

Women Returning to Work Across the Life Course: Who Does It, Why, and What
Do They Return To?

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Dedication

This dissertation is dedicated to the family, friends, and colleagues who have made it possible.

Abstract

Using data on over 10,000 person-spells of non-employment lasting 2 months or longer in the NLSY79, my dissertation examines how women's reasons for job exit, motherhood status, and education affect 1) the probability and timing of their return to work, 2) whether they change occupation and industry of employment between the jobs they left and the jobs they return to, and 3) whether and how women change work hours and wages between the jobs they left and the jobs they return to.

Women's exits have been studied widely, yet little is known about who returns to work. But, returning to work likely has important consequences for the well-being of women and their families. As would be expected given the high overall labor force participation rates of women in the 1980s to 2010s, nearly all women who spend two months or more not employed eventually return to work, although the timing of their reentry and the duration of their exit from employment vary greatly. Women who leave for family reasons tend to postpone re-employment for around a year longer than women who leave for other reasons; this difference is largest for women who have a bachelor's degree. In addition, most women (51-76%, depending on classification scheme) who leave jobs and are observed returning to work change both occupation and industry upon returning to work, although change is less likely when leaving a job in occupations/industries with greater training and/or licensing requirements.

On average, women who leave jobs and are observed returning to work do not experience a change in hourly wage, while they tend to return to jobs with about two fewer weekly work hours. Women who leave for family reasons and/or have children

while away from employment tend to return to fewer work hours. Wages upon return are also predicted to be lower when women have children while away from employment.

Results for changes in occupation/industry and job conditions upon return to work largely reflect a story of accumulated advantage, where women with more education (and thus likely more material resources) tend to return to jobs with higher wages, greater work hours, higher occupation/industry median income, and greater occupation/industry percent with a bachelor's degree, controlling for the characteristics of the jobs they left. Even so, women who take time away from work for family care or other reasons still miss out on retirement contributions, including social security, during the time when they are not employed, which can erode their financial security at older ages. Thus there are potentially negative impacts on the financial well-being of women who leave and return to work, even if they are able to return to similarly paid jobs after taking time away from employment.

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Chapter 1 – Introduction

Introduction

Women have left the labor force for a variety of reasons and at a variety of life stages¹ in recent history; some have returned to work after their exits, and others have not. One large body of research considers married, professional women who leave the labor force to care for their young children (e.g. Percheski 2008; Stone 2007); some of those women return to work after their children are in school or have left the house, but it is often difficult for them to attain jobs similar to the ones they left (e.g. Hewlett 2007; Lovejoy and Stone 2012). Other research considers women who experience job loss; some quickly return to work, while others leave the labor force entirely (Moore, Meiksins, and Root 2013; Swaim and Podgursky 1994). In both of these literatures, the emphasis is largely on leaving work, with far fewer studies on returning to work after a labor force exit. However, such transitions back to paid employment may become increasingly important for women's well-being given increased life expectancies and the increasing individualization of risk in U.S. labor market (e.g. declining job security, defined contribution pension plans instead of defined benefit) (Hacker 2006; Moen 2016).

Each of these types of labor force exit are freely chosen by employees in some situations and beyond their control in others – often the result of a structural mismatch between existing job conditions and women employees' needs at a given life stage. While the broad social contract of work has changed since the early 20th century, the expectation

¹ Life stage is a combination of people's age and their positioning in their family and work career life courses. All of these are interrelated, so the phrase life stage refers to the combination of these influences.

that ideal workers are those who can continuously work full-time, year round, without career breaks, and be available for long hours or overtime as needed has not (Moen and Roehling 2005; Williams 2000). Williams (2000) argues that this omnipresent ideal worker expectation marginalizes women's participation in the paid labor force, even if they frame their decision to leave their job (or to keep working in a marginalized "mommy track") so they can care for children as a choice. Moen and Roehling (2005) argue that there is a mismatch between the career mystique (the myth that hard work, long hours, and continuous employment pay off) and contemporary reality, in that the career mystique for full-time (male) workers has always been supported by the feminine mystique of a full-time (female) homemaker. Yet, most workers do not have those supports today, either because both spouses work for pay or because they are in households with only one adult (Jacobs and Gerson 2004). This structural mismatch between ideal worker expectations and the realities of contemporary family life, combined with a lack of supports at work or at home, pushes some women out of the labor force to care for children or other family members.

The structural mismatch encompassing job loss also relates to the changing social contract of work, in that the model of stable, lifetime employment at the same company with opportunities for advancement that many white men experienced in the mid-20th century has given way to a new economy characterized by a rising number of contingent workers and the increasing prevalence of layoffs (Rubin 1996; Smith 1997). These changes in the social contract of work contrast with realities that all adults work for pay in most American families in recent years and families depend on both incomes, so job loss and job insecurity are particularly problematic in this "new economy" (Sweet and

Meiksins 2013). Several prominent scholars agree that these changes in the labor market since the 1970s have not generally been for the benefit of employees; rather, they have tended to reflect the interests of the business elite and/or shareholders by shifting market and other risks formerly absorbed by companies onto employees, in the context of various macroeconomic changes (Kalleberg 2011; Williams 2010). Kalleberg (2011) describes an ideological transition from “we’re all in this together” to “you’re on your own,” in addition to union decline, labor market deregulation, and changes in capital markets that reward managers for short-term profits. Williams (2010) highlights the impact of the sharp shift to the right in American politics (crystallizing during the presidency of Ronald Reagan) that deified corporations while demonizing government, which led to the dismantling of New Deal era financial regulations and the recent financial crisis.

Returning to work after time out of the labor force for any of these reasons can be important for the well-being of people and their families, but the timing and prevalence of such reemployment is likely to vary by their reason for exit, gender, age, and life stage, among other characteristics. Like much social science research, I rely on the answers respondents give to a set of survey questions. Whether those respondents left the labor force voluntarily, were (perhaps unknowingly) pushed out by a structural mismatch or were forced out by their employer (via layoffs, early retirement incentives, or job conditions that made it impossible to continue) can only be determined by what the respondent reports on the survey, and respondents may ascribe different reasons for their labor force exits and entries than their material circumstances would suggest to a researcher observing them directly. Even so, using rich, longitudinal data can help us

understand some of these reasons and how they vary across the life course. The dataset I use has the particular advantage of capturing women's reason for leaving jobs within a year or two of their job exit, as opposed to retrospective life history interviews where there is more time for respondents to reevaluate their reasons.

My dissertation examines how women's reasons for labor force exit affect the probability and timing of their return to work, whether they change occupations or industries when returning to work, and changes in their job conditions between the job they left and the job they return to. This makes an original contribution because while there have been many studies of women's exits, little is known about who returns or the consequences of taking time out of the workforce. To do so, I draw on data from the National Longitudinal Survey of Youth, 1979 cohort (NLSY79). By comparing these aspects of labor force participation at varying points in women's life course, I contribute to important new knowledge about work and employment in the U.S.

I consider the impact of a variety of reasons for labor force exit, including family reasons (e.g. caring for children and caring for adult relatives) and job loss (e.g. losing one's job because the company closed, through layoffs, or getting fired). Labor force exits are freely chosen by employees in some situations but are beyond their control in others. Even "voluntary" exits are often the result of a structural mismatch between existing job conditions and employees' needs at a given life stage. The small amount of existing research on returning to work after labor force exits to care for family members mainly discusses the difficulty of doing so and the career penalties associated with it (largely for married, professional women), while existing research on reemployment after job loss tends to focus on wage penalties. My research examines a variety of reasons for

exits and a broad range of consequences following reemployment, including changes in industry and job quality upon reemployment. Moreover, I focus on the experiences of the majority of American women in the middle; existing research on returning to work (particularly after exits for family reasons) often focuses on either the very top or the bottom of the income and education distributions. Neither has previous research examined differences in women returning to work (especially after job loss) by demographic characteristics, family demands, and previous employment history.

Beyond whether they return to the labor force, examining the types of jobs women attain upon return and the differences in characteristics of their new jobs compared to the jobs they left will provide insight into broad labor force inequalities, including gender inequality. This analysis also provides a window into social change in the United States, including effects of the decline in job security and the increasing expectation as well as need for women's employment since the 1970s. Such knowledge will provide essential insights into the pathways that reduce or perpetuate inequality in wages and occupational level. Overall, my dissertation illuminates inequalities in the costs and benefits of labor force exits and entries for a variety of reasons in the U.S. It reflects the costs and benefits to women if they use labor force exits as a way to meet non-work needs in the absence of policy supports or are forced into a labor force exit because of involuntary job loss, as well as the costs and benefits to women who freely choose not to work for a period of time. This research provides relevant information on the existing state of reemployment in the U.S. so that future policy changes by governments and employers may best address existing challenges.

Research Questions

The section above outlines a problem of women's labor force participation – particularly surrounding women's return to employment after leaving it for a variety of reasons. Women leave jobs for the same reasons men do – looking for a job with better pay, through layoffs, being fired – but they also tend to leave employment around the birth of children or for other family reasons. An overarching question, then, is whether and how women's return to work is different when women leave for family reasons as compared to involuntary job loss such as layoffs. More specifically, I address several related research questions, each of which will be the focus of one of the three analysis chapters of my dissertation. While these are the broad focus of each chapter, each chapter also contains more detailed research questions to drive the analysis.

- (1) How do women's reasons for employment exit affect their probability of employment reentry and the length of their labor force exit?
- (2) When women reenter employment, do they shift occupation or industry of employment? Where do they come from and where do they go? How does that vary by reason for and duration of exit?
- (3) How are job conditions different before and after returning from an employment exit?

One possible answer is that women's reasons for leaving employment are not related to their probability of re-entering employment, the duration of their exit, or changes in job conditions. Recent research on nonstandard employment histories and being asked to interview for a job shows that part-time work or unemployment are not significantly associated with call-back rates for women, but they are for men (Pedulla 2016), so this is not implausible. Alternatively, women's reasons for leaving employment could be unrelated to their probability of re-entering employment, the duration of their exit, or

changes in job conditions because the real differentiating factor is whether or not women have young children while they are away from employment. Existing research provides substantial evidence of a wage penalty among mothers related to taking time away from employment (e.g. Budig and England 2001; England et al. 2016). A third potential answer is that women's return to employment is not related to either the reasons they left their jobs or having children, but is perhaps explained by other factors such as their educational attainment or macroeconomic conditions.

A key part of this study will be to compare whether and how these relationships are different for women of varying educational attainment. I draw on a gendered life course approach (Elder, Johnson, and Crosnoe 2003; Moen 2001; Moen and Flood 2013; Shanahan and Macmillan 2008) and the NLSY79 to examine employment exits, reentries, and related job conditions across the life course for a cohort of women in the United States who came of age during a time when women's opportunities in the labor market were greatly expanding.

Chapter 2 – Who Returns to Work?

Introduction

A successful manager at a large consulting firm decided not to return to work after the birth of her first child, in part because she knew she would be unable to use flexibility policies at the company she worked for without significant negative career impact. She later found another job in a completely different industry that allowed her to have more time with her family. An MBA graduate saw the inability of her co-workers at a consumer products company to use flexibility policies at that company without losing out on opportunities for career advancement; this was a major part of her decision to leave that industry before she had any children. On the other end of the income scale, research describes low income mothers planning their use of welfare benefits as a backup to cover expenses during times when they needed to exit the labor force to care for children or for their own health (Collins and Mayer 2010).

The situations described above are not uncommon. Much research has documented and debated the changes in work time for families over the past fifty years (see Jacobs and Gerson 2004) along with the “opt out” phenomenon of women leaving the workforce to care for children (see Moe and Shandy 2009). Jacobs and Gerson (2004) argue that paid work hours in the U.S. have increased from 1970 to 2000 when considered from the perspective of families, with much of the increase in work hours due to dramatic increases in women’s labor force participation. Bianchi and Wight (2010) update this trend through 2005 with similar findings. Women’s labor force participation has increased over the 20th century, but the increase has leveled out in more recent years

(Cohn, Livingston, and Wang 2014). This chapter addresses a relatively understudied aspect of women's labor force participation: whether and after how long women return to the employment after an earlier exit from it. In recent history, women and men have left for a variety of reasons and at a variety of life stages; some return to work after their exits, and others do not (or have yet to) return.

One body of research considers married, professional women who leave the labor force to care for their young children (e.g. Percheski 2008; Stone 2007); some of those women return to work after their children are in school or have left the house, but it is often difficult for them to attain jobs similar to the ones they left (e.g. Hewlett 2007; Lovejoy and Stone 2012). Other research considers women who experience job loss; some quickly return to work, while others leave the labor force entirely (Moore et al. 2013; Swaim and Podgursky 1994). In both of these literatures, the emphasis is largely on leaving work, with far fewer studies on returning to work after a labor force exit. Several scholars (e.g. Aisenbrey and Fasang 2014; Damaske 2011; Damaske and Frech 2016) describe a substantial group of women whose labor force attachment is more fluid and includes one or more labor force exits and reentries, but such situations have largely been studied as trajectories or overall patterns, rather than examining the predictors of timing and duration of specific employment exits. Another line of research considers the effects of leaving work around the birth of a child on the motherhood wage penalty or other career consequences of mothers (e.g. Budig 2003; Byker 2015; Hynes and Clarkberg 2005), but these analyses do not generally consider the impacts of women's reasons for leaving a job and often (but not always) focus on the birth of women's first child,

neglecting women who leave employment for a longer period after the birth of a second child.

This chapter examines how women's reasons for employment exits lasting two months or more affect the probability and timing of their return to work. While there have been a variety of studies of women's exits, little is known about who returns or the consequences of taking time out of the workforce for a broad population of women (including lower wage and/or lower status workers that are often excluded from studies of workplace flexibility). Some research suggests that women, particularly those in low-wage jobs, use periods of non-employment with or without financial assistance from "welfare" programs like Temporary Assistance for Needy Families (TANF), as a way to meet their family care needs without support from U.S. public or organizational policy (e.g. Collins and Mayer 2010). I draw on data from the National Longitudinal Study of Youth 1979 Cohort (NLSY79) and consider the impact of five reasons for job exit, including family reasons (e.g. caring for children and caring for adult relatives), layoffs, the end of a temporary or program job, getting fired, and non-family voluntary reasons, on the timing and duration of women's time away from employment. Job exits are freely chosen by employees in some situations but are beyond their control in others. Even "voluntary" exits are often the result of a structural mismatch between existing job conditions and employees' needs at a given life stage. The small amount of existing research on returning to work after employment exits to care for family members mainly discusses the difficulty of doing so and the career penalties associated with it (largely for married, professional women), while existing research on reemployment after job loss tends to focus on wage penalties. By specifically examining the predictors of women's

job reentry timing, rather than broad trajectories or only focusing on exists directly related to childbirth, this chapter contributes to a better understanding of women's employment transitions.

Women's Labor Force Participation

The proportion of women working for pay in the United States has increased since the 1960s (Bianchi and Wight 2010; Jacobs and Gerson 2004). The proportion of mothers with children under age 18 who do not work outside the home has declined a similar amount in the same timeframe (Cohn et al. 2014). Yet the expectation that ideal workers are those who can work full-time, year round, and be available for overtime as needed has not changed (Moen and Roehling 2005; Williams 2000). Williams (2000) argues that this omnipresent ideal worker expectation marginalizes women's participation in the paid labor force, even if they frame their decision to leave their job (or to keep working in a marginalized "mommy track") so they can care for children as a choice. Moen and Roehling (2005) argue that there is a mismatch between the career mystique (the myth that hard work, long hours, and continuous employment pay off) and contemporary reality, in that the career mystique for full-time (male) workers has always been supported by the feminine mystique of a full-time (female) homemaker, yet most workers do not have those supports today, either because both spouses work for pay or because they are in households with only one adult (Moen and Roehling 2005). When viewed this way, it is not surprising that contemporary adults, especially parents, experience conflicts between their work and non-work lives.

Work-family policies at the national, local and company levels are largely designed with the goals of decreasing the sense of conflict workers experience between

their work and non-work responsibilities and keeping women employed who would otherwise leave the labor force, thus increasing women's labor force participation (Gornick and Meyers 2003; Grunow and Aisenbrey 2016). Policies supporting women's employment (and the employment of people with family care responsibilities more generally) are important for gender equity, single parents needing to support families, and to maintain families' standard of living (at least among families with two potentially working adults), given stagnant real wages since the 1970s (Kalleberg 2011). Such policies include those allowing for flexible work arrangements (e.g. telecommuting, flexible scheduling, and compressed workweeks *requested by employees*), short-term (sick days) and extended (family leave) time off, and career flexibility (ability to leave and re-enter the workforce) (National Advisory Commission on Workplace Flexibility 2010). Of these, career flexibility is by far the least studied and the least available through formal programs (Aumann and Galinsky 2012), although most others are nowhere near universally available in the U.S. either (Matos and Galinsky 2012). This chapter addresses the idea of career flexibility by examining women's periods of non-employment and return to work, although not all periods of non-employment are voluntary or can reasonably be thought of in the positive sense that career flexibility language is usually used to describe. Specifically, this chapter examines how women's reasons for leaving jobs affect the length of their time away from employment and the timing of their return to employment, particularly examining variation by education and family life stage. Later chapters examine the employment consequences of such exits, in terms of changes in occupation, industry, and job conditions.

Leaving Work

Family Reasons

When available family leave is insufficient or the demands of one's job are too much when caregiving responsibilities are added on, some women leave the labor force altogether (Damaske 2011). This is likely to be a particularly large component of the population in the U.S., since the options for meaningful part-time work or other "pulled back" forms of work are more limited as compared to some countries in Europe. In many cases, this is not the employment strategy either member of a couple would prefer— many couples begin with expectations of an egalitarian marriage, and it is only under conditions of constraint (e.g. "ideal worker" expectations and a lack of supportive work-family policies) that the woman pulls back in her career (e.g. Gerson 2010; Pedulla and Thébaud 2015). Some women and couples do prefer that the mother to stay home with children (Jacobs and Gerson 2016), although such preferences are developed in an environment of constrained choices. A key contribution of this chapter is the ability to consider how women characterize their reason for leaving jobs, rather than assuming exits for family reasons around childbirth (which is likely the case for many, but certainly not all, women).

The idea of leaving work to care for children has been the subject of a significant amount of scholarly and popular attention (Stone 2007), although much of this attention has focused on fairly privileged, married, mostly white women whose husbands earn enough money that they can leave the labor force to care for their children and maintain the family's standard of living (e.g. Hewlett 2007; Stone 2007). However, such women are relatively rare in population level trends (Cohn et al. 2014; Landivar 2014; Percheski

2008). But women also leave jobs for the same reasons men do, including layoffs, being fired, and non-family voluntary reasons (and some men leave for family reasons, too). At those transition points, some people leave the labor force rather than searching for a new job. Some are older workers who leave the labor force through retirement after job loss (Chan and Stevens 2001), but some are younger workers who are not able to find a new job or who, in the context of their family responsibilities, leave the labor force to meet those family responsibilities (see Damaske 2011; Swaim and Podgursky 1994). Even among women with significant family demands, sometimes it is the work conditions in their job that push them out of the labor force. For example, overwork (working 50 or more hours/week) tends to push women out of male-dominated occupations across a variety of cohorts, shown with a national sample of noncontingent workers aged 18-64 in 1996-2004 (Cha 2013). Hewlett (2007) also describes work conditions such as being passed over for promotion or doing only work that is not meaningful as factors that push women out of the labor force. Such factors can heighten women's sense that their family needs them at home. While Hewlett (2007) studied highly qualified workers, her findings about job conditions pushing women out of the labor are also echoed in qualitative work on more economically diverse samples (Damaske 2011).

Many studies of mothers' employment focus on the time surrounding the birth of their first child (e.g. Barrow 1999; Evertsson 2013), although some also compare with second births (e.g. Hynes and Clarkberg 2005). However, an additional child adds substantially more care demands to a household, and there may be additional financial pressure to stay home as opposed to paying most or all of one's wages in higher costs for two children in daycare, regardless of the potentially better long-term labor market

outcomes from doing so. A contribution of this study is the ability to examine a longer timeframe past first births, which is more likely to include a second (or third) birth.

Job Loss

While many women leave jobs and tell interviewers that it is for family reasons, other women are fired or laid off and choose to remain out of the labor force, perhaps because they decided it was the right time to have a child (or because they were fired for being pregnant, which was more common in the 1980s when many of the women in the NLSY79 were having children). One advantage of this chapter and the NLSY79 dataset is the information on why women left each job, collected within a year or two of the event in nearly all instances. Thus it is possible to examine the impact of reason for leaving jobs in combination with the timing of having a child (if it occurs while not employed) on returning to work.

Most of the literature related to involuntary job loss examines job displacement: a similar concept, but not exactly the same. Job displacement is different than other forms of job loss in that it systematically affects large groups of workers through factory closings, mass layoffs, or insufficient work (Maroto and Serafini 2012). Research on job displacement has grown since the 1980s, but much of it has been done by economists, with less focus by sociologists (Brand 2006). Much of the research focuses on job displacement, rather than the broader category of job loss, because it is more straightforward to identify the effects of job displacement as compared to job loss. This is because individual worker characteristics and/or actions are much more likely to lead to being fired or discharged, as compared to more general layoffs that are perhaps less tied to individual worker performance. Job displacement has been shown to have a variety of negative consequences for workers, including greater psychological distress (e.g.

Mandemakers and Monden 2013), lower social participation for workers displaced during prime earning years (Brand and Burgard 2008), a substantial period of non-employment (Fallick 1996; e.g. Farber 2003), increased probability of part-time employment subsequent to job loss (e.g. Farber 2003), and substantial earnings losses upon re-employment (e.g. Farber 2011; Stevens 1997).

While most workers look for a new job following job displacement, some do not, and at least in the late 1980s women were more likely to leave the labor force after job displacement than men (Swaim and Podgursky 1994). Using more recent data on science and engineering workers from the 1994-2008, Moore, Meiksins, and Root (2013) find that when married women workers are displaced for a non-academic science or engineering job, they are more likely to exit the workforce than men (regardless of marital status) or unmarried women (Moore et al. 2013). While it considers only a limited range of occupations, their paper provides evidence of gender differences in re-employment and in who returns to work after job loss or other worker displacements. Fallick (1996) also reports that displaced workers were similar to the overall labor force in terms of demographic characteristics, with the exception that men were more likely to be displaced than women. I have not found research on fertility and job loss among women.

Other Reasons

Women also leave jobs for a variety of other reasons, including escaping a toxic work environment, to advance their career through education or simply taking the time to find a new job that is a better fit for their needs. Sometimes women's priorities change after spending time away from employment, particularly if they have children during that time. Damaske (2011) discusses the variety of reasons women gave for employment

transitions, often framed in terms of what is best for their family, since it is less socially acceptable for women to say that they want to go back to work because they like their job or that they want to eschew paid employment and care for children at home because they do not like their job. If women leave a job for non-family voluntary reasons, such as to look for a better job, we would expect that they would be more likely to return to work quickly and potentially to better job conditions and/or a better paid occupation. Women who were fired from their last job are likely to return to work more slowly. If they were fired for poor work ethic or being a bad employee, then that would likely make it harder to return to work quickly. Additionally, in the 1980s when many women in the NLSY79 were having children, pregnancy discrimination was illegal, but still prevalent, and women who were fired because they were pregnant and then have an infant to care for may also return to work more slowly, unless they particularly need the income.

Relationship between Employment and Motherhood

A substantial body of research examines the relationship between women's employment and the number of children they have, if any. One commonly proposed reason for low fertility rates in developed countries is women's experience of conflict between work and family roles; however, research provides little support for the idea of women in the U.S. who have difficulty managing their work and family roles going on to have fewer children (Liu and Hynes 2012). Instead, women who have difficulty with conflict between work and family tend to have the children they want to, sometimes at the expense of continued labor force participation (Liu and Hynes 2012). Other research (Budig 2003) finds that the presence of preschool children increases the hazard that full-time working women will leave the labor force, while the presence of older children is

associated with a greater hazard of full-time employment. However, there is evidence of considerable heterogeneity in women's employment patterns around the birth of their children: Hynes and Clarkberg (2005) find evidence of six different ideal types of employment patterns around the birth of women's first child: continuously employed, continuously out, hiatus at birth, exit at birth, declining employment, and low intermittent employment. Although fewer women in the sample had experienced a second birth, they found a similar pattern at that time as well (Hynes and Clarkberg 2005). Byker (2015) uses the Survey of Income and Program Participation (SIPP) to show that labor force participation is lower for women after a second birth as compared to a first birth, with similar trends in the 1980s, 1990s, and 2000s.

Employment Trajectories

Another important way to study women's employment is by examining patterns of employment and non-employment across women's lives, generally accomplished either through analysis of relatively small samples of qualitative interviews or through group-based trajectory analysis. Such analyses can provide important insight into broad patterns of employment, but lack the specificity about particular periods of non-employment that are studied in this chapter or contemporaneous measures of reasons women leave and reenter employment. For example, Damaske's use of detailed life history interviews in a qualitative research project allows her to capture information about women's labor force participation throughout their 20s and 30s (prime career and childrearing years) along with the reasons women give for their decisions retrospectively (Damaske 2011). She finds three main categories of women's work trajectories: steady, pulled-back, and interrupted (Damaske 2011). These categories better capture the

experiences of women today, compared to earlier work using either the working/not working dichotomy captured in many surveys or the three category life course divisions of employed, intermittently employed, and not employed.

An earlier qualitative research project using life history interviews (Gerson 1985) talks about four groups of women – those who expected to work for pay and did so, those who expected to work for pay and ended up staying at home to care for children, those who expected to stay at home and did so, and those who expected to stay at home but either disliked the work of childrearing or whose families needed their income. Women's early life attitudes and expectations towards work generally influenced both what pathway they took and how satisfied women were with their work and childcare responsibilities (Gerson 1985), although the external constraints on women's opportunities were different in the 1960s and 1970s than for the later cohort of women studied by Damaske (2011).

Group-based trajectory analysis allows similar clustering of women's employment patterns into trajectories for much larger samples using survey data, although the results can be quite sensitive to the particular model used (see Warren et al. 2015). García-Manglano (2015) uses this method to analyze data on the careers of women aged 14-24 in 1968 from the National Longitudinal Study of Young Women (NLS-YW) and finds four ideal-types of employment trajectories among these early Baby Boom women: consistently detached (21%), increasingly attached (27%), increasingly detached (13%), and consistently attached (40%). The variety of the trajectories found by García-Manglano (2015) illustrates the heterogeneity of women's labor force attachment

in this cohort – some women remained consistently employed for most of their adult lives, while others increased or decreased their labor force attachment.

For this cohort of women slightly older than those considered in this chapter, family events (e.g. having many children or having children at a younger age) were strongly associated with loose labor force attachment in their 20s (García-Manglano 2015). At older ages, external constraints (e.g. subjective feelings of discrimination, dealing with poor health of oneself or a family member, and husband's unsupportive views about women's work) were more strongly related to dropping out of the labor force in midlife, while divorce is correlated with higher employment at midlife (García-Manglano 2015). Women's own views about work and childcare were also related to their employment patterns, in that women who at a younger age intended to work for pay when older tended to do so throughout their lives, while those who were dissatisfied with work and satisfied with childcare were more likely to have consistent detachment from the labor force (García-Manglano 2015). Note that this is a similar cohort of women as studied by Gerson (1985). While García-Manglano (2015) studied a slightly older cohort of women than used in this chapter, notably because of more detailed information available on women's attitudes towards childcare and their work plans and expectations are available in the older dataset, he also reproduced the trajectory analysis with the same cohort studied in this chapter, finding substantially similar employment trajectories to those described above. However, García-Manglano's (2015) paper cannot be fully reproduced with the NLSY79 dataset, given the lack of essential covariates.

Damaske and Frech (2016) similarly use group-based developmental trajectory analysis to examine women's work pathways in the NLSY79 dataset, comparing the

larger scale quantitative analysis to the pathways identified using qualitative methods by Damaske (2011). They find a majority of women on a stable, full-time work pathway, with a smaller portion on a stable, full-time work pathway with work hours often considered “overwork.” Fewer than ten percent of the women in their analysis followed a pathway of consistent non-participation in paid work (Damaske and Frech 2016). Damaske and Frech (2016) frame their results talking about women’s ability to work full-time across the life course as an accrued advantage, which is supported by their analysis. Due to the requirements of the trajectory analysis method, both García-Manglano (2015) and Damaske and Frech (2016) limit their analysis to one snapshot of work hours for each year considered in the analysis. This is a trade-off necessary to examine broad patterns over time, but it collapses the wealth of more detailed data available in these longitudinal datasets; the analysis in this chapter is thus an important complement to their analyses.

Returning to Work

Trajectories are an important way to understand the varying employment pathways women experience, but they do not tell us about the specific conditions of employment transitions and potential timelines for returning to work. People leave the labor force for a variety of reasons, including caring for children or other family members. But children grow up, enter school, and (usually) become independent, and other family members in need of care usually get well or pass away, so such reasons for labor force exit are usually not permanent. In other cases, financial need develops for the individual or the family that necessitates their return to work; for people who left jobs for family reasons, this could include spousal job loss, divorce, and alimony or government

benefits discontinued. Financial need may be a stronger driver of returning to work when people left jobs due to layoffs, workplace closure, or being fired, as compared to family reasons. And for some people, a desire for social interaction or simply a desire to return to work drives their return.

Each of these potential reasons is tied to life course principles – historical timing, timing of events in a person’s life (life stage), agency, and linked lives. Historical timing affects both gendered labor force opportunities and the availability of jobs (due to economic conditions). Life stage matters because of the presence or absence of children or others in need of care (also related to linked lives), as well as one’s age and number of years remaining before retirement (which can limit or expand the range of available/desirable jobs). Agency and cycles of control apply in that returning to work may be a way of reestablishing control over one’s life, and linked lives apply in that one’s availability and desire to return to work are influenced by those around them. Many of these reasons for returning to work are likely to be influenced by time out of the labor force, prior labor force experience, and life stage, so all of these are examined in this chapter. Gender, birth cohort, and historical timing likely also matter, but are impossible to separate in the current analysis because the data used consists of women from a particular birth cohort – a trade-off necessary for the depth of information available.

Off the “Career” Track

Existing research on returning to work after labor force exits to care for family members mainly discusses the difficulty of doing so and the career penalties associated with it. Hewlett (2007) finds that 93 percent of highly qualified professional women in her study who voluntarily left their careers for a period of time planned to return, but only 74 percent regained employment; Hewlett does not state the reference period for

returning to employment, but the average time out of the labor force was 2.2 years and results are from a survey of highly qualified professional women ages 28-55. 40 percent of those who exited returned to full-time, mainstream jobs, and most of those who returned to employment encountered significant barriers in their job search (Hewlett 2007). Using administrative data on U.S. managers from a large, multinational financial services organization in 1990-1995, Judiesch and Lyness (1999) find that even leaves of absence (up to 18 months) were associated with significantly fewer subsequent promotions and salary increases, regardless of reason for leave or gender of the manager.

Using a sample of U.S. women in the NLSY79 who worked at least one month of the 7 months prior to birth of a child, Aisenbrey, Evertsson, and Grunow (2009) find that more than half of those mothers are back in the labor force (at the same or a similar job) within 3 months after childbirth, and 75 percent of these mothers are back at work within 6 months of their child's birth. Conversely, Aisenbrey and colleagues (2009) show that even among their sample of mothers firmly attached to the labor market before their child's birth, 25 percent are not working 6 months after the birth of their first child. While that is evidence of a trend among women firmly attached to the labor force, this chapter contributes to the literature by considering a broader group and focusing labor force reentry for all women, not just new mothers.

Research on involuntary job loss tends to focus only on the unemployed who are actively looking for work and wage penalties upon re-employment, rather than considering people who left the labor force for a period of time. Using the 2006-2012 CPS Displaced Workers Supplements covering workers displaced from 2003-2012, Maroto and Serafini (2012) find that mothers and wives, but not always single women,

are consistently unemployed longer after job displacement and experience lower earnings upon reemployment as compared to fathers and husbands. Mazerolle and Singh (2004) find that human capital did not affect reemployment, economic need and social networks positively affected reemployment, while discrimination negatively affected reemployment. Overall, I have found very little research about the characteristics of people who return to employment after job displacement, especially differences by life stage; Maroto and Serafini (2012) also comment on this gap. Existing research tends to focus more on the effects of job displacement on well-being, rather than considering variations in the reemployment consequences of job displacement by family life stage, with the exception of research on the plight of older displaced workers who are more likely to be pushed into early retirement (e.g. Chan and Stevens 2001).

Education and Employment

The literature review thus far has largely described all women, rather than examining differences by educational attainment. It is well-established that education has labor force consequences for both men and women, although sometimes in opposing directions. Women and men with more education are more likely to be in the labor force, with much larger differences by education for women than men (Juhn and Potter 2006). Among both men and women, more highly educated workers tend to earn more than workers with less education, although the composition-adjusted differences among women become much larger after the 1980s, reflecting women's increased employment and educational opportunities (Autor, Katz, and Kearney 2008). And while overall U.S. labor force participation rates for mothers of children under a year old are lower than those with older children or no children, women with more education, particularly a

college degree, have much greater labor force participation rate, in that 60-70% of college educated mothers of children under a year old were in the labor force between 1994 and 2005 compared to around 30 percent of those with less than a high school diploma (Cohany and Sok 2007). Even so, there is a small (in terms of population-level trends) group of highly educated women who do leave the labor force (Percheski 2008). And women with husbands who work 60 or more hours per week are also more likely to leave the labor force, particularly among professional workers who are likely to be highly educated (Cha 2010).

Impact of Children on Employment Varies By Education

Women with more education tend to delay having children until older ages, which allows them to be more established in a career before making the transition to motherhood (Martin 2000). Women who wait until their 30s to bear children, particularly those who are college-educated, also face less of a motherhood wage penalty than those who bear children earlier (Amuedo-Dorantes and Kimmel 2005). As discussed above, a variety of research has examined women's labor force participation around the birth of their children (e.g. Budig 2003; Byker 2015; Hynes and Clarkberg 2005); some of this has also considered, or at least controlled for, women's education. Budig's (2003) analysis of the NLSY79 when women were ages 30-37 finds that women with more years of education have a higher hazard of returning to full-time employment as compared to remaining non-employed, even controlling for a wide variety of characteristics including pregnancy and presence of children. However, Budig finds no effect of education on exiting full- or part-time employment, again controlling for pregnancy, presence of children, and a variety of other characteristics. In addition to the shorter follow-up period, Budig's (2003) analysis differs from the analysis in this chapter in that it does not

consider specific non-employment spells. Rather, it considers all women who were in a particular status (e.g. part-time or full-time employment) at the same time and calculates the hazard of transition to a different status (e.g. non-employment).

Several studies examine women's employment specifically in the time around first birth. Using the NLS-YW, McLaughlin (1982) finds that almost all women with births in the late 1960s and early 1970s in the U.S. leave employment for a few months surrounding the birth of their first child. There is an education gradient, with almost all women with more than a high school degree employed fifteen months before the birth of their first child, compared to about half of those with less than a high school degree, and about 40 percent of women with more than a high school degree having returned to employment a year after their first birth, compared to around 25 percent of those with less than a high school degree; women with a high school degree fall between these limits (McLaughlin 1982). Byker (2015) finds a similar pattern when comparing the labor force participation of women with less than a bachelor's degree to those with a bachelor's or higher degree at their first birth in the 1980s, 1990s, and 2000s, using the short panels of the Survey of Income and Program Participation (SIPP). However, the low point of labor force participation around first birth in these later years is around 55 percent for women with less than a bachelor's degree, and higher for others (Byker 2015). This is not surprising given the overall increase in mothers' labor force participation since the 1960s (e.g. Cohn et al. 2014). And using the NLSY79, Desai and Waite (1991) find that women with less than twelve years of school are less likely than those with 12 years of school to return to work within 3 months of the birth of their first child, while women with more than 12 years of schooling are more likely to return to work within 3-11 months of the

birth of their first child than those with only 12 years of schooling. The results of these studies provide reason to expect different lengths of non-employment spells by educational attainment in this study, although the effect of educational attainment may vary by reason for exit.

Research Questions

While there is a wealth of research on women's employment, no existing studies directly address the question of job exits and returns for a representative sample of women of women in the U.S., comparing the impact of a variety of reasons for job exit and including returning to employment after extended exits (including exits of two months to 15 years or longer away from employment). It is important to examine women's employment transitions in the U.S. in such a way to better understand the consequences of them, including the costs and benefits to women if they use non-employment as a way to meet non-work needs in the absence of policy supports. This chapter uses detailed employment histories from the NLSY79 to examine women's employment in the context of specific employment transitions. Specifically, I ask:

- (1) How do women's reasons for job exit affect their hazard of job reentry and the length of their time not employed?
- (2) How are these relationships different for women with varying levels of education and varying family life stage?

The analysis also considers a variety of other relevant factors, such as economic climate and prior labor force attachment.

