34.49 (5,324)	34.37 (726)[a]

[a]This N is low because relatively few individuals in the 1997 cohorts are 32-34-years-old.

While the 1997 cohort is migrating at a lower rate than the 1979 cohort at almost all ages, these differences are very small. This is somewhat surprising given that other studies have found a consistent and more sizeable decline in migration rates over time for most age groups, including 20-35-year-olds (Fischer 2002; Cooke 2011; Molloy et al. 2014, 2017; Wolf and Longino 2005). However, most studies on the migration decline utilize the Current Population

Survey (CPS). The NLSY79 and NLSY97 have not been used to document the decline, though they have been used to study potential reasons behind the decline (Molloy et al. 2014). Additionally, Molloy et al. (2011) show that the magnitude of the migration decline varies across data sources, with the CPS illustrating a sizeable and consistent migration decline and with larger data sources, such as the IRS-ACS, capturing a smaller migration decline. The usage of different data sources may therefore account for the discrepant decline in migration rates reported by the CPS and NLSY samples. The relatively small differences across the 1979 and 1997 cohorts once the age distributions of the samples are accounted for could also reflect the possibility that the aging of the U.S. population is an important contributor to the migration decline. If the aging of the population did explain most of the decline, it would be unsurprising that we find little difference in migration probabilities across these samples for a given age. Nevertheless, other studies have found that age does not explain the majority of the inter-state migration decline (Cooke 2011; Fischer 2002; Molloy et al. 2014; Wolf and Longino 2005). These findings may also be due, in part, to attrition. Migrants in the NLSY79 cohort have a 3.23 percent chance of attriting in the following wave, while migrants in the NLSY97 cohort have a 1.97 percent chance of attriting (compared to a 1.86 percent chance for NLSY79 non-migrants and a 1.71 percent chance for NLSY97 non-migrants). If migrants in the NLSY79 cohort are more likely to drop out than migrants in the NLSY97 cohort, the number of migrants in the 1979 cohort may be underestimated, obscuring the decline in migration probabilities across the 1979 and 1997 cohorts. The NLSY provides weights to help address differential non-response and other selection issues. However, using these weights does not change these proportions and the modest differences in attrition rates across migrant status and cohort suggests that attrition provides only

a partial potential explanation for why we do not see much of a migration decline across these samples.

While it is not ideal to study the migration decline using a sample of individuals that is migrating at comparable rates over time, it is likely that these cohorts would still face similar opportunity structures and reasons for migrating relative to the general population, given that the NLSY79 and NLSY97 are designed to be nationally representative. It is therefore likely that changes in the returns to migration across cohorts would still manifest themselves in multivariate models that account for age and other differences in characteristics across these cohorts. Moreover, I am not directly exploring the migration decline or reasons behind the migration decline. Rather, I am exploring changes in the returns to migration and in the economic wellbeing of migrants and non-migrants during the period of the migration decline. The absence of a stronger decline in internal migration probabilities across these cohorts would therefore be more problematic if I was directly examining the migration decline's causes or consequences. Nevertheless, this very small decline in migration probabilities should be kept in mind when interpreting the findings.

I next turn to the descriptive results in Table 3.2 for migrants and non-migrants in the NLSY79 and NLSY97 cohorts in order to provide an initial sense of whether the returns to migration and/or the characteristics of migrants and non-migrants have changed over time. The descriptive statistics reported in Table 3.2 are based on person-years for members of the 1979 and 1997 NLSY samples.

Table 3.2: Descriptive Statistics by Cohort and Migration Status

	Migrant 1979	Non-Migrant 1979	Migrant 1997	Non-Migrant 1997
Outcome Variables	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Hourly Wages	17.132 (13.693)	15.334 (11.287)	17.161 (14.323)	15.300 (12.917)
Logged Hourly Wages	2.654	2.575	2.609	2.523

	(0.612)	(0.564)	(0.726)	(0.664)
Hours/Week	40.404	39.525	37.989	36.189
	(11.427)	(10.631)	(13.333)	(12.063)
Weekly Wages	702.308	610.238	656.347	550.809
	(614.424)	(472.856)	(612.667)	(490.60)
Logged Weekly Wages	6.298	6.201	6.151	6.020
	(0.762)	(0.705)	(0.933)	(0.865)
Migration Variables				
Yrs of Residence (State)	4.677	7.527	4.945	9.697
	(4.223)	(4.159)	(4.560)	(3.672)
Number of State Moves	1.756	0	1.761	0
	(1.090)	(n/a)	(0.985)	(n/a)
Covariates				
Female	0.471	0.477	0.492	0.476
	(0.500)	(0.600)	(0.500)	(0.500)
White (ref.)	0.646	0.551	0.626	0.478
	(0.478)	(0.497)	(0.484)	(0.500)
Black	0.237	0.263	0.212	0.278
	(0.425)	(0.440)	(0.409)	(0.448)
Hispanic	0.117	0.185	0.161	0.244
	(0.322)	(0.389)	(0.368)	(0.429)
Lagged Wage Growth	1.295	1.006	0.924	0.665
	(6.001)	(5.463)	(6.923)	(6.451)
Age	27.844	26.655	26.291	25.185
	(3.749)	(4.006)	(3.258)	(3.360)
Married	0.492	0.457	0.321	0.250
	(0.500)	(0.498)	(0.467)	(0.433)
Years of Ed.	13.178	12.414	12.964	12.172
	(2.496)	(2.093)	(2.696)	(2.218)
In Military	0.006	0.001	0.002	0.001
	(0.079)	(0.036)	(0.048)	(0.028)
Professional Job	0.347	0.231	0.472	0.361
	(0.476)	(0.422)	(0.500)	(0.480)
Live in Urban Area	0.797	0.771	0.830	0.795
	(0.402)	(0.420)	(0.375)	(0.404)
Northeast (ref.)	0.164	0.184	0.142	0.171
	(0.370)	(0.387)	(0.349)	(0.376)
North Central	0.216	0.240	0.197	0.223
	(0.412)	(0.427)	(0.398)	(0.416)
West	0.207	0.189	0.255	0.215
	(0.405)	(0.392)	(0.436)	(0.411)
South	0.414	0.387	0.406	0.391
	(0.493)	(0.487)	(0.491)	(0.488)
N	26,186	68,261	13,152	39,283

[a]Descriptive statistics are calculated using person-years; *Source NLSY79 and NLSY97*

Migrants and non-migrants in the NLSY97 cohort exhibit lower adjusted wages and work hours than migrants and non-migrants in the NLSY79 cohort, though only the differences in work hours are significant ($p < 0.05$). However, the gaps in wages and work hours between migrants and non-migrants are slightly larger for the NLSY97 cohort than they are for the

NLSY79 cohort, suggesting that the returns to migration are not necessarily lower for the NLSY97 cohort relative to the NLSY79 cohort and that the returns to migration might even be slightly higher. However, these descriptive findings also indicate that the migrants and especially the non-migrants in the NLSY97 cohort are not better off and, in terms of work hours, may even be worse off than the migrants and non-migrants in the NLSY79 cohort.

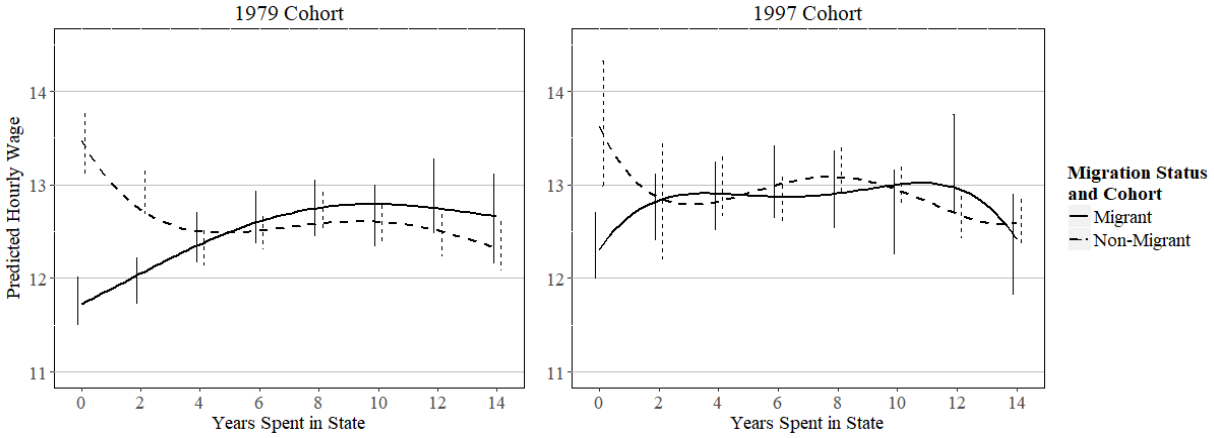
Nevertheless, other differences in the descriptive statistics across migration and cohort categories suggest that these findings are highly tentative without controlling for the individual and familial characteristics of migrants. For example, migrants in the NLSY97 cohort are more likely to be female, Hispanic, younger, have lower wage growth rates, and are less likely to be married, but more likely to have professional jobs than migrants in the NLSY79 cohort. Likewise, non-migrants in the NLSY97 cohort are more likely to be black and, especially, Hispanic than non-migrants in the NLSY79 cohort; they are also younger, far less likely to be married, and have lower lagged wage growth rates, but, like migrants, are more likely to be professionals than non-migrants in the NLSY79 cohort. Additionally, the gaps between migrants and non-migrants in socioeconomic characteristics are quite similar across cohorts, suggesting that the relative economic selectivity of migrants has not changed much over time. As such, the disparities in wages and work hours across cohorts could be due to the changing demographic and socioeconomic characteristics of the cohorts rather than to changes in the returns to migrating and not migrating over time.

Hourly Wages

To further examine these relationships, I turn to the multilevel growth curve models examining the relationship between inter-state migration and logged hourly wages across the NLSY79 and NLSY97 cohorts. Because of the importance of individuals' demographic and

socioeconomic characteristics for these relationships, particularly age, educational attainment, gender, and race/ethnicity, I focus solely on the predicted results from the fully-specified multivariate models, which are calculated from the results presented in Appendix Table 3.1, column 2 and, to aid interpretability, are exponentiated to non-logged wages for the graphs below. The full set of bivariate and multivariate results are presented in Appendix Table 3.1, columns 1-2.

Figure 3.1: The Predicted Relationship between Inter-State Migration and Hourly Wages by Cohort



[a]The confidence intervals are not perfectly centered around the predicted lines for migrants and non-migrants because the lines have been smoothed in order to facilitate the interpretability of the figures.
[b] Based on results from multivariate growth curve models (presented in Appendix Table 3.1, column 2)

I first examine the question, are the returns to inter-state migration smaller among the 1997 cohort than among the 1979 cohort? In Figure 3.1, we see that migrants in the 1979 cohort earn significantly less than non-migrants in the 1979 cohort when they have spent less than four years in a state ($1.67 less initially and $0.95 less after 2 years). After this period, migrants and non-migrants experience statistically equivalent wages. In contrast, migrants in the 1997 cohort exhibit significantly lower wages than non-migrants only when they have spent less than two years in a state ($1.30 less). The costs of migration therefore appear to be slightly lower among the 1997 cohort. However, while migrants in the 1979 cohort never earn significantly *higher* wages relative to non-migrants in the 1979 cohort, their wages do increase at a significantly

greater rate over time relative to both non-migrants in the 1979 cohort and migrants in the 1997 cohort. Thus, while the costs of inter-state migration are lower among the 1997 cohort, migration is less clearly tied to wage growth over time for the 1997 cohort relative to the 1979 cohort.

I next turn to the question of whether migrants and non-migrants in the 1997 cohort are worse off than comparable migrants and non-migrants in the 1979 cohort. In the multivariate models, non-migrants in the 1997 cohort earn significantly more than non-migrants in the 1979 cohort when they have spent 4-6 and 8-12 years in a state, though the differences are quite small (about $0.50-$0.65/hour). Likewise, migrants in the 1997 cohort earn more than migrants in the 1979 cohort when they have spent less than four years in a state (about $0.60-$0.80 more). Consequently, migrants and, particularly, non-migrants in the 1997 cohort experience modestly higher wages than comparable migrants and non-migrants in the 1979 cohort during some time periods.

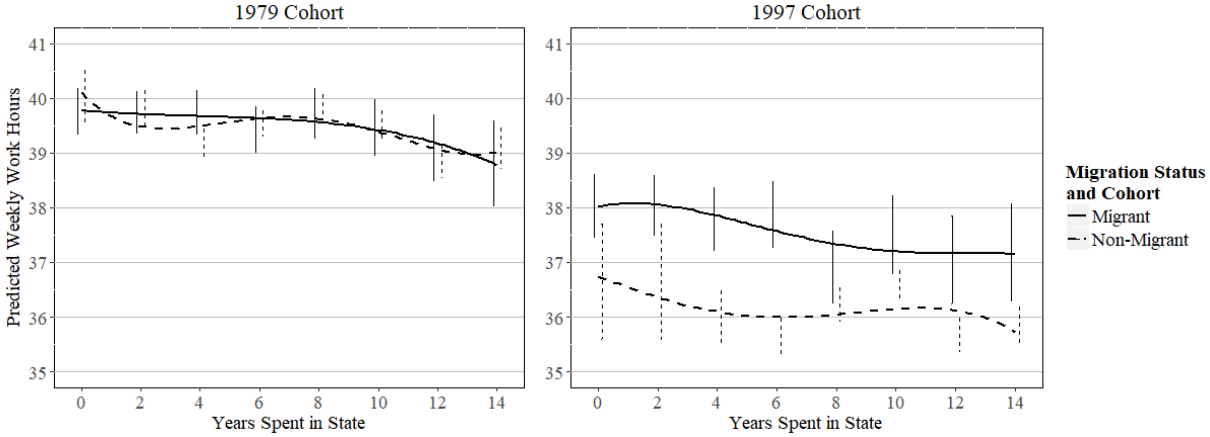
As mentioned above, the wage returns to migration have changed only modestly over time, with the initial wage costs of migration tending to decrease for the 1997 cohort, but with migration also becoming less consistently tied to wage growth with lengthening residence in the destination. Moreover, the wages among migrants and non-migrants in the 1979 and 1997 cohorts are very similar, indicating that migrants' and non-migrants' wages have not dramatically changed and have slightly increased during the period of the migration decline. These findings offer some support for explanations of the migration decline, such as the increasing concentration of businesses and industries, that suggest that non-migrants are less disadvantaged by their lack of mobility than non-migrants in the past, making migration a somewhat less appealing option.

These relationships remain consistent when examining inter-county rather than inter-state moves, though the magnitudes of the relationships tend to be smaller for inter-county moves. This is also the case when examining work hour and weekly wage outcomes as well, as illustrated in Appendix Table 3.2.

Weekly Work Hours

To provide a more expansive view of the potential benefits and costs associated with migration, I turn to the results for weekly work hours (full set of results presented in Appendix Table 3.1, columns 3-4). Only individuals who work more than 0 hours are included in these analyses[19] and, as before, I solely focus on the multivariate results because of the importance of individuals' characteristics and migrant selectivity for explaining the relationships I observe.

Figure 3.2: The Predicted Relationship between Inter-State Migration and Weekly Hours Worked by Cohort



[a]The confidence intervals are not perfectly centered around the predicted lines for migrants and non-migrants because the lines have been smoothed in order to facilitate the interpretability of the figures.
[b] Based on results from multivariate growth curve models (presented in Appendix Table 3.1, column 4)

As can be seen in Figure 3.2, the work hour returns to migration are larger among the 1997 cohort than among the 1979 cohort. Migrants in the 1979 cohort work virtually equivalent

[19] My results are sensitive to the exclusion of those who are not employed. Migration is positively correlated with the probability that individuals in the 1979 cohort are employed, excluding individuals with 0 work hours therefore narrows the benefits associated with migration for this cohort. In contrast, there is very little correlation between ever migrating and employment status for the 1997 cohort, though excluding those with 0 work hours slightly narrows the benefits associated with migration. While examining a further outcome is beyond the scope of my analysis, future research should explore how these relationships unfold for those who are unemployed.

hours to non-migrants at all time points. In contrast, migrants in the 1997 cohort work more hours than non-migrants in the 1997 cohort, with the difference being statistically significant in the mid-term (when they have spent 4-6 years in a state) and in the long-term (when they have spent 12+ years in a state). These gains amount to about 1-2 more work hours per week.

However, both migrants and non-migrants in the 1997 cohort work significantly fewer hours each week than migrants and non-migrants in the 1979 cohort (about 2 hours less for migrants, and about 3-3.5 hours less for non-migrants). These differences in work hours have large, cumulative implications for individuals' yearly incomes. For example, if non-migrants in the 1997 cohort exhibited the same work hours as non-migrants in the 1979 cohort, their annual wages would be about 9.19 percent higher (holding wages constant at the predicted levels observed for non-migrants in the 1997 cohort). Likewise, if the work hours of migrants in the 1997 cohort were equalized to those of migrants in the 1979 cohort, their annual wages would be 5.12 percent higher. These disparities are net of a wide variety of characteristics that are likely to influence one's work hours, such as gender, race/ethnicity, educational attainment, and professional job status. Thus, migration is, if anything, associated with greater work hour returns than in the past and migration remains important for improving individuals' access to economic opportunities. However, migrants and non-migrants in the 1979 cohort work more hours than migrants and, especially, non-migrants in the 1997 cohort.

Supplementary Analyses

On one hand, given the continued economic benefits associated with moving, it is possible that migration is hindered by a relatively disadvantaged financial profile for members of the 1997 cohort. On the other hand, it is possible that individuals in the 1997 cohort prefer to work fewer hours and are loath to leave jobs that offer them that flexibility. If the former is the

case, it would suggest that the 1997 cohort is worse off than the 1979 cohort; if the latter is the case, it would indicate that the 1997 cohort is not necessarily worse off and may even be better off. To explore these possibilities, I separately examine these relationships for professionals and non-professionals. Because professionals tend to have more schedule control and autonomy than non-professionals (Schieman and Glavin 2008), fewer work hours among this group may be more likely to indicate that individuals are working in flexible jobs and/or are choosing to work fewer hours. In contrast, if it is primarily non-professionals who are working fewer hours in 1997, then fewer work hours could be reflective of underemployment. I find that both professionals and non-professionals in the 1997 cohort work fewer hours than their professional and non-professional counterparts in 1979 (Appendix Figure 3.1). These relationships are somewhat stronger for professionals, however, indicating that fewer work hours among the 1997 cohort might be partially reflective of an increased move towards more flexible schedules. Nevertheless, the changes in weekly work hours between 1979 and 1997 are generally similar for professionals and non-professionals.

The 1997 cohort was also asked whether their employers allowed them to have flexible schedules. The 1979 cohort was asked this question only after 1988, making this a problematic measure to examine given that there is no information on this question for the first 9 years that the 1979 cohort was surveyed. This measure also does not identify individuals who are actually working flexible schedules, only those who have the option to work flexible schedules. Nevertheless, this measure provides at least tentative, indirect insights into whether an increased prevalence of flexible schedules explains why the 1997 cohort tends to work fewer hours than the 1979 cohort. Indeed, I find that individuals who work for employers who allow them to have flexible schedules work fewer hours than individuals who are not given this option, but these

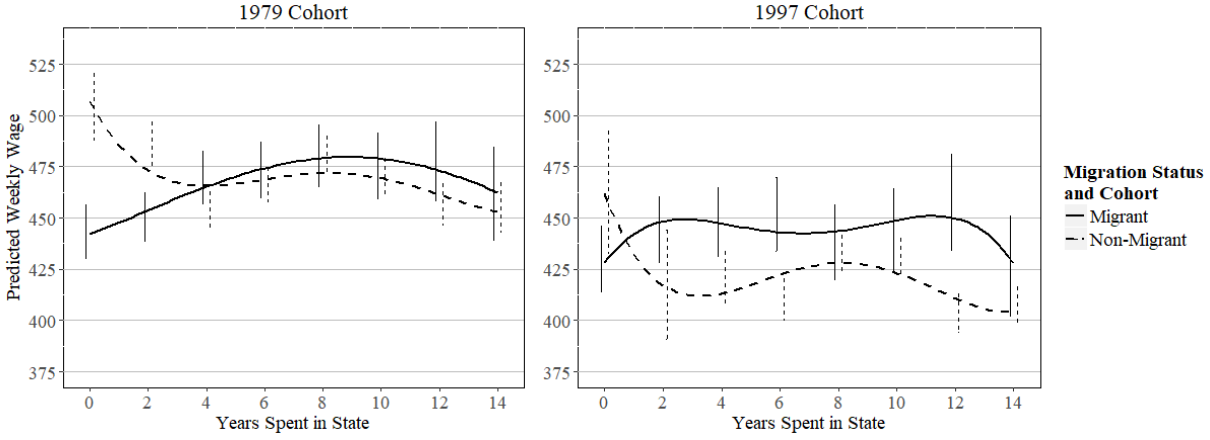
differences are quite small and both groups work significantly fewer hours than their counterparts in 1979 (results available upon request). Thus, it is possible that the fewer hours worked by the 1997 cohort are partially reflective of a greater tendency for members of this cohort to work flexible hours. However, given that declines in work hours across cohorts are relatively consistent for professionals and non-professionals, those allowed to work a flexible schedule and those not allowed to work a flexible schedule, there appears to be something else driving this inter-cohort decline in work hours.

I also examined whether changes in union membership over time explain the decline in work hours across cohorts. For example, the greater prevalence of collective bargaining in the 1970s and 1980s may have translated into higher average work hours and a greater likelihood of working full-time for the 1979 cohort. I find that individuals who are covered by a union contract work significantly more hours (1.107 more work hours, $p < 0.001$) (results available upon request). Moreover, work hours have declined by 1.678 hours across the 1979 and 1997 cohorts for individuals who belong to a union ($p < 0.05$), compared to a work hour decline of 2.565 hours across the 1979 and 1997 cohorts for individuals who do not belong to a union ($p < 0.001$). Thus, changes in union membership provide a partial explanation for the decline in work hours. Nevertheless, the decline in work hours between the 1979 and 1997 NLSY cohorts was statistically significant for both those who are covered by a union contract and those who are not. Union coverage also explains only 5 percent of the decline in work hours across cohorts when union membership is included sequentially into the models, suggesting that something else is causing most of the decline over time. Future research should continue to explore why work hours appear to be declining among individuals over time.

Weekly Wages

The results for hourly wages and the results for weekly work hours are consistent in some respects and divergent in others. Specifically, they both illustrate that the returns to migration have largely *not* declined across the 1979 and 1997 cohorts, though migration has become less clearly tied to wage growth for the 1997 cohort. However, the results for hourly wages indicate that non-migrants and migrants in the 1997 cohort are doing better than their counterparts in the 1979 cohort, suggesting that economic wellbeing has not declined during the period of the migration decline. In contrast, the results for weekly work hours imply that the 1997 cohort might be underemployed and that this could particularly be the case for non-migrants. These results indicate that economic wellbeing *has* declined during the period of the migration decline and that the decline could therefore be associated with harmful changes to the U.S.'s economic opportunity structures. To help reconcile these findings, I examine weekly wages (adjusted hourly wages*weekly work hours). As before, I focus on predicted values derived from the multivariate results from the growth curve models (see Appendix Table 3.1, columns 5-6) and, in the graphs, I exponentiate weekly wages so that they are not logged and are therefore more interpretable.

Figure 3.3: The Predicted Relationship between Inter-State Migration and Weekly Wages Worked by Cohort



[a]The confidence intervals are not perfectly centered around the predicted lines for migrants and non-migrants because the lines have been smoothed in order to facilitate the interpretability of the figures.
[b] Based on results from multivariate growth curve models (presented in Appendix Table 3.1, column 6)

According to Figure 3.3, the 1997 cohort experiences larger (though reasonably modest) returns to migration relative to the 1979 cohort, who experiences costs to migration in the first two years after a migration event and no significant weekly wage benefits or costs thereafter. However, as was the case for hourly wages, migration is not associated with as strong or consistent wage growth over time for the 1997 cohort as it was for the 1979 cohort. Migration therefore appears to remain an important means of increasing individuals' access to economic opportunities, though the declining association between migration and wage growth with longer duration of residence in the destination indicates that the long-term benefits of migration may be becoming more ambiguous over time.

Additionally, migrants in the 1979 and 1997 cohorts earn statistically equivalent weekly wages at most time points. In contrast, non-migrants in the 1997 cohort earn significantly less than non-migrants in the 1979 cohort in every year past year 0 (an average of $48.66 or 10.33 percent less per week). These findings raise the possibility that the decline in migration is not reflective of economically disadvantageous changes among migrants. Rather, non-migrants, may find themselves less able to make a move, even should they desire to, because of their declining economic wellbeing. As a result, non-migrants appear to be increasingly left behind, both geographically and economically.

Discussion

In sum, I find that inter-state migration is associated with smaller initial wage costs and larger economic benefits for the 1997 cohort relative to the 1979 cohort. Contrary to my expectations and first hypothesis (that the 1997 cohort would earn lower returns to migration than the 1979 cohort), the returns to migration have therefore largely not declined. If anything, migration seems to have become more advantageous and is still an important means of

enhancing individuals' access to economic opportunities. An exception to these findings is that migration is less strongly tied to wage growth for the 1997 cohort than for the 1979 cohort. While this greater wage growth among migrants from the 1979 cohort does not translate into higher predicted wages relative to comparable non-migrants, it could still be important if it means that recent cohorts of migrants are facing fewer and/or less consistent opportunities for job mobility than in the past. Future research should continue to investigate how the economic opportunities of migrants and non-migrants have changed over time when other economic outcomes such as profession, economic mobility, and job quality are taken into consideration.

Additionally, migrants in the 1997 cohort exhibit reasonably comparable outcomes to migrants in the 1979 cohort: they exhibit modestly higher hourly wages, lower weekly work hours, but overall similar weekly wages. Thus, while data sources including the Current Population Survey (CPS), Internal Revenue Service (IRS) migration data, and American Community Survey (ACS) have found that overall U.S. migration propensities have declined over time[20] (Molloy et al. 2011), the outcomes of migrants appear to have changed relatively little. This too contrasts with my expectations and my second hypothesis that migrants in the 1997 cohort would differ economically from migrants in the 1979 cohort and it suggests that the migration decline is not associated with disadvantageous economic changes for migrants.

