

University of Massachusetts Amherst

ScholarWorks@UMass Amherst

Doctoral Dissertations

Dissertations and Theses

October 2021

THREE ESSAYS ON LABOR AND MARRIAGE MARKETS: FARM CRISIS AND RURAL-TO-URBAN MIGRATION IN THE UNITED STATES, 1920-1940

Jennifer Withrow

University of Massachusetts Amherst

Follow this and additional works at: https://scholarworks.umass.edu/dissertations_2



Part of the [Economic History Commons](#)

Recommended Citation

Withrow, Jennifer, "THREE ESSAYS ON LABOR AND MARRIAGE MARKETS: FARM CRISIS AND RURAL-TO-URBAN MIGRATION IN THE UNITED STATES, 1920-1940" (2021). *Doctoral Dissertations*. 2384.
<https://doi.org/10.7275/23726089> https://scholarworks.umass.edu/dissertations_2/2384

This Open Access Dissertation is brought to you for free and open access by the Dissertations and Theses at ScholarWorks@UMass Amherst. It has been accepted for inclusion in Doctoral Dissertations by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

**THREE ESSAYS ON LABOR AND MARRIAGE MARKETS:
FARM CRISIS AND RURAL-TO-URBAN MIGRATION IN THE UNITED
STATES, 1920-1940**

A Dissertation Presented

by

JENNIFER WITHROW

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

September 2021

Economics

© Copyright by Jennifer Withrow 2021

All Rights Reserved

**THREE ESSAYS ON LABOR AND MARRIAGE MARKETS:
FARM CRISIS AND RURAL-TO-URBAN MIGRATION IN THE UNITED
STATES, 1920-1940**

A Dissertation Presented

by

JENNIFER WITHROW

Approved as to style and content by:

Carol E. Heim, Chair

Ina Ganguli, Member

Laura Lovett, Member

James Heintz, Department Chair
Economics

DEDICATION

To the hard-to-find women of history

ACKNOWLEDGMENTS

This dissertation has benefitted tremendously from my advisors, fellow graduate students, mentors, friends, and family. My chair, Carol Heim, has been a constant source of encouragement, advice, and guidance. Her mentorship has helped me to become a better researcher, writer, economist, and historian, and I am so grateful for her support. I am also indebted to the other members of my committee, Ina Ganguli and Laura Lovett, who were instrumental in guiding my approach and interrogation of both my quantitative and qualitative sources, and whose own approaches to economics and history inspired my work. Work on this dissertation was funded by the Center for Research on Families and Graduate School at the University of Massachusetts Amherst and the Mary Lily Foundation at Duke University, whose support granted me the resources with which to conduct archival research.

Other faculty at UMass were important sources of discussion, problem-solving, and inspiration, and I am thankful for the many who brainstormed with me or provided feedback on drafts and presentations, including Nancy Folbre, Jerry Friedman, Vamsi Vakulabharanam, Daniele Girardi, and Christopher Boone. Thank you to Arin Dube for helping me to access restricted complete count census data. Attendees of the Urban, History, and Industrial Organization and History and Development workshops provided valuable feedback. I am very thankful to Mark Landeryou, who gives so much of his time to graduate students and dispenses essential advice and support.

My fellow graduate students who passed through the Economics Department at UMass with me provided irreplaceable inspiration, expertise, and encouragement. I am especially thankful to (in no particular order) Amal Ahmad, Khwlah Almutair and her

daughter Whateen, Carly McCann, Bridget Diana, Adam Aboobaker, Esra Uğurlu, Eunjung Jee, Tyler Hansen and his wife Lindsey, Karmen Naidoo, Francisco Pérez and his partner Natalia Linares, Brandon Taylor, Ihsaan Bassier, Leila Gautham, Manuel García, Ben Chalmers, and many others who were and remain draft-readers, advice-givers, knit-a-long partners, tower-running-buddies, and friends.

Many thanks to Ellora Derenoncourt and Marco Tabellini, who read multiple drafts of my second chapter and dispensed essential advice especially during my final year. I am also extremely grateful to my former professors at Simmons College in Boston: Carole Biewener, Masato Aoki, and Niloufer Sohrabji, who inspired me to pursue an economics Ph.D. and remained constant sources of support after I graduated.

I'm indebted to my treasured friends of Cape Cod and Boston, who kept me grounded and were ready to celebrate every milestone with me. My parents, Donna and Dave, provided unyielding support and love, and helped instill in me the belief that doing my best was enough. My sister Kim, my brother-in-law Chris, and my niece Nora were similarly sources of endless encouragement and love. My niece Nora's curiosity combined with her healthy skepticism of everything she encounters has been both hilarious to observe and a lesson in research.

Finally, I am eternally grateful to my partner, Aaron Kucyi, whose love for me and belief in my ability stretched over 3,000 miles while long distance and buoyed me while three feet apart in quarantine. His pure love for science and endless pursuit of knowledge were and are inspirations for me to never give up on my goals. I love you.

ABSTRACT

THREE ESSAYS ON LABOR AND MARRIAGE MARKETS: FARM CRISIS AND RURAL-TO-URBAN MIGRATION IN THE UNITED STATES, 1920-1940

SEPTEMBER 2021

JENNIFER WITHROW, B.A., SIMMONS UNIVERSITY

M.A., UNIVERSITY OF MASSACHUSETTS AMHERST

Ph.D., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Carol E. Heim

Race and gender create differential responses to, and outcomes of, economic crisis. In this dissertation, I study the intersection of race and gender in the context of steep declines in farm commodity prices during the U.S. farm crisis of the 1920s and 1930s. Against this backdrop, women altered their marriage timing, increased their labor force participation, and migrated off-farm. Previous quantitative studies of this period typically omitted women due to challenges linking women from one historical census to the next after marriage. I create new datasets following women over both decades and draw on archival sources to explore the impact of the crisis on Black and white women as well as men.

Chapter 1 examines to what extent the decline in farm commodity prices reduced farm tenure mobility (from wage worker to tenant to owner) and the “marriageability” of men in the South and Midwest. Using an instrumental variable approach leveraging changes in global farm commodity prices, I show that the crisis reduced white Southern tenure mobility, and white Southern women delayed marriage as a result. Racial differences in access to land ownership and regional differences in inheritance practices

insulated Southern Black families and Midwestern white families from some effects of the crisis.

In Chapter 2, I create a novel dataset of over 200,000 women linked from the 1920 to 1930 or 1930 to 1940 U.S. population censuses to understand the economic, societal, and familial drivers of women's off-farm migration. Women, facing a more limited set of economic opportunities, were more likely to migrate than men. Racial segregation in both urban employment and farming led to significant differences among women, as Black women were more constrained by family responsibilities and had fewer opportunities for urban work that rewarded education.

Finally, Chapter 3 evaluates migration outcomes for women who left. I find that migrants were more likely to be employed in wage-earning work, earn more, and have marriage partners with above-median occupational income scores. I combine these results with qualitative evidence to highlight how female migrants to the city sought not only better employment opportunities or marriage partners, but autonomy.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	v
ABSTRACT.....	vii
LIST OF TABLES	xii
LIST OF FIGURES	xv
INTRODUCTION	1
 CHAPTER	
1 FARM CRISIS AND MARRIAGEABLE MEN: TENURE MOBILITY AND FAMILY FORMATION DURING ECONOMIC CRISIS	5
1.1 Introduction.....	5
1.2 Theoretical background	9
1.2.1 The marriage market and the labor market	9
1.2.2 Non-market work and the farm	12
1.3 Historical background	13
1.3.1 Marriage and the U.S. farm family	13
1.3.2 The 1920s/1930s farm crisis	15
1.3.3 Economic mobility and the agricultural tenure ladder	17
1.4 Data and empirical strategy	23
1.4.1 Data sources	23
1.4.2 Measuring local exposure to the farm crisis	23
1.4.3 Instrument validity	28
1.4.4 Effects of the farm crisis	30
1.4.4.1 Farm tenure mobility: linking men across censuses	30
1.4.4.2 Marriage rates among women	33
1.4.4.3 Fertility	33
1.4.4.4 Off-farm work	34
1.4.5 Estimating equation	34
1.5 Results.....	35

1.5.1	Tenure mobility	35
1.5.2	Marriage	40
1.5.3	Fertility and off-farm work	47
1.6	Conclusion	48
2	“THE FARM WOMAN’S PROBLEMS”: FARM CRISIS IN THE U.S. SOUTH AND MIGRATION TO THE CITY	51
2.1	Introduction	51
2.2	Historical background: farm crisis and the Great Migration	56
2.3	Mechanisms in gendered rural-to-urban migration.....	58
2.3.1	Roy Model of migrant selection	59
2.3.2	The farm crisis and other push factors	62
2.4	Data	66
2.4.1	Creating a linked dataset of women and men	66
2.4.2	Linked sample vs. population	70
2.4.3	Farm crisis variables	71
2.5	Empirical approach	75
2.6	Results.....	77
2.6.1	Gendered migration streams	77
2.6.1.1	Gender differences in farm-to-urban migration.....	77
2.6.1.2	Types of farm-to-urban migration.....	84
2.6.2	The farm crisis and gender segregation on the farm.....	86
2.6.3	Selection into migration: education and the family	92
2.7	Conclusion	100
3	IN THE CITY: OUTCOMES FOR SOUTHERN RURAL-TO-URBAN MIGRANT WOMEN	102
3.1	Introduction.....	102
3.2	Theoretical and historical background.....	106
3.2.1	Gender equality and social mobility as pull factors.....	106
3.2.2	Women’s work in the early twentieth century	108
3.2.3	Urbanization, anonymity, and autonomy	111

3.3	Data and descriptive statistics	113
3.3.1	Linked women: migrants and non-migrants	113
3.3.2	Women's lives on the farm and in the city	115
3.4	Empirical strategy	123
3.5	Outcomes of migration	126
3.5.1	Single women.....	126
3.5.2	Household selection and migration outcomes	131
3.5.3	Married women	135
3.6	Conclusion	139
CONCLUSION.....		142
APPENDICES		
A.	APPENDIX TO CHAPTER 1	146
A.1	Falsification tests	146
A.2	Matching men	149
A.2.1	Matching procedure	149
A.2.2	Matched vs. un-matched sample comparisons.....	149
A.3	OLS results.....	151
B.	APPENDIX TO CHAPTER 2	154
B.1	Matching women	154
B.1.1	Matching procedure	154
B.1.2	Matched vs. un-matched sample comparisons.....	160
B.2	Robustness	166
C.	APPENDIX TO CHAPTER 3	167
C.1	Matching women	167
C.1.1	Matching procedure	167
C.1.2	Matched vs. un-matched sample comparisons.....	167
BIBLIOGRAPHY		170

LIST OF TABLES

Table	Page
Table 1.1: Share Tenure Type by Region	18
Table 1.2: Mean and Percentiles of Decadal Change in Crop Prices	27
Table 1.3: Shift-Share Instrument Descriptive Statistics	29
Table 1.4: Depressed Farm Earnings Impact on Farm Tenure Mobility, All	36
Table 1.5: Depressed Farm Earnings Impact on Black Marriage Rates, South.....	41
Table 1.6: Depressed Farm Earnings Impact on White Marriage Rates, South	42
Table 1.7: Depressed Farm Earnings Impact on White Marriage Rates, Midwest.....	43
Table 1.8: Depressed Farm Earnings Impact on Other Outcomes, All	48
Table 2.1: Farm Crisis, Summary Statistics.....	75
Table 2.2: Gender and Migration Likelihood	78
Table 2.3: Multinomial Logit, Migrant Sorting	85
Table 2.4: Gendered Responses to the Farm Crisis, 1920s.....	89
Table 2.5: Gendered Responses to the Farm Crisis, 1930s.....	92
Table 2.6: 1920s Migrant Selection: Individual and Family Characteristics.....	95
Table 2.7: 1930s Migrant Selection: Individual and Family Characteristics.....	97
Table 3.1: 1940 Relationship to Household Head, Migrants and Non-migrants: Single Women	116
Table 3.2: Wage-Earning Occupations, Migrants and Stayers	118
Table 3.3: OLS Estimates of Outcomes of Migration, Single Women	127
Table 3.4: OLS and Within-Household Estimates of Outcomes of Migration, Single Women	134
Table 3.5: OLS Estimates of Outcomes of Migration, Married Women	137

APPENDIX TABLES

Table A.1: Depressed Farm Earnings Impact on Farm Tenure Mobility, 1910-1920	146
Table A.2: Depressed Farm Earnings Impact on Southern Marriage Rates, 1910-1920	147
Table A.3: Depressed Farm Earnings Impact on Midwestern Marriage Rates, 1910-1920	148
Table A.4: Depressed Farm Earnings Impact on Other Outcomes, 1910-1920	148
Table A.5: Match Rates	149
Table A.6: Un-Matched vs. Matched, 1910.....	150
Table A.7: Depressed Farm Earnings Impact on Farm Tenure Mobility: OLS.....	151
Table A.8: Depressed Farm Earnings Impact on Black Marriage Rates, South: OLS	151
Table A.9: Depressed Farm Earnings Impact on White Marriage Rates, South: OLS	152
Table A.10: Depressed Farm Earnings Impact on White Marriage Rates, Midwest: OLS	152
Table A.11: Depressed Farm Earnings Impact on Other Outcomes, All: OLS	153
Table B.1: Place of Marriage	156
Table B.2: Marriage Certificate-to-Census Match Rates.....	159
Table B.3: Census-to-Census Female Matches	159
Table B.4: Male Matches	160
Table B.5: 1920-1930 Sample: Un-Matched vs. Main Match, Unweighted	161
Table B.6: 1930-1940 Sample: Un-Matched vs. Main Match, Unweighted	162
Table B.7: 1920-1930 Sample: Un-Matched vs. Matched Samples, Weighted	164
Table B.8: 1930-1940 Sample: Un-Matched vs. Matched Samples, Weighted	165
Table B.9: Baseline Migration Rates, Alternative Samples	166
Table C.1: Match Rates, Full Sample	167

Table C.2: Single Un-Matched vs. Matched Samples	168
Table C.3: Married Un-Matched vs. Matched Samples	168
Table C.4: Married Un-Matched vs. Matched Samples, Black (Migrants vs. Non-migrants)	169

LIST OF FIGURES

Figure	Page
Figure 1.1: Share of Farm Operators who are Tenants or Owners, 1900-1950.....	19
Figure 1.2: Changes in Farm Commodity Price Indices, 1900-1940	25
Figure 1.3: Change in Crop Price Index, 1920-1930	26
Figure 1.4: Change in Crop Price Index, 1930-1940	27
Figure 2.1: Farming Population Male-to-Female Ratio.....	59
Figure 2.2: Debt Prevalence.....	73
Figure 2.3: Debt Burden	74
Figure 2.4: AAA Spending Per Capita, 1933-1939	75
Figure 3.1: Occupation Rank in 1940, Migrants vs. Non-migrants.....	120
Figure 3.2 : Occupation Rank in 1940, Migrant Husbands vs. Non-migrant Husbands	122

APPENDIX FIGURES

Figure B.1: Birth Counties of Married Women	155
Figure B.2: State Sources of Marriage Certificates	157
Figure B.3: Matching Women using Marriage Certificates.....	158

INTRODUCTION

Becoming a trified bored with this [farm work's] unexciting round of toil, the farmer's daughter casts an understanding eye at the farmer's son who has been hanging around her ivy-clad porch, reflects upon what he has to offer, and catches the next train to Squedunk or New York.

— excerpt from *The Literary Digest*, 1920

When Della Thompson, a young white woman from rural Virginia, was interviewed by the Southern Women's Educational Alliance in 1930 as to why she wanted to go to the city, she described a farm that was lost to foreclosure and a family that was struggling to support her and her nine sisters. She explained that in the city she could earn her own money and "she would like to marry a professor or next best, a rich man and 'go in for everything'" (Hatcher 1930, 16-17). Minnie Whitney, a Black woman who was interviewed as part of an oral history project on the Great Migration, described her early realization that she had many years ahead of her working the fields under the supervision of her father as her main reason for leaving:

. . . my dream was that I would grow up at home, have a big house and six kids and be [a] farmer's wife. . . I would be taking care of the children while he was in the field making the living. That was my dream. But when I found out that. . . my dream wasn't coming true, and I was going to still work. . . I realized that was too many years that I had to stay under the bondage of the family, so I left. (Whitney 1984)

The U.S. farm crisis of the 1920s and 1930s, defined by steep drops in farm commodity prices and rising foreclosure rates, arrived at a time when a transition was already taking place in the farming community: rural-to-urban migration. In 1910, 34.7 percent of the U.S. population was in farming. By 1940, it was 23.1 percent, and by 1960, only 8.7 percent. A large part of this migration consisted of women, who I find were more likely than men to migrate off-farm during both decades. The family farm presents a unique economic organization, as women worked side-by-side with their husbands, and children with their

parents, in both home production and market production. Women's access to farming was often only through marriage, and while early twentieth-century women contributed many hours to the farm, their work was often invisible. Often recorded by the U.S. Census of Population as "unpaid family workers," for these women the farm was a place of hard work with little personal monetary reward. Discrimination based on race further limited economic opportunity and social mobility on the farm. Black farmers were routinely denied ownership opportunities, and many Black farm families lived their whole lives on sharecropping farms with few opportunities to acquire the land or capital to move up the farm tenure ladder to ownership.

In this dissertation, I follow the lead of feminist economists, historians, and sociologists by taking an intersectional approach, looking at how gender intersected with race in responses to, and outcomes of, the farm crisis. The crisis highlights the unique relationships among the labor, marriage, and land markets in farming, and how all three determine economic outcomes in the context of these identities. As women experienced the upheaval of the farm family and altered their expectations and actions regarding acquiring farmland through marriage and working under the supervision of their husband, or pursuing independent wage work or other marriage opportunities, the crisis fundamentally changed rural life. In outlining the mechanisms that influenced these reactions and outcomes, I explore how they were conditioned by historical and structural sources of discrimination based on race and gender.

To date, economic scholarship on women during this period has been limited by challenges in data collection. As many studies on migration within and to the United States during this period rely on datasets of individuals linked from their place of origin to their

destination over time, finding women who changed their names after marriage has proven difficult. Using marriage certificates, this dissertation provides the first economic analysis of linked census data of both married and single women who took part in rural-to-urban migration during the first half of the twentieth century. Excluding women from the documentation of rural-to-urban migration of the twentieth century not only neglects a major part of the story, but ignores the reality that women were more likely than men to leave the farm. These results are complemented by primary qualitative sources containing women's own voices. In oral histories, autobiographies, and interviews conducted at the time, women speak to the reasons they left the farm, and about what happened to them once they arrived in the city. By focusing on women, the following chapters explore how gender and racial dynamics, and their intersection, can change family formation, influence migration flows, and alter migration outcomes.

The dissertation is organized as follows: Chapter 1 addresses to what extent exposure to the farm crisis reduced the marriageability of farm men and whether women delayed marriage as a result. The chapter addresses how not only the loss of male economic mobility, but also the loss of family wealth through land, has effects on women's marriage behavior. Chapter 2 examines women's rural-to-urban migration off-farm. It takes a critical view of the simple Roy model of migrant selection, meaning an analysis of the characteristics of those who "selected" into migration compared to those who stayed. The simplest versions of the model consider the individual migrant as genderless or, more often, male, and if the household decision is considered, it is seen as occurring without conflict. Both Chapter 2 and Chapter 3 challenge the use of the simple Roy model for understanding migrant selection, especially in the case of rural-to-urban migration during this period. They advocate for more

complex versions that directly study the role of the patriarchal household and socio-cultural expectations based on gender. In this chapter, I highlight how labor markets that were segregated by gender and race directly influenced who among potential migrants made the journey. Finally, Chapter 3 asks what happened to the women who left the farm. Did they achieve their hopes of economic independence, better marriage partners, and greater autonomy? Were the expectations that propelled women off-farm aligned with the reality facing the women who left, including those women who were further disadvantaged by their race or farm-class background? This chapter explores how women's sometimes-conflicting desires for independent work opportunities and societal expectations of their labor force participation before and after marriage (including on-farm versus off), collided in women's expectations about their work and marriage lives post-migration.

Together, these chapters not only document women's experiences during the farm crisis, but also challenge the lack of gender analysis in studies of economic crisis and migration. By incorporating systematic quantitative data on women during this period in addition to qualitative sources in the form of oral histories, autobiographies, and interviews, this dissertation aims to provide an approach to this period that centers race and gender, and emphasizes the necessity of an intersectional approach in order to fully understand historic economic events.

CHAPTER 1

FARM CRISIS AND MARRIAGEABLE MEN: TENURE MOBILITY AND FAMILY FORMATION DURING ECONOMIC CRISIS

1.1 Introduction

Over the course of the early twentieth century, more and more women rejected their country upbringing for life in the city, upending farm family formation. These changes were compounded by the farm crisis that occurred during the 1920s and 1930s. In this chapter, I estimate to what extent the steep decline in farm commodity prices during the U.S. farm crisis of the 1920s and 1930s was a catalyst of changes to women's marriage rates, fertility, and participation in off-farm work. U.S. farm women in the United States during this period had limited access to independent work opportunities apart from their labor in family farm production and household work. Farm family tenure mobility, meaning movement from farm wage workers to tenancy to farm ownership, was the primary avenue for women's economic mobility, and they typically could access it only through marriage. When the farm crisis arrived in 1920 and farm tenure mobility declined, women in rural agricultural areas faced a decline in the marriageability of their potential male spouses amid personal and familial financial struggle. I explore how they adjusted their marriage, fertility, and off-farm labor force participation in response.

The farm crisis during the 1920s and 1930s was the result of steep drops in farm commodity prices following a decade of agricultural boom during which many farm owners took out debt and expanded production. In addition to the farm foreclosures that followed, federal recovery programs like the Agricultural Adjustment Act (AAA), which paid farmers to take land out of production, led to increased mechanization of farming, reduced demand

for sharetenants and sharecroppers, and reduced farm sector employment as former farmers left for jobs in cities (Whatley 1983; Fishback, Horrace, and Kantor 2006). In this chapter, I focus specifically on the drop in farm commodity prices, isolating the impact of decreased earnings opportunities in farming. If the drop in farm commodity prices made it more difficult to afford the capital necessary to farm on one's own, and if the result was an upending of men's ability to buy land and support a new family on the farm, women may have looked elsewhere for "marriageable" men and adjusted their marriage timing as a result.

This chapter examines how women altered their marriage timing, fertility, and labor force participation in the context of increasing uncertainty about the stability, longevity, and mobility of the farm family in a sector strongly rooted in patriarchy and family work. I leverage geographic variation in declines in crop prices using a shift-share instrument, which weights a county's exposure to the crisis by the share of land devoted to each crop. This strategy follows closely that used in Autor, Dorn, and Hanson (2019). The instrument allows me to causally estimate to what extent declines in farm earnings affected the farm tenure mobility of men and their families. I use complete-count United States census data to follow men over time, tracking movements from wage worker to tenant to owner over each decade. I then test whether the fall in farm earnings had significant effects on this mobility, on the patterns of early or late marriage, on fertility, and on women's decisions to take off-farm work. I examine the South and Midwest separately to highlight how Black farmers' limited access to farm ownership or ability to sell their own crops (due to sharecropping contracts) may have partially insulated them from the effects of the crisis in prices. These effects would be independent of other aspects of the bust, such as AAA policies, that had devastating effects on Black farmers further down the tenure ladder.

The effects of this crisis were likely to be dramatically different depending on race, socioeconomic status, and region. Those who were able to hang on to a family farm or acquire the capital and land with which to move a new family during the crisis, largely benefitted from access to those resources. A family that owned its farm or had a tenancy contract based on cash rent had an elevated socioeconomic position, opening up more education opportunities and better marriage prospects for its children. If tenants were working family land, and family inheritance played an important role in tenant mobility, as was the case in the Midwest, they may have been somewhat insulated from the shocks to farm finances. In the South, where inheritance played a smaller role in acquiring a new farm, mobility was much more susceptible to crisis. Black men and women were routinely denied opportunities for farm ownership as a result of both federal initiatives and resistance by private individuals, and when mobility barely existed at the outset, these farmers were less likely to be affected by declining mobility opportunities. These differences by both race and region in access to farming are reflected in my results, as I find that it is Southern white mobility that is most affected, and it is Southern white women who are delaying marriage to a greater degree. I seek to disentangle the roles of race and class and their intersection with gender in the family formation patterns of rural women during this farm crisis.

This chapter contributes to a larger literature on how adverse shocks to the supply of marriageable men can change family formation patterns. Studies of other periods show how marriage patterns were altered by changes in the supply of marriageable men, and highlight how especially in adverse labor market conditions for men, women will marry at lower rates (Wilson 1987; Blau, Kahn, and Waldfogel 2000; Bertrand, Kamenica, and Pan 2015; Brainerd 2017; Autor, Dorn, and Hanson 2019). Other historical work on farming

communities shows the impact on marriage rates of environmental shocks such as the boll weevil infestation of 1892-1922 (Bloome, Feigenbaum, and Muller 2017) and how when the availability of either land or capital that would enable the support of a new farm family declines, marriage is also delayed (Hajnal 1965; Landale 1989; Block 2000). My chapter also complements the recent working paper by Kitchens and Rodgers (2020), which examines how the boom in farming in the 1910s and the first decade of crisis, and the resulting increased opportunity cost of having children due to higher farm wages for women, reduced their fertility. I examine a different mechanism in changes to farm family formation: tenure mobility. I also highlight how women's limited independent access to earnings or farmland underscores how the labor, marriage, and land markets interacted in the farming sector to reduce the attractiveness of the farm family and marriage for many women during the crisis.

This chapter makes three major contributions. First, I show that declines in farm commodity prices resulted in reduced white farm tenure mobility in the South and pushed Midwestern farmers off the ladder. However, they had no effect on Black tenure mobility. These differences underscore the diverse tenure experiences in the Midwest versus the South, as well as the role of race in limiting tenure mobility long before the crisis occurred. Second, I link the farm crisis to marriage rates. In counties in the South hit hardest by the farm crisis, I find declines in ever-married rates among white women. Among Black and Midwestern white women, there is a smaller effect, likely due to the subdued impact of the crisis on tenure mobility for those groups. Finally, I show that the decline in farm commodity prices had little effect on women's off-farm labor force participation but did negatively impact Black women's fertility, once again highlighting specific aspects of family farm labor that

existed for those relegated to lower rungs of the tenure ladder. Sharecroppers had the least resources to care for additional children. These results underscore that an adverse labor market shock to men's economic mobility, and by extension the farm family's economic mobility, can have a substantial impact on women's marriage rates and family formation, but that these are mitigated by social and economic stratification that may limit mobility from the outset.

1.2 Theoretical background

1.2.1 The marriage market and the labor market

Neoclassical economic theories of the family and family formation discuss how within married couples, there is often specialization that takes place between market and non-market work (Becker 1981). In the early twentieth-century United States, men generally specialized in market work and women in non-market work. Women who wanted to get married were faced with the choice to either enter the marriage market (and possibly exit market work) or to remain in the paid labor market for a longer period before marriage. Whether a woman enters the marriage market or stays in the labor market can depend on the supply of "marriageable" men, meaning a supply of potential male partners who are high earners with stable employment. This often-idealized status of middle-class marriage was often not achievable for poor white women and most Black women. Poor white women and Black couples who faced racial discrimination in both hiring and wages often had to have both partners working. Jones (1985) describes this reality for Black women:

Marriage intensified the differences between black and white working-class women. Although many young working girls might have indulged in romantic fantasies about marriage, few black women could count on a wedding to end their days of sustained wage earning. And the white mistress-black maid relationship preserved the inequalities of the slave system (in fact that is the analogy some domestics made), and

thus a unique historical legacy compounded the humiliations inherent in the servant's job. (150)

Many studies of more recent time periods show changes in marriage patterns due to changes in the supply of marriageable men. In instances where there are worse labor market opportunities for men (or better labor market opportunities for women), marriage rates among women fall (Bertrand, Kamenica, and Pan 2015). Blau, Kahn and Waldfogel (2000) show that among white women between 1970 and 1990, improved labor market conditions for women and worse marriage markets (defined by level of adult male unemployment) lowered marriage rates among young (16-to-24-year-old) women. Wilson (1987) shows how the loss of jobs among Black men contributed to the rise of single-parent households. Others (Darity and Meyers 1990; Bennett, Bloom, and Craig 1989) explore how mass incarceration of Black men has led to a rise in Black female-headed households. When examining the effect of Chinese import penetration on manufacturing communities in the United States, Autor, Dorn, and Hanson (2019) show that a decline in manufacturing due to Chinese import penetration from 1990 to 2007 reduced the supply of marriageable men and thereby reduced the prevalence of marriage and fertility, particularly in dual-parent households.

Early literature on marriage market behavior generally traces two types of marriage patterns: the European marriage pattern and the traditional, non-European marriage pattern (Hajnal 1965). The European marriage pattern is characterized by later unions and higher prevalence of unmarried individuals; it follows a decline in available farmland. Traditional marriages typically take place when the individuals are younger. Age at first marriage is usually determined by the availability of a spouse, the feasibility of marriage, and the desirability of marriage largely conditioned by social norms (Dixon 2011). Family formation in U.S. farming communities in the early twentieth century was characterized by early

marriage and high fertility. Recent work on environmental catastrophes such as the boll weevil underscores how crises in the farm sector can disrupt these patterns. The boll weevil's destruction of Southern cotton farms from 1892-1922 altered farm family structures as the failure of many tenant farms caused the average age of marriage to rise (Tolnay 1984, 1999; Bercaw 2003; Bloome, Feigenbaum, and Muller 2017). The farm crisis of the 1920s and 1930s is an example of another negative shock to men's "marriageability" due to the increased barriers to acquiring a farm to support a new family unit.

Even prior to the crisis, marriage on the farm did not conform to the "idealized" version of marriage where the husband specializes in market work and the wife in non-market work. Particularly during this period, a wife being able to stay home and not participate in field work or any work outside of the home was a social achievement. A mother in Nebraska in 1938 wrote to a newspaper advice column about the sadness she felt for her daughter who finished high school and was working in town but who was determined to marry a farmer, "'They will start farming with a load of debt. When I think of the struggle ahead for her, I actually ache. I didn't plan this kind of life for her, but what can I do about it?'" (Fink 1992, 121). In North Dakota, another mother had a similar concern:

Carrie Young's North Dakota farm mother, Carrine Berg, committed herself to securing education for her children that would allow them to enjoy opportunities the countryside did not offer. One of her great regrets was that one of her educated daughters married a farmer. Instead of reaping 'the rewards of the independence she had earned to make her life *easier*,' she had taken 'on the kind of hard work. . . [her mother] had always had.' (Danbom 2002, 661)

In farming communities, the family's ability to own its own land and to have the resources to hire outside labor allowed women on farms to reduce their amount of field work. The farm crisis of the 1920s and 1930s can be thought of not just as an adverse shock to the supply of marriageable men in farm communities in terms of earnings, but also to a particular type of

marriageable men that would allow women to realize society's ideal of wives who only specialized in work within the home, rather than the field as well.

1.2.2 Non-market work and the farm

Neoclassical theories of the relationship between labor markets and marriage markets do not always do an adequate job of characterizing the trade-off facing women on farms in the United States in the early twentieth century. Framing women's decision at this time as a choice between marrying and staying in the farming community (and thus exiting market work) compared to leaving for work in a city or town does a disservice to the value of women's work in farm families. When and if a woman became a farm wife, she did not cease working. U.S. Census enumerators would often declare her as either having no occupation, despite doing some farm work, or having the occupation of "unpaid family worker."

Economist Hildegard Kneeland (1928) estimated that farm women worked on average 63 hours a week. Both mothers and daughters would take on all housework, as well as significant amounts of farm and field work. Folbre and Wagman (1993), who measured the household production of farm women between 1800 and 1860, argue that farm productivity is likely overstated as it relies heavily on the "hidden" market work done by women (and children) on farms. Children were also an important source of labor on the farm; young girls were exposed to the realities of farm work in addition to household work and contributed to farm output. The importance of children on the farm meant that fertility was a valued contribution of a woman to the farm labor process.

For women who were weighing their option of marrying, becoming a farm wife, and staying in their farming community, their decision was just as much influenced by their potential husband's earning opportunities as by their own. Farm work for women meant

many hours with little control over the earnings of their work. As many women state in their personal accounts of their decisions to leave farming, the drudgery as well as back-breaking work that came with being a farm wife seemed less and less desirable as other independent earnings opportunities became available to them off-farm (Kneeland 1928; Hatcher 1930; Jones 1985). For many women, Black or white, who did not come from farm-owning families or families with the income to hire farm hands, the prospect of staying on the farm was not desirable. The tradeoff facing a woman considering marriage on the farm or elsewhere was a tradeoff between marriage and work in a farm community with little control over the value and output of her own work, or marriage and/or work in an urban area where she might have the chance to earn her own money over which she may have some control.

1.3 Historical background

1.3.1 Marriage and the U.S. farm family

The farm sector in the United State demonstrates a particular type of marriage market behavior. It is commonly assumed that in agricultural communities, the greater the availability of land (meaning marriage is more feasible), the earlier the average age of marriage. In the case of the United States, high availability of farmland for many years was associated with a low average age of marriage for both men and women (Landale and Tolnay 1991). For tenant farmers and in particular sharecroppers, multiple studies of the early twentieth century period have shown that they were incentivized to marry young (Tolnay 1984, 1999; Landale and Tolnay 1991; Bercaw 2003; Bloome and Muller 2015). When land became more expensive, or when natural disasters such as the boll weevil reduced the number of farms with viable crops, the number of individuals who married young fell (Block 2000; Bloome, Feigenbaum, and Muller 2017). The incentive to marry early, however, was

due to more than just the availability of land. Particularly in the South, landowners relied on patriarchal supervision in sharecropping which made it particularly difficult for single women to get their own tenant or sharecropping contracts (Bercaw 2003). As a result, women and men would marry earlier to gain access to farming. Furthermore, the labor needs of a family farm meant that those families with more children produced higher yields, incentivizing earlier marriage for greater fertility (Landale and Tolnay 1991).

In general, I define the family farm as a farm or part of a farm that is lived on and worked by a family unit. This follows closely Fink's (1992) description of the origin of the terminology in the United States:

In the twentieth century, the farm that was organized around the labor and economic support of a nuclear family came to be called a 'family farm.' This usage, which appeared in the early years of the century, became common in the late 1930s, when such industrialists as Henry Ford were proposing capitalist farm production systems. Family farms contrasted with both large-scale capitalist farms and socialist collectives. Family farm terminology captured an agrarian feeling by identifying the farm with a family unit, which in turn evoked men's responsibility and women's moral presence. The family as a unit for organizing production invoked kinder, more cooperative, more altruistic characteristics than could be found either in the evil corporations controlling production in the cities or the evil government controlling production on socialist collectives. (28)

Family farms of the early twentieth century typically had a male household head and a farm wife and were characterized by a greater number of children than families in urban areas.

Despite these common patterns, family formation in agricultural communities was not identical across the United States. Regions had different types of farming organization, from the multi-generational family farm and emerging commercial farms worked by white families in the Midwest, to the prevalence of sharecropping Black and white family farmers in the South on both plantation and smaller farms, to large-scale farming with hired labor in the West. The characteristics of the family farm also changed over time in the years

preceding the crisis: increases in the share of farm wage laborers, commercialization, and specialization of U.S. farms were a reality facing new families trying to ascend the agricultural tenure ladder from wage work to tenancy to ownership. Wright (1988) demonstrates how a blend of farmer commercial intentions previously constrained by high transport costs and lack of access to markets, changes in attitudes and behavior, and forces pushing farmers into product and capital markets contributed to changes in farming in the late nineteenth and early twentieth centuries. The farm crisis of the 1920 and 1930s would accelerate many of these changes.

1.3.2 The 1920s/1930s farm crisis

The farm crisis of the 1920s and 1930s was characterized by farm foreclosures and an acceleration of a structural transformation already taking place: mechanization and the decline of the small family farm. The farm crisis was primarily the result of the overproduction of farm commodities during and immediately after World War I. World War I and the Russian Revolution disrupted European agriculture and created uncertainty about supply, allowing the United States to increase farm production. Farmers planted more and borrowed more, but when European agriculture rebounded faster than expected, farm commodity prices fell by 41 percent from 1920 to 1921. There was a modest rebound between 1922 and 1925 and in 1934, but prices remained lower than their pre-crisis levels throughout the 1930s (Olmstead and Rhode 2006). The negative effects of the rapid drop in prices were compounded by a ballooning of credit availability prior to the crash. Rajan and Ramcharan (2015) find that the increase in credit availability fostered by the boom led to a greater incidence of bank failures, lower land prices, and fewer banks. As a result, the incidence of farm foreclosures increased. From 1926 to 1940, an average of 19.8 farms per

thousand were foreclosed. Prior to 1926 the foreclosure rate had never exceeded 3.2 farms per thousand (Alston 1983). Those farms that took on the most debt in the boom and lost the most earnings power during the bust were the most likely to be susceptible to the crisis.

In response to the farm crisis, the federal government passed the Agricultural Adjustment Act of 1933 (AAA). The AAA paid farmers to take land out of production. Though the payments went directly to farm owners, in principle these owners had to secure permission from their tenants to begin limiting production, and then had to share the payments with them. Sharecroppers received no government money directly but rather were promised parity payments from the landowner for the proportion of the crop that was theirs. Frequently, however, farm owners did not share payments with their tenants and there was little government enforcement (Seavoy 1998). Landowners often used those funds to purchase labor-saving machinery, such as the motorized tractor and combined harvester/thresher, instead (Whatley 1983). Most importantly, AAA payments created the incentive for landowners to remove sharecroppers and tenants from their land; without them, landowners would receive the total payment from the government and could better control labor costs by hiring temporary wage labor. The Depression years of the 1930s enabled a marked change in the structure of Southern farming, as a lack of urban jobs and prevalence of federal farm recovery programs reduced the cost for planters experimenting with hired wage labor rather than tenants (Alston 1981; Whatley 1983; Wright 1986; Seavoy 1998). Taken together, these changes contributed to what scholars termed a “prolonged agricultural depression” which was symptomatic of a larger structural change happening in the United States: urbanization and the decline of the family farm (Altschul and Strauss 1957). Removal

of tenants from the land and into wage work drastically reduced the attractiveness of farm and rural living for those hoping to rise up the farm tenure ladder.