In the case of voluntary exits, the reason women give as to why they left their job indicates whether they exited voluntarily or not and what their immediate need that required leaving work was. As noted above, even "voluntary" job exits are often the

result of a structural mismatch between existing job conditions and employees' needs at a given life stage. This is particularly the case for women with young children who lack access to paid sick leave and paid family leave, which is true for most women in the United States, especially in the 1980s and 1990s when this cohort was most likely to have young children. A key comparison is between women who left their jobs via job displacement, or involuntary job loss not likely to be due to their human capital, and those who left for family reasons, in terms of both time away from employment, and later, career consequences of time away from employment.

Data & Methods

Data

I use data from the 1979-2012 waves of the National Longitudinal Survey of Youth, 1979 cohort, which contains information from a nationally representative sample of people born between 1957 and 1964 in the U.S.; respondents were aged 14-22 when first interviewed in 1979, and aged 47 to 56 during the 2012 round of interviews. Respondents were interviewed annually from 1979 to 1994, then biannually from 1996 to 2012. The original data collection also included a supplemental oversample of civilian, Hispanic or Latino, black, and economically disadvantaged non-black/non-Hispanic respondents and a separate sample of military members meeting the same age criteria, but most of the military sample were not followed after the 1984 interviews and the oversample of economically disadvantaged, non-black/non-Hispanic sample were not followed after the 1990 interviews. This analysis does not include respondents from these two subsamples that were subsequently dropped, since it would result in a large amount of censoring. In addition, I am particularly interested in longer periods of non-

employment and following the full length of women's careers to the extent possible. The NLSY79 dataset contains information on 6,283 women; 1,342 were excluded from the analytic sample for this chapter due to being in one of the dropped subsamples (military and economically disadvantaged non-black/non-Hispanic oversamples). Another 632 women were excluded because they did not have a period of non-employment lasting 2 months or longer (13 percent of women otherwise eligible for the sample). 135 women meeting these other criteria were excluded due to missing data on covariates. Thus, the analytic sample for this chapter includes 16,284 non-employment spells lasting two months or longer from 4,174 women in the NLSY79 sample.

The NLSY79 data are well suited to answer questions about returning to work because they contain detailed employment histories over thirty years in length for women who remain in the sample through the 2012 data collection (the most recent data available). These data also ask reason for leaving within one to two years of the date women left a job, which allows much less time for redefining one's reasons in the light of changes in personal situation than retrospective life history interviews would. Given that the NLSY79 is designed as a labor force survey, it also includes extensive relevant, time-varying independent variables and controls, including educational attainment, marital status, and parental status. I use the detailed employment histories, contained in summary variables called the employer history roster, to create a dataset with information on sequential periods of non-employment for each respondent. The employer history roster contains sequential (by job start date) information on all employers a respondent has worked at with start and end dates, work hours, wages, and various other job conditions.

It should be noted that while this chapter uses the language of jobs for simplicity, the NLSY79 only captures periods of employment with the same employer; it does not explicitly record shifts in roles and responsibilities at the same employer as a separate job (although that information would be captured somewhat if job conditions changed), nor does it include periods of time spent on paid (vacation, sick and/or family) leave while attached to an employer or other within job gaps (such as time on layoff when the respondent returns to the same employer). I use the information on job start and end dates (rounded to calendar months), accounting for periods when respondents held multiple jobs concurrently, to calculate a series of periods of calendar months when respondents were not employed. As an example, a period of non-employment lasting one month in my dataset means that a respondent left a job sometime in a calendar month, was not concurrently employed at any other jobs, and if they were observed starting another job, it was in the next calendar month or later.

Variables

Reason Left Job

The focal independent variable for this chapter is the reason women left their most recent job. Response categories vary over time in the NLSY79, generally becoming more detailed in later survey years (see Data Appendix for more information). The NLSY79 includes a variety of reasons for leaving last job, which I recode into five categories for simplicity and consistency across survey years, similar to the categorization used by Looze (2014). The categories are: family reasons (e.g. pregnancy, caring for children, and caring for other family members), layoffs, the end of a temporary or program job, getting fired, and non-family voluntary reasons. Looze (2014) included the response option “end of temporary or program job” with layoffs, which makes sense

for her purpose of examining the impact of each type of job changes on the motherhood wage penalty; but, for my purposes of examining career pathways, it is important to separate those jobs that likely had a defined end date when they were begun from those that did not. The detailed response options available in the NLSY79 and how I collapse them for analysis here are shown in Table 1. Following the work of other scholars (Fuller 2008; Keith and McWilliams 1995; Keith and McWilliams 1997; Keith and McWilliams 1999; Looze 2014), I include “quit for other reasons” and “other (specify)” responses as non-family voluntary job separations. For a few, very small, categories such as going to prison or ill health, this is less than ideal, but those categories are so small that the only alternative would be to drop them from the analysis, which is likely to introduce a different type of bias. In addition, there are likely to be people whose “other reasons” included those reasons before they were captured as specific categories, and it is more consistent across survey years to include them in the analysis even where there is information that could be used to separate them out.

Table 1: NLSY79 Response Options for Reason Leaving Last Job by Year and Recoding

NLSY79 Response Category	Frequency	Percent	Recoded Category Used in Analysis	First Year Category Available
Layoff, job eliminated	2,308	14.17%	layoffs	1979*
Company, office or workplace closed	505	3.10%	layoffs	1984
End of temporary or seasonal job	1,287	7.90%	temp/program job ended	1984
Discharged or fired	1,041	6.39%	fired	1979
Government program ended	465	2.86%	temp/program job ended	1979*
Quit for pregnancy, childbirth or adoption of a child	2,025	12.44%	family reasons	1979*
Quit to look for another job	381	2.34%	non-family voluntary	1990
Quit to take another job	238	1.46%	non-family voluntary	1979^/1990
Quit for other reasons	6,763	41.53%	non-family voluntary	1979*
Quit because of ill health, disability, or medical problem	294	1.81%	non-family voluntary	1979^/2002
Moved to another geographic area	232	1.42%	non-family voluntary	2002
Quit to spend time with or take care of children, spouse, parents, or other family members	128	0.79%	family reasons	2002
Quit because didn't like job, boss, coworkers, pay or benefits	210	1.29%	non-family voluntary	2002
Quit to attend school or training / because interfered with school	83	0.51%	non-family voluntary	1979^/2002
Went to jail, prison, had legal problem	12	0.07%	non-family voluntary	2002
Transportation problems	33	0.20%	non-family voluntary	2002
Retired	38	0.23%	non-family voluntary	2002
No desirable assignments available	14	0.09%	non-family voluntary	2002

NLSY79 Response Category	Frequency	Percent	Recoded Category Used in Analysis	First Year Category Available
Job assigned through a temp agency or a contract firm became permanent	5	0.03%	non-family voluntary	2002
Dissatisfied with job matching service	10	0.06%	non-family voluntary	2002
Project completed or job ended	21	0.13%	temp/program job ended	2002
Business failed or bankruptcy	12	0.07%	non-family voluntary	2010
Sold business to another person or firm	18	0.11%	non-family voluntary	2010
Business temporarily inactive	49	0.30%	non-family voluntary	2010
Closed business down or dissolved partnership	112	0.69%	non-family voluntary	2010
Total	16,284			

* = category changed in wording over the years; ^=category existed in 1979 but skipped many years; table includes only person-spells included in analysis

Education

As discussed above, women's educational attainment is also associated with women's labor force participation. There are a variety of ways to measure educational attainment, including years of schooling, highest degree attained, and current school enrollment. Because having the credential of a degree has different labor force consequences than an additional year of schooling on labor force outcomes (Grubb 1997), this chapter uses a measure of the highest degree respondents have completed prior to the start of a period of non-employment. This is primarily constructed from information directly asking about the highest degree completed, but that question did not appear until 1988 (and was asked at each following survey wave). Thus this variable starts with using the highest degree completed variables and associated dates of degree completion (over two thirds of person-spells), then fills in high school completion via a variable containing the date respondents completed their high school diploma or GED if highest degree completed is not available, then if no other information was available, filled in less than a high school degree for 11 or fewer years of completed schooling. Even with this detailed information, a few respondents are dropped from analysis due to missing values on educational attainment.

I include variables in models for respondent's highest degree completed before the start of a period of non-employment as a measure of their human capital if they immediately began a search for a new job. Categories for this variable are: less than high school degree, high school degree or GED, some college no degree, associate/junior college degree, and bachelor's degree or higher. While some college no degree and an associate/junior college degree are often combined, they have different labor force consequences (Jepsen, Troske, and Coomes 2014), so I separate the categories here. This

education variable is interacted with reason for leaving employment in some models, to test for differences in the potential effects of education by reason for leaving jobs. I also include a time-varying indicator for whether women were currently in school during each non-employment spell.

Family Status

Marital status is an established predictor of women's employment; I include a time-varying indicator for whether women are currently married during each non-employment spell. Being a mother or transitioning to motherhood also has established effects on women's employment, as does the number and age of women's children. Models include a time-varying indicator of family life stage, defined by age of youngest child in several categories: no children, very young children (ages 0-2), older preschoolers (ages 3-5), school age children (ages 6-18), and (young) adult children (age 19 or older). That time-varying indicator is also interacted with reason for leaving employment in some models to test whether family reasons versus other reasons for leaving a job respond differently to the number and ages of children. Models also include an indicator for number of children at the start of each non-employment spell and a time-varying indicator for number of additional children born while not employed.

Other Variables

Economic climate is a key predictor of employment in the aggregate. Models include a time varying indicator for whether the month is within a recession as defined by the National Bureau of Economic Research² or not; this indicator is also interacted with reason for leaving employment in some models to examine differences in the potential effect of a recession by reason for leaving jobs. Age also matters; younger women (and

² <http://www.nber.org/cycles/cyclesmain.html>

men) tend to change jobs more often and may still be in school or holding more temporary jobs. Models include age category at non-employment spell start. Labor force status – whether a women is formally looking for a job (unemployed) or not (out of labor force) – likely also affects the time to re-employment. Models include a variable for labor force status (only unemployed and only out of labor force versus both) at any time during each non-employment spell; there is substantial missing and/or allocated data on weekly labor force status, so a time varying indicator was not included in models. Models also control for logged prior labor force experience, health limiting amount or type of work, and race (using the NLSY79 sample categories of black, Hispanic, and non-black, non-Hispanic (which is mostly white, non-Hispanic, but also includes a small number of Asians, Native Americans, and other groups, reflecting the U.S. population of these ages in 1979).

Analytic Strategy

Since my research questions examine how women's reasons for employment exit affect their probability of employment reentry and the duration of non-employment, event history models are appropriate. Women's employment exits may be of short or long duration, and the risk of returning to work is likely quite different depending on the duration of the exit. I use Cox proportional hazards models to examine the covariates associated with a greater or lesser hazard of returning to employment, using a month/year clock. I use Cox models because I did not want to assume a parametric distribution of the hazard. Respondents are at risk of labor force reentry if they were age 18 or older, had previously been employed (not necessarily at the same job or continuously employed) for at least 12 months, left a job, and were not employed at any additional jobs (broadly similar to Green and Ferber 2008); they are considered reemployed if they start a

subsequent job in a later calendar month while still observed by the study and censored (at the date of their last interview if lost to follow-up) otherwise. Self-employment is included with full-time and part-time wage and salary work; self-employment will be examined further in future research.

The analysis in this chapter only considers periods of non-employment lasting 2 months or more so as to avoid conflating the effects of very short-term employment disruptions with longer exits. Models shown here control for repeated non-employment spells (in that the first exit may be different than the second or later exits) using the strata option of the `stcox` command in Stata 14 and robust, clustered standard errors by respondent; alternative specifications were also tested and yielded similar substantive results. One alternate specification used a “spell” variable counting whether it is the first, second, etc... spell of a given respondent in the data (similar to Hayward, Hardy, and Liu 1994); results for coefficients shown were almost identical to the specification presented.

Results

Descriptive Results

As discussed above, 632 otherwise potentially eligible women were excluded from the analytic sample for this chapter because they did not have a period of non-employment lasting two months or longer recorded in the NLSY79. Fifty of those women have no jobs recorded in the NLSY79 and for another 59 women, only the start and stop dates of their first job are recorded. Some of those are because they were lost to follow-up in the early 1980s, others stopped their only job in the early 1980s and were still followed through the 2000s, and still others remained employed at that same job through their latest interview in the 2010s. The others changed jobs multiple times, but without a

period of non-employment lasting 2 months or longer between jobs. These varied patterns reflect the variety of employment pathways women in this cohort experienced.

For the women analyzed in this chapter who experienced at least one period of non-employment lasting two months or longer at age 18 or older, had previously been employed (not necessarily at the same job or continuously employed) for at least 12 months, and have valid values for non-employment period start and end dates and model covariates, 18 percent experienced only 1 period of non-employment lasting two months or longer, 19 percent experienced 2 periods of non-employment, 16 percent experienced 3 periods of non-employment, and 46 percent experienced 4 or more periods of non-employment (additional details are in Table 2). For analysis purposes, 8th and later non-employment spells are collapsed into a single stratum. As shown in Table 3, these periods of non-employment vary substantially in length – the longest are almost the full length of time observed in the survey (around 33 years), although the median is eight months for those who left for other than family reasons and 17 months for those who left for family reasons. Figure 1 illustrates this graphically, showing the proportion of women remaining not employed over time. Note that there are two ways of presenting data from this type of analysis, analyzing people as used in Table 2 or analyzing person-spells (allowing for multiple records for a given person) as used in Table 3 and Figure 1. This is because each of the 4,174 women can have multiple periods of non-employment (as shown in Table 2, most do), so the unit of analysis for the event history models is person-spells (summarized in Table 5), while it is also informative to summarize the characteristics of the women in the sample (Table 4).

Table 2: Number of Non-Employment Spells Per Women

Number of Non-Employment Spells	Frequency	Percent
1	768	18.40%
2	787	18.85%
3	690	16.53%
4	558	13.37%
5	435	10.42%
6	289	6.92%
7	218	5.22%
8	138	3.31%
9	101	2.42%
10	71	1.70%
11	45	1.08%
12	31	0.74%
13	19	0.46%
14	7	0.17%
15	10	0.24%
16	3	0.07%
18	4	0.10%
Total	4,174	

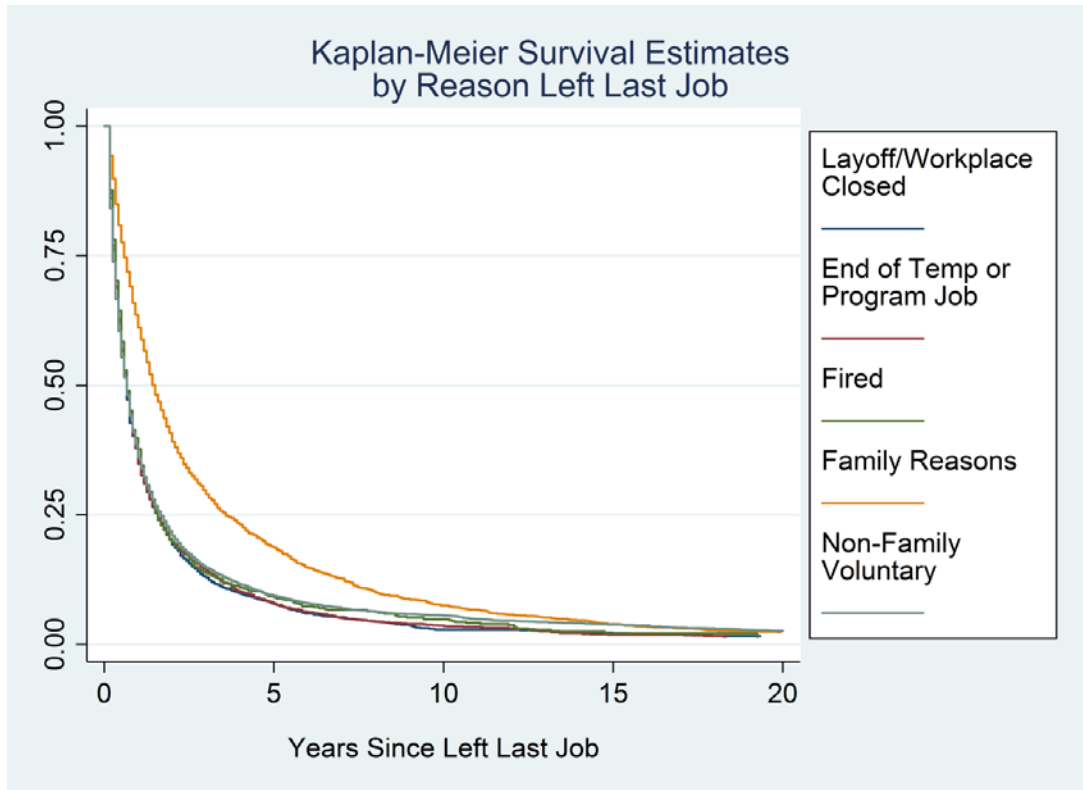
This table describes the number of non-employment spells per woman eligible for the analytic sample, which includes women who experienced at least one period of non-employment lasting two months or longer at age 18 or older, had previously been employed (not necessarily at the same job or continuously employed) for at least 12 months, were not part of the oversamples dropped by the NLSY79, and have valid values for non-employment period start and end (or censored) dates and model covariates.

Table 3: Summary of Years Not Employed by Reason for Leaving Last Job

Reason for Leaving Job	N	Mean	SD	Min	p10	p50	p90	Max
Layoff	2813	1.439	2.397	0.167	0.167	0.667	3.250	30.750
Temp/Program Job Ended	1773	1.598	2.862	0.167	0.167	0.667	3.750	28.333
Fired	1041	1.569	2.551	0.167	0.167	0.667	3.750	20.500
Family Reasons	2153	2.996	4.108	0.167	0.250	1.417	7.583	32.000
Non-Family Voluntary	8504	1.674	3.001	0.167	0.167	0.667	4.000	32.250
Total	16284	1.793	3.076	0.167	0.167	0.750	4.417	32.250

Unit of analysis for this table is person-spells of non-employment from 4,174 women who experienced at least one period of non-employment lasting two months or longer at age 18 or older, had previously been employed (not necessarily at the same job or continuously employed) for at least 12 months, were not part of the oversamples dropped by the NLSY79, and have valid values for non-employment period start and end (or censored) dates and model covariates

Figure 1: Graph of Survival in Non-Employment By Reason for Leaving Last Job



Further description of the sample characteristics are shown in Table 4 with person as the unit of analysis and in Table 5 with person-spell as the unit of analysis. As would be expected given population level trends, the majority of women have had children at some point in their lives, and almost all women are observed well past age 45, the traditional biological cutoff for having more children. Looking at Table 5, about 60 percent of periods of non-employment (including multiple periods of non-employment for any given women if they exist) have children at the start of the period of non-employment, with a median of one child at both the start and end of non-employment spells. Around half of person-spells start or end with the status married, yet 86 percent of women were married at some point while followed by the NLSY79. The trends in education also differ by lifetime as compared to person-spells, particularly in that about

fifteen percent of women are in school in any given spell of non-employment, while over half of women are in school at some point during one of their non-employment spells.

Table 6 is similar to Table 4, but it summarizes the number of person-spells used in analysis for women who ever had children versus those who did not, by ever married versus not, by highest degree ever attained, and by race/ethnicity. Table 6 shows that the median number of person-spells for each of the categories is three, with a slightly lower mean for women who never have children. Of the education categories, women with some college but no degree have slightly more non-employment spells on average, but the differences are not particularly large for any of the categories. Additionally, women who were not in the analytic sample due to lack of non-employment spells long enough were less educated than those who were in the analytic sample; about 13 percent those women's highest degree attained is less than a high school education and about 48 percent had a high school degree or GED as their highest degree ever attained. They were also less likely to have ever had children or to have been married.

Table 4: Description of Women in the Analytic Sample

	Proportion	Mean	StdDev	Median	Min	Max
Family Characteristics						
Ever Had Children	0.833			1	0	1
Number of Children Ever Born		2.028	1.417	2	0	11
Ever Married	0.858			1	0	1
Educational Attainment						
<i>Highest Degree Ever Attained</i>						
Less than High School Education	0.081			0	0	1
High School Degree/GED	0.402			0	0	1
Some College, No Degree	0.184			0	0	1
Associate/Junior College Degree	0.107			0	0	1
Bachelor's Degree or Higher	0.225			0	0	1
Ever In School During Non-Employment Spell	0.524			1	0	1
Ever In School During Non-Employment Spell at Age 23 or Older	0.257			0	0	1
Other Variables						
Age at Last Interview		49.066	6.100	50	19	58
Latina	0.195			0	0	1
Black	0.300			0	0	1
Non-Black, Non-Latina (mostly White)	0.505			1	0	1

This table describes time invariant characteristics of each woman included in the analysis. N=4174 women who experienced at least one period of non-employment lasting two months or longer at age 18 or older, had previously been employed (not necessarily at the same job or continuously employed) for at least 12 months, were not part of the oversamples dropped by the NLSY79, and have valid values for non-employment period start and end (or censored) dates and model covariates.

Table 5: Description of Person-Spells Used in Event History Models

	Proportion	Mean	StdDev	Median	Min	Max
Family Characteristics						
<i>Age of Youngest Child at Start of Non-Employment Spell</i>						
No Children	0.398			0	0	1
Youngest Child Less than Age 2	0.123			0	0	1
Youngest Child Age 2-5	0.177			0	0	1
Youngest Child Age 6-18	0.239			0	0	1
Youngest Child Age 19 or Older	0.063			0	0	1
Number of Children at Start of Non-Employment Spell		1.265	1.352	1	0	11
Number of Children Born During Non-Employment Spell (Time Varying)		0.181	0.511	0	-1	6
<i>Age of Youngest Child at End of Non-Employment Spell</i>						
No Children	0.339			0	0	1
Youngest Child Less than Age 2	0.139			0	0	1
Youngest Child Age 2-5	0.175			0	0	1
Youngest Child Age 6-18	0.257			0	0	1
Youngest Child Age 19 or Older	0.090			0	0	1
Number of Children at End of Non-Employment Spell		1.446	1.397	1	0	11
<i>Marital Status</i>						
Married at Start of Non-Employment Spell	0.502			0	0	1
Married at End of Non-Employment Spell	0.523			0	0	1
Education						
<i>Highest Degree Earned at Start of Non-Employment Spell</i>						
Less than High School Education	0.113			0	0	1
High School Degree/GED	0.492			0	0	1
Some College, No Degree	0.217			0	0	1
Associate/Junior College Degree	0.063			0	0	1
Bachelor's Degree or Higher	0.115			0	0	1
Attended School During Non-Employment Spell	0.154			0	0	1

	Proportion	Mean	StdDev	Median	Min	Max
Other Variables						
<i>Labor Force Status</i>						
Only Unemployed During Non-Employment Spell	0.206			0	0	1
Both Unemployed and Out of Labor Force During Non-Employment Spell	0.448			0	0	1
Only Out of Labor Force During Non-Employment Spell	0.346			0	0	1
Ln(Months Employed (at any job) Prior to Non-Employment Spell)		4.285	0.874	4.317	2.485	6.140
<i>Age</i>						
Age at Start of Non-Employment Spell		29.866	8.973	28	18	55
Age 18-24 at Start of Non-Employment Spell	0.356			0	0	1
Age 25-34 at Start of Non-Employment Spell	0.358			0	0	1
Age 35-55 at Start of Non-Employment Spell	0.285			0	0	1
Health Limits Amount or Type of Work (Start of Non-Employment Spell)	0.076			0	0	1
Start of Non-Employment Spell within NBER Defined Recession	0.157			0	0	1
<i>NLSY79 Race</i>						
Latina	0.185			0	0	1
Black	0.316			0	0	1
Non-Black, Non-Latina (mostly White)	0.499			0	0	1

This table describes the characteristics of women as they relate to each specific period of non-employment (the unit of analysis is person-spells of non-employment). N=16,284 person-spells of non-employment from 4,174 women who experienced at least one period of non-employment lasting two months or longer at age 18 or older, had previously been employed (not necessarily at the same job or continuously employed) for at least 12 months, were not part of the oversamples dropped by the NLSY79, and have valid values for non-employment period start and end (or censored) dates and model covariates.

Table 6: Number of Person-Spells by Family Characteristics, Education, and Race/Ethnicity

	N	Mean	StdDev	Median	Min	Max
Family Characteristics						
Ever Had Children	3476	3.967	2.722	3	1	18
Never Had Children	698	3.576	2.558	3	1	15
Ever Married	3581	3.908	2.678	3	1	18
Never Married	593	3.862	2.829	3	1	18
Highest Degree Ever Attained						
Less than High School Education	339	3.864	2.75	3	1	18
High School Degree/GED	1678	3.982	2.792	3	1	18
Some College, No Degree	770	4.1	2.771	3	1	16
Associate/Junior College Degree	447	3.77	2.712	3	1	15
Bachelor's Degree or Higher	940	3.671	2.418	3	1	16
Race/Ethnicity						
Latina	815	3.696	2.491	3	1	15
Black	1251	4.118	2.894	3	1	18
Non-Black, Non-Latina (mostly White)	2108	3.852	2.649	3	1	18

This table describes the characteristics of women as they relate to each specific period of non-employment (the unit of analysis is person-spells of non-employment). N=16,284 person-spells of non-employment from 4,174 women who experienced at least one period of non-employment lasting two months or longer at age 18 or older, had previously been employed (not necessarily at the same job or continuously employed) for at least 12 months, were not part of the oversamples dropped by the NLSY79, and have valid values for non-employment period start and end (or censored) dates and model covariates.

Return to Work

The first research question asks how women's reasons for job exit affect their probability of employment reentry and the length of their time not employed. As shown by Table 3 and Figure 1, in most person-spells women who leave employment return to work, usually within a year or two. Table 7 expands on this, showing the proportion of non-employment spells in the analytic sample ending (in either returning to work or being censored/lost to follow-up) after specified timeframes. Very few cases were censored as opposed to returning to employment overall, although the numbers are larger after 10 years and for those who left due to layoffs/workplace closure or who were fired, as shown in Table 8. Around ninety percent of person-spells ended in re-employment after 5 years for all reasons for exit except family reasons. Thus, we should expect differences in non-employment timing by reason for exit in models as well.

Table 7: Proportion of Non-Employment Spells Ended Within Various Timeframes by Reason for Exit

Reason for Leaving Job	6 months	1 year	2 years	3 years	5 years	10 years
Layoff/Workplace Closed	0.378	0.631	0.811	0.885	0.942	0.984
End of Temp/Program Job	0.381	0.630	0.805	0.864	0.929	0.975
Fired	0.358	0.608	0.809	0.874	0.927	0.972
Family Reasons	0.193	0.368	0.598	0.711	0.817	0.934
Non-Family Voluntary	0.399	0.622	0.793	0.863	0.923	0.967
Total	0.364	0.590	0.773	0.848	0.913	0.967
This table describes the proportion of 16,284 person-spells of non-employment that ended in re-employment after the specified time period.						

Table 8: Proportion of Non-Employment Spells Censored (vs Ended in Re-Employment) Within Various Timeframes by Reason for Exit

Reason for Leaving Job	6 months	1 year	2 years	3 years	5 years	10 years
Layoff/Workplace Closed	0.006	0.013	0.023	0.033	0.048	0.057
End of Temp/Program Job	0.003	0.012	0.018	0.023	0.029	0.038
Fired	0.003	0.009	0.019	0.027	0.039	0.054
Family Reasons	0.002	0.005	0.009	0.014	0.015	0.026
Non-Family Voluntary	0.003	0.01	0.02	0.026	0.038	0.053
Total	0.004	0.01	0.019	0.026	0.036	0.048
This table describes the proportion of 16,284 person-spells of non-employment where women were not observed returning to employment after the specified time period and where women were lost to follow-up in the NLSY79 (and thus not remaining in the risk set to be observed returning to employment).						

Table 9 shows results from Cox proportional hazards models of women's return to work; the first model includes only variables without interactions, and the second model includes interactions between reason for leaving last job and education at the start of non-employment, age of youngest child (time varying), and recession (time varying). A key finding from the first model is that women who leave for family reasons have a lower hazard of returning to work in any given month, compared to women who left for any other reason. The model explicitly makes the comparison with women who were laid off or whose workplace closed; those reasons are traditionally called "job displacement" by people who study the effects of unemployment, since they are the least likely to be for reasons that would affect future employability other than through the shock of unemployment (Maroto and Serafini 2012). The first model also shows an expected educational gradient in hazard of return to work in any given month; women with less than a high school education have a lower hazard of return to work than those with a high school degree, while those with any of the college categories have a higher hazard of return to work. Also as expected, women who are in school in a given month have a lower hazard of returning to work than those who are not. Age of youngest child also matters, in that women with young children have a lower hazard of returning to work in any given month, while those with school age children do not have a significantly different hazard of returning to work in any given month than those with no children. Additionally, women with their youngest child age 19 or older also have a lower hazard of returning to work than those with no children, but this is likely because such women have a lower probability of leaving employment and may have left for reasons that take longer to resolve. The economic climate also matters for women's return to work; women

have a lower hazard of returning to work during a recession as defined by the National Bureau of Economic Research than during a non-recessionary period.

Many of the variables included in part as controls have similar coefficients in models with and without the interactions (Models 1 and 2 of Table 9). Specifically, each additional child at the start of a non-employment spell is associated with a slightly higher hazard of returning to work, while the number of children born during a non-employment spell does not affect the hazard of returning to work; the potential effects of additional children may be captured more effectively with the age of youngest child variable. Women who leave work at younger ages (18-24) have a greater hazard of returning to work, while women who leave work at ages 35-55 have a lower hazard of returning to work in any given month, as compared to women who left work at ages 25-34. Similar to the effect for women with their youngest child age 19 or older, which likely overlaps with women who leave work at ages 35-55, the lower hazard of return to work may be due to a lower probability of leaving employment or a greater likelihood of leaving for reasons that last a longer time, such as caring for aging parents or an ill spouse. As would be expected, women who are only unemployed (and not formally out of the labor force, or not looking for work) at any time during their non-employment spell have a much greater hazard of returning to work in any given month than those who were both unemployed and out of the labor force; this is likely due to their continued search for employment and desire to return to work rather than remain away from employment. Those who were only out of the labor force have a slightly lower hazard of returning to work in any given month than those who were both unemployed and out of the labor force, but these are much more similar groups than those who were only unemployed. Months of prior

employment at any job before the start of each non-employment spell is effectively unrelated to hazard of returning to work. As expected, if a woman reported her health limiting the amount of type of work she can do at the start of a non-employment spell, she has a lower hazard of returning to work in any given month, likely due to lingering health concerns. Finally, while the NLSY79 race measure leaves much to be desired, it shows that, as expected from other employment research, blacks have a lower hazard of returning to work than Latinas, who in turn also have a lower hazard of returning to work than non-black, non-Latinas, a group who are largely white, non-Latina in the NLSY79.

Table 9: Cox Proportional Hazard Models of Returning to Work

	Hazard	(1) Confidence Interval	Hazard	(2) Confidence Interval
Reason for Leaving Employment				
<i>(Layoffs omitted)</i>				
End of Temporary or Program Job	1.056+	0.994 - 1.122	1.034	0.914 - 1.170
Fired	0.995	0.929 - 1.065	0.917	0.800 - 1.050
Family Reasons	0.801***	0.756 - 0.848	0.629***	0.540 - 0.733
Non-Family Voluntary	1.099***	1.052 - 1.148	1.133**	1.042 - 1.232
Education				
<i>Highest Degree at Start of Non-Employment Spell (High School Degree omitted)</i>				
Less than High School Education	0.833***	0.784 - 0.886	0.929	0.823 - 1.049
Some College, No Degree	1.215***	1.163 - 1.270	1.262***	1.151 - 1.383
Associate/Junior College Degree	1.133***	1.054 - 1.218	1.127	0.961 - 1.320
Bachelor's Degree or Higher	1.227***	1.153 - 1.305	1.266**	1.098 - 1.459
<i>Interaction with Reason for Leaving Employment</i>				
End of Temporary or Program Job X Less than HS Education			0.998	0.824 - 1.209
End of Temporary or Program Job X Some College, No Degree			1.057	0.915 - 1.223
End of Temporary or Program Job X Associate/Junior College Degree			0.983	0.771 - 1.253
End of Temporary or Program Job X Bachelor's Degree or Higher			0.958	0.768 - 1.196
Fired X Less than HS Education			0.929	0.748 - 1.152
Fired X Some College, No Degree			0.903	0.754 - 1.080
Fired X Associate/Junior College Degree			1.073	0.791 - 1.457
Fired X Bachelor's Degree or Higher			1.011	0.765 - 1.334
Family Reasons X Less than HS Education			0.960	0.809 - 1.140
Family Reasons X Some College, No Degree			0.834*	0.720 - 0.965
Family Reasons X Associate/Junior College Degree			0.897	0.722 - 1.113
Family Reasons X Bachelor's Degree or Higher			0.773**	0.637 - 0.938
Non-Family Voluntary X Less than HS Education			0.820**	0.711 - 0.944
Non-Family Voluntary X Some College, No Degree			0.963	0.866 - 1.071

	(1)		(2)	
	Hazard	Confidence Interval	Hazard	Confidence Interval
Non-Family Voluntary X Associate/Junior College Degree			1.027	0.851 - 1.238
Non-Family Voluntary X Bachelor's Degree or Higher			1.006	0.855 - 1.184
Attending School (Time Varying)	0.591***	0.551 - 0.634	0.583***	0.544 - 0.626
Family Status				
<i>Age of Youngest Child (No Children omitted)</i>				
Youngest Child Less than Age 2 (Time Varying)	0.653***	0.610 - 0.700	0.673***	0.590 - 0.768
Youngest Child Age 2-5 (Time Varying)	0.790***	0.744 - 0.839	0.829***	0.742 - 0.926
Youngest Child Age 6-18 (Time Varying)	0.954	0.896 - 1.015	0.920+	0.833 - 1.016
Youngest Child Age 19 or Older (Time Varying)	0.712***	0.648 - 0.782	0.681***	0.579 - 0.801
<i>Interaction with Reason for Leaving Employment</i>				
End of Temporary or Program Job X Youngest Child Less than Age 2			0.977	0.803 - 1.188
End of Temporary or Program Job X Youngest Child Age 2-5			0.889	0.752 - 1.052
End of Temporary or Program Job X Youngest Child Age 6-18			1.056	0.906 - 1.231
End of Temporary or Program Job X Youngest Child Age 19 or Older			1.004	0.735 - 1.372
Fired X Youngest Child Less than Age 2			1.232+	0.987 - 1.538
Fired X Youngest Child Age 2-5			1.147	0.938 - 1.402
Fired X Youngest Child Age 6-18			1.150	0.967 - 1.367
Fired X Youngest Child Age 19 or Older			1.072	0.800 - 1.438
Family Reasons X Youngest Child Less than Age 2			1.248*	1.031 - 1.509
Family Reasons X Youngest Child Age 2-5			1.255*	1.047 - 1.505
Family Reasons X Youngest Child Age 6-18			1.693***	1.409 - 2.034
Family Reasons X Youngest Child Age 19 or Older			1.527+	0.976 - 2.389
Non-Family Voluntary X Youngest Child Less than Age 2			0.938	0.810 - 1.087
Non-Family Voluntary X Youngest Child Age 2-5			0.924	0.817 - 1.044
Non-Family Voluntary X Youngest Child Age 6-18			0.982	0.883 - 1.092
Non-Family Voluntary X Youngest Child Age 19 or Older			1.046	0.873 - 1.253
Number of Children at Start of Non-Employment Spell	1.033***	1.014 - 1.053	1.033***	1.014 - 1.052
Number of Children Born During Non-Employment Spell (Time Varying)	1.008	0.962 - 1.056	1.013	0.966 - 1.061
Married (Time Varying)	0.883***	0.845 - 0.924	0.888***	0.849 - 0.928
Other Variables				

		(1)		(2)
	Hazard	Confidence Interval	Hazard	Confidence Interval
<i>Recession (Time Varying)</i>				
NBER Defined Recession (Time Varying)	0.687***	0.648 - 0.729	0.553***	0.476 - 0.643
<i>Interaction with Reason for Leaving Employment</i>				
End of Temporary or Program Job X Recession			1.312*	1.017 - 1.694
Fired X Recession			1.166	0.870 - 1.562
Family Reasons X Recession			1.545***	1.249 - 1.912
Non-Family Voluntary X Recession			1.255**	1.057 - 1.489
<i>Age (ages 25-34 omitted)</i>				
Age 18-24 at Start of Non-Employment Spell	1.445***	1.375 - 1.517	1.434***	1.365 - 1.506
Age 35-55 at Start of Non-Employment Spell	0.619***	0.586 - 0.654	0.619***	0.586 - 0.654
<i>Labor Force Status (both unemployed and out of labor force omitted)</i>				
Only Unemployed During Non-Employment Spell	2.466***	2.359 - 2.577	2.476***	2.369 - 2.588
Only Out of Labor Force During Non-Employment Spell	0.946**	0.909 - 0.984	0.949**	0.913 - 0.988
Ln(Months Employed (at any job) Prior to Non-Employment Spell)	1.029+	0.996 - 1.063	1.031+	0.998 - 1.065
Health Limits Amount or Type of Work (Start of Non-Employment Spell)	0.764***	0.716 - 0.815	0.768***	0.720 - 0.820
<i>Race (Non-Black, Non-Latina omitted)</i>				
Latina	0.930**	0.886 - 0.975	0.928**	0.884 - 0.974
Black	0.866***	0.831 - 0.903	0.870***	0.834 - 0.906
Log Likelihood	-103287		-103236	
AIC	206623		206594	
BIC	206836		207114	

N = 16,284 person-spells of non-employment from 4,174 women in the NLSY79; *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Education, Fertility, and Economic Conditions

As established above, employment, education and fertility histories are often intertwined for women; these relationships are examined further in the second model of Table 9, which includes separate interactions between women's reasons for leaving their last job and education, age of youngest child, and recessionary economic conditions. Figure 2 illustrates the interaction between reason for leaving last job and highest degree attained when left that job, with other characteristics set at the median for the sample. Women who leave for family reasons have a lower hazard of returning in any given month (which accumulates to a lower hazard of returning to work quickly) than women who leave for other reasons, and there is a gradient for all reasons by educational attainment, in that more highly educated women have a higher hazard of returning to work in any given month. However, the difference in the hazard of returning to work between women who left for family reasons and women who left for other reasons is larger for women with some college or a completed college degree than it is for women with a high school degree or less. All differences between family reasons and layoffs are statistically significant as tested via a post-estimation contrast command, although the relationship is much stronger for women with a high school degree, some college no degree, and a bachelor's degree or higher.

