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**Changing Stability in U.S. Employment Relationships: A Tale of  
Two Tails**

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# Changing Stability in U.S. Employment Relationships: A Tale of Two Tails

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## Abstract

We confront two seemingly-contradictory observations about the US labor market: the rate at which workers change employers has declined since the 1980s, yet there is a commonly expressed view that long-term employment relationships are more difficult to attain. We reconcile these observations by examining how the distribution of employment tenure has changed in aggregate and for various demographic groups. We show that the fraction of workers with short tenure (less than a year) has been falling since the 1980s, consistent with the decline in job changing. Meanwhile, the fraction of workers with long tenure (20 years or more) has been *rising* modestly owing to an increase in long tenure for women and the ageing of the population. Long tenure has declined markedly among older men; this trend may have spurred popular perceptions that long-term employment is less common than in the past. The decline in long-tenure for men appears due to an increase in mid-career separations that reduce the likelihood of reaching long-tenure, rather than an increase in late-career separations. Nevertheless, survey evidence indicates that these changes in employment relationships are not associated with heightened concerns about job insecurity or decreases in job satisfaction as reported by workers. The decline in short-tenure is widespread, associated with fewer workers cycling among briefly-held jobs, and coincides with an increase in perceived job security among short tenure workers.

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## I. Introduction

Recent research has identified a decline in job changing among U.S. workers since the 1980s (Hyatt and Spletzer 2013; Davis and Haltiwanger 2014; Molloy et al. 2016; Molloy, Smith, Wozniak 2017). A decline in job-to-job mobility should mean that workers are staying longer with a given employer, causing the distribution of employment tenure to shift to the right. However, median tenure has been essentially flat since at least the mid-1990s.<sup>1</sup> Moreover, there is a widespread perception that long-term employment relationships have become *less* common and that the labor market provides less stability than it did in past decades, perhaps owing to structural changes in the labor market such as the decline in manufacturing employment, the rise in service sector employment, and employment displacement related to automation and globalization.<sup>2</sup> How can mobility between employers be declining even as stable long-term employment arrangements are perceived to be less common? In this paper, we seek to reconcile these apparently conflicting trends.

We address this question using major publicly-available data sources on worker tenure combined with auxiliary data sets that allow us to investigate the nature of job changing and worker perceptions of job stability over time. We first use the Current Population Survey (CPS) to investigate changes in the aggregate distribution of job tenure over three and a half decades. We show that short-tenure jobs (less than one year) have become less common in the aggregate tenure distribution since 1980, while the fraction of workers with long tenure spells (20 or more years) has *risen* a bit. Thus, changes in the aggregate tenure distribution are consistent with the decline in job changing that has been documented in previous research.

Our results do not, however, imply that the popular perception of a decline in long-term employment relationships is unfounded. The ageing of the population has boosted the fraction of workers with long tenure spells, since older workers tend to have longer tenure. Moreover, growing female labor force attachment has led to an increase in long tenure among (married) women. Focusing on men in specific age categories, we find a substantial decline in the fraction of workers who have worked with the same employer for more than 20 years. To understand the source of this decline, we examine the roles of other observable characteristics, including industry and education. Some of the

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<sup>1</sup> For example, see U.S. Bureau of Labor Statistics reports by Hipple and Sok (2013) and U.S. Bureau of Labor Statistics (2016). Some measures of median tenure has risen modestly since the onset of the Great Recession, but this is often attributed to cyclical dynamics in worker retention.

<sup>2</sup> The book *The End of Work* was an influential formulation of such concerns in the early 1990s, when U.S. unemployment was rising sharply. However, similar concerns about automation disruptively replacing a large share of jobs continue to be discussed, for example, see the extended article by Thompson (2015) in *The Atlantic*.

decline is explained by changing industrial composition—the shift away from manufacturing appears especially important. Long tenure spells have also become less common within many industries, especially within those that had more long-tenure workers three decades ago—again, manufacturing stands out. These findings are consistent with stories of the broader, long-term negative impacts of declining manufacturing, but we caution that, according to our analysis, the decline of manufacturing is only part of the story behind declines in long-term employment relationships; indeed, the decline in long tenure employment for men is apparent in many industries, and the declining unionization rate also appears to have some importance. We also find that long employment spells have become less common for highly-educated workers as well as less-educated workers, suggesting that the impact of these industry shifts has been more uniform by skill than has been previously appreciated. Looking at variation in tenure rates across birth cohorts, we find that cohorts with lower long-tenure rates towards the end of their careers also had lower mid-tenure rates towards the middle of their careers and generally experienced higher average unemployment and non-employment rates earlier in their working life. Thus, more recent cohorts have had a greater likelihood of employment separation earlier in their careers, making it more difficult to attain long-tenure employment.

We find different patterns at the short end of the tenure distribution. We first show that only a small portion the change in workers with short tenure (less than one year of tenure) can be explained by age or any other observable factors. This result parallels findings for the decline in job-to-job mobility, which is largely unrelated to observable worker characteristics (Molloy, Smith and Wozniak 2017). This is also consistent with Hyatt and Spletzer (2017) and Pries and Rogerson (2019), which both find that observable characteristics explain little of the decline in the fraction of jobs that last for only one quarter.

To further understand what has caused the decline in the fraction of workers with less than one year of tenure, we show how the fraction of workers with the shortest tenures (new hires) is a function of job-to-job transition rates among employed workers (e.g. the fraction of workers who move to a new employment relationship in the next month) and the flow of people into employment after having been unemployed or out of the labor force. Using data from the Survey of Income and Program Participants (SIPP), we examine tenure-specific job-to-job transition rates and find that job-to-job transition rates have fallen most for workers with short tenures. The decline in job-to-job transitions for workers with less than one year of tenure is a primary driver of the overall decline in job-to-job transitions. Hence, an important explanation for the decline in short-tenure employment appears to be reduced churn among short-tenure workers. Complementary analysis using data from

the National Longitudinal Survey of Youth (NLSY) and the CPS also suggests that separation rates have declined the most for the lowest-tenure workers.

Our analysis naturally leads to questions about how these long-run shifts in employment tenure may be related to changes in worker perceptions of job stability or job satisfaction. Has the decline in churning among short-tenure workers been accompanied by an increase in perceived job stability or satisfaction? Conversely, have the decreases in men’s long-tenure spells been associated with reductions in perceived job stability or satisfaction? To address these questions, we examine survey data on worker perceptions in the 1970s and 2000s. Consistent with the rise in retention rates for short-tenure workers documented in the NLSY and SIPP, short tenure workers are more likely to report that their “job stability is good” in the 2000s than in the 1970s. For older men who are working, perceptions of job satisfaction and job security have been stable from the 1970s to the 2000s, suggesting that the declines in long employment spells have not been associated with an increase in anxiety about their own employment.

Our paper presents a more comprehensive set of facts about changes in employer tenure among US workers, and in so doing makes two main contributions. The first is to bring together analysis of long-run changes at both ends of the tenure distribution in order to provide a more comprehensive assessment of trends in job changing and employment relationships. Although other authors have documented changing patterns in the tails of the tenure distribution, they have focused on either long or short tenures separately.<sup>3</sup> Jointly analyzing the two tails of the distribution together helps to illustrate how people are generally changing jobs less often even as long-term employment relationships are becoming less common for men. Moreover, by analyzing distributional changes at the ends of the job tenure distribution in tandem, we are able to describe the relative importance of a common set of factors for explaining these changes. Our analysis shows how several trends in the US economy—the ageing of the population, the rise in female labor force attachment, and the decline in the manufacturing sector—are all important in understanding the upper tail of the distribution but do not explain much at the lower tail. These findings relate to a literature exploring trends in long-tenure jobs that extends back to the late 1990s (Farber 1998; Diebold, Neumark and Polsky 1997) and build on findings in Farber (2010). Meanwhile, Hyatt and Spletzer (2017) highlight the decline in jobs lasting

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<sup>3</sup> We are aware of only a few papers that have looked at both tails simultaneously. Swinnerton and Wial (1995) looked comprehensively at four-year retention probabilities for workers in the CPS Job Training Supplements spanning the 1980s. Hyatt and Spletzer (2016) jointly consider factors explaining the decline in very short tenure jobs and changes in longer tenure jobs. However, they limit their analysis of longer tenure jobs to 5 years of tenure or longer, and we find that the decline in long-tenure is only apparent for jobs much further in the right tail of the tenure distribution.

at most one quarter and explore the implications of this decline for the overall trajectory of employment and for changes in the earnings distribution for low-tenure workers; we build on their insights by showing that this trend is driven by a decline in churn among low-tenure workers.

Our second contribution is to use additional data on worker perceptions about job stability and longitudinal data on spells of employment and non-employment in order to better understand the consequences for workers of these shifts in the tenure distribution. The prior research on both topics is quite limited. To our knowledge, only one other paper has directly examined the question of how worker perceptions of job stability and satisfaction have changed over time (Fullerton and Wallace 2007), and this study did not examine trends differentially by worker tenure. Given that the trends in job changing are not the same across the tenure distribution, we think it is important to analyze worker perceptions separately by tenure. And indeed, the changes in perceptions differ by tenure. By providing a richer understanding of why short and long tenure rates have been declining, our paper takes a needed step towards understanding the implications of changes in employment relationships throughout the tenure distribution for workers. While a popular narrative exists in which reductions in tenure are assumed to be bad for workers, our results suggest the impacts may be more complicated and deserve ongoing study.

## **Section II. Changes in the Tenure Distribution since 1980**

Our analysis of the distribution of worker tenure is based primarily on data spanning 1983 to 2018 from the Current Population Survey (CPS). This monthly survey has periodically included a job tenure supplement (included as a supplement to the January or February survey) that asks respondents when they started working with their current employer or how long they have been employed with their current employer (at their main job). We have put together aggregate trends in tenure using microdata from individual survey responses back to 1983. CPS microdata on this question span changes in survey methodology that make comparisons over long time periods challenging.<sup>4</sup> We work to harmonize the data to ensure comparability, and we believe that the data allow consistent estimates of longer tenure rates (3 years and longer) back to 1983. However, estimates of shorter tenure rates

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<sup>4</sup> For 1996 and later, data are provided by IPUMS. For 1983, 1987, and 1991, data are provided by NBER. Microdata from the tenure supplement also exists for 1979 and 1981, and published estimates of tenure duration are available from the late 1960s. However, data inconsistencies prevent tenure statistics from being strictly comparable over this full period. In particular, prior to 1983 respondents were asked how long they had been with their current *job*, while in 1983 and subsequent surveys, respondents were asked how long they had been with their current *employer*. Because tenure for workers who switch jobs within a firm could be recorded differently after the questionnaire change, we have chosen to focus on data for 1983 and later.

may be less consistent across the earlier and later years.<sup>5</sup> For this reason, we confirm the findings in this section using the Panel Study of Income Dynamics (PSID). The PSID is a survey that follows a smaller set of households—roughly 5,000 to 10,000 households—over time. In the early 1980s this survey began asking household heads how long they had worked for their current employer. This question is unchanged across survey years, reducing concerns that survey changes contribute to our observed changes in the tenure distribution.

Our main outcome of interest is a worker’s tenure with the current employer at the time of the survey. Where multiple jobs are observed, we focus on tenure with the main employer. It is important to keep in mind that this outcome is by definition right-censored and only observed for those respondents who are employed at the time of the survey.

Figure 1 shows average tenure in the CPS and PSID over time.<sup>6</sup> Both series show roughly stable average tenure through the mid-2000s, after which average tenure gradually edged up in both surveys (by about a half year by the end of the sample), and then down again in CPS data for 2016 and 2018. While time series patterns in the two sources align, the level of tenure is higher in the PSID than in the CPS. About half of this difference can be explained by the fact that we have restricted our PSID sample to household heads, who tend to be older and more attached to their jobs than other earners. Median tenure, as estimated from the CPS microdata, is flat in our sample at 4 years through 2006. It increased during and after the recession to 5 years, likely reflecting composition effects (as those with shorter tenure separated from their jobs at higher frequency than those with longer tenure), and dropped back to 4 years of tenure by 2016. Median tenure levels are about half that of mean tenure over the period (see also Hipple and Sok 2013, U.S. Bureau of Labor Statistics 2016.) These

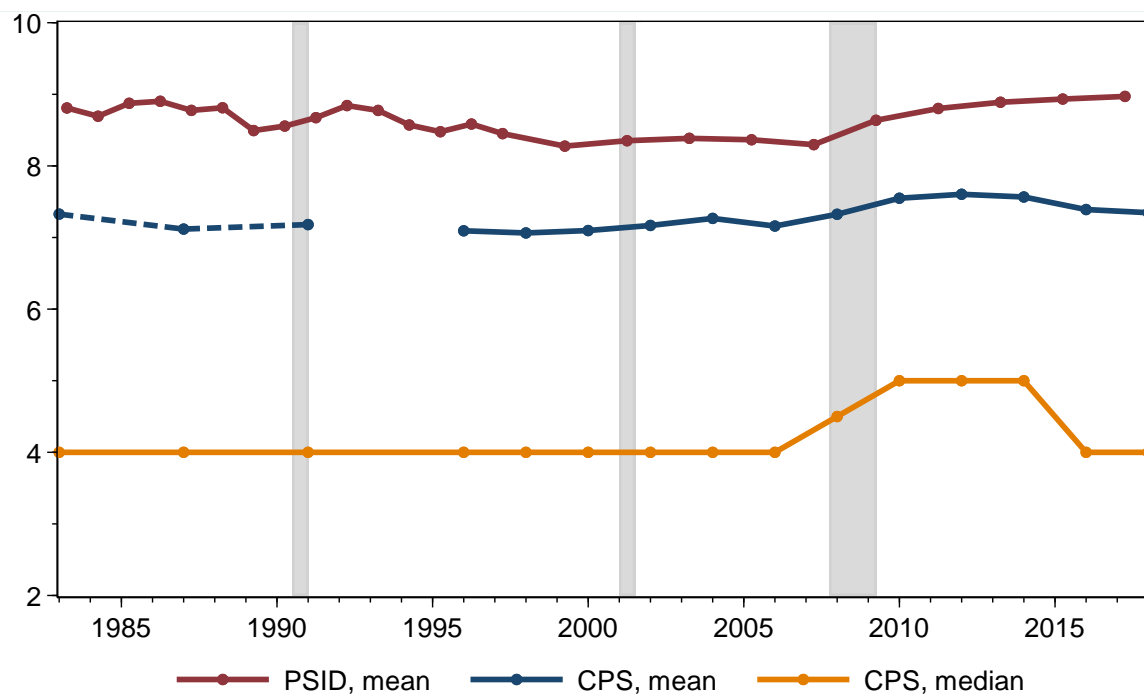
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<sup>5</sup> There are at least two significant differences in the way that the tenure questions are asked, and responses recorded, in the 1983, 1987, and 1991 CPS surveys compared with the 1996 and later surveys. First, prior to 1996, respondents who had 1 year of tenure or more have their tenure recorded as only a whole number, whereas in 1996 and later, respondents who had 1 or 2 years of tenure or longer were then asked the total number of months of tenure. In practice, in data for 1996 and later, this results in a semi-continuous range of responses for respondents with between 1 and 3 years of tenure, whereas in earlier data responses are constrained to be bunched at 1 or 2 years of tenure. In addition, in the surveys for 1996 and later, respondents are initially allowed to indicate their amount of tenure in days, weeks, months, or years, while for earlier surveys, respondents can only respond in years for 1 year and more of tenure, and months for less than one year of tenure. As a consequence, individuals in later surveys are able to report tenure with greater precision and so there may be less rounding up or down to the nearest month or year; this likely prevents estimates of the share of workers with tenure at lengths less than 3 years from 1983, 1987, and 1991 data from being strictly comparable with estimates from 1996 and later data. However, these data inconsistencies should not impact estimates of longer tenure rates (3 years and greater).