1.3.3 Economic mobility and the agricultural tenure ladder

A major outcome of the farm crisis was the disruption of social and economic mobility in farming, defined most frequently as the ease and speed at which a potential farmer can rise up the farm tenure ladder. The farm tenure ladder in its simplest form has three different rungs: farm wage worker, tenant farmer, and farm owner. The reality of this tenure ladder, however, is not so straightforward. The middle rung occupied by tenant farmers can be further broken down into at least five categories, from worst-off to best-off: sharecropper (or cropper), livestock-share tenant, crop-share tenant, share-cash tenant (the previous four categories can be combined into one “share tenant” category), and cash tenant (U.S. Census Bureau 1952, 2 General Report:915). The Census Bureau changed these definitions and categorizations in census enumerators’ instructions over the course of fifty years as certain categories became more or less prevalent. For example, croppers were only enumerated after 1920 and through 1950, but certain years such as 1940 do not show cropper shares separately from other sharetenants in digitized county-level data. Table 1.1 shows the distribution of farm operators among these rungs by both region and race in 1920.

Table 1.1: Share Tenure Type by Region

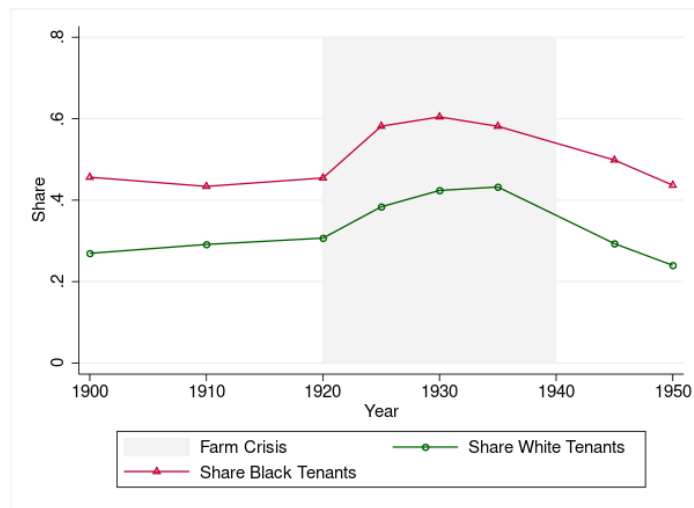
	South	Midwest
All		
Share Owners	0.562	0.673
Share Tenants	0.428	0.316
Share Croppers	0.144	N/A
White Only		
Share Owners	0.632	0.673
Share Tenants	0.355	0.316
Share Croppers ¹	0.116	N/A
Black Only		
Share Owners	0.422	
Share Tenants	0.569	
Share Croppers ¹	0.297	

¹Cropper data by race only available in 1925.

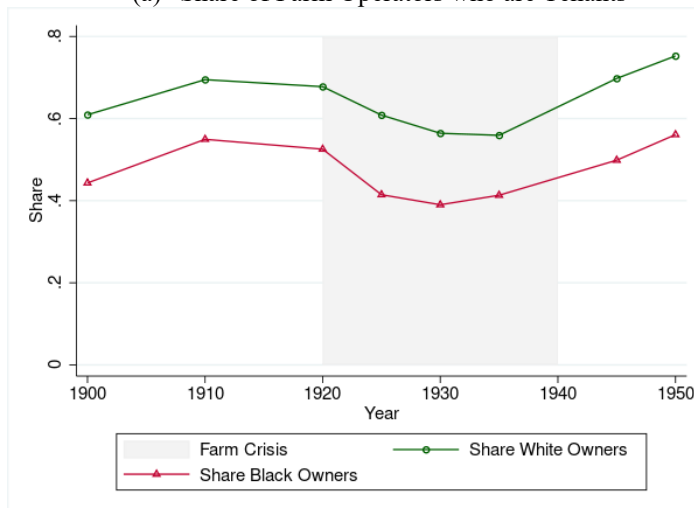
Notes: Table shows the share of all farm operators falling into each tenure category in 1920 or 1925 (croppers only). Tenant category includes all types of tenants, including sharecroppers. Cropper data were not enumerated in the Midwest. While Black farmers were present in the Midwest, analysis is only done on the white population due to their small number. *Data Source:* U.S. Census of Agriculture (Haines, Fishback, and Rhode, 2018).

The distribution of farm operators among these categories highlights some key differences in tenure structure between regions. Black farmers were much more likely to be in the sharecropping category than white farmers and Midwestern white farmers were slightly more likely to be owners than tenants than were Southern white farmers. Sharecropping was virtually non-existent in the Midwest, to the extent that enumerators did not even bother to tally the share of operators in the cropper position. Figure 1 shows changes in the share of farm operators who were owners or tenants from 1900-1950 as collected by the US Census of Agriculture. During the crisis years, there is some bottlenecking occurring at the tenancy rung: the share of tenants grows over time at the expense of a decline in owners.

Figure 1.1: Share of Farm Operators who are Tenants or Owners, 1900-1950



(a) Share of Farm Operators who are Tenants



(b) Share of Farm Operators who are Owners

Notes: Figure shows the share of farm operators by race who were either tenants or owners from 1900-1950. Shaded region encompasses years of the farm crisis. *Data Source:* U.S. Census of Agriculture (Haines, Fishback, and Rhode, 2018).

Ownership provided economic stability and social standing for those who achieved it.

As three Agricultural Extension Service researchers wrote at the time,

. . . Farm ownership may make possible a degree of stability in family living not enjoyed by the tenant who has a smaller investment in farm business resources. Also the owner may have a better standing socially and economically in the locality or the community. (Kirkpatrick, McNall, and Cowles 1933, 21)

As for how a farmer could achieve ownership status, a 1928 report out of the South Carolina Agricultural Experiment Station states that (1) savings, (2) “Free Gift” meaning inheritance of land, livestock, or farm equipment, (3) access to credit, and (4) tenancy opportunities were some of the most important ways for a farmer rise to farm ownership (Jensen and Russell 1928, 34-35). In the Midwest, it was expected that young men would take over the family farm at around 26 years of age¹ (almost half of farm tenants were related to their landlords), but that required that the farm be large enough to support two generations (Timmons and Barlowe 1949; E. J. Long 1950; Charlton 1954; Wright 1988). While this was often not the case for poorer or smaller family farms, many Midwest owners reported that part of their acquisition of their own land involved some sort of family gift or inheritance. Among male owners in the North Central Region, 40.4 percent acquired land through purchase from relatives or some combination of relatives and non-relatives; through gift, will, or estate settlement; or had some sort of family assistance. Only 2.4 percent of men acquired land with absolutely no family assistance (Timmons and Barlowe 1949, 939). In the South, inheritance was not nearly as prevalent but still an avenue toward ownership. In his study of farm tenancy in the corn and cotton belts, E. A. Schuler compared tenure mobility among white and Black farmers:

For every Negro farmer who reports receiving a boost up the agricultural ladder, there are two among Southern white and three among Northern farmers. Practically nine-tenths of Negro farmers report no inheritance of any kind, whereas the same is true of four-fifths of the Southern white farmers, and of less than two-thirds of the Northern farmers. (Schuler 1938, 25)

In addition to Southern farmers having less access to inheritance, Black Southern farmers were further locked out of ownership opportunities compared to white Southern farmers. The

¹ This is also within a year of the average age at first marriage for men during this period (Fitch and Ruggles 2000).

failure of land redistribution after the Civil War and denial of land sales to Black farmers by white landowners meant that for many, landownership was not within reach (Ransom and Sutch 2001). Even for those Black farmers who rose to ownership status, their farms were often smaller, meaning the opportunities for passing on land to their children were less realizable. In a study of 152 owner-operated farms in South Carolina, Black-owned farms were significantly smaller. The average size of a white-owned farm in 1933 among eight representative counties was 178 acres, whereas Black-owned farms averaged 68 acres (Aull 1938, 8). Smaller farms could not support multiple generations of farmers, and Black farmers also had significantly fewer opportunities for inheritance because most of their familial lineages included former enslaved persons.

Another key aspect of ascension from tenant to owner, and even within the tenant category from cropper to share tenant or cash tenant, is the ability to accumulate capital or work stock. For this reason, access to credit is a key constraint for tenure ladder mobility. This has important racial implications when comparing the Black farmers in the South to white farmers in the South and Midwest, as well as historical implications for the period under consideration here: a boom facilitated by high credit availability in certain areas was followed by a bust in agricultural prices that made it difficult to meet interest payments on land and equipment (Wickens 1931). Access to credit was one of the major contributors to farm stress through foreclosure (Kirkpatrick, McNall, and Cowles 1933). Black farmers had difficulties securing credit from banks to purchase farmland, and Black farmers' debt to local merchants reflected a system of high interest rates and debt peonage (Ransom and Sutch 2001). Despite these obstacles to landownership, Black farm landownership nonetheless

peaked in 1920, but after the start of the crisis Black farmers continuously lost farmland for at least the next 80 years (Sommer et al. 1995, 40).

The effects of declining farm commodity prices during the crisis years would thus have specific racial effects. While programs like the AAA in the South reduced the attractiveness of contracting with tenants, falling farm commodity prices themselves had a much more subdued effect on planters' transition from contracting with tenants to hiring temporary farm wage labor. As Whatley (1983, 922) concludes, falling farm commodity prices increase the crop-specific wage for hired labor as long as the nominal wage remains steady. A higher crop wage will instead incentivize planters to take on tenants, especially sharecroppers. While white farm owners were experiencing the crisis as defined by declining prices through foreclosure, it was more likely Black farmers were somewhat insulated from the direct effect of depressed farm commodity prices. Black farmers instead were more likely to be detrimentally affected by federal programs like the AAA, which displaced sharecroppers. The changes in mobility among white farmers were likely to be the driving mechanism through which white women delayed marriage. As it became more and more difficult to get to the socially and economically secure status of farm owner due to lack of land, credit, and capital, white women would turn their attention off-farm for better marriage and earnings opportunities, and delayed marriage as a result. For Black women, on the other hand, delayed marriage would not be due to Black farmers' decreased tenure mobility as a result of the crisis.

1.4 Data and empirical strategy

1.4.1 Data sources

I use the decennial United States Censuses of Agriculture to construct a three-period panel of farm conditions from 1920 to 1940. These censuses have county-level information on tenancy, number and size of farms, farm debt per acre, the ratio of mortgage debt to value, and crop mix. I use the decennial United States full count Census of Population to add race-specific county-level information on marriage rates, sex ratios, population density, occupation, school attendance,² and fertility. I then use complete count census data (meaning complete names are included) to link over time male individuals working on farms during these years, following Abramitzky, Boustan, and Eriksson (2012). These linked data allow me to assess mobility of farmers up (or down) the farm tenure ladder. The historical United States Censuses of Agriculture are available through ICPSR (Haines, Fishback, and Rhode 2018) and the complete count Census of Population data are accessed through the National Bureau of Economic Research (NBER) and Ancestry.com. I compile U.S. farm commodity price data from the *Historical Statistics of the United States* (Olmstead 2006) and global farm commodity price data from Blattman, Hwang, and Williamson (2007).

1.4.2 Measuring local exposure to the farm crisis

Across the United States, farmers experienced a drop in the prices they received for their products throughout the 1920s and 1930s in comparison to the boom years of 1919 and 1920. The severity of the farm crisis in each county, however, depended on a variety of factors. First, the different crops that were grown in each county were differentially affected by the drop in prices. Second, it mattered how much debt there was (debt prevalence) and

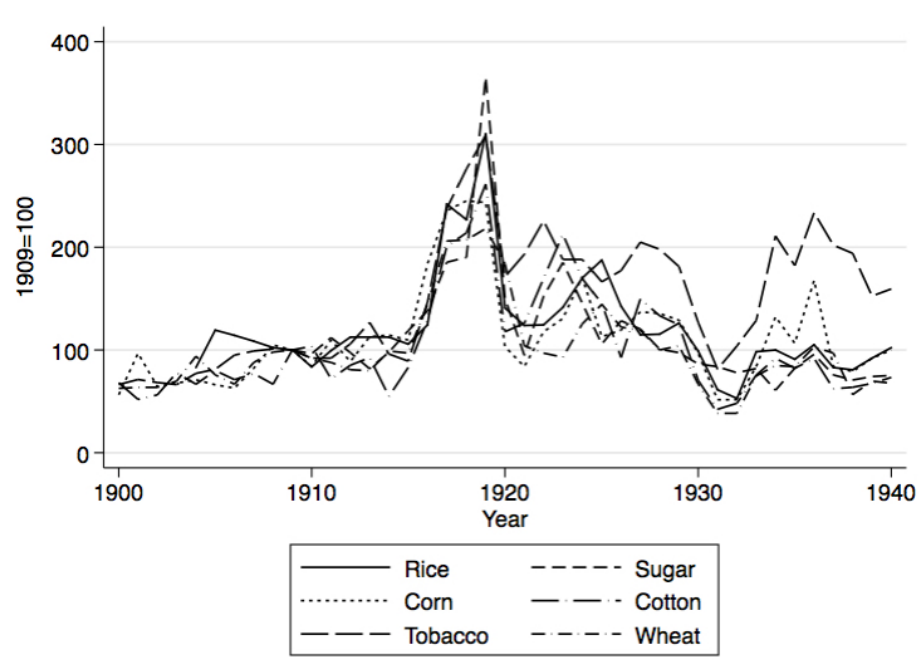
² For 1920 and 1930, a person was “attending school” if they had attended school any time after September 1 of that year.

how burdensome the debt was (ratio of mortgage debt to value) in each county. Farms with more of both experienced greater rates of foreclosure (Alston 1983). For farmers who primarily produced for home consumption, who had little debt, or who produced a wide variety of crops, the effects of the crisis were less severe, even if the prices they received fell overall.

To causally identify the effect of the farm crisis on tenure mobility, marriage rates, off-farm labor force participation, and fertility, I follow a strategy similar to that of Autor, Dorn, and Hanson (2019) by measuring exposure to the farm crisis by employing a Bartik shift-share instrumental variable approach. I define exposure to the farm crisis in a county as the sum of the products of the change in each price for six main farm commodities (wheat, corn, cotton, tobacco, rice, and sugar) and the share of each county's farmland devoted to that crop. Figure 1.2 shows the trend of the price indices of these crops during the first half of the twentieth century, where 1909 is the base year.³

³ 1909 was chosen as the base year because it is the first year that the U.S. prices for all crops of interest are available.

Figure 1.2: Changes in Farm Commodity Price Indices, 1900-1940



Notes: Author's graph. Figure shows the farm commodity price index based on the national price data for rice, corn, tobacco, sugar, cotton, and wheat from 1900 to 1940. Base year is 1909, price is on y axis. *Data Source:* *Historical Statistics of the United States* (Olmstead 2006).

These crops are selected based on availability of data as well as level of importance in U.S.

agriculture as a whole.⁴ The farm crisis index is defined as:

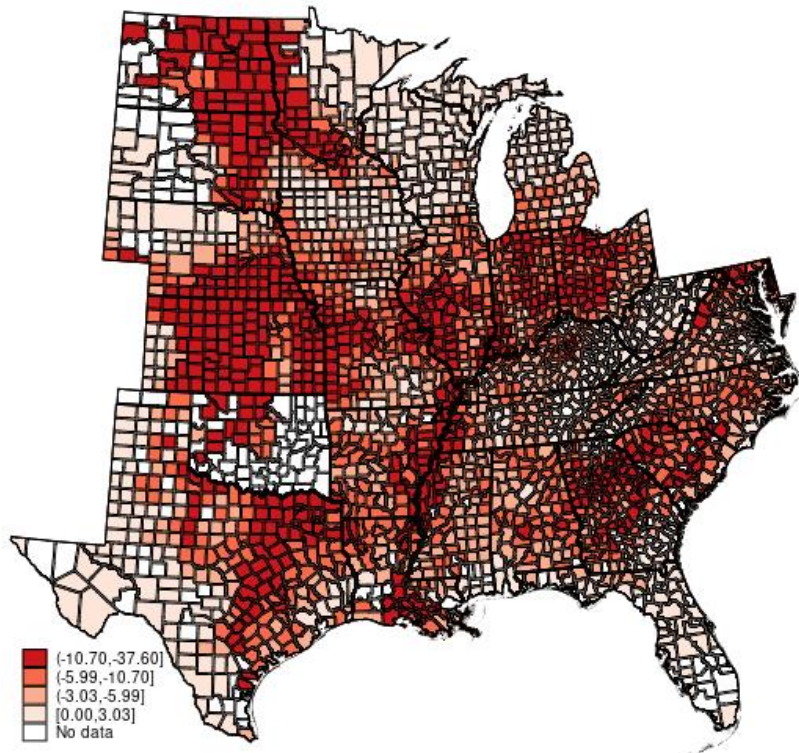
$$\Delta FC_{it}^{US} = \left(\sum_c \frac{A_{ic20}}{A_{i20}} \Delta Price_{ct}^{US} \right) \times -1 \quad (1.1)$$

where ΔFC_{it}^{US} measures the exposure to the farm crisis in county i over period τ , either 1920-1930 or 1930-1940. It is equal to the sum of the share of each county i 's farmland acreage A devoted to agricultural commodity c in at the beginning of the period (1920), multiplied by the change in potential earnings of that product based on changes in U.S. prices

⁴ I do not have data on share of acres devoted to livestock. Livestock was an important farm output during these years and also experienced a drop in price during the crisis. Livestock prices would also be strongly correlated with corn prices, as corn was a main source of feed. Omission of livestock would bias my estimates toward zero, meaning less exposure to the farm crisis.

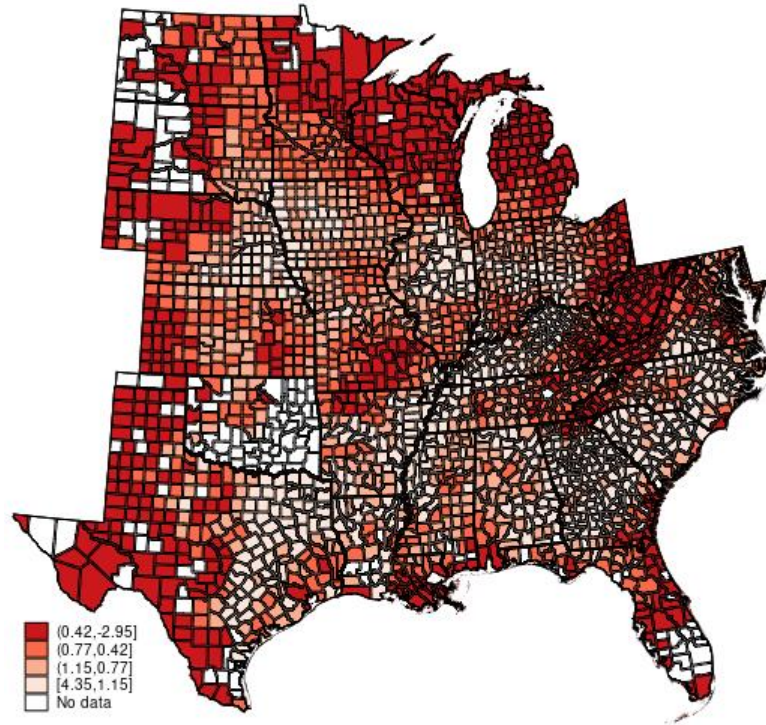
for wheat, corn, cotton, tobacco, rice, and sugar over τ . I then multiply this measure by negative one for the regression results to ease interpretation (a one unit increase in the indicator represents a one-unit greater exposure to the crisis). In practice a one unit increase in the farm crisis index is equivalent to the inverse of a one percent decrease in farm commodity prices, weighted by that county's exposure share. Figures 1.3 and 1.4 show the severity of the negative change in potential earnings across counties in each region (Midwest, South East, and South Central) and descriptive statistics are shown in Table 1.2. While the loss of potential earnings is widespread, the role of debt was much greater in the Midwest. To account for this, all specifications include controls for farm debt prevalence and burden, as well as the interaction between the two.

Figure 1.3: Change in Crop Price Index, 1920-1930



Notes: This figure shows the geographic variation in the depression in my farm commodity price index from 1920 to 1930, weighted by the share of farmland devoted to each crop. Darker shades indicate slower growth or negative growth in the index over the decade. *Data Source:* U.S. Census of Agriculture (Haines, Fishback, and Rhode, 2018).

Figure 1.4: Change in Crop Price Index, 1930-1940



Notes: This figure shows the geographic variation in the depression in my farm commodity price index from 1930 to 1940, weighted by the share of farmland devoted to each crop. Darker shades indicate slower growth or negative growth in the index over the decade. *Data Source:* U.S. Census of Agriculture (Haines, Fishback, and Rhode, 2018).

Table 1.2: Mean and Percentiles of Decadal Change in Crop Prices

	All				South				Midwest			
	Mean	P25	P50	P75	Mean	P25	P50	P75	Mean	P25	P50	P75
A. Full Period												
Crisis Exposure (US Prices)	-3.46	-6.22	-0.13	0.71	-3.04	-5.81	-0.70	0.93	-4.31	-8.27	-0.37	0.72
N	5283				2292				1936			
B. 1920s												
Crisis Exposure (US Prices)	-7.54	-10.8	-6.08	-3.02	-6.85	-9.26	-5.58	-3.33	-9.27	-12.9	-8.22	-4.10
N	2642				1146				968			
C. 1930s												
Crisis Exposure (US Prices)	0.79	0.36	0.72	1.11	1.05	0.54	0.95	1.45	0.73	0.44	0.72	1.00
N	2641				1146				968			

Notes: Table presents summary statistics of my endogenous measure of farm crisis exposure for the full period (1920-1940), and each decade by region.

The concern with OLS estimates using this measure is that a county's exposure to the farm crisis measured by national prices may be correlated with other characteristics of the location that also determined changes in county tenure mobility, marriages rates, off-farm work participation, or fertility. For example, decreases in U.S. prices for farm commodities may be correlated with increased productivity in farming because of farm mechanization (such as tractors) which reduces reliance on family farm labor and increases the capital requirements for becoming a farm owner. This may in turn reduce mobility or delay marriage. I adopt a shift-share instrumental variable approach that exploits each county's variation in the share of the farmland devoted to particular crops and global commodity prices. Global crop prices should be exogenous to developments such as technology shocks within the United States. The instrument is defined as:

$$\Delta FC_{it}^G = \left(\sum_c \frac{A_{ic20}}{A_{i20}} \Delta Price_{ct}^G \right) \times -1 \quad (1.2)$$

This expression differs from equation (1.1) above by its substitution of $\Delta Price_{ct}^G$ (global changes in farm commodity price indices) for $\Delta Price_{ct}^{US}$.

1.4.3 Instrument validity

The expression above will causally identify the effect of declines in farm commodity prices on my outcomes of interest if my instrument is relevant and satisfies the exclusion restriction. First stage results are presented with second stage results in Section 1.5 and show the significant correlation between the instrument and the endogenous regressor.

Of particular importance for my identification strategy is whether my instrument is uncorrelated with the error term, meaning there is no relationship between global prices and local changes in mobility, marriage, fertility, and off-farm work rates. In other words, global

prices affect these outcomes through no channel other than national prices. Recent literature on Bartik shift-share instruments highlights the need to defend an instrument’s exogeneity of either shock (here: change in farm commodity prices) or exposure share (here: share of land devoted to each crop) (Adao, Kolesar, and Morales 2019; Goldsmith-Pinkham, Sorkin, and Swift 2020; Borusyak, Hull, and Jaravel, forthcoming). In my case, I argue that my instrument is identified via exogenous shocks, meaning my instrument is valid if global shocks to farm commodity prices are uncorrelated with unobserved confounders that may affect both national price shocks and local mobility, marriage, fertility, and off-farm work rates. While this provides a plausibly exogenous channel, I conduct further tests to show additional evidence that my instrument likely meets the exclusion restriction. Firstly, as outlined in Borusyak, Hull, and Jaravel (forthcoming), shock exogeneity usually requires a large number of shocks. However, as used in Autor et al. (2013) and used again in Autor et al. (2019), if a smaller number of shocks has sufficient variation, they may still satisfy the requirement that they be conditionally uncorrelated with each other. The descriptive statistics outlined in Table 1.3 suggests a reasonable amount of variation despite having only six shocks.

Table 1.3: Shift-Share Instrument Descriptive Statistics

	All			South			Midwest		
	Mean	Std. Dev.	Interquartile Range	Mean	Std. Dev.	Interquartile Range	Mean	Std. Dev.	Interquartile Range
Crisis Exposure (Global Prices)	-4.39	15.73	25.89	-4.64	16.31	27.38	-4.80	16.98	8.99
N	5283			2292			1936		

Notes: Table presents summary statistics of my instrument for each region.

Second, I perform falsification tests, regressing my instrument on 1910-1920 changes in mobility, marriage, fertility, and off-farm work. The 1910-1920 period is chosen as it is

the only prior period for which all baseline control variables used in the original analysis are available. These results are presented in full in Section A.1 of Appendix A. Overall, there is little evidence of a relationship between my instrument and 1910-1920 changes, adding further support to instrument exogeneity.

1.4.4 Effects of the farm crisis

1.4.4.1 Farm tenure mobility: linking men across censuses

Studies that examine tenure ladder mobility and that rely on cross-sectional data run the risk of incorrectly evaluating what type of mobility was occurring (or not occurring). Comparing changes in the shares of, for example, tenant farmers versus owners could mean greater upward mobility from the wage worker category into tenancy, or a falling down the ladder of farm owners who lose their farms to foreclosure (Kirkpatrick, McNall, and Cowles 1933). It also fails to count how many individuals left farming altogether. Linked census data allow me to obtain information on farm tenure ladder mobility among the same men over time. These men represent the potential marriage partners of women who wished to remain on the farm.

Research using linked census records has boomed in recent years, including the linking of other administrative records to census records. Prior to the advent of social security numbers, unique identifiers for individuals in the U.S. census did not exist. I follow the method outlined in Abramitzky, Boustan, and Eriksson (2012) to match male individuals between censuses. Links are established on fields that should not change among men between years: first and last name, year of birth, and state of birth. Otherwise known as the ABE Method or Iterative Method, the version I employ in this chapter and throughout the dissertation links individuals based on exact name matches in a one-year age band and

involves the standardization of first and last names using the New York State Identification and Intelligence System (NYSIIS). It will not link if there is no exact name match, if there are multiple candidates for a match, or if no matches exist within the age band. It then expands the search for an exact match from one to five years around the reported birth year. I also match men based on reported race. Based on multiple studies of the efficiency and accuracy of different linking methods, I chose the ABE method due to its consistent performance as well as its widespread use in the literature (Bailey et al. 2020; Abramitzky et al. 2020).

This process is imperfect due to several problems that arise in census enumeration and transcription. Age misreporting and heaping, misspellings of names, and numerous people with the same name and year and place of birth are just a few examples. This imperfect process results in two types of error: Type I in which there are false matches, and Type II in which there are missed matches. The strategies of linking used represent trade-offs between these two errors. These challenges can also cause certain individuals to be more likely to be linked. For example, men are more likely to be linked if they were literate, had a higher socioeconomic status (for example, home ownership), or were white (Abramitzky et al. 2012; Bailey et al. 2020; Abramitzky et al. 2020). My matching procedure is outlined in detail in Section A.2 of Appendix A.

When I observe a man in 1910 and 1920, 1920 and 1930, or 1930 and 1940 I can measure to what extent he was able to move up the farm tenure ladder over the course of the decade. I begin with the male population in either 1910, 1920, or 1930 that was either living on their own farm or working in the farm sector and match individuals forward over the decade. Match rates by decade and race are outlined in Section A.2 of Appendix A and

conform with those common in the linking literature (J. Long and Ferrie 2013). I define men aged 18-40 as “employed in farming” if they are either living on a farm or working on a farm in some capacity based on their occupation code.⁵ I split these workers into three categories. Because of the nature of occupational data in the decennial census, I can only categorize my linked men into three rungs: farm owners, farm tenants, and farm laborers, in addition to those who left farming completely. Farm owners represent the upper rung of the farm tenure ladder, farm tenants the middle rung, and farm laborers the lower rung. Using my linked dataset, I measure the share of men among each race group r , aged 18-40 at the start of the decade, who were able to move up or down (i.e., at least one rung or step s) from time $t-1$ to t for each county.^{6,7}

$$Mobility_t = \left(\frac{Male\ Farm\ Population_{r,s\pm 1,t}}{Male\ Farm\ Population_{r,s,t-1}} \right)_{ct} \quad (1.3)$$

I then measure the change in mobility in my two decades of interest (1920-1930 and 1930-1940) as the change in the share of men who are able to move from wage worker to tenant, tenant to owner, or who fall down the ladder from owner to tenant or leave farming, in the 1920s compared to the 1910s, and the 1930s compared to the 1920s. I expect positive changes to farm tenure ladder mobility to be a key determining factor in women’s desire to

⁵ I use farm status, ownership status, and census-defined 1950 occupation codes to label men aged 16-39 as part of the male farm workforce. 1950 occupation codes were created to allow for harmonization across years. The relevant occupation codes are: 100 (farm owner or tenant), 123 (farm managers), 810 (farm foreman), 820 (farm laborers, wage workers), 830 (farm laborers, unpaid family workers) and 840 (farm service laborers, self-employed). I define those who are living on and working their own land as either farm owners or farm tenants based on the census ownership variable. If a man is listed as living on a farm that is owned, he is a farm owner regardless of his occupation code within those listed above. Using this method, I exclude farm owners who do not live on their own farm and capture men who own farmland but may list their primary occupation as something other than a farm owner. Those men who live on their self-owned farm are the top of the farm ladder. If a man is listed as living on a farm that he does not own, he is a farm tenant regardless of his occupation code within those listed above. Those who are not living on a farm but have an occupation code as listed above other than 100 (owner or tenant) are considered farm laborers.

⁶ The denominator includes those who left the farm population by the end of the decade.

⁷ Mobility is measured only for counties for which I am able to follow at least 50 Black or white men over the decade.

get married, have more children, and spend less time working off-farm. A negative change in the share of men who were able to rise from tenant to owner, or a positive change in the share of men who fell from owner to tenant, would both be indicators of *decreased* farm tenure mobility within a county.

1.4.4.2 Marriage rates among women

I examine marriage rates for women aged 15 to 39 and among five age subgroups: aged 15 to 19, 20 to 24, 25 to 29, 30 to 34, and 35 to 39. Among women living on farms in 1920, by 19 years old 71.8 percent of women were never married. Among Black women, that number is 61 percent and among white women that number is 74.4 percent. By age 20, that number drops to 55.8 percent of women were never married, 45.1 percent among Black women and 58.9 percent among white women. I create two measures of marriage: “ever married” and “currently married.” I measure this separately for Black and white women.

1.4.4.3 Fertility

While consistent birth data are not available for these decades, I use the census variable capturing number of own children under five living per woman aged 16 to 39. Given the age of these children, women and their husbands would have been making fertility decisions in the context of the farm crisis. I sum the number of children under five among married women 16 to 39 and divide that number by the number of ever-married women in the county separately for Black and white women. I expect fertility to fall during these periods because of earnings uncertainty on farms and the costs of additional children during a period when a family’s ability to earn income was negatively affected.

1.4.4.4 Off-farm work

Women, faced with a decline in the feasibility of marriage, may have looked elsewhere for work and/or marriage. As such, participation in off-farm work for women may have risen; if women delayed marriage, they may have spent more time in the paid labor force. Additionally, for both single and married women on farms, taking an off-farm job would help the family to make mortgage payments in the midst of falling farm earnings. This variable is measured as the share of women aged 15-39 currently living on farms who are listed as employed in a non-farm occupation, by race.

1.4.5 Estimating equation

I follow a similar empirical strategy to Autor, Dorn and Hanson (2019) by examining changes in local exposure to economic crisis in counties and their effects on local marriage markets. I implement a shift-share instrumental variable strategy to address endogeneity present in my measure of exposure to the farm crisis. I estimate regressions separately for white men and women and Black men and women by region. Due to low Black population numbers in the Midwest, only white outcomes are measured for that region. Since counties that had the highest levels of debt and debt burden were most affected by hallmarks of the crisis such as farm foreclosure, I control for the share of farms in debt (debt prevalence) and the ratio of mortgage debt to farm value (debt burden) and the interaction of the two. I also include, following Borusyak, Hull, and Jaravel (forthcoming), the lagged share of total crop exposure to the farm crisis due to the fact that my instrument is constructed with “incomplete” shares. Appendix A, Section A.3 shows the OLS estimates of the impact of depressed earnings on tenure mobility, women’s marriage, off-farm labor force participation, and fertility. Regressions are estimated as follows:

$$\Delta Y_{rit} = \alpha_t + \beta_1 \Delta FC_{it}^{US} + X'_{rit} \beta_2 + \delta_s + \varepsilon_{cr\tau} \quad (1.4)$$

ΔY_{rit} is the decadal change in the outcome of interest during time interval τ (1920-1930 or 1930-1940) in county i among race group r . X'_{rit} is a vector of start-of-period county controls that are race-specific where data allow and include the lagged share of crisis exposure, share of farmers indebted, the ratio of farm mortgage debt to value, the interaction of the two, and race-specific population density. Regressions looking at mobility also include controls for average farm size and the race-specific share of individuals attending school⁸. Regressions looking at marriage rates include race- and age-specific male-to-female ratios. δ_s are state fixed effects. I estimate Equation 1.4 by stacking the ten-year first differences of my outcome variable and include α_t as a dummy variable for the second decade (1930-1940). ΔFC_{it}^{US} is the exposure to the farm crisis variable detailed in Section 1.4.2. and is instrumented with ΔFC_{it}^G .

1.5 Results

1.5.1 Tenure mobility

Table 1.4 shows the estimates of the effect of depressed farm earnings on farm tenure mobility both in the South (Panels A and B) and the Midwest (Panel C). The variable “Crisis Exposure (US Prices)” corresponds to the reduced form of Equation 1.4. A one-unit increase in crisis exposures is equivalent to the inverse of a one standard deviation decrease in the farm commodity price index, weighted by the share of that county’s farmland devoted to that crop. The inverse is used to ease interpretation. For example, a one standard deviation increase in crisis exposure (otherwise known as a one standard deviation decrease in my

⁸ Alston and Ferrie (2005) show that schooling had a positive effect on a Black individual’s ability to rise up the tenure ladder (and avoid falling down it).

weighted farm commodity price index) led to a decrease in the share of white Southern tenants who rose to ownership over ten years by about 5.4 percentage points.

Table 1.4: Depressed Farm Earnings Impact on Farm Tenure Mobility, All

	(1) Wage Worker to Tenant	(2) Tenant to Owner	(3) Owner to Tenant	(4) Owner to Non- Farm	(5) Tenant to Non- Farm
A. South, Black					
Crisis Exposure (US Prices)	.014 (.048)	.0023 (.0088)	.022 (.024)	-.028 (.025)	.017 (.012)
N	434	625	624	452	634
Mean Dep. Var	-0.067	-0.022	-0.003	0.024	0.027
1920s Level	0.610	0.167	0.359	0.171	0.150
First Stage					
Crisis Exposure (Global Prices)	.058** (.0039)	.064** (.0035)	.062** (.0031)	.059** (.0041)	.062** (.0032)
F-stat	274	615	512	324	486
B. South, White					
Crisis Exposure (US Prices)	.07* (.028)	-.054** (.0086)	.034** (.0056)	-.011+ (.0058)	-.016* (.007)
N	1,097	1,917	1,918	1,920	1,888
Mean Dep. Var	-0.015	-0.051	0.020	0.009	0.023
1920s Level	0.448	0.382	0.158	0.164	0.188
First Stage					
Crisis Exposure (Global Prices)	.059** (.0032)	.061** (.0022)	.061** (.0021)	.061** (.0022)	.061** (.0022)
F-stat	444	899	896	878	852
C. Midwest, White					
Crisis Exposure (US Prices)	.049 (.03)	.005 (.014)	.0031 (.0095)	.02** (.0073)	.026* (.011)
N	1,315	1,703	1,705	1,702	1,680
Mean Dep. Var	-0.010	-0.065	0.027	0.003	0.002
1920s Level	0.282	0.411	0.205	0.161	0.213
First Stage					
Crisis Exposure (Global Prices)	.027** (.0019)	.029** (.0017)	.029** (.0017)	.029** (.0017)	.029** (.0017)
F-stat	267	347	350	349	320

Notes: Dependent variable is the change between the 1910s and the 1920s, or the 1920s and the 1930s, in the share of men aged 18 to 40 at the start of each decade who ascended or descended each rung of the tenure ladder by the end of the decade. Observations are at the county level. Sample size fluctuates due to data availability of matched men. Panel A analyzes Southern Black men, Panel B analyzes Southern white men, and Panel C analyzes Midwestern white men. First stage results are presented in the bottom of each panel. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, average farm size, and race-specific population density and rate of school attendance. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Overall, this table underscores how declining farm commodity prices affected only white farmers' tenure mobility. From Panel B, a one standard deviation increase in exposure to the farm crisis increased the share of Southern white farm wage workers rising to farm tenancy by 7 percentage points but decreased the share of tenant farmers rising to farm ownership by 5.4 percentage points and increased the share of farm owners falling *down* the tenure ladder back to tenancy by 3.4 percentage points. While mobility among white farmers declined, there was a decrease in the share of individuals leaving farming altogether. This pattern may reflect how white farmers in the South moved to poorer quality land during the Depression as a form of informal insurance (Boone and Wilse-Samson 2021). Among white Midwestern farmers, a one standard deviation in crisis exposure increased the share of tenants who left farming by the end of the decade by 2 percentage points and the share of owners who left farming by 2.6 percentage points. There is no statistically significant relationship between my measure of crisis exposure and Black tenure mobility.

I purposefully estimate the effect of crisis exposure separately for the South and the Midwest due to the different nature of the tenure ladder in the two regions and to highlight the different patterns by both race and region that reflect ongoing social and economic stratification. As discussed earlier, the South was defined by a system of sharecropping that added an extra step to the "tenant" category of the tenure ladder. Sharecroppers had significantly less control over land, they had fewer opportunities to acquire capital to move up the tenure ladder than cash tenants, and sharecropping was the category to which many Black tenant farmers were relegated. Southern tenant farms of all types tended to be smaller, and Southern farmers who moved up to ownership status were less likely to get there through inheritance than in the Midwest. In the Midwest, family inheritance as a means of mobility

was more common, farms were larger and had the ability to support more generations of families, and those farmers who did fall into the tenant category had much more ability to acquire capital and often rented from relatives.

What was it about these differences in tenure structure and mobility that caused white Southern tenure mobility to be more affected by the crisis than Black Southern or, to a certain extent, white Midwestern mobility? First, Black farmers' lack of access to the final rung, ownership, likely meant that many of those who began the decade in the "tenant" category were sharecroppers who already had few opportunities to accumulate capital to move up to owner. As described in a report by the Federal Emergency Relief Association (FERA) in 1935,

So-called financial loss to the sharecroppers resolved itself largely into loss of social status and increased dependence upon the landlords, since in most instances the sharecroppers had no finances to lose. . . Climbing the so-called agricultural ladder was largely a fiction for these families. Whereas only 9 percent of those who started out as croppers became owners, 8 percent of those who started as owners became croppers. (Hoffsommer 1935, 1–2)

In a separate report conducted by Works Progress Administration, the authors also discussed how the removal of tenants, the majority of whom were Black, from plantations was less frequent than the removal of tenants from smaller farms, who were more likely to be white.