Figure 2: Predicted Hazard of Returning to Work by Education

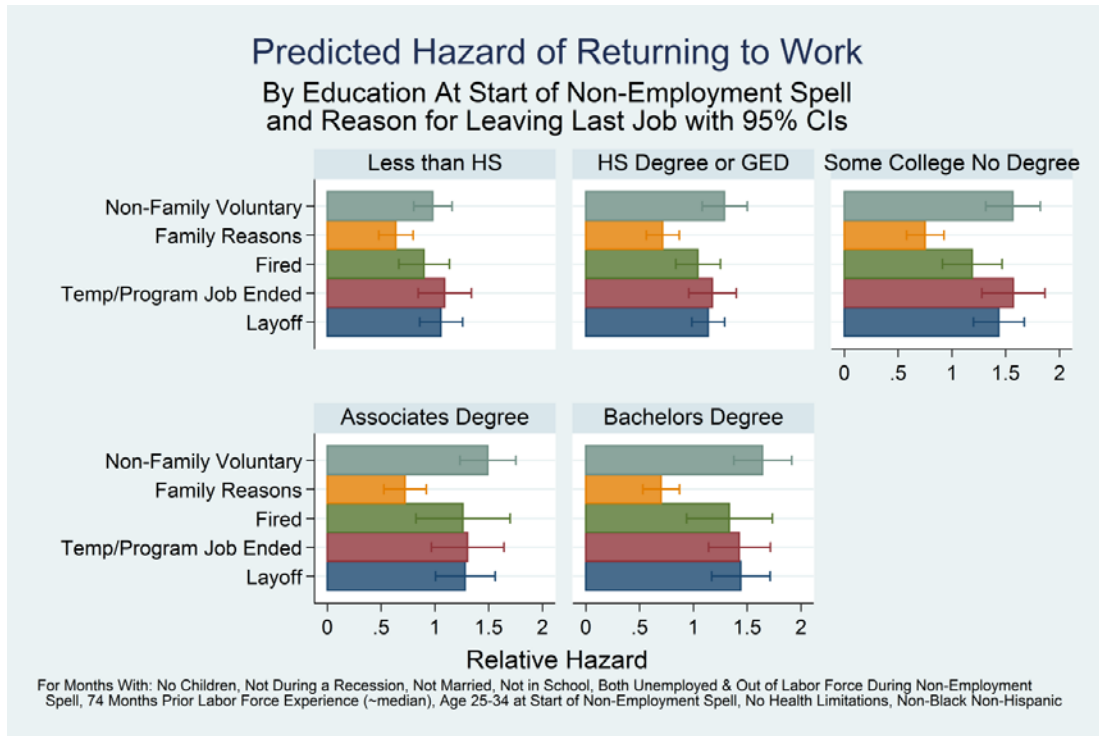
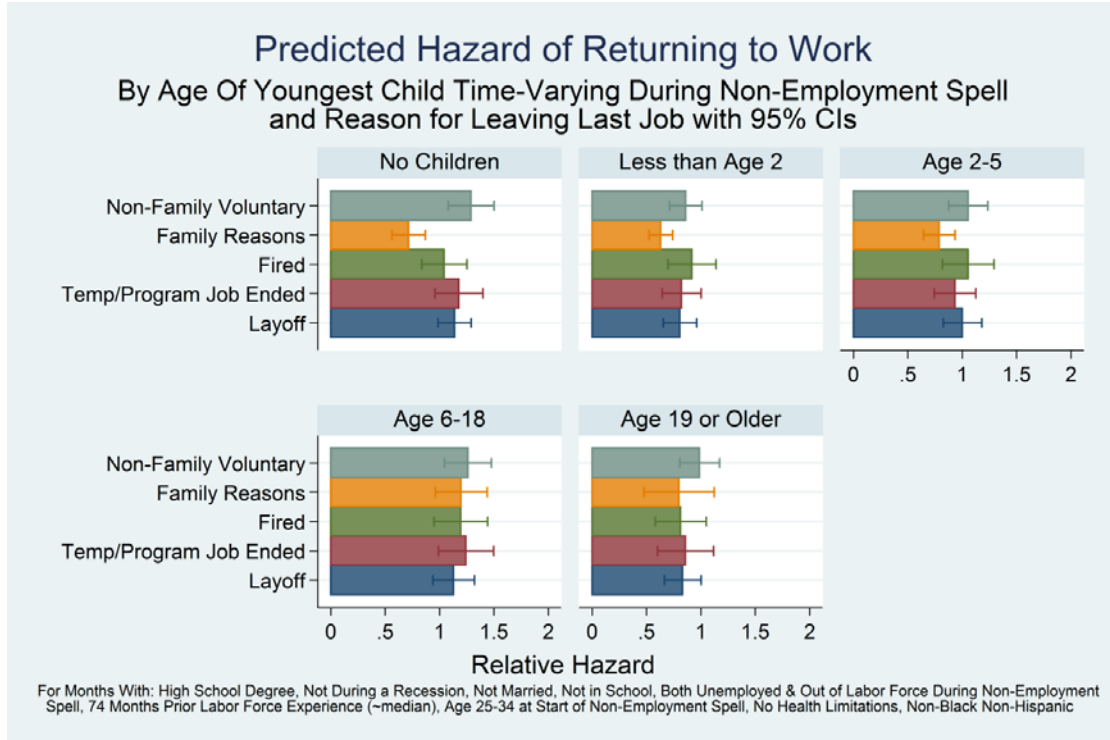


Figure 3 illustrates the interaction of reason for leaving last job and age of youngest child, with other characteristics set at the median for the sample. The key difference here is that women who leave for family reasons who have no children, children less than age 2, and children ages 2-5 tend to have a lower hazard of returning to work in any given month than women who leave for other reasons, but there is no difference by reason for exit for women with older children. The difference in hazard of return to work for women who left via layoffs vs family reasons is statistically significant as tested via a post-estimation contrast command for women with no children, children less than age 2, and children ages 2-5, while the same contrast is not significant for older children, as reflected in Figure 3. The difference for women with no children is particularly notable, but it may mean that they are moving to a new location or caring for

parents or other relatives that may be longer term needs than caring for children.

Differences in these relationships by education are examined further in Figure 5 below.

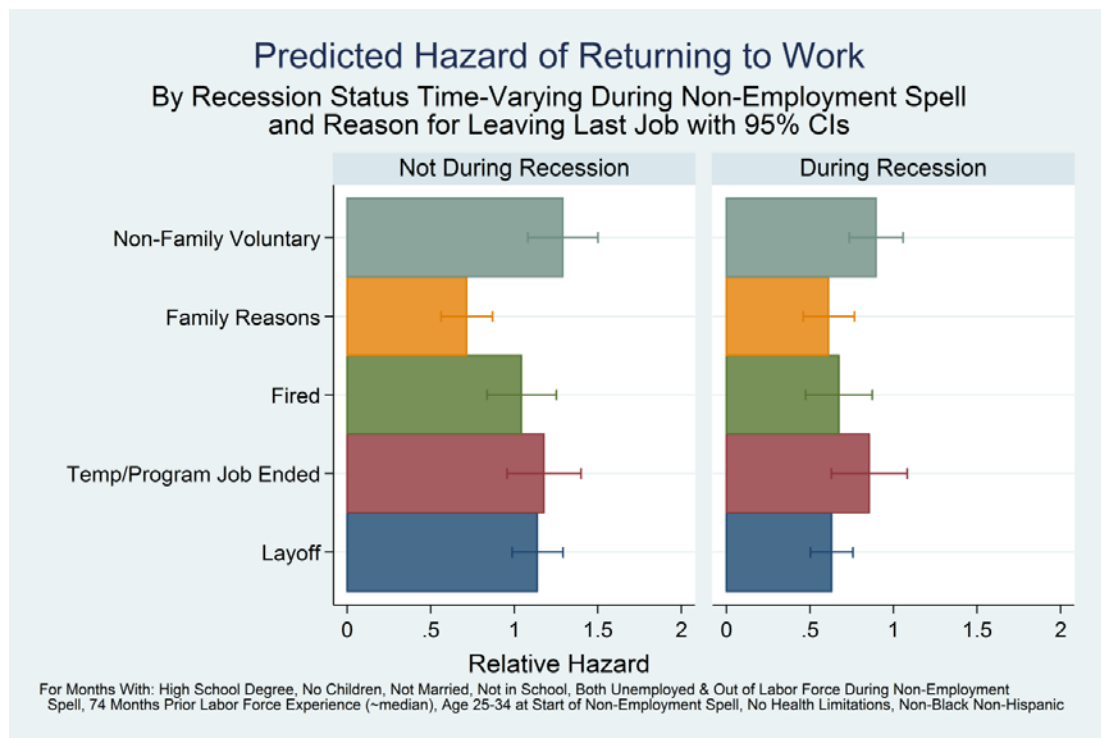
Figure 3: Predicted Hazard of Returning to Work by Age of Youngest Child



Although economic climate is not a key part of the research questions, I include an interaction between reason for leaving last job and economic climate because it is generally harder to find a new job in a recession, which may affect the relationship between reason for leaving and hazard of return to work. Figure 4 shows the predicted hazard of returning to work in a month during a recession or not. The lowered hazard of return to work for women who left for family reasons is largely concentrated among women who are not affected by recessionary economic conditions. However, the difference is largely that the hazard of return to work is lowered among all reasons during recessions, so the other reasons are more similar to family reasons. Again using post-estimation contrast commands, the hazard of returning to work for women who left via

layoffs as compared to family reasons is statistically significant for non-recessionary periods, but not during recessionary months. However, during recessions, both non-family voluntary and temporary/program job ended are statistically significantly different from layoffs (they are not during non-recessions). In both of those situations, women may be more likely to have another job lined up to potentially benefit their career (e.g. Looze 2014), as opposed to being laid off during a recession, which tends to happen in industries where finding another job could be more complicated during a recession.

Figure 4: Predicted Hazard of Returning to Work by Economic Climate



What about the combination of education and motherhood? As mentioned above, Figure 5 shows the differences in hazard of returning to work just comparing women who left due to layoffs and for family reasons. As noted above, there are overall significant differences in the hazard of returning to work for these two reasons among women with no children and those with children age 5 and under. However, the differences vary

somewhat by educational attainment. Again using post-estimation contrast commands, there are significant differences in hazard of returning to work for women with no children at all education levels. However, among women with children less than age 2, the difference in hazard is largest for women with a bachelor's degree and women with some college but no degree. The relationship is weaker for the other education levels, and not statistically significant for women with less than a high school education. While such low-educated women may leave their jobs when they have young children, this pattern indicates that they may be more likely to be using non-employment as a sort of unpaid family leave when needed, then returning to work because they need the money once a particular situation has resolved. A similar pattern of educational differences occurs for women with preschool age children (ages 2-5) as for women with children under age 2. What about differences between family reasons and other reasons? Figure 6 is similar to Figure 5 but shows the difference between family reasons and non-family reasons instead. Relationships are largely similar, although in some cases more exaggerated.

Figure 5: Predicted Hazard of Returning to Work by Age of Youngest Child, Education, and Reason for Leaving Last Job (comparing Layoffs and Family Reasons)

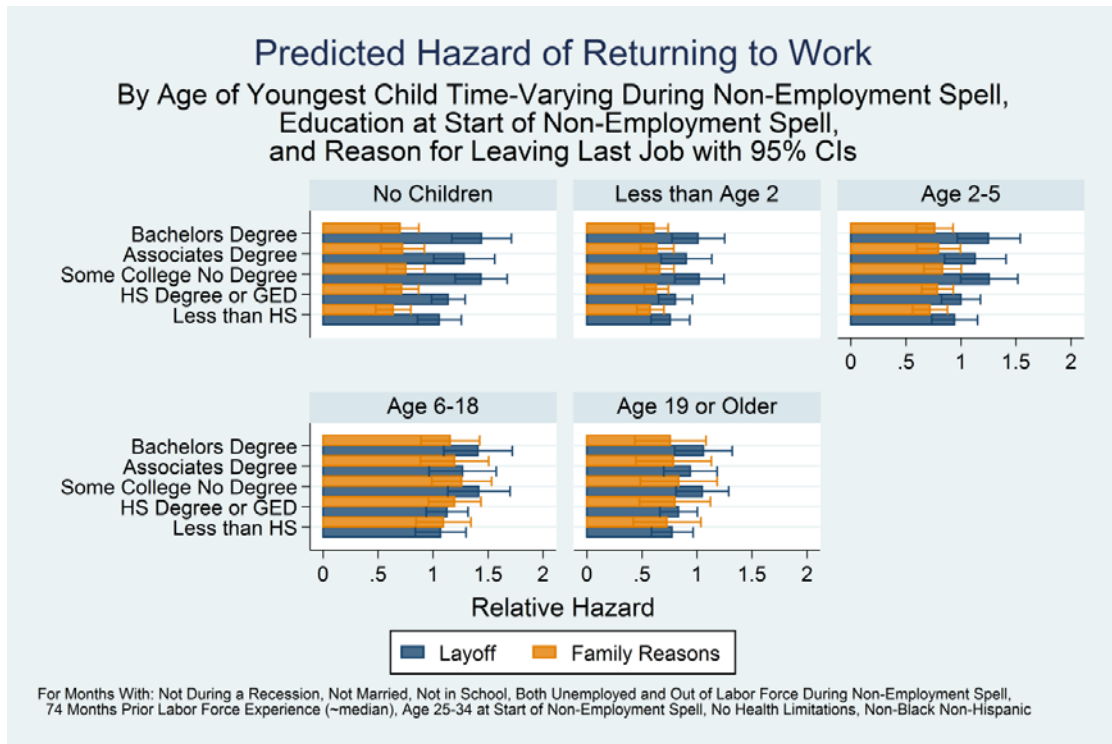
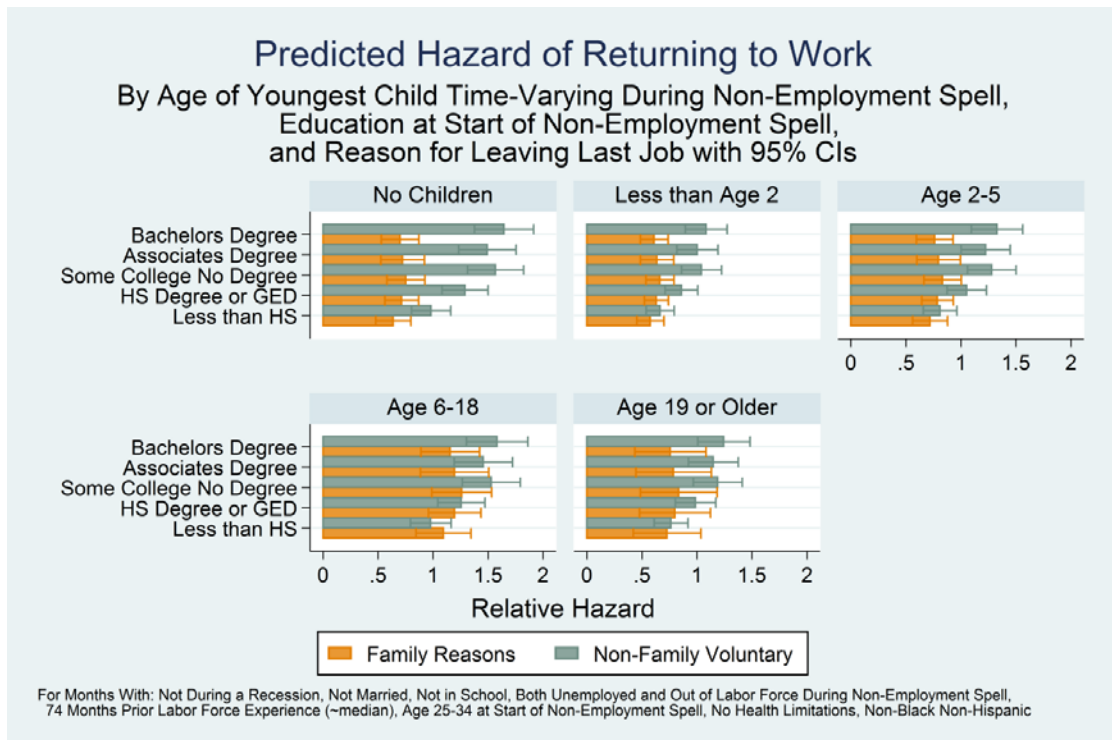


Figure 6: Predicted Hazard of Returning to Work by Age of Youngest Child, Education, and Reason for Leaving Last Job (comparing Family Reasons and Non-Family Voluntary Reasons)



Discussion

This chapter examines how women's reasons for leaving their last job affect whether they return to work and the duration of their exit. As would be expected given the high overall labor force participation rates of women during this time period, most women who spend two months or more away from employment eventually return to work, although the timing of their reentry and the duration of their exit from employment vary greatly. This chapter focuses on periods of non-employment lasting two months or more because it reflects a greater disruption to women's employment histories and avoids categorizing planned short periods of non-employment between jobs in the same way as longer exits.

Results show a wide variation in timing of re-employment by reason for leaving last job, with differences by age of youngest child and educational attainment. As shown in Figure 1 and Table 9, the relatively small group of women who leave employment for family reasons remain away from employment longer than those who leave for other reasons, regardless of their education, whether they have young children, and a variety of other characteristics. Thus stating that one left a job for family reasons to a survey interviewer may itself reveal lower attachment to employment than women who do not state that they left for family reasons, although it may also be the socially acceptable way to say that they did not like the job (as discussed by Damaske 2011). Women who leave through layoffs, the end of a temporary or program job, or being fired all have a relatively similar hazard of returning to work, even including a variety of other characteristics in the model, indicating that while being fired may lead to fewer hours or lower wages upon reemployment (see Chapter 4), timing of returning to employment remains similar for

those in otherwise similar situations. The large group of women who did not specify any of these reasons (family, layoffs, end of temporary or program job, or being fired) tend to return to work slightly faster than those who left for those reasons. In a paper about the wage effects of number of job separations at different points in women's careers, Looze (2014) discusses this group of women who left for non-family, largely voluntary reasons as those who are leaving a job to go to something better, as shown in her analysis of the NLSY79. This could indicate that women in this analysis categorized as leaving for non-family voluntary reasons have already obtained a better job and are taking a few months off before it begins or chose to leave a job to look for something better, among other possibilities.

Children also matter: as expected, the presence of a child age two or under while away from employment, regardless of initial reason for leaving employment, is associated with a lower hazard of returning to work. Young children require care, and even if a woman loses her job through no fault of her own, continuing to pay for child care while unemployed and looking for a new job could be a significant drain on family finances. If child care arrangements lapse while a woman is away from employment, then the barriers to resuming paid work are larger than in the absence of a child. Thus while women may leave employment for a variety of reasons, having a child can redefine expectations and possibilities for employment. The similarity in the predicted hazard of returning to work (shown in Figure 2) for women who left for family reasons across levels of educational attainment is remarkable in light of the opt-out narrative about elite women. However, it may be that countervailing forces drive women in similar situations – women with less education may remain away from employment longer because child

care expenses would consume more of their wages, while women with more education may be engaging in concerted cultivation. Women with higher education may also be more likely to have spouses with income that can comfortably support the family, but that should be tested in future research. In addition, women with school age children have a statistically indistinguishable hazard of returning to work as compared to women with no children overall, while women who left employment for family reasons have a greater hazard of returning to work quickly when they have school aged children, as compared to those who have no children and also left for family reasons. So while women with older children still leave employment, they tend to do so for shorter periods.

This chapter provides an important complement to literature on job changes and employment tenure that also describes changes in women's rates of labor force exit over time (e.g. Hollister 2012; Hollister and Smith 2014). It also reminds scholars that women leave employment for a variety of reasons other than their families, which is important to consider along with studies that focus on women's exits from employment surrounding childbirth.

Chapter 3 – Occupation & Industry Changes

Introduction

Women's labor force participation has been studied extensively and in a variety of ways (e.g. Damaske 2011; Jacobs and Gerson 2004; Nieuwenhuis, Need, and Van Der Kolk 2012). The previous chapter examines whether and after how long women return to the labor force after an earlier exit from it, finding that while most women eventually return to work, the timing varies by reason for exit, family life stage, and educational attainment. This chapter considers the degree to which women change occupations and/or industries of employment when returning to work after a period of non-employment, whether women's reasons for job exit and time away from employment predict such changes in occupation/industry, and the consequences of occupation/industry changes (in terms of occupation/industry characteristics) between the jobs women left and the jobs they return to. Transitions back to paid employment may become increasingly important for women's well-being given increased life expectancies and the increasing individualization of risk in U.S. labor market (e.g. declining job security, defined contribution pension plans instead of defined benefit) (Hacker 2006; Moen 2016), particularly if women move to occupations or industries that have less advantageous job conditions or advancement potential than the ones they left. Beyond whether women return to the labor force, examining the types of jobs women attain upon return and the differences in their new jobs compared to the jobs they left will provide insight into broad labor force inequalities, including gender inequality. Other scholars (Looze 2014) have

shown that mothers are less likely to make career enhancing job changes – they may be less likely to return to demanding jobs as well.

Existing research on professional women suggests that when they return to work after a labor force exit, they often change their priorities with regard to job conditions and characteristics. Many also choose to switch industry or occupation to better fulfill their desire to “give back” (Hewlett 2007; Lovejoy and Stone 2012), although in some cases, this is because of barriers they encounter when trying to return to their previous profession. Among these highly educated, professional women, such changes in occupation or industry are usually away from more prestigious, highly compensated areas into areas with lower prestige and compensation (Lovejoy and Stone 2012), factors that contribute to the lack of women at higher levels in many fields and women’s lower average wages (Cohen, Huffman, and Knauer 2009). However, little is known about these processes in a more nationally representative population of women.

Labor Market Inequality by Occupation and Industry

Occupations and industries are key ways of classifying jobs into categories that can be analyzed. Occupations group people doing similar kinds of work, while industries group similar kinds of businesses. Both are important tools for social scientists when trying to make sense of the types of jobs people hold.

Occupations play a key role in the inequality structure of employment in the United States, as reflected in the large effect of changing occupational characteristics on wage inequality in the U.S. from the 1980s to 2000s (Mouw and Kalleberg 2010). Some occupations pay more than others, in part due to social closure and occupational licensing, regardless of the skill requirements of the jobs they encompass (Weeden 2002).

Others pay more because they require more skills or training. When workers lose their jobs through layoffs or other job displacement, one piece of the wage penalty that tends to occur is due to loss of occupation-specific human capital (e.g. skills related to caring for patients for a nurse or doctor), separately considered from firm-specific human capital (e.g. how to use the medical records system and follow policies at a particular hospital) (Ormiston 2014). Some occupations are more geographically dispersed than others, meaning that it's easier or harder for one spouse or another to find a job if moving to a new geographic location for the other spouse's job (Benson 2014).

Industries, particularly the decline in manufacturing and increase in service industry jobs, also play a role in the inequality structure in the U.S. (Bernhardt et al. 2001; Morris and Western 1999). Wages for people with the same education can vary widely between industries, as well as within them (Katz and Autor 1999). Another piece of the wage penalty from job loss comes when employees switch industries, particularly when they move to low-wage jobs in the service sector (Cha and Morgan 2010). The shift in the U.S. economy towards service sector jobs from manufacturing jobs has led to an increasing number of workers working in service sector jobs that tend to pay less, offer fewer benefits, and are more likely to be part-time, which has contributed to income inequality in the U.S. (Morris and Western 1999). However, not all service sector jobs fall into those categories – many are high paying services like finance, insurance, and real estate, so it is important to differentiate those from the lower paying, “bad” jobs (Morris and Western 1999).

Gender Composition of Occupations and Industries

The selection of men and women into different occupations and different jobs has been extensively documented, although this is declining somewhat in recent years for

people with a college degree (England 2005). The generally lower pay for occupations with a higher percent female is also well documented, even in the presence of a variety of controls (c.f. Cohen and Huffman 2003; England 1992). Variations in gender segregation across industries exist even in the same occupation, as shown by examining blue-collar, manufacturing positions (Wharton 1986). Kanter (1977) describes barriers for women stemming from how organizations are structured and the designing of jobs with men in mind; such barriers lead to women's disadvantage. Levanon and colleagues (2009) describe two dominant explanations for the disadvantage in pay for occupations with a higher percent female: devaluation and queuing. Using U.S. Census data from 1950 to 2000, they find substantial evidence for the devaluation view – that gender inequalities are produced through processes that culturally devalue and lower the rewards of roles historically held by women while highly rewarding roles historically dominated by men and excluding women from those roles – and little evidence for the queuing view – that employers prefer men, so women are clustered in occupations offering lower pay relative to skills needed, even given that both genders prefer higher paying jobs equally (Levanon et al. 2009). Using unique data on California civil service employees from 1979 to 1985, Barnett and colleagues find significant differences in career outcomes between occupations dominated by white males and those dominated by women or people of color, to the detriment of people in occupations not dominated by white men, although the authors do not list specific occupations in each category in their paper (Barnett, Baron, and Stuart 2000).

Landivar (2014) examines women's labor force participation and work hours across a variety of occupations in the U.S., showing that about 15 percent of mothers in

managerial and professional occupations are out of the labor force when they have a child age 5 or younger, as compared to 22-32 percent of mothers in other occupations.

However, mothers of preschoolers in managerial and professional occupations tend to work 2.5 hours less per week than non-mothers in those occupations, while other mothers in other occupations scaled back 1.2 hours per week or fewer (Landivar 2014). The research on professional women “opting out” described above (e.g. Hewlett 2007; Lovejoy and Stone 2012) finds that such women tend to move to occupations that are less prestigious and less highly compensated when returning to work after time away.

Additionally, women are more likely to leave male-dominated occupations even when they do enter them (Torre 2014), particularly for mothers in occupations that require long work hours (Cha 2013). If women move to occupations that are more highly feminized, they will thus further contribute to the gender wage gap, given that a portion of the gender wage gap is due to occupational gender composition (Brynin and Perales 2016).

Additionally, several studies consider the intersection of occupations and industries as a way to better examine wage inequality by gender and other characteristics. Budig (2002) uses the 1982-1993 waves of the NLSY79, along with percent female in detailed 1990 census occupation and industry combinations (described as “jobs” for this theoretical perspective), to show that men are advantaged in both pay and wage growth in all jobs, regardless of gender composition. Huffman (2004) uses the same conception of “jobs” in the 1990 census 5% sample but adds a multilevel focus on gender composition of occupation-industry combinations within specific metropolitan areas. He finds that women earn less in occupation-industry combinations dominated by women and that the penalty associated with such women-dominated “jobs” is larger for women (Huffman

2004). There is thus an established line of research on the gender composition of occupations and the negative wage consequences of female-dominated occupations for women. To build on and extend this body of work, I use a similar conception of occupation-industry combinations to examine changes in aggregate wages, education, and gender composition of women's occupation-industry category between the job they left and the job they return to.

Changes in Occupation and Industry

Research on changes in occupation among continuously employed people shows an increase in number of occupation changes for both men and women between the original NLS cohorts (ages 14-24 in 1966 for men and 1968 for women) and the NLSY79 cohort (ages 14-22 in 1979), when comparing labor force behavior from ages 22 to 32, sample limitations necessary for comparability across surveys (Hollister 2012). The number of job changes has also increased between those two cohorts (Bernhardt et al. 2001). Around 45 percent of women and 40 percent of men in the NLSY79 changed major occupation grouping (9 categories) between the ages 30 and 32 in Hollister's (2012) analysis, regardless of whether they changed employers or made other labor force participation transitions during that time. When changes in occupation were made while attached to the same employer, NLSY79 women had a greater likelihood of a wage increase compared to staying with the same occupation and employer, indicating that women may be benefitting from internal promotion (Hollister 2012). However, changes in both occupation and employer (between reference time points two years apart) tended to increase the likelihood of both upward and downward changes in earnings, with a stronger trend towards downward mobility (Hollister 2012). Since all of the occupation

changes examined in this chapter are by definition also employer changes, the potential for downward mobility due to occupation changes is large.

Research Questions

This chapter examines the extent to which women change occupation and industry when seeking re-employment after a period of non-employment and whether women's reasons for job exit and time away from employment predict such changes in occupation and industry. Specifically, I ask:

- (1) When women reenter employment, do they tend to shift occupation or industry of employment? How does this vary by reason for exit, duration of exit, educational attainment, and family life stage?
- (2) Which occupations and industries do women leave and where do they go? In which occupations and industries are women most likely to return to the same occupation and industry?
- (3) How do changes in characteristics of occupation/industry combinations vary by reason for exit, duration of exit, educational attainment, and family life stage?

The answers to these questions will provide information on whether and how women are at a disadvantage in the labor force if they use periodic non-employment as a way to meet their non-work needs and goals in the absence of sufficient policy supports such as paid family leave, as well as how this compares with women who leave to make potentially career enhancing job changes and women who lose their jobs through layoffs. I expect to find some occupations and industries with more stability (such as nurses, teachers, and perhaps retail or foodservice) and others where there is more of an exodus (such as higher status professional/managerial occupations). Occupation/industry stability would be expected for categories that require occupation and/or industry specific human capital or licensing, such as nurses, doctors, and teachers (Kleiner 2000; Schumacher

1997). Previous research has found a relatively high amount of occupation changes within the NLSY79 cohort when comparing time points two years apart, rather than examining specific transitions (Hollister 2012), thus it is reasonable to expect a substantial amount of change among women who spent two months or more without a job.

Changing occupation or industry upon re-employment could have a variety of causes and consequences for women. Some professional women may move away from a particularly inflexible job or one that requires long hours that are incompatible with new family responsibilities; this can involve moving to a different occupation or industry. Other women may move from a manufacturing job that disappeared due to a plant closure or layoffs to an often lower paid service job because that is all that is available in the area they live in. Still other women may move from one mediocre job to another mediocre job because they left the previous job to solve a particular family scheduling or health need, returning to whatever they can find because their family still needs the income (e.g. Clawson and Gerstel 2014). It is difficult to operationalize what constitutes a mediocre job in the NLSY79, but key characteristics can include occupation/industry combinations with low median wages and educational attainment. Existing evidence shows that workers who experience job loss are reemployed in a different occupation or industry for a variety of reasons, including inability to find another job in the same occupation or industry and changes in their desired job conditions (Holzer et al. 2011). Those who move from manufacturing to other industries, especially to the service industry, tend to experience wage decreases (Cha and Morgan 2010); such changes also contribute to labor force inequalities in the U.S. Thus the results from this study about changes in occupation

and industry will contribute to knowledge on how the individual advancement opportunities of some groups of workers may be hindered by their life circumstances such as involuntary job loss or an employment exit for family reasons.

Comparing changes in occupation and industry between women who left for family reasons and those who left jobs through layoffs will provide evidence on differences in reemployment among women with varying circumstances when they left employment. It is important to consider occupation and industry changes as well as changes in individual job conditions (examined in the following chapter), since occupations and industries are part of the labor market inequality structure, and they play a role in advancement opportunities, likely working conditions, and other aspects of working life. If women are leaving jobs that better use their education and/or are better compensated and returning to those that are lower on those dimensions, it may contribute to gender inequality in the labor market, since women are more likely to leave work for longer periods than men are.

Data & Methods

Data

This chapter uses data a subset of women in the 1979-2012 waves of the National Longitudinal Survey of Youth, 1979 cohort. The NLSY79 contains information from a nationally representative sample of people born between 1957 and 1964 in the U.S.; respondents were aged 14-22 when first interviewed in 1979, and aged 47 to 56 during the 2012 round of interviews. Respondents were interviewed annually from 1979 to 1994, then biannually from 1996 to 2012. The NLSY79 dataset contains information on 6,283 women; 1342 were excluded from the analytic sample for this chapter due to being in one

of the dropped subsamples (as in chapter 2), another 491 women were excluded because they did not have a period of non-employment lasting 2 months or longer (as in chapter 2), and 674 women meeting these other criteria were excluded due to missing data on covariates (mostly missing occupation or industry information, in some cases because the respondent was not observed returning to work in the dataset). Another 28 women were excluded because the combination of their occupation and industry at the start or end of a non-employment were not observed in the 1% 1990 U.S. Census Data from IPUMS and thus the occupation/industry characteristics could not be computed. Thus, the main analytic sample for this chapter is a subset of the dataset used in chapter 2 and includes 11,010 non-employment spells lasting two months or longer from 3,748 women in the NLSY79 sample. Some of the figures/tables do not require that sample restriction (because they do not use the IPUMS data) and thus use 11,390 non-employment spells lasting two months or longer from 3,776 women in the NLSY79 sample. See chapter 2 for more detailed information about sample construction and the data appendix for more information on how the analytic samples in each chapter relate to each other.

Variables

Classifying Occupation and Industry

Classifying occupation and industry in a dataset that spans over 30 years is a complicated issue. The NLSY79 uses 1970 U.S. Census codes for occupation and industry through the 2000 survey year, then various incarnations of 2000 U.S. Census codes for survey years 2002 to 2012. Crosswalks exist to combine those two coding schemes. However, I take advantage of the harmonization of U.S. Census data by IPUMS.org (Ruggles et al. 2015) and use their OCC1990 and IND1990 variables for occupation and industry respectively, which are designed for historical comparisons from

1950 to the present. I used the crosswalks available from IPUMS for both 1970 and 2000 coding schemes into the OCC1990 and IND1990 variables, then use the OCC1990 and IND1990 harmonized variables as the primary occupation and industry classification schemes for this chapter. There are 321 occupations and 229 industries included in the analysis dataset. I also add summary information from the 1990 U.S. Census on the proportion of women, proportion with a college degree, and median earned income within each occupation and industry combination. Using the 1990 census information is appropriate since it is in the middle of the time period studied chronologically, and by using summary statistics about occupations and industries from a single time point, I avoid conflating change over time in occupational compositions with changes among occupations for the women in the study. However, this does have the limitation of not exactly mapping the context for women at a given time point throughout the study. A further limitation is that it does not take into account local labor market conditions (shown to be important by Huffman 2004), although other research (e.g. Budig 2002) has also used national labor market conditions in similar ways to the present analysis.

As a comparison for examining change and as more parsimonious covariates in models, I created more aggregated measures of occupation and industry, capturing fifteen occupations and twelve industries. The fifteen occupation groupings are based on the IPUMS harmonized OCC1990 variable categorization, which is in turn based on U.S. Census occupation coding. Details on the fifteen occupation groupings and detailed occupation areas included in are shown in Table 10; I developed these groupings by combining high level headings in the IPUMS coding scheme as well as separating

particularly large occupations (e.g. cashiers and retail sales clerks, teachers) to separate them from other groupings that may not be as similar.

Table 11 shows the analogous classification for industry categories. I again based these groupings on the high level headings in the IPUMS coding scheme, but additionally considered the categories used by Landivar (2014), although they do not match perfectly because Landivar uses census codes from a later year for occupations and industries with more recent, cross-sectional data.