<sup>6</sup> The differences in the way that the CPS surveys recorded short tenure in the earlier years of our sample (as described in footnote 5) likely imply that estimates of mean tenure are also not strictly comparable estimates of median tenure are likely comparable since the changes in tenure recording methodology should only affect estimates of tenure shares below median tenure.

results are consistent with an earlier literature, which found little evidence of a general decline in tenure through the early/mid-1990s (Farber 1998; Diebold, Neumark and Polsky 1997).

**Figure 1: Trends in Average Tenure with the Current Employer, 22 to 64 year olds**



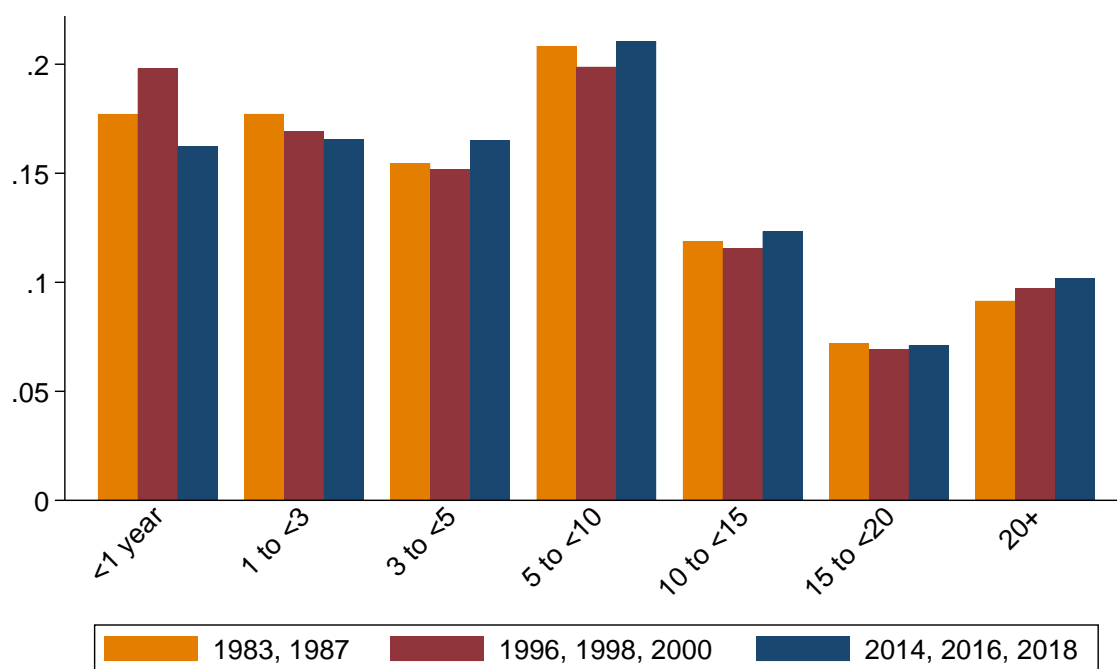
Notes: All estimates are from CPS and PSID microdata, calculated by authors. For PSID, estimates are limited to household heads. Estimates are for 22 to 64 year olds, and exclude self-employed workers and unpaid family workers. Estimates of short tenure (<3 years) in CPS data are likely not strictly comparable in the earlier years of our sample (1983, 1987, 1991) relative to later years (1996+), which may affect comparability of average tenure (but probably not mean tenure) in the CPS across these years; see text for more details. NBER recessions are shaded; estimates from the CPS (which were measured in January or February) are assigned to the first quarter of the year and estimates from the PSID (annual averages) are assigned to the second quarter of the year.

The stability in average and median tenure shown in Figure 1 may seem surprising in light of the many changes in the U.S. labor market that might be expected to affect the degree of stability in employment relationships—trends such as the shift in industrial composition from manufacturing to services, declining union representation, and outsourcing. But average tenure may mask important changes at different points in the distribution of tenure. Therefore, next we establish the basic facts about how the distribution of employment tenure has changed since the early 1980s in order to understand how the stability in average or median tenure arises.



Figure 2 shows the distribution of tenure at available intervals in the 1980s, 1990s, and 2010s.<sup>7</sup> We focus on results using the CPS since it is a larger sample, but all results documented here are similar in the PSID, except where noted. The tails of the tenure distribution exhibit substantive changes over this period even as the mean and median were largely stable. The fraction of workers with shorter tenure has fallen over time. For example, the fraction with less than one year fell from about 20 percent in the 1996-2000 period to 16 percent in the 2010s. And the fraction with less than 3 years of tenure—the shortest category that we can measure consistently over the entire time period—fell from 35 percent in the 1980s to 32 percent in the 2010s. In the PSID, the fraction of household heads with less than 1 year of tenure fell from 16 percent in the 1980s to 13 percent in the 2010s. Meanwhile, in both datasets the fraction of workers in most other tenure groups has risen, with the increase in mass in the CPS most apparent for workers with tenure from 3 to 5 years and more than 20 years.

**Figure 2: Distribution of Tenure in the 1980s, 1990s, and 2010s, 22 to 64 year olds**



Source: Authors' calculations from CPS microdata. Bars show the fraction of the working population with reported tenure in the listed ranges of years of tenure. Estimates are for 22 to 64 year olds with positive reported tenure, and exclude self-employed workers and unpaid family workers. See text for discussion of the comparability of CPS data across these periods.

<sup>7</sup> The figure looks very similar if we also include 1991 in the first year grouping in order to increase the sample size of the first period.

Our calculations in the CPS also show a material decrease in the fraction of workers with one to three years of tenure from the 1980s to the 1990s. We suspect that this decrease is related to inconsistencies in the way tenure is recorded pre-1996 and post-1996, artificially reducing the size of the less than one year group and boosting the size of the one-to-three year group in the earlier surveys.<sup>8</sup> Supporting this view, in the PSID the fraction of workers with 1 to 3 years of tenure increased from the 1980s to the 1990s. Due to concerns about measurement error, in our analysis of short-tenure employment we generally limit our attention to 1996 and later, when shorter tenure durations are consistently measured.

Despite some of these potential data inconsistencies, changes in the distribution of aggregate tenure seem generally consistent with the decline in labor market fluidity over this period: fewer workers have been with their employer for a short period of time, and more workers have been with their employer for a long period of time.<sup>9</sup>

Do these facts negate the popular perception of a demise in long-term employment relationships? To understand the source of this perception, it is helpful to control for a number of demographic trends that also influence the distribution of tenure. As emphasized by Farber (2007), the aging of the population over the last few decades has masked a decline in the share of workers with high tenure since older workers have longer tenure on average. It is also important to consider men and women separately because the growing labor force attachment of women during this period has led to differential trends in tenure by gender.

Table 1 reports the employment shares, average tenure, and fraction of workers with more than 20 years of tenure by age and gender. The growing share of older men and women in the workforce has caused the distribution of aggregate tenure to shift right, since older workers tend to have

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<sup>8</sup> Prior to 1996, respondents could only report fractions of a year of tenure if their tenure was less than a year, whereas in later years respondents could report tenure at any frequency (number of days, weeks, months, or years)—and respondents reporting exactly 1 or 2 years of tenure were then asked to give their exact number of months of tenure. It is possible that in the earlier surveys respondents with nearly one year of tenure would have rounded up to one year in the earlier years but would have reported the exact number of months in the later years. This appears to have resulted in significantly more bunching at 1 and 2 years of tenure in the earlier periods. Consistent with this, the fraction of workers with 1 to 3 years of tenure is flat in the years leading up to 1991 and post-1996; it drops from 1991 to 1996, however, by about the same amount that the less than one year group increases.

<sup>9</sup> Although we believe that short tenure was inconsistently measured in the earlier surveys relative to later surveys; we have no reason to believe that longer tenure estimates suffer similar inconsistencies over time. That said, it is very likely that tenure is measured with some degree of error in all survey years. For example, there is significant bunching for longer tenure at multiples of 5 and 10 years, and it may be possible that workers who report very long tenure (e.g. 20 years or more) had short interruptions at some point in their tenure that they don't consider when reporting tenure. There is no reason to believe that this sort of measurement error has changed over time, however.

higher tenure. Within demographic groups, we see divergent patterns in the shift toward longer tenures. Among older men (those over 40), it has become less common to observe tenure longer than 20 years and average tenure has fallen.<sup>10</sup> For women, the opposite is true. Thus, the ageing of the population and the different trend for women obscure the fact that older men are, indeed, less likely to have stayed with the same employer for a long period of time. It seems possible that the popular perception of a demise in long-term employment relationships is related to the fact that the typical older man is significantly less likely to have been with his employer for most of their career in the 2010s than in the 1980s. However, it is worth noting that long tenure is still fairly common among older men, with nearly one third of men age 60-64 reporting 20 or more years of tenure.

**Table 1: Population Shares and Tenure by Age Group**

	Men				Women			
	22-39	40-49	50-59	60-64	22-39	40-49	50-59	60-64
<b>Population shares (ages 22-64, employed)</b>								
1983, 1987	31.9	11.4	8.8	2.7	26.8	9.6	6.9	2.0
2014, 2016, 2018	24.2	12.4	11.5	3.7	21.7	11.5	11.3	3.7
<i>Change</i>	-7.7	1.0	2.7	1.0	-5.0	2.0	4.4	1.7
<b>Percent with tenure 20 years or more</b>								
1983, 1987	0.5	19.9	39.5	40.0	0.3	6.2	15.2	23.1
2014, 2016, 2018	0.3	11.2	26.0	32.3	0.2	9.0	21.3	27.9
<i>Change</i>	-0.1	-8.6	-13.4	-7.7	-0.1	2.8	6.1	4.9
<b>Average tenure in years</b>								
1983, 1987	4.6	11.0	15.6	16.8	3.8	7.1	10.3	12.3
2014, 2016, 2018	4.0	8.6	12.1	13.8	3.7	8.1	11.2	13.0
<i>Change</i>	-0.6	-2.4	-3.5	-3.0	-0.1	1.0	0.9	0.7

Notes: Source—Authors’ calculations from microdata to the CPS occupational tenure supplements. Population shares are the share of the 22-64 employed population accounted for by the sex/age group (i.e. cells add to 1 across the row). Self-employed and unpaid family workers are excluded. See text for discussion of the comparability of CPS data across these periods.

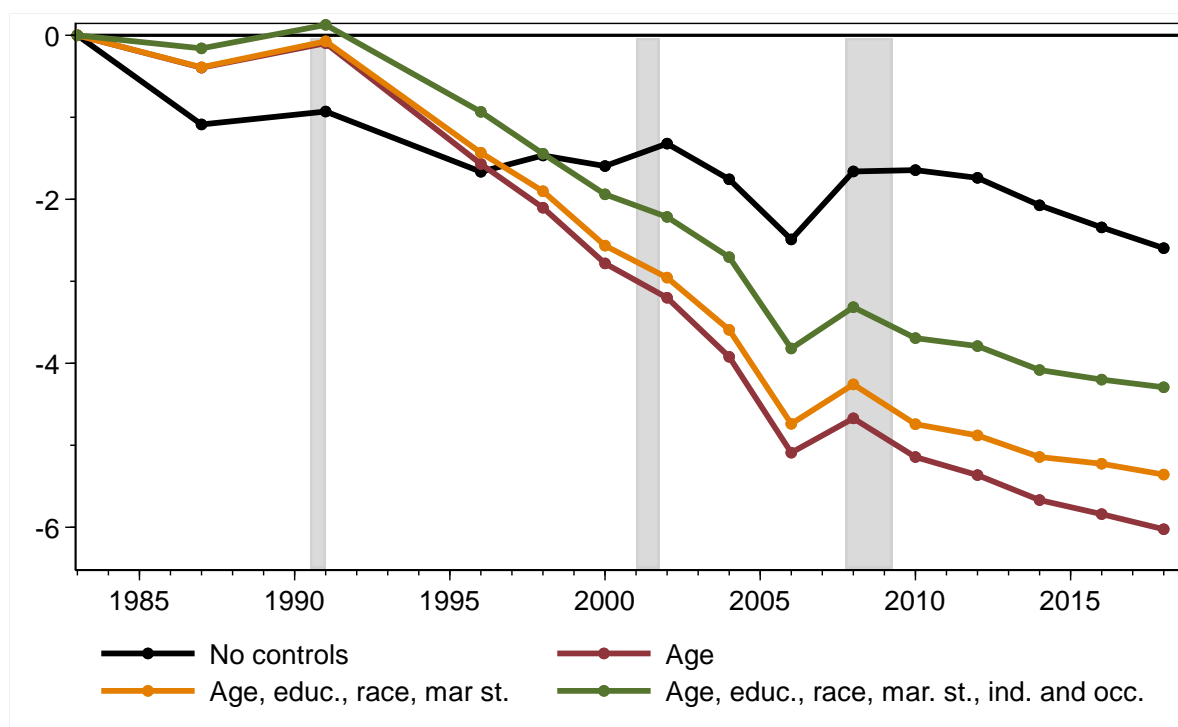
<sup>10</sup> Hyatt and Spletzer (2016) find that the fraction of men age 45 and older with long tenure spells was fairly constant from 1998 to 2013. However, they define long tenure as 10 years or more. We find that this apparent stability is the result of an increase in the share of men with 10 to 15 years of tenure and a decrease in the share with more than 15 years. Thus, it is the very long employment relationships that are less common for older men.