. . . the relief and rehabilitation rate among plantation families has been considerably lower than that among farm families in general in the Eastern Cotton Area, owing perhaps to the fact that displacement of tenants has been less frequent on plantations. Evidently, those tenants located on small, individual farms on the fringes of the Cotton Belt have been more likely to apply for relief than have families on plantations. The concentration of Negroes on plantations, with whites more generally on small farming units, is, therefore, an important explanation of the under-representation of Negroes on rural relief rolls in this area. (Woofter et al. 1936, 153)⁹

⁹ Black farmers also had difficulties in acquiring aid of any kind. While Black sharecroppers on plantations may have been less likely to be evicted than white or Black sharecroppers on smaller farms, discrimination in relief was playing an important role in Black farmer's relief rates. For example, Jones (1985) describes how FERA agents in the South "tended to assume 'that the Negro is better adapted to the open country environment than is the poor white and hence in less need of relief.' At the national level, FERA policymakers put their official stamp of approval on this view when they suggested that

Second, while Black farmers were detrimentally affected by programs such as the AAA which incentivized the removal of sharecroppers in favor of hired wage labor, declines in farm commodity prices, which are captured by my measure of crisis exposure, actually made farm wage labor more expensive by raising their relative wages, and allowed landowners to pay tenants, and in particular sharecroppers, the relatively cheaper crop commodity (Whatley 1983). So while price effects themselves and Black farmers' concentration on plantations reduced the adverse effects of the farm crisis on their tenure mobility compared to white farmers, other aspects of the crisis, such as the AAA, have been shown to be much more detrimental to Black families' ability to retain their connection to the land. This remains an area open for further investigation in the context of tenure mobility as well as changes in family formation.

In the case of the Midwest, the tenant/owner relationship was often familial and may have remained a robust safety net for those tenants still hoping to rise to the level of owner. Rather than acquiring the funds, capital, or credit necessary to rise to ownership on their own, family assistance helped tenants to rise to ownership regardless of level of crisis exposure. My results instead indicate that while the same share of tenant farmers was rising to ownership over each decade, an increasing share was leaving tenancy altogether. There is a similar rise in the share of owners leaving farming completely. These results align with other literature on the farm crisis that emphasizes foreclosure, especially in the Midwest, that would remove entire long-standing farm families from the land (Alston 1983). While it is possible strong ties on family-owned farms still enabled the same share of farmers to rise up

'food and clothing cost less for the Negro family not because the needs of the Negro are necessarily less but because he is accustomed to getting along with less'" (187).

the tenure ladder, the crisis caused an increase in the share of those families leaving farming altogether through land loss.

These results on mobility highlight how crisis exposure had different effects based on local patterns of mobility defined by race and family resources. While Southern white tenant mobility was negatively affected by crisis exposure, Midwestern white and Southern Black mobility were not affected in the same way. Southern Black farmers were to some extent spared the direct effects of falling commodity prices as a result of their lack of opportunity for tenure mobility at all. For white Midwestern farmers, a higher reliance on family inheritance for mobility (especially through the purchase of land or capital) likely helped the share of those farmers able to rise through the ranks remain steady, although with the caveat that those without such family resources were the ones to leave farming altogether, with little available land for them to acquire for subsistence farming.

1.5.2 Marriage

Tables 1.5, 1.6, and 1.7 show the effect of the farm crisis on ever- and currently married rates in the South and Midwest. Beginning with ever-married rates, Table 1.5 shows that a one standard deviation increase in crisis exposure reduced the share of 20–24-year-old Black women ever married by about 1 percentage point and the share of 30–34-year-olds ever married by about 0.8 percentage points. Table 1.6 shows that ever-married rates for Southern white women fell due to crisis exposure by about 0.4 percentage points among the 15–19-year-olds, about 2 percentage points among 20–24-year-olds, and about 0.7 percentage points among 25–29-year-olds. Table 1.7 shows that a one standard deviation in crisis exposure reduced the share of white Midwestern ever-married women aged 20–24 by about 1 percentage point and increased the share of ever-married women aged 35–39 by about 0.5

percentage points. Overall, effects on ever-married rates are concentrated among Southern white women, emphasizing the role of decreased tenure mobility in delayed marriage. These results for Southern white women align with other evidence from earlier periods that emphasized declines in tenure mobility as a major mechanism for delayed marriage. For example, Block (2000), showed that increasing farm capital requirements between 1850 and 1920 led to delayed marriage among white women, and Landale (1989) showed a similar pattern as a response to declining land availability in 1900.

Table 1.5: Depressed Farm Earnings Impact on Black Marriage Rates, South

Age Groups:	(1) 15-39	(2) 15-19	(3) 20-24	(4) 25-29	(5) 30-34	(6) 35-39
A. Ever Married						
Crisis Exposure (US Prices)	-.014** (.0031)	.00081 (.002)	-.012* (.0051)	-.0045 (.0046)	-.0083* (.0034)	.00051 (.0032)
N	1,499	1,492	1,499	1,499	1,499	1,499
Mean Dep. Var Level in 1920	-0.008 0.659	-0.003 0.070	-0.018 0.684	-0.016 0.849	-0.010 0.902	-0.007 0.935
First Stage						
Crisis Exposure (Global Prices)	.064** (.0023)	.064** (.0024)	.064** (.0023)	.064** (.0023)	.064** (.0024)	.064** (.0023)
F	1499	1492	1499	1499	1499	1499
B. Currently Married						
Crisis Exposure (US Prices)	-.022** (.0035)	-.00042 (.002)	-.021** (.0047)	-.016** (.0053)	-.025** (.0054)	-.02** (.006)
N	1,499	1,492	1,499	1,499	1,499	1,499
Mean Dep. Var Level in 1920	-0.004 0.596	-0.002 0.088	-0.010 0.634	-0.007 0.773	-0.004 0.801	-0.010 0.816
First Stage						
Crisis Exposure (Global Prices)	.064** (.0023)	.064** (.0024)	.064** (.0023)	.064** (.0023)	.064** (.0024)	.064** (.0023)
F	1141	1175	1122	1143	1116	1123

Notes: Dependent variables are the change in the share of women ever married or currently married by age group. Observations are at the county level. Sample size fluctuates due to lower numbers of married women under 19 years old. Panel A shows the change in the share of ever-married women and Panel B shows the change in the share of currently married women. First stage results are presented in the bottom of each panel. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, race-specific population density, and race- and age-specific male-to-female ratio. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 1.6: Depressed Farm Earnings Impact on White Marriage Rates, South

Age Groups:	(1) 15-39	(2) 15-19	(3) 20-24	(4) 25-29	(5) 30-34	(6) 35-39
A. Ever Married						
Crisis Exposure (US Prices)	-.011** (.0023)	-.0037* (.0017)	-.017** (.0032)	-.0073** (.0021)	.0007 (.0023)	.0015 (.0016)
N	2,280	2,273	2,279	2,280	2,280	2,278
Mean Dep. Var	0.005	0.002	0.008	0.004	-0.000	0.001
Level in 1920	0.638	0.070	0.625	0.825	0.891	0.915
First Stage						
Crisis Exposure (Global Prices)	.062** (.0017)	.063** (.0017)	.062** (.0017)	.062** (.0017)	.062** (.0017)	.062** (.0017)
F	1520	1516	1554	1475	1470	1460
B. Currently Married						
Crisis Exposure (US Prices)	-.011** (.0023)	-.0037* (.0017)	-.017** (.0033)	-.0075** (.0023)	.000017 (.0027)	.0021 (.0019)
N	2,280	2,271	2,279	2,280	2,280	2,278
Mean Dep. Var	0.005	0.002	0.009	0.005	-0.000	-0.001
Level in 1920	0.611	0.068	0.605	0.795	0.850	0.858
First Stage						
Crisis Exposure (Global Prices)	.062** (.0017)	.063** (.0017)	.062** (.0017)	.062** (.0017)	.062** (.0017)	.062** (.0017)
F	1520	1517	1554	1475	1470	1460

Notes: Dependent variables are the change in the share of women ever married or currently married by age group. Observations are at the county level. Sample size fluctuates due to lower numbers of married women under 19 years old. Panel A shows the change in the share of ever-married women and Panel B shows the change in the share of currently married women. First stage results are presented in the bottom of each panel. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, race-specific population density, and race- and age-specific male-to-female ratio. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 1.7: Depressed Farm Earnings Impact on White Marriage Rates, Midwest

Age Groups:	(1) 15-39	(2) 15-19	(3) 20-24	(4) 25-29	(5) 30-34	(6) 35-39
A. Ever Married						
Crisis Exposure (US Prices)	.0056 ⁺	-.00024	-.0099 ⁺	.0017	.0034	.0046 ⁺
	(.0031)	(.002)	(.0053)	(.0037)	(.003)	(.0028)
N	1,936	1,933	1,936	1,936	1,936	1,936
Mean Dep. Var	0.001	0.001	0.011	0.007	0.001	0.000
Level in 1920	0.605	0.049	0.534	0.790	0.875	0.906
First Stage						
Crisis Exposure (Global Prices)	.032**	.032**	.032**	.032**	.032**	.032**
	(.0017)	(.0017)	(.0017)	(.0017)	(.0017)	(.0017)
F	529	587	543	523	527	499
B. Currently Married						
Crisis Exposure (US Prices)	.0061*	-.00037	-.011*	.0016	.0057 ⁺	.0075*
	(.0031)	(.0019)	(.0054)	(.0038)	(.0033)	(.003)
N	1,936	1,932	1,936	1,936	1,936	1,936
Mean Dep. Var	0.001	0.001	0.012	0.008	-0.000	-0.002
1920 Level	0.584	0.048	0.521	0.766	0.843	0.863
First Stage						
Crisis Exposure (Global Prices)	.032**	.032**	.032**	.032**	.032**	.032**
	(.0017)	(.0017)	(.0017)	(.0017)	(.0017)	(.0017)
F	529	588	543	523	527	499

Notes: Dependent variables are the change in the share of women ever married or currently married by age group. Observations are at the county level. Sample size fluctuates due to lower numbers of married women under 19 years old. Panel A shows the change in the share of ever-married women and Panel B shows the change in the share of currently married women. First stage results are presented in the bottom of each panel. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, race-specific population density, and race- and age-specific male-to-female ratio. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

While delaying marriage as a response to decreased male economic and social mobility was likely an important mechanism, at least among white women, other aspects of exposure to the farm crisis were likely just as important and may help to explain the modest

effects among the 20-24 range among Black southern and white Midwestern women, in addition to Southern white women. For example, fewer opportunities to even enter the farm tenure ladder at all due to lack of credit and capital meant that there was a decline in the number of men seeking wives to help with farm work. Men rarely set out on their own to farm without the aid of a farm wife, whose labor both in the home and in the field was essential (Fink 1992; Jones 1985). In a 1939 study on rural Black and white youth, the American Youth Commission found that the primary reason that young men and women delayed marriage was due to “inadequate income” and “no opportunity” (Lister and Kirkpatrick 1939, 69). In short, rural women were delaying marriage because men were.

Women also delayed marriage to assist their families, whether on-farm or off. As Jones (1985) described:

The Depression placed additional financial strains on all black households, and women responded accordingly – by welcoming new members in a position to make an economic contribution, offering to care for kin or friends in need, and encouraging young people either to postpone marriage so that they could help support their siblings or to strike out on their own in order to lessen their parents’ burdens. These adaptive struggles – often cited by scholars and government officials as evidence of black communities’ social ‘disorganization and instability’ – enabled black families all over the country to adjust their size and composition to match their resources. (189-190)

In Texas and Alabama, federal reports and oral histories from the 1930s showed increases in “combined households” in rural areas, meaning more adult women were staying home to assist their farm families (Jones 1985, 190). The same could also be said for white households, especially as families shifted to relying more heavily on subsistence farming when crop prices fell. A 1935 study showed that among Nebraskan farm households, about 40 percent of family consumption came from own-farm production, a rate much higher than less-affected farms in Illinois. In general, the response to the farm depression was to lower

household consumption while at the same time shifting a greater share of that consumption to goods produced on the farm by wives, daughters, and other female family members (Fink 1992, 107). These transitions to subsistence measures also helped families to stay on the land. In these instances of declining rates of ever-married women among lower age brackets, declines in tenure mobility, lack of available men to marry, and a family's reliance on working adult daughters both on-farm and off likely all contributed to rising rates of delayed marriage in greater-suffering counties.

My results also bring to light some interesting consequences of the crisis in terms of the share of women currently married, meaning those who are married with a spouse either present or absent. While there is little difference between the coefficients on ever-married and currently married among white Southern women, meaning that changes in marriage rates are primarily driven by changes in the number of women who delayed marriage, results on Southern Black women indicate that, while some delaying of marriage occurred in the 20-24 range, an increase in crisis exposure also decreased the share of currently married women, especially among older age groups. I find that among women 20-24, 25-29, 30-34, and 35-39, the share of currently married women fell by 2.1, 1.6, 2.5, and 2 percentage points respectively. This means that as a result of the crisis, the share of Black women who were either widowed, separated, or divorced increased. This pattern is further revealed in the overrepresented share of not currently married female-headed Black tenant families on relief rolls during the Depression:

Only 1 family in every 100 enumerated was classified as a displaced tenant family, that is, a family without a definite crop or work agreement with the landlord. . . Families with widowed or unmarried females as heads were found most frequently in the unemployable group. (Woofter et al. 1936, 165)

Violence against Black men in the South was common, and one possible reason for the rise in widowed Black women in the counties hit hardest by the crisis could be an uptick in the amount of lethal violence against Black men.¹⁰ For example, the formation of the Southern Tenant Farmers' Union in Arkansas during the 1930s as a response to increasingly poor conditions for croppers and tenants was met with violence from white planters (Dyson 1973; Jones 1985). Another potential reason for the fall in currently married Black women could be that, as in urban areas, federal relief programs were often only given to families without a male household head. Black families in particular struggled to access relief due to discrimination, and some fathers were forced to “desert” their families so that they might qualify for relief (Jones 1985, 189).

An opposite pattern existed to a smaller extent among currently married Midwestern white women. As shown in Table 1.7, a one standard deviation increase in farm crisis exposure *increased* the share of 30–34-year-old Midwestern white women who were currently married by about 0.6 percentage points and the share of 35–39-year-old women who were currently married by about 0.8 percentage points. In general, counties that were hit hardest by the farm crisis saw a decrease in the share of older, separated women. White women usually were only the sole operators of farms after inheriting them from their husbands upon their death. It is likely that it became more difficult for these newly single women to keep farms going during bad times and white women in this situation had greater opportunity than their Black Southern counterparts to move on to the city for other work, especially during the Depression. While results on the mechanisms driving declines or

¹⁰ Violence against Black men and women as a determinant of the outcomes I explore both in this chapter and in Chapter 2 is an important topic in need of further research. Recent studies such as Cook, Logan, and Parman (2018a, 2018b) are examples of scholarship that connect violence against Black men and women in the form of lynching to economic, social, and political outcomes and can serve as a roadmap for future research.

increases in currently married rates are not fully clear from the results presented here and warrant further investigation, there is a clear relationship between decreased tenure mobility and delayed marriage among young age groups, exemplified by the significant effects of the crisis on both Southern white tenure mobility and white ever-married rates.

1.5.3 Fertility and off-farm work

As Table 1.8 shows, increased crisis exposure had little effect on the other outcomes of interest (off-farm work and number of children), except among Black women in the South. I find that, as shown in Table 1.8, column 2, a one percent increase in crisis exposure resulted in a decrease of about 4 children per hundred ever-married Black women aged 16-39.

Changes in mobility and marriage rates as a response to the farm crisis are not further reflected in women's changes in behavior in terms of off-farm work and fertility. Except for the number of children born to Black women, there is no effect of the farm crisis on the other outcomes of interest. Still, the drop in fertility among Black women is worth noting. Why did Black women's fertility decline in the South as a response to the farm crisis, while white women's did not? Family farming in the United States, especially sharecropping farms, often relied on children's labor as well as that of the adult members of the family. It is likely that as Black women in the age group of 20-24 delayed marriage and started fewer sharecropping families, there was a similar decrease in the number of children per woman. Additionally, sharecropping farms had the fewest reserve resources with which to raise more children. White families, on the other hand, typically had greater resources to care for additional children and thus there is no significant association between the crisis and white women's fertility as a result of them delaying marriage. These patterns may also be driven by the

decline in the share of currently married Black women in hard-hit counties. Without husbands, it is unsurprising that the number of children would also fall to some extent.

Table 1.8: Depressed Farm Earnings Impact on Other Outcomes, All

	(1) Share w/ Off-farm Work	(2) Num. Children
A. South, Black		
Crisis Exposure (US Prices)	.0051 (.0032)	-.038** (.0077)
N	1,474	1,499
Mean Dep. Var	0.022	-0.039
Level in 1920	0.025	0.699
First Stage		
Crisis Exposure (Global Prices)	.064** (.0024)	.064** (.0023)
F	1141	1171
B. South, White		
Crisis Exposure (US Prices)	.0011 (.0018)	-.0009 (.0047)
N	2,259	2,280
Mean Dep. Var	0.023	-0.118
Level in 1920	0.025	0.898
First Stage		
Crisis Exposure (Global Prices)	.064** (.0024)	.064** (.0023)
F	1141	1171
C. Midwest, White		
Crisis Exposure (US Prices)	.0013 (.0025)	.0066 (.0049)
N	1,920	1,936
Mean Dep. Var	0.022	-0.084
Level in 1920	0.097	0.828
First Stage		
Crisis Exposure (Global Prices)	.032** (.0017)	.032** (.0017)
F	543	542

Notes: Dependent variables are the change share of women working off farm and the number of children under 5 per ever-married woman aged 16 to 39. Observations are at the county level. Panel A analyzes Southern Black women, Panel B analyzes Southern white women, and Panel C analyzes Midwestern white women. First stage results are presented in the bottom of each panel. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, and race-specific population density. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. * $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

1.6 Conclusion

In this chapter, I measure the impact of the fall in farm commodity prices, isolated from other aspects of the crisis, on mobility, marriage, fertility, and work outcomes for

women and men on farms in the U.S. South and Midwest. I find that farm tenure mobility was significantly hindered by the crisis among Southern white farmers but had little impact on Black farmers, because limited access to farm ownership made Black farmers less susceptible to disruptions in tenure mobility. In the Midwest, I find that crisis exposure caused tenants and owners to leave farming altogether, but that reliance on family inheritance likely enabled mobility up the ladder to remain strong. Challenges to tenure mobility caused by the crisis are further reflected in changes in women's marriage rates: Southern white women were more likely to delay marriage as a result of the crisis, especially at younger ages. There is some evidence, though not as pronounced, that Southern Black women and Midwestern white women were also delaying marriage. In addition to changes to tenure mobility, family farm consolidation and reliance on women's subsistence farming activities were also important motivators for encouraging young women to delay marriage.

Results also indicate varied outcomes regarding the share of women currently married in counties most affected by the crisis. For example, among Southern Black women, currently married rates fell across almost all age groups because of the crisis, suggesting that racial disparities in relief access or the violence inflicted upon Black men might be leaving more separated women on farms. Finally, women did not respond to decreased earnings potential on farms by taking off-farm work (except through migration, which I explore in the next two chapters), but there was some decline in Black women's fertility, possibly due to a decline in labor needs on sharecropping farms as a result of the crisis.

The relationships between shocks to the marriageability of men in agricultural communities, shocks to the availability of the resources to obtain farm land and capital, and delayed marriage among women are well supported by my findings, which add further

support to the pattern found in other studies (Bloome, Feigenbaum, and Muller 2017; Landale 1989; Autor, Dorn, and Hanson 2013). This chapter further expands on this pattern to explore the connection between the labor, land, and marriage markets. It highlights how not just declining marriageability of men, but also the unique labor and financial needs of farms during crisis, especially for women's subsistence farm labor or women's wage labor off-farm to support those on farm, also helped to delay women's marriage. Additionally, differences by both race and region in access to farmland and farm capital highlight how family aid in addition to racial discrimination can determine who is able to keep the farm. This chapter focused on the women who stayed in these counties hit hardest by the farm crisis. In the next two chapters, I will expand my analysis to understand more about the women who left as a result of the crisis: who they were, what they hoped to find in the city, and how they fared once they got there.

CHAPTER 2

“THE FARM WOMAN’S PROBLEMS”: FARM CRISIS IN THE U.S. SOUTH AND MIGRATION TO THE CITY

2.1 Introduction

In 1920 the United States Department of Agriculture (USDA) published a report titled *The Farm Woman’s Problems* aimed at better understanding why rural women were choosing to leave farm life and migrate to urban areas. Whether for better job opportunities, a better standard of living, or better marriage prospects, the exodus of women from farming meant many found themselves physically separated from their family networks for the first time. *The Farm Woman’s Problems* (Ward 1920) and similar reports from the USDA expressed concern about the future of the farm family and captured a larger structural change: a transition of the U.S. labor force from one primarily based in farming to one based in urban wage work. The farm crisis during the 1920s and 1930s, defined by dramatic drops in farm commodity prices and foreclosures, further accelerated this transition, altering women’s opportunities for work and marriage on-farm, while the Great Depression in the 1930s altered women’s opportunities off-farm. The period of the 1920s and 1930s provides a unique historical example of the ways in which an ongoing crisis in a rural area, and changing macroeconomic conditions that affected urban areas, can alter gendered migration decisions and opportunities.

Studies of this rural-to-urban transition have focused almost exclusively on men. In this chapter, I provide evidence that women were more likely to migrate to urban areas than men. I also center the role of race and its intersection with gender in this migration. I focus my analysis on the U.S. South, which during the same period of farm crisis was in the midst

of the first wave of the Great Migration, from 1910 to 1940, when more than 1.5 million Black men and women left the South for the urban North. I test whether the farm crisis had a role in accelerating women's exodus and examine the ways in which gender and race conditioned the migration decision, looking at selection into migration based on individual and family characteristics and how the farm crisis affected farm families. I argue that the specific racial and gendered aspects of Southern farming – gendered division of labor and paternalism in farming, a system of sharecropping in which racial discrimination and violence were embedded, and the declining 'marriageability' of young men during the farm crisis – created an intolerable situation for many women on farms.

Over the course of the farm crisis, I find that Black women were up to 12 percentage points more likely than Black men to migrate, and white women were up to 6 percentage points more likely than white men to migrate. These differences persist after the inclusion of both individual and county-level controls as well as after comparing individuals within households. Women's greater likelihood of migration, I argue, reflects ongoing structural inequalities in farming that limited women's access to their own land, control over their own earnings, and a better life. I use the changes to farm family socioeconomic mobility brought about by the farm crisis to highlight how these gendered aspects of farm economic life disproportionately limited a woman's choices for work and marriage should she remain on the farm. Women's access to farming was mostly through marriage, and socioeconomic mobility was dependent on the farm family's ability to rise from wage worker to tenant to owner. Limits to farm family economic mobility created by debt, foreclosure, and federal recovery spending, which incentivized the removal of sharecroppers and tenants during the crisis, were stronger predictors of women's outmigration from farming than men's. I also

find that characteristics of both the individual and the household highlight how racial segregation in urban work and in farming had important implications for Black women's migration compared to white women's. I find that Black women were more hindered by family care constraints than their white and male counterparts, and that access to education made Black women less likely to leave the farm than those with less access, reflecting Black women's constrained position in both the patriarchal family farm that relied on their care work at home and in the urban work force due to racism.

Evaluating the realities of the "Farm Woman's Problems" is essential for understanding women's role in the larger rural-to-urban transition and women's increasing participation in the off-farm labor force. To do this, I created a new dataset, which follows over 200,000 women and 500,000 men from 1920 to 1930 and 1930 to 1940 using complete count census data. My dataset is one of a handful that link women longitudinally, and the only one that I am aware of that links them from the 1920 to 1930 and 1930 to 1940 U.S. censuses.¹¹ Over the last five years, there has been an explosion of work that relies on linked datasets using complete count census data examining the Great Migration and other, international migration events during the first half of the twentieth century (Abramitzky, Boustan, and Eriksson 2012; Collins and Wanamaker 2014, 2015; Boustan 2017). Until recently, these studies have been limited to men due to challenges linking women longitudinally after maiden names are forgone for their husbands' last names. I address this problem by using marriage certificates from the genealogy website FamilySearch.org. These

¹¹ Marchingiglio and Poyker (2020) link women who were either always married or never married during their two periods of interest (1910 and 1920). Price et al. (2019) harness individual public contributions to family-tree data from FamilySearch.org and a machine learning approach to link women from 1900 to 1920. Craig et al. (2019) use marriage certificates to link husband-wife pairs in 1880 and 1910 to their childhood homes in 1850 and 1880. Olivetti and Paserman (2015) create "pseudo links" which link men and women based on their first names alone from 1850 to 1940. Feigenbaum and Gross (2020) use a genealogy-based linking method with information from FamilySearch.org. Most of these methods require access to restricted complete count census data.

contain information on marriage year and maiden name and allow me to find a woman in the census based on her maiden name before marriage, and her married name after marriage. By seeing women before and after their migration took place, I can isolate the impact of gender on migration propensity among Black and white men and women, regardless of post-migration marriage status.

To inform my research questions and to better understand the mechanisms behind my quantitative results, I draw on archival material that explains women's attitudes toward farm work and farm marriage, and why urban living offered them more in terms of independence and social and economic mobility than their male counterparts. This material also offers glimpses into the consequences of the farm crisis for women. These sources include surveys from the time period, personal accounts of women in the form of autobiographies and oral histories of those who took part in this migration, and the observations of social scientists concerned by the exodus of rural youth.

This chapter builds upon several literatures. The first is that of migrant selection and sorting in the Great Migration (Collins 2021). Studies of the first wave of the migration have demonstrated that Black male migrants from 1900 to 1950 were more likely to have more years of education and to be literate (Margo 1990), have higher occupation and income scores from 1910 to 1930 (Collins and Wanamaker 2014, 2015), and come from both the top and the bottom of the occupation distribution in 1940 (Boustan 2017). Many, including Vigdor (2002), emphasize how the traditional Roy model of migration, which would predict that Black male migrants from the South would have fewer years of education, is better revised to highlight the role of the social and political freedoms outside of the Jim Crow South as a major motivating factor. In this chapter, I examine the Great Migration in the

context of a larger rural-to-urban transition. I focus specifically on farm-to-urban migration, exploring the ways in which, in addition to an individual's education and literacy status, a family's farm characteristics, such as ownership or debt, enabled or hindered migration. This also allows me, following the theoretical framework of Harris and Todaro (1970), to address how the Great Depression, which increased uncertainty about employment in urban areas, functioned in the migration decision (Boustan, Fishback, and Kantor 2010). The effects of individual and farm characteristics varied by gender and race, and by comparing Black and white, male and female, I am able to explore the role of patriarchy in farming families and racism in the South in conditioning this migration.

My chapter also aligns with studies of the U.S. farm crisis and with feminist migration scholarship. The causes of farm distress (Alston 1983; Rajan and Ramcharan 2015) and labor and migration effects of federal recovery policies (Whatley 1983; Fishback, Horrace, and Kantor 2006) have been well studied. However, the specific effects of this period of crisis on women's migration have been overlooked. I add to this literature by explicitly considering the role of resources and gendered expectations within the family, building on the work of feminist migration scholars. I expand the framework of the Roy model to also include questions about how motivations, costs, and benefits differed for women, and to what extent power dynamics within the household affected selection into migration (Pessar 1999). Scholars of other movements of women have emphasized migration that was specifically for marriage (Diner 1983; Friedman-Kasaba 1996; Fan and Huang 1998). I follow this literature by exploring evidence in my archival sources for migration not only for work but for better marriage opportunities.

The rest of the chapter is organized as follows. In Section 2.2, I briefly summarize the role of the farm crisis in internal migration and the history of the Great Migration. In Section 2.3, I introduce archival evidence that speaks to the gendered nature of this internal migration and I draw on theoretical literature to outline the major mechanisms at play. In Section 2.4, I describe the construction of my linked datasets. Section 2.5 walks through my empirical strategy. Section 2.6 describes my results and Section 2.7 concludes.

2.2 Historical background: farm crisis and the Great Migration

The farm crisis of the 1920s and 1930s was defined by steep drops in farm commodity prices, farm foreclosures, and the decline of farm tenure mobility (see Chapter 1). Not only the declines in farm profitability, but also farm debt made the establishment of new farm families very difficult. The distress caused by this boom-and-bust period, however, was just one of many challenges facing the farm sector. A falling farm population and rapid mechanization were further accelerated by federal efforts to stabilize farm prices during the 1930s with legislation such as the Agricultural Adjustment Act of 1933 (AAA). For example, Fishback, Horace, and Kantor (2006, 15–16) find that a one standard deviation increase in AAA spending caused a reduction in the net migration rate into a county of 0.13 standard deviation. The removal of sharecroppers and other tenants as a result of the AAA was a primary avenue through which the establishment of new farm families was eroded. The exodus of farmers, especially of young people and women, was a concern of many officials during the period (Smick and Yoder 1929; Hamilton 1933). Throughout the 1920s and 1930s, the farm population fell by an average of 521,000 people each year (Olmstead and Rhode 2006). In this chapter, I examine not only the drop in farm commodity prices, but also

the role of farm debt and the AAA in conditioning women's exodus from farming due to changes in farm family viability.

There is also a large body of literature that looks specifically at internal migration in the United States. The period of the farm crisis falls during the first wave of the Great Migration that stretched in its entirety from 1910 to 1970. During that time, more than 6 million Black men and women migrated from the South to the North. This study focuses on the first wave from 1910 to 1940, when the share of Southern-born Black men and women living outside of the South rose from 5 percent to 15 percent. White men and women moved in smaller but not insignificant numbers as well. In both the 1920 and 1930s, white and Black outmigration from the South exceeded in-migration (Fligstein 1981; Berry 2000). The Great Depression slowed these migrations as unemployment rose in Northern cities, especially for Black individuals, but by the mid-1940s Black outmigration would reach its peak (Boustan 2017).

This chapter alters the frame through which the Great Migration is viewed. I place the Great Migration in the context of rural-to-urban migration, focusing on how migration patterns can change in the context of macroeconomic shocks in both rural and urban areas. For many Black men and women who left the South, there was often an initial move to a Southern city which would pave the way in terms of experience in urban jobs and knowledge of migration routes, and those migrants may look fundamentally different from the ones who made direct routes North (Gottlieb 1987).

The difficulty of compiling a linked sample of women has meant that questions about gender differences in migration behavior have so far been limited to cross-sectional analysis. For example, White (2005) shows that in 1920, Black female migrants from the South living

in an urban area were 3.5 times more likely to be employed than their non-migrant counterparts. However, she cannot give an indication as to whether they were positively selected on the basis of transferrable urban skills (such as previous work as a domestic servant). Highlighting gender differences in the context of the family also allows me to consider whether the migration decisions of these women were not based merely on individual utility-maximization decisions. For many women, decisions were likely made on the household level; they would be expected to migrate after families determined they could no longer support an unmarried daughter and to send home some of their earnings. In particular, as the dominant farm organization transitioned from small family-farming to larger, mechanized farming, women became less of an asset on the farm as the number of tasks deemed appropriate for women fell. Meyerowitz (1988), looking at white rural-to-urban migrant women in Chicago, also emphasized how a single daughter was often seen as a burden to the family, despite these daughters' unmonetized roles in childcare and household and farm production. Especially in working-class, tenant farm, and small farm families with precarious financial situations, daughters often migrated in search of work when the income earned by the father did not suffice to support the entire family.

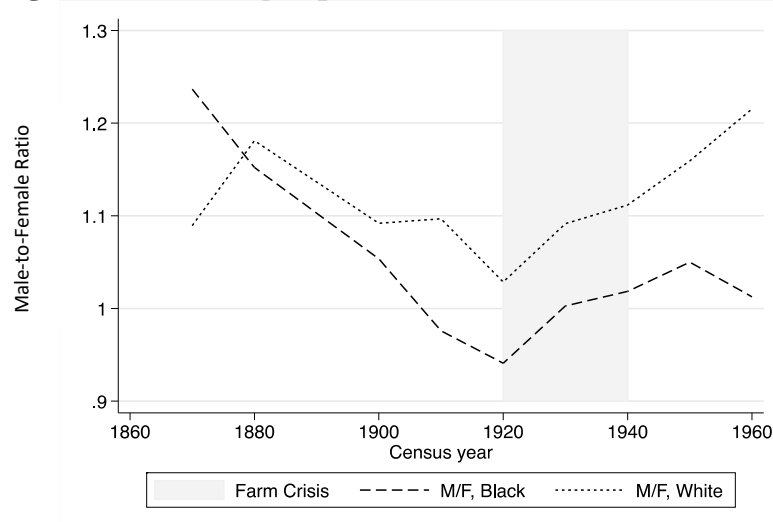
2.3 Mechanisms in gendered rural-to-urban migration

By studying migration during the period of the farm crisis, I am able to better understand how an ongoing crisis in a sending region characterized by gender segregation in access to work and land, and how the context of changing opportunities in receiving areas brought on by the Great Depression, altered migration decisions. In the decade following the first World War, cities in the United States gained a net 5,000,000 individuals, nearly all of whom came from the farming areas of the country (Baker 1933, 61) . Better marriage

opportunities, better earnings opportunities, and a better standard of living all functioned as important pulls to urban living.

Figure 2.1 shows the male-to-female ratio of individuals age 15 to 35 living, working, or living with a parent who works in farming in each census year. An upward sloping line indicates an increase in the number of men per woman, whereas a downward sloping line indicates a decrease in the number of men per woman. The figure shows how after over 40 years of an increasing share of the number of women compared to men on farms, the farm crisis period, indicated by the shaded area, exhibited a reversal: the number of men per woman began to rise. This pattern is consistent with reports of the period expressing concern about the exodus of women from farming, and in the following sections, I explore some reasons why women were more likely to leave the farm than men.

Figure 2.1: Farming Population Male-to-Female Ratio



Notes: This figure shows the male-to-female ratio of individuals aged 15-35 who were either living, working, or had a live-in parent or spouse working on a farm in the South.

2.3.1 Roy Model of migrant selection

Economic models of migrant selection typically generate predictions about who is most likely to receive the greatest economic benefits from migration. Those who are

expected to benefit the most are expected to leave in the greatest numbers. Studies of migration selection to and within the United States have primarily been grounded in the Roy (1951) model. The Roy model is the most widely used model of selection, applied to immigration theory by Borjas (1987). The Roy model predicts that migrants who are more “skilled” (often defined as more years of education or job experience) are more likely to migrate if they can expect to gain higher returns away from their home community. In that case, migrants would be positively “selected” on the basis of skill from their sending community. Conversely, there is negative selection on the basis of skill when low-skilled migrants leave expecting to gain higher returns away from their home community.

Boustan (2017), showing how inequality was greater in the South than in the North, explains that the simple Roy model would predict that Southerners at the low end of the income distribution would have the most to gain by moving North. As Boustan (2017) and other have pointed out, however, there are many ways in which the simple Roy model does not adequately explain the first wave of the Great Migration among Black men. They show positive selection on the basis of farm ownership and higher socioeconomic status (meaning farm owners and children of those whose families owned farms were more likely to migrate) because the poorest of farmers did not have access to adequate resources, information, or health to make the journey (Margo 1990; Logan 2009; Boustan 2017). Black South-to-North migrants also had higher levels of literacy (Hamilton 1959) and education (Tolnay 1998) and were more likely to have previously lived in an urban area and gained skills more transferable for urban work (Collins and Wanamaker 2015). Boustan (2017), recognizing that one issue in many of these models is that certain characteristics like education can be jointly determined with the decision to migrate, looks at father’s occupation as a proxy for positive

or negative skill selection. She finds that Black male South-to-North migrants were selected both from the lowest-skill households and the highest-skill households. In this chapter, I take a similar, critical view of the simple Roy model, and argue for a more complex version, which considers not just the racial aspects but also the gendered aspects that may encourage or limit migration.

Theories of rural-to-urban migration also offer predictions about selection and migrant behavior in the internal migration context. In their classic model of rural-to-urban migration, Harris and Todaro (1970) posit a dual economy – rural and urban – between which workers migrate back and forth based on actual rural wages and expected urban wages taking into account the unemployment rate in the city. This model can be expanded to incorporate rural unemployment, which is particularly relevant for the rural farming sector during the Great Depression. As long as the expected wage is higher in urban areas than rural, there will be movement toward the city. As in the Roy model, the wage rate in cities may be higher for those with more education or training, and thus a city might experience in-migration from individuals positively selected on the basis of skill.

Micro-level theories of migration tend to characterize the migration decision as taking place on an individual or household level. The neoclassical view looks at wage differentials across space that help an individual migrant to determine both the pecuniary and mental costs and benefits of leaving one's home (J. R. Hicks 1932; Sjaastad 1962). Others look at migration at the level of the household. A household may collectively act to maximize its expected income while minimizing risks (Massey 1999). In these theories, the individual is most often thought of as a genderless or male migrant, and the household decision is seen as occurring without conflict. A feminist approach asks how the scale of female and male

migration might differ, whether receiving-area reactions to migrants are gendered, and the ways in which migration influences and reflects gendered relations (Pessar 1999; Green 2012). The role of gendered social norms and the constraints they place on who moves, where, and for what purpose, must also be considered. A household may choose whether or not to send a daughter away to work, for example, based in part on how that decision would be perceived by community members and without giving much choice to the migrant herself. Gender-segmented employment opportunities can also create differential incentives between men and women (Pessar 1999). For example, in the United States, gender and race were used as reasons to keep wages low for female-dominated or Black-dominated occupations (Amott and Matthaei 1996) and conditioned Black women's migration choices.

2.3.2 The farm crisis and other push factors

In farming areas, economic mobility largely depended upon an individual's ability to ascend the farm tenure ladder (moving from farm wage worker to sharecropper to tenant, to owner). As shown in Chapter 1 and elsewhere, men's marriageability declined when they no longer had the resources to own or rent land to which to move their new families, and movement up the farm tenure ladder slowed or stopped altogether (Wickens 1931; E. J. Long 1950; Alston and Ferrie 2005). Studies of more recent time periods show how long-run changes in marriage patterns in the United States can reflect changes in the supply of marriageable men. Where there are worse labor market opportunities for men (or better labor market opportunities for women), marriage rates among women would be expected to fall (Bertrand, Kamenica, and Pan 2015). When examining the effect of Chinese import penetration on manufacturing communities in the United States, Autor, Dorn, and Hanson (2019) show that a decline in manufacturing due to Chinese import penetration from 1990 to

2007 reduced the supply of marriageable men, reduced the prevalence of marriage, and reduced fertility, particularly in dual-parent households. Many examples exist of women migrating not only for better work opportunities, but better marriage opportunities (Pedraza 1991; Fan and Huang 1998). For example, Diner (1983) shows that young, single emigrant Irish women during the Irish famine left not only because of poorer economic conditions, but because of fewer chances for marriage. Friedman-Kasaba (1996) writes that a desire for more “acceptable” marriages was one reason Jewish women migrated from Russia to the United States in the late nineteenth and early twentieth centuries (40). The deteriorating conditions for small family farms in the rural South also led many young, single women to leave not only for work but for better marriage prospects.