Table 10: Classification of Occupations into Broad Category Groupings Based on the U.S. Census Occupation Classification System

Broad Occupation Category	Detailed Occupation Areas Included
Management & Related Occupations	Executive, Administrative, and Managerial Occupations (including Legislators), Management Related Occupations (e.g. accountants, management analysts, personnel, HR, training, and labor relationships specialists)
Professional Specialty Occupations	Architects, Engineers, Mathematical and Computer Scientists, Natural Scientists, Librarians, Archivists and Curators, Social Scientists and Urban Planners, Social Workers, Recreation Workers, Clergy and Religious Workers, Lawyers and Judges, Writers (including editors and reporters), Artists, Entertainers, and Athletes
Health-Related Professionals	Health Diagnosing Occupations (e.g. physicians), Health Assessment and Treating Occupations (e.g. registered nurses), Therapists (e.g. physical therapists, physicians assistants)
Teachers	Postsecondary Teachers, Teachers except Postsecondary (e.g. primary school teachers, secondary school teachers, vocational and educational counselors)
Technicians and Related Support Occupations	Health Technologists and Technicians (e.g. dental hygienists, licensed practical nurses), Engineering and Related Technologists and Technicians, Science Technicians, Other Technicians (e.g. airplane pilots and navigators, air traffic controllers, computer software developers, legal assistants)
Sales (except Cashiers)	Sales Representatives for Finance and Business Services, Sales Representatives for Commodities, Sales Demonstrators, Supervisors and Proprietors of Sales Jobs
Cashiers & Retail Sales Clerks	Cashiers, Retail sales clerks, Door-to-door sales, street sales, and news vendors

Broad Occupation Category	Detailed Occupation Areas Included
Administrative Support & Clerical Occupations	Office supervisors, Secretaries, Stenographers, Typists, Information Clerks (e.g. interviewers, hotel clerks, receptionists), Records Processing Occupations (e.g. file clerks, records clerks, payroll and timekeeping clerks), Office Machine Operators, Communications Equipment Operators, Mail and Message Distribution Occupations (e.g. postal clerks and mail carriers), Material Recording, Scheduling, and Distributing Clerks, Adjusters and Investigators, Miscellaneous Administrative Support Occupations (e.g. general office clerks, bank tellers, data entry keyers)
Other Service	Private Household Occupations (e.g. housekeepers, maids), Protective Service Occupations (e.g. police officers, crossing guards and bridge tenders), Cleaning and Building Service Occupations (e.g. janitors, pest control occupations)
Food Preparation and Service	Bartenders, waiter/waitress, cooks, food counter and fountain workers, kitchen workers, waiter's assistant
Health Service	Dental assistants, Health aides, nursing aides, orderlies, and attendants
Personal Service	Barbers, Hairdressers and cosmetologists, recreation facility attendants, guides, ushers, public transportation attendants and inspectors, baggage porters, welfare service aides, child care workers
Agriculture and related	Farm Operators and Managers, Farm Occupations except Managerial (e.g. farm workers), Related Agricultural Occupations (e.g. gardeners and groundskeepers, animal caretakers except on farms, inspectors of agricultural products), Forestry and Logging Occupations, Fishers, Hunters

Broad Occupation Category	Detailed Occupation Areas Included
Precision Production, Craft, and Repair Occupations	Mechanics and Repairers (e.g. automobile mechanics, repairers of data processing equipment), Construction Trades (e.g. carpenters, drywall installers, electricians, plumbers), Extractive Occupations (e.g. drillers of oil wells, miners), Precision Production Occupations (e.g. tool and die makers, boilermakers, engravers, cabinetmakers, dressmakers and seamstresses, butchers, bakers), Plant and System Operators (e.g. power plant operators)
Operators, Fabricators, and Laborers	Machine Operators and Tenders (e.g. sawing machine operators, printing machine operators, textile sewing machine operators), Fabricators and Assemblers (e.g. welders and metal cutters, assemblers of electrical equipment), Motor Vehicle Operators (e.g. bus drivers, parking lot attendants), Transportation Occupations (e.g. railroad conductors, ship crews), Material Moving Equipment Operators (e.g. excavating and loading machine operators), Freight, Stock, and Material Handlers (e.g. stock handlers, stevedores and longshore workers, garbage and recyclable material collectors)

Table 11: Classification of Industries into Broad Category Groupings Based on the U.S. Census Occupation Classification System

Broad Industry Category	Detailed Industry Areas Included
Agriculture and related	Agriculture, Forestry, and Fisheries (e.g. agricultural production, veterinary services, landscape and horticultural services, forestry, fishing, hunting, and trapping)
Construction	All construction
Manufacturing (& Mining)	Mining (e.g. metal mining, coal mining, oil and gas extraction), Manufacturing of Nondurable Goods (e.g. food, textile mill products, apparel), Manufacturing of durable goods (e.g. furniture, glass products, transportation equipment, photographic equipment)
Transportation, Communications, & Services	Transportation (e.g. railroads, taxicab service, trucking service), Communications (e.g. radio and television broadcasting and cable, telephone communications), Utilities and sanitary services (e.g. electric light and power, water supply and irrigation)
Wholesale	Wholesale Trade in Durable Goods (e.g. motor vehicles and equipment, furniture and home furnishings, lumber and construction materials), Wholesale trade in Nondurable Goods (e.g. paper and paper products, apparel, fabrics and notions, groceries and related products, farm supplies)
Retail	Retail Trade (e.g. hardware stores, department stores, grocery stores, motor vehicle dealers)
Finance, Insurance, & Real Estate	Finance, Insurance, and Real Estate (e.g. Banking, Savings institutions, Security, commodity brokerage, and investment companies, Insurance, Real estate)
Business & Repair Services	Business and Repair Services (e.g. advertising, computer and data processing services, automotive rental and leasing, automotive repair and related services)

Broad Industry Category	Detailed Industry Areas Included
Personal Services	Personal Services (e.g. private households, hotels and motels, lodging places, laundry, cleaning and garment services, beauty shops, barber shops, funeral service and crematories, shoe repair shops, dressmaking shops)
Entertainment & Recreation Services	Entertainment and Recreation Services (e.g. theaters and motion pictures, video tape rental, bowling centers)
Professional & Related Services	Professional and Related Services (e.g. offices and clinics of physicians, hospitals, legal services, elementary and secondary schools, colleges and universities, libraries, job training and vocational rehabilitation services, child day care services, labor unions, engineering and architectural services, accounting and bookkeeping services, management and public relations services)
Public Administration	Public Administration (e.g. executive and legislative offices, general government, justice, public order and safety, public finance, taxation and monetary policy, administration of economic programs, national security and international affairs)

Reason Left Job

A focal independent variable for this chapter is the reason women left their most recent job. It is coded into 5 categories: family reasons (e.g. pregnancy, caring for children, and caring for other family members), layoffs, the end of a temporary or program job, getting fired, and non-family voluntary reasons. See chapter 2 for additional details on the creation and coding of this variable.

Time Away from Employment

In the previous chapter, I used event history models to examine the hazard of returning to work; that is an appropriate way to handle the time dependency for models of returning to work, but competing risks models of returning to work in a different occupation or industry quickly become complicated, and as shown later, are not particularly likely to be informative given that most women change both occupation and industry of employment. Thus, I use a categorical variable for months away from employment in this chapter, with categories for 2-5 months, 6-11 months, 12-23 months (about 1-2 years), 24-47 months (about 2-4 years), and 48-365 months (4 years to the maximum time observed, just under 25 years).

Education

I include variables for respondent's highest degree completed before the start of a period of non-employment as a measure of their human capital if they immediately began searching for a new job. Categories for this variable are: less than high school degree, high school degree or GED, some college no degree, associate/junior college degree, and bachelor's degree or higher. While some college no degree and an associate/junior college degree are often combined, they have different labor force consequences (Jepsen et al. 2014), so I separate the categories here. See chapter 2 for additional details on the

creation and coding of this variable. In this chapter, I also include a variable for whether a respondent was ever in school during a non-employment spell. Models in the previous chapter used a time-varying indicator of school enrollment, but that is not possible for this chapter since event history models are not used. Women were enrolled in school for at least a month during sixteen percent of non-employment spells, although only twenty-seven percent of those women (less than five percent of the total) moved up a category in the education coding scheme or got an additional degree while not employed (e.g. moved from a high school degree only to some college, received a masters degree when they already had a bachelor's degree, etc).

Family Status

The presence and age of women's children has been shown to affect women's labor force behavior (e.g. chapter 2), thus family life stage is another important variable to examine. I include a variable combining the age of youngest child at the start of each non-employment spell with whether women had no children at the start and end of the non-employment spell, whether women had their first child during the non-employment spell, and whether women had their second or later child during the non-employment spell. Models in chapter 2 used time varying variables to capture changes in age of youngest child during the non-employment spell, but that is not feasible without using event history models. This hybrid variable captures the major changes in motherhood status that affect women's return to work, while also accounting for the age of their children if there is no change in mother hood status. Age of youngest child is categorized as: very young children (ages 0-2), older preschoolers (ages 3-5), school age children (ages 6-18), and (young) adult children (age 19 or older).

Models also include variables capturing marital status and related changes. I include a four category variable with not married throughout non-employment spell as the reference category, comparing to married at the start and end of the non-employment spell and no changes in partner, those who married or changed who married to during the non-employment spell, and those who became unmarried during the non-employment spell.

Other Variables

Models also control for whether the start of each non-employment spell was part of a recession as defined by the NBER. This is similar to the indicator of economic conditions used in chapter 2, but the indicator used in chapter 2 was time-varying, which is not feasible without using event history models. Most of the remaining controls mirror what was used in chapter 2. I include a three category variable for age at start of non-employment spell (ages 18-24, 25-34, and 35-55), the natural log of months employed at any job prior to non-employment spell, an indicator for health limiting the amount or type of work a woman can do at the start of each non-employment spell, and indicators for Latina and black respondents. I do not include a variable for labor force status, since it is particularly correlated with other variables in the model, and it is more informative to exclude it. I also include indicators for non-employment spell number, since many respondents have more than one non-employment spell included in the dataset. I also use clustered standard errors with the logistic and linear regression models to further account for the non-independence of repeated observations from the same woman in the dataset. The final control variables are broad occupation and industry categories at the start of each non-employment spell; the specific categories for those are described in Table 10 and Table 11 above.

Analytic Strategy

This chapter first summarizes the prevalence of occupation and industry changes after periods of non-employment lasting two months or longer, examining descriptive differences by reason for exit, length of exit, and education among those who return to employment after exits, with a focus on occupation and industry changes (or stability). Repeated two-sample t-tests were used to compare the proportion of people in each occupation/industry change category by reason for exit, length of exit, and education. No correction was made for repeated comparisons, so it is important to not give much weight to borderline p-values in such tests. Logistic regression models are then used to model the odds of not changing occupation and/or industry, using both the broad and detailed classification schemes. Odds of not changing were easier to conceptualize for a model, as compared to changing both occupation and industry vs changing just one of those groups or neither; additionally, no change in either occupation or industry is conceptually more different than changing either or both. Further analysis then describes the occupations left and returned to. Finally, linear regression models are used to examine the relationship between the focal independent variables and change in characteristics of occupation/industry combinations, such as the proportion female, the proportion with a bachelor's degree, and the median income.

Results

Sample Description

Table 12 describes the analytic sample for this chapter. It is a subset of the sample used in chapter 2, but as discussed above it is smaller due to the requirement that occupation and industry information be non-missing at the start and end of each non-employment spell included. Thus the person-spells where women are not observed

returning to work are excluded, as are those who are missing information on occupation and industry at either time point. I chose to exclude person-spells where women are not observed returning to work in this chapter, since the return to work relationship is analyzed in the previous chapter, and this chapter can then focus on differences in occupations and industries left and returned to in a sample where all person-spells include information at both time points, which greatly simplifies the analysis. The characteristics are similar to those for the sample used in chapter 2, as would be expected.

Table 12: Description of Analysis Sample for Occupation & Industry Changes

	Prop.	Mean	StdDev	Median	Min	Max
<i>Reason for Leaving Employment</i>						
Layoff / Job Eliminated / Workplace Closed	0.173			0.000	0.000	1.000
End of Temporary or Program Job	0.103			0.000	0.000	1.000
Fired	0.065			0.000	0.000	1.000
Family Reasons	0.147			0.000	0.000	1.000
Non-Family Voluntary	0.512			1.000	0.000	1.000
<i>Duration of Non-Employment</i>						
Non-Employment Spell 2-5 Months	0.340			0.000	0.000	1.000
Non-Employment Spell 6-11 Months	0.228			0.000	0.000	1.000
Non-Employment Spell 12-23 Months	0.207			0.000	0.000	1.000
Non-Employment Spell 24-47 Months	0.127			0.000	0.000	1.000
Non-Employment Spell 48-300 Months	0.099			0.000	0.000	1.000
<i>Education</i>						
<i>Highest Degree at Start of Non-Employment Spell</i>						
Less than High School Education	0.110			0.000	0.000	1.000
High School Degree/GED	0.500			1.000	0.000	1.000
Some College, No Degree	0.208			0.000	0.000	1.000
Associate/Junior College Degree	0.065			0.000	0.000	1.000
Bachelor's Degree or Higher	0.116			0.000	0.000	1.000
Attended School During Non-Employment Spell	0.160			0.000	0.000	1.000
<i>Family Status</i>						
<i>Age of Youngest Child</i>						
No Children at Start of Non-Employment Spell	0.377			0.000	0.000	1.000
Youngest Child Less than Age 2 at Start of Non-Employment Spell	0.131			0.000	0.000	1.000
Youngest Child Age 2-5 at Start of Non-Employment Spell	0.193			0.000	0.000	1.000
Youngest Child Age 6-18 at Start of Non-Employment Spell	0.249			0.000	0.000	1.000
Youngest Child Age 19 or Older at Start of Non-Employment Spell	0.051			0.000	0.000	1.000

	Prop.	Mean	StdDev	Median	Min	Max
<i>Number of Children Born During Non-Employment Spell (No Children Born omitted)</i>						
No Children Born During Non-Employment Spell	0.840			1.000	0.000	1.000
1 Child Born During Non-Employment Spell	0.127			0.000	0.000	1.000
2 or More Children Born During Non-Employment Spell	0.033			0.000	0.000	1.000
<i>Marital Status</i>						
Not Married at Start of Non-Employment Spell and No Change in Marital Status	0.427			0.000	0.000	1.000
Married at Start of Non-Employment Spell and No Change in Marital Status	0.487			0.000	0.000	1.000
Got Married or Changed Person Married to During Non-Employment Spell	0.046			0.000	0.000	1.000
Became Not Married During Non-Employment Spell (Divorced, Widowed, etc)	0.039			0.000	0.000	1.000
<i>Characteristics of Occupation/Industry</i>						
Occ/Ind Proportion Female Prior to Non-Employment Spell	0.683	0.260	0.762	0.000	0.000	1.000
Occ/Ind Proportion Female at End of Non-Employment Spell	0.691	0.259	0.780	0.000	0.000	1.000
Occ/Ind Proportion with Bachelor's Degree Prior to Non-Employment Spell	0.160	0.201	0.074	0.000	0.000	1.000
Occ/Ind Proportion with Bachelor's Degree at End of Non-Employment Spell	0.174	0.219	0.076	0.000	0.000	1.000
ln (Occ/Ind Median Income) Prior to Non-Employment Spell	9.280	0.656	9.306	1.000	11.695	
ln (Occ/Ind Median Income) at End of Non-Employment Spell	9.268	0.665	9.215	1.000	11.695	
<i>Other Variables</i>						
Start of Non-Employment Spell within NBER Defined Recession	0.151			0.000	0.000	1.000
<i>Age at Start of Non-Employment Spell</i>						
Age 18-24 at Start of Non-Employment Spell	0.340			0.000	0.000	1.000
Age 25-34 at Start of Non-Employment Spell	0.382			0.000	0.000	1.000

	Prop.	Mean	StdDev	Median	Min	Max
Age 35-55 at Start of Non-Employment Spell	0.278			0.000	0.000	1.000
Ln(Months Employed (at any job) Prior to Non-Employment Spell)		4.295	0.849	4.344	2.485	6.059
Health Limits Amount or Type of Work (Start of Non-Employment Spell)	0.067			0.000	0.000	1.000
<i>Race/Ethnicity</i>						
Latina	0.184			0.000	0.000	1.000
Black	0.320			0.000	0.000	1.000
Non-Black, Non-Latina	0.497			0.000	0.000	1.000
<i>Non-employment Spell Number</i>						
1st Non-Employment Spell	0.235			0.000	0.000	1.000
2nd Non-Employment Spell	0.198			0.000	0.000	1.000
3rd Non-Employment Spell	0.162			0.000	0.000	1.000
4th Non-Employment Spell	0.124			0.000	0.000	1.000
5th Non-Employment Spell	0.093			0.000	0.000	1.000
6th Non-Employment Spell	0.064			0.000	0.000	1.000
7th Non-Employment Spell	0.043			0.000	0.000	1.000
8th or Later Non-Employment Spell	0.081			0.000	0.000	1.000
<i>Broad Occupation Category Prior to Non-Employment Spell (Administrative Support & Clerical Occupations omitted)</i>						
Management & Related Occupations	0.076			0.000	0.000	1.000
Professional Specialty Occupations	0.031			0.000	0.000	1.000
Health-Related Professionals	0.017			0.000	0.000	1.000
Teachers	0.033			0.000	0.000	1.000
Technicians and Related Support Occupations	0.025			0.000	0.000	1.000
Sales (except Cashiers)	0.057			0.000	0.000	1.000
Cashiers & Retail Sales Clerks	0.087			0.000	0.000	1.000
Other Service	0.053			0.000	0.000	1.000
Food Preparation and Service	0.114			0.000	0.000	1.000
Health Service	0.053			0.000	0.000	1.000
Personal Service	0.062			0.000	0.000	1.000
Agriculture and related	0.010			0.000	0.000	1.000
Precision Production, Craft, and Repair Occupations	0.020			0.000	0.000	1.000

	Prop.	Mean	StdDev	Median	Min	Max
Operators, Fabricators, and Laborers	0.115			0.000	0.000	1.000
<i>Broad Industry Category Prior to Non-Employment Spell (Retail Industry omitted)</i>						
Agriculture and related	0.011			0.000	0.000	1.000
Construction	0.016			0.000	0.000	1.000
Manufacturing (& Mining)	0.126			0.000	0.000	1.000
Transportation, Communications, & Services	0.032			0.000	0.000	1.000
Wholesale	0.018			0.000	0.000	1.000
Finance, Insurance, & Real Estate	0.061			0.000	0.000	1.000
Business & Repair Services	0.069			0.000	0.000	1.000
Personal Services	0.089			0.000	0.000	1.000
Entertainment & Recreation Services	0.018			0.000	0.000	1.000
Professional & Related Services	0.252			0.000	0.000	1.000
Public Administration	0.031			0.000	0.000	1.000

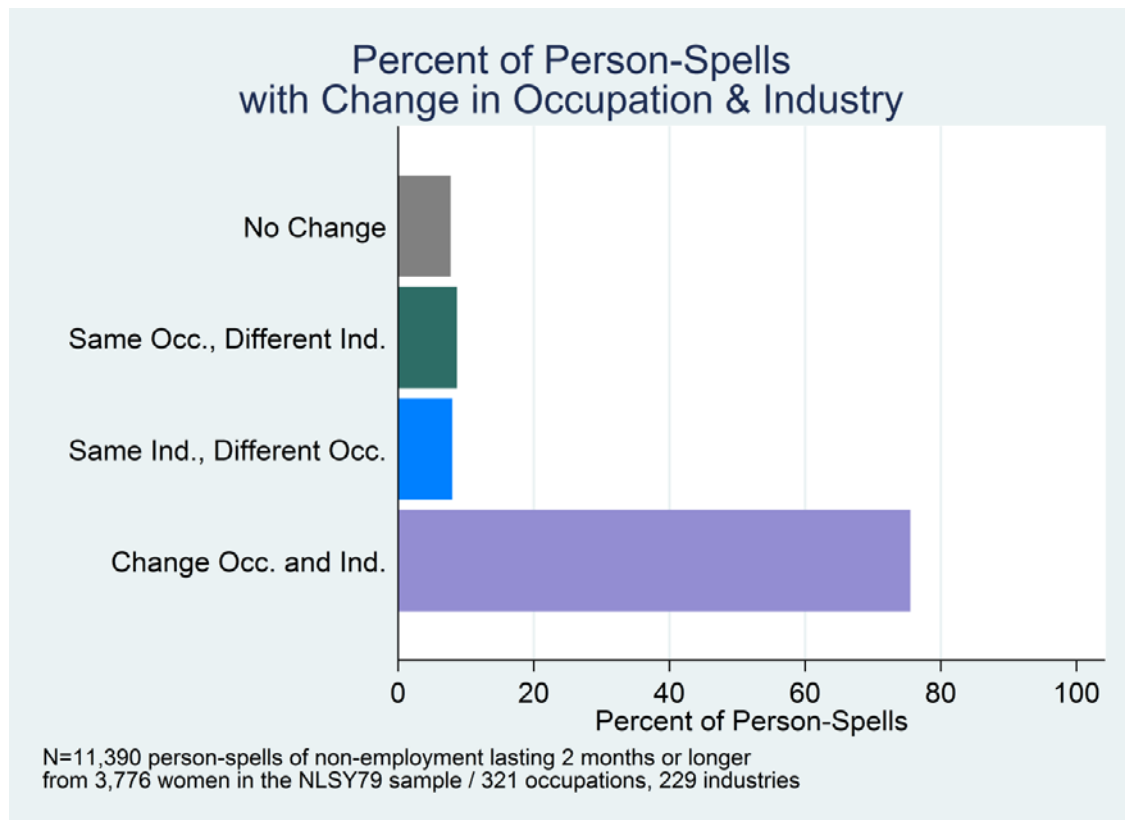
N = 11,010 person-spells of non-employment from 3,748 women in the NLSY79

Changes in Occupation and Industry

Description of Change

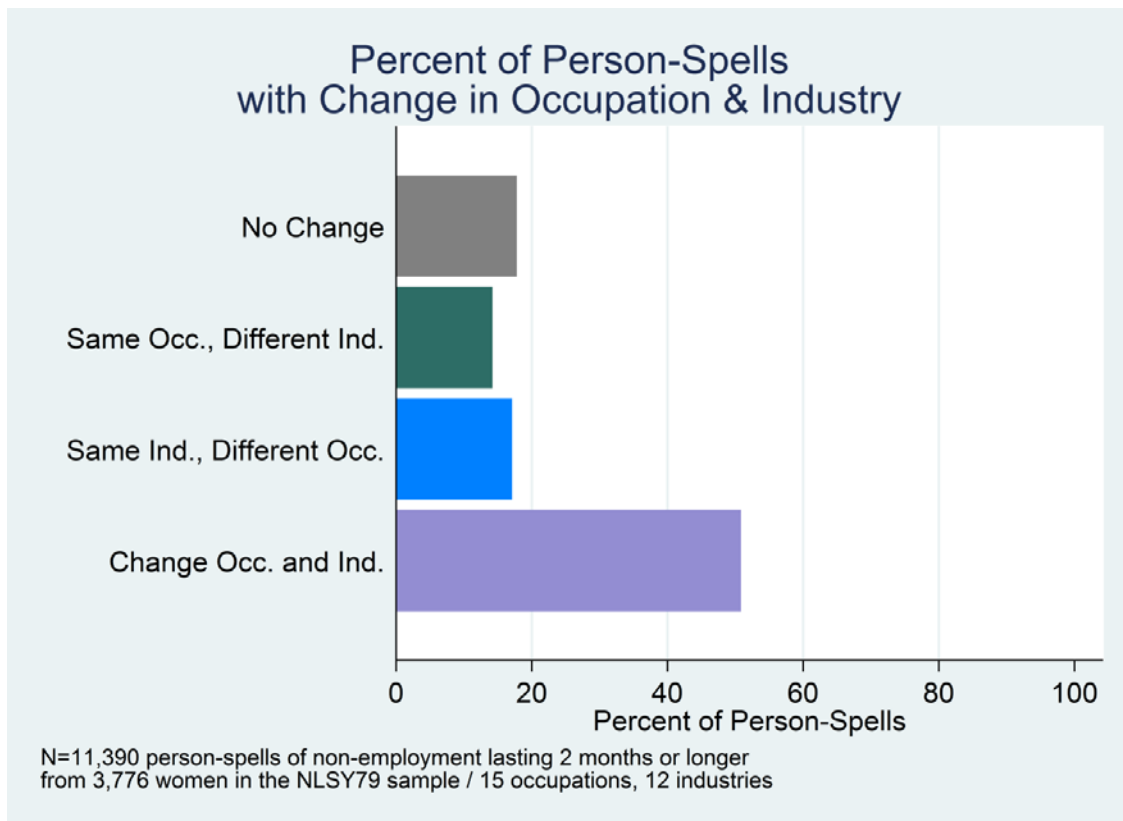
The first part of the first research question asks whether women change occupation or industry when returning to work. Using the over 200 detailed occupation and industry codes, in over seventy-five percent of person-spells of non-employment, women who exited employment change both occupation and industry when they return. Details are shown in Figure 7.

Figure 7: Percent of Person-Spells with Change in Detailed Occupation and Industry Among Person-Spells Where Women Are Observed Returning to Work



When considering only changes across the fifteen broad occupation categories combined with the twelve broad industry categories, in just over fifty percent of person-spells of non-employment, women change both occupation and industry when leaving and returning to employment in this sample, as shown in Figure 8 below.

Figure 8: Percent of Person-Spells with Change in Broad Occupation and Industry Among Person-Spells Where Women Are Observed Returning to Work



While this seems like a large amount of change, particularly for people with shorter spells of non-employment, it is not inconsistent with other findings on occupation change between reference time points two years apart (Hollister 2012). In addition, this is a cohort beginning their careers in the late 1970s and early 1980s, when women’s labor market options were expanding greatly in the United States, so moving to newly available opportunities may drive some of this change. Alternatively, some of the differences could be due to differences or errors in occupation coding across survey years; however, that is less likely to be driving the amount of change in the broad occupation and industry categories. The NLSY79 documentation describes some inconsistencies in occupation and industry coding across survey waves for the same job, if respondents described their job using slightly different words; such inconsistencies were reduced after 1994 when

respondents were asked if their occupation and industry from the previous survey were still correct, rather than asking them to describe the occupation and industry (National Longitudinal Surveys n.d.). When examining data from the 1979-1986 survey years, around eighty percent of people who did not change jobs between survey years did not change industry, so there is some respondent and/or coding error present in those years, but not enough to account for the magnitude of changes observed in this sample (National Longitudinal Surveys n.d.). When examining change in four categories as graphed in Figure 7 and Figure 8 before and after the change in survey methods in 1994, there is slightly more change before 1994 and slightly less change afterwards, but the differences are within two percentage points for the detailed occupation/industry coding and within five percentage points for the broad occupation/industry coding.

The second part of the first research question considers whether change in occupation and industry varies by reason for exit, duration of exit, educational attainment, and family life stage. The short answer is, not by very much, whether using detailed or broad occupation and industry classification schemes. However, there are a few significant differences among groups. Table 13 shows the p-values for change in detailed occupation/industry category, while Table 14 shows the p-values for change in broad occupation/industry category. A significantly higher proportion of women who left their last job through layoffs changed industry but not occupation than those who left for other reasons. This holds true when using both broad and detailed occupation and industry codes, and it may indicate that women who experience layoffs are less likely to be able to find employment in the same industry (particularly if the layoffs are due to a plant closure or a work site moving from the area they live in). A higher proportion of

women whose last job was a temporary or program job changed both occupation and industry upon return to work; this difference was significant versus all other reasons when using detailed occupation/industry codes, but it was not significantly different than family reasons when using broad occupation/industry codes.

Figure 9: Percent of Person-Spells with Change in Detailed Occupation & Industry by Reason for Leaving Last Job Among Person-Spells Where Women Are Observed Returning to Work

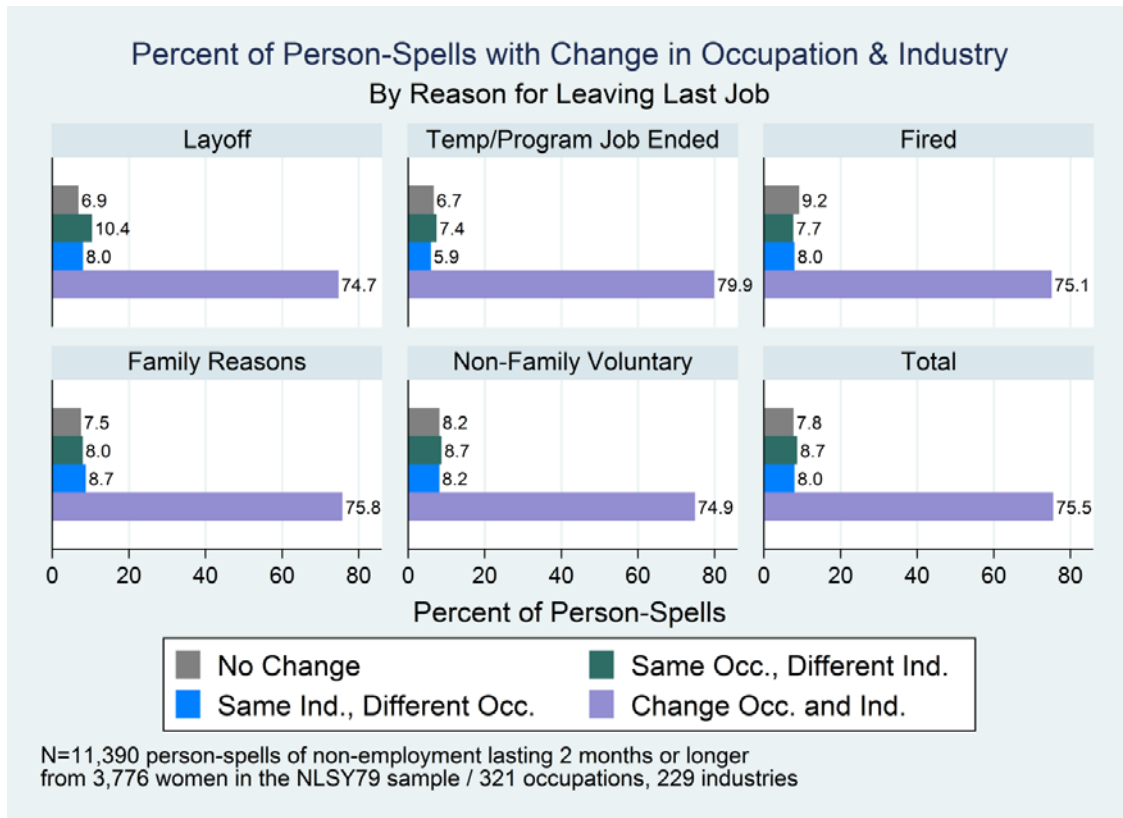


Figure 9 and Figure 10 show the percent in each reason for leaving last job category by change in occupation and industry. Figure 9 uses detailed occupation and industry codes, while Figure 10 uses the broad occupation and industry codes and thus shows a smaller amount of change. There are also other significant differences, but none that were consistent across categories of reason for leaving and level of detail in occupation and industry codes.

Figure 10: Percent of Person-Spells with Change in Broad Occupation & Industry by Reason for Leaving Last Job Among Person-Spells Where Women Are Observed Returning to Work

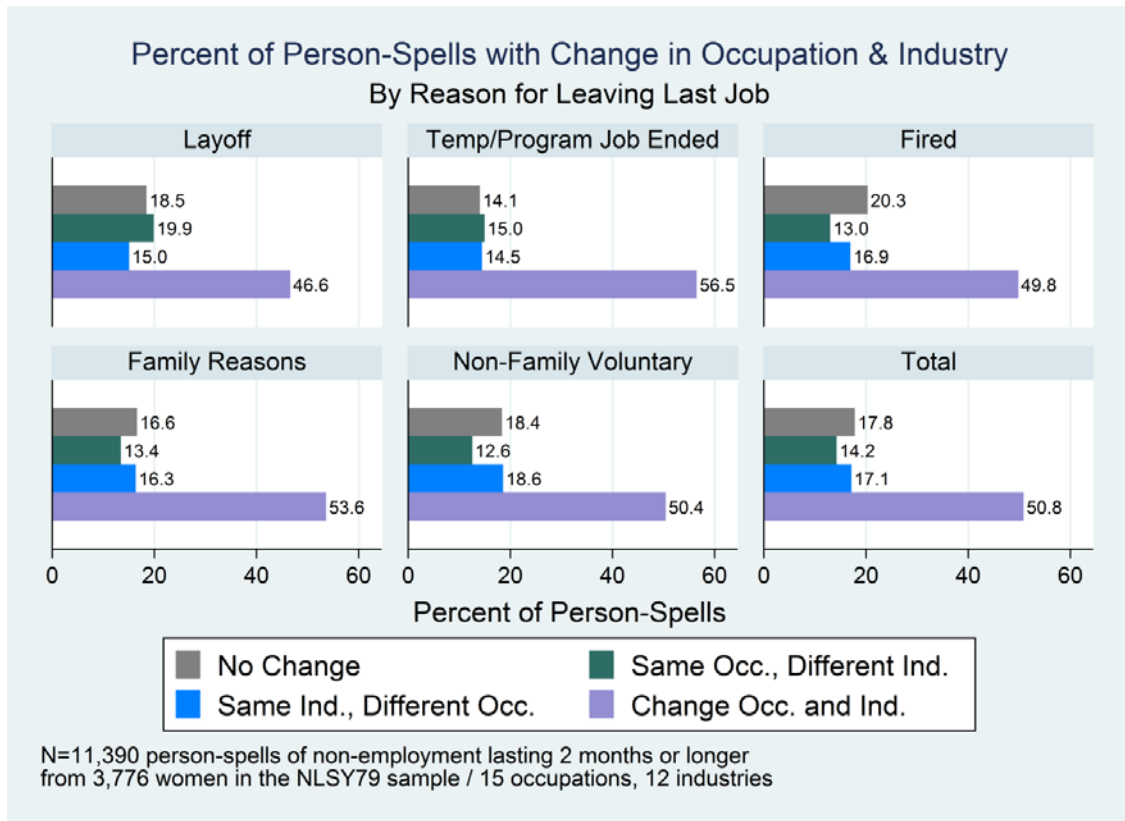


Table 13: P-values for t-tests of Difference in Proportion of Women in Detailed Occupation/Industry Change Categories between Reason for Leaving Last Job Categories Among Person-Spells Where Women Are Observed Returning to Work

	Layoff vs Temp Job	Layoff vs Fired	Layoff vs Family Reasons	Layoff vs Non-Family Voluntary	Temp Job vs Fired	Temp Job vs Family Reasons	Temp Job vs Non-Family Voluntary	Fired vs Family Reasons	Fired vs Non-Family Voluntary	Family Reasons vs Non-Family Voluntary
No Change in Broad Occupation or Industry	0.855	0.040	0.432	0.057	0.044	0.389	0.080	0.167	0.352	0.385
Change Broad Occupation, Same Broad Industry	0.006	0.037	0.013	0.031	0.830	0.613	0.143	0.835	0.346	0.314
Same Broad Occupation, Change Broad Industry	0.028	0.967	0.440	0.836	0.081	0.005	0.009	0.537	0.854	0.462
Change Broad Occupation and Broad Industry	0.001	0.844	0.478	0.900	0.013	0.009	0.000	0.732	0.894	0.466

Note: Table shows p-values from 2 sample t-tests of the difference in percent of women in each detailed occupation/industry category between the two reason for leaving last job categories shown in the column label. Tests are not adjusted for multiple comparisons, so caution should be used in drawing conclusions from borderline values at traditional statistical significance levels. Values in bold are those with $p < .05$.

Table 14: P-values for t-tests of Difference in Proportion of Women in Broad Occupation/Industry Change Categories between Reason for Leaving Last Job Categories Among Person-Spells Where Women Are Observed Returning to Work

	Layoff vs Temp Job	Layoff vs Fired	Layoff vs Family Reasons	Layoff vs Non-Family Voluntary	Temp Job vs Fired	Temp Job vs Family Reasons	Temp Job vs Non-Family Voluntary	Fired vs Family Reasons	Fired vs Non-Family Voluntary	Family Reasons vs Non-Family Voluntary
No Change in Broad Occupation or Industry Change Broad Occupation, Same Broad Industry	0.001	0.276	0.141	0.958	0.000	0.066	0.000	0.028	0.212	0.090
Same Broad Occupation, Change Broad Industry	0.001	0.000	0.000	0.000	0.224	0.247	0.023	0.760	0.736	0.334
Change Broad Occupation, Change Broad Industry	0.661	0.233	0.284	0.000	0.149	0.175	0.001	0.729	0.263	0.035
Change Broad Occupation and Broad Industry	0.000	0.140	0.000	0.003	0.004	0.129	0.000	0.084	0.743	0.022

Note: Table shows p-values from 2 sample t-tests of the difference in percent of women in each broad occupation/industry category between the two reason for leaving last job categories shown in the column label. Tests are not adjusted for multiple comparisons, so caution should be used in drawing conclusions from borderline values at traditional statistical significance levels. Values in bold are those with $p < .05$.