### Section III. What Explains the Decline in Long Tenure Spells?

#### A. The role of compositional shifts in long tenure trends for older men

Based on the analysis above, it is clear that in order to understand the changes at the long end of the tenure distribution, we need to quantify the roles of demographic trends, and we need to consider men separately from women. Toward this end, we begin with a regression analysis on a sample limited to men. We first regress an indicator for having more than 20 years of tenure on a set of year indicators. With no other controls in the regression, the coefficients on the year indicators show the evolution of the share of men with long tenure over time. Figure 3 shows that for men age 22 to 64, the share of workers with long tenure (the black line) fell by 2.5 percentage points from 1983 to 2018. Next we adjust for the changing age distribution among working men by adding a set of indicators for whether the worker is 22-29, 30-39, 40-44, 45-49, 50-54, 55-59, and 60-64. The red line in the figure plots the year fixed effects from this regression. Controlling for age reveals that the aging of the male population significantly masked the extent of the decline in long-tenure—the age-adjusted decline in

**Figure 3. Percent of men age 22-64 with tenure of 20 years or more, relative to 1983**



Notes: Source—Authors’ calculations from microdata to the CPS occupational tenure supplements. The figure plots year fixed effects from regressions where the dependent variable is whether the respondent had 20 or more years of tenure, and the right-hand side variables are year fixed effects and listed controls. All estimates are relative to the estimated year effect in 1983, and are in percentage points. NBER recessions are shaded.

male long-tenure rates is about 6 percentage points, more than twice the unadjusted decline. Next, we add in indicators for education (less than a high school degree, high school degree but no college, some college but less than a Bachelor’s degree, Bachelor’s degree or better), marital status, and race (white, black, other)—these adjustments (the orange line) imply a decline in long tenure rates of about 5.5 percentage points. In addition to this regression-based approach to understanding the contribution of changes in observable characteristics, we have also estimated Oaxaca-Blinder decompositions of the change in tenure from 1983/1987 to 2014/2016/2018; our findings are qualitatively similar.<sup>11</sup> We conclude that changes in the characteristics of the employed male population have masked significant declines in long-tenure that were not apparent in the aggregate data, a finding that is broadly consistent with related findings in Farber (2007).

We next examine whether secular changes in the mix of industries or occupations can help account for the changes in the fraction of long-tenure workers. In Figure 3, we add in another line (green) which shows the trends in the fraction of men with more than 20 years of tenure after also controlling for worker industry and occupation.<sup>12</sup> The inclusion of industry and occupation controls reduces the adjusted decline in the long-tenure rate somewhat, to about 4.5 percentage points; thus, shifts in the distribution of male employment by industry and occupation can explain about 1 percentage point of a 5½ percentage point demographically adjusted decline in long tenure (about 20 percent of the decline). The shift in employment away from the manufacturing sector, which had a higher-than-average share of long-tenure workers in the 1980s, can account for about half of the industry effects identified by this regression.<sup>13</sup> Nevertheless, even after accounting for changes in the distribution of demographic characteristics and industry and occupation employment, we see a substantial decline in long-tenure shares.

To further examine the importance of industry, in Table 2 we show levels and changes in the share of men with long tenures within broad industry and occupation groups. We limit our focus to men age 40 to 64, for whom long tenure rates are highest and have experienced the greatest declines in long tenure since the 1980s. Although long tenure rates fell for men age 40 to 64 in all industry and

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<sup>11</sup> At first blush, more sophisticated distributional decomposition techniques (e.g. quantile regression) may seem well-suited for this question. However, the tenure distribution as measured in the CPS is very “lumpy,” with bunching at particular whole numbers, and these heaps can fall on either side of a particular percentile depending on the year. Decompositions that rely on characterizing percentiles of the distribution may therefore be misleading. So rather than decomposing changes across percentiles of the distribution, our preferred approach is to focus on explaining changes in the share of employment below or above particular tenure cutoffs.

<sup>12</sup> Specifically, we include dummies for 12 broad industry groups and 14 broad occupation groups.

<sup>13</sup> The relative contribution of these sets of factors (demographics, manufacturing, industry and occupation) are roughly the same if we switch the order in which these sets of variables are added to the regressions.

**Table 2. Change in the percent of men 40-64 with tenure of 20 years or more, by industry and occupation**

	1983, 1987	2014, 2016, 2018	Change
Industry			
Agriculture	27.0	18.4	-8.6
Construction	22.8	17.0	-5.8
Manuf + transportation	38.7	25.2	-13.5
Wholesale and retail trade	22.9	16.8	-6.1
Finance, insurance, real estate	22.1	16.2	-5.9
Services	20.7	16.2	-4.5
Public Sector	31.2	30.2	-1.0
Occupation			
Prof/tech, manager	31.5	21.3	-10.1
Non-professional	28.8	19.5	-9.3
Education and marital status			
Non-college	31.2	20.6	-10.5
Married	31.7	22.8	-8.9
Not married	27.3	15.7	-11.6
College	27.9	20.0	-8.0
Married	28.8	21.0	-7.9
Not married	21.6	16.7	-4.9

Notes: Source—Authors’ calculations from microdata to the CPS occupational tenure supplements. Self-employed and unpaid family workers are excluded. Percent with long tenure is estimated by year and industry/occupation or demographic group, and then averaged over the years shown in each column. Estimates are in percentage points.

occupation groups we consider, the largest declines in long tenure employment occurred for industries which initially had higher shares of long tenure workers, such as manufacturing, transportation, and agriculture. Hence, the decline in long tenure for older men appears to be importantly related to industry: changes in the composition of employment across industries can explain some portion of the decline, and much of the remaining decline is concentrated in previously high-tenure industries. The industries that have experienced the largest declines in long tenure employment are also those which have shrunk as a share of employment (e.g. manufacturing), suggesting that industry-specific negative labor demand shocks may be important for explaining a significant amount of the overall decline in long tenure jobs.<sup>14</sup>

<sup>14</sup> Farber (2010) finds that the decline in long tenure men is concentrated in the private sector, but does not provide more detail by industry. Like Farber, we find that the public sector workers were a notable exception to the declining incidence of long tenure.

The manufacturing, transportation and agriculture sectors tend to employ a large fraction of low-skilled workers, so a natural question to ask is whether the declines in long-tenure in these sectors reflect differential changes by skill group. The remainder of Table 2 shows that long tenure spells have become less common for men in more- and less-skilled occupation groups alike, as well as for men with different levels of educational attainment. The decline in long-tenure has been slightly greater for less-educated men, as long-tenure rates between education groups have converged (in the 1980s long tenure rates were slightly higher for less-educated men). Thus, these trends appear to be related to industry-specific shocks more than skill-specific shocks. To further explore this point, we perform regression-based analyses similar to those in figure 3 separately by educational attainment—at most a high school degree or some college or more—for men age 40 to 64. The decline in unadjusted long-tenure is significant for both education groups, and is not materially explained by demographics, industry or occupation (see Appendix Figure 1).

Long-tenure rates are higher among unionized workers than non-unionized workers, even conditional on industry of employment.<sup>15</sup> Thus, the long-run decline in unionization rates is another potential explanation for the decline in long-tenure employment (Farber et al. 2018). The CPS began including union status in the monthly survey in 1984, so we can calculate the contribution of unionization to the decline in long tenure since 1987 (the first tenure survey after 1984).<sup>16</sup> In regression specifications similar to the ones described above, we find that the shift away from union jobs can account for about one-third of the decline in long-tenure shares for men age 40-64 from 1987 to 2018, even accounting for changes in the composition of demographics, industries and occupations. Because much of the decline in long-tenure remains even after controlling for union status, and because we also observe decreases in long tenure spells among both unionized and non-union workers (although the decline is more substantial for unionized workers), it seems that changes in unionization appear to be only part of the story.

Another long-run trend that is partly related to trends in industry composition and unionization is a shift toward defined contribution retirement plans instead of defined benefit plans. Defined

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<sup>15</sup> For example, in the CPS from 2014-2018, the long-tenure rate for men age 40 to 64 in manufacturing industries is about 38 percent for unionized workers and 25 percent for non-unionized workers. In non-manufacturing industries, for this group of men long-tenure rates are about 33 percent for unionized workers and 18 percent for non-unionized workers.

<sup>16</sup> For 1987 and 1991, we have data on unionization and tenure for only  $\frac{1}{4}$  of the sample, since in these surveys union status is only recorded for respondents at the end of their four-month rotation; for 1996 and thereafter, we have responses for the full sample, since in these years the question about union status was asked to all respondents to the tenure supplement.

benefit plans give workers an incentive to stay longer with their employer because benefits usually increase with tenure, and no longer accumulate if the worker changes employers. There is limited evidence in prior research on whether this shift might have affected the tenure distribution for older workers. Goda, Jones and Flaherty (2017) find that defined contribution plans reduce worker mobility relative to defined benefit plans, perhaps because workers value defined contribution plans more. Their results suggest that this trend might have worked *against* the decline in long tenure prevalence by encouraging older men to remain employed. We cannot analyze the role of retirement plans in the CPS because the CPS does not include information on type of retirement plan.

In summary, it is clear from the CPS statistics that prime-age men are less likely to be in long-term employment relationships than several decades ago. While some of this trend can be explained by the fact that these workers are now less likely to be employed in industries where long-tenure is more common, we still observe substantial decreases in long-tenure within industries and age groups that are not likely to be well-explained by unionization, retirement benefits, or worker skills.

#### B. *Changes in Long Tenure across Cohorts and the Role of Career Business Cycle Conditions*

To understand further what might be driving this decline in long-tenure, we turn to data on worker retention rates. Mechanically, the number of long-tenure workers at any point in time is a function of the number of long-tenure workers in the previous period who remained with their employer plus inflows of workers who previously had slightly less tenure and who remained with their employer, thus accumulating enough tenure to enter the long-tenure group. That is, the decline in long-tenure for men could be due to a combination of reduced retention rates for long-tenure workers (“rising outflows” of long-tenure workers) or reduced retention for short- or medium-tenure workers (“declining inflows” of medium-tenure men into long-tenure employment). More specifically, the share of workers with 20 or more years of tenure at period  $t$  equals the following:

$$(1) \quad \frac{N_t^{20+}}{E_t} = \frac{p_R^{19} N_{t-1}^{19}}{E_t} + \frac{p_R^{20+} N_{t-1}^{20+}}{E_t}$$

Where  $N_t^k$  is the number of workers with  $k$  years of tenure in period  $t$ , and  $p_R^k$  is the one period retention rate of  $k$ -tenured workers. Dividing by total employment gives the share of long-tenure workers in the total workforce.

We first assess the evidence for the “rising outflows” channel, namely, for evidence of declining retention rates of those already at 20 or more years of tenure, as expressed in Equation (1). We



use SIPP data to estimate retention rates for long-tenure workers, plotted in Appendix Figure 2.<sup>17</sup> The fraction of men with at least 20 years of tenure who remained with their employer over the subsequent four months has been relatively flat since 1996 (the earliest available year) at around 98 percent. A similar analysis of one-month retention rates from CPS data based on matching tenure supplement data to the same respondents' data from monthly surveys in months after the tenure supplement is also consistent with fairly flat retention rates for long-tenure workers.<sup>18</sup> Hence, it seems unlikely that the decline in long-tenure employment is attributable to declining retention (equivalently, rising separation) rates for workers that attain long-tenure employment.