My findings indicate, however, that this conclusion does not hold for non-migrants. While non-migrants in 1997 exhibited similar and even marginally higher hourly wages than non-migrants in the 1979 cohort, they work considerably fewer hours on average and, cumulatively, they earn weekly wages that are about 10 percent lower than those of non-migrants in 1979. These differences are net of a wide variety of characteristics that are likely to influence

[20] As mentioned above, there was little evidence of a migration decline among the NLSY79 and NLSY97 cohorts once they were broken down by age, however.

employment outcomes, including age, gender, race/ethnicity, educational attainment, professional job status, and region of residence, among other characteristics. Non-migrants in the 1997 cohort may therefore claim fewer economic resources to harness in order to move, making them less able to capitalize on the positive and, for some outcomes, increasing economic returns associated with migration. This finding coheres with my second hypothesis that the economic status of non-migrants in the 1997 cohort would differ from the economic status of non-migrants in the 1979 cohort. The migration decline may therefore be associated with economic changes that are harming the economic outcomes of non-migrants, who are finding themselves increasingly left behind relative to migrants. Supporting this conclusion, Foster (2016) finds that, after accounting for individual and contextual characteristics, individuals' expectations that they will move have not declined since the 1970s, though individuals' abilities to actuate those expectations into actual moves has declined. Future research should continue to explore why non-migrants may be increasingly finding themselves stuck in place.

This study provides important insights into the changing dynamics of internal migration and economic opportunity. I show that the returns to migration have not declined substantially over time, though internal migration is associated with weaker wage gains for individuals in the 1997 cohort than for individuals in the 1979 cohort. Consequently, while internal migration still plays an important role in enhancing access to economic opportunities for some individuals and families, the long-term benefits of migration may be becoming increasingly unpredictable. My findings therefore have important implications for the literature on internal migration, illustrating that the benefits of migration are complex and fluctuating. Migration research may therefore benefit from examining whether and how economic changes in local, state, and national contexts influence changes in the returns to migration over time.

My findings are also valuable for policymakers and broader audiences who are interested in facilitating economic wellbeing and opportunities among the U.S. population. Indeed, changes in the economic wellbeing of non-migrants during the period of the migration decline are not captured by studies on explanations for the migration decline. Yet, the decline in migration rates corresponds with an increase in the non-migrant population, indicating the importance of studying this group and their outcomes. My findings consequently offer a unique perspective on the growing proportion of the U.S. population that is not migrating and present concerning evidence that non-migrants are falling behind. This could play into the feelings of disaffection and frustration that were dramatically displayed in the 2016 presidential election and its results and suggest the importance of enhancing opportunities for migration as well as economic opportunities in areas with large proportions of non-migrants.

Further, I provide suggestive evidence that explanations for the migration decline should focus on changes occurring among non-migrants. My findings are therefore important for the literature on the migration decline. While my supplementary analyses offered only partial support for the role of occupation and union status in explaining the declining economic wellbeing of non-migrants, declines in manufacturing and in unions could still play into these relationships and explain parts of the migration decline. For example, manufacturing jobs tend to have positive spillover effects for local economies by creating additional jobs (in service industries, for example) for every manufacturing job created (Moretti 2012). The decline of manufacturing could therefore lead to worse economic outcomes and, in turn, impede the ability for individuals to migrate both for those who work in manufacturing and those who benefit from the manufacturing industry. Likewise, the decline of unions could have worsened working conditions and economic security both for those who work in unions and those who do not

(Rosenfeld 2014). This could be the case if the standards set by unions led to a general raising of work standards across the board when unions were prevalent and if the decline in unions is causing workers to move out of union-protected jobs. It is also possible that individuals who are in middle or lower-status occupations are less likely than in the past to receive promotions within or across companies, promotions that may also have involved moves across counties or states. This would be consistent with the decline in the middle class and its socioeconomic status (Foster and Wolfson 2009; Kochhar et al. 2016; Pressman 2007). If middle-class jobs are increasingly being replaced by technological changes and competition abroad, then these changes could correspond to moves among workers into lower status jobs or into new industries in which one has fewer qualifications and/or lower personal interest. This, in turn, could lead to lower probabilities that individuals are able to advance in their careers, receive promotions, and potentially move to new areas. Non-economic changes such as increasing rootedness could also influence individuals' desires to move and, as a result, their economic outcomes. Future research should continue to explore these and other possible explanations for the changing economic wellbeing of non-migrants and for the migration decline itself in order to better understand why recent cohorts of non-migrants appear to be worse off than previous non-migratory cohorts. Migration therefore appears to be increasingly out of reach for some families and, for these families that are left behind, the geographic stagnation of the United States population is corresponding to economic stagnation and declines in economic wellbeing over time.

Limitations

While these are important findings that provide new insights into changes in the returns to migration and in the economic wellbeing of migrants and non-migrants over time, they are subject to limitations. First, I compare only two cohorts of individuals, the earlier of which is

observed at the very beginning of the migration decline. It would be valuable to compare more cohorts, including an earlier cohort of migrants and non-migrants. Doing this would be particularly helpful for examining the returns to migration prior to the migration decline starting. While the NLS surveys do include another cohort of older individuals, utilizing that sample involves important limitations in terms of accessing the data and developing comparable variables over time. I therefore do not do this here.

Moreover, my use of the NLSY97 cohort restricts me to looking at young adults who are under 35-years-old. This restriction could mean that I am not capturing individuals who are further in their careers and therefore potentially more likely to benefit from migration. I could also be capturing a higher percentage of individuals who are moving to start careers. Future research should continue to explore whether these results hold for a wider range of ages. Nevertheless, my focus on young adults is consistent with many studies on internal migration that similarly limit their analyses to young adult migrants and non-migrants because of the prevalence of economically-oriented migration for this population.

It is also surprising and a potential limitation that the NLSY79 and NLSY97 cohorts do not exhibit a substantial decrease in migration probabilities across these cohorts, once the differing age structures of the samples are accounted for. While attrition likely plays a role in obscuring the migration decline between these two cohorts, the relatively small differences in attrition probabilities across migrants and non-migrants in the 1979 and 1997 cohorts suggests that this only partly explains why I do not observe much of a migration decline across NLSY cohorts. Studying the changing economic wellbeing of migrants and non-migrants within the context of the migration decline with a sample that exhibits a very modest decline in migration probabilities is potentially problematic. However, as mentioned above, these cohort samples are

designed to be nationally representative (after accounting for the minority oversamples). They should therefore exhibit similar relationships between migration and economic outcomes to those that would be exhibited by the general population, particularly once covariates are included to help account for the oversamples of minorities and the possibility that these samples become more selective once individuals with missing information are excluded. Moreover, previous studies have used the NLS surveys to study potential explanations for the migration decline (Molloy et al. 2014, 2017), though neither study documents the decline in migration probabilities using the NLS samples. Utilizing this sample therefore allows me to build on the findings of previous studies and provide important insights into the changing returns to migration and economic statuses of migrants and non-migrants. However, future studies should explore the migration decline using other data sources.

I am also unable to fully account for migrant selectivity. Migrants tend to be select individuals on both observable and unobservable traits, as mentioned in Chapters 1 and 2. Migrants may also tend to reside in areas with different and perhaps more dynamic, economically vibrant opportunity structures. While my use of multilevel growth curve models and my inclusion of a wide host of covariates helps to address the potential selectivity of migrants and allows me to nest observations within counties, these strategies cannot fully capture the characteristics of individuals and their contexts that might influence their propensity to migrate and their economic outcomes. This limitation should be considered when interpreting the findings. A valuable avenue for future research would be to further explore the role of migrant selectivity and contextual variation among migrants and non-migrants in explaining these relationships and the changes I observe over time.

Finally, while not necessarily a limitation, it should be noted that my results provide only suggestive evidence for the reasons behind the migration decline. I do not directly explore reasons for the decline and my analysis is not causal. My focus is therefore solely on the potential implications of the migration decline as illustrated by the changing economic returns to migration and the changing economic statuses of migrants and non-migrants within the context of the migration decline. This focus is informed by a desire to provide an initial, holistic picture of how the economic fortunes of migrants and non-migrants and the returns to migration have changed over time, given that this has not been explored in previous studies and has import for understanding how the U.S. population is faring economically.

Conclusion

Despite these limitations, this study offers important and unique insights into the changing economic wellbeing of migrants and non-migrants during the period of the migration decline. By giving comparable attention to the economic trajectories of migrants and non-migrants; utilizing longitudinal, multi-cohort data, and by employing multivariate regression techniques that help account for migrant selectivity, I am able to shed light on important economic changes occurring among migrants and non-migrants. A particularly important change is the declining economic wellbeing of non-migrants. As such, the migration decline could be reflective of economically harmful changes among the growing pool of individuals who are not able or who are unwilling to migrate and are therefore finding themselves trailing progressively farther behind individuals who do migrate. Policymakers may therefore want to prioritize enhancing socioeconomic opportunities in communities with little migration, by, for example, providing job retraining, improving access to high-quality education, and facilitating opportunities for migration among those who would like to move to more economically dynamic

areas but do not have the means to do so. Researchers should also continue to explore how and why the outcomes of non-migrants have changed over time. Indeed, better understanding the geographic and economic stagnation of non-migrants could provide insights into how to improve the wellbeing of those left behind.

References

Alexander, J. Trent, Christine Leibbrand, Catherine Massey, and Stewart Tolnay. 2017. "Second-Generation Outcomes of the Great Migration." *Demography* 54(6): 2249-2271.

Berry, Chad. 2000. *Southern Migrants, Northern Exiles.* Urbana, IL: University of Illinois Press.

Boustan, Leah Platt. 2016. *Competition in the Promised Land: Black Migrants in Northern Cities and Labor Markets*. Princeton, NJ: Princeton University Press.

Clark, William and Suzanne Davies Withers. 2002. "Disentangling the Interaction of Migration, Mobility, and Labor-Force Participation." *Environment and Planning* 34(5): 923-945.

Cooke, Thomas. 2011. "It is not Just the Economy: Declining Migration and the Rise of Secular Rootedness." *Population, Space, and Place* 17: 193-203.

Cooke, Thomas. 2013. "Internal Migration in Decline." *The Professional Geographer* 65(4): 664-675.

Cooke, Thomas, Paul Boyle, Kenneth Couch, and Peteke Feijten. 2009. "A Longitudinal Analysis of Family Migration and the Gender Gap in Earnings in the United States and Great Britain." *Demography* 46(1): 147-167.

Dahl, Gordon. 2002. "Mobility and the Return to Education: Testing a Roy Model with Multiple Markets." *Econometrica* 70(6): 2367-2420.

Decker, Ryan, John Haltiwanger, Ron Jarmin, and Javier Miranda. 2014. "The Role of Entrepreneurship in US Job Creation and Economic Dynamism." *Journal of Economic Perspectives* 28(3): 3-24.

Eichenlaub, Suzanne, Stewart Tolnay, and J. Trent Alexander. 2010. "Moving Out but Not Up: Economic Outcomes in the Great Migration." *American Sociological Review* 75(1): 101-125.

Fischer, Claude. 2002. "Ever-More Rooted Americans." *City & Community* 1(2): 177-198.

Fishback, Price, William Horrace, and Shawn Kantor. 2001. "Do Federal Programs Affect Internal Migration? The Impact of New Deal Expenditures on Mobility during the Great Depression." *NBER Working Paper Series Working Paper 8283.*

Foster, Thomas. 2016. "Rooted or Stuck? The Causes and Consequences of American Mobility Decline." PhD dissertation, Department of Sociology, University of Washington, Seattle, WA.

Foster, Thomas. 2017. "Decomposing American Immobility: Compositional and Rate

Components of Interstate, Intrastate, and Intracounty Migration and Mobility Decline." *Demographic Research* 37: 1515-1548.

Foster, James and Michael Wolfson. 2009. "Polarization and the Decline of the Middle Class: Canada and the US." *OPHI Working Paper No. 31*.

Gregory, James N. 1989. *American Exodus: The Dust Bowl Migration and Okie Culture in California*. New York: Oxford University Press.

Gregory, James N. 2005. *The Southern Diaspora: How The Great Migrations of Black and White Southerners Transformed America*. Chapel Hill: University of North Carolina Press.

Grullon, Gustavo, Yelena Larkin, and Roni Michaely. 2016. "Are U.S. Industries Becoming More Concentrated?" *Working Paper*.

Ham, John, Xianghong Li, and Patricia Reagan. 2011. "Matching and Semi-Parametric IV Estimation, a Distance-Based Measure of Migration and the Wages of Young Men." *Journal of Econometrics* 161(2): 208-227.

Johnson, Kenneth. 2017. "Where Is Rural America and Who Lives There?" Pp. 3-27 in *Rural Poverty in the United States*, edited by A. Tickamayer, J. Sherman, and J. Warlick. New York: Columbia University Press.

Johnson, Kenneth, Katherine Curtis, and David Egan-Robertson. 2017. "Frozen in Place: Net Migration in sub-National Areas of the United States in the Era of the Great Recession." *Population and Development Review* 43(4): 599-623.

Kalleberg, Arne. 2009. "Precarious Work, Insecure Workers: Employment Relations in Transition." *American Sociological Review* 74(1): 1-22.

Kaplan, Greg and Sam Schulhofer-Wohl. 2015. "Understanding the Long-Run Decline in Interstate Migration." Cambridge: National Bureau of Economic Research (NBER Working Paper 697).

Karahan, Fatih and Serena Rhee. 2017. "Population Aging, Migration Spillovers, and the Decline in Interstate Migration." New York: Federal Reserve Bank of New York (FRB-NY Staff Report 699).

Kennan, John and James Walker. 2011. "The Effect of Expected Income on Individual Migration Decisions." *Econometrica* 79(1): 211-251.

Knapp, Thomas, Nancy White, and Amy Wolaver. 2013. "The Returns to Migration: The Influence of Education and Migration Type." *Growth and Change* 44(4): 589-607.

Kochhar, Rakesh, Richard Fry, and Molly Rohal. 2016. "America's Shrinking Middle Class: A

Close Look at Changes Within Metropolitan Areas." *Pew Research Center*.

Krieg, Randall. 1997. "Occupational Change, Employer Change, Internal Migration, and Earnings." *Regional Science and Urban Economics* 27: 1-15.

Kronenberg, Kristin and Martin Carree. 2012. "On the Move: Determinants of Job and Residential Mobility in Different Sectors." *Urban Studies* 49(16): 3679-3698.

Lee, Everett S. 1966. "A Theory of Migration." *Demography* 3(1): 47-57.

Lieberson, Stanley. 1978. "A Reconsideration of the Income Differences Found between Migrants and Northern-Born Blacks." *American Journal of Sociology* 83(4): 940-966.

Lkhagvasuren, Damba. 2014. "Education, Mobility, and the College Wage Premium." *European Economic Review* 67: 159-173.

Long, Larry and Lynne Heltman. 1975. "Migration and Income Differences between Black and White Men in the North." *American Journal of Sociology* 80(6): 1391-1409.

Masters, Stanley. 1972. "Are Black Migrants from the South to the Northern Cities Worse Off Than Blacks Already There?" *The Journal of Human Resources* 7(4): 411-423.

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2011. "Internal Migration in the United States." *Journal of Economic Perspectives* 25(3): 173-196.

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2014. "Declining Migration within the US: The Role of the Labor Market." *IZA Discussion Paper No. 8149.*

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2017. "Job Changing and the Decline in Long-Distance Migration in the United States." *Demography* 54(2): 631-653.

Moretti, Enrico. 2012. *The New Geography of Jobs*. Boston, MA: Houghton Mifflin Harcourt.

Partridge, Mark, Dan Rickman, M. Rose Olfert, and Kamar Ali. 2012. "Dwindling U.S. Internal Migration: Evidence of Spatial Equilibrium or Structural Shifts in Local Labor Markets." *Regional Science and Urban Economics* 42(1-2): 375-388.

Pressman, Steven. 2007. "The Decline of the Middle Class: An International Perspective." *Journal of Economic Issues* 41(1): 181-200.

Rosenfeld, Jake. 2014. *What Unions No Longer Do*. Boston, MA: Harvard University Press.

Schieman, Scott and Paul Glavin. 2008. "Trouble at the Border?: Gender, Flexibility at Work, and the Work-Home Interface." *Social Problems* 55(4): 590-611.

Sommeiller, Estelle and Mark Price. 2018. "The New Gilded Age: Income Inequality in the U.S.

by State, Metropolitan Area, and County." *Economic Policy Institute Report.*

Spring, Amy, Stewart Tolnay, and Kyle Crowder. 2013. "Moving for Opportunities? Changing Patterns of Migration in North America." In *Handbook of Migration* edited by Michael White. New York: Springer.

Tolnay, Stewart. 1997. "The Great Migration and Changes in the Northern Black Family, 1940 to 1990." *Social Forces* 75(4): 1213-1238.

Tolnay, Stewart. 2001. "The Great Migration Gets Underway: A Comparison of Black Southern Migrants and Nonmigrants in the North, 1920." *Social Science Quarterly* 82(2): 235-252.

Tolnay, Stewart and Suzanne Eichenlaub. 2006. "Southerners in the West: The Relative Well-being of Direct and Onward Migrants." *Social Forces* 84(3): 1639-1663.

White, Michael and David Lindstrom. 2005. "Internal Migration." Pp. 311-346 in *Handbook of Population,* edited by D.L. Poston and M. Micklin. New York: Springer.

Wolf, Douglas and Charles Longino. 2005. "Our 'Increasingly Mobile Society'? The Curious Persistence of a False Belief." *The Gerontologist* 45(1): 5-11.

Yankow, Jeffrey. 2003. "Migration, Job Change, and Wage Growth: A New Perspective on the Pecuniary Return to Geographic Mobility." *Journal of Regional Science* 43(3): 483-5

Chapter 3 Appendix

Appendix Table 3.1: Mixed Effects Regressions of Relationship between Inter-State Migration and Economic Outcomes for 1979 and 1997 NLSY Cohorts

	(1) Log Hourly Wages	(2) Log Hourly Wages	(3) Hrs/Week	(4) Hrs/Week	(5) Log Weekly Wages	(6) Log Weekly Wages
Focal Independent Variables						
Yrs. of Residence (State)	-0.007***	-0.003**	-0.097***	-0.047*	-0.010***	-0.004**
	(0.001)	(0.001)	(0.020)	(0.019)	(0.001)	(0.001)
Ever Moved (State)	-0.036**	-0.072***	0.196	0.023	-0.027	-0.063***
	(0.013)	(0.012)	(0.253)	(0.244)	(0.017)	(0.016)
Ever Moved*Yrs. of Res.	0.010***	0.010***	0.017	0.000	0.011***	0.010***
	(0.001)	(0.001)	(0.027)	(0.026)	(0.002)	(0.002)
# of Inter-State Moves	-0.004	-0.001	0.053	0.070	-0.006	-0.001
	(0.005)	(0.004)	(0.091)	(0.087)	(0.006)	(0.006)
Cohort Interactions						
1997 Cohort	0.011	0.056***	-3.161***	-3.305***	-0.108***	-0.068***
	(0.011)	(0.010)	(0.230)	(0.224)	(0.015)	(0.014)
Yrs. of Res.*1997 Cohort	0.000	-0.002*	0.050*	0.021	0.001	-0.002
	(0.001)	(0.001)	(0.024)	(0.023)	(0.002)	(0.001)
Ever Moved*1997 Cohort	0.030	0.009	1.729***	1.704***	0.080**	0.058*
	(0.022)	(0.020)	(0.438)	(0.423)	(0.029)	(0.027)
Yrs. of Res.*EvMove*1997	-0.006**	-0.005*	-0.063	-0.044	-0.006*	-0.003
	(0.002)	(0.002)	(0.043)	(0.042)	(0.003)	(0.003)
# of Moves*1997 Cohort	-0.010	-0.011	-0.365*	-0.372*	-0.027*	-0.029**
	(0.008)	(0.007)	(0.161)	(0.154)	(0.011)	(0.010)
Covariates						
Age	0.125***	0.101***	1.441***	1.354***	0.176***	0.152***
	(0.005)	(0.004)	(0.100)	(0.099)	(0.006)	(0.006)
Age^2	-0.002***	-0.001***	-0.022***	-0.021***	-0.003***	-0.002***
	(0.000)	(0.000)	(0.002)	(0.002)	(0.000)	(0.000)
Female		-0.215***		-5.176***		-0.375***
		(0.005)		(0.097)		(0.007)
White (ref.)		Ref.		Ref.		Ref.
Black		-0.098***		-1.169***		-0.121***
		(0.006)		(0.121)		(0.008)
Hispanic		-0.015*		0.246+		0.011
		(0.007)		(0.139)		(0.010)
Married		0.057***		0.089		0.058***
		(0.004)		(0.079)		(0.005)
Number of Children		-0.012***		-0.483***		-0.036***
		(0.002)		(0.042)		(0.003)
Lagged Wage Growth		0.034***		-0.107***		0.029***
		(0.000)		(0.004)		(0.000)
Years of Education		0.058***		0.285***		0.067***
		(0.001)		(0.021)		(0.001)
In Military		-0.048		1.469*		-0.113**
		(0.030)		(0.662)		(0.040)
Professional Job		0.063***		1.226***		0.089***
		(0.003)		(0.074)		(0.004)
Urban Area		0.044***		-0.362***		0.037***
		(0.005)		(0.102)		(0.007)
Northeast (ref.)		Ref.		Ref.		Ref.
North Central		-0.135***		-0.207		-0.155***

		(0.009)		(0.159)		(0.012)
West		-0.054***		0.048		-0.061***
		(0.009)		(0.165)		(0.012)
South		-0.123***		1.157***		-0.091***
		(0.008)		(0.144)		(0.011)
Constant	0.476***	0.246***	17.710***	18.104***	3.351***	3.078***
	(0.065)	(0.059)	(1.334)	(1.341)	(0.082)	(0.079)
Variance Components						
Between Counties	-2.385***	-2.905***	-0.657***	-1.292***	-2.334***	-2.797***
	(0.080)	(0.098)	(0.164)	(0.311)	(0.087)	(0.107)
Rate of Change (Yr of Res)	-3.176***	-3.143***	-0.117***	-0.144***	-2.842***	-2.866***
	(0.014)	(0.012)	(0.013)	(0.013)	(0.013)	(0.012)
Between Individuals	-0.764***	-0.824***	2.227***	2.169***	-0.416***	-0.507***
	(0.008)	(0.008)	(0.009)	(0.009)	(0.008)	(0.008)
Covariance(Ind., Yr. of Res)	-0.476***	-0.670***	-0.793***	-0.842***	-0.584***	-0.700***
	(0.015)	(0.013)	(0.014)	(0.014)	(0.013)	(0.013)
Residual	-0.891***	-1.022***	2.142***	2.141***	-0.687***	-0.742***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	146411	146411	146882	146882	145834	145834
BIC	216791.26	180142.98	1099653.6	1095446.2	281707.92	262005.07

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

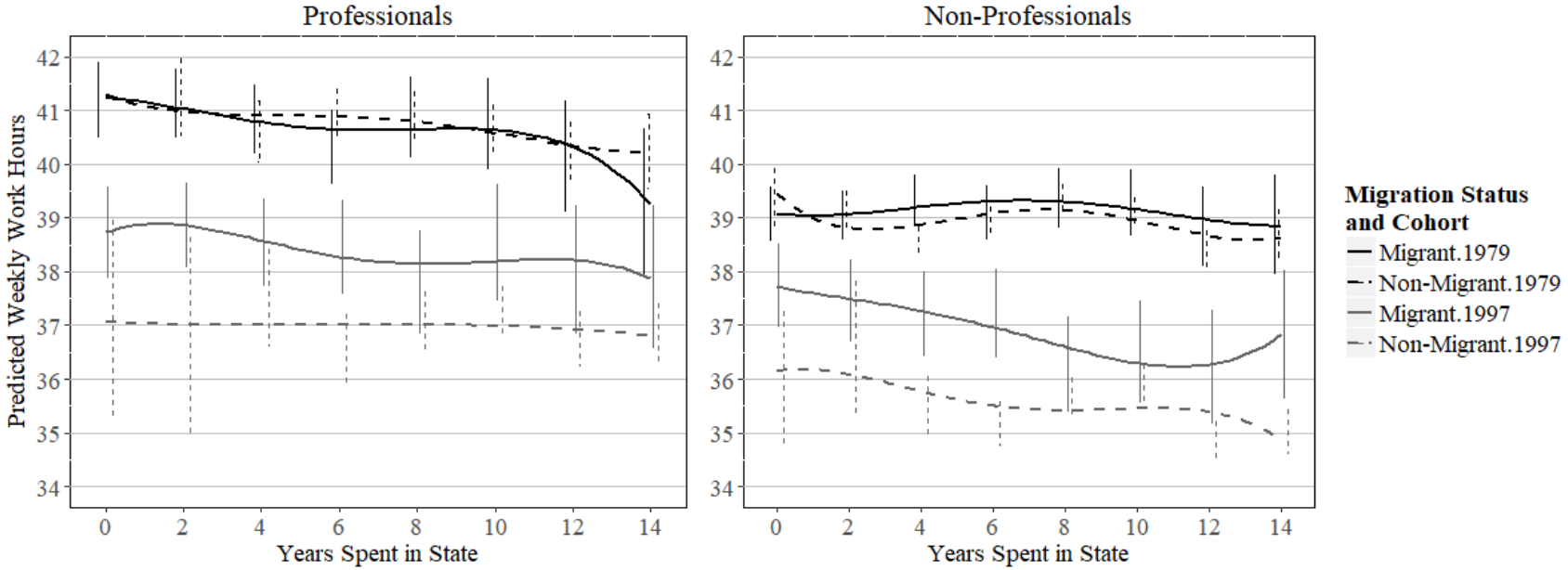
Appendix Table 3.2: Mixed Effects Regressions of Relationship between Inter-County Migration and Economic Outcomes for 1979 and 1997 NLSY Cohorts