The period of the farm crisis upended family farm formation and the small family farm, and increasing shares of both women and men, especially young women and men, left farming for good throughout the 1920s and 1930s. Young men faced challenges in securing their own land or tenant contracts in both decades, reduced farm commodity prices led to foreclosure, mechanization made farm labor less necessary, and the AAA coincided with two periods (1933-34 and 1935-37) of widespread tenant and sharecropper evictions in the South (Adams 2006). With sharecropping and tenant contracts hard to secure, Black former farmers in particular either stayed in the area working as farm wage workers or seasonal farmers or migrated to the city. For many, that first migration to the city would occur within the South.

These two decades of structural transformation compounded a situation in rural areas that already concerned national and local observers: the exodus of young people, particularly women, from farming. The 1920 report mentioned in the introduction of this chapter was one of a larger collection of reports from both the federal government and independent

organizations that sought to explain why young men and women were leaving the farm. These were part of a large-scale effort that included the Country Life movement, Home Extension Service, and 4H Clubs working to keep young people, families, and especially women on the farm through home and farm improvement. Many of these official federal efforts focused exclusively on white farmers and thus the situations of Black women on farms are not well represented in any of these surveys and reports. In a letter to the Commission on Country Life in 1908, W. E. B. Du Bois implored the commission to thoroughly examine the plight of the Black farmer. He wrote:

The very center of the farmer problem in the South is the Negro Problem, and any attempt to treat it as though the race problem did not exist would be very unfortunate not to say untrue. A plain unbiased statement of the real facts ought to be made, not simply for the sake of the Negro, but for the sake of the white farmer. There is, as you know, in the South a widespread system of peonage varying all the way from the share system tenancy with systematic cheating and company stores, to practical slavery (Du Bois 1908, 1).

Black farmers especially faced a range of inhumane treatment and living conditions, particularly on sharecropping farms (Bizzell 1921; Dickins 1928). Black sharecropping farmers were often perpetually in debt to their landlords who refused to pay their tenants what they were owed. Lack of recourse meant payment disputes often ended in violence against Black farmers, including lynchings (James 1988; Tolnay and Beck 1992, 1995; Wilkerson 2010; Equal Justice Initiative 2017). The realities of the exceptionally poor conditions for Black farmers in addition to the violent and non-violent racism experienced in daily life in the South highlight racism as one of the most important reasons that rural-to-urban moves among Black migrants differed from those of white migrants.

Many studies of white and Black young men and women leaving rural communities focused on (1) the lack of good educational opportunities (Caliver 1935), (2) the lack of good

jobs for those who did have an education, did not have access to farmland, or who were single women (Sanderson 1924), and (3) the relentlessness and intensity of farm work, particularly for farm wives and daughters who had little control over the farm's earnings when working on a family farm (Ward 1920; Sanderson 1924). One commentary on the future of the farm family focused on the growing role of education, awareness of the urban luxuries of city life, and the widening earnings gap between the farm and the city, as major threats to the traditional farm family:

This tendency of urban values and ideals to dominate the rural mind inevitably weakens the farm family unless there is a recognition of this danger and a definite attempt is made to develop a discriminating appreciation of the possibilities of rural life and an earnest effort to enrich the life of the farm home. (Sanderson 1924, 9)

Recognizing that country life was becoming less and less desirable, multiple government and nongovernment organizations sought to address the “problem” of rural youth. The Country Life Movement, which was very active in the twenty years leading up to the farm crisis, addressed everything from soil erosion to adult education to, most relevant here, raising the morale among the rural population to keep them on the farm. The hope was to keep the agricultural population strong and productive to feed the growing needs of urban centers (Danbom 1979; Ramey 2014). Similarly, the Home Extension service operated locally for both white and Black families, though the agencies were segregated by race. The service aimed to teach farm wives how to be more efficient and reduce some of the back-breaking work of maintaining a family farm, but in doing so reinforced gendered divisions of labor and racial segregation (Walker 1996; Jones-Branch 2014).

Despite these efforts, and these programs' specific focus on farm women, contemporary regional and state studies repeatedly showed a gendered imbalance in migration: women were leaving at a greater rate than men (Ward 1920; W. A. Anderson and

Loomis 1930; Hatcher 1930; Thurow 1934). A study of white farm families in Wake County, North Carolina in 1929 showed that among both farm owners and farm tenants, there was a higher proportion of daughters over 14 years old who had left home than sons. Among tenants, 49 percent of daughters versus 33 percent of sons had left. Among owners, 54 percent of daughters versus 51 percent of sons had left (W. A. Anderson and Loomis 1930, 7). In a larger study looking at North Carolina as a whole, the authors concluded that more white and Black daughters of farmers migrated to cities than sons. Additionally, while white sons migrated in larger numbers than Black sons to cities, the opposite was true for Black and white daughters (Hamilton 1934, 43).

Archival and empirical evidence as well as theory suggest three avenues through which I examine patterns of selection and sorting in migration. First, I focus explicitly on how gendered this migration was by looking at the effect of being female on an individual's propensity to migrate and on the type of migration undertaken: (1) intra-state, (2) interstate, within South, and (3) interstate, out of South. Second, I examine how hallmarks of the farm crisis – change in potential earnings, debt, and AAA spending – interacted with gender to alter propensities to migrate. Finally, I modify the approach of the Roy model to examine how selection based on access to education functioned differently for Black versus white men and women. I also extend the Roy model to focus on the role of the family: resources, family size, and parents' literacy.

2.4 Data

2.4.1 Creating a linked dataset of women and men

Following the ABE method (Abramitzky, Boustan, and Eriksson 2012) outlined in Chapter 1, I construct two linked datasets of men and women who were single, aged 5 to 30,

and who were living or working on a farm or had a parent working on a farm in either 1920 or 1930. I specifically target young men and women who were single at the start of each decade to capture potential migrants as they make decisions about careers, marriage, and family in the context of the farm crisis. I then follow them forward to 1930 (for those I see in 1920) or 1940 (for those I see in 1930), linking each individual in two different census years 10 years apart. Data for record linking come from the complete count census provided by the Integrated Public Use Microdata Series (IPUMS) through Ancestry.com and the National Bureau of Economic Research (NBER). These complete count census data are the digitized censuses from the years 1920 to 1940 that include the full names of the individuals recorded. To address the reality that many women changed their names after marriage, I use marriage certificate data to assign maiden names to individual women in each census year based on year of marriage, which allows me to include women who married between census years.

I downloaded marriage certificates from FamilySearch.org, which has digitized millions of historical records available for public search and manual download. Given time and resource constraints, I conducted a targeted search to maximize my chance of downloading the most relevant marriage certificates. I searched for women who were born in counties with greater than 50 percent of the land devoted to farming in the Southern states of Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia, and who married between 1920 and 1940. After keeping only women whose record included their year of birth, maiden names, and year of marriage, I have a sample of 130,517 marriage certificates, 91,556 of which I use to make linkages.¹²

¹² The sample of marriage certificates decreases due to age restrictions I imposed after collection.

With few exceptions (Olivetti and Paserman 2015; Craig, Eriksson, and Niemesh 2019; Price et al. 2021; Marchingiglio and Poyker 2021; Feigenbaum and Gross 2020), papers that have linked census records over the years for which complete count census data are available (1790-1940) have dropped women entirely due to the fact that most women change their last names after marriage. Using marriage certificates, my dissertation is the first of which I am aware that uses linked census records for women before and after marriage in an analysis of migration.

To link between marriage certificates and censuses, and between census years, I expand on the method created by Abramitzky, Boustan, and Eriksson (2012). The version of the ABE method that I expand on is the same described in Chapter 1, which matches individuals over time based on race in addition to name, age, and place of birth. To incorporate marriage certificates, I first link from the marriage certificates to the 1920 and 1930 censuses, attaching information on marriage year and married name when a link is made. I then take the entire sample of both single and to-be-married women from 1920 and 1930, and with the additional information created by the marriage certificate matches, link to the 1930 and 1940 censuses based on married name if a woman was ever married or maiden name if a woman was never married. This process is visualized in Figure B.3 of Appendix B, Section B.1.

Additional information from both the marriage certificates and the census data allows me to add further restrictions to linking criteria which should reduce the likelihood of Type I error but increase the likelihood of Type II error. These alternative datasets serve as robustness checks against my main match. I construct one alternative dataset using NYSIIS-cleaned parents' first names and spouses' first names to reduce the probability of false

matches from the marriage certificates to the census years (matching to a parent's first letter of their first name in 1920 or 1930 and husband's first letter of his first name in 1930 or 1940). This alternative dataset does not apply to my male matches. I then construct a second alternative dataset that restricts the matching criteria to match on unique names within five-year bands. This dataset applies to both female and male matches. Results are consistent across datasets. Overall, my match rates fall within the range suggested by Long and Ferrie (2013) and are detailed in Appendix B, Section B.1. The secondary match of married women is higher than usual match rates, but this is likely due to the initial match keeping only unique individuals.

After matching, I keep all individuals who lived in a rural area¹³ and who at the start of the decade were in some manner participating in agriculture: living on a farm, or working on a farm, or having a parent with whom they were living who was working as a farm.¹⁴ After keeping only those who were part of the farming population in each start year, my final linked dataset for analysis consists of about 30% of my total matched sample of women and 50% of my total matched sample of men. I use the U.S. Census definition of urban to indicate whether an individual is a farm-to-urban migrant between 1920 and 1930, or between 1930 and 1940. An individual is a migrant if they moved to an urban area in a different county¹⁵

¹³ The U.S. Census defined a rural area as a place with a population under 2,500 persons during 1920, 1930, and 1940. Urban areas were incorporated areas with a population of 2,500 or greater. In 1930, the definition of urban was extended to townships and other subdivisions that were not incorporated as municipalities but had populations of 10,000 or more or density of more than 1,000 persons per square mile. This added 28 places to the "urban" category that were not considered urban in 1920. None of these new urban places were located in the South and thus do not affect my results.

¹⁴ I keep those with an occupation code (1950 basis) (or who have a parent with an occupation code) of 100, 123, 810-840 or who list themselves as living on a farm.

¹⁵ Average county size in the South East and South Central census regions was 640 square miles in 1920. In the Midwest, the average size was 716 square miles. It was 2907 square miles in the West and 746 square miles in the Northeast.

between decades.¹⁶ A non-migrant is an individual who was still residing in the same county and still part of the farm population a decade later. The matching procedure is described in further detail in Appendix B, Section B.1, along with details on sample selection and match rates.

2.4.2 Linked sample vs. population

My dataset follows men and women who were 5 to 30 years old in either 1920 or 1930, and who encountered the farm crisis early in their lifetimes. In Tables B.6 and B.7 of Appendix B, Section B.1, I compare the sample means of my main match to the entire population of interest at each start year on key variables of interest to assess the representativeness of my sample. Due to higher-status individuals having more unique names, the likelihood that matched individuals are better-off socially and economically means that they are likely to be more literate or more likely to own their home (Abramitzky, Boustan, and Eriksson 2012; Bailey et al. 2020; Abramitzky et al. forthcoming). This pattern is emphasized in the characteristics of the married linked sample, and is unsurprising given the monetary resources, time, and literacy level required to apply for a marriage certificate.

Bailey et al. (2020) recommend reweighting the linked sample to match the population characteristics using inverse propensity score weights.¹⁷ I use these weights to match based on differences in state of residence, age, and home ownership in the pre-migration year.¹⁸ The results of this reweighting are presented in Tables B.8 and B.9 of

¹⁶ Results are consistent if women who moved within county to the city are included. Including this group of women increases the number of migrants in my sample by about 13 percent. Future analysis looking at differences in selection based on different types of migration (within-county, out-of-county, out-of-state, etc.) is an important avenue for further study.

¹⁷ The probability that an individual is matched is $P_i(L_i = 1|X_i)$. Weights are constructed as $\frac{1-P_i(L_i = 1|X_i)}{P_i(L_i = 1|X_i)} * \frac{q}{1-q}$ where q is the share of records that are linked.

¹⁸ Single women are overrepresented in my sample as I am limited by the accessibility of digitized marriage certificates. Due to the much higher socio-economic status of my linked married women, weighting on 1940 marriage status further reduces the representativeness of my linked sample even when also weighting on ownership and other

Appendix B, Section B.1. Due to my large sample size, some differences remain statistically significant, but these differences are quantitatively small. Additionally, migrant and non-migrant means of both are biased in the same direction in comparison to the population, indicating that a comparison using migration status should still be consistent.

2.4.3 Farm crisis variables

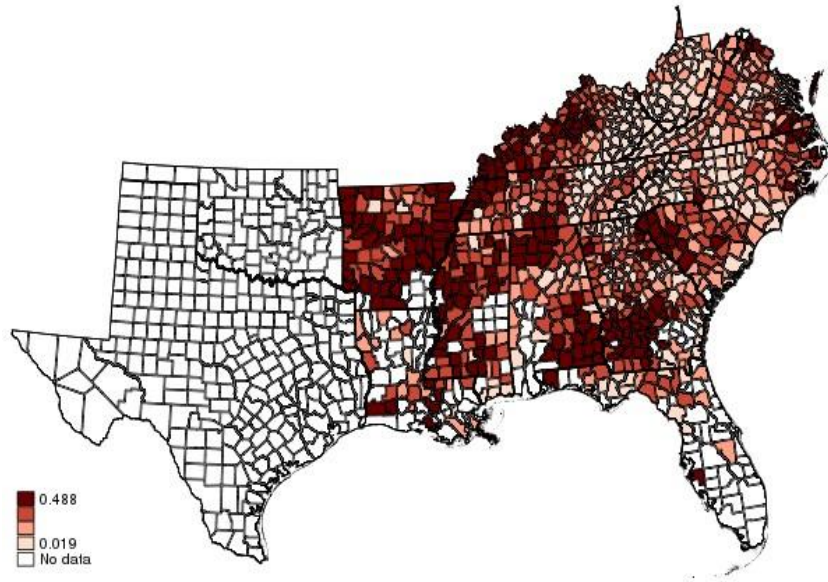
I use geographic variation in exposure to the farm crisis to assess how the crisis had differential migration effects by gender. I examine three key aspects of the crisis: 1) depressed farm earnings defined by the decadal change in crop value per acre, 2) farm debt burden and prevalence defined by the ratio of mortgage debt to farm value and share of farmers in debt, and 3) AAA spending. Figures 2.2 to 2.4 show geographic variation in both debt and AAA spending. Data on county-level measures of the farm crisis come from the U.S. Census of Agriculture, available through the Inter-university Consortium for Political and Social Research (ICPSR), and from the U.S. Census of Population, also available through ICPSR (Haines, Fishback, and Rhode 2018). Information from the census is at the county level and includes the ratio of mortgage debt per acre to farm value, crop value per acre, share of farmers indebted, share of the county's population in urban areas, and number of manufacturing establishments. Data on AAA spending per capita over the fiscal years 1933-1939 by county come from Fishback, Horrace and Kantor (2006). My main crisis variables of interest in both decades are (1) log change in crop value per acre in county c over

each decade (t equal to 1920 or 1930) equal to $\log \Delta \left(\frac{CropValue}{Acres_{c,t:t+1}} \right) = \ln \left(\frac{CropValue}{Acres_{c,t+1}} \right) -$

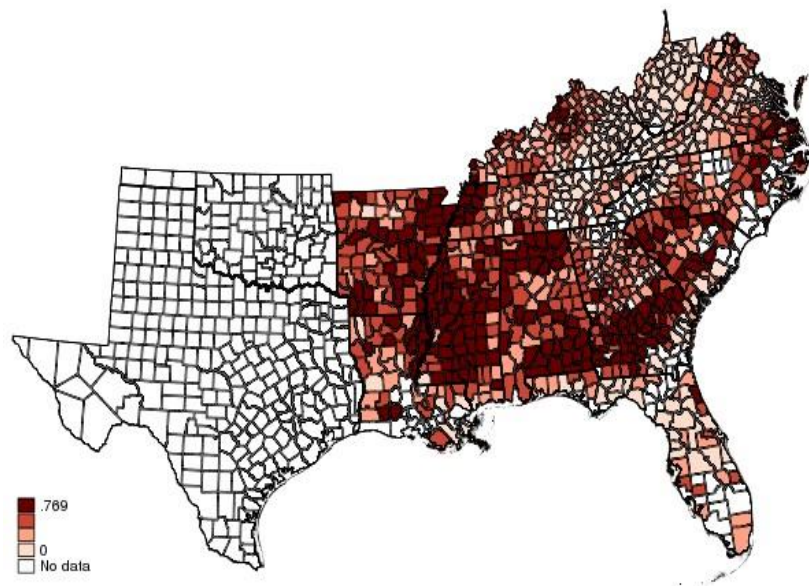
variables. Since I am most interested in the migration of women to urban areas before marriage, and in pre-migration characteristics, I do not expect this oversampling of single women to make my results depart dramatically from historical reality. This process is further described in Appendix A.

$\ln\left(\frac{CropValue}{Acre_{c,t}}\right)$, representing changes in farm earnings, (2) share indebted, which is a measure of debt prevalence, (3) ratio of mortgage debt to farm value, which is a measure of debt burden, and (4) AAA spending per capita. Table 2.1 presents summary statistics for these variables.

Figure 2.2: Debt Prevalence



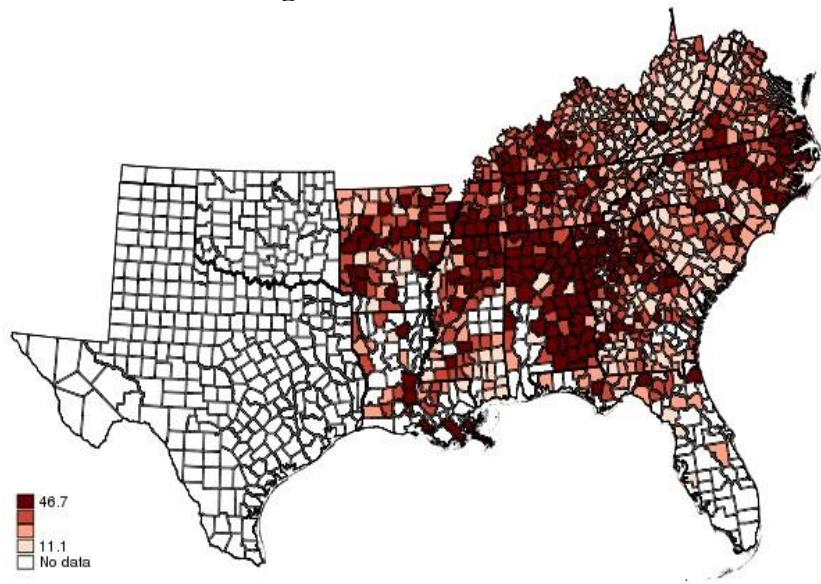
(a) Share Indebted, 1920



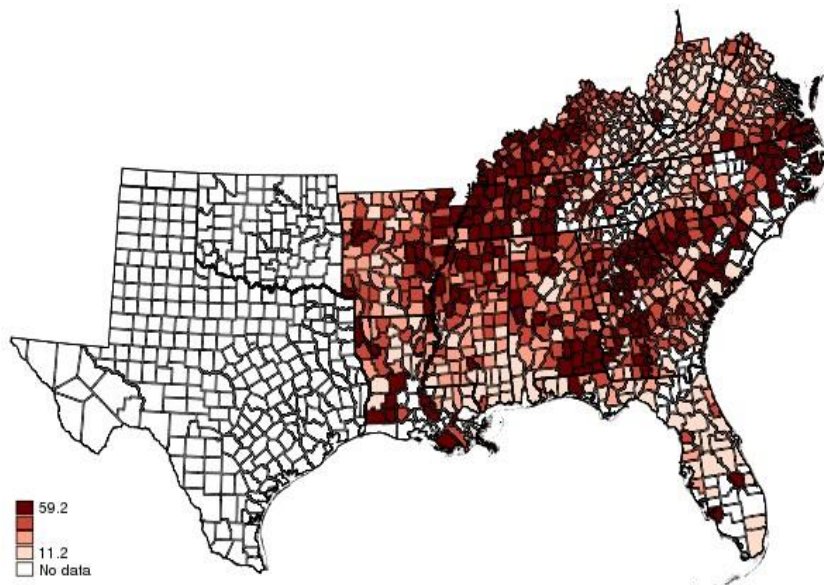
(b) Share Indebted, 1930

Notes: This figure shows the geographic variation in the share of farms indebted at the beginning of each decade. Darker colors indicate a greater share of farms indebted. *Data Source:* U.S. Census of Agriculture (Haines, Fishback, and Rhode, 2018).

Figure 2.3: Debt Burden



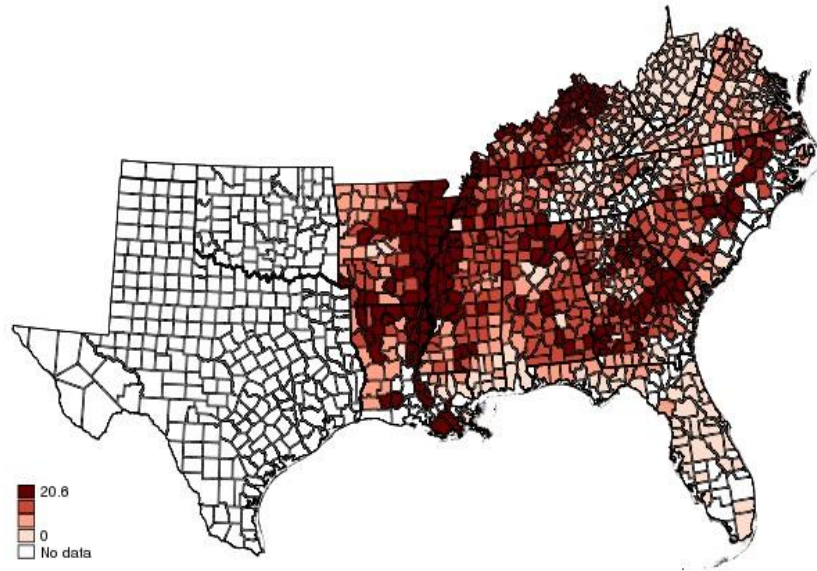
(a) Debt/Value, 1920



(c) Debt/Value, 1930

Notes: This figure shows the geographic variation in the ratio of farm mortgage debt to farm value at the beginning of each decade. Darker colors indicate a high ratio. *Data Source:* U.S. Census of Agriculture (Haines, Fishback, and Rhode, 2018).

Figure 2.4: AAA Spending Per Capita, 1933-1939



Notes: This figure shows the geographic variation in AAA spending per capita. Darker colors indicate more spending. *Data Source:* U.S. Census of Agriculture (Haines, Fishback, and Rhode, 2018).

Table 2.1: Farm Crisis, Summary Statistics

	1920s				1930s			
	Mean	Min	Max	Std. Dev.	Mean	Min	Max	Std. Dev.
Log $\Delta_{t:t+1}$ Crop Value/Acre	-9.78	-66.37	-0.01	9.74	-4.37	-82.94	-0.01	4.57
Share Indebted _t	0.22	0.02	0.49	0.08	0.32	0.00	0.77	0.12
Debt/Value _t	30.34	11.10	46.70	5.76	35.93	11.21	59.18	6.99
AAA per capita, 1933-1939					4.27	0.00	20.67	2.96

Notes: This table shows summary statistics for key farm crisis variables. “1920s” refers to those used in evaluating 1920 to 1930 migrants and “1930s” refers to those used in evaluating 1930 to 1940 migrants. *Data Sources:* U.S. Census of Agriculture (Haines, Fishback, and Rhode, 2018), AAA Spending from Fishback, Horrace, and Kantor (2006).

2.5 Empirical approach

To understand how certain pre-migration characteristics at the individual, family, and county level influenced the urban migration of farm women and men, I employ a series of

linear probability and multinomial logit models, focusing on the interactions between individual, family, and county-level push factors and gender and race. My sample comprises exclusively women and men who were between the ages of 5 and 30¹⁹ in 1920 or 1930, were born in Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, or West Virginia, and still resided in the South²⁰ in 1920 or 1930. They also must have been engaged in farming either by living on a farm, working on a farm, or having a live-in parent who worked on a farm in the first year of the decade. Individuals to whom I assign a migration status by 1930 must have met all of those criteria in 1920, and those to whom I assign a migration status by 1940 must have met all of those criteria in 1930.

I estimate a linear probability model to determine whether women were more or less likely than men to migrate during both decades:

$$Mig_{ict+1} = \alpha + Female_i \times X'_{i,ct} + \theta_{c,st} + \gamma_a + \varepsilon_{ics} \quad (2.1)$$

Where $Mig_{ict+1} = 1$ if individual i lived in a rural area in county c in 1920 or 1930 and migrated to an urban area in a different county in time $t+1$ equal to 1930 or 1940, 0 if the individual had not moved counties, was still in a rural area, and still participating in the farming sector. $Female_i$ is a dummy variable equal to 1 if the individual is female. $X'_{i,ct}$ is a vector of start-of-period individual or county c controls and $\theta_{c,st}$ are county-of-origin or state-of-origin fixed effects depending on specification. γ_a are age fixed effects. I further modify Mig_{ict+1} to be a categorical variable representing three types of rural-to-urban migration: (1) intra-state migration, (2) inter-state, within-South migration, and (3) inter-

¹⁹ Those individuals would be between 15 and 40 when I see them the following census year.

²⁰ My analysis covers all the Southern states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. Texas and Oklahoma are omitted due to low marriage certificate data availability at the time of collection, and to exclude counties further affected by the Dust Bowl in the 1930s. Future research can expand this sample as digitization in other states is ongoing.

state, out-of-South migration. I estimate this multinomial logit using the same specification as Equation 2.1, replacing my binary migration indicator variable with a categorical variable based on migration type.

When testing for gender differences in coefficients, I pool my two samples by race and interact my Female dummy with all explanatory variables. For instances where I am interested in racial differences between women, I pool my Black and white female samples and interact a dummy variable $Black_i = 1$ if the individual is Black with all explanatory variables. All regressions use robust standard errors that are clustered at the county-of-origin level. Each specification is estimated separately for the 1920s and 1930s and samples are pooled based on interaction of interest (gender or race).

2.6 Results

2.6.1 Gendered migration streams

2.6.1.1 Gender differences in farm-to-urban migration

My initial analyses focus on establishing key facts about gendered migration during this period. I begin by examining to what extent gender is a predictor of migration from the farm to an urban area. Table 2.2 shows the results of a series of linear probability regressions that pool my male and female samples by race, weighted to be a representative sample of stayers and migrants from farms based on 1920 and 1930 characteristics as described in Section 2.4.2. I run these regressions separately on each sample: 1920s migrants and 1930s migrants. I first run a model that includes no controls, testing the difference between men's and women's overall likelihood of migration. These results are shown in columns 1 and 4 of Table 2.2. I find that Black women are about 6 percentage points more likely than Black men to migrate during the 1920s and about 12 percentage points more likely to migrate during the

1930s. White women are about 3 percentage points more likely to migrate than white men to migrate during the 1920s and about 6 percentage points more likely to migrate during the 1930s. I then look at households containing at least two individuals who are in my linked sample and include additional individual controls: age fixed effects and farm tenure status before migration. These results are presented in columns 2 and 5. After the inclusion of these controls, the difference in men's and women's likelihood of migration remains relatively unchanged or increases, meaning that the difference between migration likelihood is not explained by differences in other background characteristics.

Table 2.2: Gender and Migration Likelihood

	Black			White		
	(1)	(2)	(3)	(4)	(5)	(6)
1920s						
Female=1	0.063** (0.007)	0.046** (0.005)	0.074** (0.010)	0.033** (0.004)	0.038** (0.004)	0.058** (0.006)
Controls	No	Yes	Yes	No	Yes	Yes
Household FE	No	No	Yes	No	No	Yes
Mean Dep. Var	0.457	0.754	0.754	0.274	0.698	0.698
R2	0.004	0.074	0.506	0.001	0.066	0.478
N	184,901	48,586	48,586	531,425	112,491	112,491
1930s						
Female=1	0.124** (0.006)	0.114** (0.005)	0.173** (0.010)	0.063** (0.003)	0.090** (0.004)	0.157** (0.008)
Controls	No	Yes	Yes	No	Yes	Yes
Household FE	No	No	Yes	No	No	Yes
Mean Dep. Var	0.382	0.709	0.709	0.203	0.659	0.659
R2	0.015	0.089	0.475	0.005	0.083	0.456
N	175,496	39,518	39,518	527,294	81,689	81,689

Notes: This table shows the coefficients on linear probability models estimating individuals' likelihoods of migration. Dependent variable is equal to 1 if the individual moved off-farm between either 1920 and 1930 or 1930 and 1940. Controls include age and farm tenure status before migration. In columns 2 and 5 the sample is limited to households in which I see at least two individuals. All specifications use robust standard errors clustered at the county-of-origin level. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Next, I use household fixed effects (columns 3 and 6) as an additional robustness check for any observed or unobserved aspect of the household that might lead to women being more likely to migrate than men. The results indicate that women are still more likely

to migrate than their brothers. Black women are still almost 4 percentage points more likely to migrate during the 1920s and 8 percentage points more likely during the 1930s. White women are about 3 and 6 percentage points more likely to migrate than men during the 1920s and 1930s, respectively.

As false matches may be correlated with migration status, I conduct additional robustness checks to create a lower bound for the main migration likelihood estimates. I first conduct the same analyses on my conservative datasets. More conservative matching procedures should reduce the number of false matches. These results along with the original “Main Match” results are presented in Table B.10 of Appendix B. While the coefficient on Female falls, it remains both statistically and economically significant. As an additional check for the 1930s migration likelihoods, I use the 1940 census question about place of residence and farm status in 1935. Looking at women and men aged 15 to 40 in 1940 who were single and living on a farm²¹ in 1935, I find that white women were 3.5 percentage points more likely than white men to migrate off-farm and Black women were 3.3 percentage points more likely to migrate than Black men. These results are statistically significant.

These initial descriptive results indicate that women are more likely to leave the farm than men, and that the gap in men’s and women’s migration propensities grows during the Depression years. These results are consistent with the overwhelming conclusion that was published in the form of smaller survey studies: the farm regions of the United States were experiencing an exodus of women. Evidence from surveys and biographical sketches of women who decided to leave rural farming areas for urban centers provides some context for why this disparity between migration propensities existed and why the disparity might have

²¹ My definition of the farming population used in my analyses includes farm wage workers, who were not included in the 1935 question on farm-to-urban migration.

grown during the Depression. Better marriage opportunities and opportunities for independent livelihoods are two of the major themes that emerge in archival material. Of particular importance when considering gendered migration streams is the motivation of marriage, and it is highly relevant here as the profitability of farmland fell during the farm crisis. A move to the city meant not only better job opportunities, but also a broader set of potential marriage partners who had other forms of income and who offered a different lifestyle and economic mobility.

Surveys of female migrants during this period reflect marriage as an incentive for migration. While interviewers for the Southern Women's Educational Alliance (SWEA), an organization with the goal of increasing rural girls' education and keeping them in rural areas, commented on the lack of direct evidence of white women's marriage motivations for migration, they did consider them an important underlying cause:

It should be said, too, that although little was explained on this point by the girls themselves. . . there was probably in the drive of most of them towards the city the desire for a more normal amount of social contact with boys or men, and so for an opportunity to marry according to their own ideas of successful marriage. . . among those who come from heavily underprivileged homes, [who] are driven to the city by loneliness and general dreariness, little is heard of the word 'career,' and marriage is thus likely to have its more traditional unimpeded appeal. (Hatcher 1930, 52–53)

Della Thompson, one interviewee in the same study, followed up a discussion of the stressful uncertainty of farm prices with a wish that she would “marry a professor, or next best a rich man” when she moved to the city (16-17). This dissatisfaction with farmers as husbands was present too in some Black women's accounts of their relationships. In an oral history interview from the Black Women Oral History Project, then schoolteacher Alice Allison Dunnigan and later the first Black female Congressional reporter, describes her first marriage to a farmer:

It was 1925, the next year, that we were married. I tried hard to make a go of it. . . but he was a rural farmer, and of course we had different views and different values. . . He vowed that teaching or not, I must help him with the farm work as other farmers' wives did. . . After a while I became very tired and couldn't keep up the pace. My husband was sharecropping with his father. . . But at the end of the year, they came out with no money at all. In fact, they were in debt to the landlord. This was not unusual among sharecroppers. . . . (Dunnigan 1977, 13–14)

This anecdote highlights a key aspect of many women's, Black and white, dissatisfaction with becoming a farm wife: the lack of control within the household over the fruits of their own labor. Unpaid work on the farm meant women were not compensated monetarily for their efforts and had less control over the collective earnings of the farm. For Black women on tenant farms, debts to white landowners meant that staying in farming areas also meant even less control over the returns of her family's labor.

For women who were weighing their option of marrying, becoming a farm wife, and staying in their farming community, their decision was influenced by their own earnings opportunities as well as by their potential husband's. For Black women, the decision was further affected by consistently low wages for Black men. Black women often entered the labor force earlier and stayed in it much longer than their white counterparts. For many white women, by contrast, paid employment would be temporary until marriage. As both Black and white women state in their personal accounts of their decisions to leave farming, in addition to pursuing better marriage partners, if their families were not farm-owning or did not have the income to hire farm hands, they found urban living a more desirable prospect than staying on farms where they experienced drudgery, back-breaking work, and a lack of control over their earnings.

Surveys of young women who left their farming communities consistently underscore the desire for a better standard of living than what being the wife of a farmer could provide.

This might be obtained through independent wage-earning opportunities, which many women could not access on the farm. The definition of a better standard of living ranged from access to modern technologies such as electricity or running water, to access to independent earnings, entertainment such as movies, or just the excitement a city contained. Many of the women who left talked about a need for “freedom.” For Black and white women, this notion of “freedom” had some similarities, but the realities of racism in the South and particularly in Southern agriculture meant that Black women faced a starkly different set of limits on their behavior, earnings, and livelihood than white women. Although racism also pervaded Southern and Northern cities in the form of job and wage discrimination and violence, a Black woman could have more control over her earnings if she were a domestic worker or in some other off-farm job.

The length of the farm workday was another major factor in women’s dissatisfaction with farm life. Long hours coupled with a lack of control over the fruits of their own labor, in contrast to the growing number of jobs and higher standard of living available in the city, made the choice of becoming a farm wife intolerable for many. Referencing a survey of farms in the North and West of the country, Ward (1920) states: “In industries where love and service are not the ruling motives, a walkout might be foreshadowed by conditions [on the farm]” (7). She writes that the average working day for over 9,000 farm women was 11.3 hours. Eight years later, economist Hildegard Kneeland estimated, based on a survey of 700 farm women, that they worked on average 63 hours a week, or 9 hours a day. If she were able to get data from every farm in the country, she remarked, “the average would probably be even higher” (Kneeland 1928, 620). Mothers and daughters took on all housework as well as significant amounts of farm and field work. While these surveys focused on white women,

the reality of the workday on the farm would have been much the same – or worse – for Black women, especially since Black families had far fewer resources with which to buy labor-saving technology or home care help for children.

In an oral history interview, Minnie Whitney, one of the many Black women who left the South as part of the Great Migration, describes that one of the reasons she left was the unyielding nature of farm work: “I started doing that [working on the farm] when I was about seven years old. . . So when I became 10, my father hired me like a boy to work for him. That was round the clock. . . he said go, you go. When he say get up, we get up and go” (Whitney 1984). She would later run away from home to escape the farm. After a discussion with her mother that concluded that she could not marry and leave the farm until she was 21, she “realized that that was too many years that I had to stay under bondage of the family, so I left” (Whitney 1984).

Besides the back-breaking work on the farm, she also talked about how, in many respects, her family working as sharecroppers meant they were still living “kind of under the bondage of slavery” (Whitney 1984). Sharecropping often meant a life of debt with limited upward mobility (Alston and Ferrie 2005). For Black women in particular, a move cityward was a way to escape not just the patriarchal farm family but also some of the effects of racism and poverty fueled by white owners’ unwillingness to sell or lend to potential farm owners (Ransom and Sutch 2001). A move to a city in the North was a further step toward leaving the racism of the South behind, though Black women certainly were met with racism in the North as well.

Finally, legal limits on movement are also likely to contribute to gendered disparities in migration. For Black female and male potential migrants, the vagrancy and anti-

enticement laws played an important role in limiting migration. Vagrancy laws allowed local police to arrest anyone from the streets they saw without an obvious occupation. While white men and Black women (and children) were arrested under these laws in the South, Black men were disproportionately targeted (LeFlouria 2015). White planters, concerned about the loss of their low-wage workforce to labor recruiters both from the South and the North, sought to limit Black men's movements to other work through violence, intimidation, and the law (C. Anderson 2016). Anti-enticement laws were common throughout the South and officials levied huge fines and jail time on those agents caught recruiting Southern labor. These measures were effective in limiting some movement. Naidu (2010) finds that a 10 percent increase in the enticement fine in Jefferson County, Arkansas lowered the probability of a sharecropper moving from one farm to another by 12 percent. These legal limits on mobility reflect a starkly difference set of migration costs facing Black migrants and are important to emphasize when comparing racial and gender differences in migration.

2.6.1.2 Types of farm-to-urban migration

I next use a multinomial logit model to measure to what extent male or female migrants were likely to move (1) within the same state (intra-state), (2) inter-state, out of the south, or (3) inter-state, within the South. I control for farm-tenure type, age, and state of origin. Results are presented in Table 2.3. Among migrants of the 1920s, Black women were 12 percentage points less likely to move inter-state, out of the South than to move intra-state compared to Black men and were about 1 percentage point more likely than Black men to move inter-state within the South rather than intra-state. In general, this indicates that Black women were more mobile within the South, whereas Black men were more mobile out of the South. White women in the same period were less likely than white men to move interstate

within (1.4 percentage points) or out of (12 percentage points) the South than move within state, meaning that white women who migrated were, in general, staying closer to home. In the 1930s, both Black and white men were more likely to move interstate within the South than in the same state as compared to women. Black women, however, were just as likely as men to move interstate out of the South rather than stay in the same state, meaning that, during the years of the Great Depression, Black women were just as likely to leave the South as Black men.