We next explore evidence for the “inflows” channel. Equation (1) expresses this channel as a function of the retention rate of workers with 19 years of tenure. But of course, the number of workers with 19 years of tenure is partly a function of the retention rate of workers with 18 years of tenure. More generally, at any period  $t$ , the number of workers eligible to be retained to the next tenure category  $k$  is a recursive function of retention rates in all previous periods, extending back to the hire date  $k$  periods earlier, as long as  $k$  is greater than the minimum tenure bin. That is:

$$(2) \quad N_t^k = p_R^{k-1} N_{t-1}^{k-1}$$

Equation (2) makes clear that eligibility for long-tenure is a function of retention rates over the entire employment relationship. We cannot analyze retention rates by tenure in the SIPP prior to 1996 because of methodological changes in the survey. In the absence of a large longitudinal data source with which to calculate retention rates reliably, we take an alternative cohort-based approach. Specifically, note that men are less likely to be on the path to long-tenure employment if they do not reach a mid-range level of tenure by mid-career, for example because they experienced a separation during the early or middle stages of their career. Figure 4 looks for evidence of this connection by examining the relationship between a male birth cohort's fraction of workers with 10+ years of tenure at ages 35 to 54 and the cohort's fraction of workers with 20+ years of tenure at ages 55 to 64.<sup>19</sup> If

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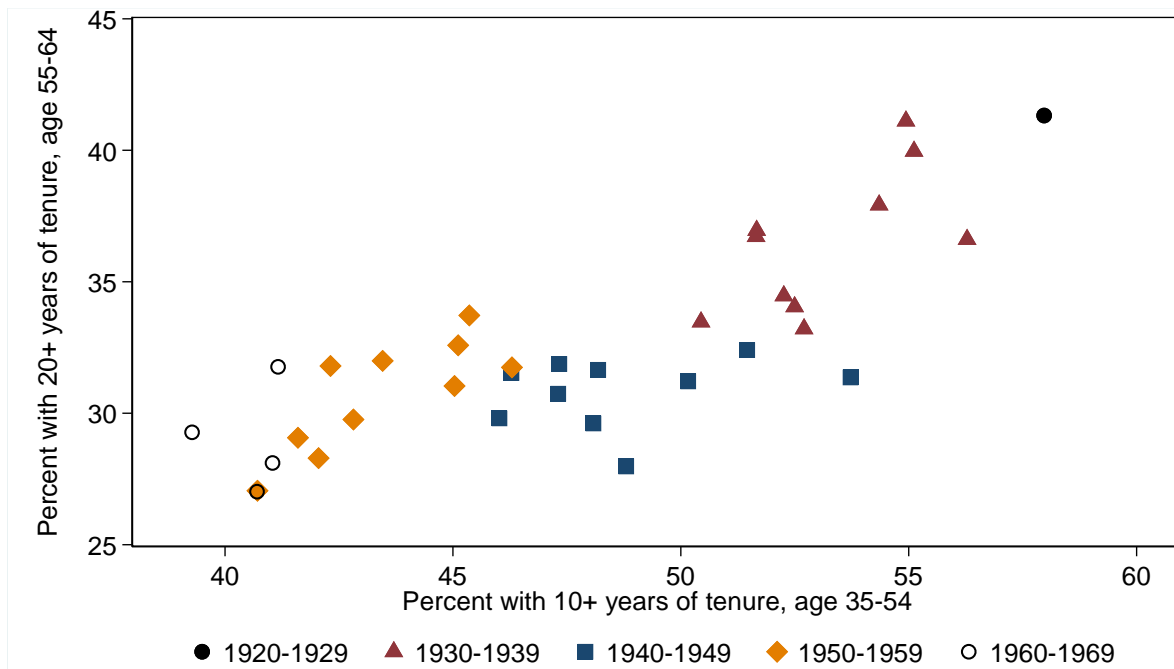
<sup>17</sup> Each wave of the panel of the SIPP from 1996 onwards asks whether a respondent has separated from their employer over the previous four months; it also asks the year and month they began working for that employer. This information allows us to calculate tenure at the beginning of the 4-month reference period, and hence tenure-specific retention rates.

<sup>18</sup> We have matched respondents' data from the CPS tenure supplement to data from the monthly CPS survey in order to estimate transition rates from employment for long-tenure workers in the month following the tenure supplement. The CPS data are noisier than what we see in the SIPP, but in general consistent with our findings reported in the main text: monthly retention rates for long-tenure workers are about flat since 1996 and around 95 percent or above.

<sup>19</sup> In this figure, and in the cohort analysis presented elsewhere in this section, we report and use estimates of cohort tenure rates derived from individual-level regressions of the probability of being in a tenure bin (e.g. 20 years or more) on

the decline in long-tenure is at least in part because fewer men are “on the path to long-tenure,” then we would expect to see that 10 year tenure shares are lower at mid-career for the birth year cohorts that also have lower long-tenure rates towards the end of their careers. Indeed, there is a very strong cross-cohort relationship (slope of a regression line through the points is 0.58, standard error of 0.07), with earlier cohorts having higher rates of both middle and long tenure at appropriate ages.<sup>20</sup>

**Figure 4: Cross-cohort relationship between rates of middle and long tenure**



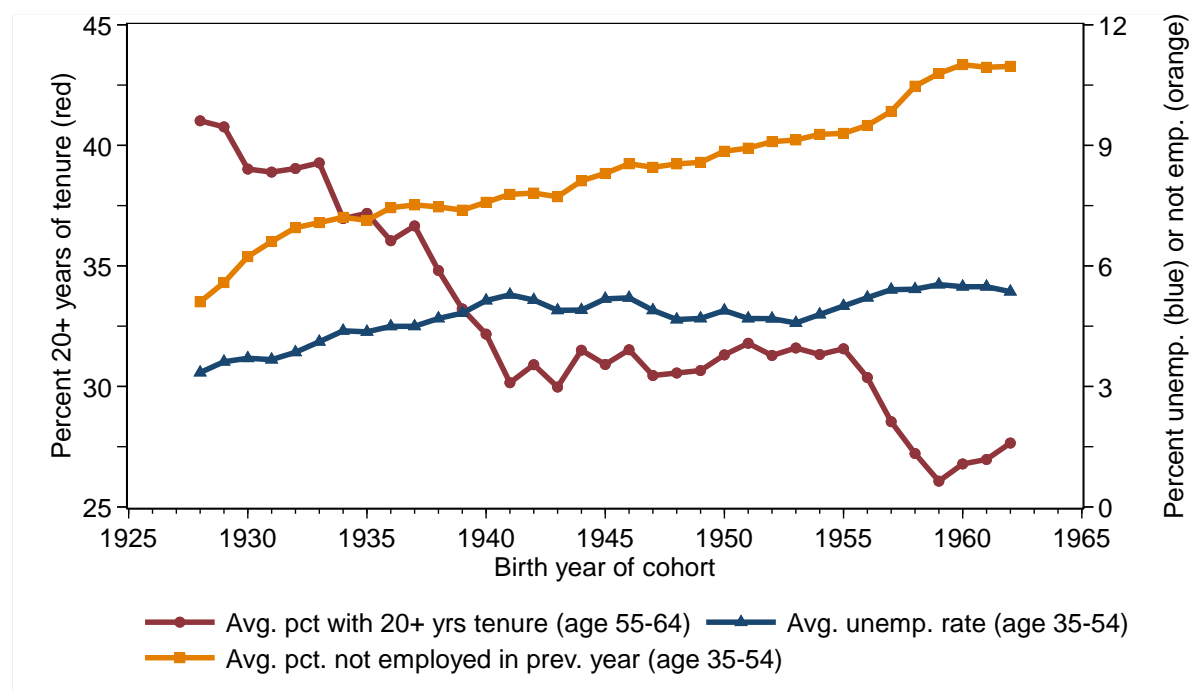
Notes: Source is CPS tenure supplements from 1983 on. This figure reports estimates of cohort tenure rates from individual-level regressions of the probability of being in a tenure bin (e.g. 20 years or more) on birth year cohort dummies and age dummy variables. For details, see footnote 19.

birth year cohort dummies and age dummies; estimated tenure rates by cohort are equivalent to the corresponding cohort effect plus the average age effect for the corresponding age group. Since the tenure supplement is administered infrequently (especially prior to 1996), we do not have data on tenure share for each cohort for each age. Instead, the regression infers the average cohort effect for each cohort for the given age range based on available data for each cohort in each age range. For example, the 1930 birth cohort is observed for the 55-64 year age range in 1987 (at age 57) and in 1991 (at age 61); long-tenure shares for the 1930 birth cohort at ages 55, 56, 58, 59, 60, and 62-64 are inferred based on their long-tenure at ages 57 and 61 and the usual long-tenure / age profile over these ages.

<sup>20</sup> Although later birth cohorts are more likely to be college-educated, this is not what is driving the relationship in the figure; the relationship between 10+ years of tenure at age 35-54 and 20+ years of tenure at age 55-64 is similar when estimation is limited to those with at most a high school degree (estimated slope of 0.46 with standard error of 0.10) and those with some college or better (estimated slope of 0.70 with standard error of 0.11).

One explanation for this finding is that later birth cohorts were more likely to experience employment disruptions prior to attaining long-tenure than were earlier birth cohorts. We explore this possibility by examining cross-cohort variation in measures of unemployment or non-employment at ages 35 to 54 and long tenure at ages 55 to 64. To begin, in Figure 5 we plot the share of the cohort with 20+ years of tenure at ages 55-64 (the red line, left axis) alongside two measures that likely proxy for employment disruptions earlier in life—the average unemployment rate for the cohort of men at ages 35-54 (the blue line, right axis), and the average percent of men age 35-54 who were not employed in the previous year (the orange line, right axis).<sup>21</sup> Both of these proxies for mid-career

**Figure 5: Trends across cohorts in long tenure at later career, and unemp. and non-emp. rates at mid-career**



Notes: Figure plots three-cohort centered moving averages for all series. Source for tenure estimates is the CPS tenure supplements from 1983, with cohort-specific long tenure rates estimated as described in footnote 19. Source for the unemployment and non-employment rates is the March (ASEC) supplement to the CPS. The unemployment rate is the percent of the labor force employed as of the March survey; the non-employment rate is the percent of the population who reported zero weeks worked in the previous year.

<sup>21</sup> To measure a cohort's unemployment rate over ages 35 to 54, we use the March supplement to the CPS from 1962-2018 and estimate the percent of each cohort at each age that reports being unemployed at the time of the survey; then, for each cohort, we average this measure across ages 35 to 54. We estimate the percent of each cohort not employed over the previous year, at a given age, again from the March supplement, and we similarly average this for each cohort across ages 35 to 54. We include only cohorts for which all 20 years of unemployment data are available. A cohort's average long-tenure rate at ages 55 to 64 is estimated as described previously in footnote 19.

employment disruptions are higher for younger cohorts, while these cohorts were also less likely to experience long tenure spells at older ages.

Next, in Table 3 we analyze the connection between the proxies for mid-career employment disruptions and long-tenure later in life in a regression analysis. Specifically, we estimate cohort-level regressions where the dependent variable is the average share of the cohort with 20 or more years of tenure from ages 55 to 64 (the red line in Figure 5, and the y-axis in Figure 4), and the explanatory variables are either the cohort's average mid-career unemployment rate (column 1, corresponding with the blue line in the figure) or the cohort's average mid-career non-employment rate (column 2, corresponding with the orange line). The coefficients on the unemployment and non-employment measures are highly significant, and either of these employment measures can explain roughly three-quarters of the cross-cohort variation in long tenure rates (an R-squared of 0.73 in both cases).

**Table 3. Relationship between a birth cohort's long tenure share at age 55-64 and unemployment rates earlier in life**

Dependent variable: Percent of cohort with 20+ years of tenure at ages 55-64 (men)					
	(1)	(2)	(3)	(4)	(5)
Avg. unemp. rate for cohort at ages 35-54	-6.23 (0.65)				
Avg. pct. of cohort not emp. in prev. year, at ages 35-54		-2.55 (0.27)		-1.61 (0.34)	-2.09 (0.67)
Avg. pct. of cohort emp. in manuf. in prev. year, at ages 25-29			0.39 (0.13)		-0.17 (0.21)
R <sup>2</sup>	0.73	0.73	0.33	0.56	0.57
Number of cohorts	35	35	20	20	20

Notes: Table shows coefficient estimates (and standard errors, in parentheses) from OLS regressions where the dependent variable is the percent of the cohort with 20 or more years of tenure at ages 55 to 64 (estimated as described in footnote 19), and the independent variables are as listed in the table. Source for tenure estimates is the CPS tenure supplements from 1983. Source for the unemployment and non-employment rates, and manufacturing employment, is the March (ASEC) supplement to the CPS.

In the previous section, we showed that the decline in men's long tenure rates was partly related to the shift away from manufacturing employment, since manufacturing has the highest tenure among broad industry groups (Table 2). Could the increase in mid-career disruptions be related to the shift away from manufacturing? Indeed, about 40 percent of men ages 25 to 29 born in the mid-1940s were employed in manufacturing; for men born in the early 1960s, less than 30 percent were

employed in manufacturing at this age. Another reason to look to the manufacturing sector is that this sector experienced large increase in separations and layoffs during the recessions of the 1970s and 1980s. Thus, workers in this sector were more likely than other workers to experience employment disruptions that would re-set their employment tenure back to zero.

To assess whether declining the manufacturing share may help to explain the rise in mid-career employment disruptions, we add manufacturing employment share to the regressions of Table 3. The third column shows that there is a positive cross-cohort relationship between manufacturing share at ages 25 to 29 and long tenure employment later in life, although data availability limit the number of cohorts used for these regressions relative to those from the first two columns.<sup>22</sup> Column 4 repeats the regression in column 2, limiting the cohorts included to only those for which we can calculate the manufacturing share variable. For these cohorts, a cohort's mid-career non-employment rate explains a higher share of the cross-cohort variation than does their early-career manufacturing share—the R-squared in column 4 is well above that in column 3. In column 5, we include both mid-career non-employment and the early-career manufacturing share—in this specification, the manufacturing share is insignificant and adds little to the explanatory power of the model relative to when we only include the non-employment share (the R-squared in columns 4 and 5 are essentially the same). Thus, the increase in mid-career employment disruptions does not appear to be explained by the contraction of the manufacturing sector.<sup>23</sup>

We interpret the results from these figures and regressions as consistent with the notion that later birth cohorts have experienced more employment disruptions over the course of their career, resulting in lower long-tenure rates later in life.<sup>24</sup> Left unexplored in this analysis is *why* mid-career

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<sup>22</sup> In particular, the way that industry is coded prior to 1968 creates a discontinuity in the estimated share of manufacturing employment between 1968 and 1969, so we exclude observations prior to 1968. And for 1968 and later, limiting to cohorts for which we can have data for all ages 25 to 29 cuts the number of usable cohorts for this analysis from 35 to 20.