	(1) Hourly Wages	(2) Hourly Wages	(3) Hrs/Week	(4) Hrs/Week	(5) Weekly Wages	(6) Weekly Wages
Focal Independent Variables						
Yrs. of Residence (County)	-0.012***	-0.006***	-0.091***	-0.026	-0.014***	-0.006***
	(0.001)	(0.001)	(0.021)	(0.021)	(0.001)	(0.001)
Ever Moved (County)	-0.043***	-0.067***	-0.028	-0.081	-0.040**	-0.060***
	(0.011)	(0.010)	(0.208)	(0.202)	(0.014)	(0.013)
Ever Moved*Yrs of Res.	0.011***	0.011***	-0.026	-0.039	0.010***	0.009***
	(0.001)	(0.001)	(0.025)	(0.025)	(0.002)	(0.002)
# of Inter-County Moves	0.003	-0.000	0.222***	0.159**	0.008*	0.004
	(0.003)	(0.003)	(0.055)	(0.053)	(0.004)	(0.003)
Cohort Interactions						
1997 Cohort	0.025	0.046***	-3.550***	-3.903***	-0.108***	-0.099***
	(0.014)	(0.013)	(0.277)	(0.270)	(0.018)	(0.017)
Yrs. of Res.*1997 Cohort	0.004*	0.001	0.088**	0.048	0.006**	0.002
	(0.002)	(0.001)	(0.032)	(0.031)	(0.002)	(0.002)
Ever Moved*1997 Cohort	0.036	0.037*	1.296***	1.447***	0.070**	0.074***
	(0.019)	(0.017)	(0.367)	(0.355)	(0.024)	(0.022)
Yrs. of Res.*EvMove*1997	-0.010***	-0.007***	-0.097*	-0.062	-0.013***	-0.008***
	(0.002)	(0.002)	(0.041)	(0.040)	(0.003)	(0.002)
# of Moves*1997 Cohort	-0.023***	-0.016***	-0.109	-0.063	-0.024***	-0.017***
	(0.004)	(0.004)	(0.082)	(0.079)	(0.005)	(0.005)
Covariates						
Age	0.126***	0.101***	1.354***	1.259***	0.175***	0.150***
	(0.005)	(0.004)	(0.099)	(0.099)	(0.006)	(0.006)
Age^2	-0.002***	-0.001***	-0.021***	-0.020***	-0.002***	-0.002***
	(0.000)	(0.000)	(0.002)	(0.002)	(0.000)	(0.000)
Female		-0.215***		-5.234***		-0.377***
		(0.005)		(0.097)		(0.007)
White (ref.)		Ref.		Ref.		Ref.
Black		-0.098***		-1.111***		-0.119***
		(0.006)		(0.122)		(0.008)
Hispanic		-0.018*		0.301*		0.010
		(0.007)		(0.140)		(0.010)
Married		0.059***		0.100		0.059***
		(0.004)		(0.078)		(0.005)
Number of Children		-0.013***		-0.482***		-0.036***
		(0.002)		(0.042)		(0.003)
Lagged Wage Growth		0.034***		-0.106***		0.028***
		(0.000)		(0.004)		(0.000)
Years of Education		0.058***		0.295***		0.067***
		(0.001)		(0.022)		(0.001)
In Military		-0.055		1.606*		-0.116**
		(0.030)		(0.652)		(0.039)
Professional Job		0.064***		1.204***		0.091***
		(0.003)		(0.074)		(0.004)
Urban Area		0.044***		-0.317**		0.039***
		(0.005)		(0.103)		(0.007)
Northeast (ref.)		Ref.		Ref.		Ref.
North Central		-0.133***		-0.278		-0.152***
		(0.009)		(0.159)		(0.012)
West		-0.051***		0.044		-0.053***

		(0.009)		(0.165)		(0.012)
South		-0.121***		1.104***		-0.088***
		(0.008)		(0.145)		(0.011)
Constant	0.444***	0.248***	18.745***	19.248***	3.354***	3.115***
	(0.065)	(0.059)	(1.320)	(1.326)	(0.080)	(0.077)
Variance Components						
Between Counties	-2.378***	-2.920***	-0.761***	-1.350***	-2.357***	-2.844***
	(0.080)	(0.099)	(0.180)	(0.335)	(0.087)	(0.108)
Rate of Change (Yr of Res)	-3.149***	-3.125***	-0.148***	-0.173***	-2.823***	-2.852***
	(0.015)	(0.012)	(0.014)	(0.014)	(0.013)	(0.012)
Between Individuals	-0.729***	-0.821***	2.167***	2.101***	-0.427***	-0.534***
	(0.007)	(0.007)	(0.007)	(0.008)	(0.006)	(0.007)
Covariance(Ind., Yr. of Res)	-0.535***	-0.680***	-0.685***	-0.728***	-0.559***	-0.655***
	(0.015)	(0.013)	(0.014)	(0.015)	(0.013)	(0.013)
Residual	-0.890***	-1.021***	2.147***	2.145***	-0.705***	-0.760***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	146415	146415	146885	146885	145803	145803
BIC	217004.2	180405.46	1100168.6	1095969.2	277432.91	257537.49

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Figure 3.1: The Predicted Relationship between Inter-State Migration and Weekly Work Hours by Cohort and Professional Job Status



[a]Predicted values calculated from fully-specified multilevel growth curve models, full results available upon request.

Chapter 4:

The Role of Race, Ethnicity, and Gender in the Internal Migration Decline

Abstract

Since 1980, internal migration rates within the U.S. have declined precipitously. Given the importance of migration for exposing individuals to economic and social opportunities, this decline is concerning. However, we have very little knowledge about the implications of this decline for individuals, particularly how race/ethnicity and gender have structured declines in the economic wellbeing of migrants and non-migrants and/or changes in the returns to migration over time. In this study, I utilize restricted, geocoded National Longitudinal Survey of Youth (NLSY) data and harmonize these data for the 1979 and 1997 cohorts in order to explore these relationships. I find that the returns to migration have declined more substantially for black women and men relative to other demographic groups, while white women and men have experienced modest declines in their economic wellbeing across migration statuses. Hispanic women and men, in contrast, have experienced little change in their economic outcomes over time. These findings are concerning, suggesting that internal migration, historically an important avenue for improving outcomes among blacks, may be a less viable means of reducing racial disparities in outcomes over time.

Introduction

Since World War II, the United States has undergone a number of important demographic transformations, including the decline in internal U.S. migration rates. In fact, since 1968, the probability that individuals migrate within the U.S. has declined by roughly half for inter-county migration (7 percent in 1968 to 3.7 percent in 2009) and by 55.6 percent for inter-state migration (3.6 percent in 1968 to 1.6 percent in 2009) (Cooke 2011). As internal migration rates have declined, a second transformation has occurred, with women becoming increasingly well-represented in the employment sector and experiencing decreases in their income gaps with men (Women's Bureau 2017a; 2017b). As of 2016, women comprise 46.8 percent of the labor force, compared to 37.8 percent in 1968 and 28.6 percent in 1948 (Women's Bureau 2017a). These demographic transformations have been accompanied by a third demographic transformation: the increase in racial and ethnic diversity within the U.S. In fact, by 2044, non-Hispanic whites are expected to make up less than half the population (Colby and Ortman 2015). These three transformative demographic phenomena suggest that the U.S. is undergoing numerous changes that have important implications for its population distribution, economy, and opportunity structures.

It is valuable to ask whether these changes are linked. Indeed, there are numerous reasons to expect that the migration decline has been shaped by the changes occurring amongst women and racial/ethnic minorities and that the migration decline may have varying implications for women and men of different races and ethnicities. For example, the dramatic increase in the size of the prison population over the past four decades and the disproportionate representation of Hispanic and, especially, black men in prison (National Research Council 2014) may have increasingly limited the resources black and Hispanic families can harness to fund a move and

limited their abilities to move where they would like. Likewise, the end of the Great Migration of southerners to the North in the 1960s-1970s (Tolnay 2003) may have contributed to the decline in migration rates and a decline in the returns to migration as individuals engage in less dramatic moves, and this could particularly be the case for blacks who participated in the Great Migration at disproportionate rates.

Gender could also play a role in explaining the migration decline and/or in structuring the consequences of the decline. For instance, while the increase in women's labor force participation should enhance the potential benefits of migration for women, the concomitant growth in dual-earner couples (Raley et al. 2006) may have decreased families' desires to move if it means disrupting both partners' careers. Moreover, the costs of moving for one partner's career (most frequently the male partner's career) may have amplified with the rise in women's earnings (Department of Labor 2017), dampening families' motivations to migrate and decreasing the potential returns to migration. Gender gaps in earnings and in labor force participation are also, themselves, shaped by race and ethnicity in addition to gender (Department of Labor 2017). Hence, it is possible that the migration decline has had varying implications for black, Hispanic, and white women and men, such as differing levels of changes in the returns to migration or in the economic wellbeing of migrants and non-migrants. However, we have very little knowledge of whether this is the case.

The extent to which the economic returns to migration and the economic wellbeing of migrants and non-migrants are changing or not for a diverse group of individuals provides theoretical insights into whether the migration decline might be driven by economic changes or whether, as some researchers have argued, the migration decline reflects an increasing tendency towards "rootedness" to one's origin area (Cooke 2011). This is an important theoretical debate

because these explanations have widely different consequences for our understanding of the decline and our expectations about its implications for individuals and families. Specifically, if the migration decline is associated with economic changes occurring amongst migrants and/or non-migrants, then the migration decline may have economic consequences for individuals and families that inform whether policy should be developed to enhance individuals' migration opportunities or counteract any potentially harmful changes. If the migration decline is associated with economic changes, this may also inform how we theorize about migration and its role in facilitating individuals' and families' access to economic opportunities. In contrast, if the migration decline is driven by preferences for "rootedness," then the decline could be considered a benign phenomenon that does not require policy intervention and this rootedness could shape how we understand migration and the factors that lead individuals to decide to move or remain in place.

In evaluating the potentially changing economic returns to migration and economic wellbeing of a diverse group of migrants and non-migrants, I provide a first step in assessing whether the migration decline may have implications for individuals' economic wellbeing that inform this theoretical debate and our understanding of the migration decline as potentially harmful, benign, or even beneficial for individuals' economic outcomes. This investigation also provides valuable initial insights into the economic shifts occurring amongst individuals within the context of the migration decline and points towards potentially inequitable economic changes that have social and policy relevance. Additionally, studying how race/ethnicity and gender shape these relationships provides theoretical insight into whether it might be important to attend to race, ethnicity, and gender effects in our investigations of the migration decline and its consequences. The extent to which the returns to migration have changed for different

demographic groups could also point to potential mechanisms behind the migration decline. However, to my knowledge, no study has, thus far, examined how changes in the returns to migration and in the economic wellbeing of migrants and non-migrants are shaped by race/ethnicity and gender during the period of the migration decline. I therefore utilize linked, cohort National Longitudinal Survey of Youth-1979 (NLSY79) and National Longitudinal Survey of Youth-1997 (NLSY97) data to explore the following questions:

1. Do race/ethnicity and gender shape inter-cohort changes in the economic returns to inter-state migration?
2. Do race/ethnicity and gender structure inter-cohort changes in the economic wellbeing of migrants and non-migrants?

I find that the economic returns to migration have declined the most for black women and men. In contrast, white men have experienced little change in their returns to migration, while white women and Hispanics have experienced either stable or increasing economic returns to migration. These changes in the returns to migration tend to correspond to changes in the average probabilities that these groups migrate. Additionally, while Hispanic men and, especially, black women are tending to experience improvements in their economic outcomes, black men have experienced little change in their economic wellbeing, and Hispanic women's and whites' economic outcomes are tending to worsen slightly. This is particularly the case for white women.

Background

Explaining the Migration Decline

To motivate my exploration of changes in migrants' and non-migrants' economic outcomes and to anticipate the potential implications of the migration decline for individuals' and families' outcomes, it is helpful to examine whether the migration decline is explained by

economic changes, what those explanations imply about changes in migrants' and non-migrants' economic wellbeing, and whether those explanations might be associated with race/ethnicity and gender. For instance, if the migration decline is explained by the changing demographic characteristics of the U.S. population, then the migration decline may not have positive or negative implications for individuals' economic outcomes once those characteristics are accounted for. Likewise, if the migration decline is explained by a cultural shift in priorities towards greater "rootedness," then the migration decline may not be associated with systematic economic changes among migrants and non-migrants. In contrast, if the migration decline is explained by economic changes, then the decline could have consequences for individuals' economic wellbeing, consequences that could interact with race, ethnicity, and gender in integral ways. This could be the case if the migration decline is explained by changes that decrease individuals' access to economic opportunities, which would diminish opportunities for migration, or by changes that correspond to declining or unstable wages, which would limit the resources individuals can harness to fund a move. For example, the declines in unionized jobs and union membership (Card 2001), the diminishing relative wages of the lower and middle classes relative to the upper class (Fry and Kochhar 2016; Kochhar 2018), and, as outlined below, lowering returns to job changes (Molloy et al. 2011, 2014, 2017) could all be economic changes that decrease the economic accessibility of moves and, when moves do occur, hamper the potential economic benefits associated with them. These changes may particularly affect minorities' outcomes and migration opportunities as they are less likely to be a part of the modestly increasing upper class, more likely to belong to the growing lower class (Kochhar 2018), and more likely to have benefitted from unionization's salutary effects on wage inequality (Card 2001). Alternatively, the migration decline may be precipitated by economic changes that

do not alter the potential benefits and costs of migration but that may influence migrants' or non-migrants' wellbeing. For example, the rise of the technology sector and technology hubs (Moretti 2012) may cause migration to become more selective of highly educated, skilled individuals. This could thereby decrease the proportion of people who would benefit from migration and contribute to declining migration probabilities, while leaving the potential benefits of migration unchanged or even causing them to increase. Over time, these changes may disadvantage non-migrants as they get left behind by the changing economy. If the migration decline is driven by economic changes, it does not necessarily imply that migrants and/or non-migrants are experiencing systematic changes in their wellbeing, though it does make it more likely that the migration decline is associated with economic consequences than if the migration decline is explained by changing demographics or rootedness to place. Understanding why the migration decline is occurring therefore provides suggestive, though not definitive insights into whether we expect to see changes in the returns to migration and/or in the economic wellbeing of migrants or non-migrants during the period of the migration decline.

Unfortunately, explaining the continuous decline in migration probabilities since 1980 has proven somewhat elusive, with no study able to fully explain the decline and with various explanations receiving more or less support depending on the study in question. In particular, changes in demographic characteristics have received considerable attention as potential explanations for the migration decline. Some researchers have found that the aging of the U.S. population, increasing homeownership, and the growing prevalence of dual-earner couples play roles in the decline (Cooke 2011; Foster 2017; Karahan and Rhee 2017; Molloy et al. 2011, 2014, 2017). (Spring et al. 2013; Greenwood 2015). Likewise, Foster (2017) demonstrated that the increasing racial and ethnic diversity of the U.S. explained about 12-15 percent of the

decrease in internal migration rates because non-Hispanic whites are more likely to migrate than other racial/ethnic groups. These explanations do not, however, explain the majority of the decline and some studies have found that aging and homeownership play relatively small roles in the reduction in inter-state migration (Foster 2017; Kaplan and Schulhofer-Wohl 2015; Molloy et al. 2011, 2014, 2017)[21], while other studies have indicated that the prevalence of dual-earner families explains virtually none of the decline[22] (Molloy et al. 2011, 2014).

Economic and job-related explanations have also received considerable attention as potential mechanisms behind the decline. For instance, the 2008 economic recession was associated with declines in internal migration (Cooke 2011; Foster 2017; Johnson et al. 2017), though it too cannot explain the longer-run reduction in migration probabilities. Moreover, migration is becoming less responsive to shifts in labor-market demand (Partridge et al. 2012) because the compensation for particular occupations is becoming more geographically similar (Kaplan and Shulhofer-Wohl 2015), individuals are transitioning between jobs less often, and young males are earning lower returns to job changes (Molloy et al. 2011, 2014, 2017). Less frequent labor market churning could therefore partially explain the migration decline as well.

The variety of mechanisms explored in these studies illustrates that there are a multitude of potential explanations for the decline in internal migration rates, all of which may play a role and none of which have entirely explained the migration decline (either alone or in combination), particularly for inter-state migration. Cooke (2011) theorizes that the unexplained decline in migration probabilities reflects an increasing tendency towards societal "rootedness." While this is possible, it is also possible that the migration decline is partially due to alternative

[21] Karahan and Rhee (2017) provide a contrasting view of this finding, however, demonstrating that the aging of the workforce may explain as much of half of the migration decline by decreasing the costs for employers to hire labor locally and thereby indirectly dampening migration rates for individuals of all ages.
[22] This lack of significance could be the results of the increasing omnipresence of dual-earner couples, however.

explanations that have not yet been explored and that may have implications for individuals' wellbeing. Exploring how the economic wellbeing of migrants and non-migrants and how the returns to migration have changed for women and men of varying races/ethnicities may points towards these alternative potential explanations. Additionally, multiple studies have found that economic changes play roles in explaining the migration decline, suggesting that the economic wellbeing of migrants and non-migrants and the economic returns to migration may have changed during this period. However, we do not know whether this is the case because studies concerning the reasons behind the decline do not clarify what changes are occurring at the individual-level. It is thus useful to examine how individuals' economic outcomes have changed during the context of the migration decline and whether they have done so in different ways for black, Hispanic, and white migrants and non-migrants in order to understand whether the decline may have implications for individuals' economic wellbeing.

Race/Ethnicity and the Implications of the Migration Decline

It is likely that the migration decline *does* have consequences for individuals' economic wellbeing because moving across neighborhoods, counties, states, and regions has long been an important means for individuals and families to explore and pursue new social and economic opportunities. For example, Ham et al. (2011) find that internal migration is associated with a 10 percent increase in college-educated migrants' wages between their first and second jobs. Other authors have found that internal migration is associated with increases in family income (Cooke et al. 2009), individual wages—particularly for men (Clark and Withers 2002; Cooke et al. 2009; Krieg 1997; Yankow 1999), wage and income growth (Knapp et al. 2013; Yankow 2003), and occupational status (Flippen 2013). Similar benefits associated with internal migration have been found in other high-income countries, including Canada (Grant and Vanderkamp 1980),

Germany (Lehmer and Ludsteck 2011), and the U.K. (Boheim and Taylor 2007; Cooke et al. 2009), suggesting that the benefits of internal migration are relatively consistent across contexts for high-income countries.

While these studies have found that migration has economic benefits in a variety of contexts, the returns to migration and the resulting consequences of the migration decline may be influenced in important ways by race and ethnicity. Indeed, race and ethnicity frequently shape the economic opportunities available to individuals. Likewise, internal migration is often precipitated by economic opportunities and, in turn, influences subsequent economic outcomes. Consequently, it is plausible that the opportunities for and returns to migration are also influenced by race and ethnicity. The Great Migration is an important illustration of this. For much of the 20th century, black southerners were particularly likely to migrate to the North because they faced an especially hostile economic and social environment in the South (Gregory 2005; Tolnay 2003; Wilkerson 2010). The benefits of migrating North therefore tended to be larger for African Americans and their children relative to whites (Alexander et al. 2017; Lieberson 1978; Lieberson and Wilkinson 1976; Tolnay 2001; Tolnay 2003).

The Great Migration is an example of race shaping the returns to migration in ways that may, over time, lessen racial disparities in outcomes. However, racial and ethnic minorities continue to experience economic disadvantages that could influence the opportunities for and returns to migration in the contemporary period in more inequitable directions. These economic disadvantages include less efficient job networks (Mouw 2002), residential segregation and spatial mismatch (the greater distance between blacks' and Hispanics' residences and potential job opportunities) (Jackson 1987; Kain 1965; Kain 1992; Kneebone and Holmes 2015; Massey and Denton 1993; Wagmiller 2007), lower school quality (Massey and Denton 1993; Sharkey

2013; Sharkey and Faber 2014; Squires and Kubrin 2005), and racial/ethnic discrimination and stereotypes (Pager et al. 2009). These racially and ethnically disparate factors may reduce minorities' opportunities for obtaining different and/or better jobs in new areas (through job transfers, promotions, referrals, etc.). It is therefore possible that the migration decline is occurring to different degrees for different races/ethnicities and that its implications are shaped by race/ethnicity because the opportunities for migration, the ability to migrate, and the returns to migration are themselves shaped by race and ethnicity. Because blacks are the most socially and residentially segregated (Brown and Chung 2006; Charles 2003; Iceland 2004; Lee et al. 2008; Massey and Denton 1993) and tend to experience especially persistent interpersonal and housing market discrimination (Charles 2003; Emerson et al. 2001; Pager and Shepherd 2008; Pager et al. 2009; Roscigno et al. 2009), these disadvantages may particularly constrain the economic and migration outcomes of blacks relative to Hispanics and, of course, whites.

It is possible that race and ethnicity are associated with temporal changes in the returns to migration as well, especially if segregation and/or racial/ethnic discrimination are changing in nature and/or magnitude over time. Indeed, segregation has declined since the 1960s (Glaeser and Vigdor 2012; Iceland 2004; Logan et al. 2004) and survey research has found that housing (Pager and Shepherd 2008) and interpersonal discrimination (Firebaugh and Davis 1988) have decreased modestly over recent decades. As these obstacles to migration and economic advancement have declined in magnitude, the returns to migration may have increased for minorities. Nevertheless, the extent to which declines in discrimination are authentic and not based on survey desirability or changes in the way discrimination is expressed is debatable and highly contested, with other studies finding little to no decline in discrimination over time or across cohorts (Bonilla-Silva 2003; Kluegel 1990; Stewart et al. 2009). Survey research has also

demonstrated that whites continue to feel hostile to the idea of living near black neighbors, regardless of their socioeconomic status, though they do not express such feelings towards potential Hispanic neighbors once their prospective neighbors' socioeconomic status is accounted for (Emerson et al. 2001). Likewise, the segregation of blacks from non-blacks has declined much more precipitously than the segregation of blacks from whites, potentially indicating that it is exposure to other races (and not whites) that is primarily responsible for the decline in segregation between 1970 and 2000 (Massey et al. 2009). The meaningfulness of segregation declines for increasing racial/ethnic minorities' exposure to economic opportunities and spaces of advantage is therefore somewhat suspect.

Moreover, increases in incarceration rates (National Research Council 2014) suggest that the returns to migration for racial/ethnic minorities and, particularly, minority men may actually have decreased, leading to lower probabilities of migrating. Because blacks experience the highest probabilities of incarceration (Bonczar 2003; Pettit and Western 2004; Wildeman 2009) and are the most likely to be stereotyped as criminals by potential employers (Pager et al. 2009), the rise of the carceral system may have limited blacks' abilities to migrate and their returns to migration in particularly dramatic ways. The end of the Great Migration in 1970 (Spring et al. 2015; Tolnay 2003) could also have contributed to a decline in migration probabilities and in the returns to migration, especially among blacks, as individuals engage in less dramatic and potentially economically beneficial moves. Indeed, the rise of return migration to the South among both blacks and whites (Adelman et al. 2000; Sharkey 2015) may signal a move towards migration that is motivated more by family-related reasons for moving than by economic reasons for moving (Brown 2017; Stack 1996), potentially translating into declining economic returns to migration.

Hence, it is probable that race and ethnicity structure the returns to migration and temporal changes in the returns to migration, though it is unclear exactly how they might do so. However, the rise of incarceration, the persistence of particularly hostile discriminatory attitudes towards blacks, and the end of the Great Migration suggest that any positive changes in economic wellbeing as a result of declines in discrimination, segregation, or other factors could be tempered for blacks relative to whites or Hispanics.

Gender and Migration

Gender could also shape individuals' access to economic opportunities, the opportunities and benefits associated with migration, and changes in the returns to migration over time. Numerous studies show that migration tends to economically benefit males, often at the expense of their female partners (Cooke 2008; Cooke et al. 2009; Geist and McManus 2012; Jacobsen and Levin 1997; Maxwell 1988; Shauman and Noonan 2007). Likewise, families are far less likely to move for females' occupations than for males' occupations (Cooke 2008; McKinnish 2008; Shihadeh 1991), suggesting that females face fewer opportunities to capitalize on the potential economic benefits associated with migration.

While migration tends to be associated with larger economic returns for single females than for partnered females (Cooke 2008; Geist and McManus 2012; Jacobsen and Levin 1997; Maxwell 1988), females' lower average earnings (Bureau of Labor Statistics 2017) will still likely translate to smaller average returns to migration compared to males. Moreover, women tend to sort into more geographically ubiquitous jobs and into jobs with fewer opportunities for migration, both of which are associated with lower earnings and, of course, lower probabilities of migration (Shauman and Noonan 2007). Job networks are also frequently predominantly male, thereby disadvantaging women and their opportunities to obtain jobs and then advance in their

careers (Brass 1985; Campbell 1988; Drentea 1998; Durbin 2010; Fernandez and Sosa 2005; Kmec et al. 2010; McGuire 2002). By limiting women's access to new job opportunities and promotions, gender-segregated job networks may reduce the potential opportunities for and benefits associated with migration for women. However, the narrowing of gender gaps in income (Women's Bureau 2017a; 2017b) and the modestly increasing representation of women in nontraditionally female occupations (Blau et al. 2013; England 2010; Jacobs 1989; Reskin 1993) suggest that the effect of these gender-related forces may have lessened for recent cohorts.

The Interaction of Race/Ethnicity and Gender

Race and ethnicity may interact with gender, so that these relationships vary in fundamental ways for women and men of different races and ethnicities. For example, gender disparities in income are smaller for blacks and Hispanics than for whites (Bureau of Labor Statistics 2017). Gender could therefore limit the potential benefits of migration more for white females than for black or Hispanic females.

For minority men, incarceration and even stereotypes about black and Hispanic male incarceration limit the economic opportunities and, as a result, the migration opportunities they face (Pager 2003; Pager et al. 2009). Because incarceration can create sex-ratio imbalances within predominantly minority neighborhoods, black and Hispanic females could face increased difficulties finding partners, potentially making it more likely that minority females are the breadwinners of their families (Charles and Luoh 2010). Indeed, black and Hispanic women are less likely to be married than white women (Raley et al. 2015). As a result, black and Hispanic women's individual economic outcomes may benefit more from migration than white women's individual economic outcomes because of their lower likelihoods of being tied movers who move to accompany a spouse. At the same time, racial/ethnic discrimination and the interaction

of racial/ethnic and gender discrimination for minority women could limit the opportunities and obstacles associated with migration for racial/ethnic minorities relative to whites. Consequently, there are numerous reasons to expect that race/ethnicity and gender interact to shape the returns to migration, as well as the potential economic consequences of the migration decline.