Table 2.3: Multinomial Logit, Migrant Sorting

Dependent Variable: Migration Type (reference category: intra-state migration)

	A. Black		B. White	
	(1)	(2)	(3)	(4)
	1920s Migrants	1930s Migrants	1920s Migrants	1930s Migrants
Inter-state, South				
Female=1	0.009*	0.037**	-0.014**	-0.029**
	(0.005)	(0.006)	(0.005)	(0.005)
Inter-state, out-of-South				
Female=1	-0.121**	-0.002	-0.122**	-0.050**
	(0.006)	(0.006)	(0.006)	(0.004)
Age FE	Yes	Yes	Yes	Yes
State-of-Origin FE	Yes	Yes	Yes	Yes
Tenure Status FE	Yes	Yes	Yes	Yes
N	77,438	60,571	134,359	97,038

Notes: This table reports the average marginal effects of gender on type of migration by race via a multinomial logit model. Type of migration is in reference to an intra-state rural-to-urban move. Robust standard errors clustered at the county-of-origin level are in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Gender differences in expectations for work and migration and racial differences in opportunities for work, both on the farm and in urban areas, are playing important roles in these results. In the 1920s, women's reduced likelihood of migrating longer distances can be attributed to gender norms on how appropriate it was for a young woman to be far from her family (Meyerowitz 1988; Clark-Lewis 1994). Women often were sent to a city that had a family member in it, or one that had been visited before with family, and these women would be expected to visit home often. For both white and Black women, there was also concern

about the city's effects on a woman's conduct and morals, and the further away she was, the more challenging it was to maintain control over her actions (Meyerowitz 1988; C. Hicks 2003). The family's control over whether and to where a woman migrated is reflected in the oral histories of many women. For example, among Black farmers, there was often a process of preparation for migration taken at the family level as adult members coordinated with urban kin before the daughter would even be aware that she would be expected to leave (Clark-Lewis 1994, 57). Additionally, it is likely that shorter, preliminary moves within the same state or within the South helped motivate and facilitate women's eventual moves out of state or out of the South, because they acquired transferable urban work experience.

White women's relative ease in getting jobs in the South also contributed to them staying in the South as compared to their Black counterparts who, especially during the Depression, were routinely shut out of job opportunities. Throughout the whole period, violence against Black women in the South, both in agricultural areas and, in particular, within the white homes where Black women were domestic servants, likely contributed to Black women leaving the South at the same rate as men by the 1930s. By contrast, there is no evidence that white women moved to the North at the same rate as white men in either decade.

2.6.2 The farm crisis and gender segregation on the farm

Looking at dynamics of migration in response to the farm crisis can illuminate the ways in which gender segregation on the farm and women's constrained access to independent earnings opportunities can create gender gaps in migration propensities. For many women, their only access to economic mobility on the farm was through marriage and being part of a family farm. For example, sharecropping contracts, which relied on

patriarchal supervision of labor, were given almost exclusively to men (Bercaw 2003) and very few women worked as independent farm wage workers, an avenue for working on farms that was much more common for men. Among women employed in farming in some capacity in 1920, only 3 percent of white women were listed as farm wage workers, along with only 13 percent of Black women. It was also very unusual for a woman to be the sole owner of a farm. In the South in 1920, an average of only 4 percent of farms were owned by sole female operators, the overwhelming majority of whom were white. Depressed farm earnings and the slowing down of tenure mobility caused by farm foreclosures and AAA spending threatened the socioeconomic mobility of the family farm. Women, who were already constrained in farm economic life, thus were likely to respond to a greater extent than men to their sole avenue for economic mobility being eroded when urban opportunities remained promising.

To what extent were migration responses to the farm crisis gendered? I directly measure the gender differences in coefficients on my measures of farm crisis exposure (decadal change in crop value per acre, share of indebtedness, the ratio of farm mortgage debt to farm value, and per-capita AAA spending (1930s only)). The farm crisis was defined by the major drops in farm prices at the beginning of each decade and I limit my sample to those counties that experienced declines in crop value per acre during each decade. Crop value and AAA spending are change variables, whereas all others including controls are taken at the start of each decade. Statistically significant differences in coefficients between men and women indicate that women were responding differently to the changing economic opportunities brought about by the farm crisis than men were. These results are presented in Tables 2.4 and 2.5. I find that correlates on farm debt and AAA spending mattered more for

female migrants than male migrants, highlighting the ways in which women were more responsive to limits placed on the mobility of farm families. For women in farming, their options for staying and working on farms were overwhelmingly limited to just one: being a part of a farm family. Men, on the other hand, could engage in farm wage labor, were more likely to be the beneficiaries of inheritance of land or capital, or were able to start a farm on their own, though would be expected to have a farm wife if living on-farm. Challenges that arose during the farm crisis to farm tenure mobility when sharecropping, tenant farming, and farm-owning were for the most part family-based, thus were likely to limit women's access to socio-economic mobility even more than men's. This helps to explain women's greater likelihood of off-farm migration during the farm crisis.

Table 2.4: Gendered Responses to the Farm Crisis, 1920s

	Black			White		
	Female	Male	Coefficient on Gender Interaction	Female	Male	Coefficient on Gender Interaction
	(1)	(2)	(3)	(4)	(5)	(6)
Log Δ Crop Value/Acre	-0.080** (0.021)	-0.116** (0.014)	0.036 (0.025)	-0.063** (0.013)	-0.087** (0.011)	0.024 (0.016)
Sh. Indebted	0.001 (0.019)	-0.011 (0.012)	0.012 (0.022)	0.032** (0.008)	0.024** (0.007)	0.009 (0.009)
Log Debt/Value	-0.073* (0.034)	-0.091** (0.023)	0.019 (0.038)	0.036* (0.015)	-0.006 (0.014)	0.042* (0.018)
Tenant Family	-0.095** (0.015)	-0.097** (0.009)	0.002 (0.015)	-0.069** (0.016)	-0.059** (0.008)	-0.010 (0.016)
Farm-owning Family	-0.142** (0.014)	-0.116** (0.009)	-0.026+ (0.015)	-0.156** (0.015)	-0.111** (0.008)	-0.045** (0.016)
Age FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep. Var	0.500	0.438	0.460	0.296	0.264	0.275
R ²	0.110	0.139	0.132	0.059	0.076	0.071
N	58,663	108,280	166,943	156,386	334,899	491,285

Notes: This table reports the results of linear probability models estimating the relationship between county-level farm crisis characteristics and migration likelihood among Black men and women. The dependent variable = 1 if the individual is a farm-to-urban migrant. Log change in crop value per acre is over the 1920-1930 period. All other coefficients are at 1920 level. Coefficients on tenure status are in reference to a farm wage-working family. Columns 1-2 and 4-5 estimate the models separately by gender, Columns 3 and 6 pool the samples and show the interaction term with Female = 1. All models include additional controls for urban opportunities within county: population density and number of manufacturing establishments. Robust standard errors clustered at the county-of-origin are in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

In the 1920s, white women were significantly more likely to migrate than men from counties with a greater ratio of farm mortgage debt to value at the start of the decade (Table 2.4, column 6). While there is no significant association between the debt-to-value ratio and men's migration likelihood, a one percent increase in the debt-to-value ratio increases white women's likelihood of migration by about 4 percentage points. The dramatic increase in farm debt obligations during the boom, and the subsequent challenges in meeting those obligations as crop prices and land values fell during the crisis, increased the probability of foreclosure and deprived many families of land and other farm capital. For the children of farmers, ascension up the farm tenure ladder was aided by inheritance, and the farm crisis hindered

many families in having the resources to provide their children with the capital necessary to help them move up the farm tenure ladder. This is one example of how white women were more responsive to threats to family mobility than white men. When the farm was suffering, white daughters could help contribute to the family more by working for wages in an urban area and sending those wages home. Additionally, white men still had opportunities in farm wage labor, whereas white women, whose only major avenue for economic mobility on the farm was through the family, had less reason to stay. In contrast, Black farmers faced specific challenges to farm ownership due to discrimination in both obtaining credit and buying land. They also, as discussed in Chapter 1, had fewer intergenerational resources to help keep land in the family if it was acquired. These challenges facing Black farmers working toward land ownership may help explain why no similar difference in response to farm debt exists between Black women and men.

As explored in Table 2.5, AAA spending during the 1930s helped to keep white men on the land but helped to push both Black men and women off. These patterns highlight a more direct measure of the specific threats to Black tenure mobility than debt. For many Black farmers, the tenure ladder ended with sharecropping. AAA spending had particular implications for tenant-heavy Southern states in its unintended incentives to push tenants and sharecroppers off the land in favor of wage workers. Furthermore, since Black farmers were more likely to be sharecroppers than white farmers, the AAA was particularly harmful to black farmer mobility. Table 2.5 shows that while a one dollar increase in AAA spending per capita is significantly correlated with a reduction in migration likelihood among white men, a one dollar increase in AAA spending is correlated with an increase in migration likelihood among Black men. Previous evidence has shown that AAA spending caused increased

migration out of farm counties (Fishback, Horrace, and Kantor 2006). My results suggest that a large part of this outmigration consisted of women. Table 2.5 shows a one dollar increase in AAA spending per capita is associated with a 0.6 percentage point greater likelihood of Black women migrating off-farm than Black men, as Black women were more responsive in terms of migration to each dollar of spending than Black men. Among white women, a one dollar increase in AAA spending per capita is correlated with a 0.3 percentage point greater likelihood of migrating off-farm than white men. This pattern among white farmers is driven by white men, the primary beneficiaries of AAA spending, being more likely to stay. I argue that Black women were more responsive in terms of migration to the AAA and white women were less responsive in terms of staying because of the AAA's effects on farm family socioeconomic mobility.

Table 2.5: Gendered Responses to the Farm Crisis, 1930s

	Black			White		
	Female	Male	Coefficient on Gender Interaction	Female	Male	Coefficient on Gender Interaction
	(1)	(2)	(3)	(4)	(5)	(6)
Log Δ Crop Value/Acre	0.026 (0.021)	-0.011 (0.016)	0.037 (0.023)	0.037* (0.016)	0.002 (0.011)	0.035* (0.015)
Sh. Indebted	-0.037** (0.014)	-0.018 (0.012)	-0.019 (0.017)	0.038** (0.009)	0.035** (0.006)	0.003 (0.010)
Log Debt/Value	-0.040 (0.027)	-0.016 (0.019)	-0.024 (0.031)	0.009 (0.015)	0.018 (0.013)	-0.009 (0.016)
AAA per capita	0.011** (0.003)	0.005** (0.002)	0.006* (0.003)	0.002 (0.001)	-0.002** (0.001)	0.004* (0.001)
Tenant Family	-0.067** (0.014)	-0.100** (0.011)	0.031* (0.016)	-0.100** (0.013)	-0.074** (0.008)	-0.022 (0.014)
Farm-owning Family	-0.144** (0.014)	-0.126** (0.011)	-0.018 (0.017)	-0.160** (0.013)	-0.121** (0.008)	-0.040** (0.015)
Age FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep. Var	0.465	0.343	0.386	0.246	0.185	0.204
R2	0.125	0.098	0.121	0.068	0.054	0.064
N	50,511	94,453	144,964	133,288	286,345	419,633

Notes: This table reports the results of linear probability models estimating the relationship between county-level farm crisis characteristics and migration likelihood among Black men and women. The dependent variable = 1 if the individual is a farm-to-urban migrant. Log change in crop value per acre is over the 1930-1940 period. All other coefficients are at 1930 level. Coefficients on tenure status are in reference to a farm wage-working family. Columns 1-2 and 3-4 estimate the models separately by gender, Columns 5 and 6 pool the samples and show the interaction term with Female = 1. Columns 2, 4, and 6 add additional controls for urban opportunities within county. Robust standard errors clustered at the county-of-origin are in parentheses. * $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

2.6.3 Selection into migration: education and the family

While individual characteristics cannot fully explain differences in gender propensities for migration during this period, they can expose important racial and gendered differences in ability and incentives for migration. The Roy model of migrant selection explains migration on the basis of earnings differences between locations, relying on measures of “skill” (usually defined as job experience or years of education) as the major determining factors in who migrates. Feminist theories of migration, in contrast, emphasize

the role of the family in inhibiting or supporting a woman's migration and the unequal power dynamics within families, in addition to gender segregation in the labor market. I first look at school attendance and parents' literacy as rough measures of "skill" in determining positive or negative selection on education into migration. I then explicitly examine four characteristics of the family I can measure from census data: number of brothers, number of sisters, birth order, and tenure status. Using a similar strategy as in my investigation of farm crisis variables, I estimate separate regressions for Black and white women, then run a pooled model with an interaction term to measure racial differences among women ($\text{Black} = 1$). I then estimate regressions for Black and white men and once again use a gender dummy variable ($\text{Female} = 1$) to directly measure gender differences by race.

Table 2.6 shows differences in migration propensities based on individual and family characteristics over the 1920s, and Table 2.7 the 1930s. While information on years of education is not available until 1940, I use school attendance as a rough indicator of educational experience and/or access to education, as many rural children lived far away from school or had field work that took them out of school for months at a time. I also look at parental literacy, which is highly correlated with others' literacy within the household, and can indicate a family that either valued education or had greater resources with which to secure their children an education. In general, the Roy model would predict negative selection into rural-to-urban migration as urban areas were paying more to unskilled labor than agricultural areas during the farm crisis (Hatton and Williamson 1992). When examining specifically South-to-North migration, Collins and Wanamaker (2014) show that among Black and white men from 1910 to 1930, school attendance and literacy mattered rather little in migration to the North, and they, like others, highlight other incentives for

migration, such as increased political freedoms (962). I find that, in contrast, for both Black and white men in the 1920s, education, or at least access to it, mattered more (Table 2.6, columns 4 and 5). By focusing on farm-to-urban migration rather than generalized South-North migration, and by looking only at the farm population, I am able to show that education and parental literacy had a much more important role to play in the migration of the worst-off or most isolated men than among those potential migrants of all economic backgrounds. It is thus difficult to interpret these findings as purely “negative” or “positive” selection on the basis of “skill” and as a response to wage differentials. If anything, parental education or school attendance are instead reflecting access to monetary resources and knowledge, which are essential for migration out of rural areas (especially those most isolated).

Table 2.6: 1920s Migrant Selection: Individual and Family Characteristics

	Black Women	White Women	Coefficient on Race Interaction (Women Only)	Black Men	White Men	Coefficient on Gender Interaction (Black Only)	Coefficient on Gender Interaction (White Only)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Literate Parent	-0.008 (0.006)	0.015** (0.005)	-0.023** (0.008)	0.025** (0.004)	0.060** (0.003)	-0.033** (0.007)	-0.045** (0.005)
In School	-0.004 (0.006)	-0.002 (0.004)	-0.002 (0.008)	0.005 (0.004)	0.008** (0.002)	-0.009 (0.007)	-0.010* (0.005)
Num. Brothers	-0.023** (0.002)	-0.005** (0.001)	-0.017** (0.002)	-0.015** (0.001)	-0.002* (0.001)	-0.008** (0.002)	-0.004* (0.001)
Num. Sisters	-0.022** (0.002)	0.007** (0.001)	-0.029** (0.002)	-0.016** (0.001)	-0.003** (0.001)	-0.007** (0.002)	0.010** (0.002)
Birth Order	0.009** (0.002)	-0.002+ (0.001)	0.012** (0.002)	0.010** (0.001)	0.002* (0.001)	-0.001 (0.002)	-0.004** (0.001)
Tenant Family	-0.086** (0.014)	-0.071** (0.015)	-0.015 (0.021)	-0.085** (0.009)	-0.051** (0.009)	-0.000 (0.016)	-0.020 (0.016)
Farm- owning Family	-0.142** (0.015)	-0.165** (0.015)	0.024 (0.021)	-0.114** (0.010)	-0.114** (0.008)	-0.028+ (0.017)	-0.052** (0.016)
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep. Var	0.483	0.303	0.352	0.408	0.251	0.434	0.268
Pseudo R2	0.146	0.087	0.131	0.148	0.096	0.152	0.095
N	49,204	131,317	180,521	86,040	263,002	135,244	394,319

Notes: All specifications include age and county-of-origin fixed effects. Robust standard errors clustered at the county-of-origin are in parentheses. I measure school attendance for individuals between 6 and 18. These regressions are thus limited to women and men aged 6 to 18 in 1920 or 1930. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Racial segregation in women's work during this period, and especially during the Depression, is reflected in the results on Black and white women's selection into migration based on school attendance and parent literacy. Table 2.7, column 1 shows that Black women who were attending school in 1930 were 3 percentage points less likely to migrate by 1940 than those who were not and about 2.4 percentage points less likely to migrate if they had a

literate parent. White women, on the other hand, were 1.2 percentage points more likely to migrate if they had a literate parent and about 0.8 percentage points more likely to migrate if they were attending school in 1930 than those who were not. For white women in particular, urban areas offered independent earnings opportunities, better pay (or any pay), and better hours for those with more years of education. Following World War I, there was an expansion of white collar work in areas such as teaching, social work, and clerical work that opened up “nice” occupations for white women (Amott and Matthaei 1996; Goldin 2006). For Black women, however, the set of available job opportunities off-farm was limited by racism and did not depend as much on time spent in education or training. In 1930, 53.5 percent of all employed Black women worked in private household service (Amott and Matthaei 1996, 158). For a Black woman leaving a farm in search of other employment, domestic service would likely be the job in which she ended up. Job prospects for Black women outside of farm work were further limited by the Great Depression. While white women actually experienced job gains during the 1930s, Black women’s employment was more sensitive to the downturn of the Depression and they were some of the first to be laid off (Blackwelder 1997).

Table 2.7: 1930s Migrant Selection: Individual and Family Characteristics

	Black Women	White Women	Coefficient on Race Interaction (Women Only)	Black Men	White Men	Coefficient on Gender Interaction (Black Only)	Coefficient on Gender Interaction (White Only)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Literate Parent	-0.024** (0.006)	0.012* (0.005)	-0.036** (0.008)	0.009* (0.004)	0.026** (0.002)	-0.034** (0.007)	-0.014** (0.005)
In School	-0.032** (0.007)	0.008+ (0.004)	-0.039** (0.008)	-0.024** (0.004)	0.010** (0.002)	-0.007 (0.007)	-0.002 (0.005)
Num. Brothers	-0.017** (0.002)	-0.001 (0.001)	-0.016** (0.002)	-0.012** (0.001)	-0.003** (0.001)	-0.005* (0.002)	0.002 (0.001)
Num. Sisters	-0.019** (0.002)	0.005** (0.001)	-0.024** (0.002)	-0.012** (0.001)	-0.004** (0.001)	-0.007** (0.002)	0.005** (0.001)
Birth Order	0.007** (0.002)	-0.005** (0.001)	0.011** (0.003)	0.004** (0.001)	0.000 (0.001)	0.003 (0.002)	-0.005** (0.001)
Tenant Family	-0.070** (0.014)	-0.085** (0.014)	0.015 (0.019)	-0.078** (0.010)	-0.062** (0.008)	0.008 (0.016)	-0.023 (0.016)
Farm-owning Family	-0.131** (0.014)	-0.152** (0.014)	0.022 (0.020)	-0.104** (0.010)	-0.112** (0.008)	-0.027+ (0.016)	-0.040* (0.016)
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep. Var	0.447	0.258	0.308	0.302	0.170	0.354	0.198
Pseudo R2	0.159	0.092	0.142	0.107	0.073	0.146	0.091
N	45,550	125,966	171,516	80,569	258,107	126,119	384,073

Notes: All specifications include age and county-of-origin fixed effects. Robust standard errors clustered at the county-of-origin are in parentheses. I measure school attendance for individuals between 6 and 18. These regressions are thus limited to women and men aged 6 to 18 in 1920 or 1930. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

As shown in Tables 2.6 and 2.7, women from higher rungs of the tenure ladder (tenant or owner) were less likely to migrate than those on the lowest rung (farm wage-working families). For both white and Black women, those who were on family-owned farms at the beginning of each decade were the least likely to migrate off-farm. In general, based on ownership status, family resources, and access to education, Black women who were the

“best off” were the least likely to migrate, highlighting how the limitations to Black women’s gains from migration as a result of racism led to many of those who perhaps had a better quality of life than most other Black women on farms to stay in the rural South.

Among Black farm families, these results also indicate that there were barriers to children from large families migrating. One more brother or one more sister is associated with about a two percentage point decrease in Black women’s propensity to migrate in the 1920s and 1930s. Family care needs that often fell to oldest Black daughters may have created large barriers to their ability to leave the farm, in addition to a strain on the amount of resources available for families to help send their daughters to the city. This reality is reflected in Black women’s decreased likelihood of migration relative to white women for each additional sibling and in cases when a Black woman was the oldest sibling. For example, the first-born daughter is 0.7 percentage points less likely to migrate than the second, the second 0.7 percentage points less likely to migrate than the third, and so on (Table 2.7, column 1).

Black daughters on the farm were needed to help take care of younger siblings, sometimes to a greater extent than white daughters. In an interview with Clark-Lewis (1994), Pernella Ross describes the expectations placed upon her and most girls on the farm:

They’d start you watching the young ones and getting water from the spring. That’s on the day you stood up! By four, you’d be doing some feeding and a little field work, and you’d always be minding somebody. By six you’d be doing small pieces in a tub every wash day and you’d bring all the clear water for the rinsing clothes. By eight, you’d be able to mind children, do cooking, and wash. . . From the time a girl can stand, she’s being made to work. (42)

Additionally, families needed the funds to buy their daughters train tickets or secure accommodation for them in the city for them to be even able to make the journey at all. The more children, the more likely those resources were difficult to obtain. The reliance on girls

not only for field work but for care work, in addition to the low gains to migration that awaited them in destination cities, may explain why oldest Black daughters of large families may have had their urban migrations delayed or stopped altogether.

White women, on the other hand, whose education was more likely to be rewarded by higher wages in urban areas, as well as who overall had access to more job opportunities than Black women, were often more helpful to their families working in the city and sending money home. As shown in Tables 2.6 and 2.7, oldest white daughters were more likely to migrate than their younger siblings, and the more daughters in the household, the more likely a daughter was to migrate (Column 2 of both tables). In one woman's description of her life before she began working in urban industry, she described being born on a farm in North Carolina, but "[My father] was killed when I was fifteen months old, and my baby brother was born in August. This left my mother, helpless, on a farm, with five children to bring up" (Southern Summer School for Women Workers in Industry 1931, 23). Julia Johnson, a young girl who took part in SWEA's unpublished study "Fifty Rural High School Girls," was described by the study's authors as being expected to assume financial responsibility as the oldest girl.

A farmer with only an elementary school education, handicapped with disease, struggles along for several years to support his wife and six children, and then dies, leaving them only a small home. The main family effort is concentrated on giving the oldest child, Julia, a high school education, so that she may assume financial responsibility for the family. . . Upon her graduation from high school in 1928, the pressure of family need of money was so great. . . she entered a training school for nursing and is now pursuing her course there. The fact that the training can be had without cost was a determining factor in her decision. (Southern Women's Educational Alliance 1930, 313)

Expanded work opportunities for white women off-farm that paid well can help explain why white women from larger families or who were oldest were more likely to migrate than

similarly-situated Black women. Racial segregation in urban employment and lack of returns to Black women who were able to access education made their labor more important on farms, especially as they cared for younger siblings. The cost of sending a Black woman to the city to work was more likely to be greater than the return in the form of money sent back home.

2.7 Conclusion

In this chapter, I create a novel dataset of women linked across census years to provide evidence for how economic and social constraints based on gender and race can alter migration outcomes during rural crisis. The farm crisis of the 1920s and 1930s, along with the first wave of the Great Migration and the Depression, highlight how women's limited opportunities for agricultural economic activity outside of the family, and racial segregation in both farm and urban opportunities and economic mobility, created significant differences in propensities for migration. My analysis indicates that women were more likely to migrate than men in both decades, suggesting that women were experiencing the transitions taking place on the farm differently than men, and were both propelled off-farm and limited by the gendered dynamics of farm work and living.

My findings reveal that it is largely independent economic opportunity that is keeping men on farms, whereas a decrease in family-farming opportunities coupled with growing urban opportunities for women tends to drive (and draw) women off-farm at a greater rate than men. Furthermore, differences between white and Black women highlight how systemic and structural inequalities in land ownership, opportunities for work, and availability of migratory resources led to patterns of Black female migration that differed from those of white female migration. For example, Black female migrants' education and literacy were

less important for migration than those of their white or male counterparts, they were more likely to travel greater distances than white women, and they were just as likely to leave the South as Black men. By documenting the facts about rural-to-urban migration during this period, and specifically the roles of gender and race, this chapter opens the door to future research. Potential topics include how the selection described above had important implications for the trajectories of both the sending and the receiving destinations. Research is also needed on how other factors, such as legal limits on migration that target migrants by race or gender, help to explain the gender gap in migration propensities. Black men were more likely to be arrested for vagrancy than Black women or white migrants.

CHAPTER 3

IN THE CITY: OUTCOMES FOR SOUTHERN RURAL-TO-URBAN MIGRANT WOMEN

3.1 Introduction

The first half of the twentieth century in the United States saw a sizable shift of the rural farm population to the city and, in particular, the marked migration of women. In this chapter, I examine the urban outcomes for women who left farms during the farm crisis of the 1920s and 1930s. As I showed in Chapters 1 and 2, socioeconomic mobility up the farm tenure ladder from wage worker to owner slowed in this period, men's marriageability declined, and women's ability to make the kind of life they wanted for themselves on the farm suffered. I study to what extent rural-to-urban migration rewarded those women who left farms with greater access to jobs, higher wages, and better marriage partners, as well as whether – as many women put it – they realized the “freedom” that could come with migration away from patriarchal supervision on family farms.

When immigration from abroad slowed due to both legislation and international conflict, urban employers turned to the countryside to recruit labor, including women. For many of these migrating women, a move to the city would be the first time they were away from close family members. This physical separation dramatically altered a woman's relationship with her family. No longer participating in unpaid family labor, migrant women were marrying into smaller households, working wage jobs outside the home, and experiencing a completely new environment of expanded work and leisure opportunities (Jones 1985; Meyerowitz 1988). Despite these dramatic changes, social norms continued to dictate where women could work, and any gains in terms of access to jobs or higher earnings

were overshadowed by persistently lower wages than those of their migrant male counterparts. This combination of freedom and persistent wage discrimination was compounded by racial discrimination, as Black women faced stricter limits on which jobs they could work and where they could move.

Most studies of migrant selection, assimilation, and outcomes in this time period have looked exclusively at men (Abramitzky, Boustan, and Eriksson 2012; Collins and Wanamaker 2014, 2015; Boustan 2017). In this chapter, I again focus my analysis on women of the South to better estimate the roles of gender and race in conditioning migrant outcomes. I create a novel dataset of women linked from their 1920 census records in their Southern childhood farm homes to their records in the 1940 census to understand to what extent women benefitted from this migration. As I showed in Chapter 2, migrants were not randomly selected into this migration, and there was significant selection along both individual and household characteristics. Measuring the returns to migration without accounting for selection can lead to either over- or under-estimates of the magnitude of those returns.

For example, I found in Chapter 2 that women from families doing farm wage work were more likely to migrate than those from farm-owning families. Women whose families had fewer resources may have had more barriers to gathering information about where to go, how to find jobs, or how to make connections in the city. If women with the least resources were the most likely to migrate, this type of migrant selection may have dampened their returns in terms of employment, wages, and better marriage partners. To address to what extent family background may have negatively affected migrant women's outcomes, I follow approaches from studies that compare outcomes across siblings. Abramitzky, Boustan, and

Eriksson (2012), for example, compare brothers who migrated to the United States to those who stayed in Norway. Collins and Wanamaker (2014) compare brothers who took part in the Great Migration to those who stayed in the South. These studies compare OLS estimates of the returns to migration to within-household estimates using brother-pairs to account for selection into migration that took place on the observed and unobserved household level. In this paper, I similarly use sister-pairs, where I compare one sister who stayed in her rural farming community to one who left for the city.

I estimate that there were significant returns to migration for women who left. I empirically measure the outcomes of migration as the likelihood of being employed, income and income rank, as well as education achieved. While education is often seen as something to be achieved before migration, limited access to schooling beyond grade school was a major motivator in women's accounts of their migration. I find that migrant women were 35 to 50 percentage points more likely to be employed, earned 50 to 80 log points more if they were employed, and gained at least one more year of schooling than those who stayed. Additionally, those women who migrated were up to 39 percentage points more likely to have a husband in an occupation with above-median earnings in their 1940 county. Except for the schooling achieved by white migrants, these gains were not driven by household selection, meaning, for example, a woman leaving from a family on the lowest rung of the tenure ladder (farm wage workers) was no less likely to be able to secure employment or higher wages than one from the top of the tenure ladder (farm owners).

Despite these broad gains to migration experienced by both Black and white women, important differences existed between the two groups. I find that while absolute gains were quite high for white women (in terms of likelihood of independent employment and weekly

income), relative gains (in terms of above-median occupation scores) were low. White female migrants were about 24 percentage points less likely to be in an occupation with an above-1940-county-median earnings score in urban areas versus their non-migrant counterparts in rural areas. For Black women, there was no association between migration and changes in relative earnings. This difference reflects both gender and racial segregation in employment. The few off-farm jobs available to white women in rural farm areas tended to be high paying and reward education, such as teaching. In urban areas, a greater variety and number of jobs existed for white women that did not always require education, such as factory work. For Black women, however, the type of job open to them was largely the same in both rural and urban areas: domestic service and, in less common cases, factory work. Thus, there was little occupational upgrading to be accessed by Black women regardless of where they were. Despite these limited gains in relative economic standing, the absolute gains in terms of employment and wages were also strong for Black women.

Beyond empirically estimating how those outcomes differed, this essay also explores what the factors were in determining these outcomes for migrants using qualitative evidence in the form of surveys from the period and oral histories. Specifically, how did the physical separation from close family networks and home-based income generation play a role in improving or worsening gender asymmetries? I draw on both primary and secondary sources, as well as descriptive data, to highlight the ways in which this migration helped women gain more autonomy.

This chapter is organized as follows: in Section 3.2, I provide a brief theoretical background on migrant selection and feminist migration theory, as well as summarizing major historical scholarship on women's internal migration during this period. In Section 3.3,

I present my data and key descriptive statistics. Section 3.4 outlines my empirical strategy. I discuss my results in Section 3.5 and Section 3.6 concludes.

3.2 Theoretical and historical background

3.2.1 Gender equality and social mobility as pull factors

In Chapter 2, I discussed how a woman's decision to migrate off-farm was not only her own, but also a function of family and societal expectations about a woman's place in the household, labor force, and society. In this chapter, I expand on this analysis to highlight how differences in these expectations in rural areas compared to urban areas, as well as the ability of women to subvert those expectations in both areas, affected women's perceived benefits of migration. Greater gender equality can serve as an important pull factor in a migration process steeped in gendered expectations and barriers.

Many studies centering the role of gender address recent national and international gender streams from and within developing countries. Although they examine more recent periods than the one under study here, they provide a framework through which one can analyze any gendered migration flow, keeping in mind the history of each place and time. For example, Huh (2017) shows how female immigrants to the United States between 1980 and 2006 from countries with low levels of gender inequality were more likely to migrate if they had more years of education, emphasizing how not just wage inequality but gender equality in receiving areas can incentivize women to migrate to places where their human capital is better rewarded in the labor market. Fan and Huang (1998), using a structural approach to understand migration motivations, argue for migration for marriage as a way for more disadvantaged women to achieve not just economic but social mobility in the context of rural China. They show how for rural Chinese women, migration out of peasant rural areas to

achieve household status in more economically developed areas can lead to increased employment opportunities and other social benefits. The benefits are determined by the historical conditions dictating both women's role on the farm compared to other households and employment benefits based on place of birth.

As marriage opportunities through migration are one way for rural young women to take control over their futures and directly affect their social and economic mobility, so was it true for the rural women of the United States during the farm crisis. As suggested by the delayed marriage behavior shown in Chapter 1 and highlighted in Chapter 2, more attractive marriage opportunities were a major pull factor for women to leave the farm. "Better" marriage partners in terms of economic resources allowed a woman more control over her work life, especially in her ability to limit her non-household work life should she choose. The amount of field work required especially of poorer farm women was a major push factor for migration. That reality, coupled with the fact that many women who engaged in field work had no control over the monetary fruits of that work, led to a dual hope for many women who took part in rural-to-urban migration: opportunity for independent wage work in the short run, and opportunity for a marriage that would allow them not to work in the long run. The cult of domesticity argued that women belonged to the domestic sphere and the presence of a wife who did no labor outside of the home beyond charity work was the pinnacle of family social achievement. Additionally,

A woman's labor force participation also reflected on her husband or father. Since poor families were more likely than wealthier families to send their wives and daughters into the workforce. . . a woman who worked for pay signaled a husband's or father's failure to provide adequately for his family. Married women's labor force participation thus acquired a social stigma. (Amott and Matthaei 1996, 302)

For Black women, it was often not possible to stay out of the paid labor force, as persistent wage and occupational discrimination against Black men made it difficult to support the household on just one income. Despite this reality, Black organizations such as the Urban League promoted Black women's economic reliance on men. As Banks (2006) outlined in her analysis of the Urban League in Philadelphia between 1916 and 1930, the League encouraged the white ideals of the cult of domesticity for Black households as an avenue toward racial uplift.

The farm crisis occurred at a pivotal moment in the evolution of women's wage work, as the decline of the cult of domesticity began around 1920 and both single and married women were entering the workforce in greater numbers. The entrance of many women into the paid workforce during the World Wars as well as an increasing reliance on store-bought rather than home-made goods and services, began to normalize married women's presence working outside the home. For the women migrating to the city, they were met with these, in some ways, conflicting pressures: a desire for independent wage work and economic independence as well as a search for a well-off husband that would allow them to conform to society's ideals of the cult of domesticity. As Jones (1985) wrote,

For most of these [single, working] women, marriage would mean a radical retreat from their brief social and economic independence. But for a few months or years, they experienced a way of life never encountered by their mothers, who, as young women, had gone directly from their father's cabin to their husband's cabin. (159)

3.2.2 Women's work in the early twentieth century

This chapter also contributes to a large body of scholarship on the history of women's labor force participation, particularly in wage labor outside the home, and migration for economic gain. Leading up to and during the years of the farm crisis, women began completing high school in greater numbers. Often, education is seen as something achieved

before migration and dictates how well immigrants do once they arrive at their destination. In the case of women leaving farms for urban areas, the migration itself might allow them to achieve higher levels of education, which in turn could allow for better access to employment. In the following analyses, I look at education as an outcome of migration, not just a characteristic influencing migrant selection. On farms, education was much more difficult to complete. Between schools often being a great distance away, a lack of secondary school options within any reasonable commuting distance, and the labor needs on farms during harvesting season that led to many young children missing months of their education, many rural children could only continue or complete their education through migration (Wilkerson 2010; Margo 1990; “Autobiographies, Various School Districts” 1933). In the records of the Southern Women’s Educational Alliance, many young white women considering moving to the city from rural Virginia in the 1920s and 1930s cited continuing their education as a major motivation (Hatcher 1930).

In the face of declining opportunities on farms, both white and Black women were likely to pursue alternative work in towns or cities. Racist and sexist attitudes played a key role in determining with whom, where, and for how long a woman could work. Black women faced a much more limited set of job opportunities outside of agricultural work. While World War I had opened doors into factory work for them due to high demand, after the War, Black women were once again largely shut out. A significant share of rural Black women was employed in agriculture, single Black women were often domestic servants, and job prospects outside of farm and domestic work were further limited by the Great Depression (Blackwelder 1997). This period of migration also led to the feminization of many jobs, meaning traditionally male occupations such as clerical work paid less and were created in a

way that assumed the clerical worker would leave upon marriage (Goldin 1990; England and Boyer 2009).

For women, migration likely meant going from a scenario where they had few or no opportunities to get an education or earn an independent wage to many opportunities to do so in the city, although they were perhaps low-paying jobs or were considered temporary. But, as highlighted above, any analysis of the gendered aspects of migration must also recognize how other identities, such as race, determine to what extent these expectations of greater equality or opportunity were realized. White (2005), in one of the few studies of selection and economic outcomes for Black as compared to white women during the Great Migration, explores racial differences between white and Black South-to-North migrants in 1920, 1940, and 1970. She finds that Black women who migrated out of the South were more likely to be employed and in jobs with lower socioeconomic index scores than white women, and that this gap was wider between migrants than between non-migrants. This is despite lower overall inequality in the North and is a result of white women's more greatly expanded occupational opportunities in Northern urban industries. Additionally, unlike their white counterparts, continuing education was not likely to help Black women obtain access to higher-paying work opportunities. As emphasized by Hine (1991) when discussing Southern migrants to the Midwest during the interwar years, this outcome was not unexpected by Black female migrants:

None were so naïve as to believe that genuine equality of opportunity actually existed in the North or the Midwest, but occasionally black women migrants did anticipate that more awaited them in Cleveland and Chicago than an apron and domestic servitude in the kitchens of white families, segregated hotels, and restaurants. (139)

The city still presented a chance for increased autonomy and independence, but those better-off Black women in the South, as shown in Chapter 2, may have decided to stay due to poor opportunities for economic mobility.

3.2.3 Urbanization, anonymity, and autonomy

Urban areas presented women the anonymity to behave in ways that might be barred in rural areas, and autonomy in the form of opportunities for work, activism, entertainment, and sexual freedom all awaited women in the city (Hall 2019; Hartman 2019; Hunter 1998; Fine 1990; Meyerowitz 1988). Dissemination of information from urban areas to women in rural areas helped to increase expectations of those opportunities. Serialized romances in newspapers, radio, and letters and stories from sisters, cousins, and friends who made the trek cityward all helped to create an image of an urban land of opportunity for women off-farm. The opportunity and anonymity of the city allowed a blurring of the boundaries between the public and private spheres, and as more places emerged for women in cities, such as settlement houses, women's clubs, and department stores, opportunities were slowly emerging for women to be on their own (Spain 2014).

Studies that center gender in the migration narrative combat the conventional framework of the autonomous migrant as male. In that framework, it is only within family migration that we observe women (Morokvašić 1984). When a woman is the autonomous migrant, she is often not just in search of better employment opportunities or economic mobility but also the social mobility that may come with improved gender equality in receiving places. Tienda and Booth (1991, 53) identify four mechanisms through which migration can alter gender asymmetries: "(1) access to productive resources and/or ownership of the means of production; (2) control over the labour process in both domestic

and market spheres; (3) mode of remuneration (in kind or cash) [to which women have direct access]; and (4) consciousness about inequities in power and authority in the public and private domains.” For young rural farm women during the farm crisis, the city offered avenues toward greater autonomy through the four mechanisms above. In rural areas, women’s access to farming was most often only through marriage, they were usually supervised by their father or husband and had no control over the monetary fruits of that farm labor, and they were brought up with the social norm that their unpaid work on the farm was for the greater good of the farm family. The city offered independent wage-earning opportunities, freedom from patriarchal supervision at both work and at home for single women who migrated without their parents or relatives, and exposure to burgeoning public spaces open to women in cities, which allowed them greater autonomy.