<sup>23</sup> At first glance, it may seem hard to reconcile that this cohort analysis suggests against declining manufacturing employment as a primary explanation for cross-cohort variation in long-tenure, while in our earlier analysis (Section III.A) we found that declining manufacturing employment was a quantitatively important factor behind declining long-tenure for men. There are two important differences between these analyses. First, the preceding analysis estimated the contribution of variation in the manufacturing employment at ages 55 to 64 in explaining long tenure rates at these ages, whereas this analysis estimates the contribution of variation in the manufacturing share at young ages in explaining long tenure rates later. Second, the cohort analysis estimates the contribution of early career manufacturing employment on long-tenure life *conditional* on mid-career unemployment or non-employment.

<sup>24</sup> To get at the importance of mid-career separations more directly, we have examined retention rates in the SIPP since 1996 for workers in short- and mid-tenure groups. We don't observe any striking declines in retention at shorter tenure groups in these years. However, our analysis of CPS data suggests that the most significant declines in mid- and long-tenure occurred prior to the mid-1990s, suggesting that the SIPP examination of retention rates may miss the most significant changes in retention. Another possibility is that what it means to be unemployed has changed in a way that

employment disruptions have become more frequent for men. Contributing factors could include those related to the decline in prime-age male employment and participation from the late 1960s through mid-2010s, such as the adoption of labor-replacing automation, globalization, increasing competition from Chinese imports, and/or rising disability insurance take-up (for instance, see Abraham and Kearney 2018, Council of Economic Advisors 2016, Congressional Budget Office 2018). Another set of potential explanations could be associated with the nature or magnitude of the recessions in the 1970s and 1980s resulting in more mid-career disruptions than prior decades.

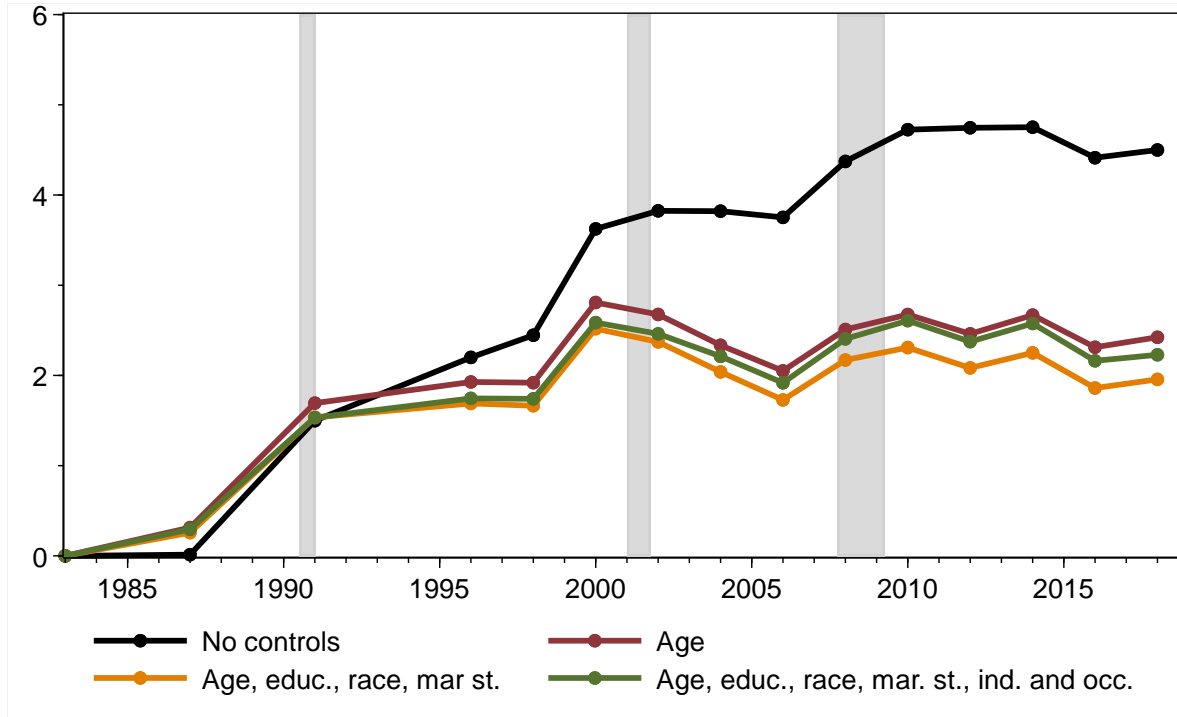
### *C. Returning to long tenure trends for older women*

The preceding analysis in this section focused on men because, as we showed in Section II, women had not experienced the same decline in long tenure. We next move to analyzing a CPS sample restricted to women to understand whether shifts in major observable factors contributed to the rise in long tenure among women. As shown in Figure 6, the rise in long tenure cannot be entirely explained by the shift in the population toward older, more educated women, since the trend in the fraction of long-tenure women is still positive even after accounting for age and education. Unlike the case for men, accounting for shifts in industry and occupation do not help to explain this trend further. Appendix Figure 3 shows that the increase in long-tenure rates has been fairly similar for less-educated and more-educated women alike. For both education groups, long tenure rates increased through the early 2000s or so before flattening out or declining slightly.

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would lead respondents experiencing a spell of unemployment to be more likely to think of it as a break in employment than in the past. Permanent separations (as opposed to temporary layoffs) as a share of all separations has increased since the mid-1990s, and unemployment spells are also of longer duration on average than decades earlier; it seems plausible that workers on temporary layoff or with a very short spell of unemployment (who are then re-hired by their original employer) may be less likely to think of the unemployment spell as a break in employment (and thus more likely to report being long-tenure later in life) than workers who suffer a permanent layoff or experience a longer spell of unemployment.

**Figure 6. Percent of women age 22-64 with tenure of 20 years or more, relative to 1983**



Note: See notes to figure 3. Estimates are in percentage points.

Table 4 reveals that the increase in long-tenure for older women has been experienced for all industry and occupation groups. Also unlike the case for men, long tenure has become more common for women all industries except agriculture and construction, and among all occupation and education groups.

One important distinction in long-tenure trends for women is related to marital status, as shown in the bottom rows of the table. In the 1980s, about 15 percent of older, unmarried women were in a long-tenure employment relationship, while 10 percent of married women were. By the 2010s, the ranking had flipped: married women were slightly more likely to have long-tenured employment. Hence, much of the increase in overall long-tenure for women is attributable to gains by married women. Consistent with this result, Hollister and Smith (2014) show that it is only married women that experienced increases in average tenure since 1983 (driven primarily by married mothers

in the period prior to 1996). The upward trend in tenure mirrors the increase in labor force participation for women over this period, and likely reflects changes in home responsibilities and social perceptions about working mothers that have facilitated women’s participation in the labor market.<sup>25</sup>

**Table 4. Change in the percent of women 40-64 with tenure of 20 years or more, by industry, occupation, marital status, and education**

	1983, 1987	2014, 2016, 2018	Change
Industry			
Agriculture	8.8	18.7	9.9
Construction	13.2	16.4	3.1
Manuf + transportation	17.7	21.5	3.8
Wholesale and retail trade	7.7	12.8	5.0
Finance, insurance, real estate	10.2	17.0	6.8
Services	10.0	15.8	5.8
Public Sector	12.2	27.2	15.1
Occupation			
Prof/tech, manager	14.7	19.4	4.8
Non-professional	10.2	14.7	4.5
Education and marital status			
Non-college	11.3	15.9	4.7
Married	9.9	17.5	7.6
Not married	14.7	13.6	-1.1
College	11.5	17.3	5.8
Married	9.9	18.1	8.2
Not married	15.0	15.8	0.8

Notes: Source—Authors’ calculations from microdata to the CPS occupational tenure supplements. Self-employed and unpaid family workers are excluded. See notes to table 2.

The combination of an increase in long-tenure rates for married women and a decrease in long-tenure rates for men might raise the question of how long-tenure rates have changed at the household level—i.e., whether households might be just as likely to have a long-tenure worker now as in the past. In unreported analysis, we calculate that the fraction of 40 to 64 year old employed men who are in long-tenure households (either because they are themselves in a long-tenure employment relationship or their spouse is) fell from 28.6 percent in 1996 to 26.4 percent in 2018—a decline

<sup>25</sup> In support of this interpretation, cohorts of women with relatively high labor force participation rates at ages 21-24 also had relatively high rates of long tenure for married women at ages 54-59. (Specifically, a cohort-level regression of long-tenure rates for married women ages 54-59 on the average LFPR for that cohort at ages 21-24 has a coefficient of 0.18 and standard error of 0.05.)



of 2.2 percentage points. This compares with a decline in the overall share of employed long-tenure older men from 25.4 percent in 1996 to 22.0 percent in 2018—a decline of 3.4 percentage points. Thus the increase in long-tenure among married women has not fully offset declines in such tenure for men at the household level.

#### *D. Summary*

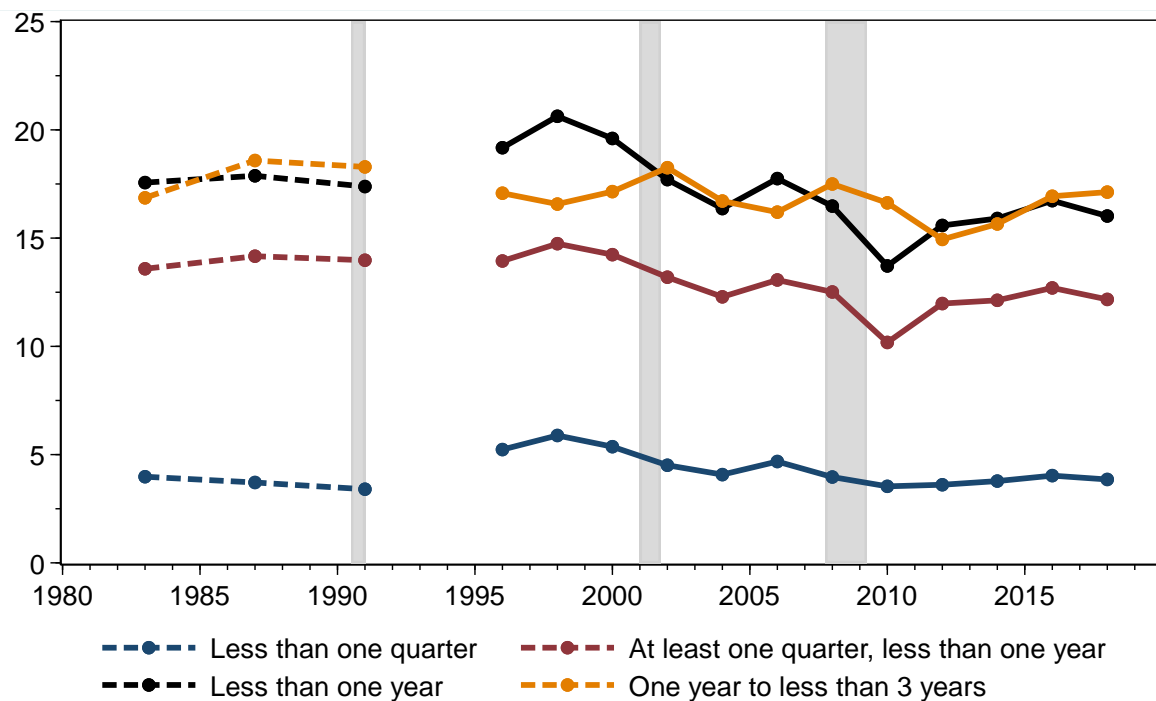
To summarize, we have shown that the decrease in long-term employment relationships is concentrated among older men. It is partly explained by a sectoral shift away from high-tenure industries and otherwise concentrated in the manufacturing, agricultural, and transportation sectors, which tended to have higher tenure in the 1980s. Declining tenure in mid-career has also contributed to the decline in long-tenure at older ages, as fewer are eligible to move up into the highest tenure category. While it is difficult to know whether lower mid-career tenure is related to voluntary or involuntary separations, it does seem partly related to the fact that more recent cohorts have experienced higher average unemployment rates earlier in their career. Meanwhile, married women have become *more* likely to have worked for the same employer for a long time, no matter their sector or skill-level. On net, while long-term employment relationships have become less common for certain types of workers (older men and unmarried women), this trend has been offset by the aging of the workforce and rising long-tenure rates for married women such that long tenure rates have risen somewhat in the aggregate.

### **Section IV: What Explains the Decline in Short Tenure Spells?**

We now apply some of the tools of the previous section to try to understand the decline in prevalence of short tenure. But first, we examine our definition of short tenure more closely. Figure 7 shows the fraction of workers with less than one quarter of tenure, between one quarter and one year of tenure, less than one year of tenure (the sum of the two previous groups) and one to 3 years of tenure. The gap between 1991 and 1996 emphasizes that these measures may not be consistent across these two periods. Our sample for this analysis consists of 22 to 64 year olds. We combine results for men and women, since the change in short-tenure employment turns out to be quite broad-based across demographic groups and subsequent results are similar for men and women.