Examining for whom economic changes have been occurring during the period of the migration decline informs how we understand the decline and its potential consequences, signals whether the migration decline might be associated with harmful economic changes and, if it is harmful, whether it is harmful for a diverse group of individuals or for particular demographic groups. The extent to which the consequences of the migration decline differ across race/ethnicity and gender also has implications for understanding the role of internal migration and the internal migration decline in changes in racial/ethnic and gender economic disparities over time. Finally, exploring these relationships provides insights into potential mechanisms behind the decline that may be valuable for future research to investigate.

This Study

In this study, I aim to examine changes in the returns to migration and in the economic wellbeing of migrants and non-migrants during the period of the migration decline, as well as racial/ethnic and gender differences in these relationships. To do this, I utilize linked, longitudinal NLSY79 and NLSY97 cohort data for black, Hispanic, and white women and men who are between 20-34-years-old to explore whether the economic wellbeing of migrants and non-migrants and the economic returns to migration have changed more across cohorts for some demographic groups compared to others. I utilize these findings to suggest what the implications of the migration decline might be for individuals' economic outcomes and whether those implications depend on one's race/ethnicity and gender. This is therefore a purely descriptive

analysis aimed at exploring how the economic wellbeing of migrants and non-migrants has changed during the period of the migration decline.

Throughout this analysis, I am guided by the following hypotheses: (1) The returns to migration will have changed most over time for white men because the benefits of migration are expected to be largest for white men, they may, as a result, have the farthest to fall. (2) The returns to migration for minority men will have changed across cohorts, though it is unclear in which direction they might do so. (3) The returns to migration will have increased for women in the 1997 cohort relative to women in the 1979 cohort, because of the increase in women's participation in non-stereotypically female occupations during this period. (4) Race and ethnicity will structure changes in the returns to migration for women, though it is unclear in what directions they would do so. (5) I also expect that there will be widening gaps in the economic wellbeing of migrants and non-migrants because migrants may be more well-positioned to take advantage of growing economic opportunities in tech hubs, while non-migrants may be left behind by these changes. (6) Additionally, I hypothesize that there will be racial, ethnic, and gender differences in changes in the economic wellbeing of migrants and non-migrants over time, though I do not anticipate the direction of these changes because there are numerous reasons to expect declines or increases in wellbeing for each group. For example, the decline in unionization and increases in incarceration could lead to decreases in minorities' and, particularly, blacks' economic wellbeing over time, though potential decreases in discrimination and segregation could enhance blacks' and Hispanics' economic wellbeing. The rise of the technology sector could have especially benefitted whites' economic wellbeing over time given their higher average levels of education, though the broader increase in wage inequality and the hollowing out of the middle class could have led to declines in economic wellbeing. Likewise,

the increasing representation of women in the labor force could lead to improved outcomes for women over time, though these improvements may have been tempered by the economic changes just outlined. Consequently, while I anticipate race, ethnicity, and gender differences in these relationships, I do not predict their direction.

Data and Methods

Sample

As discussed in Chapter 3, the NLSY79 and the NLSY97 studies are both longitudinal, panel studies that have the capability of being made comparable and linked. This is advantageous for my purposes because it allows me to examine how the returns to migration have changed across the 1979 and 1997 cohorts and thereby enables me to capture a relatively large group of migrants and non-migrants during a substantial period of the migration decline.

The NLSY79 began in 1979 with 12,686 women and men and was conducted annually until 1994 and then biennially thereafter. The NLSY97 began in 1997 with 8,984 individuals who were interviewed annually until 2011 and then reinterviewed in 2013 (subsequent data are not available as of the time of this writing). Both studies are designed to be nationally representative after accounting for their minority oversamples. Because one of my primary focuses in this study is how race and ethnicity shape changes in the returns to migration over time, I retain these oversamples in my analysis.

In order to ensure that these two cohorts are comparable, I solely examine individuals in the NLSY79 and NLSY97 cohorts who are between 20-34-years-old (in any of the survey waves). I do this because the oldest individuals in the 1997 cohort are 34-years-old as of the 2013 survey. However, the oldest individuals in the 1979 cohort are in their mid-50s as of the latest survey available (in 2014). Restricting my analysis to 20-34-year-olds ensures that my

results are not confounded by the differing age profiles of the samples. This age restriction is an important distinction between this chapter and my second dissertation chapter, where I explored racial, ethnic, and gender differences in the returns to migration for the NLSY79 cohort but did not limit my analyses to young adults. The results for the NLSY79 cohort therefore differ in this chapter from the results presented in the second chapter because the second chapter includes many observation years for individuals who are older than 34. The potential life course implications of this age restriction are outlined in the "Limitations" section.

Focal Independent Variables

To examine how the returns to migration have changed, I focus on inter-state migration. I do this because inter-state migration is more likely to correspond to job changes than shorter-distance moves such as inter-county migration (Schwartz 1973; White and Lindstrom 2005; Yankow 2003). As a result, focusing on inter-state migration better allows me to explore changes in the economic returns to migration. I examine the returns to inter-state migration using three focal independent variables: a dummy variable indicating if the respondent has ever migrated across state lines, a continuous variable indicating the number of years the respondent has lived in their current state of residence as an adult not enrolled in school, and a count variable representing the number of moves the respondent has engaged in as of the survey year[23]. I also interact the dummy inter-state migration variable and the continuous years of residence variable. Finally, I include a dummy variable indicating if the respondent belongs to the 1997 cohort (*1=1997 cohort, 0=1979 cohort*). I interact this cohort indicator variable with the three focal, migration-related variables mentioned above, and I conduct a three-way interaction between the

[23] I control for number of moves, but do not separately explore the unique trajectories of subsequent (second, third, etc.) moves given the additional complexity this would add to already rather complex models, though it is certainly possible that onward moves are associated with unique wage/work hour growth trajectories.

1997 cohort dummy variable, the ever-migrated dummy variable, and the years of residence continuous variable. The creation and role of these variables in the analysis is described in greater detail in Chapters 2 and 3.

Outcomes

In this analysis, I examine the three outcomes examined in Chapter 3: logged hourly wages, weekly hours worked, and logged weekly wages. As mentioned in Chapter 3, hourly wages and weekly hours worked both capture elements of economic wellbeing, though they do so in distinct ways. Hourly wages are important signals for job quality, as well as for the financial resources available to an individual. The number of hours an individual works each week indicates whether she is underemployed or fully-employed. Even if an individual claims relatively high wages, these wages will not go as far if the respondent is underemployed (Jensen and Slack 2003). Moreover, women and minorities are particularly likely to be underemployed (Slack and Jensen 2003). Weekly work hours therefore capture a related, though distinct element of the job experience and economic wellbeing. Examining weekly wages helps to reconcile the findings from these two outcomes in order to better illustrate changes in the overall returns to migration.

Covariates

To help account for the fact that migrants tend to be a select group of individuals (Greenwood 2015; Lee 1966; Spring et al. 2013), I include a host of control variables. Specifically, I include the quadratic relationship with age (age and age-squared) to capture the fact that older individuals migrate less frequently than younger individuals (Spring et al. 2013), but that this relationship may not be linear. I also control for marital status and the number of children in the family, because married individuals and those with children may be more tied to

place and/or experience larger costs associated with moving. I account for the respondent's educational attainment (a continuous variable representing the years of education completed), professional job status, and a lagged variable representing the respondent's average wage gain over the three years prior to the observation year to capture the potential socioeconomic selectivity of migrants. Additionally, I control for whether the respondent was in the armed forces because military-related occupations frequently involve job-related moves. Finally, I include region of residence (Northeast—reference group, North Central, South, and West) and whether the respondent lives in an urban (relative to a rural) location to address potential geographic differences in economic opportunities. I do not control for the year of observation because year was highly correlated with age in my sample (~0.90) given the cohort structure of the data.

Analytic Strategy

To examine the relationship between migration and economic wellbeing across migrants and non-migrants in the NLSY79 and NLSY97 cohorts, I employ multilevel growth curve models with individual- and state-level random intercepts. The inclusion of these random intercepts allows me to nest observations within individuals and individuals within states. This strategy differs slightly from the analytic strategy used in Chapters 2 and 3 in which I used county-level random intercepts. However, the use of county-level random intercepts was not supported for my models for minority women and Hispanic men because of the relatively small sample sizes at this level of aggregation. I therefore utilize state-level random intercepts for all groups in order to account for this limitation and to ensure that my models are consistent across race/ethnicity and gender groups. This higher level of aggregation means I account for less unobserved heterogeneity in place characteristics than if I were to include county-level

intercepts. Nevertheless, this strategy still offers numerous benefits outlined in greater detail in Chapter 2, including addressing non-independence in the error terms as a result of including multiple observations for a given individual, helping to account for across-state variation in characteristics such as cost-of-living, and ameliorating some selectivity concerns.

In addition to allowing the intercepts to vary across individuals and states, I allow the slopes to vary across individuals. This analytic strategy is presented in greater detail in Chapters 2 and 3. The primary difference between the analytic strategy presented in Chapter 3 and the one used here is that in this chapter I conduct separate models by race/ethnicity and gender in order to examine whether race/ethnicity and gender structure changes in the returns to migration over time. Because of the complexity of these models and the difficulty interpreting multiple interactions, I present graphs of the predicted values of my outcomes as residential tenure increases for black, Hispanic, and white female and male migrants and non-migrants in both the 1979 and 1997 cohorts. The full set of regression results are presented in the Appendix.

Results

In Chapter 3, I found that the probability that individuals migrated varied little across the NLSY79 and NLSY97 cohorts once the varying age structures of the cohorts were accounted for, suggesting that the NLSY cohorts may not reflect the migration decline to the degree that other datasets do. However, it is possible that the migration decline is occurring to different degrees for individuals of different races/ethnicities and genders. Consequently, decomposing differences in migration probabilities across race/ethnicity and gender may reveal evidence of the migration decline for some demographic groups in the NLSY97 relative to the NLSY79. Towards that end, Table 4.1 illustrates *changes* and *percent changes* in the probability that individuals have ever migrated across the NLSY97 and NLSY79 cohorts by age, race/ethnicity, and gender. For

example, if 15 percent of 20-21-year-old black males have ever migrated in the NLSY79 cohort, but only 13 percent of 20-21-year-old black males in the NLSY97 cohort have ever migrated, Table 4.1 would record a -2.00 percent absolute change for this group and, in parentheses, a 13.33% decline in the magnitude of these migration probabilities across the two cohorts.

Table 4.1: Changes in the Percentage of Respondents in the NLSY79 and NLSY97 Cohorts That Have Ever Migrated by Age, Race/Ethnicity, and Gender

Change in % Ever Moved Inter-State						
Age	White Females	Black Females	Hispanic Females	White Males	Black Males	Hispanic Males
20-21	**3.02** (18.7%) *N = 4,136*	**-0.74** (-5.96%) *N = 1,860*	**-1.79** (-14.32%) *N =1,552*	**0.25** (1.61%) *N = 4,623*	**-1.17** (-8.38%) *N = 2,213*	**-1.93** (-17.58%) *N = 1,856*
22-23	**2.21** (9.58%) *N = 6,174*	**-2.10** (-12.51%) *N = 2,664*	**1.51** (11.41%) *N = 1,902*	**-0.03** (-0.14%) *N = 6,488*	**-0.85** (-4.76%) *N = 2,793*	**1.47** (11.86%) *N = 2,199*
24-25	**2.64** (9.13%) *N = 6,950*	**-2.93** (-13.45%) *N = 3,075*	**-1.33** (-6.89%) *N = 2,154*	**-0.75** (-2.57%) *N = 7,424*	**-1.56** (-6.75%) *N = 3,214*	**1.72** (10.87%) *N = 2,398*
26-27	**4.53** (14.20%) *N = 6,565*	**-4.94** (-19.12%) *N = 3,114*	**2.24** (11.43%) *N = 2,092*	**-0.98** (-2.94%) *N = 7,267*	**-3.44** (-12.76%) *N = 3,230*	**0.58** (3.27%) *N = 2,420*
28-29	**3.47** (10.14%) *N = 5,800*	**-5.59** (-18.93%) *N = 2,769*	**1.34** (5.93%) *N = 1,912*	**-0.45** (-1.25%) *N = 6,351*	**-4.28** (-14.13%) *N = 2,982*	**-1.11** (-4.78%) *N = 2,211*
30-31	**4.62** (12.71%) *N = 4,755*	**-2.16** (-7.19%) *N = 2,377*	**2.82** (12.52%) *N = 1,542*	**-0.74** (-1.92%) *N = 5,200*	**-2.30** (-7.49%) *N = 2,475*	**1.51** (6.58%) *N = 1,800*
32-34	**3.34** (8.75%) *N = 4,385*	**-6.82** (-22.08%) *N = 2,348*	**5.27** (23.23%) *N = 1,467*	**-0.42** (-1.06%) *N = 4,860*	**-1.01** (-3.21%) *N = 2,502*	**0.45** (1.75%) *N = 1,713*

[a] Δ = Proportion Ever Migrated NLSY97 – Proportion Ever Migrated NLSY79; *Source: NLSY79 and NLSY97*

Table 4.1 illustrates that Hispanic females and males largely do not exhibit declines in their average probabilities of ever migrating across the NLSY79 and NLSY97 cohorts and, at many ages, they are actually migrating at somewhat higher rates over time. Likewise, white females in the NLSY97 cohort are consistently migrating at reasonably higher rates on average than white females in the NLSY79 cohort, suggesting that they too may not be contributing to the migration decline. In contrast, white males in the NLSY97 cohort exhibit very modest declines in the probability that they have ever migrated relative to white males in the NLSY79

cohort. The greatest participators in the migration decline appear to be black males and, particularly, black females, both of whom exhibit reasonably substantial declines in the average probabilities that they have ever migrated for most ages. Thus, it is largely among blacks that descriptive evidence for the migration decline is found among the NLSY cohorts, a finding reasonably consistent with Sharkey's (2015) finding using the PSID and exploring intergenerational changes in the probabilities of migration. These findings suggest that average changes in the probabilities of migrating vary across gender, race, and ethnicity, illustrate that the NLSY may be an appropriate source to investigate the migration decline, and motivate an analysis of economic changes occurring amongst migrants and non-migrants across race/ethnicity and gender.

Table 4.2: Descriptive Statistics by Race/Ethnicity and Cohort for Women

	White Women (1979)	White Women (1997)	Black Women (1979)	Black Women (1997)	Hispanic Women (1979)	Hispanic Women (1997)
Outcome Variables						
Hourly Wages	12.367	12.330	10.979	11.056	12.158	11.752
	(1.802)	(2.030)	(1.697)	(1.800)	(1.775)	(1.842)
Logged Hourly Wages	2.515	2.512	2.396	2.403	2.498	2.464
	(0.589)	(0.708)	(0.529)	(0.588)	(0.574)	(0.611)
Hours/Week	36.497	34.820	37.203	34.583	37.081	34.962
	(10.961)	(12.880)	(9.686)	(11.548)	(9.874)	(11.263)
Weekly Wages	419.910	379.191	389.179	349.338	425.830	377.300
	(2.162)	(2.651)	(1.944)	(2.230)	(2.046)	(2.277)
Logged Weekly Wages	6.040	5.938	5.964	5.856	6.054	5.933
	(0.771)	(0.975)	(0.665)	(0.802)	(0.716)	(0.823)
Migration Variables						
Yrs of Residence (State)	6.383	6.079	7.282	8.871	7.387	8.919
	(4.287)	(4.569)	(4.413)	(4.237)	(4.414)	(4.221)
Ever Moved (Inter-State)	0.303	0.321	0.251	0.193	0.199	0.191
	(0.460)	(0.467)	(0.433)	(0.395)	(0.399)	(0.393)
Number of State Moves	0.534	0.565	0.438	0.331	0.342	0.324
	(1.012)	(0.997)	(0.926)	(0.783)	(0.831)	(0.806)
Covariates						
Lagged Wage Growth	1.053	0.781	0.983	0.525	1.003	0.572
	(4.997)	(5.652)	(4.154)	(5.194)	(6.839)	(4.838)
Age	26.728	25.554	27.313	25.431	27.077	25.376
	(3.947)	(3.325)	(3.957)	(3.381)	(4.078)	(3.378)
Married	0.563	0.373	0.332	0.142	0.535	0.360
	(0.496)	(0.484)	(0.471)	(0.349)	(0.499)	(0.480)
Number of Children	0.825	0.660	1.217	1.170	1.156	1.071
	(1.026)	(0.944)	(1.175)	(1.227)	(1.187)	(1.161)
Years of Ed.	13.042	13.200	12.838	12.222	12.183	12.009

	(2.192)	(2.568)	(1.827)	(2.211)	(2.307)	(2.143)
In Military	0.003	0.000	0.006	0.000	0.004	0.000
	(0.057)	(0.009)	(0.079)	(0.021)	(0.059)	(0.019)
Professional Job	0.327	0.518	0.206	0.490	0.259	0.447
	(0.469)	(0.500)	(0.405)	(0.500)	(0.438)	(0.497)
Live in Urban Area	0.725	0.739	0.831	0.862	0.919	0.919
	(0.446)	(0.439)	(0.375)	(0.345)	(0.273)	(0.274)
Northeast	0.199	0.176	0.146	0.151	0.150	0.141
	(0.399)	(0.381)	(0.353)	(0.358)	(0.357)	(0.348)
North Central	0.297	0.279	0.158	0.165	0.084	0.092
	(0.457)	(0.448)	(0.365)	(0.371)	(0.277)	(0.289)
West	0.168	0.206	0.064	0.061	0.453	0.479
	(0.374)	(0.404)	(0.245)	(0.239)	(0.498)	(0.500)
South	0.336	0.339	0.632	0.623	0.315	0.290
	(0.472)	(0.473)	(0.482)	(0.485)	(0.464)	(0.454)
N	26,334	12,622	11,357	6,904	7,094	5,585

[a]Descriptive statistics are calculated using race-/ethnicity-, gender-, and cohort-specific person-years; *Source NLSY79 and NLSY97*

Table 4.3: Descriptive Statistics by Race/Ethnicity and Cohort for Men

	White Men (1979)	White Men (1997)	Black Men (1979)	Black Men (1997)	Hispanic Men (1979)	Hispanic Men (1997)
Outcome Variables	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Hourly Wages	15.959 (1.751)	14.484 (2.038)	12.807 (1.721)	11.775 (2.016)	14.776 (1.735)	13.763 (1.906)
Logged Hourly Wages	2.770 (0.560)	2.673 (0.712)	2.550 (0.543)	2.466 (0.701)	2.693 (0.551)	2.622 (0.645)
Hours/Week	43.452 (10.423)	39.061 (12.781)	40.755 (10.180)	36.653 (12.090)	42.101 (9.878)	38.369 (11.336)
Weekly Wages	670.513 (1.910)	519.591 (2.497)	500.717 (1.921)	396.248 (2.319)	602.473 (1.848)	494.250 (2.195)
Logged Weekly Wages	6.508 (0.647)	6.253 (0.915)	6.216 (0.653)	5.982 (0.841)	6.401 (0.614)	6.203 (0.786)
Migration Variables						
Yrs of Residence (State)	6.323 (4.340)	8.343 (4.536)	6.875 (4.414)	8.660 (4.307)	7.271 (4.395)	8.842 (4.240)
Ever Moved (Inter-State)	0.314 (0.464)	0.289 (0.453)	0.260 (0.439)	0.214 (0.410)	0.191 (0.393)	0.174 (0.379)
Number of State Moves	0.549 (1.014)	0.517 (0.994)	0.460 (0.968)	0.391 (0.870)	0.328 (0.806)	0.273 (0.691)
Covariates						
Lagged Wage Growth	1.229 (6.432)	0.907 (6.884)	1.080 (5.156)	0.472 (8.686)	0.963 (6.037)	0.903 (7.197)
Age	26.827 (3.950)	25.519 (3.357)	27.171 (3.996)	25.325 (3.392)	27.021 (4.056)	25.361 (3.418)
Married	0.493 (0.500)	0.271 (0.445)	0.277 (0.448)	0.140 (0.347)	0.474 (0.499)	0.239 (0.427)
Number of Children	0.625 (0.692)	0.364 (0.741)	0.549 (0.996)	0.369 (0.778)	0.858 (1.174)	0.516 (0.878)
Years of Ed.	12.709 (2.358)	12.561 (2.404)	12.207 (1.893)	11.537 (2.011)	11.703 (2.412)	12.589 (1.906)
In Military	0.002 (0.041)	0.002 (0.046)	0.002 (0.042)	0.002 (0.044)	0.001 (0.026)	0.001 (0.036)
Professional Job	0.294 (0.456)	0.340 (0.474)	0.145 (0.352)	0.213 (0.410)	0.201 (0.401)	0.249 (0.432)
Live in Urban Area	0.707 (0.455)	0.731 (0.443)	0.827 (0.378)	0.815 (0.388)	0.913 (0.282)	0.921 (0.369)
Northeast	0.191 (0.393)	0.198 (0.399)	0.166 (0.372)	0.133 (0.340)	0.154 (0.361)	0.122 (0.327)
North Central	0.327 (0.469)	0.306 (0.461)	0.165 (0.371)	0.169 (0.375)	0.061 (0.240)	0.102 (0.302)
West	0.165 (0.371)	0.195 (0.396)	0.077 (0.267)	0.066 (0.249)	0.501 (0.500)	0.469 (0.499)
South	0.317 (0.465)	0.302 (0.459)	0.592 (0.491)	0.630 (0.483)	0.285 (0.452)	0.308 (0.461)
N	28,043	14,334	12,737	6,757	8,566	6,078

[a]Descriptive statistics are calculated using race-/ethnicity-, gender-, and cohort-specific person-years; *Source NLSY79 and NLSY97*

It is possible that this greater decline in average migration probabilities for black women and men is reflective of a reduction in their economic wellbeing over time. Tables 4.2 and 4.3 for men and women respectively offer some support for this possibility. While average lagged wage growth has declined for all groups, it has declined particularly precipitously for black women and men and for Hispanic women. This suggests that individuals' wages are not growing as much as in the past and that this is particularly the case for blacks and Hispanic women. Average weekly work hours and the probability that individuals are married have also declined for all groups, though these declines tend to be somewhat steeper for blacks relative to same-gender whites and Hispanics. The probability that individuals are employed in professional jobs has, however, increased sharply. Hence, it is possible that the greater decline in average migration propensities exhibited by blacks is due to the changing average characteristics of individuals, which could make migration increasingly out of reach. It is also possible that the economic returns to migration have decreased more for blacks than for other groups, making migration a less appealing option.

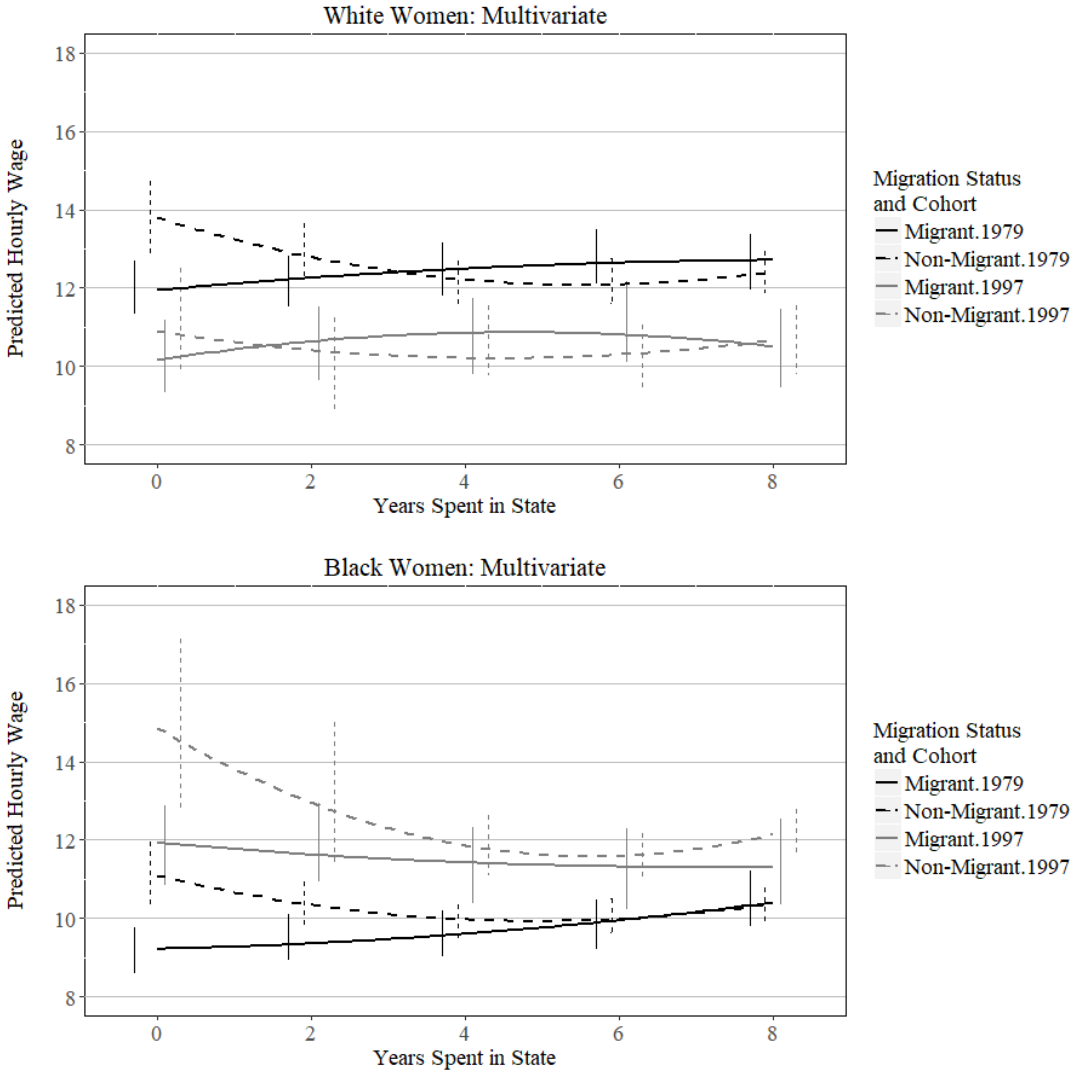
To explore these possibilities in more depth, I turn to the multilevel growth curve models that examine changes in economic wellbeing and the returns to migration for black, Hispanic, and white females and males across the NLSY79 and NLSY97 cohorts. Throughout, I focus on the multivariate results because characteristics such as educational attainment, professional job status, and marital status are extremely important for shaping individuals' migration probabilities, economic outcomes, returns to migration, and changes in these relationships across cohorts. I therefore focus on the multivariate results in order to ensure that my results are not based largely on changes in the characteristics of individuals across cohorts, though the results for the bivariate models are presented in the Appendix.