Women’s in-migration can also alter gender asymmetries in the places that receive them. Watkins-Owens described how migration from the Caribbean to New York City opened up more opportunities with greater status for Caribbean women through opportunities for leadership positions in benevolent associations (1996, 73–74). In a study of internal migrants, Meyerowitz (1988) chronicles white women who lived away from their families in Chicago between 1880 and 1930. She discusses how working-class women created their own communities away from their families and shifted cultural norms about women’s sexuality. Similarly, Fine (1990) tells the story of how white clerical workers in Chicago between 1870 and 1930 sought to legitimize their work through the development of clerical education and organization of local charities and groups to help place women in these jobs. In the yearly scrapbook from the Southern Summer School for Women Workers in Industry held from July to September 1927 in Sweet Briar, Virginia, many white girls recounted their

participation in various strikes at different factories across the South. One, Ruth Cully, penned a song to the tune of “Jingle Bells” that described how she felt about the importance of labor movements:

Southern girls awake, Southern girls arise
Better conditions make, get your share of the prize
Although there’s work it’s true, if we will dare and do
We’ll get a decent living wage and a little surplus too. (Cully 1927, 16)

These women, moving from rural communities to urban environments, helped challenge popular ideas of where, when, and with whom a woman should be seen.

3.3 Data and descriptive statistics

3.3.1 Linked women: migrants and non-migrants

Data for this chapter come from the complete count digitized U.S. Censuses of Population for 1920 and 1940, available through the NBER and Ancestry.com. To match a woman from her childhood home in 1920 to her census record in 1940, I follow the same strategy as in my second chapter, using information from marriage certificates to match women who married between 1920 and 1940 based on their married names, and using the basic ABE method to match women who remained single from 1920 to 1940 based on their maiden names. The basic ABE method requires that individuals with unique names within their birth year be matched based on first and last name, age, and state of birth (Abramitzky, Boustan, and Eriksson 2012). I also match based on marriage status and race. I first match from my dataset of marriage certificates to the 1920 census, attaching marriage information to those I am able to match. I then match forward to the 1940 census. Match rates are detailed in Table C.1 of Appendix C. From my matches, I then keep all women aged 0 to 25 living

and born in the South²², and who were part of the farm population²³ at the start of the farm crisis. Unlike in my second chapter, I separate my married and unmarried samples to measure different gains to migration between groups. I define a woman as a “migrant” if she was part of the farm population in 1920 and moved to an urban²⁴ area in a different county by 1940. “Non-migrants” are those women who were part of the rural farm population in 1920 and were still part of the rural farm population in the same county in 1940. Labor and marriage market outcomes are observed for each woman in 1940.

Following Bailey et al. (2020), I reweight my matched samples using inverse propensity score weights to align them with sending-population characteristics.²⁵ My matched and un-matched samples are compared in Tables C.2 and C.3 of Appendix C, and describe what characteristics may be associated with a woman being more likely to be linked than another. While statistically significant differences still exist, they are quantitatively small. Of particular concern is that my matched married Black women are much better off in terms of literacy and school attendance. In Table C.4, I compare matched migrant and non-migrant Black married women to the un-matched population in my states of interest. Both matched groups are biased in the same direction, so differences are not likely to affect my estimates of returns to migration, at least among the more well-off married Black women.

²² My analysis covers all the Southern states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. Texas and Oklahoma are omitted due to low marriage certificate data availability at the time of collection, and to exclude counties further affected by the Dust Bowl in the 1930s. Future research can expand this sample as digitization in other states is ongoing.

²³ I keep those with an occupation code (1950 basis) (or who have a parent with an occupation code) of 100, 123, 810-840 or who list themselves as living on a farm.

²⁴ The U.S. Census defined a rural area as a place with a population under 2,500 persons during 1920, 1930, and 1940. Urban areas were incorporated areas with a population of 2,500 or greater.

²⁵ The probability that an individual is matched is $P_i(L_i = 1|X_i)$. Weights are constructed as $\frac{1-P_i(L_i = 1|X_i)}{P_i(L_i = 1|X_i)} * \frac{q}{1-q}$ where q is the share of records that are linked.

3.3.2 Women's lives on the farm and in the city

Initial descriptive statistics of my single and married samples highlight some key features of the outcomes for women who migrated. I begin by comparing single movers' and stayers' relationship to household head. This will give some indication as to what share of movers are living outside of the patriarchal family household. Table 3.1 shows the distribution of single women in 1940 by relationship to household head. While "living with a parent" was the largest group among both migrants and non-migrants, among migrants, a significant portion (24.88 percent of Black women and 24.14 percent of white women) lived as lodgers. Less than half of Black migrants (42 percent) and about half of white migrants lived with family members. In contrast, of those who stayed in the rural farming community, over 95 percent of Black and white women were living with a family member. These descriptive results highlight one of the key ways in which city migration allowed for women to achieve some degree of autonomy. Just as U.S.-born and immigrant women of the nineteenth century found avenues for freedom, activism, and protest within the Lowell mills and shoe factories of New England, by moving out from under the patriarchal household head, these migrant women had more opportunity to engage in work and recreational opportunities, and (though perhaps not their original motivation) find their voice through activism (Dublin 1979; Blewett 1991; Gordon 2002).

Table 3.1: 1940 Relationship to Household Head, Migrants and Non-migrants: Single Women

Migrants				Non-migrants		
Rank	Relation	Freq.	Percent	Relation	Freq.	Percent
Black						
1	Child	7,425	29.29	Child	8,506	79.13
2	Lodgers	6,303	24.88	Sibling	700	6.51
3	Head/householder	3,878	15.30	Head/householder	387	3.60
4	Sibling	2,034	8.02	Grandchild	187	1.74
5	Sibling-in-law	950	3.75	Sibling-in-law	180	1.67
6	Nephew, niece	932	3.68	Nephew, niece	180	1.67
7	Servant	777	3.07	Lodgers	172	1.60
8	Maid	747	2.95	Stepchild	113	1.05
9	Cousin	472	1.86	Cousin	77	0.72
10	Roomer	439	1.73	Servant	69	0.64
	Total:	23,957	94.53%		10,418	98.33%
White						
1	Child	13,950	37.15	Child	41,874	86.88
2	Lodgers	9,060	24.13	Sibling	2,845	5.90
3	Head/householder	3,602	9.59	Head/householder	724	1.50
4	Sibling	2,184	5.82	Sibling-in-law	652	1.35
5	Sibling-in-law	1,698	4.52	Nephew, niece	449	0.93
6	Nephew, niece	840	2.24	Grandchild	347	0.72
7	Nurse	701	1.87	Lodgers	340	0.71
8	Maid	696	1.85	Stepchild	249	0.52
9	Partner	635	1.69	Housekeeper	163	0.34
10	Boarders	633	1.69	Servant	98	0.20
	Total:	33,999	90.48%		47,741	99.05%

Notes: Table shows the top ten categories of “relationship to household head” among my single migrants and non-migrants by race. Total shows the number and share of all my observations that fit into one of the top ten categories.

In Table 3.2, I compare the top ten largest occupational categories outside of unpaid family farm work for Black and white movers and stayers. These shares underscore the occupational segregation between white and Black women, and also to what extent there was a variety (or lack of variety) of jobs available to women in both urban and rural areas. Unsurprisingly, my data show that Black women were predominantly relegated to the domestic service sphere, especially those who were migrants. White women who did not face racial discrimination in the labor market were much more likely to be in occupations such as manufacturing, clerical, nursing, or teaching. Among Black women who remained in rural farming communities and engaged in wage work, there was slightly more diversity of occupations, and a significant portion hold positions in teaching or farm wage work. Among white women, there was less diversity of occupation in rural areas as compared to urban areas, particularly in the growing clerical sector.

Table 3.2: Wage-Earning Occupations, Migrants and Stayers

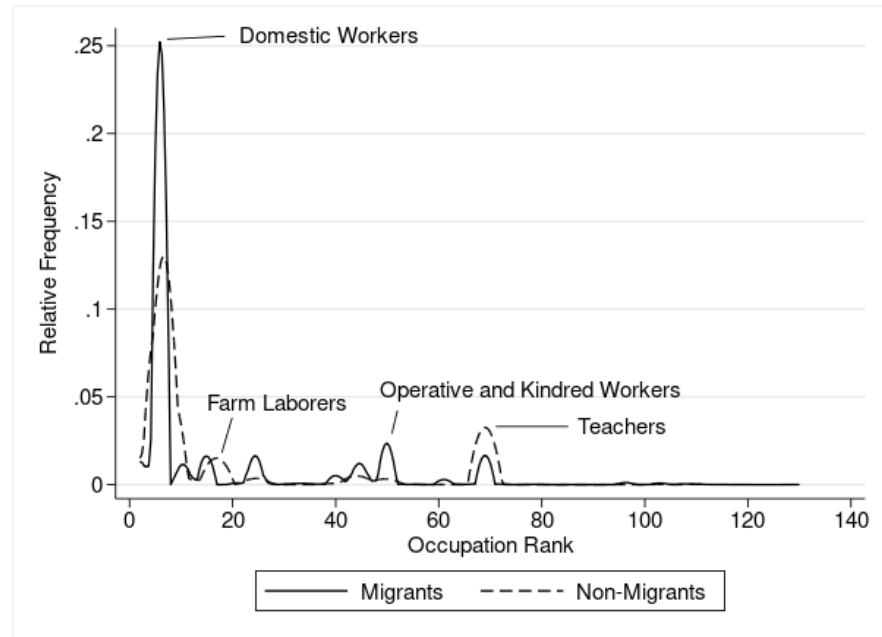
Black				White		
Urban Wage-Earning Jobs, Migrants						
Rank	Occupation	Freq.	Percentage	Occupation	Freq.	Percentage
1	Private household workers	13,110	60.75%	Operative and kindred workers	6,785	18.96%
2	Operative and kindred workers	1,270	5.88%	Stenographers, typists, and secretaries	4,818	13.46%
3	Teachers	861	3.99%	Nurses, professional	3,317	9.27%
4	Service workers, except private household	815	3.78%	Teachers (n.e.c.)	2,986	8.34%
5	Housekeepers, private household	769	3.56%	Salesmen and sales clerks (n.e.c)	2,791	7.88%
6	Laundresses, private household	711	3.29%	Clerical and kindred workers (n.e.c)	2,127	5.94%
7	643: Laundry and dry cleaning operatives	608	2.82%	Private household workers (n.e.c)	2,087	5.83%
8	Waiters and waitresses	445	2.06%	Waiters and waitresses	2,033	5.68%
9	New worker	418	1.94%	Bookkeepers	1,355	3.79%
10	Laborers (n.e.c.)	365	1.69%	Housekeepers (private household)	945	2.64%
Total		19,372	89.76%		29,244	81.79%
Rural Wage-Earning Jobs, Non-migrants						
1	Private household workers (n.e.c)	2,211	39.53%	Teachers (n.e.c)	5,315	27.70%
2	Farm laborers, wage workers	1,619	29.85%	Operative and kindred workers (n.e.c)	4,174	21.76%
3	Teachers (n.e.c)	711	12.71%	Private household workers (n.e.c.)	1,481	7.72%
4	Laundresses, private household	311	5.56%	Housekeepers, private household	1,203	6.27%
5	Housekeepers, private household	295	5.27%	Salesmen and sales clerks (n.e.c.)	1,178	6.14%
6	Laborers (n.e.c)	108	1.93%	Stenographers, typists, and secretaries	1,040	5.42%
7	Operative and kindred workers (n.e.c)	62	1.11%	Clerical and kindred workers (n.e.c.)	699	3.64%
8	Cooks, except private household	52	0.93%	Laborers (n.e.c.)	509	2.65%
9	Practical nurses	37	0.66%	Farm laborers, wage workers	451	2.35%
10	Laundry and dry cleaning operatives	32	0.57%	Bookkeepers	446	2.32%
Total		5,438	98.12%		16,496	85.97%

Notes: Table shows the top ten occupation groups among my single migrants and non-migrants by race. Total shows the number and share of all my observations that fit into one of the top ten categories.

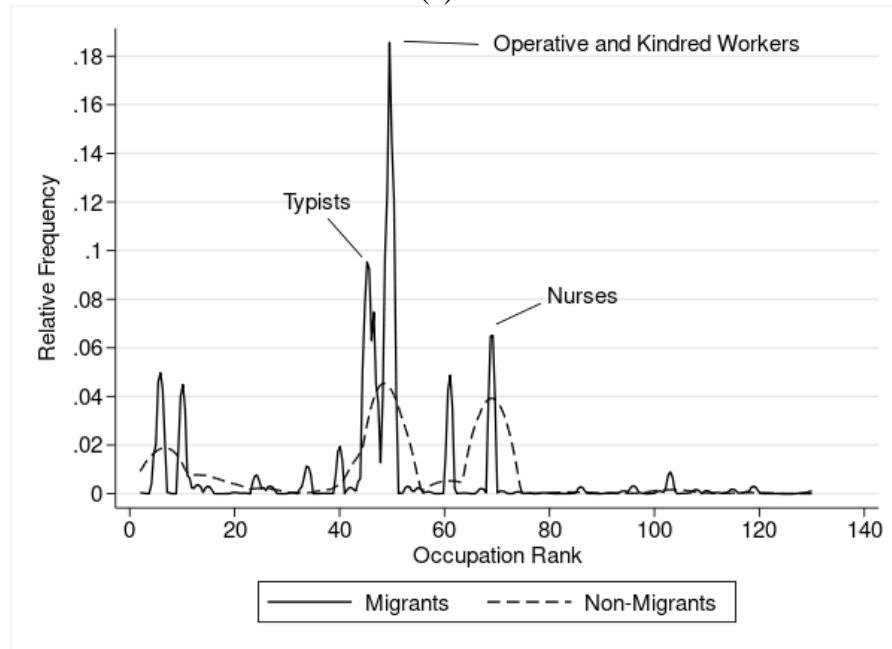
I next take the occupations of migrant versus non-migrant single women and order them by their 1950 earnings score created by IPUMS.²⁶ This earnings score is the median total income of all persons (male and female) in that occupation. Using the 1950 scores allows for comparability across time. I then overlay the distributions of the two groups (migrant and non-migrant single women). Figure 3.1 shows these distributions by race. These figures underscore what is also apparent from Table 3.2, which is that there is more occupational diversity among white women in urban areas compared to both white non-migrants and Black women, and that Black non-migrant women have slightly more diversity of occupation than Black migrant women, due in part to the option of farm wage labor.

²⁶ The census variable ERSCOR50, used here, assigns someone an occupation based on 1950 categories and earnings based on 1950 reported earnings. This variable, as well as the OCCSCOR50 (occupation score) variable, run the risk of incorporating the “Great Compression” (Collins and Niemesh 2019) in wages in the ranking, which would not be applicable in my 1940 period. A simple comparison of ERSCOR50 and OCCSCOR40 (1940 basis) overall preserves the ranking, and as my outcome of interest is a binary indicator of above- or below-median occupational earnings score, I do not expect it to bias my results to a significant extent. However, future research could construct a 1940 occupational ranking based on the method outlined in (Collins and Niemesh 2019, 39–40), paying special attention to farmers’ earnings where data are available.

Figure 3.1: Occupation Rank in 1940, Migrants vs. Non-migrants



(a) Black



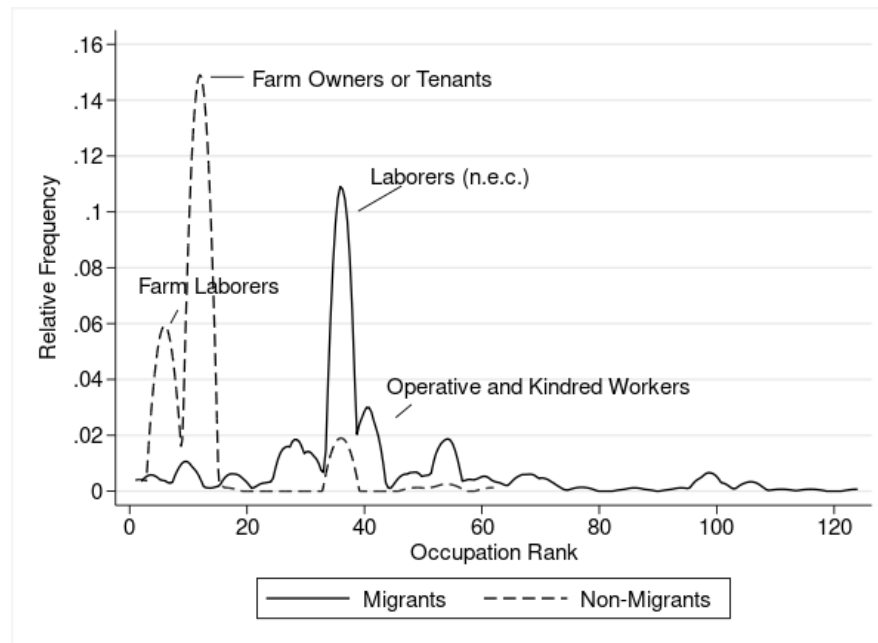
(b) White

Notes: Figure 3.1 shows kernel density plots. Panel (a) shows the occupational distribution of Black single migrant and non-migrant women in 1940. Panel (b) show the occupational distribution for white women. Occupational rank is based on 1950 earnings score data provided by IPUMS, in which the median earned income reported is standardized as a z-score and then converted to percentile rank.

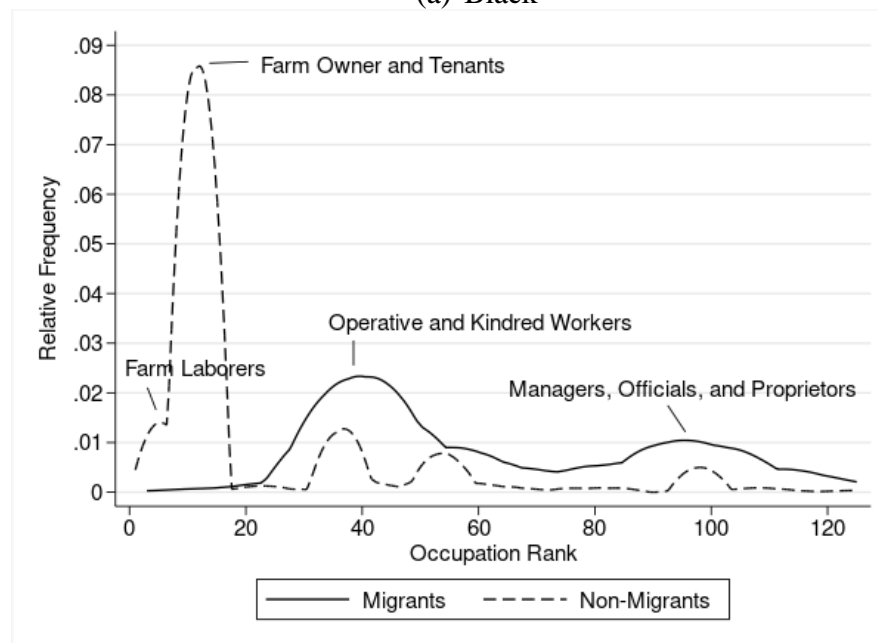
Because the pull factors for women's migration included not only their own ability to rise up the occupational ladder, but also the potential to find a more "marriageable" husband, I conduct this same exercise using husbands' occupations in my matched married sample. Figure 3.2 shows that for both Black and white women, there was occupational upgrading in terms of husband's occupations for women who migrated.²⁷ This was largely due to the fact that farmers, even farm owners, are ranked lower in terms of occupation score than other occupations more common in urban areas.

²⁷ Occupation ranking encompasses only income, and not necessarily the social mobility that may come with marrying someone of a certain occupation. For example, as Della Thompson remarked in Hatcher (1930), she would "like to marry a professor, or next best a rich man. . . ." (16-17).

Figure 3.2 : Occupation Rank in 1940, Migrant Husbands vs. Non-migrant Husbands



(a) Black



(b) White

Notes: Figure 3.2 shows kernel density plots. Panel (a) shows the occupational distribution of Black migrant and non-migrant women's husbands in 1940. Panel (b) show the occupational distribution for white women's husbands. Occupational rank is based on 1950 earnings score data provided by IPUMS, in which the median earned income reported is standardized as a z-score and then converted to percentile rank.

With these patterns in mind, I formally test to what extent migration was associated with four key outcomes for single women: (1) likelihood of being in the independent, wage-earning labor force, (2) log weekly income, (3) likelihood of having an occupation that places her above the median occupation earnings score²⁸ in her 1940 county, and (4) highest grade in school completed. A woman is considered an independent wage worker if she is currently employed outside of unpaid farm work (which includes sharecropping as long as she was encoded as an “unpaid family worker.”) Median occupation score is calculated by race and gender for the county in which a woman lived in 1940. I then look at five key outcomes for married women: (1) age at first marriage, (2) age at first child, (3) number of children, (4) likelihood of having a husband with an occupation above the median occupation score, and (5) highest grade achieved.

3.4 Empirical strategy

To measure the outcomes from migration among single women, I follow a similar strategy to that of Abramitzky, Boustan, and Eriksson (2012). Equation 3.1 estimates the naïve returns to migration comparing migrants to stayers:

$$Y_i = \alpha + \beta_1(Migrant_i) + \beta_2(Age_i) + \beta_3(Age_i^2) + \varepsilon_i \quad (3.1)$$

Y_i is the 1940 outcome of interest: (1) an indicator variable showing whether a woman is employed in an independent wage-earning occupation, (2) an indicator variable showing whether she is in an occupation with mean earnings above the county’s median, (3) her log weekly income, or (4) her highest achieved grade. $Migrant_i$ is a dummy variable equal to 1

²⁸ Median is based on 1950 earnings occupation score data.

if the individual was a farm-to-urban migrant between 1920 and 1940. Age_i and Age_i^2 are individual i 's age and age squared in 1920.

Recognizing that the value of β_1 would only be a true measure of the return to migration if migrants were randomly selected from the sending population, I estimate Equation 3.2, which includes household fixed effects for each household j . These fixed effects, shown by the household portion of the error term, α_j , absorb variation in returns to migration that are a result of family background characteristics, such as farm tenure status, parents' education levels, or geographic location of the household. For example, wealthier or more educated parents, or a more economically and geographically connected family farm location, may have helped women acquire the information necessary to find jobs in cities, pay for private education, or arrange better marriage partners, allowing them to be more "successful" in their migration outcomes.

$$Y_i = \beta'_1(Migrant_i) + \beta'_2(Age_i) + \beta'_3(Age_i^2) + \alpha_j + v_{ij} \quad (3.2)$$

The subsample of households for the comparative naïve OLS results includes all households in which I observe two or more individuals, regardless of whether, one, more, or none of them migrated. When I include household fixed effects, I include only those households where at least one sister is a stayer and one sister is a mover. A comparison between β_1 and β'_1 will show to what extent household selection into migration was playing a role in migrant women's ability to, for example, out-earn their non-migrant counterparts. Bias will be introduced into the naïve estimate if there are aspects of family background that are associated both with a woman's probability of migration off-farm and with her labor market outcomes. If $\beta_1 < \beta'_1$, it would indicate that β_1 was biased downward, meaning negative selection, or selection from households with perhaps fewer resources that dampened

the estimate of potential gains from migration. If $\beta_1 > \beta'_1$, it would indicate that β_1 was biased upward, meaning positive selection. After accounting for household effects, β'_1 may still reflect migrant selection on the individual level. For example, it might capture individual ability, intelligence, or resilience. As highlighted in Chapter 2, many aspects of selection occurred on the family level, including family resources, number of siblings, and parents' education. Therefore, β'_1 should be quite close to the “true” return to migration and, more importantly for the questions under study here, shows whether the household of origin could determine how well a migrant did in the city.

While my limited sample of married women does not allow me to conduct the same analysis using household fixed effects, I conduct a similar exercise to measure returns to migration for migrant women who married, including a vector of household controls to proxy for household fixed effects.

$$Y_i = \alpha + \beta_1(Migrant_i) + X'_{i,j} + \theta_c + \varepsilon_i \quad (3.3)$$

Y_i represents the 1940 outcomes of interest specifically for married women: (1) age at marriage, (2) age at first child, (3) number of children, (4) an indicator variable if the woman's husband has an earnings score above the 1940 county median, and, as for single women, (5) highest grade achieved. $X'_{i,j}$ includes the number of siblings, the number of brothers, and farm tenure status. For regressions looking at husbands' earnings and highest grade achieved, individual's age and age squared are included. θ_c are county-of-origin fixed effects.

3.5 Outcomes of migration

3.5.1 Single women

For women who were leaving the farm, the gains to migration encompassed not only increased earnings potential, but also the independence associated with leaving the patriarchal supervision of the family farm. In Table 3.3, I estimate Equation 3.1 using my matched single women. These estimates represent the naïve measures (meaning unadjusted for household effects) of the outcomes of migration, including the likelihood that a woman is employed in an independent wage-earning job, the log of her weekly wages, whether her occupation score puts her above the median occupation score among her race and gender in her 1940 county, and her highest grade achieved. A woman's opportunity to get a wage-earning job at all, earn an income she controls, or improve her economic and social mobility through a higher-status job or increased access to education, are all signs of increased independence. They, just as much as increased earnings potential, are evidence of returns to migration.

Table 3.3: OLS Estimates of Outcomes of Migration, Single Women

	Black				White			
	Employed	Log Weekly Income	Above Median Earnings	Highest Grade Achieved	Employed	Log Weekly Income	Above Median Earnings	Highest Grade Achieved
Migrant=1	0.386** (0.007)	0.801** (0.023)	0.015+ (0.009)	1.218** (0.051)	0.510** (0.003)	0.541** (0.011)	-0.156** (0.006)	1.791** (0.028)
R ²	0.137	0.119	0.002	0.060	0.267	0.149	0.033	0.069
N	36,100	20,284	19,591	35,259	85,741	40,599	42,076	83,739

Notes: All results include controls for age and age squared. Regressions are weighted using the method described in Section 3.1. Standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

For both white and Black women, I find that migrants were 51 and 39 percentage points, respectively, more likely to be employed in an independent, wage-earning job than non-migrants. Among those in an independent wage-earning occupation, Black migrants earned about 80 log points (123 percent) more per week than Black non-migrants, and white migrants earned 54 log points (72 percent) more per week than white non-migrants. The estimates for Black female migrants are similar to those in Collins and Wanamaker (2014) comparing Black migrant and non-migrant brothers during the Great Migration. They find a nominal earnings benefit for the brother who left of about 89 log points, meaning Black women gained just as much as Black men in terms of earnings from migration (236). Overall, jobs in urban areas appeared to be paying women more than in rural areas, unadjusted for any selection. For both white and Black women, these wages could be used for their own support and enjoyment, but often at least a portion of a woman's wages went to support her family. In "Rural Girls in the City for Work," a study conducted by the Southern Women's Educational Alliance about young girls who left rural Virginia for nearby cities, 37.6 percent of the 230 white respondents used some money to support their families. Most of these women were living with their families in the city at the time. Notably, "only about one-fourth listed any expenditures for recreation" (Hatcher 1930, 64).

Given the greater number of wage-earning occupations available to women in urban areas, these gains to migration are not surprising, and they are consistent with the idea that both independence in terms of access to wage-earnings opportunities and absolute gains in earnings were strong pull factors. Additionally, opportunity for relative economic upward mobility could also have been an important pull. I test this by measuring whether a woman's

wage-earning occupation was above the median earnings score among women of the same age range and race in her 1940 county. I find that for Black women, there is a small correlation between likelihood of migration and above-median occupational standing. For white women, those who migrated were 15 percentage points *less* likely to have an occupation score above the median than those who stayed. This is despite both Black and white women who migrated having more than one additional year of schooling as compared to their non-migrant counterparts, indicating that more education does not appear to be translating into occupational upgrading in urban areas. As I show in Chapter 2, there is little positive selection of Black women into migration in terms of education during the 1920s and negative selection during the 1930s, and modest positive selection among white women. Individual access to education does not appear to be driving gains in occupational standing (or their absence).

The results on occupational standing underscore the difference in the types of jobs available to Black and white women in rural versus urban areas. White women who were wage workers in rural areas were more likely to be teachers – a good-paying job – than to be in any other occupation. However, white women were much less likely to be employed in rural areas and instead were mainly doing unpaid farm labor. Once in the city, paying jobs for white women with little education were available (such as factory work). This can help explain the lack of occupational upgrading when comparing employed white migrants and non-migrants. For Black women, job opportunities were similar in both rural and urban areas (with the exception of farm wage work), but they had somewhat more diversity of opportunity in rural areas, which may help to explain their only slight increase in relative standing.

That migration did not always lead to better jobs, but did lead to improved life satisfaction, is reflected in the accounts of white girls and women who made the move. Among white girls who moved to either Durham or Richmond from rural areas and who were interviewed by the Southern Women's Educational Alliance, a large majority said their status (defined not just economically, but in terms of their social and recreational life, educational resources, religious resources, and balance of free time and home duties/chores) had improved, despite the sometimes low-status or low-paying work they found themselves performing:

When it is remembered that in almost every case these girls were holding low grade positions yielding poor or rather poor earnings and long working hours, the fact that 86 percent of them felt that they had materially improved their lot by coming to the city for work, will convey some idea of the loneliness and barrenness of their lives in the country and of the hard work expected of them there. (Hatcher 1930, 84)

Black women also expressed the view that the city offered some respite from farm life, but these benefits were often eroded by the conditions that awaited them, especially as domestics in white households. The aspiration expressed in 1926 by Rossa Cooley, an advocate of Black women's education, was not always realized:

The gauge that freedom set to these Negro women of the southern countrysides was not to become housemaids to be had for wages by city dwellers; but to become homemakers and mothers, the cultural leaders and farm women for their own rural communities. (Cooley 1926, 81)

Despite the absence of large gains in terms of relative economic standing, moving did increase both Black and white women's ability to earn money at all. This was a major draw for many women off-farm, either in order to help their families back home, to earn their own spending money, or just to have the "freedom" of being out from under the patriarchal supervision of farm labor.

Finally, both Black and white women who migrated finished about one to two more years of schooling relative to those who didn't migrate. As described in Chapter 2, there was little selection on education among both Black and white women during the 1920s, but Black women who had less education were more likely to migrate during the 1930s, and white women with more education were more likely to migrate during the 1930s. It is thus possible that a white woman's education gains could be overstated if her schooling was finished before she migrated, and Black women's understated. I will explore this selection a bit further in the next section. Whether these education gains translated into more job opportunities for Black women, though, is unlikely given discrimination. Melnea Cass, Black civil rights activist, described this reality,

I couldn't get a job when I came out of school, I told you, in any of the stores or any place else. The only resort for most black people was domestic work. . . . You always could make a living. But it wasn't always what you wanted to do. But you had to do it. . . . I could have gone in as a trainee in some of these offices, receptionist, and all these things I see people doing now, I could have easily done it in my young days. But they wouldn't hire me, because I was a colored woman. . . . That's how they [Black women] educated their families and did everything else, doing domestic work. (Wolcott 1996, 65)

While education for education's sake was a strong motivator for migration, the payoff for Black women was not realized in access to better-paying jobs as it was for white women.

3.5.2 Household selection and migration outcomes

In Chapter 2, I found that there was significant selection into migration from those at the lowest end of the tenure ladder: wage workers and tenants. Additionally, I found that Black women were less likely to migrate from households where one or both parents were literate, whereas white women were *more* likely to migrate from those households. Following Abramitzky, Boustan, and Eriksson (2012), I conduct a similar exercise to measure whether the characteristics of these households were playing a role in migrant women's outcomes.

For example, those whose families relied on farm wage work and did not own their own land, or had more children, may have had fewer resources with which to help secure their daughters high-paying jobs in cities or to help them attend private schools away from home. Using Equation 3.2, I can directly compare naïve OLS estimates and within-household estimates. If the estimates are significantly different, that indicates that women's childhood circumstances were helping to determine better or worse outcomes after migration, depending on the direction of the bias. For example, if $\beta_1 < \beta'_1$, that would indicate that the gains from migration are understated, and women's childhood resources may be limiting how well they do in the city. For these comparisons, I only keep women from households in which I observe at least two members, including migrant-migrant, migrant-stayer, and stayer-stayer pairs.²⁹ When household fixed effects are added, my sample is then limited to only those households in which there is a migrant-stayer pair.

In Table 3.4, I compare the naïve OLS estimate (β_1), which assumes no household selection into migration, to the within-household OLS estimate (β'_1). When including household fixed effects, the estimate of the coefficients on migrant are all slightly higher than naïve estimates. This indicates some level of negative selection from households and aligns with my results from Chapter 2. However, Chi-squared tests indicate that the differences between the OLS coefficients and the within-household OLS coefficients are not significant for either Black or white migrants and non-migrants in most of the regressions. This means that any selection that exists then must come from within the household, such as individual

²⁹ Households from which I was able to link more than one individual may have been fundamentally different from those where I only located one individual. Comparing women only in households with at least two individuals allows for a more accurate comparison.

attributes that may correlate with migration and with the outcomes above, but not with household status itself.

Table 3.4: OLS and Within-Household Estimates of Outcomes of Migration, Single Women

Coefficient on Migrant= 1								
	Black				White			
	Employed	Log Weekly Income	Above Median Earnings	Highest Grade Achieved	Employed	Log Weekly Income	Above Median Earnings	Highest Grade Achieved
<i>OLS</i>	0.345** (0.026)	0.785** (0.085)	0.021 (0.034)	1.099** (0.194)	0.512** (0.012)	0.488** (0.040)	-0.235** (0.027)	1.059** (0.106)
R ²	0.075	0.097	0.002	0.052	0.233	0.142	0.033	0.020
<i>Within Household</i>	0.366** (0.035)	0.873** (0.135)	0.064 (0.048)	1.233** (0.249)	0.521** (0.016)	0.502** (0.083)	-0.217** (0.035)	1.312** (0.119)
R ²	0.631	0.633	0.568	0.660	0.690	0.526	0.593	0.676
<i>Chi-squared</i>	0.505	0.592	1.014	0.334	0.363	0.047	0.312	3.944*
<i>p-value</i>	0.477	0.442	0.314	0.563	0.547	0.829	0.577	0.047
N	2,776	1,036	1,123	2,711	5,772	2,839	3,062	5,663
Sister-pairs	851	155	189	809	2,562	607	729	2,457

Notes: All results include controls for age and age squared. Regressions are weighted using the method described in Section 3.1. Samples are limited to only those households in which I observe two women. Standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

The only significant difference that does exist is between coefficients on highest grade achieved among white women. The difference is small (less than half a grade) but could indicate that white women who remained single during the whole period were coming from households that limited their ability to finish more grades of school. Negative selection could be due to pre-migration lack of access to schooling, or post-migration lack of resources with which to attend school. This result is interesting given my finding in Chapter 2, showing that during the Depression years, white women were more likely to come from households where one or both parents were literate and who were attending school in 1930. It is thus likely that it was the households whose inability to access or afford more schooling for their daughters beyond what could be achieved in the local area, in addition to the family's value placed on their education, that were the most likely to send daughters to the city.

3.5.3 Married women

Finally, I look at the outcomes of migration among married women using Equation 3.3. While I cannot use household fixed effects due to data constraints, I control for many aspects of the farm household that I found were highly correlated with women's off-farm migration. From Table 3.5, estimates show that for Black women who married by 1940, migration has no correlation with age at first marriage or age at first child, but those who left the farm had about one less child than those who stayed and were about 39 percentage points more likely to have a husband with an occupational earnings score above the county median for Black men. There is no difference between the level of school achieved by married Black migrants and non-migrants. Among white women, migration is also correlated with fewer children, but there is no difference in age at first marriage or age at first child. White female migrants were also about 22 percentage points more likely to have a husband with an

occupation score above the county median and to have about one more year of schooling.

Results on number of children align with patterns of high fertility common in farming areas

(Tolnay 1996).

Table 3.5: OLS Estimates of Outcomes of Migration, Married Women

	Black					White				
	Age at Marriage	Age at First Child	Num. of Children	Husband Above Median Earnings	Highest Grade	Age at Marriage	Age at First Child	Num. of Children	Husband Above Median Earnings	Highest Grade
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Migrant=1	0.137 (0.714)	-1.457 (0.938)	-1.195** (0.408)	0.386** (0.073)	0.367 (0.722)	-0.007 (0.284)	-0.004 (0.389)	-0.685** (0.178)	0.215** (0.048)	1.099** (0.259)
R ²	0.749	0.792	0.562	0.723	0.685	0.560	0.594	0.514	0.563	0.570
N	772	469	772	549	763	2,484	1,835	2,484	2,181	2,457

Notes: All results include controls for age and age squared, as well as pre-migration controls for the number of siblings, number of brothers, farm tenure type, and county-of-origin fixed effects. Regressions are weighted using the method described in Section 3.1. Standard errors in parentheses. + p < 0.10, * p < 0.05, ** p < 0.01

Correlation between migration and higher-earning husbands highlight how more “marriageable” men were a major pull factor for women’s migration. As women’s access to socioeconomic standing, even outside of farming, was dependent on her husband’s earnings (not just her own), making a “good match” in terms of marriage could be one avenue toward mobility. This was especially true in rural farm communities, where there was a high correlation between childhood economic status and married household economic status, indicating little upward mobility through marriage (Charlton 1954, 28–29). As the least well-off women (in terms of farm ownership status) were the most likely to leave, migration for marriage was an important avenue for economic and social mobility. For Black female migrants, whose partners in rural farm communities were mainly sharecroppers whose ability to earn and collect the capital necessary to become farm owners was severely limited by racism, migration to urban areas could provide an opportunity for “better” marriage partners. While racial discrimination in both jobs and wages existed for Black men in the city as it did for Black women, Black men had a wider range of better-paying jobs (including manufacturing jobs) available to them than they did in a rural farm community. White women, whose potential marriage partners in rural areas were much more likely to be able to rise up the farm tenure ladder to farm owner, did not see as large gains from migration in terms of husband occupational upgrading, though significant upgrading was possible. Urban areas were thus more important for Black women than for white women in providing access to “marriageable” men, since their potential husbands were not bound by the same constraints of racism in cities. Still, in both rural and urban areas, marriage was more likely to bring economic mobility for white women.