Figure 7 shows declines in tenure of less than one year from 1996 to 2018. These trends are evident for workers with less than one quarter of tenure and for workers with at least one quarter but less than one year of tenure. For workers with one to three years of tenure, the share was flat. The contrast is clearest from examining the black line (the share of workers with any tenure less than a year) relative to the orange line (share of workers with 1 to 3 years of tenure). The black line begins well above the orange line in 1996 and ends below it in the most recent year of data. We conclude that declines in this tail of the tenure distribution are confined to very low levels of tenure, and we therefore define short tenure as one year or less with an employer. The figure also shows that short-tenure rates appear roughly flat from the 1980s through mid-1990s despite the possible differences with how short tenure is recorded in earlier data—further justifying our focus on later years for short-tenure analysis. As noted previously, and described in footnote 5, the way that CPS respondents were allowed to report the length of employment for tenure 2 years and less changed in 1996. These survey changes likely affected employment shares within the group of workers with tenure less than one year, as well

**Figure 7. Percent of workers 22-64 with tenure less than one year**

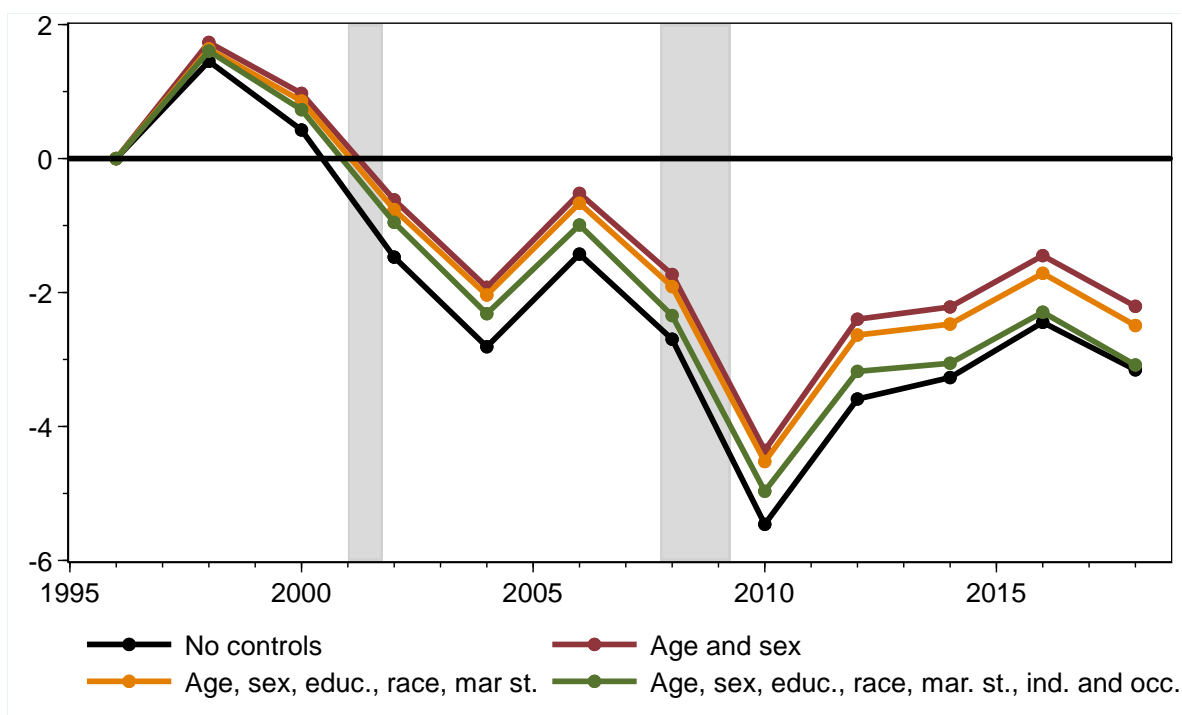


Notes: Source—Authors’ calculations from microdata to the CPS occupational tenure supplements. Figure shows the share of workers 22-64 with tenure in the listed tenure group, in percentage points. Self-employed and unpaid family workers are excluded. Further details are provided in the text. NBER recessions are shaded.

as workers reporting exactly one year of tenure. For 1996 and later, categories of short-tenure should be consistently measured, so we limit our analysis of short tenure to 1996 and later.

To dig deeper into the explanations for the decline in the fraction of short-tenure workers, we first examine the contributions of demographics, industry and skill as we did with long tenure. Figure 8 shows the estimated coefficients on year indicators from various regressions where the dependent variable is whether a worker has tenure of less than one year; these are analogous to the adjusted time trends in Section III. Changes in the age distribution of workers account for some of the decline in short tenure (since older workers are less likely to have short tenure); accounting for the age and sex composition of the employed population reduces the decline in short tenure by roughly 1/3 (from 3 percentage points to 2 percentage points). Changes in other demographics (namely increasing education) and the industrial and occupational composition of employment push in the other direction—so short tenure after adjusting for demographics and industry/occupation declined by essentially the same amount as the unadjusted estimate. Consistent with our finding only a small role for observables in the above figures, we find similar declines in short tenure across sets of workers defined by industry,

**Figure 8. Percent of workers age 22-64 with tenure less than one year of tenure, relative to 1996**



Notes: Source—Authors’ calculations from microdata to the CPS occupational tenure supplements. The figure plots year fixed effects from regressions where the dependent variable is whether the respondent had less than one year of tenure, and the right-hand side variables are year fixed effects and listed controls. All estimates are relative to the estimated year effect in 1996, and are in percentage points. NBER recessions are shaded.

occupation, education and gender (Appendix Table 1)--illustrating again that the decrease in the prevalence of very short tenure workers is widespread.<sup>26</sup> Results are similar when we examine workers with less than one quarter of tenure and workers with between one quarter and one year of tenure separately (see Appendix Figure 4).<sup>27</sup>

To understand this broad decline in the prevalence of short tenure workers, we consider how flows into new employment relationships and between tenure status bins combine to generate a group of new hires. We use the term “new hires” to identify the lowest tenure category. This decomposition helps clarify, at least in a mechanical sense, the source of the decline in the fraction of workers with short tenure over time, just as the earlier flows equation helped us identify inflows as an important source of the decline in long tenure. We express the number of new hires as a function of the flow of workers entering employment from non-employment and the flow of workers leaving a previous employer, as in the equation below:

$$(3) \ N_t^{min} = H_t^N + \sum_{k=1}^K (p_{EE}^k * N_{t-1}^k)$$

where  $N_t^{min}$  is the number of new hire workers at time  $t$ , who by definition are in the *min* tenure category;  $H_t^N$  is the number of new hires from non-employment (not in the labor force or unemployed) at time  $t$ ; and  $p_{EE}^k$  is the job-to-job transition rate for workers in tenure group  $k$ , where  $k=1$  is the first tenure category up from new hires, up to some max tenure level  $K$ .

This equation illustrates that inflows into the new hires group is the sum of flows into employment from non-employment and flows into new employment from employment, i.e. job-to-job transitions. For concreteness, the object we are investigating is the share of employment represented by the quantity in Equation (3). Specifically:

$$(4) \ \frac{N_t^{min}}{E_t} = \frac{H_t^N}{E_t} + \frac{\sum_{k=1}^K p_{EE}^k N_{t-1}^k}{E_t},$$

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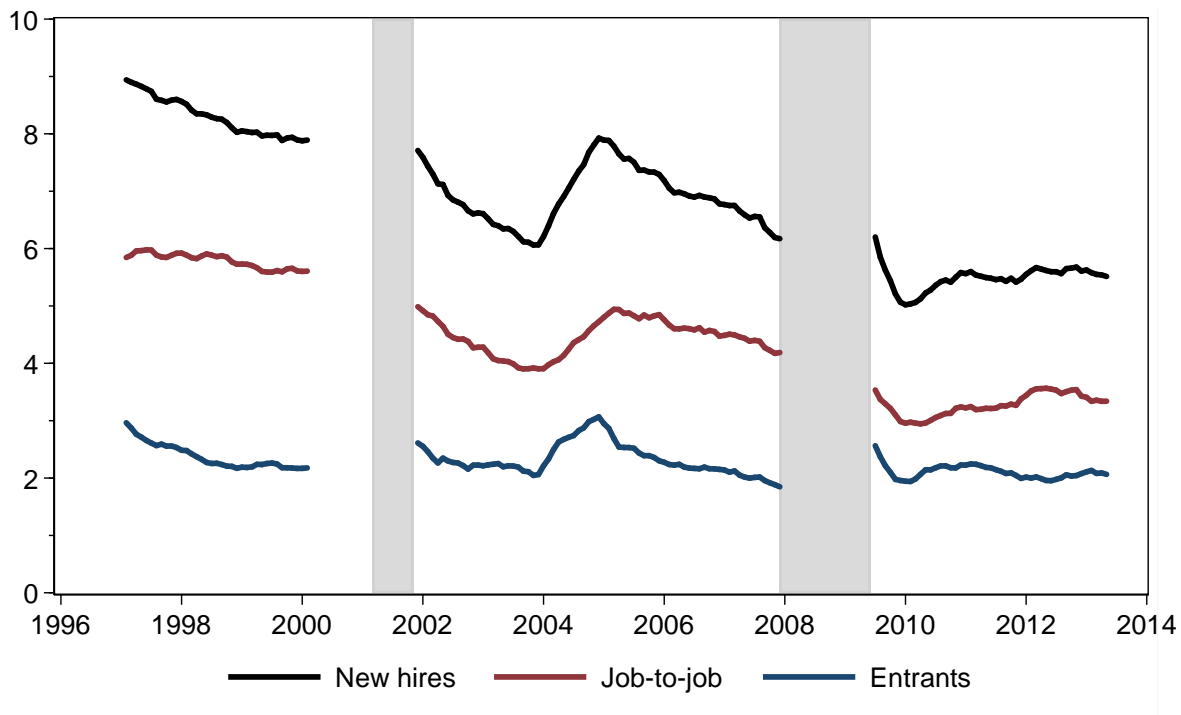
<sup>26</sup> Notably, the public-private sector distinction that we found for long-tenure men is not apparent at this end of the tenure distribution.

<sup>27</sup> Changing demographics and industry/occupation composition explain essentially none of the decline in less than one quarter jobs, while aging explains some of the decline in one quarter to one year jobs.

where  $E_t = H_t^N + \sum_{k=1}^K p_{EE}^k N_{t-1}^k + \sum_{k=1}^K p_{ER}^k N_{t-1}^k$ , and  $p_R^k$  is the probability that a worker in tenure group  $k$  remains with their employer in the next period.

We implement the decomposition described in equation (4) using data from the SIPP, which allows us to observe flows into employment by source from 1996 to 2013. The lack of post-2013 data for this analysis is not a substantive concern because Figure 7 showed that the share of short-tenure workers was flat from 2012 to 2018.<sup>28</sup> We define new hires in the SIPP as anyone who reports having tenure in their current employer of less than one quarter.<sup>29</sup> Within this group of new hires, individuals who were employed three months earlier are included in job-to-job transitions, while individuals who were either unemployed or not in the labor force three months earlier are entrants from non-employ-

**Figure 9. Decomposition of New Hires, 22 to 64 year olds in the SIPP**



Notes: Source—Authors’ calculations from SIPP microdata. NBER recessions are shaded. Figure shows 12-month moving averages of monthly transition rates (in percentage points). Gaps in series are because some SIPP panels ended before the next SIPP panels began. New hires are defined as workers with tenure at their employer of less than one quarter. Job-to-job are new hires that were employed three months earlier. Entrants are new hires that were not employed three months earlier.

<sup>28</sup> The 2008 SIPP panel was followed through 2013. Although a new SIPP panel was created in 2014, the survey method changed materially so the worker flows cannot be measured consistently post-2013.

<sup>29</sup> The SIPP reports information on two jobs for each respondent. An individual is a new hire if they report tenure of less than one quarter in either job.

ment. Figure 9 displays the fraction of employed workers that are new hires overall, job-to-job transitions, and entrants into employment, showing 12-month moving averages of monthly data because the monthly series are volatile. The fraction of new hires fell from about 9 percent in 1996 to about 6 percent in 2013. Most of this decrease can be explained by a decline in the share of employment-to-employment transitions; entrants from non-employment comprise a smaller fraction of new hires and were a fairly constant fraction of workers over this period.

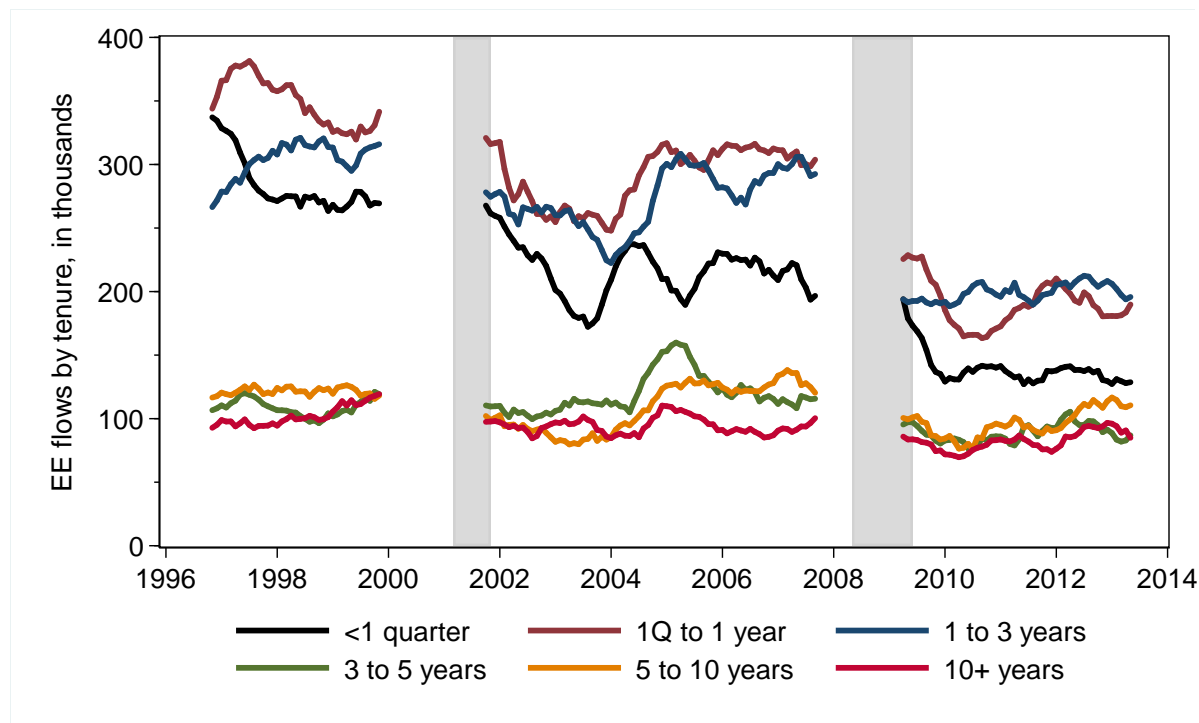
The figure suggests that to understand the decline in short tenure we should study the decline in job-to-job transitions.<sup>30</sup> To do so, we further decompose the job-to-job transitions in the SIPP by the worker’s tenure with their employer of three months earlier. Figure 10 shows substantial declines in the number of job-to-job transitions where the worker initially had less than one quarter of tenure, and also in the number of job-to-job transitions where the worker initially had at least one quarter but less than one year of tenure. The number of job-to-job transitions among workers with at least one year but less than 3 years of tenure also decreased, but not by as much. The number of job-to-job transitions from higher initial tenure categories was low and did not change over this period. Thus, it appears that the decline in job-to-job transitions is attributable to less churn among shorter-tenure workers. It is worth noting that the decline in job-to-job transitions is not limited to workers with less than one quarter of tenure, a category that has been of particular focus in prior research.<sup>31</sup>

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<sup>30</sup> This analysis is difficult to undertake in the CPS because job-to-job flows are not consistently measured pre- and post-2007 (Fujita, Moscarini, and Postel-Vinay 2019).