Table 15: P-values for t-tests of Difference in Proportion of Women in Detailed Occupation/Industry Change Categories between Education at Start of Non-Employment Spell Categories Among Person-Spells Where Women Are Observed Returning to Work

	Less than HS vs HS Degree	Less than HS vs Some College	Less than HS vs Associates degree	Less than HS vs Bachelor's Degree	HS Degree vs Some College	HS Degree vs Associates Degree	HS Degree vs Bachelor's Degree	Some College vs Associates Degree	Some College vs Bachelor's Degree	Associates Degree vs Bachelor's Degree
No Change in Broad Occupation or Industry Change	0.146	0.039	0.915	0.224	0.281	0.302	0.002	0.107	0.000	0.254
Broad Occupation, Same	0.553	0.377	0.052	0.024	0.041	0.004	0.000	0.163	0.088	0.995
Broad Industry Same										
Broad Occupation, Change	0.012	0.085	0.628	0.299	0.510	0.008	0.000	0.045	0.003	0.687
Broad Industry Change										
Broad Occupation and Broad Industry	0.004	0.077	0.130	0.003	0.279	0.000	0.000	0.001	0.000	0.321

Note: Table shows p-values from 2 sample t-tests of the difference in percent of women in each detailed occupation/industry category between the two education at start of non-employment spell categories shown in the column label. Tests are not adjusted for multiple comparisons, so caution should be used in drawing conclusions from borderline values at traditional statistical significance levels. Values in bold are those with $p < .05$.

Table 16: P-values for t-tests of Difference in Proportion of Women in Broad Occupation/Industry Change Categories between Education at Start of Non-Employment Spell Categories Among Person-Spells Where Women Are Observed Returning to Work

	Less than HS vs HS Degree	Less than HS vs Some College	Less than HS vs Associates degree	Less than HS vs Bachelor's Degree	HS Degree vs Some College	HS Degree vs Associates Degree	HS Degree vs Bachelor's Degree	Some College vs Associates Degree	Some College vs Bachelor's Degree	Associates Degree vs Bachelor's Degree
No Change in Broad Occupation or Industry Change	0.001	0.002	0.821	0.352	0.787	0.018	0.000	0.019	0.000	0.307
Broad Occupation, Same	0.001	0.000	0.001	0.007	0.073	0.269	0.879	0.981	0.164	0.301
Broad Industry Same										
Broad Occupation, Change	0.878	0.248	0.062	0.075	0.062	0.017	0.012	0.278	0.386	0.734
Broad Industry Change										
Broad Occupation and Broad Industry	0.780	0.140	0.001	0.000	0.014	0.000	0.000	0.009	0.003	0.870

Note: Table shows p-values from 2 sample t-tests of the difference in percent of women in each broad occupation/industry category between the two education at start of non-employment spell categories shown in the column label. Tests are not adjusted for multiple comparisons, so caution should be used in drawing conclusions from borderline values at traditional statistical significance levels. Values in bold are those with $p < .05$.

In terms of differences in length of non-employment spell, there is a consistent pattern of more change with longer periods of non-employment, as shown in Figure 11 and Figure 12 below. A similar pattern is apparent when examining the median instead of the mean and when examining survival graphs by occupation and industry change. One-way ANOVAs show that mean years of non-employment are different across the occupation and industry change groups for both broad and detailed occupation and industry classifications.

Figure 11: Mean Years of Non-Employment By Change in Detailed Occupation and Industry Among Person-Spells Where Women Are Observed Returning to Work

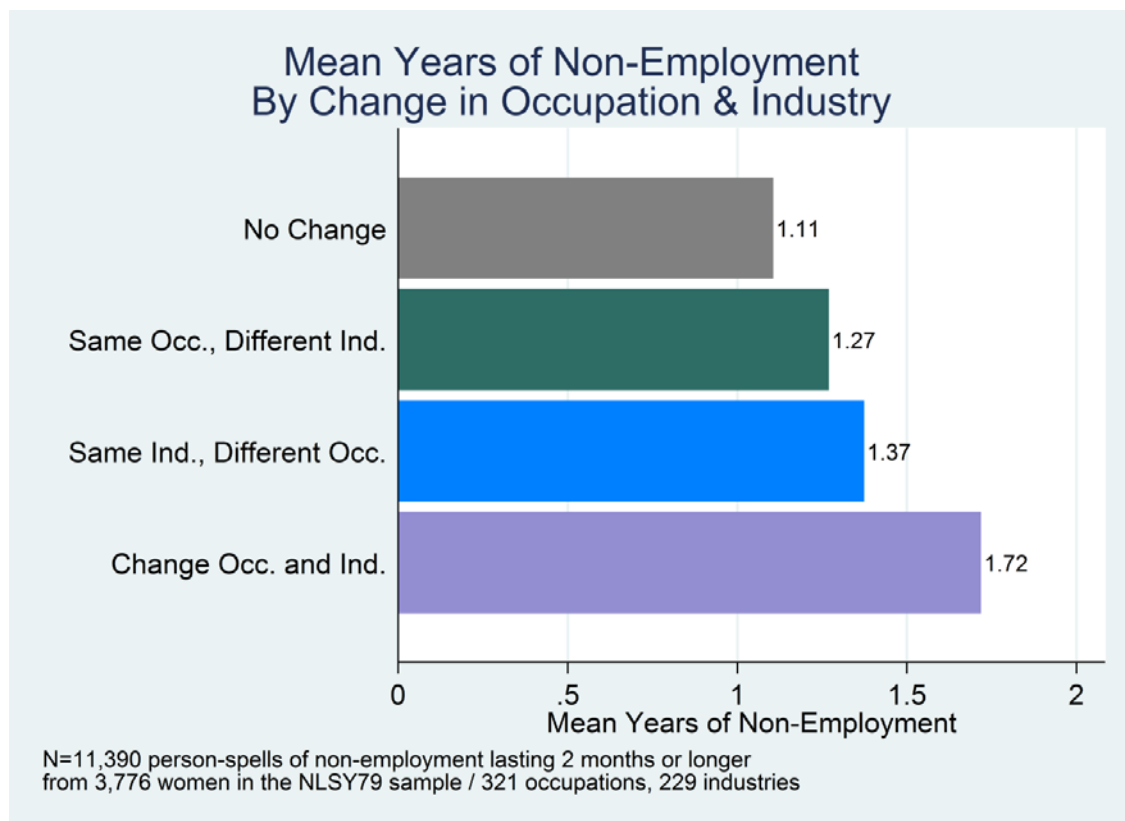
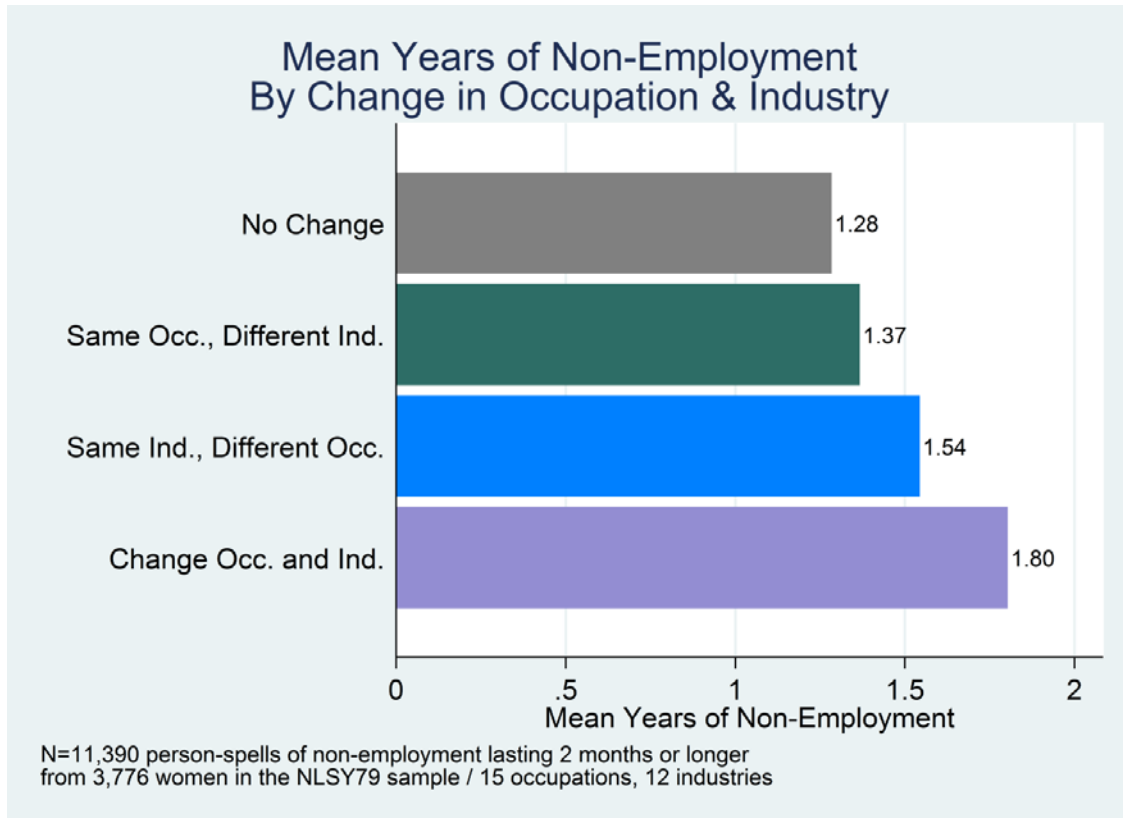


Figure 12: Mean Years of Non-Employment By Change in Broad Occupation and Industry Among Person-Spells Where Women Are Observed Returning to Work



There are somewhat more differences in occupation and industry change by education at the start of a non-employment spell. The main difference that is consistently statistically significantly different is that substantially fewer women with a bachelor's degree or associates degree change both occupation and industry using either detailed or broad coding schemes, as shown in Table 15 and Table 16. Figure 13 and Figure 14 show the percentages in each category, and it is clear that there is a break off in the percent of women who change both occupation and industry among those who have a completed post-secondary credential. While a high percent of women with a post-secondary education credential still change occupation and industry after a period of non-employment, it is a notably smaller amount than for those with less education.

Figure 13: Percent of Person-Spells with Change in Detailed Occupation & Industry by Education at Start of Non-Employment Spell Among Person-Spells Where Women Are Observed Returning to Work

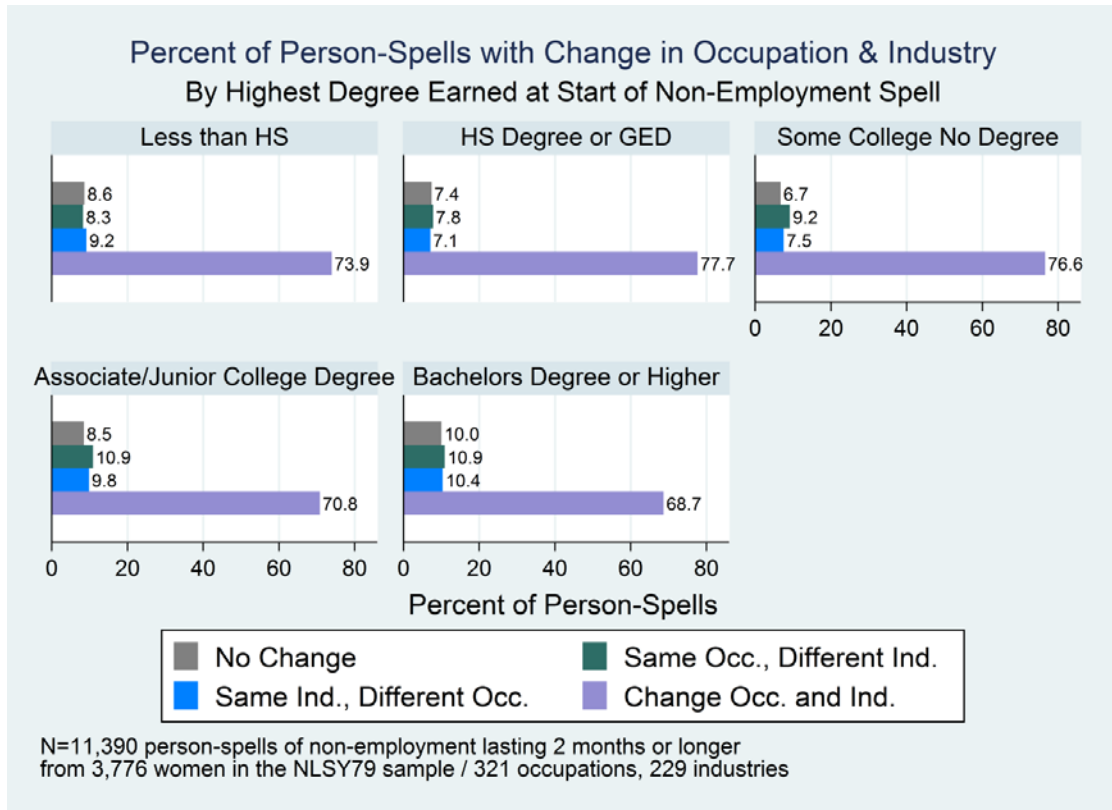
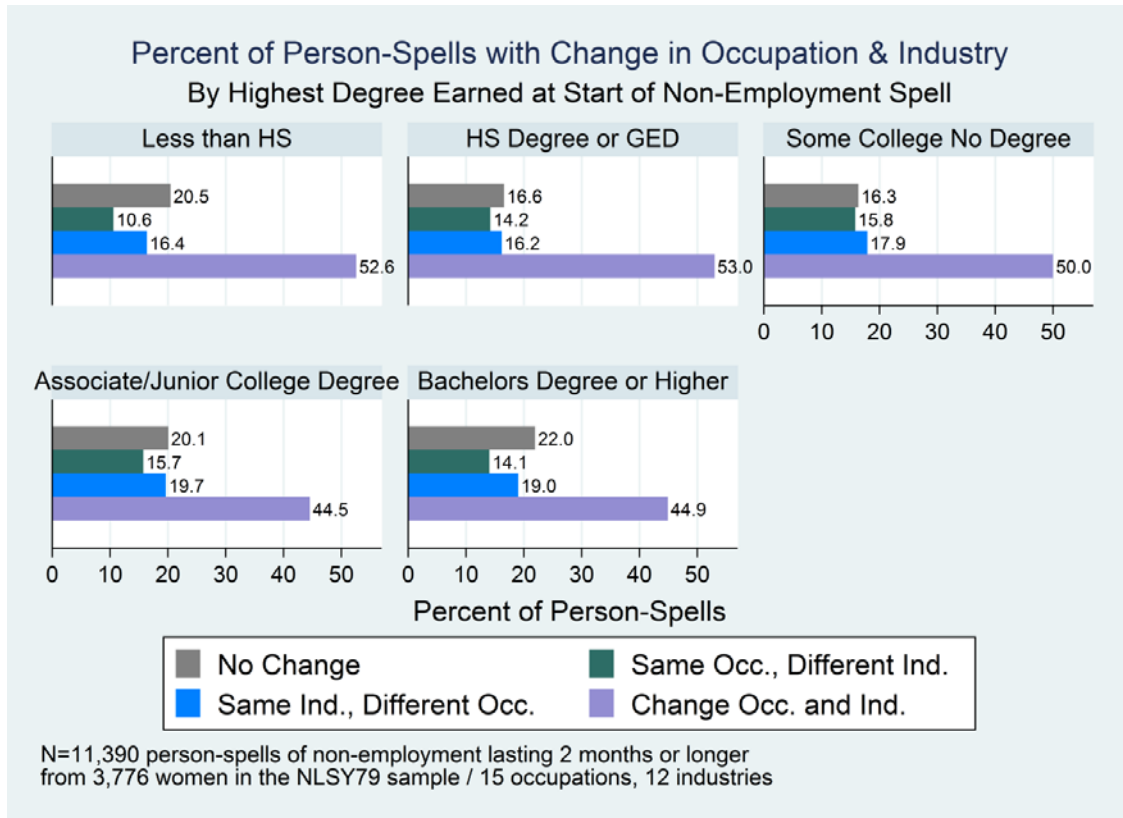


Figure 14: Percent of Person-Spells with Change in Broad Occupation & Industry by Education at Start of Non-Employment Spell Among Person-Spells Where Women Are Observed Returning to Work



When considering family life stage, the main differences in occupation/industry change are between those women who had at least one child while not employed; a higher percentage of women who had children while away from employment changed both occupation and industry, although the magnitude of the difference varies slightly by the specific comparison group. A greater portion of women who had their first child reported no change in occupation and industry as well. Figure 15 and Figure 16 show the percent of women in each occupation and industry change category by family life stage.

Figure 15: Percent of Person-Spells with Change in Detailed Occupation & Industry by Family Life Stage Among Person-Spells Where Women Are Observed Returning to Work

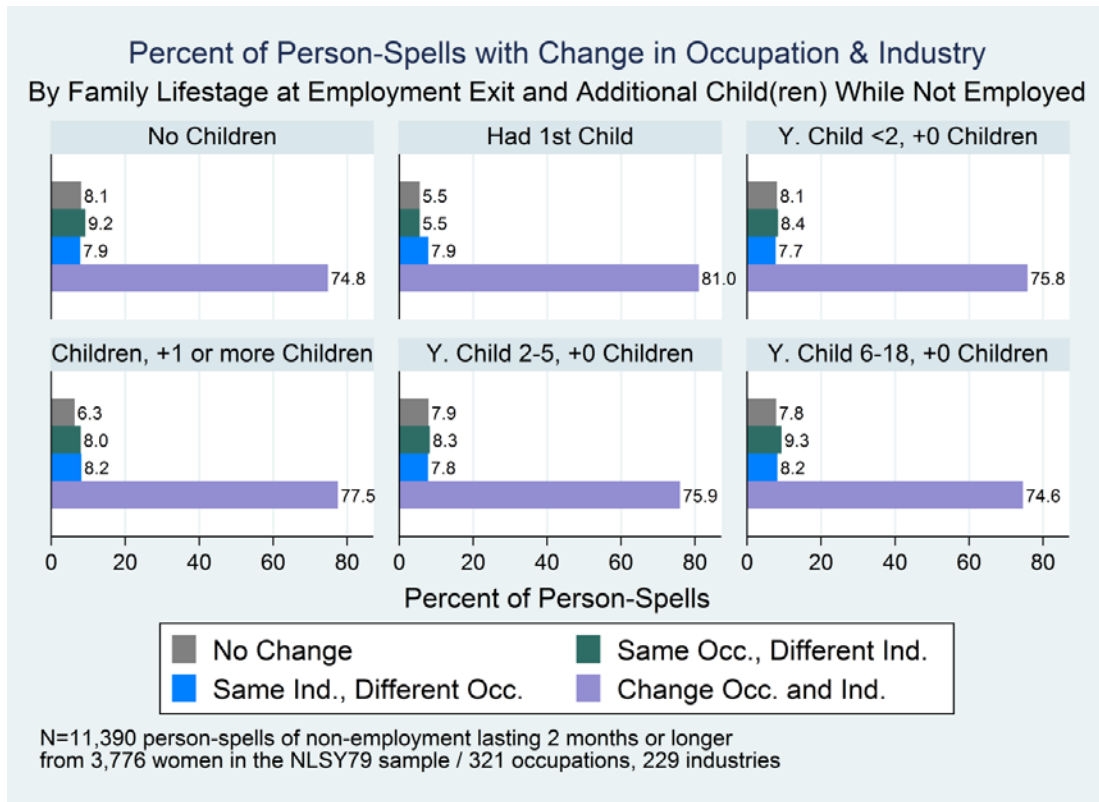
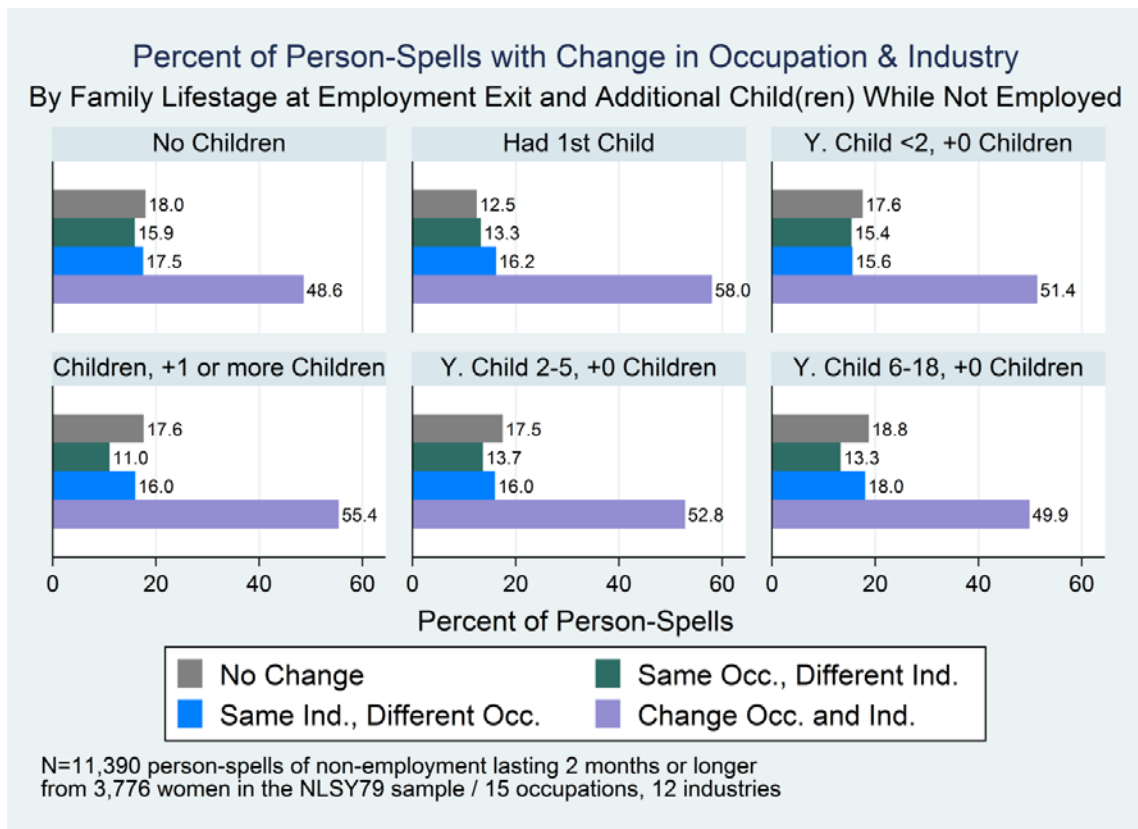


Figure 16: Percent of Person-Spells with Change in Broad Occupation & Industry by Family Life Stage Among Person-Spells Where Women Are Observed Returning to Work



Modeling Change

Since most women who exit employment and later return to work change occupation, industry, or both, modeling change is less likely to be informative, so I present results from logistic regression models predicting no change in occupation and industry as compared to those who change one or both³. Separate models show results using the detailed and broad classification schemes, with and without controls for duration of exit. Separate models with and without controls for duration are included because key variables of interest are related to duration of non-employment (as shown in Chapter 2), while the relationship between duration of non-employment and change in

³ I have also fit multinomial logistic regression models to model all four categories (with both no change and change both as reference categories), but results were also not particularly informative, so I present results from the simpler models.

occupation and/or industry is also of interest. Table 17 shows the results of these models. Both Models 1 and 2 use no change in detailed occupation or industry as the outcome; Model 2 includes duration of non-employment spell, while Model 1 does not include those variables. Both Models 3 and 4 use no change in broad occupation or industry as the outcome, with Model 4 including duration of non-employment spell and Model 3 omitting those variables. Duration of non-employment matters consistently; in all models where it is included, women who spend a longer time away from employment have lower odds of remaining in the same occupation and industry combination.

Contrary to expectations, results show little impact of reason for leaving jobs on change in occupation and industry. Women who left a temporary or program job have lower odds of remaining in the same broad occupation and industry combination than those who were laid off, with or without controlling for duration of non-employment. Women who left for family reasons are also less likely to remain in the same broad occupation, but this is no longer statistically significant after controlling for duration of non-employment. This is somewhat to be expected, since women who left for family reasons tend to remain away from employment longer (as shown in Chapter 2), although only about a third of women with the longest duration of non-employment in this chapter left for family reasons. Family status, particularly the arrival of (additional) children, is also intertwined with duration of non-employment. When duration is not included in models, women with 1 or 2 or more children born during a non-employment spell are significantly less likely to remain in the same detailed occupation and industry combination, and women with 2 or more children born during a non-employment spell are significantly less likely to remain in the same broad occupation and industry

combination. However, these results are absorbed by the duration variables once they are included in the model, given the correlation between having additional children and duration of exit. Even so, around 44 percent of women with the longest duration of non-employment in this chapter had no additional children during that non-employment spell.

Turning to education, women who were in school at any point while away from employment have lower odds of remaining in the same occupation and industry grouping; this is expected because many women who attend school may have greater skills and/or different interests when returning to employment (although most of them do not return with an additional degree). In terms of an education gradient, women with less than a high school degree and women with a bachelor's degree or higher (without including duration in the model) have greater odds of returning to employment in the same broad occupation and industry category as compared to women with only a high school degree. This may reflect the limited employment options for women without a high school degree and the increased specialization of women with a bachelor's degree. The lack of statistical significance of having a bachelor's degree or higher once duration is included in the model is likely because more highly educated women are disproportionately likely to have shorter periods of non-employment; less than 10 percent of women with periods of non-employment greater than one year in this chapter have a bachelor's degree or higher.

Table 17: Logistic Regression Models of No Change in Occupation and/or Industry Between Start and End of Non-Employment Spell Among Person-Spells Where Women Are Observed Returning to Work

	(1)		(2)		(3)		(4)	
	<i>No Change in Detailed Occupation or Industry Category</i>		<i>No Change in Detailed Occupation or Industry Category</i>		<i>No Change in Broad Occupation or Industry Category</i>		<i>No Change in Broad Occupation or Industry Category</i>	
	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>
Reason for Leaving Employment								
<i>(Layoffs omitted)</i>								
End of Temporary or Program Job	0.843	0.616 - 1.152	0.857	0.625 - 1.175	0.699**	0.558 - 0.876	0.707**	0.564 - 0.887
Fired	1.150	0.838 - 1.580	1.176	0.856 - 1.616	1.047	0.835 - 1.312	1.061	0.847 - 1.329
Family Reasons	0.922	0.696 - 1.222	0.971	0.731 - 1.290	0.792*	0.648 - 0.969	0.821+	0.671 - 1.005
Non-Family Voluntary	0.938	0.761 - 1.155	0.930	0.754 - 1.147	0.889	0.770 - 1.027	0.889	0.769 - 1.027
Duration of Non-Employment								
<i>(2-5 months omitted)</i>								
Non-Employment Spell 6-11 Months			0.618***	0.512 - 0.746			0.797***	0.698 - 0.911
Non-Employment Spell 12-23 Months			0.561***	0.455 - 0.692			0.669***	0.577 - 0.777
Non-Employment Spell 24-47 Months			0.460***	0.350 - 0.605			0.623***	0.520 - 0.746
Non-Employment Spell 48-300 Months			0.278***	0.181 - 0.427			0.414***	0.320 - 0.537
Education								
<i>Highest Degree at Start of Non-Employment Spell (High School Degree omitted)</i>								
Less than High School Education	1.252+	0.968 - 1.619	1.301*	1.005 - 1.684	1.371***	1.141 - 1.648	1.408***	1.171 - 1.693
Some College, No Degree	0.997	0.800 - 1.242	0.949	0.761 - 1.183	0.998	0.858 - 1.161	0.967	0.832 - 1.125
Associate/Junior College Degree	0.998	0.720 - 1.385	0.960	0.690 - 1.335	1.067	0.859 - 1.326	1.042	0.837 - 1.297
Bachelors Degree or Higher	1.157	0.901 - 1.485	1.066	0.830 - 1.370	1.200*	1.003 - 1.436	1.140	0.953 - 1.365
Attended School During Non-Employment Spell	0.525***	0.412 - 0.671	0.657***	0.512 - 0.843	0.732***	0.628 - 0.854	0.845*	0.721 - 0.990
Family Status								
<i>Age of Youngest Child (No Children omitted)</i>								
Youngest Child Less than Age 2 at Start of Non-Employment Spell	0.963	0.748 - 1.238	1.072	0.832 - 1.381	1.005	0.841 - 1.200	1.085	0.907 - 1.296
Youngest Child Age 2-5 at Start of Non-Employment Spell	0.928	0.744 - 1.157	1.002	0.804 - 1.250	0.994	0.846 - 1.167	1.044	0.889 - 1.227
Youngest Child Age 6-18 at Start of Non-Employment Spell	0.896	0.711 - 1.129	0.934	0.741 - 1.179	0.982	0.827 - 1.166	1.007	0.848 - 1.197

	(1)		(2)		(3)		(4)	
	<i>No Change in Detailed Occupation or Industry Category</i>		<i>No Change in Detailed Occupation or Industry Category</i>		<i>No Change in Broad Occupation or Industry Category</i>		<i>No Change in Broad Occupation or Industry Category</i>	
	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>
Youngest Child Age 19 or Older at Start of Non-Employment Spell	1.079	0.718 - 1.620	1.081	0.716 - 1.631	0.990	0.740 - 1.323	0.993	0.741 - 1.331
<i>Number of Children Born During Non-Employment Spell (No Children Born omitted)</i>								
1 Child Born During Non-Employment Spell	0.769*	0.600 - 0.986	1.090	0.834 - 1.423	0.936	0.790 - 1.109	1.189+	0.990 - 1.428
2 or More Children Born During Non-Employment Spell	0.510*	0.303 - 0.856	1.133	0.605 - 2.122	0.670*	0.478 - 0.941	1.176	0.798 - 1.733
<i>Marital Status (Not Married Throughout Omitted)</i>								
Married & No Change With Reference to Non-Employment Spell	0.894	0.750 - 1.065	0.903	0.758 - 1.075	0.925	0.816 - 1.048	0.935	0.826 - 1.060
Got Married or Changed Who Married to During Non-Employment Spell	1.083	0.771 - 1.523	1.299	0.918 - 1.840	0.948	0.737 - 1.218	1.078	0.836 - 1.391
Became Not Married During Non-Employment Spell (Divorced, Widowed, etc)	0.733	0.478 - 1.125	0.860	0.560 - 1.320	0.835	0.631 - 1.105	0.939	0.708 - 1.244
<i>Other Variables</i>								
Start of Non-Employment Spell within NBER Defined Recession	1.041	0.852 - 1.273	1.076	0.879 - 1.318	1.085	0.941 - 1.251	1.104	0.956 - 1.274
<i>Age (ages 25-34 omitted)</i>								
Age 18-24 at Start of Non-Employment Spell	0.982	0.775 - 1.246	0.890	0.699 - 1.132	0.924	0.781 - 1.093	0.854+	0.721 - 1.013
Age 35-55 at Start of Non-Employment Spell	0.761*	0.600 - 0.964	0.833	0.655 - 1.061	0.881	0.748 - 1.038	0.939	0.795 - 1.109
Ln(Months Employed (at any job) Prior to Non-Employment Spell)	1.278**	1.098 - 1.488	1.244**	1.066 - 1.452	1.199***	1.077 - 1.335	1.172**	1.053 - 1.306
Health Limits Amount or Type of Work (Start of Non-Employment Spell)	0.984	0.740 - 1.308	1.036	0.780 - 1.376	0.828+	0.668 - 1.027	0.852	0.688 - 1.053
<i>Race (Non-Black, Non-Latina omitted)</i>								
Latina	1.061	0.864 - 1.302	1.047	0.852 - 1.286	1.064	0.921 - 1.228	1.061	0.919 - 1.226
Black	0.915	0.757 - 1.106	0.930	0.769 - 1.123	1.075	0.944 - 1.225	1.085	0.952 - 1.237
<i>Non-employment Spell Number (1st non-employment spell omitted)</i>								
2nd Non-Employment Spell	0.738**	0.592 - 0.919	0.742**	0.594 - 0.926	0.877+	0.753 - 1.022	0.880	0.755 - 1.026
3rd Non-Employment Spell	0.802+	0.631 - 1.019	0.819	0.643 - 1.043	0.877	0.738 - 1.043	0.887	0.746 - 1.055
4th Non-Employment Spell	0.784+	0.603 - 1.019	0.794+	0.609 - 1.035	0.865	0.715 - 1.046	0.870	0.718 - 1.053
5th Non-Employment Spell	0.809	0.608 - 1.078	0.824	0.618 - 1.099	0.845	0.684 - 1.044	0.854	0.691 - 1.056
6th Non-Employment Spell	0.892	0.654 - 1.218	0.887	0.647 - 1.217	0.944	0.746 - 1.194	0.942	0.743 - 1.194
7th Non-Employment Spell	0.832	0.572 - 1.209	0.840	0.578 - 1.220	0.892	0.680 - 1.169	0.899	0.685 - 1.179

	(1)		(2)		(3)		(4)	
	<i>No Change in Detailed Occupation or Industry Category</i>		<i>No Change in Detailed Occupation or Industry Category</i>		<i>No Change in Broad Occupation or Industry Category</i>		<i>No Change in Broad Occupation or Industry Category</i>	
	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>
8th or Later Non-Employment Spell <i>Broad Occupation Category at Start of Non-Employment Spell (Administrative Support & Clerical Occupations omitted)</i>	0.760	0.545 - 1.060	0.759	0.542 - 1.062	0.857	0.678 - 1.084	0.852	0.673 - 1.079
Management & Related Occupations	1.080	0.745 - 1.565	1.064	0.733 - 1.544	0.685**	0.534 - 0.878	0.678**	0.528 - 0.870
Professional Specialty Occupations	1.914**	1.177 - 3.114	1.954**	1.196 - 3.193	1.124	0.786 - 1.607	1.142	0.799 - 1.634
Health-Related Professionals	5.906***	3.742 - 9.321	5.890***	3.731 - 9.300	3.480***	2.466 - 4.911	3.477***	2.455 - 4.922
Teachers	4.959***	3.355 - 7.329	4.988***	3.365 - 7.396	3.091***	2.342 - 4.078	3.122***	2.364 - 4.123
Technicians and Related Support Occupations	2.539***	1.619 - 3.982	2.535***	1.608 - 3.994	1.420*	1.012 - 1.993	1.421*	1.011 - 1.996
Sales (except Cashiers)	1.149	0.759 - 1.739	1.163	0.765 - 1.767	0.739*	0.564 - 0.967	0.746*	0.568 - 0.979
Cashiers & Retail Sales Clerks	1.299	0.910 - 1.853	1.313	0.919 - 1.877	1.147	0.913 - 1.442	1.164	0.924 - 1.465
Other Service	1.857**	1.266 - 2.723	1.953***	1.329 - 2.871	0.936	0.699 - 1.253	0.974	0.727 - 1.304
Food Preparation and Service	3.161***	2.375 - 4.207	3.139***	2.355 - 4.184	1.888***	1.545 - 2.308	1.883***	1.540 - 2.302
Health Service	4.216***	3.005 - 5.914	4.410***	3.134 - 6.206	1.872***	1.461 - 2.399	1.924***	1.500 - 2.467
Personal Service	2.883***	2.059 - 4.038	2.994***	2.133 - 4.202	1.382*	1.076 - 1.774	1.424**	1.107 - 1.832
Agriculture and related	2.434**	1.325 - 4.470	2.536**	1.353 - 4.757	1.237	0.730 - 2.098	1.268	0.748 - 2.150
Precision Production, Craft, and Repair Occupations	0.954	0.430 - 2.118	0.940	0.424 - 2.083	0.509*	0.291 - 0.892	0.506*	0.288 - 0.889
Operators, Fabricators, and Laborers	1.285	0.887 - 1.861	1.312	0.907 - 1.899	1.304*	1.064 - 1.597	1.328**	1.083 - 1.628
<i>Broad Industry Category at Start of Non-Employment Spell (Retail Industry omitted)</i>								
Agriculture and related	1.474	0.835 - 2.602	1.465	0.810 - 2.649	0.835	0.512 - 1.361	0.830	0.506 - 1.361
Construction	1.048	0.527 - 2.087	1.056	0.530 - 2.104	0.438*	0.232 - 0.827	0.440*	0.233 - 0.830
Manufacturing (& Mining)	0.508***	0.357 - 0.723	0.526***	0.370 - 0.748	0.971	0.799 - 1.181	0.996	0.817 - 1.213
Transportation, Communications, & Services	0.607	0.319 - 1.153	0.598	0.315 - 1.135	0.450***	0.296 - 0.686	0.449***	0.295 - 0.684
Wholesale	0.151**	0.037 - 0.610	0.153**	0.038 - 0.618	0.184***	0.086 - 0.394	0.185***	0.086 - 0.396
Finance, Insurance, & Real Estate	1.613**	1.133 - 2.298	1.604**	1.124 - 2.291	1.392**	1.092 - 1.774	1.388**	1.088 - 1.770
Business & Repair Services	0.862	0.598 - 1.242	0.852	0.591 - 1.228	0.808	0.626 - 1.045	0.803+	0.621 - 1.038
Personal Services	1.242	0.926 - 1.665	1.267	0.944 - 1.701	0.981	0.789 - 1.219	0.986	0.793 - 1.227
Entertainment & Recreation Services	0.434*	0.196 - 0.962	0.442*	0.199 - 0.982	0.301***	0.160 - 0.566	0.303***	0.162 - 0.568
Professional & Related Services	0.949	0.742 - 1.213	0.939	0.733 - 1.202	1.229*	1.033 - 1.463	1.227*	1.030 - 1.461
Public Administration	0.433*	0.224 - 0.834	0.430*	0.222 - 0.832	0.372***	0.240 - 0.575	0.372***	0.240 - 0.577

	(1)		(2)		(3)		(4)	
	<i>No Change in Detailed Occupation or Industry Category</i>		<i>No Change in Detailed Occupation or Industry Category</i>		<i>No Change in Broad Occupation or Industry Category</i>		<i>No Change in Broad Occupation or Industry Category</i>	
	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>
Log Likelihood	-2839		-2801		-4916		-4881	
AIC	5794		5725		9947		9887	
BIC	6218		6178		10371		10340	

N = 11,010 person-spells of non-employment from 3,748 women in the NLSY79; *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Where is the Change?