3.6 Conclusion

This chapter explored to what extent women who left the farm fared better in terms of access to independent wage working opportunities, earnings, relative socioeconomic status, and education than those who stayed. It also asked whether those who married secured more “marriageable” partners in terms of spousal earnings and whether any other significant differences existed in age at first marriage, age at first child, and education. I find that there were significant gains: both Black and white single women who left the farm for the city were more likely to have an independent wage occupation, earn up to 80 log points more in nominal wages, and gain more than one year of additional schooling. Black women’s increased earnings are comparable to what has been shown for Black men who migrated during the same period. As also explored in Chapter 2, I measured to what extent selection, whether on the place-based, household, or individual level, was key in estimating the actual returns to migration. I tested whether the sending household played a role in allowing some migrants to achieve better outcomes than if a random subset of Southern women had left and find that household status mattered very little. Switching my attention to women who married, I confirm what many women mentioned in their accounts of why they left the farm, which is that the city offered potentially better marriage partners. Women who migrated were about 20-40 percentage points more likely to have a husband with an occupation earnings score above the county median.

Explorations of the gains to migration for women, further disaggregated by race, have the potential to broaden our understanding of how both gender and race can condition the benefits from migration in addition to conditioning individual or household selection. My findings go beyond studies of migration that focus only on wage differentials; they also

explore other outcomes that are gender specific. I also qualify my conclusions based on race. Women's migration out of farming to cities is likely to be highly consequential for both the farms they left and the cities that received them. Research on the impact of these women's movements on patterns of family formation, women's labor force participation, and other outcomes remains an important area for future investigation.

CONCLUSION

The U.S. farm crisis of the 1920s and 1930s serves as a valuable case study in how economic crisis in a sector rooted in traditional gender roles and with a long history of racial segregation and discrimination can alter outcomes in women's marriage, migration, and labor force participation. My dissertation asked three major questions about this period: (1) how did the farm crisis affect family formation on the farm, (2) how did race and gender influence who was most likely to migrate off-farm during the crisis, and (3) what were the labor market and marriage outcomes for women who left?

To address these questions, I created a new dataset of over 200,000 Black and white women linked across the 1920 to 1930, 1930 to 1940, or 1920 to 1940 U.S. Censuses of Population. Studies of internal migration during this period using linked census data have overwhelmingly been limited to men due to challenges linking women before and after marriage. This dissertation is the first to use marriage certificates to link women who married in the context of rural-to-urban migration during the early twentieth century in the United States. Since most women in this time period married, it is important that my dataset links them as well as single women. I also relied on archival material in the form of oral histories, surveys from the period, and personal accounts of farm women. My large-scale quantitative work revealed widespread patterns in women's marriage and migration behavior and my qualitative sources helped me to contextualize the realities facing women on the farm. This dissertation fills important gaps relating to race and gender in the economic and historical literature on U.S. internal migration in the twentieth century.

In Chapter 1, I examined the role of the farm crisis in changing family formation on the farm. Focusing on links between the labor, land, and marriage markets, I showed how the

challenges to farm tenure mobility created by the farm crisis, and the subsequent decline in “marriageable” men, caused women to respond by delaying marriage. Using shift-share instrumental variable techniques, I highlighted how racial and regional differences in access to farmland and inheritance practices led to Southern white farm families being the most affected by the decline in farm commodity prices. Black farmers, who were already denied tenure mobility before the crisis began, and Midwestern white farmers, who were more likely to inherit land or capital from their family, were insulated from the direct detrimental effects. Previous literature such as Autor, Dorn, and Hanson (2019) noted the connection between declining labor market opportunities for men and decreasing women’s marriage rates. My work builds upon and adds to this research by focusing specifically on the mechanism of farm tenure mobility as a major avenue through which women in farming communities adjust their marriage behavior. Because acquisition of land for an independent farm was an important route to upward mobility, and loss of land through foreclosure during the farm crisis often led to downward mobility, the farm family's position in the land market directly affected women's marriage and labor-force behavior.

A key finding of this dissertation is that women were more likely to leave the farm during the crisis years than men. In Chapter 2, I focused on how gender differences in access to economic and social mobility on-farm, and racial and gender segregation in employment off-farm, led to different patterns of migrant selection among women and men. This chapter altered the framing of the Great Migration by examining not only South-North moves but rural-to-urban moves more broadly, including those within the South. In both Chapter 2 and Chapter 3, I took a critical view of the simple Roy model that focuses exclusively on wage and income inequality differentials. Following feminist economic scholarship, I broadened

the analysis to show how women's limited opportunities in farming created by the patriarchal farm family had significant ramifications for women's migration. Women were more likely to migrate than men who had a wider range of options in farming communities.

Chapter 1 showed that the farm crisis had significant effects on family formation, whether through changes to tenure mobility or other factors that incentivized women to delay marriage. Chapter 2 added additional context to those results by using linear probability and multinomial logit models to examine how debt and AAA spending affected women's response to the crisis through migration. My results also highlighted the ways in which gender and race intersected to generate different patterns of migrant selection. For example, I found that Black women's migration was slowed by family care responsibilities and racial segregation in the labor market that limited their work opportunities. Black women who had access to educational resources were thus less likely to migrate than those who did not. These results contrast with those presented by Collins and Wanamaker (2015) who emphasize that, at least up until 1930, school attendance and literacy were associated with some *increased* likelihood of migration among Black men. Conversely, white women's migration was incentivized, especially during the Depression years, by their greater compensation for skilled work.

Finally, in Chapter 3 I asked what happened to the women who left the farm. I showed that many were able to achieve what they outlined as goals in their personal accounts: access to independent wage-earning jobs, greater income, and some degree of "autonomy", as indicated by a greater share of women living on their own, outside of the patriarchal household. Despite these overall gains, the racial segregation limiting the jobs available to Black women, already highlighted in Chapter 2, remained a barrier to their

occupational upgrading. Both my analysis of the distribution of occupations and my OLS regression results show that even after migrating, Black women were overwhelmingly relegated to domestic work. By using household fixed effects, I also demonstrated that single migrant women's family background (whether their families were tenant farmers or farm owners), had little effect on their outcomes once in the city. This suggests that urban opportunity was widespread (though differing by race) if a woman was able to get to the city. Finally, in this chapter I explored upward mobility through marriage as an important outcome for those women who migrated. I found that migrants' urban husbands were likely to earn more than the husbands of those who stayed on the farm. Combined with my findings on marriage in Chapter 1, these results showed that while women who stayed on-farm delayed marriage, those who left may have found more suitable partners in the city. This aspiration, mentioned in women's personal accounts, appears to have been a realistic one for many women.

This dissertation makes large strides forward in helping to document women's experiences during this period, while also presenting many opportunities for further study. Firstly, observing women only every ten years can obscure important life events that occurred before or after migration. For example, I may be overlooking many women who migrated and then returned home to the farm between census years. I may also be missing women who became homeless in the city and were overlooked by census enumerators. More detailed case studies of migrant women in particular cities could help to shine light on post-migration realities for those not captured in my sample. Such studies may also provide further context for understanding how women linked using marriage certificates may differ from the general population. Finally, looking at the individual and familial differences

between women who chose to migrate short distances (such as to an urban area within her county) and those who migrated as far as cities in the northern United States may help to further illuminate the role of gender dynamics, education, and family resources in facilitating (or not) longer moves.

Secondly, research on legal and institutional factors affecting migration, such as anti-vagrancy laws, anti-enticement laws (both of which disproportionately targeted Black men), and social welfare programs in areas receiving migrants, can provide new insights enhancing our understanding of women's greater propensity to migrate. Black men were routinely targeted by both state-sanctioned and other forms of violence, often as deterrents to migration, and had less access to relief once in the city. Future research that examines gendered dimensions of Black migration within and out of the South in terms of law, state policy, and private institutional responses through relief organizations such as the Urban League, can help to further explain the patterns I found.

Finally, women's delayed marriage, the exodus of women from farming, and racial differences in who left the farm and their outcomes once in the city, likely had important implications for the economic development of both sending and receiving communities. Further analysis of farm communities that lost significantly more women – or lost more women than men – than other communities, or of cities that experienced large in-migrations of single and/or married women, could help illuminate the direct role of *women's* migration with respect to important topics in the literature on migration (both international and internal). These include migrant socioeconomic assimilation, the development of migrant or welfare policy, and changes to women's labor force participation rates and expectations about family formation.

A. APPENDIX TO CHAPTER 1

A.1 Falsification tests

Table A.1: Depressed Farm Earnings Impact on Farm Tenure Mobility, 1910-1920

	(1) Wage Worker to Tenant	(2) Tenant to Owner	(3) Owner to Tenant	(4) Tenant to Non- Farm	(5) Owner to Non- Farm
A. South, Black					
Crisis Exposure (Global Prices)	-.0014 (.0011)	-.00034 (.00041)	-.00045 (.0013)	.00043 (.00056)	.00084 (.00084)
N	96	96	95	91	49
B. South, White					
Crisis Exposure (Global Prices)	-.00086 (.0012)	-.00031 (.00046)	-.00027 (.00032)	-.00015 (.00041)	.000024 (.00031)
N	202	269	268	171	183
C. Midwest, White					
Crisis Exposure (Global Prices)	-.00062 (.00078)	.000012 (.0005)	.00048 ⁺ (.00025)	.00019 (.00031)	.00006 (.00022)
N	212	242	241	167	196

Notes: Dependent variable is the change between the 1900s and the 1910s in the share of men aged 18 to 40 at the start of each decade who ascended or descended each rung of the tenure ladder by the end of the decade. Observations are at the county level. Sample size fluctuates due to data availability of matched men. Panel A analyzes Southern Black men, Panel B analyzes Southern white men, and Panel C analyzes Midwestern white men. Results show the reduced form using my instrument to predict changes prior to the crisis. All models include the 1920 total share of crisis exposure and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, average farm size, race-specific population density, and rate of school attendance. Also included are state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.2: Depressed Farm Earnings Impact on Southern Marriage Rates, 1910-1920

	(1) 15-39	(2) 15-19	(3) 20-24	(4) 25-29	(5) 30-34	(6) 35-39
A. Black, Ever Married						
Crisis Exposure (Global Prices)	-.000039	-.000015	.000085	.000098	.000042	-.000011
	(.00014)	(.000091)	(.00025)	(.00016)	(.00014)	(.00012)
N	232	231	232	232	232	232
B. Black, Currently Married						
Crisis Exposure (Global Prices)	-.00013	-.000044	.000055	-1.5e-06	-.00012	-.00013
	(.00013)	(.00009)	(.00024)	(.00019)	(.00018)	(.00017)
N	232	231	232	232	232	232
C. White, Ever Married						
Crisis Exposure (Global Prices)	.000092	.000055	-.000054	.00016	-.0001	.000058
	(.000093)	(.000061)	(.00016)	(.0001)	(.000099)	(.000087)
N	354	351	354	354	354	352
D. White, Currently Married						
Crisis Exposure (Global Prices)	.000092	.000059	-.000055	.00005	3.4e-06	.000094
	(.000092)	(.00006)	(.00016)	(.00011)	(.00011)	(.0001)
N	354	350	354	354	354	352

Notes: Dependent variables are the change in women ever married or currently married by age group. Observations are at the county level. Sample size fluctuates due to lower numbers of married women under 19 years old. Panels A-B show the changes in the shares of married Black women and Panels C-D show the changes in the shares of married white women. Results show the reduced form using my instrument to predict changes prior to the crisis. All models include the 1920 total share of crisis exposure and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, race-specific population density, and race- and age-specific male-to-female ratio. Also included are state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.3: Depressed Farm Earnings Impact on Midwestern Marriage Rates, 1910-1920

	(1) 15-39	(2) 15-19	(3) 20-24	(4) 25-29	(5) 30-34	(6) 35-39
A. Ever Married						
Crisis Exposure (Global Prices)	-.000055	.000019	-.000015	-.000038	.000022	-.00013 ⁺
	(.000091)	(.000052)	(.00018)	(.000099)	(.000076)	(.000075)
N	335	335	335	335	335	335
B. Currently Married						
Crisis Exposure (Global Prices)	-.000056	.000016	.000019	-.000063	7.5e-06	-.00012
	(.000082)	(.000053)	(.00017)	(.000097)	(.000085)	(.000082)
N	335	334	335	335	335	335

Notes: Dependent variables are the change in women ever married or currently married by age group. Observations are at the county level. Sample size fluctuates due to lower numbers of married women under 19 years old. Panel A shows the change in the share of ever-married women and Panel B shows the change in the share of currently married women. Results show the reduced form using my instrument to predict changes prior to the crisis. All models include the 1920 total share of crisis exposure and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, race-specific population density, and race- and age-specific male-to-female ratio. Also included are state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.4: Depressed Farm Earnings Impact on Other Outcomes, 1910-1920

	(1) Share w/ Off-farm Work	(2) Num. Children
A. South, Black		
Crisis Exposure (Global Prices)	.00011	.00045
	(.000095)	(.00058)
N	304	344
B. South, White		
Crisis Exposure (Global Prices)	.00007	-.00013
	(.000061)	(.0002)
N	366	369
C. Midwest, White		
Crisis Exposure (Global Prices)	-.000012	.00015
	(.00006)	(.00014)
N	312	312

Notes: Dependent variables are the change in share of women working off farm and the number of children under 5 per ever-married woman aged 16 to 39. Observations are at the county level. Sample size fluctuates due to lower numbers of married women under 19 years old. Panel A analyzes Southern Black women, Panel B analyzes Southern white women, and Panel C analyzes Midwestern white women. Results show the reduced form using my instrument to predict changes prior to the crisis. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, and race-specific population density. Also included are state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

A.2 Matching men

A.2.1 Matching procedure

I began by creating a sample of all Black and white men who in each start year (1910, 1920, or 1930) were aged 18 to 40. Matching was conducted using the ABE method, which matched individuals across years based on full names, age, and place of birth. First and last names are cleaned using New York State Identification and Intelligence System (NYSIIS) Table A.5 shows the match rates for the full sample, as well as by race. These match rates are consistent with those seen in studies that linked men over similar years.

Table A.5: Match Rates

	1910-1920	1920-1930	1930-1940
A. Full Sample			
Potential Matches	17,971,993	20,894,223	25,112,419
Actual Matches	3,549,748	5,153,502	6,428,724
Match Rate	19.8%	24.7%	25.6%
B. Black			
Potential Matches	2,264,611	2,466,573	2,844,286
Actual Matches	294,896	338,442	451,358
Match Rate	13.0%	13.7%	15.9%
C. White			
Potential Matches	15,707,382	18,427,650	22,268,133
Actual Matches	3,254,852	4,815,060	5,977,366
Match Rate	20.7%	26.1%	26.8%

Notes: Table shows the match rates overall and by race for my 1910-1920, 1920-1930, and 1930-1940 links.

A.2.2 Matched versus un-matched sample comparisons

In general, differences between my matched and unmatched populations in both the distribution of farm tenure and literacy are not substantial and fall within the range of a similar study of tenure mobility conducted by Alston and Ferrie (2005). That said, as with most linked data, matched individuals are slightly better off than un-matched individuals, as shown by higher rates of ownership and literacy. Overall, this would likely bias my results toward zero, as better-off individuals would likely have the financial resources to be more resilient to economic crisis. Table A.6 show the properties of my un-matched and un-matched samples for each start year.

Table A.6: Un-Matched vs. Matched, 1910

Black				White		
A. 1910-1920 Match						
	Un-Matched	Matched	Difference	Un-Matched	Matched	Difference
Age, 1910	28.059	27.648	-0.411	28.480	27.323	-1.156
Literate	0.656	0.689	0.033	0.952	0.966	0.014
Owned Farm	0.184	0.202	0.017	0.572	0.618	0.046
Tenant Farm	0.594	0.592	-0.002	0.327	0.298	-0.029
Farm Wage	0.222	0.206	-0.016	0.101	0.084	-0.017
N	772,387	132,764		3,401,055	1,176,349	
B. 1920-1930 Match						
Age, 1920	28.503	27.565	-0.938	29.170	27.601	-1.570
Literate	0.691	0.736	0.045	0.958	0.975	0.017
Owned Farm	0.181	0.205	0.024	0.560	0.589	0.029
Tenant Farm	0.706	0.693	-0.014	0.373	0.354	-0.019
Farm Wage	0.113	0.102	-0.010	0.067	0.058	-0.010
N	672,444	146,939		2,939,025	1,518,201	
C. 1930-1940 Match						
Age, 1930	27.948	27.015	-0.933	28.933	27.459	-1.473
Literate	0.724	0.769	0.045	0.961	0.974	0.014
Owned Farm	0.162	0.182	0.020	0.497	0.520	0.023
Tenant Farm	0.742	0.730	-0.012	0.442	0.428	-0.014
Farm Wage	0.096	0.088	-0.008	0.060	0.052	-0.009
N	650,844	163,482		2,942,172	1,533,460	

Notes: Table shows the differences in start-of-period characteristics between my matched and un-matched samples.

A.3 OLS results

Table A.7: Depressed Farm Earnings Impact on Farm Tenure Mobility: OLS

	(1) Wage Worker to Tenant	(2) Tenant to Owner	(3) Owner to Tenant	(4) Owner to Non- Farm	(5) Tenant to Non- Farm
A. South, Black					
Crisis Exposure (US Prices)	.021 (.035)	-.011 ⁺ (.0065)	-.0033 (.02)	.0056 (.021)	.018 (.011)
N	434	625	624	452	634
B. South, White					
Crisis Exposure (US Prices)	-.026 (.021)	-.026** (.0062)	.023** (.0048)	-.0065 (.0046)	-.005 (.0045)
N	1097	1917	1918	1920	1888
C. Midwest, White					
Crisis Exposure (US Prices)	.017** (.0051)	-.0047 (.01)	-.012** (.0034)	.003 (.0027)	.0019 (.0044)
N	1703	1315	1705	1702	1680

Notes: Dependent variable is the change between the 1910s and the 1920s, or the 1920s and the 1930s, in the share of men aged 18 to 40 at the start of each decade who ascended or descended each rung of the tenure ladder by the end of the decade. Observations are at the county level. Sample size fluctuates due to data availability of matched men. Panel A analyzes Southern Black men, Panel B analyzes Southern white men, and Panel C analyzes Midwestern white men. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, average farm size, and race-specific population density and rate of school attendance. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.8: Depressed Farm Earnings Impact on Black Marriage Rates, South: OLS

	(1) 15-39	(2) 15-19	(3) 20-24	(4) 25-29	(5) 30-34	(6) 35-39
A. Ever Married						
Crisis Exposure (US Prices)	-.0074** (.0024)	-.00036 (.0015)	-.0047 (.0039)	-.0035 (.0035)	-.0026 (.0027)	.00056 (.0021)
N	1499	1492	1499	1499	1499	1499
B. Currently Married						
Crisis Exposure (US Prices)	-.011** (.0027)	-.00063 (.0015)	-.0083* (.0036)	-.0075 ⁺ (.0041)	-.0094* (.0043)	-.0069 (.0044)
N	1499	1492	1499	1499	1499	1499

Notes: Dependent variables are the change in women ever married or currently married by age group. Observations are at the county level. Sample size fluctuates due to lower numbers of married women under 19 years old. Panel A shows the change in the share of ever-married women and Panel B shows the change in the share of currently married women. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, race-specific population density, and race- and age-specific male-to-female ratio. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.9: Depressed Farm Earnings Impact on White Marriage Rates, South: OLS

	(1) 15-39	(2) 15-19	(3) 20-24	(4) 25-29	(5) 30-34	(6) 35-39
A. Ever Married						
Crisis Exposure (US Prices)	-.0047** (.0017)	-.0018 (.0011)	-.0063* (.0025)	-.0024 (.0018)	.00068 (.0016)	-.00011 (.0011)
N	2280	2273	2279	2280	2280	2278
B. Currently Married						
Crisis Exposure (US Prices)	-.0043* (.0017)	-.0018+ (.0011)	-.0063* (.0026)	-.0015 (.0019)	.00091 (.0019)	.00045 (.0013)
N	2280	2271	2279	2280	2280	2278

Notes: Dependent variables are the change in women ever married or currently married by age group. Observations are at the county level. Sample size fluctuates due to lower numbers of married women under 19 years old. Panel A shows the change in the share of ever-married women and Panel B shows the change in the share of currently married women. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, race-specific population density, and race- and age-specific male-to-female ratio. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.10: Depressed Farm Earnings Impact on White Marriage Rates, Midwest: OLS

	(1) 15-39	(2) 15-19	(3) 20-24	(4) 25-29	(5) 30-34	(6) 35-39
A. Ever married						
Crisis Exposure (US Prices)	-.0019 (.0014)	.00036 (.00073)	-.0055* (.0022)	-.0023 (.0015)	.0017 (.0011)	-.00033 (.0012)
N	1936	1933	1936	1936	1936	1936
B. Currently Married						
Crisis Exposure (US Prices)	-.0021 (.0014)	.00022 (.00072)	-.0059** (.0022)	-.0033* (.0015)	.0022 (.0013)	-.00062 (.0016)
N	1936	1932	1936	1936	1936	1936

Notes: Dependent variables are the change in women ever married or currently married by age group. Observations are at the county level. Sample size fluctuates due to lower numbers of married women under 19 years old. Panel A shows the change in the share of ever-married women and Panel B shows the change in the share of currently married women. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, race-specific population density, and race- and age-specific male-to-female ratio. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.11: Depressed Farm Earnings Impact on Other Outcomes, All: OLS

	(1) Share w/ Off-farm Work	(2) Num. Children.
A. South, Black		
Crisis Exposure (US Prices)	.0037 (.0023)	-.01* (.0049)
N	1474	1499
B. South, White		
Crisis Exposure (US Prices)	.0023+ (.0012)	-.0083* (.0034)
N	2259	2280
C. Midwest, White		
Crisis Exposure (US Prices)	.0016+ (.00091)	.0015 (.002)
N	1920	1936

Notes: Dependent variables are the change in share of women working off farm and the number of children under 5 per ever-married woman aged 16 to 39. Observations are at the county level. Panel A analyzes Southern Black women, Panel B analyzes Southern white women, and Panel C analyzes Midwestern white women. All models include the 1920 total share of crisis exposure, a dummy variable for the second period 1930-1940, and start-of-period controls for the share of farmers indebted, the farm debt-to-value ratio, the interaction between share indebted and debt-to-value, and race-specific population density. Also included are controls for AAA spending during the 1930s and state fixed effects. Results are weighted by the share of the county's land devoted to farming. Standard errors clustered at the county level are in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

B. APPENDIX TO CHAPTER 2

B.1 Matching women

B.1.1 Matching procedure

Traditional census matching of men relies on certain fields that are “time-invariant,” such as birth year (and thus age), birthplace, race, and first and last names. This method does not work for matching women. Most women marry (86 percent by age 30 in 1930 among women born in my Southern states of interest), and most when they marry change their last names. In order to link women beyond those who remained single between 1920 and 1940, I use a sample of 130,517 marriage certificates downloaded from FamilySearch.org. These certificates have information on marriage dates and husbands’ last names, two essential pieces of information when linking women. Due to restrictions on web scraping, I manually downloaded these certificates 75 to 100 at a time, filtering my search to target women who married between 1920 and 1940 and who were born in farming communities with greater than 50 percent of the land devoted to farming in 1920. These counties are shown in Figure B.1.

Marriage certificate accessibility is subject to the extent of records digitization in states. Therefore, my sample of marriage certificates comes from a distinct subset of states. These states are listed in Table B.2 and shown in Figure B.3. Furthermore, I limit my married sample to women born in counties with greater than 50 percent of the land devoted to farming in 1920. Due to variation in records digitization by state, women who were married in Virginia, Indiana, North Carolina, and New York are over-represented in my married sample.

Figure B.1: Birth Counties of Married Women

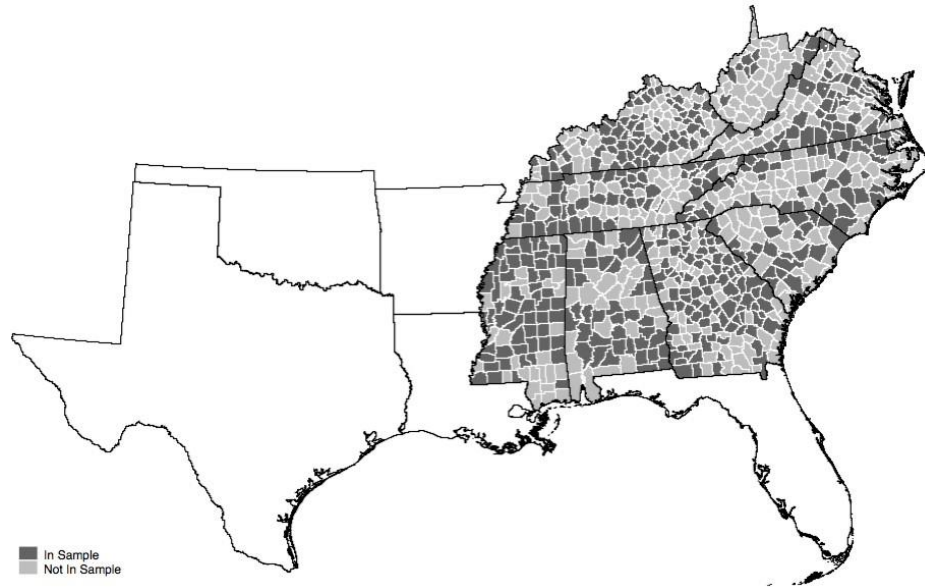


Table B.1: Place of Marriage

Marriage Place	Number	Share
ALABAMA	4,774	4.6
ARIZONA	1	0.0
ARKANSAS	1	0.0
DELAWARE	49	0.0
FLORIDA	888	0.9
GEORGIA	2	0.0
IDAHO	66	0.1
ILLINOIS	302	0.3
INDIANA	21,025	20.3
IOWA	701	0.7
KENTUCKY	1,041	1.0
MICHIGAN	321	0.3
MISSISSIPPI	4	0.0
MONTANA	285	0.3
NEBRASKA	11	0.0
NEVADA	2	0.0
NEW HAMPSHIRE	2	0.0
NEW YORK	8,048	7.8
NORTH CAROLINA	8,818	8.5
OHIO	4,868	4.7
PENNSYLVANIA	37	0.0
SOUTH CAROLINA	1	0.0
TENNESSEE	9	0.0
TEXAS	65	0.1
UTAH	146	0.1
VERMONT	1	0.0
VIRGINIA	49,357	47.7
WASHINGTON	34	0.0
WASHINGTON, D.C.	173	0.2
WEST VIRGINIA	2,485	2.4
Total	103,517	100.0

Notes: This table shows the source states of digitized marriage certificates used in linking.

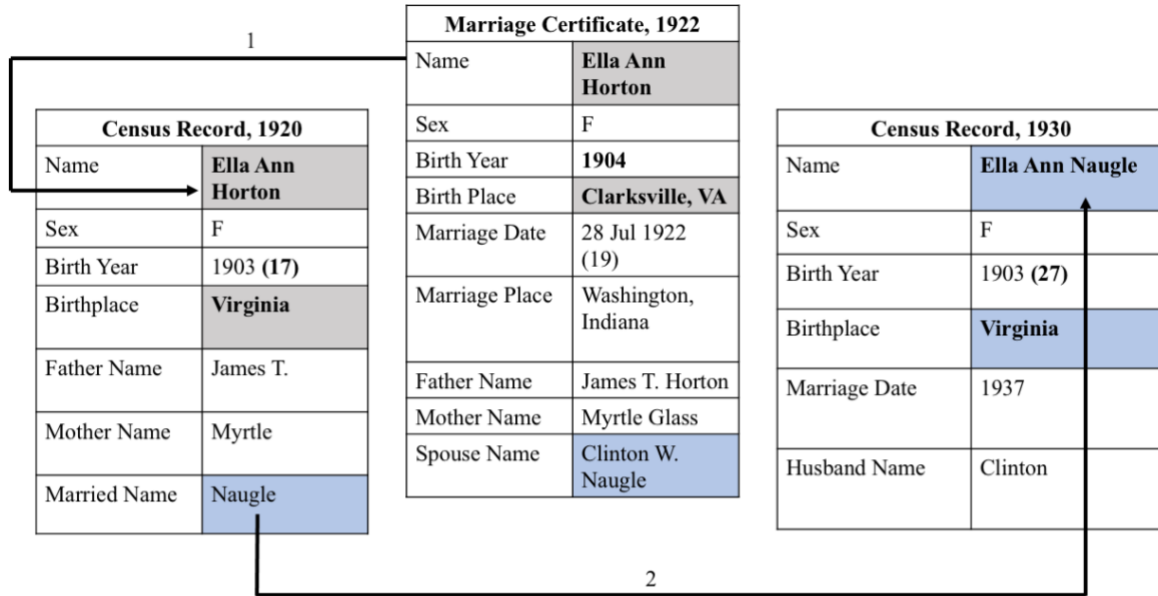
Legend:

- In Sample
- Not In Sample

I first link from my sample of marriage certificates to the 1920 and 1930 censuses based on marriage year. If the marriage certificate shows that the individual was married between 1920 and 1930, I match that certificate to 1920. If the certificate shows the individual was married between 1930 and 1940, I match to 1930. I use several fields present in the certificates to match: first and last (maiden) name, birth year (age), and birthplace

(state). The marriage certificates do not have information about race. I then do another match that adds two additional variables noted above: parents' and spouses' NYSIIS-cleaned first names. Figure B.3 visualizes this matching procedure and Table B.3 shows the match rates for each sample (marriage certificates to the 1920 census and marriage certificates to the 1930 census).

Figure B.3: Matching Women using Marriage Certificates



I attach the information garnered from the marriage certificates to the full sample of women in 1920 and 1930. I then match the 1920 census to the 1930 census and include the additional information of women who married between 1920 and 1930. I do the same thing from the 1930 to the 1940 censuses. These match rates are shown in Table B.4. For women for whom I have marriage information, I match to women who indicate their marital status as something other than "Never Married." For women for whom I have no marriage information, I only match women who maintain that they were "Never Married" in 1930 or 1940. Among single women "Potential Matches" indicates women who are unique in their first and last names, age, race, and birthplace in 1920. Among women for whom I have marriage information, "Potential matches" are those matches gained from the 1920 and 1930 to marriage certificate matches. Male matches are described in Table B.5.

Table B.2: Marriage Certificate-to-Census Match Rates

	MC to 1920	MC to 1930
Potential Matches	54,320	37,236
Black Matches	3,492	3,014
White Matches	9,875	8,380
Total Matches	13,367	11,394
Match Rate	25%	30%

Notes: This table reports the match rates from matching on first name, maiden name, birth year and birth state from marriage certificates to the 1920 and 1930 complete count censuses. “MC to 20” means marriage certificates to 1920 census match. Marriage certificates are used only if the marriage date was between census years. For example, 54,320 marriage certificates indicated a marriage year between 1920 and 1929.

Table B.3: Census-to-Census Female Matches

	1920-1930	1930-1940	1920-1930	1930-1940
	Married Women		Single Women	
Potential Matches				
Black	3,492	3,014	1,706,074	1,750,323
White	9,875	8,380	3,556,265	3,949,580
Total	13,367	11,394	5,262,339	5,699,903
Matches				
Black	1,152	1,057	264,986	281,570
White	4,809	4,053	805,116	884,287
Total	5,961	5,110	1,070,102	1,165,875
Match Rate				
Black	32%	35%	16%	16%
White	49%	48%	23%	22%
Total	45%	45%	20%	20%

Notes: This table reports the match rates from matching on first name, maiden name, birth year, birth state, race, and marital status from 1930 to the 1920 and 1930 to 1940 complete count census with added marriage information.

Table B.4: Male Matches

	1920-1930	1930-1940
Potential Matches		
Black	1,822,933	1,864,969
White	4,013,459	4,466,405
Total	5,836,392	6,331,374
Matches		
Black	409,878	435,530
White	1,383,858	1,510,395
Total	1,793,736	1,935,925
Match Rate		
Black	22%	23%
White	34%	34%
Total	31%	31%

Notes: This table reports the match rates from matching men on first name, last name, birth year, birth state, and race from the 1940 to 1930 and 1930 to 1920 complete count censuses.

B.1.2 Matched vs. Un-matched sample comparisons

I conduct my main analyses on my “Main Match.” My “Conservative Match” and matches that rely on parents’ and husbands’ first names serve as datasets for robustness checks, and results are consistent across these different datasets. After completing the matching, I only keep men and women between age 5 and 30 in 1920 or 1930, who did not live in an urban area and were either living or working on a farm or had a parent who was working on a farm, and who resided in one of my Southern states of interest in 1920 or 1930. This reduces my sample size for each dataset.

Matching introduces biases, and no current method of linking will regularly produce a sample that is representative of the population (Bailey et al. 2020). Men who are linked tend to be of a higher socioeconomic status than those who are not. This can, in part, be attributed to higher literacy among men of a higher socioeconomic class (who are more likely to fill out the census), as well as a higher prevalence of unique names. In their study of automated linking methods, Bailey et al. (2020) recommend inverse propensity weights to reweight the linked sample to better represent the population on observed characteristics. Comparisons between un-matched and matched samples are shown in Tables B.6 and B.7.

Table B.5: 1920-1930 Sample: Un-Matched vs. Main Match, Unweighted

	Women			Men	
	Un-Matched	Single Matches	Married Matches	Un-Matched	Matches
Black					
Age, 1920	12.203	9.637	15.637	12.561	12.464
Literate, Age 10+	0.807	0.809	0.889	0.709	0.733
In School, Age 6-19	0.643	0.654	0.720	0.583	0.600
Oldest Child	0.334	0.274	0.463	0.257	0.252
Owned Home	0.244	0.260	0.474	0.250	0.275
Owned Farm	0.235	0.250	0.466	0.238	0.262
Tenant Farm	0.724	0.709	0.494	0.714	0.691
Farm Wage	0.042	0.042	0.040	0.049	0.047
N	823,459	102,970	642	881,765	186,262
White					
Age, 1920	12.343	9.930	16.013	13.109	13.038
Literate, Age 10+	0.961	0.964	0.977	0.933	0.943
In School, Age 6-19	0.777	0.794	0.765	0.743	0.759
Oldest Child	0.350	0.283	0.439	0.281	0.281
Owned Home	0.642	0.655	0.752	0.639	0.661
Owned Farm	0.637	0.650	0.747	0.632	0.654
Tenant Farm	0.345	0.333	0.236	0.345	0.325
Farm Wage	0.018	0.017	0.018	0.023	0.021
N	1,421,193	257,784	2,782	1,652,751	563,116

Notes: This table shows the averages of different observable characteristics measured in the complete count census in 1920 for the comparable population and the matched samples. Age is in years and all other variables are in shares. The population is all men or women who were either living or working on a farm, or were living with a parent who worked on a farm in the Southern states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia in 1920.

Table B.6: 1930-1940 Sample: Un-Matched vs. Main Match, Unweighted

	Women			Men	
	Un-Matched	Single Matches	Married Matches	Un-Matched	Matches
Black					
Age, 1930	12.432	10.144	16.782	12.954	12.806
Literate, Age 10+	0.857	0.853	0.917	0.760	0.780
In School, Age 6-19	0.718	0.730	0.732	0.640	0.662
Oldest Child	0.325	0.266	0.470	0.251	0.242
Owned Home	0.219	0.235	0.360	0.224	0.245
Owned Farm	0.207	0.221	0.338	0.208	0.228
Tenant Farm	0.747	0.731	0.614	0.737	0.720
Farm Wage	0.046	0.048	0.048	0.055	0.052
N	746,573	95,189	518	827,968	180,477
White					
Age, 1930	12.483	10.551	16.986	13.421	13.467
Literate, Age 10+	0.972	0.971	0.980	0.945	0.953
In School, Age 6-19	0.791	0.807	0.707	0.739	0.753
Oldest Child	0.340	0.278	0.458	0.281	0.283
Owned Home	0.558	0.573	0.681	0.553	0.579
Owned Farm	0.553	0.568	0.674	0.545	0.571
Tenant Farm	0.426	0.411	0.303	0.428	0.403
Farm Wage	0.022	0.021	0.023	0.027	0.025
N	1,408,660	250,714	1,804	1,691,614	569,828

Notes: This table shows the averages of different observable characteristics measured in the complete count census in 1930 for the comparable population and the matched samples. Age is in years and all other variables are in shares. The population is all men or women who were either living or working on a farm or were living with a parent who worked on a farm in the Southern states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia in 1930.

My sample is biased on two fronts: my matched women are more well-off than my unmatched women in terms of ownership, literacy, and school attendance, and I have over-sampled single women. My matches of married women are limited by the number of marriage certificates I can feasibly download with constrained time and resources. I chose to weight based on pre-migration-year characteristics, as I am most interested in the effect of pre-migration characteristics on migration. The tradeoff that comes from using a sample in which single women are over-sampled is between sample size and representativeness. Using the population dataset and matching its age distribution to that of my combined married and

single sample, I find that 74.4% of the population of black women should be married by 1940, and 74.6% of white women. My final sample consists of less than 1% married Black women and about 1% married white women. When I weight on this particular 1940 characteristic, however, I find that my sample becomes even less representative of the 1920 population. Matched married women are even more better off as compared to un-matched women than matched single women are as compared to un-matched women. In light of the way a weight based on 1940 marriage status would counterbalance any weights on other observable characteristics such as ownership that would make my sample more representative, I weight only on 1920 characteristics, recognizing that I am thus describing the experience mostly of women who remained single for a longer period of time. Since I am most interested in the experiences of younger women who migrated before or *for* marriage, I believe my results provide accurate insight into these patterns. The results of this re-weighting exercise are presented in Tables B.8 and B.9.

Table B.7: 1920-1930 Sample: Un-Matched vs. Matched Samples, Weighted

	Women				Men			
	Un-Matched	Matched	Difference	p-value	Un-Matched	Matched	Difference	p-value
Black								
Age, 1920	12.203	11.990	-0.213	0.000	12.561	12.531	-0.030	0.026
Literate, Age 10+	0.807	0.811	0.004	0.062	0.709	0.727	0.019	0.000
In School, Age 6-19	0.643	0.657	0.014	0.000	0.583	0.597	0.014	0.000
Oldest Child	0.334	0.329	-0.005	0.034	0.257	0.256	-0.002	0.193
Owned Home	0.244	0.245	0.001	0.554	0.250	0.250	0.000	0.919
Owned Farm	0.235	0.236	0.001	0.382	0.238	0.239	0.001	0.303
Tenant Farm	0.724	0.724	0.000	0.828	0.714	0.717	0.004	0.001
Farm Wage	0.042	0.040	-0.002	0.019	0.049	0.044	-0.005	0.000
N	823,459	103,612			881,765	186,262		
White								
Age, 1920	12.343	12.148	-0.195	0.000	13.109	13.092	-0.017	0.049
Literate, Age 10+	0.961	0.963	0.002	0.002	0.933	0.942	0.009	0.000
In School, Age 6-19	0.777	0.798	0.021	0.000	0.743	0.756	0.013	0.000
Oldest Child	0.350	0.330	-0.020	0.000	0.281	0.284	0.003	0.000
Owned Home	0.642	0.644	0.002	0.035	0.639	0.639	0.000	0.906
Owned Farm	0.637	0.640	0.003	0.008	0.632	0.632	0.001	0.266
Tenant Farm	0.345	0.343	-0.002	0.152	0.345	0.346	0.001	0.095
Farm Wage	0.018	0.017	-0.001	0.000	0.023	0.021	-0.002	0.000
N	1,421,193	260,566			1,652,751	563,116		

Notes: This table shows the population and matched sample characteristics after inverse propensity weighting of the matched samples based on age, state of residence, and ownership status in 1920. Age is measured in years and all other characteristics are the share of the sample or population. The third columns under men and women are the matched sample measure minus the population measure and the fourth columns are the p-value of that difference.