<sup>31</sup> Given different data constructs, our results differ somewhat from related analysis in papers by Hyatt and Spletzer. Hyatt and Spletzer (2016) examine how changes in the hiring rate (inflows into employment of less than one year of tenure) and tenure-specific separation rates have contributed to changes in employment shares for up to one year of tenure, 1 to 5 years of tenure, and more than 5 years of tenure. However, our analysis suggests that much of the change over time in EE flows occurs within the group of workers with less than one year of tenure. The Hyatt and Spletzer (2016) analysis abstracts from this, which may contribute to our differing conclusions about the relative contributions of hires from non-employment versus separations from other tenure categories to new hires into the lowest tenure bin. Hyatt and Spletzer (2017) examine single-quarter jobs more closely. In this analysis, they conclude that declining hires from non-employment into single-quarter jobs, along with declining multiple job holding, are driving the decline in single quarter jobs they observe. Our analysis differs from theirs in that we observe all workers with less than 1Q of tenure, whereas Hyatt and Spletzer only observe a subset of these relationships, namely single quarter jobs that start and end in a single calendar quarter. We also abstract from multiple job holding. However, our flows of workers between shorter tenure categories (less than one year of tenure to less than 1Q) could manifest as multiple job holding in the quarterly data Hyatt and Spletzer use, and thus this factor could parallel the role we identify for declining EE transitions within low tenure bins.

**Figure 10. Job-to-job transitions by tenure group, 22-64 year olds in the SIPP**



Notes: Source—Authors’ calculations from SIPP microdata. NBER recessions are shaded. Figure shows 12-month moving averages of the monthly number of transitions, in thousands. Gaps in series are because some SIPP panels ended before the next SIPP panels began. Job-to-job transitions are workers who report being employed currently and three months earlier, and who also report having left their previous employer within this three-month period.

A reduction in churning among low-tenure workers is also evident in other datasets. In the NLSY 1979 cohort (where the median observation is from 1988), the average number of main employers held by a worker between the ages of 22 to 30 was 3.9. This average had fallen to 3.5 for the 1997 cohort (median observation from 2008). Appendix table 2 shows that this decline is most pronounced for lower tenure workers. Among workers with less than one year of tenure at age 31 (the subsample for the final column), the average number of main employers fell from 3.4 in the early cohort to 2.6 in the later cohort. Appendix Figure 5 shows that the increase in tenure by age 30 in the NLSY reflects a shift across cohorts toward having worked for only one or two main employers between the ages of 22 and 30, rather than having worked for 4 or more employers. In unreported results, we find that this shift was, if anything, more pronounced for college-educated workers, consistent with our earlier findings that the decline in short tenure is not related to the decline in demand for lower-skill workers. The CPS also shows that job-to-job transitions have fallen most for low-tenure workers through 1997; job-to-job transitions cannot be measured consistently post-1997 (Fujita, Moscarini, and Postel-Vinay 2019).

Our analysis raises the question of why job-to-job churn has declined, and why especially for low-tenure workers. We investigate three potential explanations. First, it is possible that employers have become more reluctant over time to terminate new hires. There may be a general reduction in the use of involuntary terminations, which would likely disproportionately impact recent hires, or employers may simply be more concerned that they cannot show cause for terminating an employee they only recently hired (Autor 2003). Either way, if a reduced use of terminations drives declining churn for recent hires, we should observe involuntary separations declining over time, and particularly for this group. We test this possibility using the SIPP, and for confirmation, the NLSY. Both surveys ask workers their reason for separating from a past job. The analysis is presented in Appendix Figure 6 and Appendix Table 2. Cyclical fluctuations are a potential concern in both data series since involuntary separations rise during recessions and there was a very large recession toward the end of the sample period; however, we conclude that both sources show that the share of separations that are involuntary is little changed over time, with the possible exception of a rise in involuntary separations in the wake of the Great Recession in the SIPP.<sup>32</sup>

A second potential explanation is that reporting and coding of temporary help industry jobs may have changed over time in a way that generates a spurious decline in job-to-job transitions among recent hires. This could be the case if earlier surveys did not provide an explicit option for reporting one's employer as a temp help firm. In that case, workers might report temp assignments separately even if their employment with a staffing firm is longer-term. If this industry is coded more accurately in later surveys – allowing respondents to report a temp help firm as an employer – then we would observe a decline in job-to-job transitions but only because earlier surveys “over-counted” transitions within temp assignments. We do not have a strong prior as to whether this kind of coding change is an issue, but we check for this possibility by again using the SIPP and NLSY information on reason for separating from the previous employer. “Temp job ended” is an option in all waves of both surveys, allowing us to investigate this over time. The results are reported in Appendix Figure 7 and Appendix Table 2. Less than five percent of workers report separating from the previous employer due to a temp job ending, and this share is largely stable over time in both surveys. We conclude that

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<sup>32</sup> Gittleman (2019) studies whether the decline in job-to-job transitions in the PSID (imputed for a series break) is concentrated among voluntary or involuntary separations. He finds that trends within these categories are sensitive to the voluntary/involuntary classification, and, like us, he concludes that there is no strong evidence that the overall decline in transitions comes predominantly from either source.



changing coding of the temp help industry does not contribute to our measured decline in job-to-job transitions among low tenure workers.

A third explanation is undercounting short duration employment, particularly in recent years as short-term employment may have moved to online gig platforms from the more standard labor market. If respondents are less likely to report gig jobs found online as short tenure employment than similar jobs found in the past, then we might overstate the decline in short tenure employment. We view this explanation as unlikely for two reasons. First, the stability in the share of jobs ending because they were temporary suggests that there has been no significant decline in the observation of temporary jobs over time. If past temporary jobs had moved to the gig marketplace and therefore went unreported, we would expect to see respondents reporting fewer jobs ending because of temporary status. Second, the share of workers employed in the gig economy appears to still be small, and regardless, electronic gig platforms were unavailable until the very final years in our analysis (U.S. Bureau of Labor Statistics 2018). They are therefore unlikely to be a major factor in a trend dating back to 1996.<sup>33</sup>

We conclude that there is no obvious explanation for the decline in short tenure that is either based in reporting changes in the data or in a single type of separation or employment sector. This may indicate that the decline in the share of short tenure workers is related to a decline in single quarter employment spells. Recent work shows that *jobs* (or employment spells) lasting less than one quarter that have become substantially less common in recent decades (Hyatt and Spletzer 2013, 2016, 2017; Pries and Rogerson 2019).<sup>34</sup> Although single-quarter workers and single-quarter jobs are different concepts, declines in the two may be related. Indeed, Figure 10 showed that the decline in employer-employer transitions was largest for workers with less than one quarter of tenure. Moreover, neither the decline in low-tenure workers nor the decline in one-quarter jobs are strongly related to compositional factors. That said, we caution that many workers with less than one quarter of tenure at the time of observation will remain with their employer for longer than one quarter and therefore ultimately be employed in a *job* that lasts longer than one quarter.<sup>35</sup> Hence it would be premature to conclude

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<sup>33</sup> Abraham et al. (2018) finds that contingent and informal work are substantively undermeasured by the CPS, but they are unable to assess whether this mismeasurement has changed over time.

<sup>34</sup> Hall and Kudlyak (2019) explore the role of short employment spells in a model of labor market dynamics, but they do not analyze trends in short term jobs.

<sup>35</sup> Using data from the Survey of Income and Program Participation 1996 to 2013, we estimate that about 4 out of 5 workers with less than one quarter of tenure will remain with their employer for longer than one quarter.

that the decline in single-quarter employment spells fully accounts for the decline in short-tenure worker share, but the corresponding trends are striking and deserve further research.

## **Section V. Consequences of the Shifting Tenure Distribution: Has Security of Employed Workers Changed?**

One place to begin an investigation into the broader consequences of the shifting tenure distribution is with worker reports about their own job satisfaction and security. While job tenure has been studied under the assumption that it is a useful measure of job security, the literature on perceptions of employment security is limited. To our knowledge, only one paper has directly addressed the question of whether feelings of employment security have changed over time.<sup>36</sup> Fullerton and Wallace (2007) analyze responses to the General Social Survey (GSS) question, “Thinking about the next 12 months, how likely is it that you will be laid off?” This question has been asked regularly in the GSS since 1977, allowing construction of a long time trend spanning several business cycles.

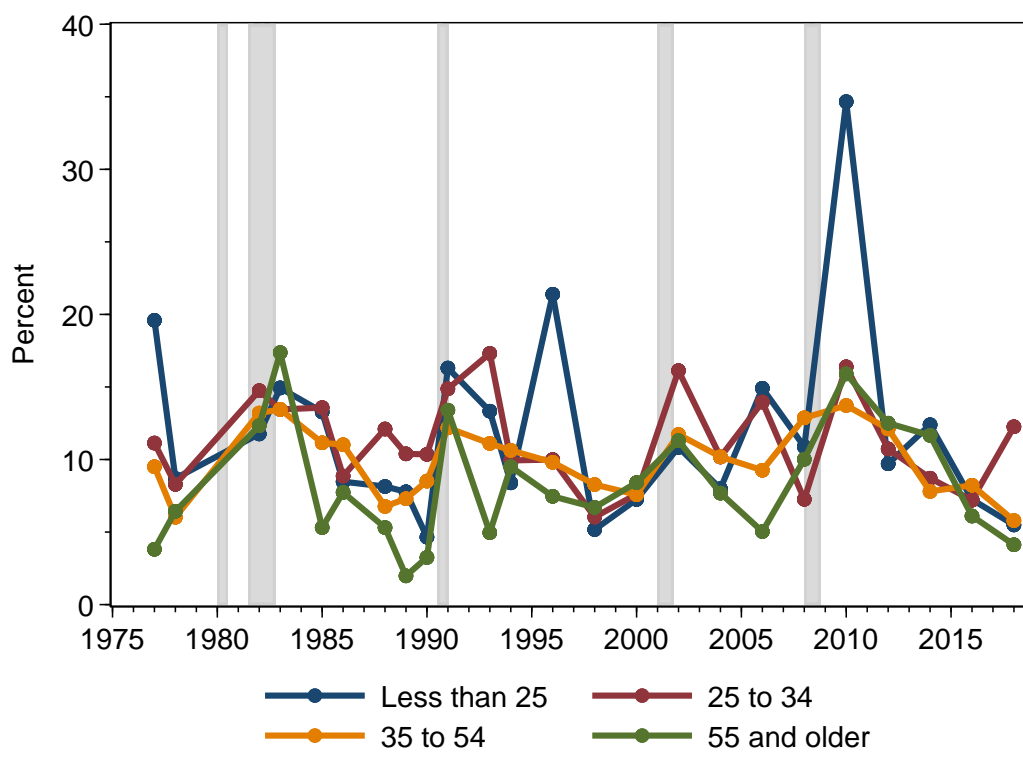
We graph responses to this question from the GSS by age group in Figure 11. The data show no trend in this self-reported measure of job security for any age group, although the series do exhibit strong cyclicalities. In a regression, the aggregate unemployment rate alone explains almost 30 percent of the variation of age-group specific shares reporting a high likelihood of job loss. Fullerton and Wallace also find that the pattern of raw responses has changed little over time.<sup>37</sup> However, their data end just prior to the Great Recession. Our graph shows that even in the midst of this aggregate shock, only the youngest group of workers saw their reported insecurity rise above historic levels. For other age groups, the fraction expecting to lose their jobs in the next year was, depending on the age group, generally somewhat higher than during the recessions of the early 1990s and 2000s, but no greater than during the early 1980s. These patterns indicate that perceived job security fluctuates substantively with the business cycle, but we see no evidence of a long-term trend in perceived stability.

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<sup>36</sup> Manski and Straub (2000) characterize the cross-sectional variation in reported job security by respondent observables, but they can say little about time trends in this measure as their data are limited to the late 1990s.

<sup>37</sup> They interpret flat security reports alongside a secular decline in unemployment rates as a rise in economic insecurity. However, the likelihood of a long unemployment spell rose over their period, so the unemployed state may be a bigger concern over time. As a result, we would not necessarily expect concerns about job security to decline with declines in the unemployment rate alone. Moreover, their analysis suggests that insecurity should have risen sharply in the Great Recession; our data show this was not the case.

**Figure 11. Percent of GSS Respondents Who Report They Feel Likely to Lose Their Job in the Next 12 Months, by Age**



Notes: Source is General Social Survey microdata, 1977 to 2016, provided by National Opinion Research Center. Y-axis is share of (valid) respondents answering that they think it is likely or very likely they will lose their job in the next 12 months, on a four point scale.