Describing what occupations and industries women come from and which ones they enter when returning to work, the second research question, is somewhat more complicated. Table 18 shows the most common occupations and industries among women exiting and returning to employment who did not change detailed occupation/industry category between the start and end of their non-employment spell. Food servers and eating and drinking places are particularly common among women with non-employment spells lasting two months or longer who did not change their detailed occupation or industry of employment, while they are the eleventh most common occupation (2% of women) and 3rd most common industry (5% of women) of employment among all employed women ages 18-55 in the United States in 1990 as calculated from IPUMS-USA. Thus waitresses as an occupation and eating and drinking places as an industry are over-represented among women who leave and return to work as compared to among all employed women in the U.S.

Table 18: Most Common Detailed Occupations and Industries with No Change in Detailed Occupation/Industry between Start and End of Non-Employment Spell Among Person-Spells Where Women Are Observed Returning to Work

Most Common Occupations with No Change	Percent	Most Common Industries with No Change	Percent
Waiter/waitress	10.72	Eating and drinking places	20.54
Nursing aides, orderlies, and attendants	8.13	Elementary and secondary schools	8.35
Cashiers	5.42	Nursing and personal care facilities	7.22
Child care workers	4.85	Hospitals	5.64
Secretaries	4.74	Beauty shops	4.18
Primary school teachers	4.63	Private households	3.50
Hairdressers and cosmetologists	4.18	Hotels and motels	3.39
Registered nurses	3.61	Legal services	2.93
Housekeepers, maids, butlers, stewards, and lodging quarters cleaners	3.39	Health services, n.e.c.	2.48
Cooks, variously defined	2.93	Offices and clinics of dentists	2.26
Salespersons, n.e.c.	2.60	Banking	2.14

Note: Only highest percentage occupations and industries shown, so columns do not add up to 100 percent.

The most common occupations among those who returned to the same occupation but in a different industry are shown in Table 19. Cashiers, secretaries, and nursing assistant type roles were most common among women who return to a different industry, but not a different occupation. Cashiers and secretaries exist in a variety of detailed industry categories, but the industry changes among nursing assistant occupations appear to largely be switches between hospitals, nursing and personal care facilities, and health services not elsewhere classified, which may or may not be consequential for women’s job conditions. About 35 percent of the women who returned to the same detailed occupation but in a different detailed industry are categorized as having no change in occupation or industry when using the broader coding scheme, while 65 percent are

categorized as moving to a different broad industry and staying (by definition) in the same broad occupation.

Table 19: Most Common Detailed Occupations among Women Who Changed Detailed Industry but Not Detailed Occupation between Start and End of Non-Employment Spell

Most Common Occupations with No Change	Percent
Cashiers	11.69
Secretaries	11.69
Nursing aides, orderlies, and attendants	7.56
Salespersons, n.e.c.	5.75
Child care workers	5.14
Registered nurses	4.03
Managers and administrators, n.e.c.	3.53
Housekeepers, maids, butlers, stewards, and lodging quarters cleaners	3.53
Receptionists	3.43
Accountants and auditors	2.82
Bookkeepers and accounting and auditing clerks	2.42
Customer service reps, investigators and adjusters, except insurance	2.22
Licensed practical nurses	2.02

Note: Only highest percentage occupations shown, so columns do not add up to 100 percent.

The most common industries among those who returned to the same industry but in a different occupation are shown in Table 20. The top occupations these women left and returned to include cooks, waiter/waitress, cashiers, primary school teachers, kitchen workers, secretaries, and other food and health care related occupations. So there is evidence of some churning among a few detailed occupations for the women who changed detailed occupation but not detailed industry. About 38 percent of the women who returned to the same detailed industry but a different detailed occupation are categorized as having no change in occupation or industry when using the broader coding scheme, while 62 percent are categorized as changing broad occupation and staying (by definition) in the same broad industry category.

Table 20: Most Common Detailed Industries among Women Who Changed Detailed Occupation but Not Detailed Industry between Start and End of Non-Employment Spell

Most Common Industries with No Change	Percent
Eating and drinking places	25.27
Elementary and secondary schools	11.21
Hospitals	5.71
Nursing and personal care facilities	3.52
Personnel supply services	3.30
Insurance	3.08
Hotels and motels	3.08
Department stores	2.86
Health services, n.e.c.	2.75
Banking	2.31
All construction	2.09
Offices and clinics of physicians	2.09

Note: Only highest percentage industries shown, so columns do not add up to 100 percent.

The occupation and industry combinations at the beginning and end of a period of non-employment vary widely for those who returned to both a different occupation and a different industry when considering detailed occupation and industry classifications. The largest grouping of person-spells involving leaving a specific detailed occupation/industry category and returning to a different specific detailed occupation/industry category is around than .1 percent of the total number of person-spells (12 out of 11,010 person-spells). As shown in Table 21, the top three were leaving being a waitress in eating and drinking places and returning to being a child care worker in private households, leaving being a waitress in eating and drinking places and returning to being a cashier in grocery stores, and leaving being a cashier in grocery stores and returning to being a waitress in eating and drinking places. While two relatively high prevalence categories (shown in Table 21) involve transitions to or from being a school teacher, most involve what would often be thought of as “bad” jobs, in that they tend to

be low paid, hourly jobs, with few benefits and little guarantee of getting enough work hours in any given week or month to pay the bills (cf. Kalleberg 2011).

Table 21: Percent of Person-Spells in Most Common Detailed Occupation / Industry Change Categories Among Person-Spells With Change in Both Detailed Occupation and Detailed Industry Classification

Percent of Person-Spells	Detailed Occupation / Industry Prior to Non-Employment Spell	Detailed Occupation / Industry Upon Reemployment
0.11%	Waiter/waitress / Eating and drinking places	Child care workers / Private households
0.10%	Waiter/waitress / Eating and drinking places	Cashiers / Grocery stores
0.09%	Cashiers / Grocery stores	Waiter/waitress / Eating and drinking places
0.06%	Cooks, variously defined / Eating and drinking places	Cashiers / Grocery stores
0.05%	Housekeepers, maids, butlers, stewards, and lodging quarters cleaners / Hotels and motels	Cooks, variously defined / Eating and drinking places
0.05%	Waiter/waitress / Eating and drinking places	Primary school teachers / Elementary and secondary schools
0.05%	Cooks, variously defined / Eating and drinking places	Janitors / Services to dwellings and other buildings
0.05%	Nursing aides, orderlies, and attendants / Nursing and personal care facilities	Waiter/waitress / Eating and drinking places
0.05%	Kindergarten and earlier school teachers / Elementary and secondary schools	Child care workers / Lodging places, except hotels and motels
0.05%	Salespersons, n.e.c. / Department stores	Child care workers / Private households
0.05%	Cashiers / Gasoline service stations	Waiter/waitress / Eating and drinking places
0.05%	Cashiers / Eating and drinking places	Salespersons, n.e.c. / Department stores
0.05%	Cashiers / Eating and drinking places	Child care workers / Private households
0.05%	Waiter/waitress / Eating and drinking places	Salespersons, n.e.c. / Department stores
0.05%	Waiter/waitress / Eating and drinking places	Housekeepers, maids, butlers, stewards, and lodging quarters cleaners / Private households

Note: Only the highest percentages shown for clarity

A somewhat different picture emerges when considering the most common broad occupation and industry categories women leave and return to, as shown in Table 22.

Again, a very small percentage of person-spells fall into each specific occupation/industry change category, but here the top occupation / industry category women leave is that composed of operators, fabricators and laborers in manufacturing and mining. The top two rows in Table 22 likely reflect women leaving potentially higher paid manufacturing jobs and returning to lower paid service jobs when the manufacturing jobs were eliminated, following a familiar story in the U.S. during this time period (Kalleberg 2011). However, a variety of shifts between food preparation and service in the retail industry (which includes typical food service jobs) and personal service, administrative support and clerical (including secretaries), and cashiers / retail sales clerks indicate a potentially substantial amount of movement among jobs that often have limited potential for advancement. Given the small percentages of person-spells in each category, though, it is difficult to summarize the results based on specific occupation and industry combinations. Examining changes in the characteristics of occupation and industry combinations left and returned to, as considered in the third research question in this chapter, will provide some information on whether the large amounts of occupation and industry change reflect women moving from one “bad” job to another, or if there are groups of women either moving down or moving up in terms of job characteristics.

Table 22: Percent of Person-Spells in Most Common Broad Occupation / Industry Change Categories Among Person-Spells with Change in Both Broad Occupation and Broad Industry Classification

Percent of Person-Spells	Broad Occupation / Industry Prior to Non-Employment Spell	Broad Occupation / Industry Upon Reemployment
0.51%	Operators, Fabricators, and Laborers / Manufacturing (& Mining)	Food Preparation and Service / Retail
0.47%	Operators, Fabricators, and Laborers / Manufacturing (& Mining)	Cashiers & Retail Sales Clerks / Retail
0.46%	Food Preparation and Service / Retail	Operators, Fabricators, and Laborers / Manufacturing (& Mining)
0.40%	Food Preparation and Service / Retail	Personal Service / Personal Services
0.35%	Cashiers & Retail Sales Clerks / Retail	Administrative Support & Clerical Occupations / Professional & Related Services
0.35%	Administrative Support & Clerical Occupations / Professional & Related Services	Cashiers & Retail Sales Clerks / Retail
0.35%	Food Preparation and Service / Retail	Administrative Support & Clerical Occupations / Professional & Related Services
0.33%	Cashiers & Retail Sales Clerks / Retail	Personal Service / Personal Services
0.31%	Food Preparation and Service / Retail	Other Service / Personal Services
0.31%	Operators, Fabricators, and Laborers / Manufacturing (& Mining)	Health Service / Professional & Related Services
0.29%	Administrative Support & Clerical Occupations / Professional & Related Services	Food Preparation and Service / Retail
0.27%	Cashiers & Retail Sales Clerks / Retail	Operators, Fabricators, and Laborers / Manufacturing (& Mining)
0.27%	Health Service / Professional & Related Services	Food Preparation and Service / Retail
0.27%	Personal Service / Personal Services	Administrative Support & Clerical Occupations / Professional & Related Services

Note: Only the highest percentages shown for clarity

Another way to look at which occupations and industries women are more or less likely to leave and not return to is to consider the coefficients on broad occupation and industry categories from Table 17. In particular, women leaving jobs in health-related professionals, teachers, technicians and related support occupations, food preparation and

service, health service, and personal service have greater odds of returning to the same detailed occupation and industry category after a period of non-employment as compared to women leaving administrative support and clerical occupations. Women leaving jobs in all of those occupations also have greater odds of returning to the same detailed occupation and industry category after a period of non-employment than women who left administrative support and clerical occupations, as do women leaving jobs in professional specialty occupations, other service occupations (see table for other options), and agriculture and related occupations. Women leaving jobs as operators, fabricators, and laborers are also more likely than women who left administrative support and clerical occupations to remain in the same broad occupation, although not in the same detailed occupation. Many of those occupations with greater odds of returning to the same occupation and industry category tend to require at least some training/licensing, so it would be expected that they would be less likely to return to work in a different occupation/industry category. Among these broad occupation categories, training/licensing requirements are generally highest for the occupations with the highest coefficients for no change: health-related professionals, teachers, and health service. Other occupations with consistent, but lower, coefficients for no change also generally have some licensing requirements, at least for some roles within the occupation. Those include technicians and related support occupations, food preparation and service, and personal service.

In contrast, women leaving management & related occupations, sales (except cashiers), and precision production, craft, and repair occupations have lower odds of returning to the same broad occupation and industry grouping after a period of non-

employment than those who left administrative support and clerical occupations. These relatively strong relationships are of note for women leaving management & related occupations and to some degree sales (except cashiers) as well, since women with bachelor's degrees or higher are disproportionately represented in those occupations (particularly in management & related occupations), which fits the story of highly educated women opting out of employment and redefining expectations for their careers, often in a different occupation. Looking across models of change in both broad and detailed occupation/industry category, women who leave administrative support and clerical occupations have equal odds of returning to the same occupation/industry they left as women working as cashiers and retail sales clerks. Job roles in both of those occupations are sometimes used as stepping stones to something requiring more education and training on average, but also employ many people who are content to remain in these roles for the long term, depending on the job conditions in a particular job (which can vary greatly within these roles), so it makes sense that they would have similar odds of women returning to them versus changing to another occupation and/or industry.

When considering industry, women leaving the finance, insurance, & real estate industry and the professional & related services industry have greater odds of returning to the same broad occupation and industry grouping as compared to those who left the retail industry, although the difference between professional services and retail is no longer statistically significant for models involving detailed occupation and industry change. As with occupations, the industries where women have greater odds of remaining in the same industry tend to require more training, education, and/or licensing as compared to

other industries. In contrast, women who left jobs in the wholesale, entertainment & recreation services, and public administration industries all have consistently lower odds of remaining in the same broad or detailed occupation/industry as compared to women who left the retail industry. Looking across models of change in both broad and detailed occupation/industry category, women leaving jobs in the retail industry have equal odds of returning to the same occupation/industry category as women who left agriculture, business & repair services, and personal services. Several other industries have lower odds of no change but they are not consistent across broad and detailed occupation/industry categories.

Consequences of Change

The third research question of this chapter considers changes in characteristics of occupations to better understand whether changes in the occupation and industry women leave as compared to those where they reenter employment are likely to be to their advantage or disadvantage by examining change in the income, education, and gender composition of the occupation and industry combinations women leave and return to. Note that here I examine characteristics of occupation and industry combinations, rather than the wages or other job characteristics of individual employees; this is done as a way to better understand the general consequences of changing occupation and industry. However, the next chapter examines changes in individual wages and work hours in more specific ways.

As shown in Table 12, the proportion female in occupation/industry groupings increased slightly on average between the job women left and the job they returned to. The proportion with a bachelor's degree in the return occupation also increased, while the median income decreased slightly. Table 23 shows results from linear regression models

predicting the proportion female (Model 1), the proportion with a bachelor's degree or higher (Model 2), and the natural log of the median income (Model 3) in each occupation/industry combination at the end of each non-employment spell, controlling for the relevant characteristic at the start of each non-employment spell and a variety of other relevant covariates. Thus these models show how individual and spell characteristics impact changes in characteristics of occupation/industry combinations. Not surprisingly, the characteristic (occupation/industry proportion female proportion, proportion with a bachelor's degree or higher, and the $\ln(\text{median income})$) at the start of each non-employment spell is strongly associated with the same characteristic at the end of each non-employment spell. Reason for leaving one's job is only somewhat related to changes in occupation characteristics. Women who left for non-family voluntary reasons are more likely to return to a better educated occupation/industry, but the magnitude of this relationship is quite small. Even so, it may reflect voluntary, career-enhancing job changes after a period of non-employment. Women who were fired or who left for family reasons tend to return to an occupation/industry with a lower median income than those who left due to layoffs. For women who were fired, this may indicate that they are only able to find a job in a less well-compensated occupation/industry. That may also be the case for women who left for family reasons, or they may also have chosen a different occupation/industry for returning to employment that is not as well financially compensated but has other job characteristics they value.

Another focal independent variable, length of non-employment spell, matters only for the median income of the return occupation/industry combination. Given the differences shown in Table 17 for models with and without variables for length of non-

employment spell, I tested the models in Table 23 with and without variables for length of non-employment spell, and the remaining coefficients were substantively identical, so I only present models with the duration variables included. Women with non-employment spells lasting six to forty-seven months were progressively less likely to return to a more highly compensated occupation/industry than women who were away from employment for two to five months. A more attenuated relationship was observed for women who remained away from employment for four years or longer. This may indicate that the employment re-entry process is different for such long term exiters in ways that should be further investigated in other research.

Education matters for all three occupation/industry characteristics considered. Both women with less than a high school education and those with a bachelor's degree or higher are less likely than those with only a high school education to return to an occupation/industry that employs a higher percentage of women. For women with a bachelor's degree or higher, this may be due to a greater likelihood of working in gender mixed occupations. There is an education gradient for both occupation/industry proportion with a bachelor's degree or higher and median income, in that women with less than a high school education are less likely to return to more educated or better compensated occupations than those with only a high school education, while those with progressively more education are more likely to return to more educated and better compensated occupation/industries. Note that the education variables are about women's education *at the start of the non-employment spell*, and there is little change in highest degree earned during non-employment spells, so this is not likely to be driven by the relatively small number of women who earned an additional degree while away from

employment. However, women who attended school while away from employment are also more likely to return to better educated and more highly compensated occupation/industries. These results in a broad population of women who leave and then return to employment show that more educated women are more likely to return to work in occupation and industry combinations with a better educated and more highly compensated workforce, likely reflecting persistent labor market advantages, as compared to earlier studies that only considered the negative career outcomes of very highly educated elite women (e.g. Lovejoy and Stone 2012).

Family status matters surprisingly little for changes in occupation/industry characteristics. Women whose youngest child is age 19 or older at the start of their non-employment spell tend to return to less educated and less highly compensated occupation/industries. However, such women are likely older and there may be other unmeasured confounding factors in this instance, even though models control for age. Women with more children born while they were not employed tend to return to occupation/industries with lower median incomes than women who had no additional children born while they were not employed, but there is no relationship for the proportion female or with a bachelor's degree. Note that this variable is specifically about children born during the period when women were not employed, regardless of the existence or age of other children. Women who were married when they left their jobs tend to return to occupation/industries with a greater proportion female, although the magnitude of this relationship is quite small. This may reflect married women moving into more traditionally female occupations if they have the security of a spouse's income. Women who got married or changed who they were married to during a non-employment

spell tend to return to better educated and more highly compensated occupation/industries; this may reflect a compounding of advantages among women who get married (or a selection effect of who tends to get married).

Table 23: Linear Regression of Change in Characteristics of Occupation/Industry at Start and End of Non-Employment Spell Among Person-Spells Where Women Are Observed Returning to Work

	(1)		(2)		(3)	
	<i>Occupation/Industry Proportion Female</i>		<i>Occupation/Industry Proportion with Bachelor's Degree or Higher</i>		<i>Occupation/Industry ln(Median Income)</i>	
	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>
<i>Outcome at Start of Non-Employment Spell</i>						
Occ/Ind Proportion Female at Start of Non-Employment Spell	0.187***	(0.014)				
Occ/Ind Proportion with Bachelors Degree at Start of Non-Employment Spell			0.219***	(0.024)		
ln (Occ/Ind Median Income) at Start of Non-Employment Spell					0.138***	(0.017)
<i>Reason for Leaving Employment</i>						
<i>(Layoffs omitted)</i>						
End of Temporary or Program Job	-0.016	(0.010)	-0.003	(0.008)	-0.045+	(0.024)
Fired	-0.006	(0.011)	-0.014+	(0.007)	-0.054*	(0.027)
Family Reasons	0.001	(0.010)	-0.006	(0.007)	-0.048*	(0.023)
Non-Family Voluntary	0.005	(0.007)	0.012*	(0.005)	-0.020	(0.017)
<i>Duration of Non-Employment</i>						
<i>(2-5 months omitted)</i>						
Non-Employment Spell 6-11 Months	-0.002	(0.007)	-0.005	(0.005)	-0.043**	(0.016)
Non-Employment Spell 12-23 Months	-0.002	(0.007)	-0.004	(0.005)	-0.051**	(0.017)
Non-Employment Spell 24-47 Months	0.003	(0.009)	-0.000	(0.006)	-0.081***	(0.021)
Non-Employment Spell 48-300 Months	-0.005	(0.011)	0.007	(0.008)	-0.044+	(0.025)
<i>Education</i>						
<i>Highest Degree at Start of Non-Employment Spell (High School Degree omitted)</i>						
Less than High School Education	-0.023**	(0.009)	-0.022***	(0.004)	-0.067***	(0.020)
Some College, No Degree	0.009	(0.007)	0.044***	(0.005)	0.102***	(0.017)
Associate/Junior College Degree	0.008	(0.011)	0.079***	(0.009)	0.167***	(0.025)
Bachelor's Degree or Higher	-0.032***	(0.009)	0.194***	(0.010)	0.313***	(0.025)
Attended School During Non-Employment Spell	-0.009	(0.007)	0.060***	(0.006)	0.133***	(0.018)
<i>Family Status</i>						
<i>Age of Youngest Child (No Children omitted)</i>						

	(1)		(2)		(3)	
	<i>Occupation/Industry Proportion Female</i>		<i>Occupation/Industry Proportion with Bachelor's Degree or Higher</i>		<i>Occupation/Industry ln(Median Income)</i>	
	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>
Youngest Child Less than Age 2 at Start of Non-Employment Spell	0.005	(0.008)	0.006	(0.006)	-0.011	(0.020)
Youngest Child Age 2-5 at Start of Non-Employment Spell	0.002	(0.008)	0.001	(0.006)	0.007	(0.018)
Youngest Child Age 6-18 at Start of Non-Employment Spell	-0.010	(0.008)	-0.012+	(0.006)	-0.001	(0.019)
Youngest Child Age 19 or Older at Start of Non-Employment Spell	0.020	(0.015)	-0.032**	(0.010)	-0.085**	(0.032)
<i>Number of Children Born During Non-Employment Spell (No Children Born omitted)</i>						
1 Child Born During Non-Employment Spell	0.001	(0.009)	-0.002	(0.006)	-0.057**	(0.022)
2 or More Children Born During Non-Employment Spell	-0.001	(0.017)	-0.001	(0.013)	-0.114**	(0.040)
<i>Marital Status (Not Married Throughout Omitted)</i>						
Married & No Change With Reference to Non-Employment Spell	0.019**	(0.006)	0.004	(0.004)	-0.002	(0.014)
Got Married or Changed Who Married to During Non-Employment Spell	-0.001	(0.012)	0.022*	(0.010)	0.086**	(0.029)
Became Not Married During Non-Employment Spell (Divorced, Widowed, etc)	0.019	(0.012)	-0.003	(0.010)	-0.016	(0.037)
<i>Other Variables</i>						
Start of Non-Employment Spell within NBER Defined Recession	0.004	(0.007)	-0.005	(0.005)	-0.061***	(0.018)
<i>Age (ages 25-34 omitted)</i>						
Age 18-24 at Start of Non-Employment Spell	0.009	(0.008)	0.003	(0.006)	0.010	(0.019)
Age 35-55 at Start of Non-Employment Spell	-0.014+	(0.008)	-0.002	(0.006)	-0.021	(0.018)
Ln(Months Employed (at any job) Prior to Non-Employment Spell)	0.002	(0.005)	0.020***	(0.003)	0.084***	(0.011)
Health Limits Amount or Type of Work (Start of Non-Employment Spell)	0.005	(0.010)	-0.006	(0.007)	-0.063*	(0.025)
<i>Race (Non-Black, Non-Latina omitted)</i>						

	(1)		(2)		(3)	
	<i>Occupation/Industry Proportion Female</i>		<i>Occupation/Industry Proportion with Bachelor's Degree or Higher</i>		<i>Occupation/Industry ln(Median Income)</i>	
	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>
Latina	0.009	(0.007)	0.010*	(0.005)	0.045**	(0.017)
Black	0.009	(0.006)	-0.012**	(0.005)	-0.014	(0.015)
<i>Non-employment Spell Number (1st non-employment spell omitted)</i>						
2nd Non-Employment Spell	-0.003	(0.007)	0.003	(0.005)	-0.013	(0.018)
3rd Non-Employment Spell	-0.019*	(0.008)	0.007	(0.006)	0.018	(0.020)
4th Non-Employment Spell	-0.008	(0.009)	0.004	(0.007)	-0.008	(0.022)
5th Non-Employment Spell	-0.011	(0.010)	0.007	(0.008)	-0.015	(0.024)
6th Non-Employment Spell	-0.014	(0.012)	-0.004	(0.009)	-0.016	(0.027)
7th Non-Employment Spell	-0.029*	(0.014)	0.014	(0.010)	-0.026	(0.035)
8th or Later Non-Employment Spell	-0.014	(0.012)	0.002	(0.009)	-0.009	(0.026)
<i>Broad Occupation Category at Start of Non-Employment Spell (Administrative Support & Clerical Occupations omitted)</i>						
Management & Related Occupations	-0.022+	(0.011)	-0.012	(0.010)	0.038	(0.029)
Professional Specialty Occupations	-0.035*	(0.016)	0.008	(0.017)	0.030	(0.041)
Health-Related Professionals	0.067***	(0.018)	0.025	(0.019)	0.171***	(0.050)
Teachers	-0.020	(0.015)	0.071***	(0.021)	0.024	(0.041)
Technicians and Related Support Occupations	-0.020	(0.017)	0.005	(0.015)	0.104**	(0.039)
Sales (except Cashiers)	0.001	(0.012)	-0.027**	(0.010)	-0.090**	(0.031)
Cashiers & Retail Sales Clerks	-0.028*	(0.011)	-0.011	(0.008)	-0.077**	(0.028)
Other Service	-0.015	(0.014)	-0.014+	(0.008)	-0.167***	(0.031)
Food Preparation and Service	-0.023*	(0.011)	-0.029***	(0.007)	-0.148***	(0.029)
Health Service	-0.012	(0.013)	-0.017+	(0.009)	-0.053+	(0.029)
Personal Service	0.001	(0.012)	0.004	(0.010)	-0.072*	(0.033)
Agriculture and related	0.047	(0.039)	-0.008	(0.023)	0.002	(0.077)
Precision Production, Craft, and Repair Occupations	0.002	(0.022)	-0.044***	(0.012)	-0.090+	(0.046)
Operators, Fabricators, and Laborers	-0.041***	(0.011)	-0.028***	(0.006)	-0.086***	(0.025)
<i>Broad Industry Category at Start of Non-Employment Spell (Retail Industry omitted)</i>						
Agriculture and related	-0.074+	(0.038)	0.003	(0.026)	-0.041	(0.082)

	(1)		(2)		(3)	
	<i>Occupation/Industry Proportion Female</i>		<i>Occupation/Industry Proportion with Bachelor's Degree or Higher</i>		<i>Occupation/Industry ln(Median Income)</i>	
	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>
Construction	-0.054*	(0.026)	0.016	(0.015)	0.084+	(0.050)
Manufacturing (& Mining)	-0.006	(0.011)	-0.004	(0.008)	0.017	(0.028)
Transportation, Communications, & Services	0.012	(0.016)	-0.013	(0.012)	-0.009	(0.040)
Wholesale	0.014	(0.019)	-0.016	(0.014)	-0.000	(0.047)
Finance, Insurance, & Real Estate	0.009	(0.012)	0.012	(0.010)	0.085**	(0.031)
Business & Repair Services	-0.015	(0.012)	-0.012	(0.009)	0.063*	(0.028)
Personal Services	0.001	(0.011)	-0.012	(0.008)	-0.026	(0.033)
Entertainment & Recreation Services	-0.024	(0.021)	-0.012	(0.015)	-0.059	(0.049)
Professional & Related Services	0.026**	(0.009)	0.003	(0.008)	0.026	(0.024)
Public Administration	0.001	(0.016)	-0.009	(0.014)	-0.023	(0.047)
Constant	0.566***	(0.027)	0.016	(0.017)	7.667***	(0.161)
R-squared	0.073		0.278		0.162	
BIC	1244		-5217		20894	

N = 11,010 person-spells of non-employment from 3,748 women in the NLSY79; *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Discussion

The analysis in this chapter shows that most women change occupation and industry when returning to work after an employment exit lasting two months or longer. This trend is evident both when using a detailed classification system with 321 occupations and 229 industries and when using a broader classification system with fifteen occupations and twelve industries. There are fewer changes when using the broader classification scheme, as expected. Reason for leaving last job is largely unrelated to changes in occupation/industry and in characteristics of occupation/industry combinations. This suggests that the “on-ramps” described as missing for highly educated professional women (e.g. Hewlett 2007) may also be missing for women with less education and less elite jobs. However, changes in occupation and industry could also be for career enhancing reasons, or changes in women’s preferences, and the data used for this analysis does not allow these reasons to be disentangled.

There is evidence of an education gradient in occupation/industry proportion with a bachelor’s degree and median income, in that those with greater education more likely to return to an occupation/industry combination that employs more educated and more highly compensated people, controlling for the characteristic of the occupation/industry women left. Even among women with bachelor’s degrees, over three quarters change broad occupation, industry or both between the job they left and the job they return to after a period of non-employment. This is somewhat surprising, given the greater investment in schooling among these women, although remaining in the same occupation and industry category is more common among women leaving occupations and industries that tend to have very specific training and/or licensing requirements, as opposed to those

like management & professional specialty occupations where there are potentially fewer barriers to the transfer of skills and experience between specific types of jobs. Thus more advantaged women tend to continue their advantage in the aggregate, which is somewhat contrary to the research on very highly educated women showing a decline in job status and compensation after returning from an employment exit. When examining specific occupations, there is some evidence of a group of women exiting and returning to what would often be called “bad” jobs, even if they do involve a change in occupation and/or industry. Future work should consider how these patterns of occupation and industry change differ from those found when women (and men) change jobs without a period of non-employment in between, but that is beyond the scope of this chapter.

Chapter 4 – Changes in Job Conditions

Introduction

Earlier chapters examined women's return to work after employment exits for any reason lasting two months or longer and the degree of occupation and industry change between the jobs women left and the jobs they returned to, including changes in characteristics of occupation/industry combinations. While moving to a more highly compensated occupation, for example, is likely to result in a wage increase for an individual woman, it is by no means guaranteed. Thus this chapter examines changes in two key job conditions – work hours and wages – between the jobs women left and the jobs they returned to. There is a line of research on the negative career consequences in income and career advancement of deviating from the ideal worker norm of complete devotion to work by reducing one's hours, taking time away from employment, working a flexible schedule to meet non-work needs, or working away from the office, as a few examples (e.g. Blair-Loy 2003; Williams 2000). Research on women's changing expectations of work after becoming mothers may also play into potentially reduced hours when returning to employment, particularly after an employment exit for family reasons (e.g. Bertrand, Goldin, and Katz 2010; Gerson 2010). Other women may choose to return to jobs with lower wages because of non-financial aspects of the job such as work hours, scheduling, or geographic location (e.g. Dwyer 2004). Both reduced hours and lower earnings upon return to work can have long term consequences for the economic security of women and their families, including in retirement, since retirement contributions from employers and for social security are based on earnings.

Job conditions are often a driving force in people's decisions to exit the labor force, search for a new job, and change the occupation or industry of their employment. Job conditions in "good" and "bad" jobs can vary dramatically. The five characteristics Kalleberg (2011) identifies are one way of defining good and bad jobs, although individuals may make different tradeoffs among the aspects of good jobs based on which ones are more important to them. Specifically, "good" jobs provide relatively high earnings and opportunities for increases in earnings over time, while "bad" jobs pay low wages and do not lead to higher wages over time; "good" jobs provide adequate fringe benefits (i.e. health insurance and retirement pensions), while "bad" jobs do not (This is especially relevant if the family has no other source of such benefits); "good" jobs enable the worker to exert autonomy and control over work activities, while "bad" jobs do not; "good" jobs give the worker some flexibility and control over scheduling and terms of employment, while "bad" jobs do not provide the worker with flexibility to deal with non-work issues; and "good" jobs provide the worker with some control over the termination of the job, while "bad" jobs do not (Kalleberg 2011:9). However, the definition of whether a particular set of job circumstances are "good" or "bad" for a given individual can depend on their desires and the other resources available to them. For example, working part time can be a good job for some workers who value time to do other things and do not need the money from a full-time job, but working part-time could be a key component of a bad job for workers who want more hours but cannot get them.

For a single cohort born in 1939-40, Brand (2006) finds that workers who experienced job displacement (involuntary job loss other than being fired for cause) have lower levels of occupational status, job authority, and availability of employer-offered

pension and health insurance than they would have in the absence of such displacement. Job conditions and characteristics have the potential to both push women out of the labor force and to assist them with reentry from exits for family reasons. Displaced workers may be forced for economic or other reasons to accept job conditions that are not as good as the job they lost, and they generally experience lower wages over time. Comparing job conditions before and after employment exits for women who left for family reasons, through involuntary job loss, and for other voluntary reasons will provide evidence as to whether disadvantages upon re-employment are similar (perhaps due to the duration of time not employed) or how the groups differ in their experiences.

Traditional Career Path

Sweet and Meiksins (2013) discuss economic transitions of the late 20th century not as a transition from the “old economy” to the “new economy” but as a “new economy” emerging with the old economy still operating within it; they argue that concerns facing workers today in part stem from society failing to address the inequalities that developed in the old economy. For example, the old economy provided stable jobs for white, middle class men, who were then able to support a stay-at-home wife, but this perception of “traditional families” never included immigrant or African-American women, who were generally expected to work, largely because their families needed the money (Sweet and Meiksins 2013). These white male workers with stable jobs were expected to work the “ideal worker’s” full-time, full year and have someone else (usually one’s wife) to take care of all domestic work (Williams 2000). These ideal worker expectations continued when married women with children entered the workforce in large numbers starting in the 1970s, and the conflicts between full-time, full-year paid

work and raising children while managing a household were initially framed as women's issues rather than issues for all workers, a distinction that continues to influence current discourse (Barnett 1999). Many scholars argue that the masculine norms surrounding work are behind today's gender inequality in the labor market and at home, since workplaces reinforce gendered assumptions of which work should be done by men and women (c.f. Kanter 1977; Moen and Roehling 2005; Williams 2010). Moreover, job intensity and insecurity have also increased since the 1960s, further exacerbating the problems for most families (e.g. Kalleberg 2011).

While the broad social contract of work has changed over time, the expectation that ideal workers are those who can continuously work full-time, year round, without career breaks, and be available for long hours and overtime as needed has not (Moen and Roehling 2005; Williams 2000). Public policy to address this structural mismatch is lacking in the United States (Hegewisch and Gornick 2011), which leaves many men and women attempting to customize their careers on their own. But it is a difficult path, especially since full-time work schedules and a lack of leave policies are so taken for granted that the courts have trouble imagining work being done any other way, so they do not allow legal challenges to them on the basis of disparate impact by gender (as could be allowed under Title VII), because discrimination/disparate impact is legal if it is part of the productive process of a company (Albiston 2007).

Despite these difficulties, some workers do change jobs or leave the labor force in an effort to maintain control over their lives (Moen and Huang 2010). In their study of 983 middle-class, dual-earner couples in upstate New York, Moen and Huang (2010) show that both men and women take time out of the labor force in advance of retirement,

although women are much more likely to invoke family reasons as the explanation than men. While this study reports important findings about flexible career customization, it only covers two years in couples' lives and may not generalize to the whole U.S. And while such career customization in the current policy climate is possible, it often leads to negative career consequences for those who reduce their labor force attachment and/or leave entirely (Budig and England 2001; Budig and Hodges 2010; Dwyer 2004; Glass 2004; Judiesch and Lyness 1999; Stone 2007).

Career Consequences

Job conditions are often a driving force in people's decisions to exit the labor force or search for a new job, and they would likely seek to mitigate the factors that drove them to leave the labor force if returning to work. For example, overwork (often defined as working 50 or more hours/week) is a job condition that can push women out of the workforce under some circumstances (Cha 2013). Some workers (mainly women) choose part-time work as a way to meet both family and work demands in the current policy climate, often called voluntary part-time work (Buehler, O'Brien, and Walls 2011). Others work part-time because they cannot obtain full time employment; this is generally referred to as involuntary part-time work (Farber 1999). The same objective circumstance (working part-time) can thus represent a variety of individual situations. In addition, voluntary downward earnings mobility is an alternative to the ideal of upward mobility among some in the U.S. (Dwyer 2004). Dwyer (2004) finds support for this alternative path, finding that 30 percent of employer shifters each year experience voluntary downward earnings mobility; major trade-offs for these reduced wages include reduced hours, greater autonomy through self-employment, and geographic location.

An experimental study (Pedulla 2016) found that men, but not women, were penalized for periods of part-time work when trying to later attain full-time employment. In that same study, women were penalized for jobs below their skill level, but not for being out of the labor force – perhaps because employers assumed that women’s more limited labor force attachment was because of family care responsibilities that were not as related to work commitment when they returned (or because they penalized all women equally for such potential care responsibilities, so the specific circumstances mattered less for individual women).

Research Questions

This chapter examines how women’s usual weekly work hours and hourly wages change before and after a period of non-employment lasting two months or longer and how those changes vary by women’s life circumstances. Specifically, I ask:

- (1) How do work hours and wages change when women return to work?
- (2) How do changes vary by reason for exit, duration of exit, educational attainment, and family life stage?