Table B.8: 1930-1940 Sample: Un-Matched vs. Matched Samples, Weighted

	Women				Men			
	Un-Matched	Matched	Difference	p-value	Un-Matched	Matched	Difference	p-value
Black								
Age, 1930	12.432	12.255	-0.176	0.000	12.954	12.913	-0.042	0.003
Literate, Age 10+	0.857	0.859	0.003	0.129	0.760	0.778	0.019	0.000
In School, Age 6-19	0.718	0.733	0.015	0.000	0.640	0.659	0.019	0.000
Oldest Child	0.325	0.316	-0.009	0.000	0.251	0.246	-0.005	0.001
Owned Home	0.219	0.220	0.001	0.691	0.224	0.224	0.000	0.933
Owned Farm	0.207	0.208	0.001	0.624	0.208	0.210	0.001	0.164
Tenant Farm	0.747	0.747	0.000	0.872	0.737	0.741	0.004	0.001
Farm Wage	0.046	0.045	-0.001	0.197	0.055	0.049	-0.005	0.000
N	746,573	95,707			881,765	186,262		
White								
Age, 1930	12.483	12.327	-0.157	0.000	13.421	13.403	-0.018	0.042
Literate, Age 10+	0.972	0.971	-0.001	0.062	0.945	0.952	0.007	0.000
In School, Age 6-19	0.791	0.807	0.016	0.000	0.739	0.751	0.012	0.000
Oldest Child	0.340	0.322	-0.019	0.000	0.281	0.283	0.002	0.024
Owned Home	0.558	0.561	0.003	0.016	0.553	0.553	0.000	0.961
Owned Farm	0.553	0.556	0.003	0.005	0.545	0.546	0.001	0.230
Tenant Farm	0.426	0.424	-0.002	0.074	0.428	0.429	0.001	0.187
Farm Wage	0.022	0.021	-0.001	0.000	0.027	0.025	-0.002	0.000
N	1,408,660	252,518			1,691,614	559,196		

Notes: This table shows the population and matched sample characteristics after inverse propensity weighting of the matched samples based on age, state of residence, and ownership status in 1930. Age is measured in years and all other characteristics are the share of the sample or population. The third columns under men and women are the match sample measure minus the population measure and the fourth columns are the p-value of that difference.

As a further check as to whether my limited supply of marriage certificates may be either biasing my results or only presenting the patterns common among women who remained single longer, I rerun all my analyses comparing women and men who married by 1930 or 1940 and comparing women and men who were still single in 1930 or 1940. Overall, patterns remain the same: women are more likely to migrate than men, women are more likely to migrate as a result of aspects of the farm crisis that particularly harm farm family mobility, and patterns based on individual and family characteristics, such as Black women being less likely to migrate from larger families or from families with more access to

education, are consistent across both comparisons. These results highlight the gains to be had by using what information we have on women, though it may be incomplete for now, to understand their migration.

B.2 Robustness

Table B.9: Baseline Migration Rates, Alternative Samples

	1920s			1930s		
	Main	Conservative	Extra Names	Main	Conservative	Extra Names
	(1)	(2)	(3)	(4)	(5)	(6)
White						
Female=1	0.063** (0.007)	0.042** (0.007)	0.061** (0.007)	0.033** (0.004)	0.020** (0.004)	0.031** (0.004)
Mean Dep. Var	0.457	0.361	0.457	0.274	0.226	0.273
R2	0.004	0.002	0.003	0.001	0.000	0.001
N	184,901	116,469	184,309	531,425	368,934	530,407
Black						
Female=1	0.124** (0.006)	0.107** (0.006)	0.124** (0.006)	0.063** (0.003)	0.048** (0.003)	0.060** (0.003)
Mean Dep. Var	0.382	0.282	0.382	0.203	0.158	0.202
R2	0.015	0.013	0.015	0.005	0.004	0.005
N	175,496	110,899	175,731	527,294	363,003	528,995

Notes: This table shows the coefficients of linear probability models estimating individuals' likelihoods of migration. Dependent variable is equal to 1 if the individual moved off-farm between either 1920 and 1930 or 1930 and 1940. Individual controls include age, farm tenure status before migration, and marital status after migration. All specifications use robust standard errors clustered at the county-of-origin level. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

C. APPENDIX TO CHAPTER 3

C.1 Matching women

C.1.1 Matching procedure

I follow the same matching procedure as outlined in Chapter 2, except that in this chapter, I match from the 1920 census to the 1940 census. Match rates are presented in Table C.1.

Table C.1: Match Rates, Full Sample

	MCs to 1920	Married Matches to 1940	Single Matches to 1940
Potential Matches, All	91,305	25,464	5,250,242
Potential Matches, Black		6,665	1,702,901
Potential Matches, White		18,799	3,547,341
Actual Matches, All	25,464	10,963	394,355
Actual Matches, Black	6,665	2,140	95,583
Actual Matches, White	18,799	8,823	298,772
Match Rate, All	28%	43%	8%
Match Rate, Black		32%	6%
Match Rate, White		47%	8%

Notes: Table shows the match rates from marriage certificates (MCs) to the 1920 census, and the subsequent match rate from my single and married samples to the 1940 census. Match rates are higher from 1920 to 1940 for those with marriage certificates due to the previous match from the marriage certificates to 1920.

C.1.2 Matched vs. un-matched sample comparisons

Matched and un-matched samples are compared before and after weighting on

1920 characteristics in Tables C.2 and C.3. Samples were weighted following the procedure outlined in Bailey et al. (2020)

Table C.2: Single Un-Matched vs. Matched Samples

	Un-Matched	Matched	Weighted	Difference	p-value
Black					
Age, 1920	9.827	6.247	9.643	-0.184	0.000
Literate, Age 10+	0.808	0.806	0.799	-0.009	0.012
In School, Age 6-19	0.643	0.644	0.647	0.004	0.221
Owned Home	0.227	0.238	0.229	0.002	0.328
Owned Farm	0.218	0.227	0.218	0.001	0.795
Tenant Farm	0.734	0.719	0.731	-0.002	0.310
Farm Wage	0.049	0.055	0.050	0.002	0.111
N	1,016,831	58,176			
White					
Age, 1920	9.691	7.017	9.529	-0.162	0.000
Literate, Age 10+	0.962	0.962	0.960	-0.001	0.157
In School, Age 6-19	0.777	0.789	0.792	0.015	0.000
Owned Home	0.604	0.623	0.608	0.004	0.012
Owned Farm	0.599	0.618	0.603	0.004	0.019
Tenant Farm	0.379	0.360	0.376	-0.003	0.060
Farm Wage	0.022	0.022	0.021	-0.001	0.110
N	1,734,932	145,573			

Notes: Table compares the 1920 characteristics of my matched and un-matched single Black and white women.

Table C.3: Married Un-Matched vs. Matched Samples

	Un-Matched	Matched	Weighted	Difference	p-value
Black					
Age, 1920	9.631	11.547	9.546	-0.085	0.867
Literate, Age 10+	0.808	0.885	0.916	0.108	0.000
In School, Age 6-19	0.643	0.749	0.720	0.077	0.161
Owned Home	0.228	0.446	0.236	0.009	0.798
Owned Farm	0.218	0.432	0.229	0.011	0.730
Tenant Farm	0.733	0.522	0.741	0.008	0.824
Farm Wage	0.049	0.046	0.030	-0.019	0.087
N	1,073,719	1,288			
White					
Age, 1920	9.478	11.675	8.855	-0.623	0.033
Literate, Age 10+	0.962	0.976	0.972	0.010	0.130
In School, Age 6-19	0.777	0.781	0.783	0.006	0.713
Owned Home	0.605	0.690	0.605	-0.000	0.984
Owned Farm	0.600	0.684	0.601	0.000	0.991
Tenant Farm	0.378	0.293	0.368	-0.009	0.660
Farm Wage	0.022	0.023	0.031	0.009	0.201
N	1,875,162	5,343			

Notes: Table compares the 1920 characteristics of my matched and un-matched married Black and white women.

Due to the large differences that remain between Black matched married women and un-matched Black women, Table C.4 looks at the differences between matched migrants, matched non-migrants, and those un-matched. Given that the direction of the bias among matched married women is the same for both migrants and non-migrants, it is unlikely that bias introduced by the matching procedure is having a significant effect on my measures of outcomes as a result of migration.

Table C.4: Married Un-Matched vs. Matched Samples, Black (Migrants vs. Non-migrants)

	Un-Matched	Matched Non-migrants	Matched Migrants
Age, 1920	9.631	10.708	12.240
Literate, Age 10+	0.808	0.924	0.877
In School, Age 6-19	0.643	0.788	0.751
Owned Home	0.228	0.443	0.466
Owned Farm	0.218	0.439	0.452
Tenant Farm	0.733	0.547	0.498
Farm Wage	0.049	0.014	0.050
N	1,073,719	212	622

Notes: Table compares the 1920 characteristics of my matched migrant and non-migrant married Black women to un-matched Black women.

BIBLIOGRAPHY

- Abramitzky, Ran, Leah Boustan, and Katherine Eriksson. 2012. "Europe's Tired, Poor, Huddled Masses: Self-Selection and Economic Outcomes in the Age of Mass Migration." *American Economic Review* 102 (5): 1832–56.
- Abramitzky, Ran, Leah Boustan, Katherine Eriksson, James Feigenbaum, and Santiago Perez. forthcoming. "Automated Linking of Historical Data." *Journal of Economic Literature*.
- Adams, Luther. 2006. "'Headed for Louisville': Rethinking Rural to Urban Migration in the South, 1930-1950." *Journal of Social History* 40 (2): 407–30.
- Adao, Rodrigo, Michal Kolesar, and Eduardo Morales. 2019. "Shift-Share Designs: Theory and Inference." *The Quarterly Journal of Economics* 134 (4): 1949–2010.
- Alston, Lee. 1981. "Tenure Choice in Southern Agriculture, 1930-1960." *Explorations in Economic History* 18 (3): 211–32.
- . 1983. "Farm Foreclosures in the United States During the Interwar Period." *Journal of Economic History* 43 (4): 885–903.
- Alston, Lee, and Joseph Ferrie. 2005. "Time on the Ladder: Career Mobility in Agriculture, 1890-1938." *Journal of Economic History* 65 (4): 1058–81.
- Altschul, Eugen, and Frederick Strauss. 1957. "Technical Progress and Agricultural Depression." 1–32. Cambridge, MA: National Bureau of Economic Research.
- Amott, Teresa, and Julie Matthaei. 1996. *Race, Gender, and Work: A Multi-Cultural Economic History of Women in the United States*. Boston, MA: South End Press.
- Anderson, Carol. 2016. *White Rage: The Unspoken Truth of Our Racial Divide*. New York, NY: Bloomsbury.
- Anderson, W. A., and C. P. Loomis. 1930. *Bulletin No. 275: Migration of Sons and Daughters of White Farmers in Wake County 1929*. Raleigh, N.C.: The Agricultural Experiment Station of the North Carolina State College of Agriculture and Engineering.
- Aull, G. H. 1938. *Some Economic Characteristics of Owner-Operated Farms in South Carolina*. Clemson College, S.C.: South Carolina Agricultural Experiment Station. <https://catalog.hathitrust.org/Record/011481669>.
- "Autobiographies, Various School Districts." 1933. Box 26-30, Breathitt Co., Kentucky, Project Files Series. David M. Rubenstein Rare book and Manuscript Library. Alliance for Guidance of Rural Youth Records, Duke University.

- Autor, David, David Dorn, and Gordon Hanson. 2013. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States." *American Economic Review* 103 (6): 2121–68.
- . 2019. "When Work Disappears: Manufacturing Decline and the Falling Marriage-Market Value of Young Men." *American Economic Review: Insights* 1 (2): 161–78.
- Bailey, Martha, Connor Cole, Morgan Henderson, and Catherine Massey. 2020. "How Well Do Automated Linking Methods Perform? Lessons from US Historical Data." *Journal of Economic Literature* 58 (4): 997–1044.
- Baker, O. E. 1933. "Rural-Urban Migration and the National Welfare." *Annals of the Association of American Geographers* 23 (2): 59–126.
- Banks, Nina. 2006. "Uplifting Race through Domesticity: Capitalism, African American Migration, and the Household Economy." *Feminist Economics* 12 (4): 599–624.
- Becker, Gary S. 1981. *A Treatise on the Family*. Cambridge, MA: Harvard University Press.
- Bennett, Neil G., David E. Bloom, and Patricia H. Craig. 1989. "The Divergence of Black and White Marriage Patterns." *American Journal of Sociology* 95 (3): 692–722.
- Bercaw, Nancy. 2003. *Gendered Freedoms: Race, Rights, and the Politics of Household in the Delta*. Southern Dissent. Gainesville: University Press of Florida.
- Berry, Chad. 2000. *Southern Migrants, Northern Exiles*. Urbana, IL: University of Illinois Press.
- Bertrand, Marianne, Emir Kamenica, and Jessica Pan. 2015. "Gender Identity and Relative Income within Households." *Quarterly Journal of Economics* 130 (2): 571–614.
- Bizzell, William. 1921. *Bulletin No. 278: Farm Tenantry in the United States: A Study of the Historical Development of Farm Tenantry and Its Economic and Social Consequences on Rural Welfare with Special Reference to Conditions in the South and Southwest*. Texas Agricultural Experiment Station. Agricultural and Mechanical College of Texas.
- Blackwelder, Julia Kirk. 1997. *Now Hiring: The Feminization of Work in the United States, 1900-1995*. College Station, TX: A&M University Press.

- Blattman, Christopher, Jason Hwang, and Jeffrey G. Williamson. 2007. "Winners and Losers in the Commodity Lottery: The Impact of Terms of Trade Growth and Volatility in the Periphery, 1870-1939." *Journal of Development Economics* 82 (1): 156–79.
- Blau, Francine D., Lawrence M. Kahn, and Jane Waldfogel. 2000. "Understanding Young Women's Marriage Decisions: The Role of Labor and Marriage Market Conditions." *Industrial and Labor Relations Review* 53 (4): 624–47.
- Blewett, Mary H. 1991. *We Will Rise in Our Might: Workingwomen's Voices from Nineteenth Century New England*. Documents in American Social History. Ithaca, NY: Cornell University Press.
- Block, William. 2000. "'A Princely Gift Indeed': Agriculture Opportunity and Marriage in the United States, 1850-1920." Ph.D. Dissertation, Ann Arbor, MI: University of Minnesota.
- Bloome, Deirdre, James Feigenbaum, and Christopher Muller. 2017. "Tenancy, Marriage, and the Boll Weevil Infestation, 1892-1930." *Demography* 54 (3): 1029–49.
- Bloome, Deirdre, and Christopher Muller. 2015. "Tenancy and African American Marriage in the Postbellum South." *Demography* 52 (5): 1409–30.
- Boone, Christopher, and Laurence Wilse-Samson. 2021. "Structural Change and Internal Labor Migration." <https://sites.google.com/site/chrisboone/research?authuser=0>.
- Borjas, George. 1987. "Self-Selection and the Earnings of Immigrants." *American Economic Review* 77 (4): 531–53.
- Borusyak, Kirill, Peter Hull, and Xavier Jaravel. forthcoming. "Quasi-Experimental Shift-Share Research Designs." *Review of Economic Studies*.
- Boustan, Leah. 2017. *Competition in the Promised Land: Black Migrants in Northern Cities and Labor Markets*. Princeton, NJ: Princeton University Press.
- Boustan, Leah, Price V. Fishback, and Shawn Kantor. 2010. "The Effect of Internal Migration on Local Labor Markets: American Cities during the Great Depression." *Journal of Labor Economics* 28 (4): 719–46.
- Brainerd, Elizabeth. 2017. "The Lasting Effect of Sex Ratio Imbalance on Marriage and Family: Evidence from World War II in Russia." *The Review of Economics and Statistics* 99 (2): 229–42.

- Caliver, Ambrose. 1935. *Bulletin 12. Availability of Education to Negroes in Rural Communities*. Washington, D.C.: U.S. Government Printing Office. United States Department of the Interior. Office of Education.
- Caully, Ruth. 1927. "Scraps of Work and Play: Southern Summer School for Women Workers in Industry." Box 6, c.1, Southern Summer School for Women Workers in Industry Series, Printed Materials, Scrapbooks, 1927-1929. Amber Warburton Papers, David M. Rubenstein Rare Book and Manuscript Library, Duke University.
- Charlton, J. L. 1954. *Social Aspects of Farm Ownership and Tenancy in the Arkansas Coastal Plain*. Agricultural Experiment Station, University of Arkansas, College of Agriculture.
- Clark-Lewis, Elizabeth. 1994. *Living In, Living Out: African American Domestic in Washington, D.C., 1910-1940*. Washington, D.C.: Smithsonian Institution Press.
- Collins, William. 2021. "The Great Migration of Black Americans from the US South: A Guide and Interpretation." *Explorations in Economic History* 80.
- Collins, William, and Gregory Niemesh. 2019. "Unions and the Great Compression of Wage Inequality in the United States at Mid-Century: Evidence from Local Labor Markets." *Economic History Review* 72 (2): 691–715.
- Collins, William, and Marianne Wanamaker. 2014. "Selection and Economic Gains in the Great Migration of African Americans: New Evidence from Linked Census Data." *American Economic Journal: Applied Economics* 6 (1): 220–52.
- . 2015. "The Great Migration in Black and White: New Evidence on the Selection and Sorting of Southern Migrants." *Journal of Economic History* 75 (4): 947–92.
- Cook, Lisa, Trevon D. Logan, and John M. Parman. 2018a. "Rural Segregation and Racial Violence: Historical Effects of Spatial Racism." *American Journal of Economics and Sociology* 77 (3–4): 821–47.
- . 2018b. "Segregation and Southern Lynching." *Social Science History* 42(4): 635-675.
- Cooley, Rossa B. 1926. *Homes of the Freed*. New York: New Republic, Inc.
- Craig, Jacqueline, Katherine Eriksson, and Gregory Niemesh. 2019. "Marriage and the Intergeneration Mobility of Women: Evidence from Marriage Certificates 1850-1910," April. <https://niemesgt.github.io/files/WomenMobilityClio.pdf>.
- Danbom, David B. 1979. "Rural Education Reform and the Country Life Movement, 1900-1920." *Agricultural History* 53 (2): 462–74.

- . 2002. “Rural Girls in Fargo during the 1930s.” *Agricultural History* 76 (4): 659–68.
- Darity, William A., Jr., and Samuel L. Meyers. 1990. “Impacts of Violent Crime on Black Family Structure.” *Contemporary Economic Policy* 8 (4): 15–29.
- Dickins, Dorothy. 1928. *Bulletin No. 254: A Nutrition Investigation of Negro Tenants in the Yazoo Mississippi Delta*. A&M College, Mississippi: Mississippi Agricultural Experiment Station.
- Diner, Hasia. 1983. *Erin’s Daughters in America: Irish Immigrant Women in the Nineteenth Century*. Baltimore, MD: Johns Hopkins University Press.
- Dixon, Ruth. 2011. “Explaining Cross-Cultural Variations in Age at Marriage and Proportions Never Marrying.” *Population Studies* 25 (2): 215–33.
- Du Bois, W. E. B. 1908. “Letter from W. E. B. Du Bois to Liberty Hyde Bailey,” November 23, 1908.
https://rmc.library.cornell.edu/bailey/commission/commission_3.html#.
- Dublin, Thomas. 1979. *Women at Work: The Transformation of Work and Community in Lowell, Massachusetts, 1826-1860*. New York, NY: Columbia University Press.
- Dunnigan, Alice Allison. 1977 Interview by Marcia M. Greenlee. Transcript. Black Women Oral History Project. Interviews, 1976-1981. Schlesinger Library, Radcliffe Institute.
- Dyson, Lowell K. 1973. “The Southern Tenant Farmers Union and Depression Politics.” *Political Science Quarterly* 88 (2): 230–52.
- England, Kim, and Kate Boyer. 2009. “Women’s Work: The Feminization and Shifting Meanings of Clerical Work.” *Journal of Social History* 43 (2): 307–40.
- Equal Justice Initiative. 2017. “Lynching in America: Confronting the Legacy of Racial Terror.” 2017. <https://lynchinginamerica.eji.org/report/>.
- Fan, C. Cindy, and Youqin Huang. 1998. “Waves of Rural Brides: Female Marriage Migration in China.” *Annals of the Association of American Geographers* 88 (2): 227–51.
- Feigenbaum, James, and Daniel Gross. 2020. “Automation and the Fate of Young Workers: Evidence from Telephone Operation in the Early 20th Century.” *NBER Working Papers No. 28061*, November. <http://www.nber.org/papers/w28061>.

- Fine, Lisa M. 1990. *The Souls of the Skyscraper: Female Clerical Workers in Chicago, 1870-1930*. Women in the Political Economy. Philadelphia: Temple University Press.
- Fink, Deborah. 1992. *Agrarian Women: Wives and Mothers in Rural Nebraska*. Chapel Hill, NC: University of North Carolina Press.
- Fishback, Price, William Horrace, and Shawn Kantor. 2006. "The Impact of New Deal Expenditures on Mobility during the Great Depression." *Explorations in Economic History* 43 (2): 179–222.
- Fitch, Catherine, and Steven Ruggles. 2000. "Historical Trends in Marriage Formation: Perspectives on Marriage and Cohabitation." In *Ties That Bind: Perspectives on Marriage and Cohabitation*, edited by Linda Waite, Christine Bachrach, Michelle Hindin, Elizabeth Thomson, and Arland Thornton, 59–88. New York, NY: Aldine Transaction.
- Fligstein, Neil. 1981. *Going North: Migration of Blacks and Whites from the South, 1900-1950*. Quantitative Studies in Social Relations. New York, NY: Academic Press.
- Folbre, Nancy, and Barnet Wagman. 1993. "Counting Housework: New Estimates of Real Product in the United States, 1800-1860." *Journal of Economic History* 53 (2): 275–88.
- Friedman-Kasaba, Kathie. 1996. *Memories of Migration: Gender, Ethnicity, and Work in the Lives of Jewish and Italian Women in New York, 1870-1924*. Albany, NY: State University of New York.
- Goldin, Claudia. 1990. *Understanding the Gender Gap: An Economic History of American Women*. NBER Series on Long-Term Factors in Economic Development. New York, NY: Oxford University Press.
- . 2006. "The Quiet Revolution That Transformed Women's Employment, Education, and Family." *AEA Papers and Proceedings* 96 (2): 1–21.
- Goldsmith-Pinkham, Paul, Isaac Sorkin, and Henry Swift. 2020. "Bartik Instruments: What, When, Why, and How." *American Economic Review* 110 (8): 2586–2624.
- Gordon, Wendy M. 2002. *Mill Girls and Strangers: Single Women's Independent Migration in England, Scotland, and the United States, 1850-1881*. Albany, NY: State University of New York Press.
- Gottlieb, Peter. 1987. *Making Their Own Way: Southern Blacks' Migration to Pittsburgh, 1916-1930*. Urbana, IL: University of Illinois Press.

- Green, Nancy. 2012. "Changing Paradigms in Migration Studies: From Men to Women to Gender." *Gender and History* 24 (3): 782–98.
- Haines, Michael, Price Fishback, and Paul Rhode. 2018. "United States Agriculture Data, 1840-2012." Inter-university Consortium for Political and Social Research [distributor]. <https://www.icpsr.umich.edu/web/ICPSR/studies/35206>.
- Hajnal, J. 1965. "European Marriage Patterns in Perspective." In *Population in History: Essays in Historical Demography*, edited by D.V. Glass and D.E.C. Eversley, 101–43. Chicago, IL: Aldine Publishing Company.
- Hall, Jacquelyn Dowd. 2019. *Sisters and Rebels: A Struggle for the Soul of America*. New York, NY: W.W. Norton & Company.
- Hamilton, Horace. 1933. *Rural-Urban Migration in North Carolina 1920 to 1930*. Raleigh, N.C.: Bureau of Agricultural Economics.
- . 1934. *Bulletin No. 295: Rural-Urban Migration in North Carolina 1920 to 1930*. Raleigh, N.C.: The Agricultural Experiment Station of the North Carolina State College of Agriculture and Engineering.
- . 1959. "Educational Selectivity of Net Migration from the South." *Social Forces* 38: 33–42.
- Harris, John, and Michael Todaro. 1970. "Migration, Unemployment and Development: A Two-Sector Analysis." *American Economic Review* 60 (1): 126–42.
- Hartman, Saidiya. 2019. *Wayward Lives, Beautiful Experiments: Intimate Histories of Riotous Black Girls, Troublesome Women, and Queer Radicals*. New York, NY: W.W. Norton & Company.
- Hatcher, O. Latham. 1930. *Rural Girls in the City for Work; a Study Made for the Southern Women's Educational Alliance*. Richmond: Garrett & Massie, Incorporated.
- Hatton, Timothy J., and Jeffrey G. Williamson. 1992. "What Explains the Wage Gaps between Farm and City? Exploring the Todaro Model with American Evidence, 1890-1941." *Economic Development and Cultural Change* 40 (2): 267–94.
- Hicks, Cheryl. 2003. "'In Danger of Becoming Morally Depraved': Single Black Women, Working-Class Black Families, and New York State's Wayward Minor Laws, 1917-1928." *University of Pennsylvania Law Review* 151 (6): 2077–2121.
- Hicks, J. R. 1932. "Marginal Productivity and the Principle of Variation." *Economica*, no. 35: 79–88.

- Hine, Darlene Clark. 1991. "Black Migration to the Urban Midwest: The Gender Dimension, 1915-1945." In *The Great Migration in Historical Perspective: New Dimensions of Race, Class, and Gender*, edited by Joe William Trotter Jr., 127–46. Bloomington: Indiana University Press.
- Hoffsommer, Harold. 1935. "Landlord-Tenant Relations and Relief in Alabama." In *Monthly Report: Federal Emergency Relief Administration. October 1 through October 31, 1935*. U.S. Government Printing Office.
- Huh, Yunsun. 2017. "Gender Empowerment and Educational Attainment of US Immigrants and Their Home-County Counterparts." *Feminist Economics* 23 (2): 120–45.
- Hunter, Tera W. 1998. *To 'Joy My Freedom: Southern Black Women's Lives and Labors after the Civil War*. Cambridge, MA: Harvard University Press.
- James, David R. 1988. "The Transformation of the Southern Racial State: Class and Race Determinants of Local-State Structures." *American Sociological Review* 53: 191–208.
- Jensen, Ward C., and B.A. Russell. 1928. *Studies of Farm Land Prices and Ownership*. Clemson College, S.C.: South Carolina Agricultural Experiment Station. <https://catalog.hathitrust.org/Record/011481647>.
- Jones, Jacqueline. 1985. *Labor of Love, Labor of Sorrow: Black Women, Work, and the Family from Slavery to the Present*. New York, NY: Basic Books.
- Jones-Branch, Cherisse. 2014. "Empowering Families and Communities: African American Home Demonstration Agents in Arkansas, 1913-1965." In *Race and Ethnicity in Arkansas: New Perspectives*, edited by John A. Kirk, 85–96. University of Arkansas Press.
- Kirkpatrick, E. L., P. E. McNall, and Mary L. Cowles. 1933. *Farm Family Living in Wisconsin*. Madison, WI: Agricultural Experiment Station of the University of Wisconsin.
- Kitchens, Carl, and Like P. Rodgers. 2020. "The Impact of the WWI Agricultural Boom and Bust on Female Opportunity Cost and Fertility." *NBER Working Papers No.27530*, July. <https://www.nber.org/papers/w27530>
- Kneeland, Hildegard. 1928. "Women on Farms Average 63 Hours' Work Weekly in Survey of 700 Homes." In *Year Book of Agriculture*, 620–22. Washington, D.C.: Government Printing Office.
- Landale, Nancy. 1989. "Agricultural Opportunity and Marriage: The United States at the Turn of the Century." *Demography* 26: 203–18.

- Landale, Nancy, and Stewart Tolnay. 1991. "Group Differences in Economic Opportunity and the Timing of Marriage: Blacks and Whites in the Rural South, 1910." *American Sociological Review* 56 (1): 33–45.
- LeFlouria, Talitha L. 2015. *Chained in Silence: Black Women and Convict Labor in the New South*. Chapel Hill, NC: University of North Carolina Press.
- Lister, Joseph J., and E. L. Kirkpatrick. 1939. *Rural Youth Speak: Detailed Analysis of the Replies from Rural Young People Interviewed in a Comprehensive Survey by the American Youth Commission*. Washington, D.C.: American Youth Commission, American Council on Education.
- Logan, Trevon D. 2009. "Health, Human Capital, and African-American Migration before 1910." *Explorations in Economic History* 46 (2): 169–85.
- Long, Erven J. 1950. "The Agricultural Ladder: Its Adequacy as a Model for Farm Tenure Research." *Land Economics* 26 (3): 268–73.
- Long, Jason, and Joseph Ferrie. 2013. "Intergenerational Occupational Mobility in Great Britain and the United States since 1850." *American Economic Review* 103 (4): 1109–37.
- Marchingiglio, Riccardo, and Michael Poyker. 2021. "The Economics of Gender-Specific Minimum-Wage Legislation," May. http://www.poykerm.com/uploads/9/2/4/6/92466562/gender_specific_minimum_wage.pdf.
- Margo, Robert. 1990. *Race and Schooling in the South, 1880-1950: An Economic History*. Long-Term Factors in Economic Development. Chicago, IL: University of Chicago Press.
- Massey, Douglas. 1999. "Why Does Immigration Occur?" In *The Handbook of International Migration*, edited by Charles Hirschman, Philip Kasinitz, and Josh Dewind, 34–52. New York, NY: Russell Sage Foundation.
- Meyerowitz, Joanne. 1988. *Women Adrift: Independent Wage Earners in Chicago, 1880-1930*. Chicago, IL: University of Chicago Press.
- Morokvašić, Mirjana. 1984. "Birds of Passage Are Also Women..." *International Migration Review* 18 (4): 886–907.
- Naidu, Suresh. 2010. "Recruitment Restriction and Labor Markets: Evidence from the Postbellum U.S. South." *Journal of Labor Economics* 28 (2): 413–45.

- Olivetti, Claudia, and M. Daniele Paserman. 2015. "In the Name of the Son (and the Daughter): Intergenerational Mobility in the United States, 1850-1940." *American Economic Review* 105 (8): 2695–2724.
- Olmstead, Alan. 2006. *Historical Statistics of the United States: Millennial Edition*. Edited by Susan Carter, Scott Gartner, Michael Haines, Richard Sutch, and Gavin Wright. Cambridge: Cambridge University Press.
- Olmstead, Alan, and Paul Rhode. 2006. "Chapter Da: Farms and Farm Structure." In *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition*, edited by Susan Carter, Scott Gartner, Michael Haines, Alan Olmstead, Richard Sutch, and Gavin Wright. New York: Cambridge University Press.
- Pedraza, Silvia. 1991. "Women and Migration: The Social Consequences of Gender." *Annual Review of Sociology* 17 (August): 303–25.
- Pessar, Patricia. 1999. "The Role of Gender, Households, and Social Networks in the Migration Process." In *Handbook of International Migration*, edited by Charles Hirschman, Philip Kasinitz, and Josh Dewind, 53–70. New York, NY: Russell Sage Foundation.
- Price, Joseph, Kasey Buckles, Jacob Van Leeuwen, and Isaac Riley. 2021. "Combining Family History and Machine Learning to Link Historical Records: The Census Tree Data Set." *Explorations in Economic History* 80: 1–28.
- Rajan, Raghuram, and Rodney Ramcharan. 2015. "The Anatomy of a Credit Crisis: The Boom and Bust in Farm Land Prices in the United States in the 1920s." *American Economic Review* 105 (4): 1439–77.
- Ramey, Elizabeth A. 2014. *Class, Gender, and the American Family Farm in the 20th Century*. New York, NY: Routledge.
- Ransom, Roger, and Richard Sutch. 2001. *One Kind of Freedom: The Economic Consequences of Emancipation*. 2nd. Cambridge: Cambridge University Press.
- Roy, A. D. 1951. "Some Thoughts on the Distribution of Earnings." *Oxford Economic Papers* 3 (2): 135–46.
- Sanderson, Ezra. 1924. *Changes in the Farm Family*. Chicago, IL: Cornell University Agricultural Experiment Station. <https://catalog.hathitrust.org/Record/009077882>.
- Schuler, Edgar Albert. 1938. *Social Status and Farm Tenure: Attitudes and Social Conditions of Corn Belt and Cotton Belt Farmers*. Washington, D.C.: Farm Security Administration.

- Seavoy, Ronald. 1998. *The American Peasantry: Southern Agricultural Labor and Its Legacy, 1850-1995: A Study in Political Economy*. Westport, CT: Greenwood Press.
- Sjaastad, Larry A. 1962. "The Costs and Returns of Human Migration." *Journal of Political Economy* 70 (5, Part 2): 80–93.
- Smick, A. A., and F. R. Yoder. 1929. *A Study of Farm Migration in Selected Communities in the State of Washington*. Division of Rural Life, Bureau of Agricultural Economics. Government Printing Office.
- Sommer, Judith E., Robert A. Hoppe, Robert C. Green, and Penelope J. Korb. 1995. *Structural and Financial Characteristics of U.S. Farms, 1995: 20th Annual Family Farm Report to Congress*. Vol. 846. Agriculture Information Bulletin. Washington, D.C.: Resource Economics Division, Economic Research Service, U.S. Department of Agriculture.
- Southern Summer School for Women Workers in Industry. 1931. "Selections from Our Autobiographies." Box 6, c.1, Southern Summer School for Women Workers in Industry Series, Printed Materials, Scrapbooks, 1931-1933. David M. Rubenstein Rare Book and Manuscript Library. Amber Warburton Papers. Duke University.
- Southern Women's Educational Alliance. 1930. "Fifty Rural High School Girls." Box 44, c.1, Fifty Rural High School Girls (unpublished manuscript). David M. Rubenstein Rare book and Manuscript Library. Alliance for Guidance of Rural Youth Records, Duke University.
- Spain, Daphne. 2014. "Gender and Urban Space." *Annual Review of Sociology* 40: 581–98.
- Thurow, Mildred B. 1934. *Interests, Activities, and Problems of Rural Young Folk: Women 15 to 29 Years of Age*. Ithaca, NY: Cornell University Agricultural Experiment Station.
- Tienda, Marta, and Karen Booth. 1991. "Gender, Migration and Social Change." *International Sociology* 6 (1): 51–72.
- Timmons, John F., and Raleigh Barlowe. 1949. *Farm Ownership in the Midwest*. Ames, Iowa: Agricultural Experiment Station, Iowa State College of Agriculture and Mechanic Arts.
- Tolnay, Stewart. 1984. "Black Family Formation and Tenancy in the Farm South, 1900." *American Journal of Sociology* 90 (2): 305–25.
- . 1996. "Structural Change and Fertility Change in the South, 1910 to 1940." *Social Science Quarterly* 77 (3): 559–76.

- . 1998. "Education Selection in Migration of Southern Blacks, 1880-1990." *Social Forces* 77 (3): 487–514.
- . 1999. *The Bottom Rung: African American Family Life on Southern Farms*. Urbana, IL: University of Illinois Press.
- Tolnay, Stewart, and E. M. Beck. 1992. "Racial Violence and Black Migration in the American South." *American Sociological Association* 57 (1): 103–16.
- . 1995. *A Festival of Violence: An Analysis of Southern Lynchings, 1882-1930*. Urbana, IL: University of Illinois Press.
- U.S. Census Bureau. 1952. *Chapter XI: Color, Race, and Tenure of Farm Operator*. Vol. 2 General Report. 1950 Census of Agriculture. Washington, D.C.: U.S. Government Printing Office.
- Vigdor, Jacob. 2002. "The Pursuit of Opportunity: Explaining Selective Black Migration." *Journal of Urban Economics* 51 (3): 391–417.
- Walker, Melissa. 1996. "Home Extension Work among African American Farm Women in East Tennessee, 1920-1939." *Agricultural History* 70 (3): 487–502.
- Ward, Florence E. 1920. *Department Circular 148: The Farm Woman's Problems*. Cooperative Extension Work in Agriculture and Home Economics. Washington, D.C.: U.S. Government Printing Office.
- Watkins-Owens, Irma. 1996. *Blood Relations: Caribbean Immigrants and the Harlem Community, 1900-1930*. Blacks in the Diaspora. Bloomington: Indiana University Press.
- Whatley, Warren. 1983. "Labor for the Picking: The New Deal in the South." *Journal of Economic History* 43 (4): 905–29.
- White, Katherine J. Curtis. 2005. "Women in the Great Migration: Economic Activity of Black and White Southern-Born Female Migrants in 1920, 1940, and 1970." *Social Science History* 29 (3): 413–55.
- Whitney, Minnie. 1984. Interview by Charles Hardy. Transcript. Louie B. Nunn Center for Oral History, University of Kentucky Libraries.
<https://goinnorth.org/items/show/1073>.
- Wickens, David L. 1931. *Farm Credit in the South*. Washington, D.C.: Bureau of Agricultural Economics.

- Wilkerson, Isabel. 2010. *The Warmth of Other Suns: The Epic Story of America's Great Migration*. New York, NY: Vintage Books.
- Wilson, William J. 1987. *The Truly Disadvantaged*. Chicago, IL: University of Chicago Press.
- Wolcott, Victoria Widgeon. 1996. "Remaking Respectability: African American Women and the Politics of Identity in Inter-War Detroit." Ph.D. Dissertation, Ann Arbor, MI: The University of Michigan.
- Woofter, T. J., Gordon Blackwell, Harold Hoffsommer, James G. Maddox, Jean M. Massell, B.O. William, and Waller Wynne. 1936. *Landlord and Tenant on the Cotton Plantation*. Washington, D.C.: Works Progress Administration, Division of Social Research.
- Wright, Gavin. 1986. *Old South, New South: Revolutions in the Southern Economy since the Civil War*. New York: Basic Books.
- . 1988. "American Agriculture and the Labor Market: What Happened to Proletarianization?" *Agricultural History* 62 (3): 182–209.