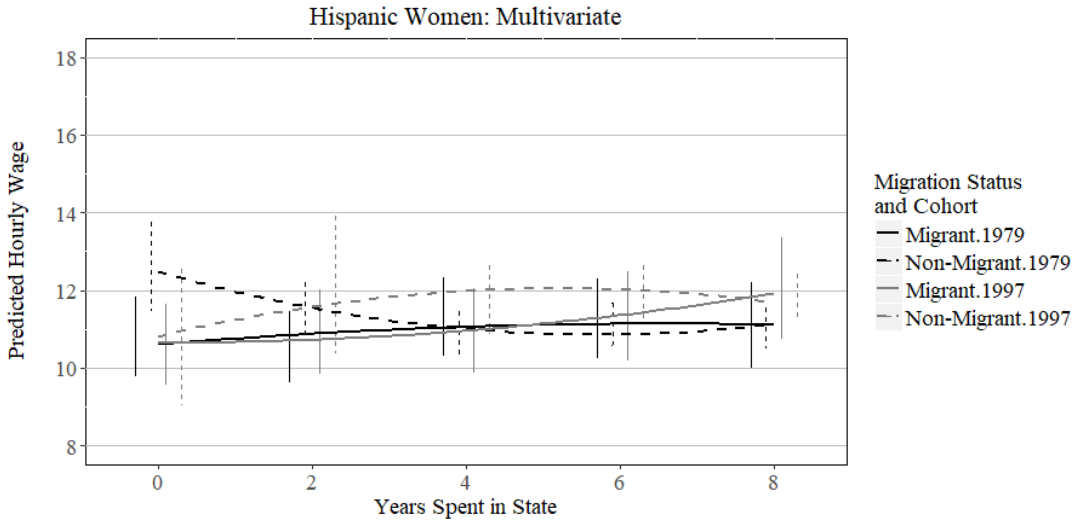
Hourly Wages

Females

I first explore whether the hourly wage returns to migration have changed for females in the 1997 cohort relative to females in the 1979 cohort. Figure 4.1 illustrates the results from the fully-specified multivariate growth curve models, holding covariates at their means. The predicted values for logged hourly wages have been exponentiated to represent unlogged wages in order to make the values for meaningful.

Figure 4.1: The Predicted Relationship between Inter-State Migration and Hourly Wages by Cohort and Race/Ethnicity for Women





[a] Based on results from multivariate growth curve models (presented in Appendix Table 4.1, columns 2, 4, and 6); *Source: NLSY79 and NLSY97*

Research question 1 (RQ1) asks whether inter-cohort changes in the economic returns to inter-state migration are shaped by race/ethnicity and gender. Indeed, I find that changes in the hourly wage returns to migration across the 1979 and 1997 cohorts *do* differ by race and ethnicity for women. Specifically, in the multivariate models, the returns to migration have changed little for Hispanic and white women. In both cohorts, internal migration is not associated with significant benefits or costs for Hispanic women's hourly wages. For white women, migrants in the 1979 cohort experience a modest initial drop in wages relative to non-migrant women (at year 0), though they quickly make up this difference by experiencing greater wage growth over time. In contrast, white women in the 1997 cohort do not experience this initial drop in wages but they also do not experience the benefit of greater wage growth. Cumulatively, these findings suggest that the hourly wage returns to migration have also changed little for white women.

The returns to migration are, however, significantly lower for black migrant women in the NLSY97 cohort relative to black migrant women in the NLSY79 cohort. While migrant black women in both cohorts pay a marginally significant initial wage cost associated with

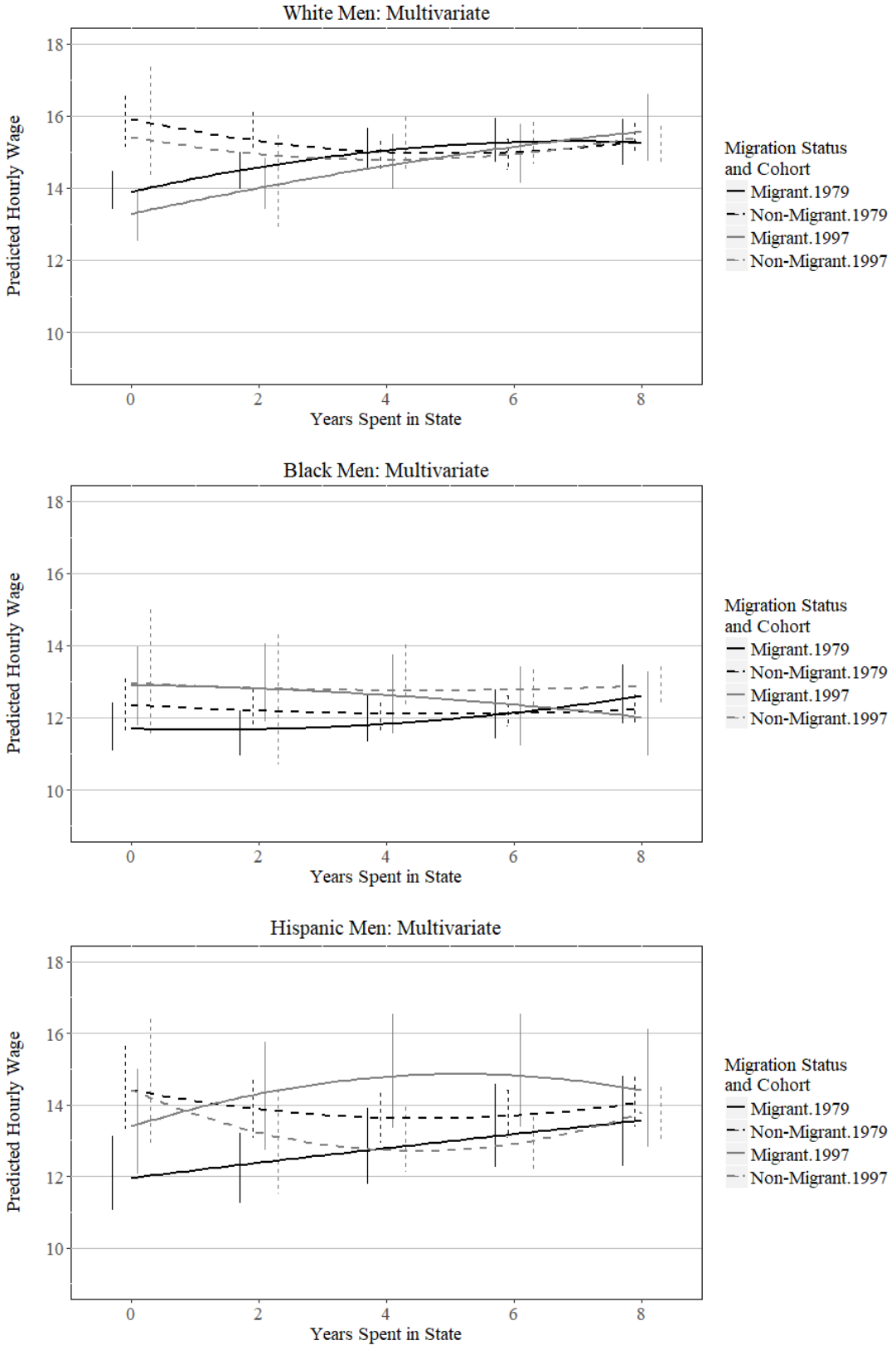
migration, migrant black women in the 1997 cohort experience significantly lower wage growth over time than both non-migrants in the 1997 cohort and their 1979 counterparts. Thus, the results for hourly wages suggest that the returns to migration vary by race/ethnicity, with white and Hispanic women experiencing little change in their returns to migration but with black women experiencing significant declines in their returns to migration.

Research question 2 (RQ2) asks whether race, ethnicity, and gender structure changes in the economic wellbeing of migrants and non-migrants across cohorts and the findings for this question counterbalance the findings for changes in the returns to migration. Specifically, black women in the NLSY97 cohort earn significantly more than black women in the NLSY79 cohort throughout much of their residential tenure, and this is particularly true for non-migrant black women. Black women's economic status has therefore improved over time, even as their returns to migration have declined. In contrast, white women in the NLSY97 cohort and, especially, non-migrant white women earn significantly less than white women in the NLSY79 cohort during most of their residential tenure. Hispanic women's economic status has not changed across cohorts.

Males

The results for males suggest some similarities and some differences relative to the results for females. As was the case for females, race and ethnicity structure changes in the returns to migration across cohorts (RQ1), with white and Hispanic males experiencing relatively little change in their returns to migration and with black males experiencing declines in their returns to migration. In both cohorts, white males pay initial costs associated with migration, though migrants also experience greater wage growth over time. These relationships are very

Figure 4.2: The Predicted Relationship between Inter-State Migration and Hourly Wages by Cohort and Race/Ethnicity for Men



[a] Based on results from multivariate growth curve models (presented in Appendix Table 4.2, column 2, 4, and 6); *Source: NLSY79 and NLSY97*

similar for Hispanic males, though Hispanic males in the 1997 cohort do not experience an initial cost associated with migration, their returns to migration have thus increased slightly.

In contrast, the returns to migration are significantly lower for black males in the NLSY97 cohort relative to black males in the NLSY79 cohort. While both groups pay initial costs associated with migration, black male migrants in the 1997 cohort experience wage *declines* as their residential tenures increase, rather than wage increases. That being said, during the period of observation, black migrants and non-migrants from both cohorts rarely exhibit significant differences in the levels of their hourly wages. Overall, these findings demonstrate that, as was the case for women, the returns to migration have largely not changed for Hispanic and white males, but they have declined somewhat for black males.

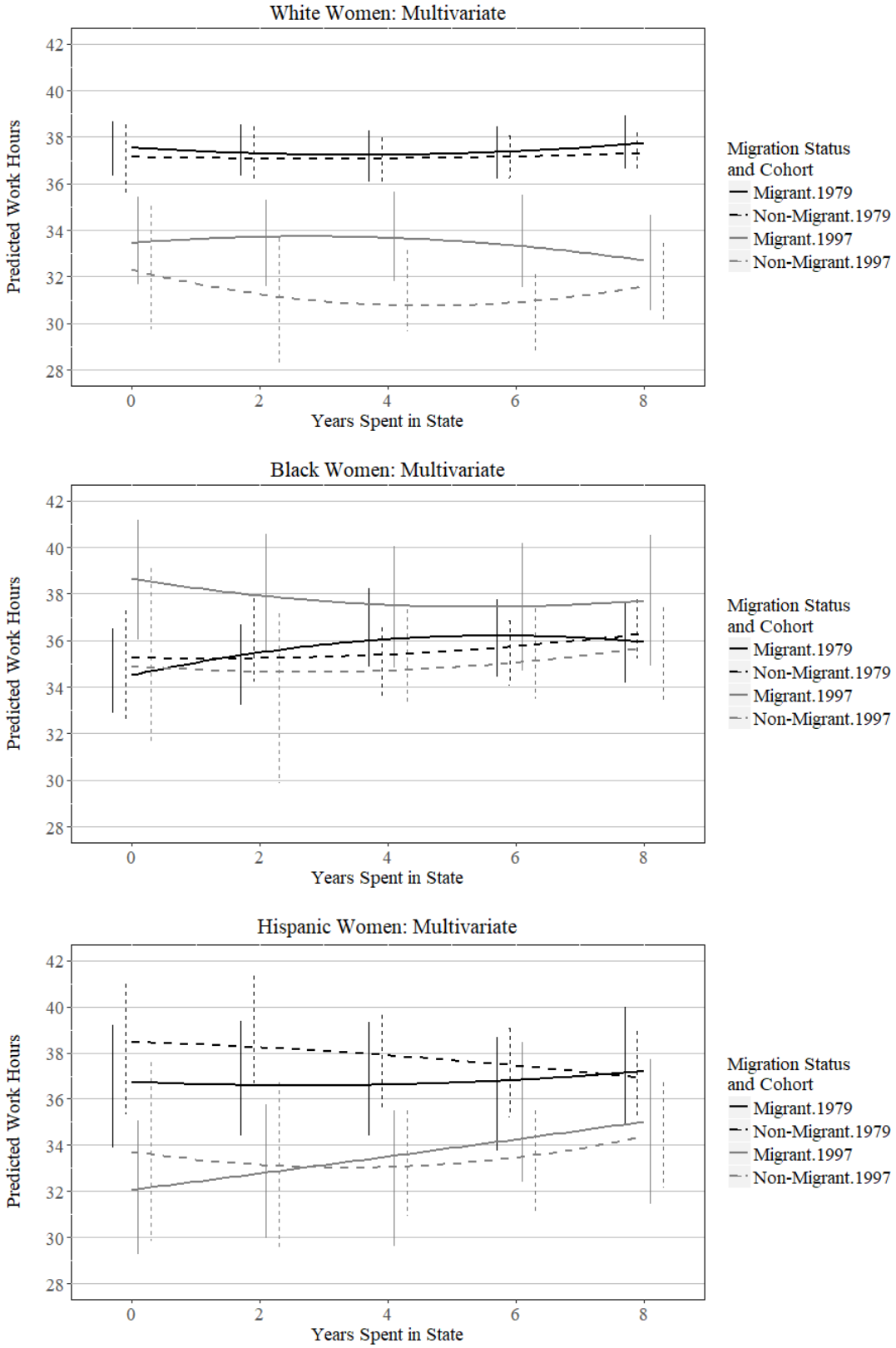
However, black, Hispanic, and white men have experienced little change in their economic wellbeing across cohorts. For hourly wages, RQ1 is therefore answered in the affirmative—race and ethnicity do structure changes in the *returns to migration* for men—but race and ethnicity do not structure changes in the *overall economic wellbeing* of males, regardless of migration status. As a result, RQ2 receives a null response.

Weekly Work Hours

Hourly wages provide only partial insights into one's economic wellbeing. If one is underemployed (i.e. works fewer hours per week than one prefers), then higher hourly wages will not go as far. This may particularly be the case for minority men and women and for white women, for whom employment may be more tenuous (Slack and Jensen 2002). To examine this possibility, I turn to the results for average weekly work hours.

Females

Figure 4.3: The Predicted Relationship between Inter-State Migration and Weekly Hours Worked by Cohort and Race/Ethnicity for Women

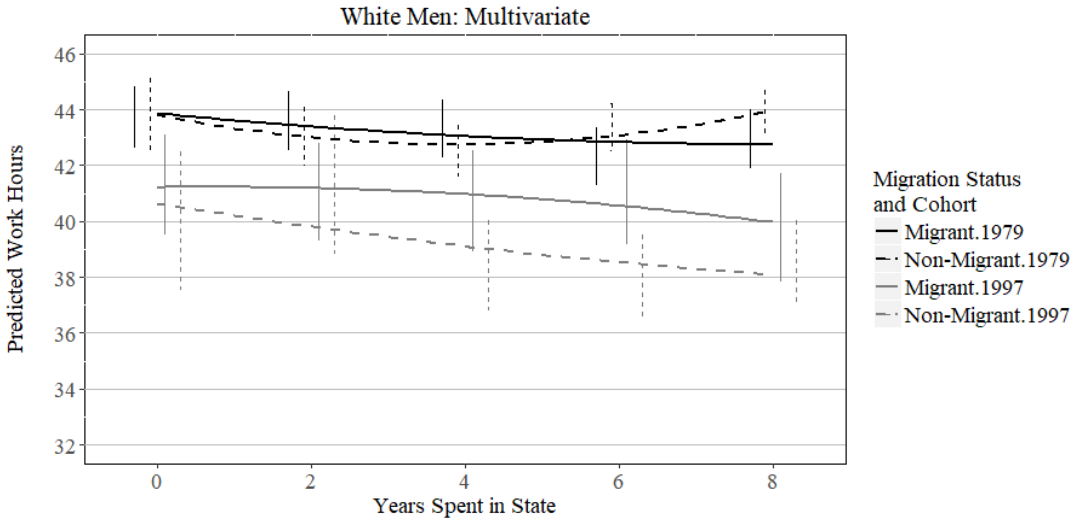


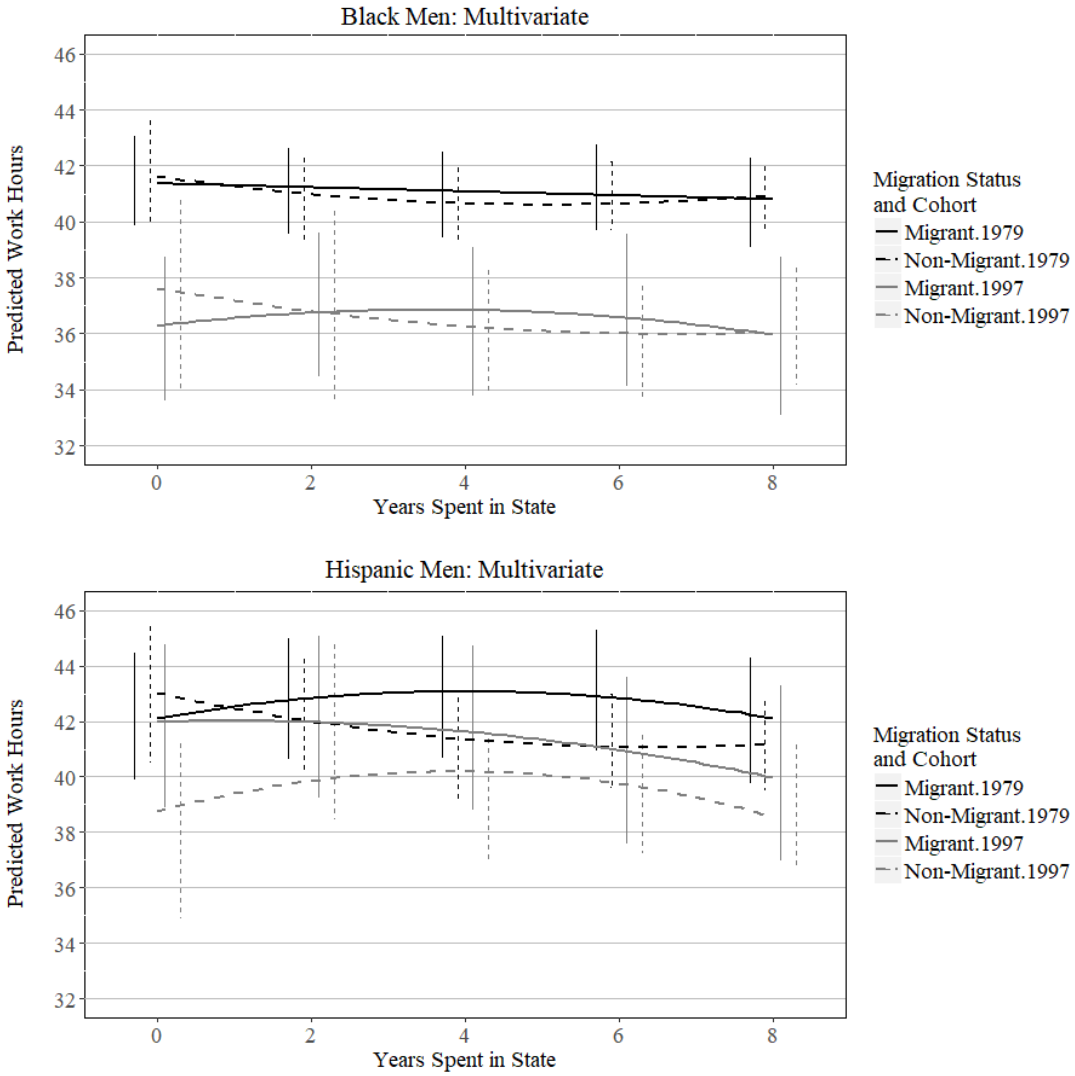
[a] Based on results from multivariate growth curve models (presented in Appendix Table 4.3, columns 2, 4, and 6); *Source: NLSY79 and NLSY97*

Turning first to RQ1, whether the work hour returns to migration vary by race/ethnicity for women, work hours differ little across migration statuses for black, Hispanic, and white women in both cohorts. Women in the 1979 and 1997 cohorts therefore do not experience significant work hour returns to migration and these relationships do not differ across race/ethnicity. However, RQ2 receives an affirmative response: women's economic wellbeing has changed across cohorts and these relationships do differ across race/ethnicity, though only for black women relative to Hispanic/white women. Specifically, Hispanic and white women in the 1997 cohort work significantly fewer hours than their same-race counterparts in the 1979 cohort, though this is not the case for black women. The finding of lower work hours for white women in the 1997 cohort is consistent with the finding of lower hourly wages for white women in the 1997 cohort and may indicate that white and, potentially, Hispanic women in the 1997 cohort are worse off economically than their counterparts in the 1979 cohort.

Males

Figure 4.4: The Predicted Relationship between Inter-State Migration and Weekly Hours Worked by Cohort and Race/Ethnicity for Men





a Based on results from multivariate growth curve models (presented in Appendix Table 4.4, columns 2, 4, and 6); *Source: NLSY79 and NLSY97*

Men in the 1979 cohort do not experience significant work hour benefits from migration, regardless of their race/ethnicity and the returns to migration have not changed over time for black and Hispanic men. However, the work hour returns to migration have increased modestly for white men, as indicated by the significantly greater increase in work hours for migrants in the 1997 cohort relative to migrants in the 1979 cohort. There is therefore some suggestion that changes in the returns to migration vary by race/ethnicity, as posited by RQ1, though it is only

white men's returns to migration that have changed slightly, while black and Hispanic men exhibit no changes in their work hour returns to migration.

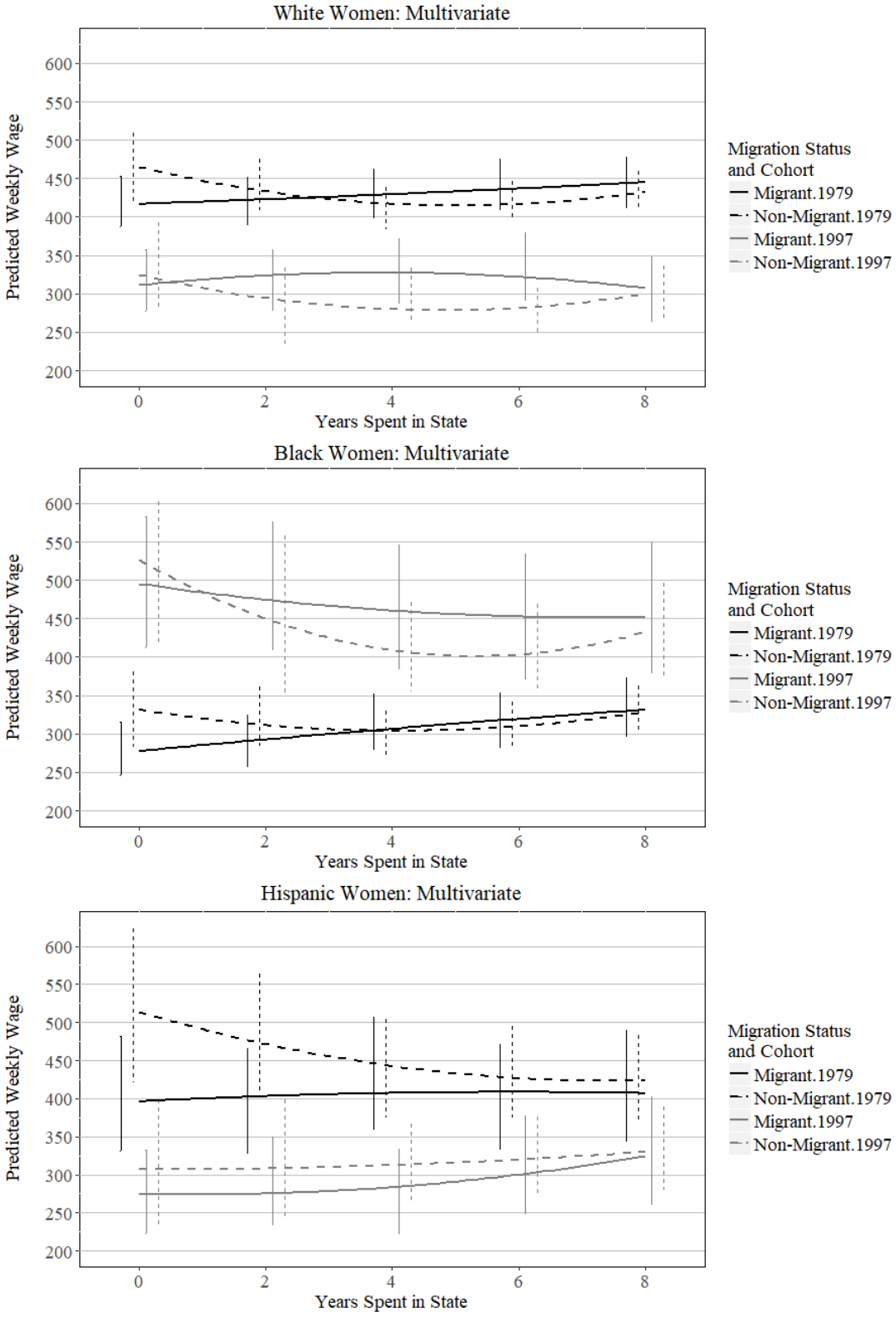
While white men have experienced slight increases in their returns to migration, both black and white men in the 1997 cohort work significantly fewer hours than their counterparts in 1979. The economic wellbeing of black and white men has thus changed across cohorts, while that of Hispanic men has not, suggesting that RQ2 is supported (changes in the economic wellbeing of migrants and non-migrants differ across race/ethnicity). These findings may indicate that black and white men in the 1997 cohort experience higher probabilities of underemployment and may, as a result, be economically worse off than their counterparts in the 1979 cohort, a finding that was not apparent in the results for hourly wages. Black men could therefore be migrating at lower rates over time because of the possibility that they are increasingly underemployed and because they are experiencing declining wage returns to migration.