The answers to these questions will provide information on the advantages and/or disadvantages women experience when returning to work. Are women returning to similar or higher paying jobs? Or are they unable to obtain a job that would provide equivalent income? Or are they making the non-financial trade-offs described by Dwyer (2004), Correll (2004), and others? The analysis in this chapter cannot differentiate between the last two options, and future research should examine that question further. Similar trade-offs exist with work hours: for many women paid hourly, more hours directly translate to more income, but others are unable to obtain a job that will provide

sufficient hours to meet their income needs, while still others are in salaried jobs with the expectation of long hours.

It is likely that women's reasons for leaving their last job will influence the characteristics of their job upon return to employment. For example, workers experiencing involuntary job loss may be forced for economic or other reasons to accept job conditions that are not as good as the job they left, and they generally experience lower wages over time. Comparing job conditions before and after extended labor force exits will provide evidence as to whether disadvantages upon re-employment are similar or different (perhaps due to the time not employed) or how people leaving for family or non-family voluntary reasons differ in their experiences, especially as compared to those who experienced involuntary job loss due to layoffs.

Several scholars (Aumann and Galinsky 2012; Moen 2016) focus on a need for "flexible careers" where employees could increase engagement and commitment at work and seek advancement at certain life stages, while scaling back work hours or expectations or leaving the workforce entirely at other points in their lives. The vast majority of employers and career paths in the United States are not currently structured to allow for such flexibility, especially for transitions into and out of meaningful part-time work. This chapter considers the career trade-offs women make when they voluntarily leave work for family reasons, as compared to the jobs women who experienced involuntary job loss or who left for other reasons. I expect that such women will move from better compensated jobs into less advantaged areas where they may be better able to obtain employment after being non-employed for a period of time.

Data & Methods

Data

Similar to chapter 3, the analytic sample for this chapter is a subset of women from the dataset used in chapter 2, from the 1979-2012 waves of the National Longitudinal Survey of Youth, 1979 cohort. As discussed earlier, the NLSY79 contains information from a nationally representative sample of people born between 1957 and 1964 in the U.S.; respondents were aged 14-22 when first interviewed in 1979, and aged 47 to 56 during the 2012 round of interviews. Respondents were interviewed annually from 1979 to 1994, then biannually from 1996 to 2012. The NLSY79 dataset contains information on 6,283 women; 1342 were excluded from the analytic sample for this chapter due to being in one of the dropped subsamples (as in chapter 2), another 491 women were excluded because they did not have a period of non-employment lasting 2 months or longer (as in chapter 2), and 1,319 women meeting these other criteria were excluded due to missing data on covariates (mostly missing information on job conditions, in some cases because the respondent was not observed returning to work in the dataset). Thus, the main analytic sample for this chapter includes 10,272 non-employment spells lasting two months or longer from 3,622 women in the NLSY79 sample. The analysis sample for this chapter is not a subset of the sample used in chapter 3, since it does not exclude the 28 women whose detailed occupation and industry classification was not matched in the 1990 U.S. Census as needed for obtaining information on characteristics of occupation/industry combinations. See chapter 2 for more detailed information about sample construction and the data appendix for more information on how the analytic samples in each chapter relate to each other.

Variables

Work Hours

Usual weekly work hours at the jobs women left and returned to are one of the main dependent variables. Work hours are measured for each job, each survey year, asking “How many hours per week (do/did) you usually work at this job?” Thus for jobs held over multiple survey years, work hours are still updated to the most recent usual weekly work hours. Although recent research has shown that usual weekly work hours can mask significant variation and instability in work hours (e.g. Reynolds 2015), usual weekly work hours are the best measurement available in this longitudinal dataset. To eliminate potential bias from extreme values, weekly work hours is top coded at 96 hours/week (very few values were above this threshold). Some analysis uses continuous work hours, and some uses a three category variable with part-time as less than 35 hours/week, full-time as 35-44 hours/week, and overwork as 45 or more hours/week to capture key distinctions in how work hours are structured in the United States. For models considering continuous work hours, the outcome variable is the usual weekly work hours at return to work as a proportion of the usual weekly work hours at the job women left. While such an adjustment is potentially more important for wages, I use it for work hours as well, to express change in a more uniform metric across the distribution of work hours. This variable is top coded at the 98th percentile (400 percent), with values above that threshold coded as the median of the top 2 percent (600 percent).

Wages

The other key dependent variable for this chapter is women’s hourly wage at the job they returned to; specifically, the outcome for models is women’s hourly wage at the job they returned to as a proportion of their hourly wage at the job they left. This is

standard for research involving wage penalties (England et al. 2016). Wages are measured in the NLSY79 by asking respondents what their usual pay timeframe is (e.g. weekly, biweekly, monthly) and then their usual payrate in that time unit. These responses are combined with usual weekly work hours at that job to calculate an hourly wage. However, the calculation process combined with potential data entry errors yields some extreme values; thus, values of hourly wage less than \$1 and more than \$120 (2014 dollars) are excluded from analysis, following Chapparo (2015). Information on wages is collected over a 34 year period; thus it is important to adjust for changes in the real purchasing power of wages over that time period. I use the Consumer Price Index Research Series (United States Bureau of Labor Statistics 2016) to convert wages from earlier months into a value equivalent to the dollar in December 2014. Wages used for analysis can thus be interpreted as equivalent to the value of a dollar in December 2014, and the conversion to wages at the job women returned to as a proportion of wages at the job they left is calculated after using the Consumer Price Index adjustment. The outcome variable (women's hourly wage at the job they return to as a proportion of their wage at the job they left) is top coded at the 98th percentile (483 percent), with values above that threshold coded as the median of the top 2 percent (695 percent). Models also control for the wages at the job women left, and I use the natural log of those hourly wages because of the skewed distribution in the original metric. However, some descriptive analysis is presented in the metric of dollars for ease of interpretation.

Other Variables

The other variables used in this chapter are identical to those used in chapter 3 as model controls. See chapter 3 for additional information on those variables.

Analytic Strategy

This chapter first summarizes the prevalence of changes in wages and work hours after periods of non-employment lasting two months or longer. Then linear regression (OLS) models are used to examine the relationship between reason for exit, length of exit, education, and family life stage and change in wages and work hours, among those who return to employment after exits. Models include a spellcount indicator and robust, clustered, standard errors to account for non-independence of repeated observations from many women in the models. Additional analysis of work hours uses a multinomial logistic regression model comparing returning to part-time, full-time (reference), and overwork hours. Those models also include a spellcount indicator and robust, clustered, standard errors to account for non-independence of repeated observations from many women in the models.

Results

Sample Description

Table 24 describes the analysis sample for this chapter. It is a subset of the sample used in chapter 2, but as discussed above it is smaller due to the requirement that information on occupation, industry, work hours, and hourly wage be non-missing at the start and end of each non-employment spell included. As expected, other characteristics of the sample are similar to those shown in chapter 3. See chapter 2 for a summary of mean number of non-employment spells per person and other descriptive statistics for each woman in the sample as compared to person-spells being analyzed.

Table 24: Description of Person-spells of Non-Employment in Analysis Sample for Job Condition Changes

	Prop.	Mean	StdDev	Median	Min	Max
<i>Job Conditions & Change</i>						
<i>Usual Weekly Work Hours</i>						
Weekly Work Hours at End of Non-Employment Spell as a proportion of Weekly Work Hours at Start of Non-Employment Spell	1.144	0.909	1.000	0.000	0.000	6.000
Weekly Work Hours at Start of Non-Employment Spell	35.710	12.475	40.000	0.000	0.000	96.000
Weekly Work Hours at End of Non-Employment Spell	33.943	12.784	40.000	0.000	0.000	96.000
Fewer Than 35 Hours/Week at Start of Non-Employment Spell	0.326		0.000	0.000	0.000	1.000
35-44 Hours/Week at Start of Non-Employment Spell	0.537		1.000	0.000	0.000	1.000
45 or More Hours/Week at Start of Non-Employment Spell	0.138		0.000	0.000	0.000	1.000
Fewer Than 35 Hours/Week at End of Non-Employment Spell	0.382		0.000	0.000	0.000	1.000
35-44 Hours/Week at End of Non-Employment Spell	0.510		1.000	0.000	0.000	1.000
45 or More Hours/Week at End of Non-Employment Spell	0.108		0.000	0.000	0.000	1.000
<i>Hourly Wage</i>						
Hourly Wage at End of Non-Employment Spell as a proportion of Hourly Wage at Start of Non-Employment Spell	1.216	1.025	0.997	0.008	0.008	6.950
Hourly Wage (2014 dollars) at Start of Non-Employment Spell	\$11.94	\$8.88	\$9.73	\$1.00	\$1.00	\$120.00
Hourly Wage (2014 dollars) at End of Non-Employment Spell	\$11.94	\$9.15	\$9.70	\$1.00	\$1.00	\$120.00
Ln Hourly Wage (2014 dollars) at Start of Non-Employment Spell	2.319	0.557	2.276	0.000	0.000	4.787
Ln Hourly Wage (2014 dollars) at End of Non-Employment Spell	2.314	0.564	2.273	0.000	0.000	4.787

	Prop.	Mean	StdDev	Median	Min	Max
<i>Reason for Leaving Employment</i>						
Layoff / Job Eliminated / Workplace Closed	0.176			0.000	0.000	1.000
End of Temporary or Program Job	0.104			0.000	0.000	1.000
Fired	0.068			0.000	0.000	1.000
Family Reasons	0.143			0.000	0.000	1.000
Non-Family Voluntary	0.509			1.000	0.000	1.000
<i>Duration of Non-Employment</i>						
Non-Employment Spell 2-5 Months	0.349			0.000	0.000	1.000
Non-Employment Spell 6-11 Months	0.229			0.000	0.000	1.000
Non-Employment Spell 12-23 Months	0.207			0.000	0.000	1.000
Non-Employment Spell 24-47 Months	0.122			0.000	0.000	1.000
Non-Employment Spell 48-300 Months	0.092			0.000	0.000	1.000
<i>Education</i>						
<i>Highest Degree at Start of Non-Employment Spell</i>						
Less than High School Education	0.110			0.000	0.000	1.000
High School Degree/GED	0.503			1.000	0.000	1.000
Some College, No Degree	0.208			0.000	0.000	1.000
Associate/Junior College Degree	0.064			0.000	0.000	1.000
Bachelor's Degree or Higher	0.114			0.000	0.000	1.000
<i>School Attendance</i>						
Did not Attend School During Non-Employment Spell	0.840			1.000	0.000	1.000
Attended School During Non-Employment Spell	0.160			0.000	0.000	1.000
<i>Family Status</i>						
<i>Age of Youngest Child</i>						
No Children at Start of Non-Employment Spell	0.378			0.000	0.000	1.000
Youngest Child Less than Age 2 at Start of Non-Employment Spell	0.129			0.000	0.000	1.000
Youngest Child Age 2-5 at Start of Non-Employment Spell	0.195			0.000	0.000	1.000
Youngest Child Age 6-18 at Start of Non-Employment Spell	0.249			0.000	0.000	1.000

	Prop.	Mean	StdDev	Median	Min	Max
Youngest Child Age 19 or Older at Start of Non-Employment Spell	0.050			0.000	0.000	1.000
<i>Number of Children Born During Non-Employment Spell (No Children Born omitted)</i>						
No Children Born During Non-Employment Spell	0.846			1.000	0.000	1.000
1 Child Born During Non-Employment Spell	0.123			0.000	0.000	1.000
2 or More Children Born During Non-Employment Spell	0.031			0.000	0.000	1.000
<i>Marital Status</i>						
Not Married (With Reference to Non-Employment Spell)	0.434			0.000	0.000	1.000
Married & No Change With Reference to Non-Employment Spell	0.483			0.000	0.000	1.000
Got Married or Changed Who Married to During Non-Employment Spell	0.044			0.000	0.000	1.000
Became Not Married During Non-Employment Spell (Divorced, Widowed, etc)	0.039			0.000	0.000	1.000
<i>Other Variables</i>						
Start of Non-Employment Spell within NBER Defined Recession	0.149			0.000	0.000	1.000
<i>Age at Start of Non-Employment Spell</i>						
Age 18-24 at Start of Non-Employment Spell	0.340			0.000	0.000	1.000
Age 25-34 at Start of Non-Employment Spell	0.389			0.000	0.000	1.000
Age 35-55 at Start of Non-Employment Spell	0.271			0.000	0.000	1.000
Ln(Months Employed (at any job) Prior to Non-Employment Spell)		4.292	0.842	4.344	2.485	6.059
Health Limits Amount or Type of Work (Start of Non-Employment Spell)	0.066			0.000	0.000	1.000
<i>Race/Ethnicity</i>						
Latina	0.183			0.000	0.000	1.000
Black	0.326			0.000	0.000	1.000
Non-Black, Non-Latina	0.491			0.000	0.000	1.000
<i>Non-employment Spell Number</i>						
1st Non-Employment Spell	0.235			0.000	0.000	1.000

	Prop.	Mean	StdDev	Median	Min	Max
2nd Non-Employment Spell	0.198			0.000	0.000	1.000
3rd Non-Employment Spell	0.163			0.000	0.000	1.000
4th Non-Employment Spell	0.125			0.000	0.000	1.000
5th Non-Employment Spell	0.092			0.000	0.000	1.000
6th Non-Employment Spell	0.063			0.000	0.000	1.000
7th Non-Employment Spell	0.043			0.000	0.000	1.000
8th or Later Non-Employment Spell	0.081			0.000	0.000	1.000
<i>Broad Occupation Category at Start of Non-Employment Spell (Administrative Support & Clerical Occupations omitted)</i>						
Management & Related Occupations	0.077			0.000	0.000	1.000
Professional Specialty Occupations	0.028			0.000	0.000	1.000
Health-Related Professionals	0.017			0.000	0.000	1.000
Teachers	0.033			0.000	0.000	1.000
Technicians and Related Support Occupations	0.025			0.000	0.000	1.000
Sales (except Cashiers)	0.054			0.000	0.000	1.000
Cashiers & Retail Sales Clerks	0.087			0.000	0.000	1.000
Administrative Support & Clerical Occupations	0.251			0.000	0.000	1.000
Other Service	0.053			0.000	0.000	1.000
Food Preparation and Service	0.114			0.000	0.000	1.000
Health Service	0.052			0.000	0.000	1.000
Personal Service	0.058			0.000	0.000	1.000
Agriculture and related	0.013			0.000	0.000	1.000
Precision Production, Craft, and Repair Occupations	0.020			0.000	0.000	1.000
Operators, Fabricators, and Laborers	0.118			0.000	0.000	1.000
<i>Broad Industry Category at Start of Non-Employment Spell (Retail Industry omitted)</i>						
Agriculture and related	0.012			0.000	0.000	1.000
Construction	0.015			0.000	0.000	1.000
Manufacturing (& Mining)	0.129			0.000	0.000	1.000
Transportation, Communications, & Services	0.033			0.000	0.000	1.000
Wholesale	0.019			0.000	0.000	1.000

	Prop.	Mean	StdDev	Median	Min	Max
Retail	0.276			0.000	0.000	1.000
Finance, Insurance, & Real Estate	0.061			0.000	0.000	1.000
Business & Repair Services	0.068			0.000	0.000	1.000
Personal Services	0.085			0.000	0.000	1.000
Entertainment & Recreation Services	0.017			0.000	0.000	1.000
Professional & Related Services	0.253			0.000	0.000	1.000
Public Administration	0.032			0.000	0.000	1.000

N = 10,272 person-spells of non-employment from 3,622 women in the NLSY79

How Do Wages and Work Hours Change?

The first research question asks how work hours and wages change upon return to employment. As shown in Table 24, women on average work fewer hours at the job they return to than one they left, although the median work hours are 40 hours/week at both time points. The median work hours at the job women return to as a proportion of their hours at the job they left is also one. Even so, the average work hours at the job women return to as a proportion of their hours at the job they left (the outcome variable for this chapter) is above 1, indicating a skewed distribution where some women return to many more hours/week than they worked at the job they left. Figure 17 shows that the average change in work hours masks some variation by weekly work hours at the start of a non-employment spell. For work hours, there is a tendency to change towards 40 hours/week, but there is a wide range in the possible changes. For example, some people working very few or very many hours/week (the purple and red lines in Figure 17) change very little, while others change almost the full span that is mathematically possible given the truncation of the variables.

Rounded to even cents, mean hourly wage is the same at both time points, although the median is slightly lower upon return to work. Figure 18 shows that the average change in hourly wage masks some variation by hourly wage at the start of a non-employment spell; this illustrates why it is important to model percent change in work hours and wages rather than absolute change. Women who left jobs with wages in the lowest deciles tend to increase slightly, while those who made more at the job they left tended to experience a decline in wages upon return to work, some slight and some more substantial, as shown in Figure 18.

Figure 17: Kernel Density of Change in Weekly Work Hours by Hours Worked at Job Prior to Non-Employment Spell

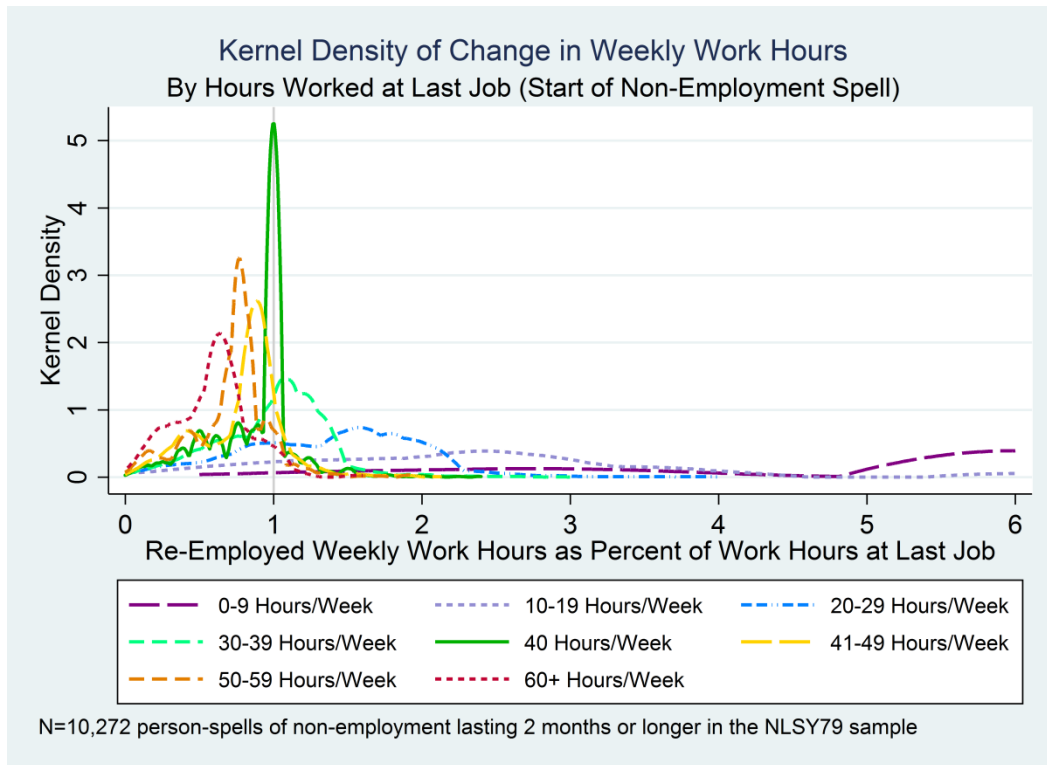
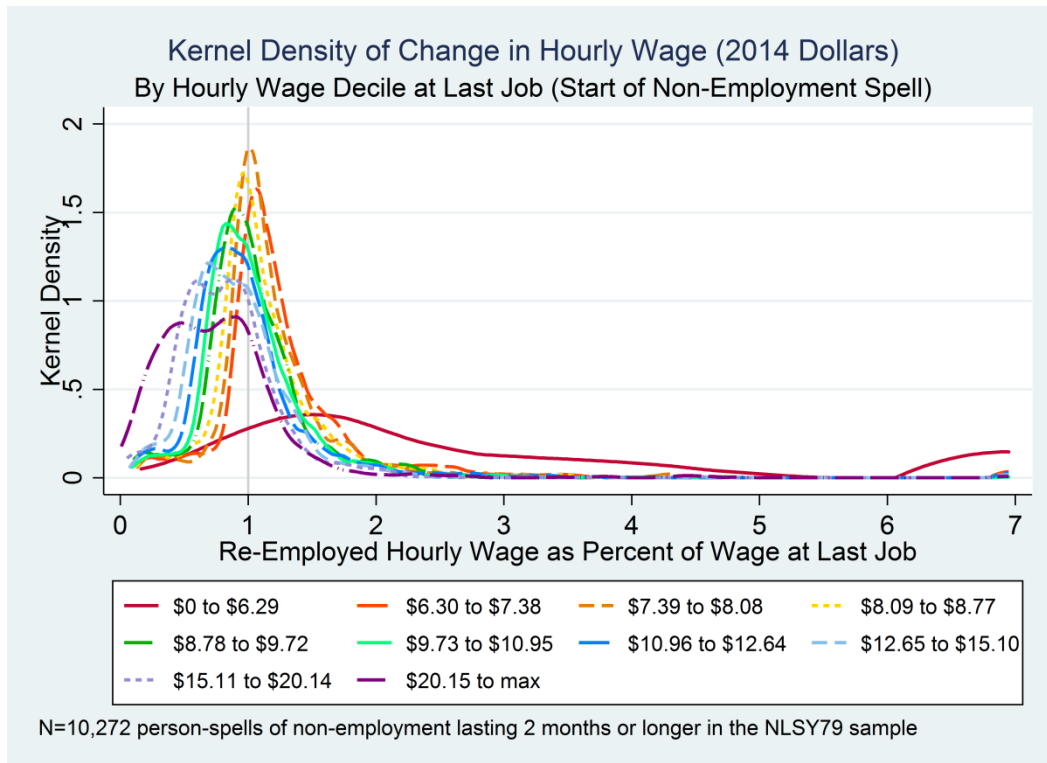


Figure 18: Kernel Density of Change in Hourly Wage by Hourly Wage Decile at Job Prior to Non-Employment Spell



What is Related to Change in Wages and Work Hours?

Description of Change

The second research question asks whether and how changes in work hours and wages vary by reason for exit, duration of exit, educational attainment, and family life stage. Before presenting regression models of women's work hours and wages upon their return, as a proportion of those in the job they left, I first present a further description of these outcomes, as they vary (or do not vary) by a number of key covariates. Table 25 and Table 26 summarize the work hours and wages respectively at the jobs women left and returned to, along with the raw change in work hours or wages, and the outcome variable for models later in this chapter: work hours (or wages) at the job women returned to as a proportion of their work hours (or wages) at the job they left. Several patterns emerge from these tables. First, the medians largely reflect no change, while the means show change to various degrees. This reflects the skewed distribution of these outcome variables, also shown in Figure 17 and Figure 18. Second, work hours at the jobs women left vary by reason for leaving employment and duration of non-employment, potentially indicating a lower attachment to employment among women who leave for longer periods of time or who leave for family reasons, although women who left a temporary or program job were working fewer hours on average than women who left for family reasons. Women who attended school while away from employment tend to be working fewer hours at both the job they left and the job they return to; one possible explanation of this is if they were still in school part time, which could be examined in future research. Children are also part of the story, in that women who have young children when they leave a job tend to be working the fewest hours, and women

with any children born while away from employment worked on average fewer hours at the job they left than women with no children born while away from employment.

Table 25: Usual Weekly Work Hours and Change by Various Characteristics

	% of Person-Spells in Category	Work Hours at Job Left		Work Hours at Job Returned To		Change in Work Hours (raw)		Work Hours at Job Returned To As A Proportion of Work Hours at Job Left	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
<i>Reason for Leaving Employment</i>									
Layoff / Job Eliminated / Workplace Closed	17.6%	37.565	40	35.031	40	-2.534	0	1.076	1
End of Temporary or Program Job	10.4%	32.035	35	32.767	36	0.732	0	1.371	1
Fired	6.8%	39.142	40	35.479	40	-3.663	0	0.979	1
Family Reasons	14.3%	34.79	40	31.149	35	-3.641	0	1.061	1
Non-Family Voluntary	50.9%	35.625	40	34.393	40	-1.232	0	1.166	1
<i>Duration of Non-Employment</i>									
Non-Employment Spell 2-5 Months	34.9%	37.06	40	35.348	40	-1.712	0	1.092	1
Non-Employment Spell 6-11 Months	22.9%	36.099	40	34.664	40	-1.435	0	1.168	1
Non-Employment Spell 12-23 Months	20.7%	34.785	40	33.15	40	-1.635	0	1.169	1
Non-Employment Spell 24-47 Months	12.2%	34.4	40	32.676	36	-1.724	0	1.18	1
Non-Employment Spell 48-300 Months	9.2%	33.443	40	30.291	32	-3.152	0	1.174	1
<i>Education</i>									
<i>Highest Degree at Start of Non-Employment Spell</i>									
Less than High School Education	11.0%	35.873	40	34.45	40	-1.423	0	1.168	1
High School Degree/GED	50.3%	35.58	40	33.959	40	-1.62	0	1.133	1
Some College, No Degree	20.8%	35.077	40	33.4	40	-1.677	0	1.144	1
Associate/Junior College Degree	6.4%	36.395	40	33.938	40	-2.457	0	1.127	1
Bachelor's Degree or Higher	11.4%	36.898	40	34.378	40	-2.52	0	1.178	1
<i>School Attendance</i>									
Did not Attend School During Non-Employment Spell	84.0%	36.241	40	34.198	40	-2.042	0	1.118	1
Attended School During Non-Employment Spell	16.0%	32.93	38	32.608	37	-0.323	0	1.281	1
<i>Family Status</i>									
<i>Age of Youngest Child</i>									
No Children at Start of Non-Employment Spell	37.8%	35.818	40	33.746	40	-2.072	0	1.143	1

	% of Person-Spells in Category	Work Hours at Job Left		Work Hours at Job Returned To		Change in Work Hours (raw)		Work Hours at Job Returned To As A Proportion of Work Hours at Job Left	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Youngest Child Less than Age 2 at Start of Non-Employment Spell	12.9%	33.924	40	31.977	35	-1.946	0	1.158	1
Youngest Child Age 2-5 at Start of Non-Employment Spell	19.5%	34.334	40	33.595	40	-0.739	0	1.196	1
Youngest Child Age 6-18 at Start of Non-Employment Spell	24.9%	36.807	40	34.991	40	-1.816	0	1.118	1
Youngest Child Age 19 or Older at Start of Non-Employment Spell	5.0%	39.427	40	36.673	40	-2.755	0	1.036	1
<i>Number of Children Born During Non-Employment Spell (No Children Born omitted)</i>									
No Children Born During Non-Employment Spell	84.6%	36.062	40	34.635	40	-1.427	0	1.15	1
1 Child Born During Non-Employment Spell	12.3%	33.778	40	30.731	35	-3.047	0	1.135	1
2 or More Children Born During Non-Employment Spell	3.1%	33.798	40	27.897	30	-5.9	-4	1.017	0.9
<i>Marital Status</i>									
Not Married (With Reference to Non-Employment Spell)	43.4%	36.012	40	34.925	40	-1.087	0	1.161	1
Married & No Change With Reference to Non-Employment Spell	48.3%	35.387	40	32.982	38	-2.405	0	1.124	1
Got Married or Changed Who Married to During Non-Employment Spell	4.4%	36.515	40	33.648	40	-2.867	0	1.117	1
Became Not Married During Non-Employment Spell (Divorced, Widowed, etc)	3.9%	35.435	40	35.246	40	-0.189	0	1.219	1
<i>Other Variables</i>									
Start of Non-Employment Spell NOT within NBER Defined Recession	85.1%	35.829	40	34.166	40	-1.663	0	1.145	1
Start of Non-Employment Spell within NBER Defined Recession	14.9%	35.029	40	32.672	37	-2.358	0	1.134	1
<i>Age at Start of Non-Employment Spell</i>									
Age 18-24 at Start of Non-Employment Spell	34.0%	34.118	40	33.24	39	-0.878	0	1.193	1
Age 25-34 at Start of Non-Employment Spell	38.9%	35.672	40	33.495	40	-2.176	0	1.14	1

	% of Person-Spells in Category	Work Hours at Job Left		Work Hours at Job Returned To		Change in Work Hours (raw)		Work Hours at Job Returned To As A Proportion of Work Hours at Job Left	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Age 35-55 at Start of Non-Employment Spell	27.1%	37.764	40	35.47	40	-2.295	0	1.087	1

N = 10,272 person-spells of non-employment from 3,622 women in the NLSY79

Table 26: Hourly Wage and Change by Various Characteristics

	% of Person-Spells in Category	Hourly Wage at Job Left		Hourly Wage at Job Returned To		Change in Hourly Wage (raw)		Hourly Wage at Job Returned To As A Proportion of Hourly Wage at Job Left	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
<i>Reason for Leaving Employment</i>									
Layoff / Job Eliminated / Workplace Closed	17.6%	\$13.32	\$10.91	\$12.51	\$10.02	-\$0.81	-\$0.27	1.102	0.97
End of Temporary or Program Job	10.4%	\$10.62	\$8.71	\$11.80	\$9.16	\$1.18	\$0.28	1.395	1.035
Fired	6.8%	\$11.71	\$10.01	\$10.75	\$9.21	-\$0.96	-\$0.65	1.039	0.935
Family Reasons	14.3%	\$11.94	\$9.79	\$11.22	\$9.32	-\$0.72	-\$0.30	1.172	0.967
Non-Family Voluntary	50.9%	\$11.77	\$9.53	\$12.12	\$9.94	\$0.36	\$0.26	1.255	1.029
<i>Duration of Non-Employment</i>									
Non-Employment Spell 2-5 Months	34.9%	\$12.49	\$10.16	\$12.76	\$10.41	\$0.27	\$0.17	1.209	1.019
Non-Employment Spell 6-11 Months	22.9%	\$11.66	\$9.73	\$11.84	\$9.73	\$0.18	-\$0.06	1.214	0.993
Non-Employment Spell 12-23 Months	20.7%	\$11.66	\$9.49	\$11.43	\$9.28	-\$0.24	-\$0.19	1.21	0.979
Non-Employment Spell 24-47 Months	12.2%	\$11.30	\$9.44	\$10.99	\$9.06	-\$0.31	-\$0.19	1.236	0.979
Non-Employment Spell 48-300 Months	9.2%	\$12.01	\$9.41	\$11.45	\$9.15	-\$0.56	-\$0.21	1.237	0.981
<i>Education</i>									
<i>Highest Degree at Start of Non-Employment Spell</i>									
Less than High School Education	11.0%	\$9.50	\$8.44	\$9.12	\$8.25	-\$0.38	-\$0.11	1.153	0.988
High School Degree/GED	50.3%	\$10.64	\$9.22	\$10.54	\$9.16	-\$0.11	-\$0.07	1.195	0.992
Some College, No Degree	20.8%	\$11.97	\$10.20	\$12.43	\$10.50	\$0.46	\$0.22	1.252	1.024
Associate/Junior College Degree	6.4%	\$14.43	\$12.21	\$14.32	\$12.13	-\$0.11	\$0.12	1.211	1.011
Bachelor's Degree or Higher	11.4%	\$18.56	\$14.90	\$18.58	\$14.90	\$0.03	\$0.10	1.308	1.008
<i>School Attendance</i>									
Did not Attend School During Non-Employment Spell	84.0%	\$12.01	\$9.77	\$11.86	\$9.64	-\$0.15	-\$0.06	1.194	0.993
Attended School During Non-Employment Spell	16.0%	\$11.57	\$9.56	\$12.31	\$10.09	\$0.75	\$0.42	1.332	1.046
<i>Family Status</i>									
<i>Age of Youngest Child</i>									
No Children at Start of Non-Employment Spell	37.8%	\$12.12	\$9.76	\$12.27	\$9.97	\$0.16	\$0.06	1.211	1.006

Youngest Child Less than Age 2 at Start of Non-Employment Spell	12.9%	\$11.81	\$9.44	\$11.05	\$9.21	-\$0.77	-\$0.20	1.207	0.977
Youngest Child Age 2-5 at Start of Non-Employment Spell	19.5%	\$10.89	\$9.02	\$11.34	\$9.18	\$0.45	\$0.37	1.308	1.04
Youngest Child Age 6-18 at Start of Non-Employment Spell	24.9%	\$12.25	\$10.14	\$12.19	\$9.85	-\$0.05	-\$0.07	1.184	0.992
Youngest Child Age 19 or Older at Start of Non-Employment Spell	5.0%	\$13.51	\$11.69	\$12.72	\$10.54	-\$0.79	-\$0.55	1.081	0.953
<i>Number of Children Born During Non-Employment Spell (No Children Born omitted)</i>									
No Children Born During Non-Employment Spell	84.6%	\$12.08	\$9.89	\$12.18	\$9.89	\$0.10	\$0.01	1.215	1.001
1 Child Born During Non-Employment Spell	12.3%	\$11.03	\$9.08	\$10.72	\$8.92	-\$0.31	-\$0.08	1.265	0.994
2 or More Children Born During Non-Employment Spell	3.1%	\$11.84	\$9.43	\$10.24	\$8.45	-\$1.59	-\$0.86	1.053	0.904
<i>Marital Status</i>									
Not Married (With Reference to Non-Employment Spell)	43.4%	\$11.73	\$9.47	\$11.89	\$9.67	\$0.15	\$0.03	1.221	1.003
Married & No Change With Reference to Non-Employment Spell	48.3%	\$12.21	\$10.12	\$12.09	\$9.82	-\$0.12	-\$0.06	1.218	0.994
Got Married or Changed Who Married to During Non-Employment Spell	4.4%	\$11.66	\$9.38	\$11.79	\$9.45	\$0.14	\$0.08	1.183	1.009
Became Not Married During Non-Employment Spell (Divorced, Widowed, etc)	3.9%	\$11.26	\$9.40	\$10.78	\$9.18	-\$0.48	-\$0.08	1.172	0.991
<i>Other Variables</i>									
Start of Non-Employment Spell NOT within NBER Defined Recession	85.1%	\$12.06	\$9.81	\$12.04	\$9.79	-\$0.02	-\$0.01	1.218	0.999
Start of Non-Employment Spell within NBER Defined Recession	14.9%	\$11.24	\$9.33	\$11.32	\$9.19	\$0.08	-\$0.11	1.206	0.989
<i>Age at Start of Non-Employment Spell</i>									
Age 18-24 at Start of Non-Employment Spell	34.0%	\$9.92	\$8.78	\$10.24	\$8.96	\$0.32	\$0.13	1.235	1.015
Age 25-34 at Start of Non-Employment Spell	38.9%	\$11.97	\$9.87	\$11.98	\$9.52	\$0.02	-\$0.02	1.239	0.998
Age 35-55 at Start of Non-Employment Spell	27.1%	\$14.44	\$11.68	\$14.00	\$11.01	-\$0.44	-\$0.19	1.159	0.983

N = 10,272 person-spells of non-employment from 3,622 women in the NLSY79

More change is apparent with wages, even when considering median wages and median wage change. Given the way the hourly wage variable is calculated, there are a number of outliers, and it is impossible to tell whether they are data entry errors or cases that did actually happen as reported. The distribution is quite skewed, and I thus discuss both the mean and the median. The median wage change is negative for women who experienced layoffs, were fired, or who left jobs for family reasons, while there is positive wage change for women who left temporary or program jobs and left jobs for non-family voluntary reasons. There is a duration gradient in wage change; women who left for 2-5 months tend to increase wages slightly, while women who were away from employment for six or more months tend to return to lower hourly wages. There is also a strong wage gradient in education – women with more education tend to both leave and return to jobs with higher wages. Women with young children and those who had additional children while away from employment tend to return to lower wages on average as well.

Modeling Change

The descriptive statistics above show a variety of relationships to examine further using models. Table 27 presents the results from ordinary least squares (OLS) regression models predicting women's work hours (or wages) upon return to employment as a percentage of their work hours (or wages) at the job they left. The outcome for Model 1 is work hours, while hourly wages are the outcome for Model 2. Given the skewed distributions identified above, I also tested modeling the median instead of the mean and the coefficients were attenuated, but showed substantively similar results. I thus present the OLS regression models for ease of understanding and so that I can use clustered standard errors to account for the non-independence of repeated person-spell observations from the same woman in the dataset. Further research could examine these relationships

at a variety of points in the distribution using quantile regression (following England et al. 2016), but that is beyond the scope of this dissertation. Since work hours are often thought of in terms of part-time, full-time, and overwork, I also model change in work hours using a multinomial logistic regression model predicting working fewer than 35 hours/week and 45 or more hours per week upon return to work, as compared to working 35-44 hours/week upon return to work. This model is shown in Table 28. Results from this alternative modeling strategy are generally consistent with the models in Table 27.