Weekly Wages

Finally, I examine these relationships for weekly wages (hourly wages*weekly work hours) in order to reconcile the results for hourly wages and weekly work hours. As was the case for hourly wages, I exponentiate the predicted values for logged weekly wages so that they represent unlogged weekly wages and are therefore more interpretable.

For weekly wages, white and Hispanic women exhibit little change in their returns to migration with all groups experiencing no significant wage costs but also no significant wage benefits associated with migration. Black migrant women in the NLSY97 cohort, however, experience significantly lower weekly wage growth rates relative to black migrant women in the

Figure 4.5: The Predicted Relationship between Inter-State Migration and Weekly Wages by Cohort and Race/Ethnicity for Women



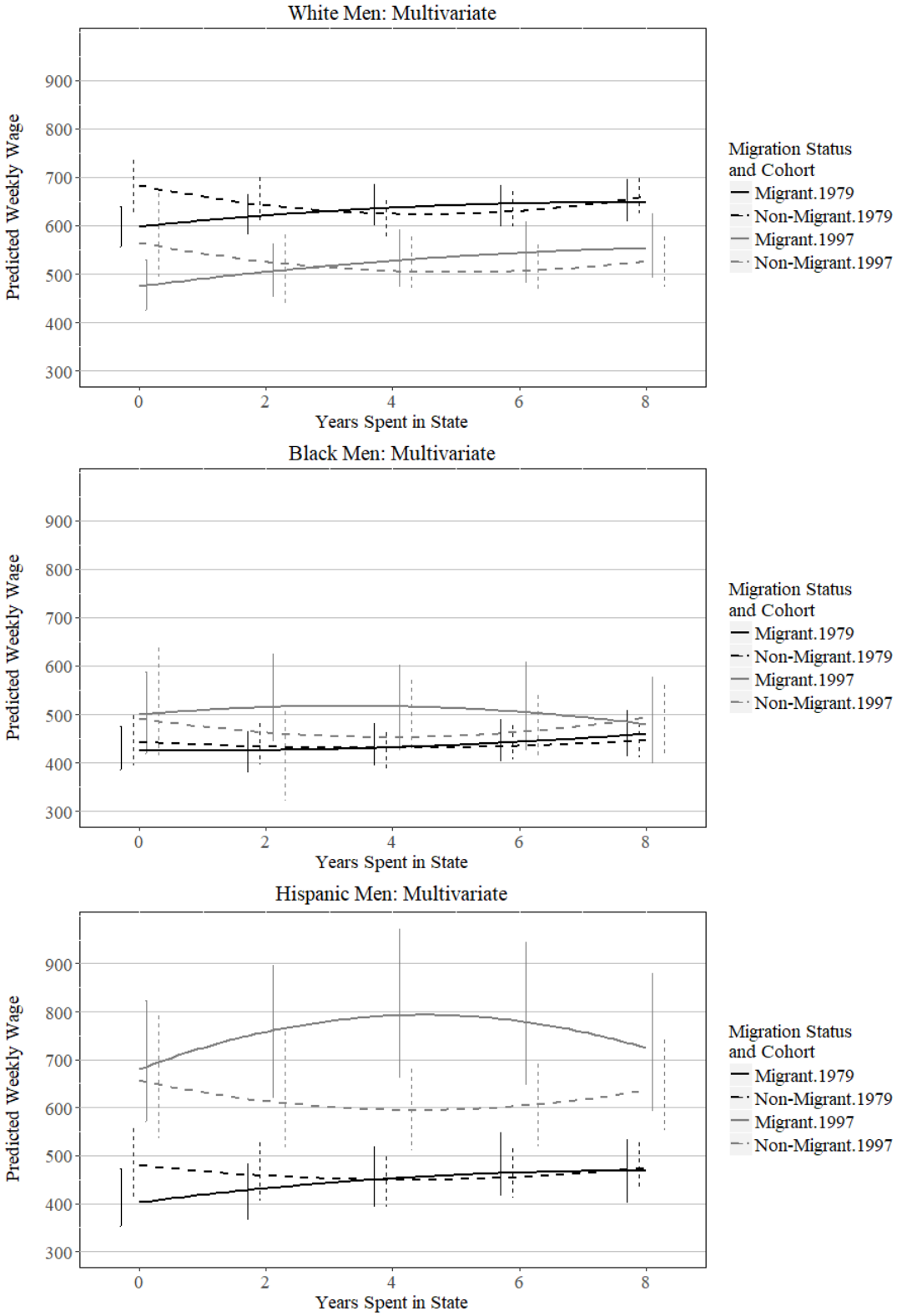
[a] Based on results from multivariate growth curve models (presented in Appendix Table 4.5, columns 2, 4, and 6); *Source: NLSY79 and NLSY97*

NLSY79 cohort and hence earn lower weekly wage returns to internal migration than black women in the 1979 cohort.

Finally, as was the case for hourly wages, black women in the NLSY97 cohort earn significantly higher weekly wages compared to black women in the NLSY79 cohort throughout much of their residential tenure, and this holds for migrant and non-migrant black women. In contrast, white migrant and non-migrant women in the NLSY97 cohort tend to earn significantly lower weekly wages than white migrant and non-migrant women in the NLSY79 cohort. Hispanic women in the NLSY97 cohort also earn slightly lower wages than Hispanic women in the NLSY79 cohort in their early years of residential tenure. Thus, the overall economic wellbeing of black women (in terms of their own wages) has improved, while that of Hispanic and, especially, white women has tended to decline. Thus, both RQ1 and RQ2 are supported for women: changes in the returns to migration and in the economic wellbeing of migrants and non-migrants differ across race/ethnicity. However, it is only black women who experience differing changes from white and Hispanic women, which is largely consistent with the findings from the other outcomes.

Males

Figure 4.6: The Predicted Relationship between Inter-State Migration and Weekly Wages by Cohort and Race/Ethnicity for Men



[a] Based on results from multivariate growth curve models (presented in Appendix Table 4.6, columns 2, 4, and 6); *Source: NLSY79 and NLSY97*

For black and white males, the weekly wage returns to migration have largely not changed across cohorts: migrants experience significantly greater earnings growth over their residential tenures relative to non-migrants, though this greater earnings growth is relatively modest. Likewise, while the multivariate results in Appendix Table 4.6 indicate that Hispanic men have seen their immediate returns to migration increase significantly, the figures above indicate that these predicted differences may not actually be significant. The weekly wage returns to migration have therefore not changed meaningfully for males of any race/ethnicity. RQ1, which asked whether changes in the returns to migration vary by race/ethnicity, is therefore not supported in the findings for weekly wages.

Turning to the question of changes in the economic wellbeing of migrants and non-migrants across race/ethnicity (RQ2), Hispanic men have seen their weekly wages improve relative to Hispanic men in the NLSY79 cohort, and while this is most true for migrant Hispanic men, it also holds for non-migrant Hispanic men. Nevertheless, the confidence intervals around these predicted results are large and therefore potentially suspect. In contrast, the weekly wages of black men have changed little over time, while white men in the NLSY97 cohort have seen their weekly wages decline relative to white men in the NLSY79 cohort, and this is especially true of non-migrant white men. Thus, changes in the economic wellbeing of migrants and non-migrants differ across race/ethnicity for men, as suggested by RQ2.

To summarize, during the period of the migration decline, black men have seen their hourly wage returns to migration and their overall weekly work hours decline. Likewise, while the work hour returns to migration have slightly increased for white men, their work hours and weekly wages have decreased. In contrast, Hispanic men are experiencing increasing hourly and weekly wage returns to migration and increasing overall weekly wages. RQ1 and RQ2 are

therefore supported for men: the returns to migration and the economic status of migrants and non-migrants differ across race and ethnicity and it is particularly Hispanic men who differ in these relationships relative to black and white men.

For black women, their hourly and weekly wage returns to migration have declined, though their hourly and weekly wages have increased overall. While white women are experiencing modest decreases in the initial costliness of migration, overall, white and Hispanic women's returns to migration have changed relatively little. Moreover, white and Hispanic women's hourly and weekly wages and weekly work hours have tended to decline. The variations in these relationships for black women also means that RQ1 and RQ2 are supported, though white and Hispanic women exhibit very similar changes in terms of their returns to migration and economic wellbeing.

Discussion

This chapter explored whether race/ethnicity and gender shape the economic outcomes of migrants and non-migrants and the returns to migration during the period of the migration decline. By doing so, these results illuminate how the economic wellbeing of different demographic groups has changed across cohorts and whether migration plays into those changes. The widening gaps in incomes and wealth in the U.S. (Sommeiller and Price 2018) suggest that it is valuable to understand whether migration remains an important means of increasing individuals' and families' access to economic and social opportunities, whether it remains so for a diverse group of individuals, and whether some groups are increasingly being left behind by transformations to the U.S. economy.

Indeed, I show that changes in the returns to migration and in the economic outcomes of migrants and non-migrants are structured by race/ethnicity and gender, demonstrating the value

of taking an intersectional approach when studying the migration decline and internal migration more generally. Specifically, though the returns to migration have tended to decline for black men and, especially, black women they have changed little over time for the other demographic groups, with only very modest increases in the returns to migration for white women and men and Hispanic men for some outcomes. These findings contrast with my first hypothesis, where I expected white men to experience the largest declines in their returns to migration, though these findings do support my second hypothesis that these relationships would differ by race and ethnicity for males. Likewise, my results provide only partial substantiation for my third hypothesis that the returns to migration would have increased for women overall, with only highly tentative support for this hypothesis found in the results for hourly wages for white women. The variations in these relationships across race/ethnicity support my fourth hypothesis that these relationships would vary for black, Hispanic, and white women. In contrast, my fifth hypothesis is largely not supported: migrants and non-migrants exhibit very similar changes in their economic wellbeing across cohorts. While declines in work hours tend to be slightly larger among non-migrant whites relative to migrant whites, these differences are extremely modest. Changes in economic wellbeing do, however, vary systematically across race, ethnicity, and gender, supporting my sixth hypothesis. Specifically, black women and Hispanic men have generally experienced improvements in their economic wellbeing, while Hispanic women and, especially, white women and men have tended to experience declines in wellbeing. Black men's economic outcomes have changed very little across cohorts. Thus, while my hypotheses about the directions of the relationships I examine are largely not borne out, my hypotheses concerning racial, ethnic, and gender variations in these relationships are supported.

Because of the general correspondence between demographic groups experiencing declines (increases) in average migration probabilities and declines (increases) in their returns to migration, these findings provide suggestive evidence that changes in the economic returns to migration play a role in changes in the probability of migrating. It would thus be valuable for future studies to directly explore the role of changes in the returns to migration as an explanation for declines in the probability of moving. The changes in the economic returns to migration I observe also provide tentative support for theoretical explanations of the decline that emphasize economic factors, rather than an increasing tendency towards rootedness.

My findings are also important because migration has historically been a central avenue for reducing racial and ethnic disparities in outcomes. Indeed, the results demonstrate that for the 1979 cohort, migration was associated with narrower black/white disparities in outcomes. However, the declines in the returns to migration among black women and men indicate that migration may be becoming a less important means of reducing racial disparities in outcomes between blacks and whites. For Hispanics and whites, in contrast, migration may still be as, if not more important for decreasing ethnic disparities in outcomes for more recent cohorts. Particular attention should be given to understanding why these changes may be occurring and ensuring that any changes do not threaten to increase racial disparities in economic outcomes.

It is thus vital to attend to race, ethnicity, and gender effects when studying the returns to migration and the economic wellbeing of migrants and non-migrants, because race, ethnicity, and gender structure these relationships in diverse and important ways. By failing to examine how demographic characteristics play into the relationship between migration and economic outcomes, we could be fundamentally misunderstanding the benefits and costs of internal migration, as well as the causes and consequences of the migration decline itself. Indeed, the

declining returns to migration and average probabilities of migration for blacks suggest that the migration decline could be particularly associated with blacks' outcomes and experiences. Consequently, it may be worthwhile to explore explanations for the internal migration decline that are particularly informed by black experiences.

For example, the rise in incarceration could play a role in the migration decline. Incarceration places economic strains on individuals and families (deVuono-Powell et al. 2015; Johnson 2008; Phillips et al. 2006; Schwartz-Soicher et al. 2011; Sugie 2012), potentially limiting their abilities to fund a move. Additionally, families may be unwilling to move while their family member is incarcerated if the move translates into an increase in distance and, as such, greater difficulties visiting an incarcerated relative. The terms of parole also often put geographic restrictions on formerly-incarcerated individuals, constraining their ability to migrate (Travis and Stacey 2010). Moreover, employers frequently stereotype black males as "criminal," regardless of whether they have previously been convicted of a crime (Pager et al. 2009). Because job offers and promotions are important catalysts for migration, these employer stereotypes could limit the job opportunities blacks face and, as a result, their opportunities for migration. If the rise in incarceration plays into these relationships, it could help explain why black males' economic outcomes have not improved as black females' outcomes have and why both groups are experiencing declines in their returns to migration if black females' migration choices are limited by a need to stay near incarcerated partners.

Furthermore, supplementary analyses indicate that migration probabilities have declined the most for blacks in the Northeast and North Central regions of the U.S., areas that have been particularly hard hit by the decline in manufacturing, which could translate into fewer employment opportunities for blacks. The decline of manufacturing could also prompt

individuals to change occupations and employers. As Krieg (1997) found, moves that were accompanied by both occupation and employer changes were associated with declines in earnings, a possibility that would correspond well with the declines in returns to migration for blacks.

The dramatic reduction in union membership since the 1970s could influence these relationships as well. Indeed, the decline of unions explains a large portion of the rise in income inequality over recent decades (Western and Rosenfeld 2011) and the diminishing role of unions has increased racial disparities in wages, particularly for women (Rosenfeld and Kleykamp 2012). As such, blacks may face lower-quality job opportunities as a result of the decline in unions. This could translate into lower returns to migration if these unionized jobs previously provided opportunities for migration or motivated individuals to migrate to areas with more plentiful unionized jobs, as was the case for many Great Migration migrants who encountered greater unionization rates in their northern destination areas than in the South. All of these possibilities suggest that the opportunities for economically-beneficial migration may be declining, particularly for blacks.

It is also possible that migration is becoming a less important means of enhancing blacks' access to economic opportunities. This could explain why black women are experiencing declining economic returns to migration while, at the same time, claiming more economic resources. For example, the migration decline could be a function of the end of the Great Migration and the consequent decline in the probability that individuals are experiencing substantial changes in their economic outcomes as a result of South to North migration. Because many individuals participated in the Great Migration in order to improve their access to economic opportunities, it is possible that with the end of the Great Migration, individuals are

migrating less frequently for economic reasons, perhaps instead migrating for family- or housing-related reasons. If these possibilities hold, the migration decline could be reflective, not of harmful economic changes, but of an equilibration in interregional migration and interregional economic opportunities.

Another possibility is that migration rates are declining because of decreases in discrimination among more recent cohorts, which may have reduced search costs and increased the probability that black men and women find jobs in their origin locations, lessening the need for migration. Considerable research has cast doubt on the idea that discrimination is declining (Bonilla-Silva 2003; Kluegel 1990; Stewart et al. 2009). Nevertheless, like the explanations associated with the Great Migration, if this possibility holds, it would suggest that the migration decline is not necessarily economically harmful but is rather a function of increasing economic opportunities in one's origin area.

These potential mechanisms correspond with some of the economically-oriented explanations for the decline outlined in the "Background" section, including the decline in the returns to job changes and the increase in the geographic similarity of wages. Indeed, the rise in incarceration rates and the decline of manufacturing and unions could correspond to a broader diminishment in the returns to job changes, which, as Molloy et al. (2017) found, is a potential explanation for the migration decline. Likewise, the reduction in the regional variation in wages, which has been offered as another explanation for the migration decline (Kaplan and Shulhofer-Wohl 2015), could help explain why black women are experiencing lower returns to migration but not worse economic outcomes. This phenomenon may manifest itself particularly dramatically among blacks because regional variations in economic outcomes were important motivators for migration during the Great Migration. Some of the economically-oriented

explanations for the migration decline may therefore have underappreciated racial, ethnic, and gender components that help explain my findings as well as the migration decline more broadly. While this study was unable to parse out these various explanations, it provides a valuable first step in understanding how race, ethnicity, and gender structure economic changes occurring among migrants and non-migrants and points to important avenues for future research.

Limitations

There are limitations to this analysis that suggest the need for further research. First, as was the case in Chapter 3, I compare only two cohorts of individuals. Including more cohorts of individuals, particularly before the onset of the migration decline, would provide stronger evidence that race/ethnicity and gender structure changes in the average probability of migrating, the returns to inter-state migration, and the economic wellbeing of migrants and non-migrants over time. Nevertheless, my finding that migration rates have declined the most for blacks is consistent with Sharkey's (2015) findings using four generations of individuals in the PSID, suggesting that this finding is likely not an artifact of these two particular cohorts.

I am also only able to examine 20-34-year-old individuals. Focusing on this age range has important limitations, as demonstrated in the life course literature. This is the period during which many individuals complete their education, enter the labor force, cohabit and marry, and have children. It is also a particularly mobile period during the life course, partially as a result of life events such as the transition out of school and to a first job (Spring et al. 2013; White and Johnson 2015). As such, my mobility estimates may be upwardly biased by examining this group of young adults. At the same time, the increase in the average age at which individuals get married and have children (U.S. Census Bureau 2018; Matthews and Hamilton 2016) should have heightened the average probability of migration among the 1997 cohort relative to the 1979

cohort given that these life events tend to dampen migration probabilities (White and Lindstrom 2005). The fact that I still observe a migration decline among black women and men and white men in this age group, may indicate that even stronger forces are counteracting this demographic shift and corresponding to an average decline in migration probabilities across cohorts. Focusing on this age range may also exacerbate the decline in the returns to migration for blacks because it is black men in this age range that are the most likely to experience incarceration (Federal Bureau of Prisons 2019). The decline in blacks' returns to migration I observe might therefore be more modest if I included older black men and women. Thus, while I am able to capture a particularly rich and migratory age range and an age range that much of the migration literature focuses on for these reasons (Dahl 2002; Ham et al. 2003; Kennan and Walker 2011; Yankow 2003), my findings are not generalizable to a wider range of ages and would likely be more modest with a more representative sample.

Another important limitation is the issue of migrant selectivity. Migrants tend to be select individuals on a number of observable and unobservable characteristics. For example, they frequently exhibit higher average socioeconomic statuses and they may be more predisposed to risk-taking than non-migrants. While my inclusion of a wide host of covariates and my analytic strategy helps to address some of this selectivity, I am unable to fully account for it. Though I did not observe particularly large differences between migrants and non-migrants, the benefits of migration may be smaller and the costs larger if I were able to fully account for this selectivity. The selective nature of migration may also be changing over time. For example, declines in the returns to migration among blacks could cause only the most advantaged black women and men, who are the surest of benefitting from migration, to migrate. In turn, black non-migrants may become a larger and more socioeconomically diverse group and this diversification could shift

their average economic outcomes upwards. The potentially increasing selectivity of migration is still problematic if it means that non-migrants are increasingly being left behind by broader economic changes. However, the reciprocal nature of the returns to migration and the selectivity of migrants complicates efforts to determine how selectivity affects my results and for which groups the migration decline may be most impactful. Nevertheless, as mentioned above, this is a purely descriptive analysis aimed at providing an initial understanding of how the economic wellbeing of a diverse group of migrants and non-migrants has changed and whether these changes suggest that the migration decline may have harmful implications for migrants and/or non-migrants. Analytic methods that fully account for migrant selectivity and more detailed explorations of mechanisms behind these relationships are required to establish any causal links.

Additionally, I do not directly explore why the returns to migration have changed. It is possible that the declines in the returns among blacks are reflective of positive changes, such as decreases in workplace discrimination. While the Great Migration was largely completed by the time the NLSY79 cohort began migrating, it is also possible that more members of this cohort were engaging in the relatively dramatic South-North moves that characterized the Great Migration and were thereby receiving larger returns to inter-state migration than more recent cohorts. However, the decline in the returns to migration could also be due to more insidious influences, such as the mass incarceration of blacks. My study therefore provides insights into potential explanations for these changes, though it would be valuable for future research to explore possible mechanisms behind the returns to migration directly.

Despite these limitations, my study offers a number of valuable contributions to the literature on the migration decline and the literature on racial, ethnic, and gender stratification. In particular, I demonstrate that blacks are experiencing the largest declines in their returns to

migration and that, more broadly, race, ethnicity, and gender structure changes in the returns to migration and the economic wellbeing of migrants and non-migrants over time. Thus, investigations of mechanisms behind the migration decline and debates over the relevance of economic over "rootedness" explanations may do well to attend to race, ethnicity, and gender effects because these explanations may have varying levels of relevance for different demographic groups. Moreover, given that migration has historically been an important means of decreasing racial disparities in outcomes, my findings that blacks are experiencing declining returns to migration are concerning and suggest that migration may be associated with increasing racial stratification over time. Research and policy should therefore be guided towards ensuring that the changes associated with the migration decline do not affect individuals in racially disparate ways. As income inequality in the United States has grown and as the probability that individuals will migrate has shrunk, these issues have only increased in importance and will likely continue to do so unless equitable access to economic opportunities becomes a national priority.

References

Adelman, Robert, Chris Morett, and Stewart Tolnay. 2000. "Homeward Bound: The Return Migration of Southern-Born Black Women, 1940 to 1990." *Sociological Spectrum* 20(4): 433-463.

Blau, Francine, Peter Brummund, and Albert Yung-Hsu Liu. 2013. "Trends in Occupational Segregation by Gender 1970-2009: Adjusting for the Impact of Changes in the Occupational Coding System." *Demography* 50(2): 471-492.

Boheim, Rene and Mark Taylor. 2007. "From the dark end of the street to the bright side of the road? The Wage returns to migration in Britain." *Labour Economics* 14: 99-117.

Bonczar, Thomas. 2003. "Prevalence of Imprisonment in the U.S. Population 1974-2001." *Bureau of Justice Statistics*.

Bonilla-Silva, Eduardo. 2003. *Racism without Racists: Color-Blind Racism and the Persistence of Racial Inequality in America.* Lanham, MD: Rowman & Littlefield Publishers.
Bureau of Labor Statistics. 2017. "Highlights of Women's Earnings in 2016." *Report 1069.*

Brown, Karida. 2018. *Gone Home: Race and Roots through Appalachia*. Chapel Hill, NC: The University of North Carolina Press.

Brown, Lawrence and Su-Yeul Chung. 2006. "Spatial Segregation, Segregation Indices, and the Geographical Perspective." *Population, Space, and Place* 12: 125-143.

Bureau of Labor Statistics. 2017. "Employment Characteristics of Families—2016." *U.S. Department of Labor News Release USDL-17-0444.* https://www.bls.gov/news.release/pdf/famee.pdf.

Federal Bureau of Prisons. 2019. "Inmate Age." Accessed October 9, 2018. https://www.bop.gov/about/statistics/statistics_inmate_age.jsp

Campbell, Karen. 1988. "Gender Differences in Job-Related Networks." *Work and Occupations* 15(2): 179-200.

Charles, Camille Zubrinsky. 2003. "The Dynamics of Racial Residential Segregation." *Annual Review of Sociology* 29: 167-207.

Charles, Kerwin Kofi and Ming Ching Luoh. 2010. "Male Incarceration, the Marriage Market, and Female Outcomes." *The Review of Economics and Statistics* 92(3): 614-627.

Clark, William and Suzanne Davies Withers. 2002. "Disentangling the Interaction of Migration, Mobility, and Labor-Force Participation." *Environment and Planning* 34(5): 923-945.

Colby, Sandra and Jennifer Ortman. 2015. "Projections of the Size and Composition of the U.S.

Population: 2014 to 2060." *U.S. Department of Commerce.* https://www.census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf

Cooke, Thomas. 2011. "It is not Just the Economy: Declining Migration and the Rise of Secular Rootedness." *Population, Space, and Place* 17(3): 193-203.

Cooke, Thomas, Paul Boyle, Kenneth Couch, and Peteke Feijten. 2009. "A Longitudinal Analysis of Family Migration and the Gender Gap in Earnings in the United States and Great Britain." *Demography* 46(1): 147-167.

deVuono-Powell, Saneta, Chris Schweidler, Alicia Walters, and Azadeh Zohrabi. 2015. *Who Pays? The True Cost of Incarceration on Families*. Oakland, CA: Ella Baker Center.

Drentea, Patricia. 1998. "Consequences of Women's Formal and Informal Job Search Methods for Female-Dominated Jobs." *Gender and Society* 12(3): 321-338.

Emerson, Michael O., Karen J. Chai, and George Yancey. 2001. "Does Race Matter in Residential Segregation? Exploring the Preferences of White Americans." *American Sociological Review* 66(6): 922–35.

England, Paula. 2010. "The Gender Revolution: Uneven and Stalled." *Gender and Society* 24(2): 149-166.

Fernandez, Roberto and M. Lourdes Sosa. 2005. "Gendering the Job: Networks and Recruitment at a Call Center." *American Journal of Sociology* 111(3): 859-904.

Firebaugh, Glenn and Kenneth Davis. 1988. "Trends in Antiblack Prejudice, 1972-1984: Region and Cohort Effects." *American Journal of Sociology* 94(2): 251-272.

Flippen, Chenoa. 2013. "Relative Deprivation and Internal Migration in the United States: A Comparison of Black and White Men." *American Journal of Sociology* 118(5): 1161-1198.

Foster, Thomas B. 2017. "Decomposing American Immobility: Compositional and Rate Components of Interstate, Intrastate, and Intracounty Migration and Mobility Decline." *Demographic Research* 37: 1515-1548.

Grant, Kenneth and John Vanderkamp. 1980. "The Effects of Migration on Income: A Micro Study with Canadian Data 1965-1971." *The Canadian Journal of Economics* 13(3): 381-406.

Gregory, James N. 2005. *The Southern Diaspora: How The Great Migrations of Black and White Southerners Transformed America*. Chapel Hill: University of North Carolina Press.

Ham, John, Xianghong Li, and Patricia Reagan. 2011. "Matching and Semi-Parametric IV Estimation, a Distance-Based Measure of Migration and the Wages of Young Men." *Journal of Econometrics* 161(2): 208-227.

Iceland, John. 2004. "Beyond Black and White: Residential Segregation in Multiethnic America." *Social Science Research* 33(2): 248-271.