A key finding is that women who leave for family reasons tend to return to fewer work hours than women who left due to layoffs, and may also return to lower wages (but the coefficient is only marginally significant in Table 27). However, the birth of one or more children while away from employment is strongly associated with lower wages and work hours upon return to employment, so it is not appropriate to say that family reasons do not matter at all. Even so, it is the presence of additional children, regardless of the reason a woman gave for leaving employment, which makes a more substantial contribution to lower work hours and/or wages in the linear regression models. In the multinomial logistic regression model, coefficients for returning to fewer than 35 work hours per week are similar in magnitude for family reasons and having a child while away from employment. Thus there may be additional dynamics of greater or lesser part-time work hours operating in this case that should be examined in future research.

The linear regression models largely show no direct effect of duration of non-employment. However, chapter 2 clearly shows that duration of non-employment is related to a variety of other characteristics included in these models, so it is not appropriate to conclude that duration of non-employment is unrelated to work hours or

wages upon return, only that a duration effect operates through other aspects of women's lives. In a linear model without other controls, many of the duration variables are statistically significant in the expected direction, but they lose significance once other controls are included (models not shown). The impact of duration is apparent in the multinomial logistic regression model (Table 28), though, with women who remained away from employment for longer periods of time having progressively greater odds of returning to part time work hours as compared to full time or overwork hours.

Educational attainment is largely unrelated to percentage change in work hours in both linear and multinomial logistic regression models, while there is a substantial education gradient for percentage change in wages. Women with more education tend to return to higher wages, even controlling for reason for leaving and the birth of children while away from employment. Notably, the negative coefficient on wages for having 2 or more children while away from employment is only about a third the size of the positive coefficient on wages for having a bachelor's degree or higher when a woman left employment. This indicates that those who are more advantaged in the job they left generally continue to maintain some of that advantage compared to other women who left and returned to jobs, while also seeing some potential disadvantage (reduced hours and wages overall) due to their time away from employment. Thus this research shows that women with a bachelor's degree or more in the general population continue to benefit from their greater human capital upon return to employment, even though other research has shown decreases in wages for extremely highly educated women who take time away from employment (e.g. Bertrand et al. 2010; Lovejoy and Stone 2012). However, it is important to note the large negative coefficient for hourly pay (ln) at the job women left;

it is more than twice as large as the positive coefficient for having a bachelor's degree, so many women with bachelor's degrees are still predicted to return to a job with lower wages than the job they left, particularly if they left a high paying job.

Family status does have some impact on work hours and wages upon return to work, but the differences are largely due to having children while away from employment rather than the ages of existing children, controlling for having additional children. This pattern is evident in both the linear and multinomial logistic regression models. In contrast to expectations, the age of women's youngest child at the start of the non-employment spell is not related to either work hours or wages upon return to work in the linear regression models. Women with school age children are less likely to work part time hours (fewer than 35 hours/week) than full time hours (35-44 hours/week), though, as shown in the multinomial logistic regression model. Consistent across both models, women who have a child while away from employment tend to return to jobs with fewer work hours; the linear model suggests that women return to substantially fewer work hours when they have two or more children versus only one additional child. Women who had two or more children while away from employment, which is then by definition also a longer time away from employment, tend to return to lower wages than women who had no additional children. In terms of marital status, women who were married at the start of a non-employment spell tend to return to fewer hours than women who remained unmarried (consistent across both models), while there is no impact of marital status on wages in this model.

Table 27: Linear Regression Models of Change in Work Hours and Hourly Wage

	(1)		(2)	
	<i>Weekly Work Hours at Return to Work as a Proportion of Weekly Work Hours at Job Left</i>		<i>Hourly Wage At Return to Work as a Proportion of Hourly Wage at Job Left</i>	
	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>
<i>Outcome at Start of Non-Employment Spell</i>				
Weekly Work Hours at Start of Non-Employment Spell	-0.046***	(0.001)		
Ln Hourly Pay (2014 dollars) at Start of Non-Employment Spell			-1.220***	(0.037)
<i>Reason for Leaving Employment</i>				
<i>(Layoffs omitted)</i>				
End of Temporary or Program Job	0.009	(0.034)	-0.027	(0.036)
Fired	-0.025	(0.024)	-0.127***	(0.029)
Family Reasons	-0.075**	(0.026)	-0.052+	(0.030)
Non-Family Voluntary	0.002	(0.019)	-0.017	(0.022)
<i>Duration of Non-Employment</i>				
<i>(2-5 months omitted)</i>				
Non-Employment Spell 6-11 Months	0.043*	(0.018)	-0.018	(0.021)
Non-Employment Spell 12-23 Months	-0.006	(0.021)	-0.027	(0.023)
Non-Employment Spell 24-47 Months	0.002	(0.027)	-0.031	(0.029)
Non-Employment Spell 48-300 Months	0.010	(0.035)	0.052	(0.041)
<i>Education</i>				
<i>Highest Degree at Start of Non-Employment Spell (High School Degree omitted)</i>				
Less than High School Education	0.044	(0.027)	-0.096***	(0.025)
Some College, No Degree	-0.049*	(0.020)	0.099***	(0.024)
Associate/Junior College Degree	-0.004	(0.030)	0.167***	(0.038)
Bachelors Degree or Higher	0.047	(0.029)	0.439***	(0.038)
Attended School During Non-Employment Spell	0.018	(0.022)	0.111***	(0.025)

	(1)		(2)	
	<i>Weekly Work Hours at Return to Work as a Proportion of Weekly Work Hours at Job Left</i>		<i>Hourly Wage At Return to Work as a Proportion of Hourly Wage at Job Left</i>	
	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>
Family Status				
<i>Age of Youngest Child (No Children omitted)</i>				
Youngest Child Less than Age 2 at Start of Non-Employment Spell	-0.033	(0.025)	0.024	(0.030)
Youngest Child Age 2-5 at Start of Non-Employment Spell	-0.008	(0.022)	0.049+	(0.027)
Youngest Child Age 6-18 at Start of Non-Employment Spell	-0.000	(0.025)	-0.016	(0.029)
Youngest Child Age 19 or Older at Start of Non-Employment Spell	0.022	(0.037)	-0.097*	(0.042)
<i>Number of Children Born During Non-Employment Spell (No Children Born omitted)</i>				
1 Child Born During Non-Employment Spell	-0.067**	(0.026)	0.024	(0.030)
2 or More Children Born During Non-Employment Spell	-0.185***	(0.048)	-0.151**	(0.053)
<i>Marital Status (Not Married Throughout Omitted)</i>				
Married & No Change With Reference to Non-Employment Spell	-0.052**	(0.017)	-0.032	(0.019)
Got Married or Changed Who Married to During Non-Employment Spell	0.022	(0.035)	-0.001	(0.039)
Became Not Married During Non-Employment Spell (Divorced, Widowed, etc)	0.070+	(0.038)	-0.063	(0.041)
Other Variables				
Start of Non-Employment Spell within NBER Defined Recession	-0.033+	(0.020)	0.007	(0.023)

	(1)		(2)	
	<i>Weekly Work Hours at Return to Work as a Proportion of Weekly Work Hours at Job Left</i>		<i>Hourly Wage At Return to Work as a Proportion of Hourly Wage at Job Left</i>	
	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>
<i>Age (ages 25-34 omitted)</i>				
Age 18-24 at Start of Non-Employment Spell	0.043+	(0.023)	-0.044+	(0.026)
Age 35-55 at Start of Non-Employment Spell	-0.019	(0.024)	0.087**	(0.027)
Ln(Months Employed (at any job) Prior to Non-Employment Spell)	0.012	(0.015)	0.110***	(0.017)
Health Limits Amount or Type of Work (Start of Non-Employment Spell)	-0.013	(0.030)	-0.070*	(0.031)
<i>Race (Non-Black, Non-Latina omitted)</i>				
Latina	0.059**	(0.021)	-0.017	(0.024)
Black	0.041*	(0.018)	-0.088***	(0.021)
<i>Non-employment Spell Number (1st non-employment spell omitted)</i>				
2nd Non-Employment Spell	0.055*	(0.022)	-0.033	(0.024)
3rd Non-Employment Spell	0.073**	(0.024)	-0.021	(0.026)
4th Non-Employment Spell	0.055*	(0.026)	-0.033	(0.029)
5th Non-Employment Spell	0.128***	(0.031)	-0.031	(0.035)
6th Non-Employment Spell	0.116***	(0.034)	-0.076*	(0.037)
7th Non-Employment Spell	0.075*	(0.038)	-0.079	(0.049)
8th or Later Non-Employment Spell	0.105**	(0.034)	-0.076+	(0.043)
<i>Broad Occupation Category at Start of Non-Employment Spell (Administrative Support & Clerical Occupations omitted)</i>				
Management & Related Occupations	0.210***	(0.030)	0.167***	(0.033)
Professional Specialty Occupations	0.065	(0.044)	0.195**	(0.062)
Health-Related Professionals	0.061	(0.064)	0.517***	(0.078)
Teachers	0.132*	(0.056)	0.133*	(0.064)

	(1)		(2)	
	<i>Weekly Work Hours at Return to Work as a Proportion of Weekly Work Hours at Job Left</i>	<i>Standard Error</i>	<i>Hourly Wage At Return to Work as a Proportion of Hourly Wage at Job Left</i>	<i>Standard Error</i>
Technicians and Related Support Occupations	0.075	(0.046)	0.199***	(0.049)
Sales (except Cashiers)	-0.000	(0.036)	0.062	(0.047)
Cashiers & Retail Sales Clerks	-0.011	(0.032)	-0.111**	(0.034)
Other Service	0.110*	(0.047)	-0.226***	(0.040)
Food Preparation and Service	-0.065*	(0.029)	-0.052	(0.034)
Health Service	0.031	(0.038)	-0.085*	(0.034)
Personal Service	0.136**	(0.049)	0.175**	(0.058)
Agriculture and related	0.043	(0.113)	-0.241**	(0.081)
Precision Production, Craft, and Repair Occupations	0.111*	(0.048)	-0.066	(0.055)
Operators, Fabricators, and Laborers	0.005	(0.025)	-0.147***	(0.028)
<i>Broad Industry Category at Start of Non-Employment Spell (Retail Industry omitted)</i>				
Agriculture and related	0.193	(0.120)	0.205*	(0.102)
Construction	0.136**	(0.050)	0.308***	(0.076)
Manufacturing (& Mining)	0.048	(0.029)	0.107***	(0.030)
Transportation, Communications, & Services	0.063+	(0.037)	0.197***	(0.044)
Wholesale	0.110*	(0.054)	0.121*	(0.055)
Finance, Insurance, & Real Estate	-0.009	(0.029)	0.231***	(0.042)
Business & Repair Services	0.027	(0.034)	0.164***	(0.040)
Personal Services	0.052	(0.040)	0.176***	(0.040)
Entertainment & Recreation Services	0.105	(0.068)	0.002	(0.063)
Professional & Related Services	0.055+	(0.029)	0.063*	(0.030)
Public Administration	0.026	(0.045)	0.074+	(0.045)
Constant	2.628***	(0.086)	3.509***	(0.107)

	(1)		(2)	
	<i>Weekly Work Hours at Return to Work as a Proportion of Weekly Work Hours at Job Left</i>		<i>Hourly Wage At Return to Work as a Proportion of Hourly Wage at Job Left</i>	
	<i>Coefficient</i>	<i>Standard Error</i>	<i>Coefficient</i>	<i>Standard Error</i>
R-squared	0.399		0.387	
BIC	22550		25216	

N = 10,272 person-spells of non-employment from 3,622 women in the NLSY79; *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 28: Multinomial Logistic Regression Model of Categorical Work Hours Upon Return to Work

	<i>Fewer Than 35 Hours/Week at End of Non-Employment Spell</i>		<i>45 or More Hours/Week at End of Non-Employment Spell</i>	
	<i>Coefficient</i>	<i>Confidence Interval</i>	<i>Coefficient</i>	<i>Confidence Interval</i>
<i>Weekly Hours Worked at Start of Non-Employment Spell</i>				
<i>(35-45 Hours/Week Omitted)</i>				
Fewer Than 35 Hours/Week at Start of Non-Employment Spell	1.652***	1.492 - 1.829	1.243*	1.051 - 1.470
45 or More Hours/Week at Start of Non-Employment Spell	1.042	0.905 - 1.199	2.386***	2.004 - 2.840
<i>Reason for Leaving Employment</i>				
<i>(Layoffs omitted)</i>				
End of Temporary or Program Job	1.480***	1.237 - 1.772	1.255	0.948 - 1.660
Fired	1.000	0.820 - 1.220	0.938	0.687 - 1.281
Family Reasons	1.328***	1.129 - 1.561	1.216	0.927 - 1.595
Non-Family Voluntary	1.090	0.963 - 1.233	1.188+	0.984 - 1.436
<i>Duration of Non-Employment</i>				
<i>(2-5 months omitted)</i>				
Non-Employment Spell 6-11 Months	1.059	0.942 - 1.189	0.952	0.796 - 1.138
Non-Employment Spell 12-23 Months	1.263***	1.119 - 1.427	0.884	0.724 - 1.078
Non-Employment Spell 24-47 Months	1.435***	1.230 - 1.675	1.234+	0.977 - 1.557
Non-Employment Spell 48-300 Months	1.736***	1.433 - 2.103	1.250	0.919 - 1.701
<i>Education</i>				
<i>Highest Degree at Start of Non-Employment Spell</i>				
<i>(High School Degree omitted)</i>				
Less than High School Education	0.936	0.797 - 1.099	1.012	0.804 - 1.273
Some College, No Degree	1.093	0.965 - 1.238	1.023	0.843 - 1.242
Associate/Junior College Degree	0.932	0.775 - 1.120	0.734+	0.538 - 1.002
Bachelors Degree or Higher	1.064	0.899 - 1.258	1.458**	1.161 - 1.829
<i>Family Status</i>				
<i>Age of Youngest Child (No Children omitted)</i>				

	<i>Fewer Than 35 Hours/Week at End of Non-Employment Spell</i>		<i>45 or More Hours/Week at End of Non-Employment Spell</i>	
	<i>Coefficient</i>	<i>Confidence Interval</i>	<i>Coefficient</i>	<i>Confidence Interval</i>
Youngest Child Less than Age 2 at Start of Non-Employment Spell	1.091	0.937 - 1.271	1.086	0.850 - 1.389
Youngest Child Age 2-5 at Start of Non-Employment Spell	0.884+	0.769 - 1.017	1.036	0.832 - 1.291
Youngest Child Age 6-18 at Start of Non-Employment Spell	0.861*	0.742 - 0.999	0.880	0.700 - 1.105
Youngest Child Age 19 or Older at Start of Non-Employment Spell	0.884	0.679 - 1.150	1.370+	0.960 - 1.954
<i>Number of Children Born During Non-Employment Spell (No Children Born omitted)</i>				
1 Child Born During Non-Employment Spell	1.293***	1.112 - 1.505	1.030	0.801 - 1.325
2 or More Children Born During Non-Employment Spell	1.530**	1.141 - 2.052	0.957	0.574 - 1.598
<i>Marital Status (Not Married Throughout Omitted)</i>				
Married & No Change With Reference to Non-Employment Spell	1.273***	1.147 - 1.412	0.916	0.781 - 1.074
Got Married or Changed Who Married to During Non-Employment Spell	0.839	0.672 - 1.046	0.713+	0.495 - 1.026
Became Not Married During Non-Employment Spell (Divorced, Widowed, etc)	0.782*	0.617 - 0.990	1.114	0.799 - 1.553
<i>Other Variables</i>				
Start of Non-Employment Spell within NBER Defined Recession	1.170*	1.035 - 1.322	0.892	0.727 - 1.095
<i>Age (ages 25-34 omitted)</i>				
Age 18-24 at Start of Non-Employment Spell	0.821**	0.715 - 0.943	1.077	0.862 - 1.346
Age 35-55 at Start of Non-Employment Spell	1.082	0.939 - 1.248	1.120	0.900 - 1.393
Ln(Months Employed (at any job) Prior to Non-Employment Spell)	0.947	0.867 - 1.035	1.048	0.915 - 1.200
Health Limits Amount or Type of Work (Start of Non-Employment Spell)	1.247*	1.049 - 1.482	1.119	0.848 - 1.478

	<i>Fewer Than 35 Hours/Week at End of Non-Employment Spell</i>		<i>45 or More Hours/Week at End of Non-Employment Spell</i>	
	<i>Coefficient</i>	<i>Confidence Interval</i>	<i>Coefficient</i>	<i>Confidence Interval</i>
<i>Race (Non-Black, Non-Latina omitted)</i>				
Latina	0.676***	0.597 - 0.765	0.784*	0.649 - 0.947
Black	0.683***	0.611 - 0.763	0.723***	0.613 - 0.853
<i>Non-employment Spell Number (1st non-employment spell omitted)</i>				
2nd Non-Employment Spell	0.931	0.815 - 1.063	1.228+	0.991 - 1.522
3rd Non-Employment Spell	0.851*	0.735 - 0.985	1.031	0.809 - 1.316
4th Non-Employment Spell	0.915	0.777 - 1.079	1.362*	1.060 - 1.751
5th Non-Employment Spell	0.824*	0.685 - 0.993	1.362*	1.028 - 1.804
6th Non-Employment Spell	0.815+	0.659 - 1.008	1.134	0.820 - 1.569
7th Non-Employment Spell	0.964	0.758 - 1.226	1.063	0.719 - 1.569
8th or Later Non-Employment Spell	0.828+	0.665 - 1.030	1.266	0.920 - 1.742
<i>Broad Occupation Category at Start of Non-Employment Spell (Administrative Support & Clerical Occupations omitted)</i>				
Management & Related Occupations	0.934	0.771 - 1.132	1.517**	1.169 - 1.970
Professional Specialty Occupations	1.048	0.798 - 1.377	1.170	0.779 - 1.758
Health-Related Professionals	0.985	0.674 - 1.440	1.420	0.833 - 2.421
Teachers	1.034	0.773 - 1.382	1.993***	1.379 - 2.880
Technicians and Related Support Occupations	1.116	0.837 - 1.489	1.488+	0.966 - 2.292
Sales (except Cashiers)	1.065	0.861 - 1.317	0.918	0.653 - 1.291
Cashiers & Retail Sales Clerks	1.050	0.865 - 1.275	0.986	0.715 - 1.359
Other Service	1.081	0.864 - 1.352	0.822	0.543 - 1.245
Food Preparation and Service	1.230*	1.020 - 1.484	1.140	0.838 - 1.552
Health Service	1.087	0.867 - 1.363	1.391+	0.965 - 2.006
Personal Service	1.247+	0.985 - 1.578	1.805**	1.252 - 2.602
Agriculture and related	1.071	0.635 - 1.807	2.630**	1.316 - 5.255
Precision Production, Craft, and Repair Occupations	0.869	0.615 - 1.227	1.339	0.879 - 2.039
Operators, Fabricators, and Laborers	1.181+	0.985 - 1.415	1.229	0.922 - 1.640
<i>Broad Industry Category at Start of Non-</i>				

	<i>Fewer Than 35 Hours/Week at End of Non-Employment Spell</i>		<i>45 or More Hours/Week at End of Non-Employment Spell</i>	
	<i>Coefficient</i>	<i>Confidence Interval</i>	<i>Coefficient</i>	<i>Confidence Interval</i>
<i>Employment Spell (Retail Industry omitted)</i>				
Agriculture and related	0.801	0.457 - 1.404	0.805	0.382 - 1.696
Construction	0.663+	0.438 - 1.004	1.500	0.924 - 2.435
Manufacturing (& Mining)	0.850+	0.705 - 1.023	1.030	0.771 - 1.377
Transportation, Communications, & Services	0.719*	0.546 - 0.947	1.104	0.751 - 1.625
Wholesale	0.698*	0.492 - 0.990	0.973	0.604 - 1.570
Finance, Insurance, & Real Estate	0.845	0.680 - 1.050	1.021	0.725 - 1.438
Business & Repair Services	0.759*	0.615 - 0.938	0.872	0.625 - 1.216
Personal Services	0.971	0.784 - 1.203	0.681*	0.474 - 0.977
Entertainment & Recreation Services	0.997	0.700 - 1.419	1.296	0.794 - 2.114
Professional & Related Services	0.933	0.790 - 1.103	0.886	0.684 - 1.148
Public Administration	0.876	0.670 - 1.144	0.930	0.601 - 1.437
Constant	0.723	0.460 - 1.137	0.098***	0.049 - 0.197
AIC	18815			
BIC	19741			

N = 10,272 person-spells of non-employment from 3,622 women in the NLSY79; *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Discussion

The analysis in this chapter shows that the median values of both work hours and wages at the jobs women left and the jobs they returned to reflect no change in either, while the mean change shows women returning to fewer work hours and approximately the same wages as in this cohort of women in the United States. The models in this chapter examine work hours or wages at return as a percentage of work hours or wages at the job women left, which tells a story of a mean increase for women between the job they left and the job they returned to. However, both work hours and wages upon return to work are predicted to be lower if women have children while away from employment than if they do not. Work hours and wages at return also vary by the broad occupation and industry category women left and the work hours or wages women experienced at the job they left. Leaving a job for family reasons specifically is related to lower work hours at the job women return to, while greater education is strongly related to higher wages at the job women return to. One of the strongest predictors of women's wages at the job they return to (and to a lesser degree, work hours) is the wages at the job they left, in that women who made more at the job they left are more likely to return to lower wages. This does not actually translate into a negative wage change for most women, though, since the high constant in the model effectively cancels out the negative coefficient for women making less than around \$17.75/hour (setting all other variables to zero/the reference category). This corroborates existing research showing large wage penalties for highly educated and/or highly paid women who leave employment for a period of time to take care of their family, including England et al. (2016).

There is no evidence in this chapter of the positive wage effects for childless women found by Cha (2014) when looking at re-employment after job-related quits (falling into non-family voluntary reasons in the classification used in this chapter) within a four month timeframe, comparing during and before the 2008 recession. However, Cha's key findings related to an interaction of reason for leaving and motherhood status, which is not examined in this chapter. Looze (2014) also finds evidence of wage benefits to childless women from non-family voluntary job changes using the NLSY79 when examining job changes while remaining continuously employed, so the lack of evidence is unlikely to be only an artifact of the different dataset used for analysis. This chapter also includes re-employment after much longer timeframes than the four months Cha (2014) considers.

Even if many women are able to return to similarly paid jobs after taking time away from work for family care or other reasons they still miss out on retirement contributions, including social security, during the time when they are not employed, which can erode their financial security at older ages. This research also shows that women tend to return to fewer work hours after taking time away from employment; for those paid hourly, that can also mean less financial security at older ages. This analysis uses data from a particular cohort of women in the U.S., who came of age at a time when women's labor market opportunities were greatly expanding. More recent cohorts may or may not have similar experiences, and that is a fruitful topic for future research, likely in a few years when the women of the NLSY97 (ages 12-16 in 1997) have completed their main childbearing years.

Chapter 5 – Conclusion

My dissertation uses data from the NLSY79 to examine employment exits and reentries across the life course of women in the United States. After understanding reasons for and patterns in employment exits, I consider changes in occupation/industry and changes in job conditions before and after labor force exits. By comparing these aspects of labor force participation at varying points in the gendered life course, I contribute to the sociological literature on work and employment in the U.S., including effects of the changing social contract of work since the 1970s. This research provides information on the existing state of women's employment exits and reentries in the U.S., so that future policy changes may best address existing challenges.

Each of the three analytic chapters that comprise my dissertation examines employment exits and entries for various reasons and makes comparisons across age, education, and family status, among others. While the majority of women who leave a job and remain away from employment for two months or longer do not report leaving their job for family reasons, around sixty percent already have children when they leave their job. Thus, even when the original job exit is not for family reasons, family may be part of the decision process with regard to returning to employment, particularly if a new child is born while women are away from employment. In that way, some women may be trying to create career flexibility to meet their needs in the absence of policy supports for working while caring for their family.

Work-family scholars have defined three policy components of workplace flexibility: flexible work arrangements (FWA), time off, and career flexibility (see Christensen and Schneider 2010). All of these are about ways that American workplaces

can change to better reflect the realities of the modern workforce. While FWA and time off are at the forefront of most policy initiatives today, career flexibility – including career exit, maintenance and reentry – is another key aspect to consider. Several scholars (Aumann and Galinsky 2012; Moen and Huang 2010) discuss the need for career flexibility. Aumann and Galinsky (2012) focus on a need for “flexible careers” where employees could increase engagement and commitment at work and seek advancement at certain life stages, while scaling back work hours or expectations or leaving the workforce entirely at other points in their lives.

The vast majority of employers and career paths are not currently structured to allow for such flexibility, especially for transitions into and out of meaningful part-time work, although at least one company, Deloitte, has replaced the idea of a “career ladder” with that of a “career lattice” that allows for such flexible careers (Aumann and Galinsky 2012). Moen and Huang propose two framings of flexible career customization: “flexible customization by *employees* to facilitate life course ‘fit,’ and flexible customization by *employers* to reduce their workforce or shift work offshore” (Moen and Huang 2010:75). Both potentially involve exiting the workforce and/or changing jobs, but while customization by employees is generally an attempt at meeting both work and non-work demands given the inflexibility of many existing jobs, customization by employers reflects the transition to a “new economy” where workers bear more of the economic risks that corporations and government used to absorb in the U.S. (Hacker 2006; Sweet and Meiksins 2013).

A 2003 New York Times article titled “The Opt-Out Revolution” by Lisa Belkin and academic research on highly educated women’s employment exits for family reasons

(Stone 2007) were key parts of a public discussion about such highly educated women “opting out” of employment and later the difficulty of returning to employment after such an exit (e.g. Hewlett 2007; Lovejoy and Stone 2012). While this is a problem facing highly educated women and likely contributes to the lack of women at top positions in industry and government, my dissertation shows that the ability to return to work for similar wages is far less of a problem for most women in the U.S. who began their careers in the late 1970s and early 1980s. Further research should examine these relationships in a more recent cohort in a way that allows for more detailed information on job conditions. However, there is a necessary time delay in doing this type of research, since it takes time for a cohort to grow older, have children, leave a job, and return to employment. A particular advantage of my dissertation is the ability to compare women who leave employment for family reasons with those who are laid off, among other reasons for leaving. This allows a focus on women at a variety of life stages, rather than only right around the birth of a child.

While I find that nearly all women in the NLSY79 return to work after an employment exit lasting two months or longer, those who leave for family reasons remain away from employment for longer than those who leave for other reasons. Reason for leaving is largely unrelated to changes in occupation/industry of employment, work hours, or hourly wages between the jobs women left and the jobs to which they returned. However, women who leave for family reasons do tend to return to fewer weekly work hours (and often worked fewer hours at the job they left as well). Women who have children while away from employment, regardless of the reason they left employment, tend to return to lower work hours and, for women who have two or more children in the

same period of non-employment, also return to lower wages. Thus even when women experience layoffs or leave their job for other reasons, family caregiving is often a big part of why they stay away from employment and has consequences for their job conditions upon return to work.

Based on my results, future research should focus on the following potential avenues of exploration. One initial step would be to use unconditional quantile regression models to examine the changes in women's wages between the jobs they left and the jobs they returned to at varying points on the income distribution, following England et al. (2016). This would add to the literature surrounding the motherhood wage penalty and further provide insight into wage penalties for taking time away from employment. Particularly in light of other research related to men's labor force participation during the 2008 recession, it would be informative to undertake analysis similar to this entire dissertation for men and compare findings with those described here for women. That would provide insight into the differences in wage and work hours consequences for taking time away from employment for men as compared to women, as well as likely different patterns of employment surrounding the arrival of children into households. Undertaking similar analysis using the NLSY97 dataset and comparing results with the NLSY79 cohort would also yield substantial insight into whether and how women's patterns of employment have changed for a more recent cohort. This would be most informative if it were undertaken 5-10 years from now when the NLSY97 women will be closer to completed with their childbearing.

I began by framing a problem of women's labor force participation, particularly focusing on women's return to employment after leaving it for a variety of reasons.

Results indicate that while there is some impact of leaving employment for family reasons on women's probability of re-entering employment quickly and their work hours upon return, reason for leaving is largely unrelated to occupation and/or industry changes and wages. In some situations, having young children and educational attainment are related to those aspects of women's employment, though. Thus the evidence partially supports all of the potential answers discussed above: women's reasons for leaving employment matter in some situations, having children while away from employment matters in some situations, and educational attainment or accumulated advantage matters in some situations.

Even if women are able to return to similarly paid jobs after taking time away from work for family care or other reasons they still miss out on retirement contributions, including social security, during the time when they are not employed. This can erode their financial security at older ages. Moreover, even though women can on average avoid wage losses from periods of non-employment, the insecurity of non-employment when caring for family members can be particularly problematic for women who do not live in a household with another reliable source of income. It would serve the people of the U.S. well if policymakers would take into account these inequalities when enacting policies related to work and employment.

Data Appendix

This section contains additional details on the dataset used in my dissertation, a comparison of analytic samples across chapters, and some information on how the key independent variable was collected. As discussed above, the National Longitudinal Survey of Youth 1979 (NLSY79) cohort is primary data source. One advantage of using this type of longitudinal data is that it is possible to consider labor force participation over a long period of time. For example, one way to measure labor force participation is to consider the number of weeks worked per year (or in this case a sum of many years), which can better capture part-year workers as well as those who experience labor force exits. As of 2010, the average member of the NLSY79 cohort was “employed during 78 percent of the weeks from age 18 to 46” (Bureau of Labor Statistics 2012). Men tended to be employed for 84 percent of weeks, compared to 71 percent of weeks for women, and women spent 25 percent of weeks out of the labor force, as compared to 10 percent of men (Bureau of Labor Statistics 2012). This BLS news release also provides evidence that women are potentially returning to work at ages 35-39 and 40-46 (observed in 1992-2003 and 1997-2010, respectively) compared to earlier ages, since the percent of weeks not in the labor force for women is lower in those years than in earlier years, although it still does not approach the much lower levels for men (Bureau of Labor Statistics 2012). Respondents in the NLSY79 were age 18 in 1975-1982; so they were positioned to take advantage of the expanding labor market opportunities available to women as they began their careers.

Reason for Leaving Last Job

The reason women leave their job before a period of non-employment is a key independent variable used in my dissertation. This section summarizes the response categories and how the question was asked across many survey waves in the NLSY79. Table 28 summarizes which response choices were available to the questions shown in Table 27. For all survey years, respondents were asked a set of questions about each employer they reported including why they left each job (if they had left it). The available data contains responses for up to 5 employers, but few respondents have 5 employers since the previous survey interview (the survey interval was every year until 1994, then every two years after that). As shown in Table 28, the phraseology was fairly similar across all survey waves, but the question became open response in 2002 and interviewers then coded responses into a wider variety of choices (compared to previous years). Interviewers could also specify other responses that are not tabulated individually in the publicly available data. As shown in Table 28, the response categories were fairly broad for 1980-2000, but more specific categories, including care for family members and retired began in 2002. Table 1 (in chapter 2) shows how these response choices were collapsed for use in analysis.

Table 29: NLSY79 Text for Question about the Reason Respondents Left Each Job

Year(s)	Question Text
1979	Why did you happen to leave this job? (If more than one reason given, probe: What was the one main reason?)
1980-1986	Which of the reasons on this card best describes why you happened to leave this job?
1987	Now I am going to read you a list of reasons why people leave jobs. Please tell me which of the reasons best describes why you happened to leave this job.
1988-1993	Which of the reasons on this card best describes why you happened to leave this job?
1994-2000	What is the main reason you left your job with [Name of employer]?
2002-2012	What is the main reason you [left your job with/stopped taking assignments with/no longer work at] [(employer name)]? <i>Note that this became open response (no hand card) with interviewers coding into the categories provided in 2002.</i>

Table 30: NLSY79 Coded Reasons Respondents Left Jobs by Survey Year

Response Categories	1979	1980-1983	1984-1989	1990-2000	2002-2008	2010-2012
Layoff-Temporary Job (1979); Layoff (1980-2000); Layoff, Job eliminated (2002-2012)	x	x	x	x	x	x
Plant Closed (1984-2000); Company, Office, or workplace closed (2002-2012)			x	x	x	x
End of Temporary/Seasonal Job (1984-1993); End of Temporary or Seasonal Job (1994-2012)			x	x	x	x
Discharged/Fired (1979); Fired (1980-83); Discharged or Fired (1984-2012)	x	x	x	x	x	x
Program Ended (1979-2000); Government program ended (2002-2012)	x	x	x	x	x	x
Quit because didn't like job, boss, coworkers, pay or benefits (2002-2012)					x	x
Quit to Look for Another Job (1990-2012)				x	x	x
Found Better Job (1979); Quit to Take Another Job (1990-2012)	x			x	x	x
Pregnancy (1979); Pregnancy, Family (1980-81); Quit for Pregnancy/Family Reasons (1984-1993); Quit for Pregnancy or Family Reasons (1994-2000); Quit for pregnancy, childbirth or adoption of a child (2002-2012)	x	x	x	x	x	x
Quit to spend time with or take care of children, spouse, parents, or other family members (2002-2012)					x	x

Response Categories	1979	1980-1983	1984-1989	1990-2000	2002-2008	2010-2012
Own Illness (1979); Quit because respondent's ill health, disability or medical problems (2002-2012)	x				x	x
Moved to another geographic area (2002-2012)					x	x
Quit to attend school or training (2002-2012)					x	x
Went to jail or prison, had legal problems (2002-2012)					x	x
Transportation problems (2002-2012)					x	x
Retired (2002-2012)					x	
No desirable assignments available (2002-2012)					x	x
Job assigned through a temporary help agency or a contract firm became permanent (2002-2012)					x	x
Dissatisfied with job matching service (2002-2012)					x	x
Project completed or job ended (2002-2012)					x	x
Business failed or bankruptcy (2010-2012)						x
Sold business to another person or firm (2010-2012)						x
Business temporarily inactive (2010-2012)						x
Closed business down or dissolved partnership (2010-2012)						x
Other (1979); Other Reasons (1980); Quit, Other Reasons (1982-83); Quit for Other Reasons (1984-2008); "Other (specify)" (2010-2012)		x	x	x	x	x
Bad Working Conditions (1979 only)	x					
Pay Too Low (1979 only)	x					
Interfered with School (1979 only)	x					
Entered Armed Forces (1979 only)	x					
Spouse Changed Jobs (1979 only)	x					
Parents Changed Jobs (1979 only)	x					
Family Reasons (1979 only)	x					
OTHER (additional category in 1980/81)		x				

Comparison of Analytic Samples Across Chapters

There are several analytic samples used in this dissertation, so this section of the appendix exists to clarify who is eligible for which sample. The samples were largely constructed with the goal of including as many person-spells of non-employment as

possible, while using listwise deletion for cases where key information was missing such that a person-spell of non-employment could not be included in the analysis. They are all also focused on person-spells of non-employment as the unit of analysis, rather than using each woman as the unit of analysis, as is done with studies of employment trajectories. Some discussion of numbers / percentages of women, particularly in chapter 2, is included to give a sense of how many women are excluded from the sample due to a lack of non-employment spells and/or missing data. However, this data is not weighted to be representative of the NLSY79 cohort. This is for two reasons. First, I am conceptually more interested in relationships between variables, and weighting is not necessary for that type of analysis. Second, the dataset is constructed as person-spells of non-employment, which necessarily combines data collected in many different years of the NLSY79 data collection period to a single time point of employment exit. Given this type of dataset construction, determining the appropriate reference distribution for weighting would be problematic.

The analytic sample for chapter 2 includes 16,284 non-employment spells lasting two months or longer from 4,174 women in the NLSY79 sample. Women in the NLSY79 dataset were eligible for inclusion in this person-spell dataset if that particular person-spell of non-employment was 2 months or longer, if the respondent was age 18 or older at the start of the non-employment spell, if they were not part of the subsamples later dropped by the NLSY79, if they had been previously employed for at least 12 months (not necessarily at the same job or continuously employed) at the start of the non-employment spell, left a job, and were not employed at any additional job. The subsamples later dropped by the NLSY79 were the military oversample and the

oversample of economically disadvantaged whites (oversamples of African American and Latina/o people were not dropped). No information on return to work is necessary for inclusion in the analytic sample for chapter 2, since Cox models account for the right-censoring that occurs when respondents are not observed returning to work in the dataset.

The analytic samples for chapters 3 and 4 include substantially fewer person-spells of non-employment than chapter 2, largely due to missing information on the jobs that women left and/or returned to. Other conceptual requirements for inclusion in the sample are the same as for chapter 2, with the exception that women must have returned to employment to have employment characteristics upon return to work. Around 5,000 person-spells of non-employment analyzed in chapter 2 are not included in chapters 3 and 4. Of those, around 1000 are excluded because the person-spell of non-employment was not observed to end in re-employment in the dataset, and the other approximately 4,000 were excluded due to missing data on occupation, industry, work hours, hourly wage, or other covariates necessary for analysis. The samples for chapters 3 and 4 are not identical because I wanted to include as many cases with non-missing information as possible in each analysis, and some women were missing the occupation/industry information at the job they returned to, but not work hours or wages, so they could be included in chapter 4 but not chapter 3. Additionally, the sample is slightly smaller for chapter 3 because the detailed occupation/industry combination in around 400 person-spells could not be matched with the IPUMS data necessary for the analysis in the consequences of change section.

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