Jacobs, Jerry. 1989. "Long-Term Trends in Occupational Segregation by Sex." *American Journal of Sociology* 95(1): 160-173.

Johnson, Rucker. 2008. "Ever-Increasing Levels of Parental Incarceration and the Consequences for Children." Pp. 15-59 in *Do Prisons Make Us Safer? New York: Russell Sage Foundation Press,* edited by S. Raphael and M. Stoll. New York: Russell Sage Foundation.

Johnson, Kenneth, Katherine Curtis, and David Egan-Robertson. 2017. "Frozen in Place: Net Migration in sub-National Areas of the United States in the Era of the Great Recession." *Population and Development Review* 43(4): 599-623.

Kaplan, Greg and Sam Schulhofer-Wohl. 2015. "Understanding the Long-Run Decline in Interstate Migration." Cambridge: National Bureau of Economic Research (NBER Working Paper 697).

Karahan, Fatih and Serena Rhee. 2017. "Population Aging, Migration Spillovers, and the Decline in Interstate Migration." New York: Federal Reserve Bank of New York (FRB-NY Staff Report 699).

Kluegel, James. 1990. "Trends in Whites' Explanations of the Black-White Gap in Socioeconomic Status, 1977-1989." *American Sociological Review* 55(4): 512-525.

Kmec, Julie, Steve McDonald, and Lindsey Trimble. 2010. "Making Gender Fit and 'Correcting' Gender Misfits: Sex Segregated Employment and the Nonsearch Process." *Gender and Society* 24(2): 213-236.

Knapp, Thomas, Nancy White, and Amy Wolaver. 2013. "The Returns to Migration: The Influence of Education and Migration Type." *Growth and Change* 44(4): 589-607.

Krieg, Randall. 1997. "Occupational Change, Employer Change, Internal Migration, and Earnings." *Regional Science and Urban Economics* 27(1): 1-15.

Lee, Barrett, Sean Reardon, Glenn Firebaugh, Chad Farrell, Stephen Matthews, and David O'Sullivan. 2008. "Beyond the Census Tract: Patterns and Determinants of Racial Segregation at Multiple Geographic Scales." *American Sociological Review* 73(5): 766-791.

Lehmer, Florian and Johannes Ludsteck. 2011. “The Returns to Job Mobility and Inter-Regional Migration: Evidence from Germany.” *Papers in Regional Science* 90(3): 549-571.

Lieberson, Stanley and Christy Wilkinson. 1976. “A Comparison Between Northern and Southern Blacks Residing in the North.” *Demography* 13(2): 199-224.

Lieberson, Stanley. 1978. “A Reconsideration of the Income Differences Found between Migrants and Northern-Born Blacks.” *American Journal of Sociology* 83(4): 940-966.

Matthews, T.J. and Brady Hamilton. 2016. “Mean Age of Mothers Is on the Rise: United States, 2000-2014. *NCHS Data Brief No. 232*.

McDonald, Steve, Nan Lin, and Dan Ao. 2009. “Networks of Opportunity: Gender, Race, and Job Leads.” *Social Problems* 56(3): 385-402.

McGuire, Gail. 2002. “Gender, Race, and the Shadow Structure: A Study of Informal Networks and Inequality in a Work Organization.” *Gender and Society* 16(3): 303-322.

Merriam-Webster. 2018. “Underemployment.” Retrieved December 30, 2018 (https://www.merriam-webster.com/dictionary/underemployment).

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2011. “Internal Migration in the United States.” *NBER Working Paper No. 17307.*

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2014. “Declining Migration within the US: The Role of the Labor Market.” *IZA Discussion Paper No. 8149.*

Molloy, Raven, Christopher Smith, and Abigail Wozniak. 2017. “Job Changing and the Decline in Long-Distance Migration in the United States.” *Demography* 54(2): 631-653.

National Research Council. 2014. *The Growth of Incarceration in the United States: Exploring Causes and Consequences.* Washington, D.C.: National Academies of Science.

Pager, Devah. 2003. “The Mark of a Criminal Record.” *American Journal of Sociology*. 108(5): 937-975.

Pager, Devah and Hana Shepherd. 2008. “The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets.” *Annual Review of Sociology* 34: 181-209.

Pager, Devah, Bruce Western, and Bart Bonikowski. 2009. “Discrimination in a Low-Wage Labor Market: A Field Experiment.” *American Sociological Review* 74(5): 777-799.

Partridge, Mark, Dan Rickman, M. Rose Olfert, and Kamar Ali. 2012. “Dwindling U.S. Internal Migration: Evidence of Spatial Equilibrium or Structural Shifts in Local Labor Markets.” *Regional Science and Urban Economics* 42(1-2): 375-388.

Pettit, Becky and Bruce Western. 2014. “Mass Imprisonment and the Life Course: Race and Class Inequality in U.S. Incarceration.” *American Sociological Review* 69(2):151-169.

Phillips, Susan, Alaattin Erklani, Gordon Keeler, Jane Costello, and Adrian Angold. 2006. “Disentangling the Risks: Parent Criminal Justice Involvement and Children’s Exposure to Family Risks.” *Criminology and Public Policy* 5(4):677–702.

Raley, Sara, Marybeth J. Mattingly, and Suzanne M. Bianchi. 2006. “How Dual Are Dual-Income Couples? Documenting Change from 1970 to 2001.” *Journal of Marriage and Family* 68(1): 11-28.

Raley, Kelly R., Megan M. Sweeney, and Danielle Wondra. 2015. “The Growing Racial and Ethnic Divide in U.S. Marriage Patterns.” *Future Child* 25(2): 89-109.

Reskin, Barbara. 1993. “Sex Segregation in the Workplace.” *Annual Review of Sociology* 19: 241-270.

Roscigno, Vincent, Diana Karafin, and Griff Tester. 2009. “The Complexities and Processes of Racial Housing Discrimination.” *Social Problems* 56(1): 49-69.

Rosenfeld, Jake and Meredith Kleykamp. 2012. “Organized Labor and Racial Wage Inequality in the United States.” *American Journal of Sociology* 117(5): 1460-1502.

Schwartz, Aba. 1973. “Interpreting the Effect of Distance on Migration.” *Journal of Political Economy* 81(5): 1153-1169.

Schwartz-Soicher, Ofira, Amanda Geller, and Irwin Garfinkel. 2011. “The Effect of Paternal Incarceration on Material Hardship.” *Social Science Review* 85(3):447-473.

Sommeiller, Estelle and Mark Price. 2018. “The New Gilded Age: Income Inequality in the U.S. by State, Metropolitan Area, and County.” *Economic Policy Institute*.

Spring, Amy, Stewart Tolnay, and Kyle Crowder. 2013. “Moving for Opportunities? Changing Patterns of Migration in North America.” In *Handbook of Migration* edited by Michael White. New York: Springer.

Stewart, Brandon, William von Hippel, and Gabriel A. Radvansky. 2009. “Age, Race, and Implicit Prejudice.” *Psychological Science* 20(2): 164-168.

Sugie, Naomi. 2012. “Punishment and Welfare: Paternal Incarceration and Families’ Receipt of Public Assistance.” *Social Forces* 90(4):1403-1427.

Tolnay, Stewart. 2001. “The Great Migration Gets Underway: A Comparison of Black Southern Migrants and Nonmigrants in the North, 1920.” *Social Science Quarterly* 82(2): 235-252.

Tolnay, Stewart. 2003. "The African American 'Great Migration' and Beyond." *Annual Review of Sociology* 29: 209-232.

Travis III, Lawrence F. and James Stacey. 2010. "A Half Century of Parole Rules: Conditions of Parole in the United States, 2008." *Journal of Criminal Justice* 38(4): 604-608.

U.S. Census Bureau. 2018. "Median Age at First Marriage: 1890 to Present." *Annual Social and Economic Supplements*. https://www.census.gov/content/dam/Census/library/visualizations/time-series/demo/families-and-households/ms-2.pdf

Western, Bruce and Jake Rosenfeld. 2011. "Unions, Norms, and the Rise in U.S. Wage Inequality." *American Sociological Review* 76(4): 513-537.

White, Michael and David Lindstrom. 2005. "Internal Migration." Pp. 311-346 in *Handbook of Population*, edited by D.L. Poston and M. Micklin. New York: Springer.

Women's Bureau. 2017. "Women in the Labor Force." *United States Department of Labor.* https://www.dol.gov/wb/stats/NEWSTATS/facts/women_lf.htm#one.

Women's Bureau. 2017. "Earnings and Earnings Ratios." *United States Department of Labor.* https://www.dol.gov/wb/stats/NEWSTATS/facts/earn_earnings_ratio.htm#three.

Yankow, Jeffrey. 1999. "The Wage Dynamics of Internal Migration within the United States." *Eastern Economic Journal* 25(3): 265-278.

Yankow, Jeffrey. 2003. "Migration, Job Change, and Wage Growth: A New Perspective on the Pecuniary Return to Geographic Mobility." *Journal of Regional Science* 43(3): 483-516.

Chapter 4 Appendix

Appendix Table 4.1: Mixed Effects Regressions of the Relationship between Inter-State Migration and Logged Hourly Wages for Female 1979 and 1997 NLSY Cohorts

	(1) White Women	(2) White Women	(3) Black Women	(4) Black Women	(5) Hispanic Women	(6) Hispanic Women
Focal Independent Variables						
Yrs of Residence (State)	-0.009***	-0.003	-0.005+	-0.002	0.003	0.002
	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Ever Moved (State)	-0.023	-0.046*	0.061+	-0.097**	0.008	-0.039
	(0.024)	(0.021)	(0.036)	(0.033)	(0.052)	(0.050)
Ever Moved*Yrs of Res.	0.012***	0.011***	0.008*	0.011**	0.006	0.007
	(0.003)	(0.002)	(0.004)	(0.003)	(0.005)	(0.005)
Number of Inter-State Moves	-0.024**	-0.021**	0.015	0.019	0.024	-0.008
	(0.009)	(0.008)	(0.013)	(0.012)	(0.030)	(0.019)
Cohort Interactions						
1997 Cohort	0.002	0.011	0.155***	0.224***	-0.059+	0.064+
	(0.023)	(0.021)	(0.029)	(0.027)	(0.034)	(0.033)
Yrs of Res*1997 Cohort	0.009***	0.004	-0.005+	-0.008**	-0.003	-0.002
	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Ever Moved*1997 Cohort	0.119***	0.042	0.099	0.029	-0.144+	-0.060
	(0.042)	(0.037)	(0.062)	(0.056)	(0.076)	(0.073)
Yrs of Res.*EvMove*1997	-0.012**	-0.006	-0.009	-0.011*	0.005	0.005
	(0.004)	(0.004)	(0.006)	(0.005)	(0.007)	(0.007)
Number of Moves*1997	-0.024**	-0.004	-0.035	-0.012	0.024	-0.014
	(0.009)	(0.013)	(0.025)	(0.022)	(0.030)	(0.028)
Covariates						
Age	0.122***	0.087***	0.087***	0.102***	0.127***	0.095***
	(0.010)	(0.009)	(0.009)	(0.011)	(0.016)	(0.015)
Age^2	-0.002***	-0.001***	-0.001***	-0.001***	-0.002***	-0.001***
	(0.010)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married_		0.012+		0.038***		0.041***
		(0.006)		(0.010)		(0.011)
Number of Children		-0.059***		-0.028***		-0.036***
		(0.004)		(0.005)		(0.006)
Lagged Wage Growth		0.040***		0.036***		0.030***
		(0.000)		(0.001)		(0.001)
Years of Education		0.062***		0.068***		0.057***
		(0.002)		(0.003)		(0.004)

In Military		-0.035		-0.046		-0.104
		(0.055)		(0.058)		(0.100)
Professional Job		0.102***		0.048***		0.050***
		(0.006)		(0.008)		(0.010)
Urban Area		0.033***		0.040**		0.055**
		(0.008)		(0.014)		(0.020)
Northeast		Ref.		Ref.		Ref.
North Central		-0.115**		-0.144**		-0.208***
		(0.036)		(0.054)		(0.049)
West		-0.059		-0.095		-0.164***
		(0.037)		(0.061)		(0.045)
South		-0.096**		-0.160***		-0.204***
		(0.034)		(0.047)		(0.046)
Constant	0.436***	0.119	0.664***	-0.160	0.446*	0.239
	(0.128)	(0.117)	(0.168)	(0.160)	(0.213)	(0.203)
Variance Components						
Between Counties	-2.080***	-2.674***	-2.214***	-2.475***	-2.300***	-2.832***
	(0.129)	(0.154)	(0.150)	(0.184)	(0.191)	(0.222)
Rate of Change (Yr of Res)	-3.077***	-3.129***	-3.220***	-3.263***	-3.325***	-3.219***
	(0.024)	(0.021)	(0.035)	(0.032)	(0.051)	(0.038)
Between Individuals	-0.813***	-0.901***	-0.908***	-0.975***	-0.974***	-0.929***
	(0.017)	(0.016)	(0.027)	(0.027)	(0.036)	(0.031)
Covariance(Ind., Yr. of Res)	-0.522***	-0.691***	-0.601***	-0.716***	-0.459***	-0.787***
	(0.028)	(0.025)	(0.040)	(0.037)	(0.060)	(0.045)
Residual	-0.856***	-0.990***	-0.960***	-1.067***	-0.854***	-0.953***
	(0.004)	(0.004)	(0.006)	(0.006)	(0.007)	(0.007)
Observations	38956	38956	18261	18261	12679	12679
BIC	58609.837	48217.418	23479.847	19681.676	18463.823	16178.861

Standard errors in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Table 4.2: Mixed Effects Regressions of the Relationship between Inter-State Migration and Logged Hourly Wages for Male 1979 and 1997 NLSY Cohorts

	(1) White Men	(2) White Men	(3) Black Men	(4) Black Men	(5) Hispanic Men	(6) Hispanic Men
Focal Independent Variables						
Yrs of Residence (State)	-0.007***	-0.003	-0.009***	-0.004	-0.001	-0.001
	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Ever Moved (State)	-0.044+	-0.073***	-0.033	-0.056+	-0.088+	-0.133**
	(0.023)	(0.021)	(0.035)	(0.032)	(0.048)	(0.045)
Ever Moved*Yrs of Res.	0.009***	0.010***	0.010**	0.011**	0.010*	0.012**
	(0.002)	(0.002)	(0.004)	(0.003)	(0.005)	(0.004)
Number of Inter-State Moves	0.010	0.010	-0.003	0.003	0.020	0.023
	(0.008)	(0.008)	(0.013)	(0.011)	(0.019)	(0.017)
Cohort Interactions						
1997 Cohort	-0.000	0.041+	-0.040	0.059*	-0.044	-0.012
	(0.022)	(0.021)	(0.031)	(0.029)	(0.032)	(0.031)
Yrs of Res*1997 Cohort	-0.003	-0.006*	0.002	-0.001	0.002	0.001
	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Ever Moved*1997 Cohort	-0.027	-0.070+	0.069	0.034	0.099	0.173*
	(0.041)	(0.038)	(0.064)	(0.059)	(0.078)	(0.073)
Yrs of Res.*EvMove*1997	0.006	0.007+	-0.021***	-0.014*	-0.010	-0.008
	(0.004)	(0.004)	(0.006)	(0.006)	(0.007)	(0.007)
Number of Moves*1997	-0.013	-0.004	0.034	0.017	-0.034	-0.073*
	(0.014)	(0.013)	(0.024)	(0.022)	(0.034)	(0.031)
Covariates						
Age		0.117***		0.111***		0.124***
		(0.008)		(0.011)		(0.013)
Age^2		-0.002***		-0.002***		-0.002***
		(0.000)		(0.000)		(0.000)
Married		0.077***		0.062***		0.071***
		(0.007)		(0.012)		(0.012)
Number of Children		0.016***		0.027***		0.007
		(0.004)		(0.005)		(0.006)
Lagged Wage Growth		0.032***		0.033***		0.034***
		(0.000)		(0.000)		(0.001)
Years of Education		0.043***		0.064***		0.043***
		(0.002)		(0.004)		(0.004)
In Military		-0.055		0.115		-0.404**
		(0.062)		(0.097)		(0.124)

Professional Job		0.046***		0.022*		0.002
		(0.007)		(0.011)		(0.011)
Urban Area		0.042***		0.084***		0.026
		(0.008)		(0.014)		(0.017)
Northeast		Ref.		Ref.		Ref.
North Central		-0.108***		-0.142***		-0.051
		(0.031)		(0.034)		(0.054)
West		-0.037		-0.029		-0.072
		(0.033)		(0.041)		(0.048)
South		-0.101***		-0.079**		-0.068
		(0.030)		(0.029)		(0.049)
Constant	0.316**	0.162	0.734***	-0.063	0.515**	0.115
	(0.120)	(0.112)	(0.174)	(0.160)	(0.194)	(0.178)
Variance Components						
Between Counties	-2.402***	-2.879***	-2.596***	-3.405***	-2.678***	-2.748***
	(0.133)	(0.155)	(0.183)	(0.408)	(0.226)	(0.235)
Rate of Change (Yr of Res)	-3.146***	-3.088***	-3.214***	-3.143***	-3.268***	-3.182***
	(0.025)	(0.020)	(0.039)	(0.032)	(0.044)	(0.035)
Between Individuals	-0.786***	-0.781***	-0.818***	-0.849***	-0.881***	-0.831***
	(0.015)	(0.014)	(0.026)	(0.025)	(0.031)	(0.028)
Covariance(Ind., Yr. of Res)	-0.598***	-0.772***	-0.498***	-0.589***	-0.576***	-0.765***
	(0.027)	(0.023)	(0.043)	(0.036)	(0.050)	(0.041)
Residual	-0.868***	-1.000***	-0.851***	-0.998***	-0.863***	-1.023***
	(0.004)	(0.004)	(0.006)	(0.006)	(0.007)	(0.007)
Observations	42377	42377	19494	19494	14644	14644
BIC	62043.926	52347.057	29028.306	24191.853	21011.014	17138.186

Standard errors in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Table 4.3: Mixed Effects Regressions of the Relationship between Inter-State Migration and Weekly Work Hours for Female 1979 and 1997 NLSY Cohorts

	(1) White Women	(2) White Women	(3) Black Women	(4) Black Women	(5) Hispanic Women	(6) Hispanic Women
Focal Independent Variables						
Yrs of Residence (State)	-0.031	0.010	0.216***	0.030	0.008	-0.119+
	(0.031)	(0.042)	(0.037)	(0.054)	(0.044)	(0.065)
Ever Moved (State)	0.684	0.435	0.656	-0.480	-0.575	-1.365
	(0.464)	(0.462)	(0.696)	(0.711)	(1.006)	(1.014)
Ever Moved*Yrs of Res.	-0.073	-0.050	-0.001	0.104	0.093	0.149
	(0.054)	(0.053)	(0.070)	(0.071)	(0.096)	(0.096)
Number of Inter-State Moves	0.214	0.221	0.287	0.012	-0.513	-0.520
	(0.163)	(0.162)	(0.255)	(0.254)	(0.388)	(0.386)
Cohort Interactions						
1997 Cohort	-3.988***	-4.086***	-2.596***	-1.263*	-3.810***	-3.352***
	(0.472)	(0.468)	(0.576)	(0.600)	(0.651)	(0.671)
Yrs of Res*1997 Cohort	0.222***	0.134*	-0.024	-0.090	0.187**	0.160*
	(0.054)	(0.053)	(0.060)	(0.061)	(0.068)	(0.069)
Ever Moved*1997 Cohort	3.853***	2.652**	3.863**	2.693*	1.000	0.783
	(0.838)	(0.817)	(1.236)	(1.219)	(1.495)	(1.481)
Yrs of Res.*EvMove*1997	-0.138	-0.083	-0.208+	-0.113	-0.253+	-0.185
	(0.090)	(0.087)	(0.114)	(0.113)	(0.141)	(0.139)
Number of Moves*1997	-0.627*	-0.535+	-0.852+	-0.945*	1.478*	1.167*
	(0.292)	(0.283)	(0.485)	(0.476)	(0.579)	(0.574)
Covariates						
Age		1.724***		1.470***		0.805*
		(0.195)		(0.273)		(0.315)
Age^2		-0.029***		-0.023***		-0.011+
		(0.004)		(0.005)		(0.006)
Married		-1.355***		-0.355		-0.496*
		(0.141)		(0.222)		(0.238)
Number of Children		-2.217***		-0.551***		-0.937***
		(0.091)		(0.099)		(0.131)
Lagged Wage Growth		-0.092***		-0.100***		-0.115***
		(0.010)		(0.015)		(0.014)
Years of Education		0.150***		0.570***		0.169*
		(0.045)		(0.063)		(0.073)
In Military		-1.157		-1.568		-2.631
		(1.247)		(1.355)		(2.087)

Professional Job		1.414***		0.509**		0.564**
		(0.134)		(0.190)		(0.217)
Urban Area		-0.086		-0.247		-0.007
		(0.172)		(0.293)		(0.407)
Northeast		Ref.		Ref.		Ref.
North Central		0.290		0.307		0.598
		(0.551)		(0.520)		(0.687)
West		0.644		0.443		-0.301
		(0.589)		(0.666)		(0.478)
South		1.675**		0.646		0.622
		(0.523)		(0.438)		(0.509)
Constant	36.002***	10.251***	34.880***	7.135+	36.717***	23.151***
	(0.304)	(2.630)	(0.348)	(3.713)	(0.436)	(4.250)
Variance Components						
Between Counties	0.126	-0.081	-0.770+	-0.853+	-0.591	-12.475***
	(0.170)	(0.185)	(0.431)	(0.463)	(0.647)	(3.324)
Rate of Change (Yr of Res)	0.067***	0.004	-0.233***	-0.259***	-0.226***	-0.253***
	(0.020)	(0.021)	(0.035)	(0.036)	(0.042)	(0.044)
Between Individuals	2.213***	2.163***	2.053***	2.020***	2.083***	2.060***
	(0.016)	(0.017)	(0.030)	(0.031)	(0.036)	(0.039)
Covariance(Ind., Yr. of Res)	-0.831***	-0.831***	-0.974***	-0.994***	-0.834***	-0.820***
	(0.024)	(0.025)	(0.042)	(0.042)	(0.050)	(0.054)
Residual	2.162***	2.154***	2.157***	2.155***	2.118***	2.113***
	(0.004)	(0.004)	(0.006)	(0.006)	(0.007)	(0.008)
Observations	39013	39013	18334	18334	12720	12720
BIC	293184.084	292044.045	135944.107	135784.181	93851.689	93783.696

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Table 4.4: Mixed Effects Regressions of the Relationship between Inter-State Migration and Weekly Work Hours for Male 1979 and 1997 NLSY Cohorts

	(1) White Men	(2) White Men	(3) Black Men	(4) Black Men	(5) Hispanic Men	(6) Hispanic Men
Focal Independent Variables						
Yrs of Residence (State)	0.298***	-0.020	0.188***	-0.099*	0.173***	-0.123*
	(0.027)	(0.037)	(0.035)	(0.049)	(0.040)	(0.058)
Ever Moved (State)	1.765***	0.305	1.596*	0.085	2.374**	0.831
	(0.449)	(0.451)	(0.633)	(0.637)	(0.892)	(0.904)
Ever Moved*Yrs of Res.	-0.210***	-0.077	-0.129+	0.007	-0.150+	0.001
	(0.047)	(0.047)	(0.067)	(0.067)	(0.086)	(0.087)
Number of Inter-State Moves	0.661***	0.244	0.313	-0.026	0.019	-0.333
	(0.159)	(0.160)	(0.225)	(0.224)	(0.348)	(0.347)
Cohort Interactions						
1997 Cohort	-5.532***	-3.926***	-4.851***	-3.116***	-4.210***	-2.926***
	(0.440)	(0.447)	(0.568)	(0.582)	(0.611)	(0.623)
Yrs of Res*1997 Cohort	-0.012	-0.037	0.037	-0.007	-0.004	-0.019
	(0.045)	(0.045)	(0.059)	(0.060)	(0.062)	(0.063)
Ever Moved*1997 Cohort	3.492***	1.962*	1.059	-0.184	1.997	1.076
	(0.809)	(0.800)	(1.185)	(1.169)	(1.487)	(1.470)
Yrs of Res.*EvMove*1997	-0.047	0.033	-0.029	0.055	-0.008	-0.015
	(0.078)	(0.077)	(0.114)	(0.113)	(0.135)	(0.133)
Number of Moves*1997	-0.575*	-0.482+	-0.153	-0.227	-0.633	-0.496
	(0.283)	(0.278)	(0.445)	(0.437)	(0.628)	(0.620)
Covariates						
Age		1.474***		1.410***		1.510***
		(0.181)		(0.267)		(0.290)
Age^2		-0.023***		-0.021***		-0.023***
		(0.003)		(0.005)		(0.005)
Married		1.127***		1.168***		0.860***
		(0.150)		(0.259)		(0.252)
Number of Children		0.255**		0.214+		0.029
		(0.088)		(0.116)		(0.121)
Lagged Wage Growth		-0.097***		-0.110***		-0.140***
		(0.007)		(0.011)		(0.012)
Years of Education		0.221***		0.306***		0.033
		(0.042)		(0.065)		(0.065)
In Military		6.445***		11.529***		2.849
		(1.348)		(2.048)		(2.743)

Professional Job		1.609***		0.528*		0.928***
		(0.145)		(0.245)		(0.245)
Urban Area		-0.433**		-0.213		-1.446***
		(0.162)		(0.282)		(0.374)
Northeast		Ref.		Ref.		Ref.
North Central		-0.327		-0.744+		-0.232
		(0.319)		(0.443)		(0.688)
West		-0.662+		0.809		0.858+
		(0.357)		(0.550)		(0.516)
South		0.833**		1.399***		1.327*
		(0.315)		(0.368)		(0.543)
Constant	40.859***	17.002***	38.700***	14.229***	40.469***	18.944***
	(0.262)	(2.452)	(0.351)	(3.655)	(0.417)	(3.957)
Variance Components						
Between Counties	-0.392+	-1.363+	-0.170	-12.214***	-0.465	-1.082
	(0.229)	(0.764)	(0.268)	(3.020)	(0.437)	(0.856)
Rate of Change (Yr of Res)	-0.151***	-0.169***	-0.341***	-0.359***	-0.275***	-0.289***
	(0.024)	(0.024)	(0.041)	(0.041)	(0.042)	(0.042)
Between Individuals	2.243***	2.217***	2.002***	1.966***	2.088***	2.070***
	(0.015)	(0.015)	(0.030)	(0.031)	(0.032)	(0.033)
Covariance(Ind., Yr. of Res)	-0.853***	-0.858***	-0.822***	-0.814***	-0.962***	-0.967***
	(0.026)	(0.026)	(0.046)	(0.046)	(0.047)	(0.048)
Residual	2.145***	2.140***	2.210***	2.205***	2.148***	2.141***
	(0.004)	(0.004)	(0.006)	(0.006)	(0.007)	(0.007)
Observations	42571	42571	19559	19559	14685	14685
BIC	317476.547	316871.722	146728.036	146508.822	108606.778	108457.022

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Table 4.5: Mixed Effects Regressions of the Relationship between Inter-State Migration and Logged Weekly Wages for Female 1979 and 1997 NLSY Cohorts

	(1) White Women	(2) White Women	(3) Black Women	(4) Black Women	(5) Hispanic Women	(6) Hispanic Women
Focal Independent Variables						
Yrs of Residence (State)	-0.010***	-0.001	-0.006	-0.001	-0.001	-0.002
	(0.003)	(0.003)	(0.004)	(0.004)	(0.005)	(0.005)
Ever Moved (State)	-0.001	-0.016	0.069	-0.095*	-0.074	-0.119+
	(0.033)	(0.030)	(0.049)	(0.047)	(0.073)	(0.071)
Ever Moved*Yrs of Res.	0.009*	0.006+	0.013**	0.014**	0.011+	0.012+
	(0.004)	(0.003)	(0.005)	(0.005)	(0.007)	(0.006)
Number of Inter-State Moves	-0.018	-0.012	0.013	0.015	0.015	-0.014
	(0.012)	(0.011)	(0.018)	(0.017)	(0.017)	(0.027)
Cohort Interactions						
1997 Cohort	-0.144***	-0.155***	-0.078+	0.147***	-0.147***	-0.049
	(0.033)	(0.030)	(0.040)	(0.038)	(0.038)	(0.046)
Yrs of Res*1997 Cohort	0.014***	0.006+	-0.007+	-0.011**	-0.011**	0.002
	(0.004)	(0.003)	(0.004)	(0.004)	(0.004)	(0.005)
Ever Moved*1997 Cohort	0.228***	0.116*	0.236**	0.146+	0.146+	-0.022
	(0.059)	(0.054)	(0.084)	(0.080)	(0.080)	(0.103)
Yrs of Res.*EvMove*1997	-0.012*	-0.006	-0.013+	-0.012+	-0.012+	-0.001
	(0.006)	(0.006)	(0.008)	(0.007)	(0.007)	(0.009)
Number of Moves*1997	-0.046*	-0.024	-0.082*	-0.060+	0.060+	0.020
	(0.021)	(0.019)	(0.033)	(0.031)	(0.031)	(0.040)
Covariates						
Age	0.168***	0.153***	0.168***	0.169***		0.126***
	(0.013)	(0.012)	(0.016)	(0.016)		(0.019)
Age^2	-0.003***	-0.002***	-0.002***	-0.002***		-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)
Married		-0.034***		0.020		0.022
		(0.009)		(0.013)		(0.015)
Number of Children		-0.161***		-0.048***		-0.074***
		(0.006)		(0.006)		(0.009)
Lagged Wage Growth		0.034***		0.029***		0.022***
		(0.001)		(0.001)		(0.001)
Years of Education		0.063***		0.089***		0.065***
		(0.003)		(0.004)		(0.005)
In Military		-0.154*		-0.094		-0.149
		(0.079)		(0.081)		(0.133)

Professional Job		0.141***		0.063***		0.071***
		(0.008)		(0.011)		(0.013)
Urban Area		0.036**		0.042*		0.038
		(0.011)		(0.019)		(0.026)
Northeast		Ref.		Ref.		Ref.
North Central		-0.135***		-0.158**		-0.198**
		(0.036)		(0.058)		(0.066)
West		-0.054		-0.107		-0.214***
		(0.039)		(0.069)		(0.059)
South		-0.060+		-0.152**		-0.215***
		(0.035)		(0.050)		(0.061)
Constant	3.356***	2.728***	3.200***	2.137***	3.790***	3.300***
	(0.171)	(0.163)	(0.219)	(0.218)	(0.267)	(0.266)
Variance Components						
Between Counties	-1.995***	-2.833***	-2.161***	-2.548***	-2.189***	-2.646***
	(0.145)	(0.212)	(0.169)	(0.212)	(0.222)	(0.259)
Rate of Change (Yr of Res)	-2.668***	-2.769***	-2.885***	-2.955***	-2.849***	-2.853***
	(0.021)	(0.021)	(0.032)	(0.032)	(0.040)	(0.037)
Between Individuals	-0.406***	-0.516***	-0.515***	-0.580***	-0.492***	-0.509***
	(0.015)	(0.016)	(0.024)	(0.025)	(0.030)	(0.029)
Covariance(Ind., Yr. of Res)	-0.619***	-0.681***	-0.741***	-0.840***	-0.677***	-0.803***
	(0.024)	(0.025)	(0.036)	(0.036)	(0.046)	(0.043)
Residual	-0.597***	-0.653***	-0.717***	-0.754***	-0.676***	-0.714***
	(0.004)	(0.004)	(0.006)	(0.006)	(0.008)	(0.008)
Observations	38759	38759	18206	18206	12621	12621
BIC	80140.137	74716.441	32735.058	30996.901	23811.732	22827.811

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Table 4.6: Mixed Effects Regressions of the Relationship between Inter-State Migration and Logged Weekly Wages for Male 1979 and 1997 NLSY Cohorts

	(1) White Men	(2) White Men	(3) Black Men	(4) Black Men	(5) Hispanic Men	(6) Hispanic Men
Focal Independent Variables						
Yrs of Residence (State)	-0.008***	-0.003	-0.012***	-0.007*	-0.004	-0.003
	(0.002)	(0.002)	(0.003)	(0.003)	(0.004)	(0.004)
Ever Moved (State)	-0.030	-0.056*	-0.026	-0.052	-0.043	-0.093+
	(0.028)	(0.027)	(0.043)	(0.041)	(0.057)	(0.055)
Ever Moved*Yrs of Res.	-0.009**	0.008**	0.012**	0.012**	0.008	0.010+
	(0.003)	(0.003)	(0.004)	(0.004)	(0.006)	(0.005)
Number of Inter-State Moves	0.014	0.013	-0.009	-0.003	0.003	0.006
	(0.010)	(0.010)	(0.015)	(0.014)	(0.022)	(0.021)
Cohort Interactions						
1997 Cohort	-0.125***	-0.083**	-0.141***	-0.038	-0.128***	-0.093*
	(0.028)	(0.027)	(0.038)	(0.036)	(0.039)	(0.038)
Yrs of Res*1997 Cohort	-0.006*	-0.008**	-0.000	-0.003	-0.001	-0.002
	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Ever Moved*1997 Cohort	-0.012	-0.061	0.057	0.024	0.166+	0.223*
	(0.050)	(0.048)	(0.079)	(0.074)	(0.093)	(0.090)
Yrs of Res.*EvMove*1997	0.007	0.009+	-0.015*	-0.008	-0.004	-0.003
	(0.005)	(0.005)	(0.007)	(0.007)	(0.008)	(0.008)
Number of Moves*1997	-0.019	-0.010	0.020	0.000	-0.085*	-0.113**
	(0.018)	(0.017)	(0.030)	(0.028)	(0.039)	(0.037)
Covariates						
Age	0.208***	0.171***	0.170***	0.161***	0.208***	0.194***
	(0.010)	(0.010)	(0.015)	(0.014)	(0.016)	(0.015)
Age^2	-0.003***	-0.002***	-0.002***	-0.002***	-0.003***	-0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married		0.110***		0.096***		0.091***
		(0.008)		(0.015)		(0.014)
Number of Children		0.021***		0.034***		0.008
		(0.005)		(0.007)		(0.007)
Lagged Wage Growth		0.028***		0.027***		0.028***
		(0.000)		(0.001)		(0.001)
Years of Education		0.050***		0.078***		0.047***
		(0.003)		(0.005)		(0.004)
In Military		-0.115		0.278*		-0.374*
		(0.077)		(0.123)		(0.150)

Professional Job		0.077***		0.020		0.018
		(0.008)		(0.014)		(0.013)
Urban Area		0.034***		0.090***		-0.007
		(0.009)		(0.017)		(0.021)
Northeast		-0.120***		-0.198***		-0.047
North Central		(0.036)		(0.037)		(0.059)
		-0.037		-0.008		-0.036
West		(0.038)		(0.046)		(0.052)
		-0.065+		-0.044		-0.035
		(0.034)		(0.032)		(0.054)
Constant	3.076***	2.971***	3.484***	2.632***	3.150***	2.766***
	(0.141)	(0.137)	(0.207)	(0.203)	(0.220)	(0.215)
Variance Components						
Between Counties	-2.387***	-2.787***	-2.491***	-3.578***	-2.756***	-2.752***
	(0.145)	(0.174)	(0.215)	(0.695)	(0.270)	(0.277)
Rate of Change (Yr of Res)	-2.865***	-2.874***	-3.011***	-3.009***	-2.984***	-2.962***
	(0.022)	(0.020)	(0.036)	(0.034)	(0.037)	(0.034)
Between Individuals	-0.502***	-0.526***	-0.560***	-0.608***	-0.608***	-0.596***
	(0.014)	(0.014)	(0.024)	(0.024)	(0.028)	(0.027)
Covariance(Ind., Yr. of Res)	-0.688***	-0.787***	-0.587***	-0.662***	-0.749***	-0.864***
	(0.024)	(0.022)	(0.039)	(0.037)	(0.042)	(0.039)
Residual	-0.733***	-0.802***	-0.697***	-0.762***	-0.762***	-0.839***
	(0.004)	(0.004)	(0.006)	(0.006)	(0.007)	(0.007)
Observations	42207	42207	19409	19409	14597	14597
BIC	74968.775	69473.037	35242.877	32821.414	24407.497	22474.484

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Chapter 5:

Conclusion

This dissertation was guided by an interest in providing a more representative, inclusive view of the relationships between internal migration, individuals' economic outcomes, and changes in these relationships over time. Specifically, my research was informed by the expectation that internal migration research is incomplete without attending to the unique ways in which individuals' contexts shape their opportunities for and returns to migration. These individual contexts are influenced by factors such as one's racial, ethnic, and gender background, as well as the time period in which one is participating in the labor market and facing (more or less constrained) choices about where to live and work. As such, in this dissertation I endeavored to illustrate the role of intersectionality in internal migration research broadly and in the internal migration decline in particular. My dissertation was also motivated by a desire to better understand the potential economic implications of the migration decline for both migrants and non-migrants.

Chapter 2 utilized the NLSY79 and multilevel growth curve models to demonstrate that employing an intersectional lens is integral for understanding how the economic wellbeing of migrants and non-migrants and the returns to migration are shaped. It also demonstrated that internal migration is associated with racial and ethnic disparities in disparate ways for women and men that necessitate utilizing this intersectional lens. Chapter 3 harnessed both the NLSY79 and NLSY97, finding that the economic wellbeing of non-migrants has changed over time, while that of migrants has not. These changes point to the importance of considering the broader societal context when assessing the role of internal migration for facilitating individuals' access to economic opportunities. In Chapter 4, I bring the findings from Chapters 2 and 3 together to

demonstrate the value of considering race, ethnicity, and gender in analyses examining the internal migration decline and, specifically, changes in the returns to migration and the economic wellbeing of migrants and non-migrants across cohorts. Indeed, Chapter 4 illustrates that the findings from Chapters 2 and 3 are incomplete without attending to changes in the relationships between migration and economic outcomes over time and the structuring influence of migrants' and non-migrants' characteristics for these associations. Thus, my findings offer support for the importance of using an intersectional lens and considering the ways in which individual and societal contexts shape the opportunities for and outcomes associated with migration in unique and fundamental ways.

In this final chapter, I present a broader overview of the contributions this dissertation offers for the internal migration literature, the literature on the internal migration decline more specifically, and the literature on racial, ethnic, and gender stratification.

Internal Migration Literature: The Dilemma of Representativeness

Considerable research has shown that race, ethnicity, and gender are integral for influencing individuals' economic outcomes and opportunities. Given that internal migration is frequently precipitated by economic opportunities or the pursuit of economic opportunities, it is perhaps not surprising that I find that race, ethnicity, and gender shape the outcomes associated with migration for both the 1979 and 1997 cohorts. However, with the exception of the residential mobility literature, which focuses on short-distance moves, and the literature on regionally-specific migration streams, migration research rarely considers how the migration outcomes of black, Hispanic, and white women and men differ. Racial and ethnic minority women tend to be particularly underrepresented in the migration literature. Yet, my findings paint a theoretically important picture in which the returns to migration may be inflated by

focusing on white men, and perhaps understated by focusing on white women for some outcomes.

In particular, the average migration probabilities and outcomes of black women and men differ in important ways from the average migration probabilities and outcomes of whites and Hispanics. This is the case both when considering a single cohort of individuals, as in the case of Chapter 2, as well as in the context of the migration decline across cohorts, as explored in Chapter 4. Given that black women and men have historically and contemporarily faced particularly entrenched forms of discrimination in the job and housing market and are especially likely to be affected by the rise in incarceration and the end of the Great Migration, it is understandable that conflating the migration outcomes of blacks and whites would be especially misleading.

The findings that Hispanic and white migration outcomes differ in less substantial ways is also important. While there are still differences in some of these relationships that indicate the value of maintaining an intersectional analysis for Hispanics and whites, the overall similarity of the observed relationships for these groups is theoretically valuable. For example, this similarity aligns with research on segregation and neighborhood attainment that finds that differences in outcomes for Hispanics and whites tend to be smaller and somewhat more readily explained by gaps in socioeconomic characteristics than the differences in outcomes observed for blacks and whites (Charles 2003; Iceland and Wilkes 2006; Pais et al.2012). As such, migration opportunities and outcomes may be especially constrained by exposure to discrimination, experiences of and stereotypes surrounding incarceration, segregation, and other factors that are unique to or particularly prevalent among the black community. Given my lack of data on many of these factors and the expansion in scope exploring these explanations would require, I am

unable to examine potential explanations behind the disparities in the probabilities of and returns to migration observed here. However, my findings offer important, initial insights into how the relationships between internal migration and economic outcomes are shaped by race, ethnicity, and gender and indicate valuable avenues for future research to explore why these relationships vary in especially unique ways for blacks relative to Hispanics and whites.

Additionally, my findings demonstrate that examining migration outcomes for males does not provide representative insights into the migration outcomes of same-race females. It is only by exploring migration at the intersection of race, ethnicity, and gender that we can come to a more valid and representative understanding of migrant and non-migrant economic trajectories. Indeed, in Chapter 2, I found that inter-state migration was associated with improvements in work hours for black and, to a lesser extent, Hispanic females, but I did not find this for black and Hispanic males. Likewise, inter-state migration was associated with modestly higher hourly wages for Hispanic women in the mid-term, but this was not the case for Hispanic men. The returns to migration and the economic status of migrants and non-migrants have also changed in somewhat varying ways for same-race women and men, as illustrated in Chapter 4. For example, while both black women and men experience declines in their returns to migration, these changes are larger for black women. Hispanic males have also seen their returns to migration increase slightly, though Hispanic females have not. Moreover, white women and men have seen contrasting changes in their average probabilities of migrating, with white women migrating more, on average, over time and white men migrating somewhat less. Though the variations in these relationships tend to be more modest across gender than across race, they still point to the value of considering the unique ways in which gender shapes individuals' migration experiences and outcomes.

Overall, I therefore find that our understanding of migration dynamics is incomplete without attending to the ways in which race, ethnicity, and gender interact to shape migrants' and non-migrants' experiences and outcomes. Without considering these relationships, we miss that migration may exacerbate racial disparities in outcomes for men in the 1979 cohort, but not for women in the 1979 cohort. Similarly, migration may widen gender disparities in outcomes for whites, but not for blacks and Hispanics. It is also not apparent that the NLSY cohorts are exhibiting a decline in average migration probabilities or in the returns to migration until the sample is broken apart by race, ethnicity, and gender.

All of these variations have important implications for how we theorize about migration. For example, the concept of "tied movers" may be especially relevant for white women, but this concept may be less adequate for considering the migration experiences of black and Hispanic women, who are less likely to be married. Our understanding of "tied movers" may also need to be revised for younger cohorts in the context of apparently increasing average probabilities of migrating among young adult white and, in some cases, Hispanic women. Rational choice-based theories of migration may also better capture the experiences of white male migrants than black male migrants who have tended to benefit less from migrating in both the 1979 and 1997 cohorts and who are experiencing declining returns to migration. For this group, attending to structural changes in the economy and societal factors such as incarceration and discrimination may be important for understanding how their migration trajectories and outcomes are shaped. Thus, a more expansive theory of internal migration may be needed that better accommodates the role of race, ethnicity, and gender in influencing individuals' lives.

The Implications of the Internal Migration Decline

Theories of internal migration have also been challenged in recent years by the realization that individuals are migrating within the United States at progressively lower rates. My findings in Chapters 3 and 4 are valuable for understanding the potential implications of this decline and what it might mean for our understanding of internal migration and its relationship with individual economic outcomes. Much of the literature on the internal migration decline has explored why the migration decline is occurring. However, this literature does not illuminate what is happening on the ground for migrants and non-migrants. More specifically, it is unclear whether migrants and/or non-migrants are better or worse off economically than in the past and whether these relationships differ depending on one's race, ethnicity, and gender. This is important because the U.S. is in a prolonged period of widening inequality. Migration has historically been an important means of increasing individuals' exposure to economic opportunities, as well as to other people and places. If migration rates and individuals' wellbeing are declining, then it may mean that the migration decline is being driven by similar economic changes that are driving this increase in inequality or that the migration decline is even exacerbating these trends. Exploring these relationships therefore provides valuable insights into important social and political issues.

Indeed, Chapter 3 suggests that the migration decline could play into widening inequality and economic stagnation for some parts of the population. Though, in this chapter, migrants are largely not exhibiting meaningful changes in their economic wellbeing or their returns to migration across cohorts, non-migrants are doing significantly worse economically, particularly in terms of their weekly work hours and their weekly wages. The findings from this chapter therefore indicate that non-migrants may increasingly be left behind. While I am unable to explore why this decline in economic wellbeing is occurring, it could be a result of the increasing

instability of work schedules and/or the elimination of many middle-class occupations that once offered opportunities for socioeconomic and geographic mobility (Foster and Wolfson 2010; International Labor Organization 2012; Kalleberg 2011; Ornstein 2007). These findings suggest important avenues for future research on the migration decline, indicating that it may be valuable for research interested in explaining the decline to examine changes occurring among non-migrants.

While the findings from Chapter 3 are compelling, they are complicated in substantial ways by the findings in Chapter 4 that suggest that the implications of the migration decline do not fit a simple narrative. Indeed, it is largely only among black women and men that the returns to migration have declined over time, a finding not evident in Chapter 3 and one that indicates that the migration decline may not just be a story of non-migrants being left behind. White men and, especially, white women in contrast have seen their economic wellbeing decline and these declines are evident for both migrants and non-migrants. Hispanic women have also seen their weekly wages decline somewhat across cohorts. However, white women have seen their average migration probabilities increase and, at many ages, so have Hispanic women. While this dissertation did not examine migration probabilities directly, these initial descriptive findings suggest that it is not straightforward to attribute the migration decline partially to a decline in the economic status of non-migrants because those are largely not the trends that are observed in Chapter 4, particularly for the groups who actually appear to be migrating less.

The stories told by Chapters 3 and 4 are therefore complicated, though that complication fits well within the literature on reasons behind the migration decline, which indicates that numerous societal changes are occurring, many of which seem to play roles in explaining the decline. Similarly, my findings suggest a multifaceted story where black women and men are

migrating less on average and, correspondingly, their returns to migration are decreasing. It would therefore be valuable for future research to explore whether diminishing returns to migration help explain the migration decline for blacks and why these changes might be occurring. It would also be valuable for future research to examine whether the modest decline in average migration probabilities among white men is due to their worsening economic wellbeing. The results for white women are particularly difficult to reconcile with our understanding of internal migration broadly and the internal migration decline in particular. Though migration is largely not associated with significant economic benefits for white women, white women are still migrating more, on average, across cohorts. This may be because white women are more likely than in the past to find themselves in occupations that require migration, a possibility that would be consistent with the increasing representation of women in non-stereotypically female occupations (Blau et al. 2013; England 2010; Jacobs 1989; Reskin 1993). White women may also be migrating more for non-economic reasons such as a desire to move to locations that have affordable housing or greater amenities. Exploring explanations behind the relationships I observe, as well as directly exploring migration probabilities among black, Hispanic, and white women and men, would be valuable for better understanding why individuals choose to migrate, how those choices are structured by their demographic and social context, and how those decisions and contexts play into their subsequent migration outcomes.

Internal Migration and Racial, Ethnic, and Gender Stratification

Another primary goal of this dissertation was examining how internal migration is associated with racial, ethnic, and gender disparities in economic outcomes. The United States is a highly stratified country. Exploring whether internal migration is associated with larger or narrower disparities in outcomes may point to potential means of ameliorating disparities in

outcomes or, alternatively, it may enhance our understanding of how disparities are reinforced or exacerbated. As such, this focus has scholarly and policy import. Similar to the findings for the internal migration decline, the story is not a simple one. Chapter 2 illustrates that, for males, internal migration is associated with wider racial and ethnic disparities in outcomes. With the decline in the returns to migration observed for black males in Chapter 4, migration still appears to widen racial disparities in outcomes among black and white males and may even increasingly do so, though there is no suggestion that migration is increasingly widening disparities between Hispanic and white males over time.

The findings for females differ in fundamental ways from the findings for males. In Chapter 2, I found that internal migration was associated with slightly wider racial disparities in wages for females, but narrower racial disparities in work hours. This narrowing is large enough to indicate that internal migration is associated with smaller disparities in economic outcomes for females in the 1979 cohort. However, Chapter 4 suggests that these relationships may have changed over time. As black females have earned lower returns to migration across cohorts, migration may no longer be associated with narrower disparities in economic outcomes and may even be associated with widening disparities. Hispanic and white women, in contrast, largely exhibit similar outcomes and returns to migration.

The declining returns to migration among black women and men indicate that it may be valuable for policymakers to prioritize enhancing individuals' economic opportunities in their origin areas. It is also possible that with the rise of the technology sector and the growth of tech hubs in areas with high costs of living, migration is becoming more selective and less beneficial for those who cannot capitalize on this industry growth. If this is the case, policymakers could consider enhancing individuals' opportunities to receive training in economically dynamic and

growing fields. Finally, if the rise in incarceration plays into the declining average probabilities of migrating and the declining returns to migration among blacks, it offers further motivation for curbing the U.S.'s reliance on mass incarceration and addressing mass incarceration's detrimental effects on racial stratification. While I am unable to disentangle why these changes are occurring for blacks, this would be a valuable avenue for future research in order to understand how racial disparities in outcomes are formed and reinforced.

Summary

In conclusion, this dissertation has illustrated the importance of employing an intersectional lens when analyzing the opportunities and outcomes associated with internal migration, as well as changes in these relationships over time. Indeed, without doing so we may fundamentally misunderstand the costs and benefits associated with migration, which has important consequences for how we theorize about internal migration and how we conceptualize internal migration as a potential tool for enhancing individuals' economic outcomes. Utilizing an intersectional perspective is also vital for understanding the implications of the internal migration decline. Thus, to truly understand the relationships between internal migration and economic outcomes, scholars must attend to both migrants' and non-migrants' individual and societal contexts. This means accounting for the ways in which individuals' race, ethnicity, gender, and even other factors not explored by this dissertation shape the opportunities and obstacles associated with migrating and realizing the potential benefits of migration. Attending to the context of migration also means understanding that migration experiences do not happen in a vacuum but are rather influenced by the broader societal context and, as such, are subject to change over time. My dissertation provides valuable initial insights into the role of intersectionality and the changes occurring in the relationship between internal migration and

economic outcomes over time. It would be valuable for future research to delve into these relationships more deeply in order to understand why changes are occurring and what these explanations mean for how we understand, theorize about, and study migration.

References

Blau, Francine, Peter Brummund, and Albert Yung-Hsu Liu. "Trends in Occupational Segregation by Gender 1970-2009: Adjusting for the Impact of Changes in the Occupational Coding System." *Demography* 50(2): 471-492.

Charles, Camille Zubrinsky. 2003. "The Dynamics of Racial Residential Segregation." *Annual Review of Sociology* 29: 167-207.

England, Paula. 2010. "The Gender Revolution: Uneven and Stalled." *Gender and Society* 24: 149-166.

Foster, James and Michael Wolfson. 2010. "Polarization and the Decline of the Middle Class: Canada and the U.S." *The Journal of Economic Inequality* 8(2): 247-273.

Iceland, John and Rima Wilkes. 2006. "Does Socioeconomic Status Matter? Race, Class, and Residential Segregation." *Social Problems* 52, 2: 248-273.

International Labor Organization. 2012. "From Precarious Work to Decent Work: Outcome Document to the Workers' Symposium on Policies and Regulations to Combat Precarious Employment." Geneva: International Labour Offce, Bureau for Workers' Activities. http://www.ilo.org/wcmsp5/groups/public/@ed_dialogue/@actrav/documents/meetingdocument/wcms_179787.pdf

Jacobs, Jerry. 1989. "Long-Term Trends in Occupational Segregation by Sex." *American Journal of Sociology* 95(1): 160-173.

Kalleberg, Arne. 2011. *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s-2000s*. New York, NY: Russell Sage Foundation.

Ornstein, Allan. 2007. *Class Counts: Education, Inequality and the Shrinking Middle Class*. Lanham, MD: Rowman & Littlefield Publishers.

Pais, Jeremy, Kyle Crowder, and Scott J. South. 2012. "Metropolitan Heterogeneity and Minority Neighborhood Attainment: Spatial Assimilation or Place Stratification?" *Social Problems* 59(2): 258–281.

Reskin, Barbara. 1993. "Sex Segregation in the Workplace." *Annual Review of Sociology* 19:241-270.

Vita

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