Despite a lack of hard evidence on perceptions of job stability, the belief that perceived job instability has risen over time is pervasive. In a survey of the literature on job tenure, Hollister (2011) notes that this perception is part of a well-developed narrative in sociology and economics around the nature of changing employment relationships in recent decades. She suggests that perceptions of generally rising job insecurity may be overstated given the disconnect between public rhetoric and evidence in academic research on tenure. In related work, Stephens (2004) finds evidence that workers are on average too pessimistic about their job loss probabilities, with workers reporting increases in the potential for future job loss that exceed actual increases by an order of magnitude. However, workers' perceptions are not entirely unfounded, as he also finds that perceptions of potential job loss are positively correlated with actual future job loss, as does Hendren (2017). These findings suggest

that respondents' reports of their own potential for job loss contain some real information but that people are poor forecasters of the level of this risk.

The likelihood of job loss is only one aspect of job security, and reveals nothing about job satisfaction. To bring more evidence to bear on workers' perceptions of their employment situation, we compile responses from survey questions that provide insight into workers' attitudes toward their jobs. In the late 1960s and 1970s, the U.S. Department of Labor conducted three cross-sectional surveys to assess the working conditions and quality of employment experienced by the typical American worker. Three waves were conducted in 1969-70, 1972-3 and 1977, each with about 1300 responses. In 2002, the General Social Survey incorporated a "quality of worklife" module that was intended to collect the same type of information as in the surveys from the 1970s. Indeed, many of the survey questions are identical and sample sizes are similar.<sup>38</sup> This module was conducted in 2002, 2006, 2010 and 2014. By comparing the responses from 1969-77 surveys to the responses from the 2002-2014 surveys, we can get a sense of how these attitudes have changed over the past 30 to 40 years.

Table 5 reports the answers to parallel questions in the two surveys that pertain to workers' feelings of job security and satisfaction. Because these attitudes are related to the length of time that a worker has stayed with his or her employer, we report all statistics by years of tenure with the current employer. The first two columns of the table show the share of respondents in the two surveys who respond that they agree "very much" or "somewhat" that their job security is good. Contrary to what is commonly assumed, but consistent with the probability of layoff shown in Figure 11, workers at all tenure levels report the same or greater feelings of security on this measure as compared to forty years ago. Workers at low tenure levels show substantive increases in reported job security across the surveys, and nearly 90 percent of workers with more than 20 years of tenure report strong feelings of security in both surveys. The second set of columns reports responses using a different measure of job security: workers' assessments of how easy it would be to find an equivalent job. The table shows some declines in this measure of security, but they are modest and concentrated among low tenure

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<sup>38</sup> Respondents to the Quality of Worklife Module ranged from 1200 to 2800 across waves.

workers. The third set of columns shows that job satisfaction has also not changed appreciably over the past four decades.

**Table 5. Worker Perceptions of Job Security and Satisfaction: Share Giving an**

Current job tenure	Affirmative Response							
	Agree own job security is good.		How easy to find equivalent new job?		How satisfied with own job?		How likely to search for new job in next year?	
Survey	QEMP (1970s)	GSS (2000s, 2010s)	QEMP (1970s)	GSS (2000s, 2010s)	QEMP (1970s)	GSS (2000s, 2010s)	QEMP (1970s)	GSS (2000s, 2010s)
All workers	79	88	62	61	88	90	28	40
By tenure category:								
<=1 year	70	82	74	68	83	85	44	56
1 to <=3	77	87	71	71	84	89	39	49
3 to <=5	78	86	66	62	87	89	33	44
5 to <=10	84	88	58	58	89	92	23	34
10 to <=20	84	90	49	53	93	94	13	25
Over 20	89	90	43	45	94	94	7	15
Men age 50-64	82	88	46	55	92	92	13	29

Notes: All cells report share respondents age 22-64 answering affirmatively or positively at the very or somewhat levels. The Quality of Work Life (QEMP) survey was administered by the U.S. Department of Labor in 1969-70, 1972-3 and 1977, with about 1300 responses in each wave. The General Social Survey (GSS) is administered by the National Opinion Research Center. Responses are from the Quality of Work Life module, administered in the GSS in 2002, 2006, 2010, 2014, and 2018.

In the final two columns, we look at workers' assessments of their likelihood of searching for a new job. Even though workers are not less satisfied with their current job or less secure in their current job, workers are more likely to report plans to look for work in the coming year than was the case four decades ago. We interpret this result as possibly suggesting that search costs have fallen over time, making it easier to search for new opportunities even as satisfaction has remained stable.

One might be concerned that conditioning these responses on length of tenure obscures a general decline in job satisfaction because the workers who do end up staying with their employer for a long time are more likely to be satisfied with their job. However, we find the same patterns when we group workers by age instead of by length of tenure. Job satisfaction increases with age, but was roughly the same in the 1970s as it is today for each age group. Job security has increased a little,

especially for younger workers. And more workers of all age groups expect to look for a job within the next year. We find little difference in these measures by education, sex, and union status.

The bottom row of the table shows that we also find no evidence of a decrease in job satisfaction or job security among older men, even though this group has experienced a decrease in the prevalence of long tenure spells. Above, we showed that the reduction in long tenure is likely related to an increase in mid-career separations. We can think of three reasons why an increase in mid-career separations might not have caused perceptions of job security to decline. First, many of these mid-career separations may have been voluntary and therefore not associated with heightened worker insecurity. Second, many mid-career separations may have occurred during recessions. If workers recognize layoffs as reflecting recessionary pressures, these layoffs may not affect worker perceptions of job security during normal times. This is consistent with the high level of cyclicity in the measure of job security in Figure 11. Third, the surveys only have information on perceptions of employed workers. People who experienced an involuntary separation may have more negative perceptions of job security, and the fraction of such people may have increased over time.

To summarize, perceptions of job security and satisfaction have been fairly stable over the past 40 years across age groups and tenure categories. This holds even for older male workers, indicating that declines in rates of long tenure don't seem to be associated with increased anxiety about one's own current employment. Although this result may contradict popular perception, it is consistent with Appendix Figure 2, which showed that older male workers are not more likely to transition into nonemployment than in the past. Rather, the decline in long tenure for older men appears to represent declining inflows into long tenured employment, due to mid-career separations. Meanwhile, perceptions of job security have actually improved for people with low tenure, perhaps related to the decline in job changing.

## **VI. Conclusion**

In this paper, we have taken a comprehensive look at the changing distribution of employer tenure among U.S. workers over four decades. Using CPS data (and verified in the PSID), we find that a roughly stable mean and median tenure masks a range of changes within the tails of the tenure distribution since 1980. In the left tail, we find that short tenures account for a declining share of employment. On the other end of the distribution, the incidence of very long tenures (20 or more

years with an employer) has risen modestly. These changes are consistent with the declines in job changing and labor market fluidity documented in earlier research.

At the short end of the tenure distribution, declines are prevalent across demographic groups as well as industry, occupation and skill groups. We show that these declines appear to be related to a decline in job-to-job transitions among short-tenure workers, especially for workers with less than one year of tenure. These declines have been accompanied by an increase in perceived job stability among low tenure workers over the past four decades. For now we leave unexplored the question of *why* churn is declining most strongly in shorter tenure employment relationships—this is clearly an important direction for future research and critical to understanding the rightward shift in the left tail of the tenure distribution.

In contrast to the short end of the tenure distribution, changes at the long end of the tenure distribution differ across demographic groups. The percent of women with at least 20 years of tenure has increased substantially since the 1980s, while the percent of older men with long tenure has fallen. The decline in long-tenure rates for older men can be partly explained by the shift out of manufacturing and other high-tenure sectors, as well as the decrease in unionization. However, a large portion of the decline in long tenures for men remains unaccounted for by observables. Strikingly, the decline in long tenure among men is roughly similar across skill groups. Evidence points to declining inflows into long-tenure employment as the primary cause, due to increased likelihood of separations earlier in a man's career, rather than rising separations upon having attained long-tenure employment. The increase in mid-career employment disruptions could be related to the secular decline in prime-age male labor-force participation, which economic research has frequently linked to a variety of adverse demand shocks. On the other hand, declines in long-tenure rates for men have not been accompanied by increases in perceived job insecurity, hinting that the mid-career separations experienced by men may have been voluntary or cyclical, rather than reflecting a secular trend in involuntary separations. Additional research is needed to more fully disentangle the reasons why mid-career employment disruptions have become more frequent for men.

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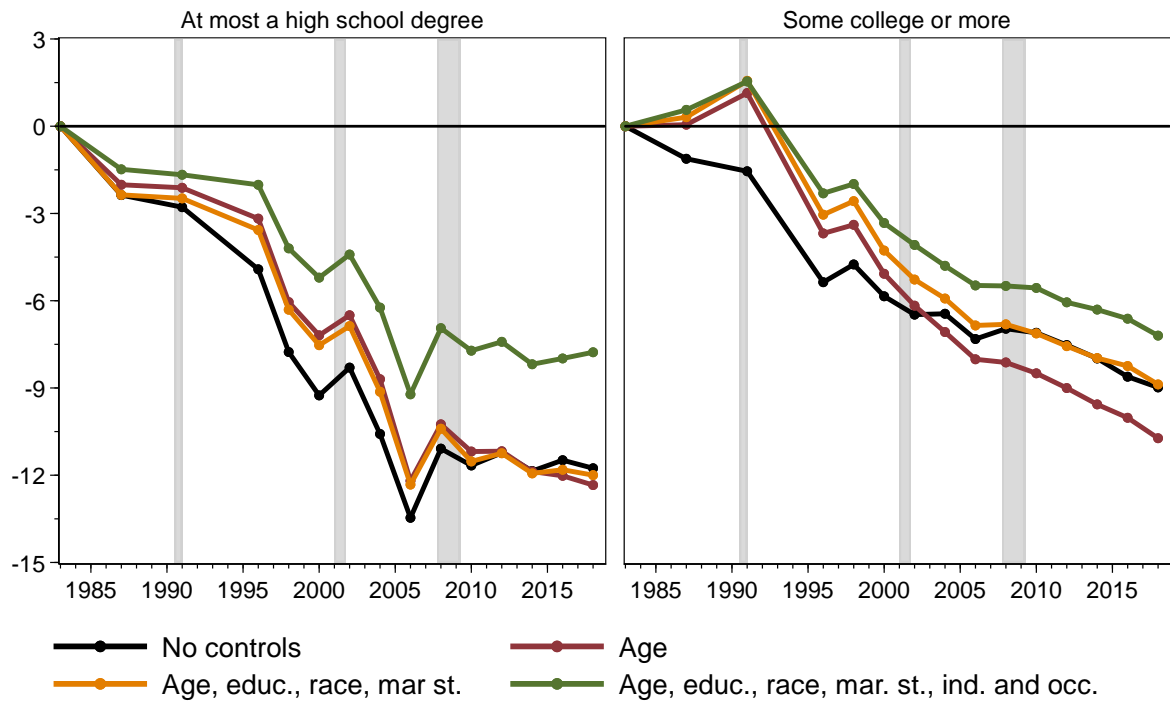
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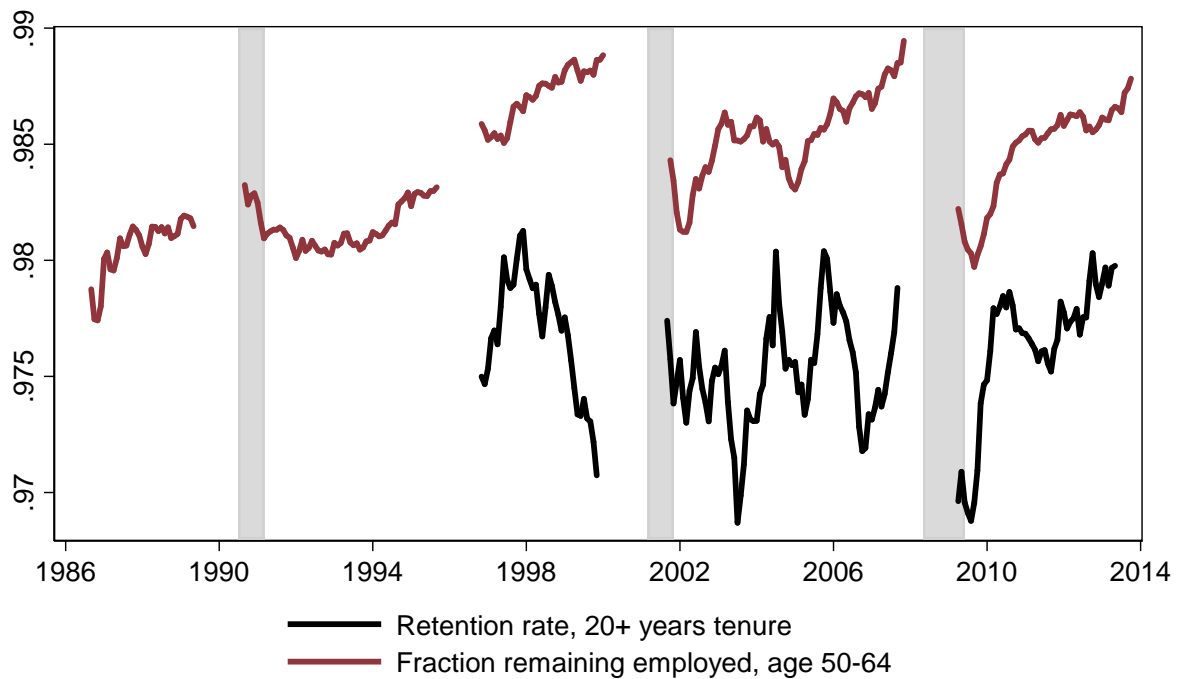
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**Appendix Figure 1. Percent of men age 40 to 64 with 20 or more years of tenure (by education group), relative to 1983**



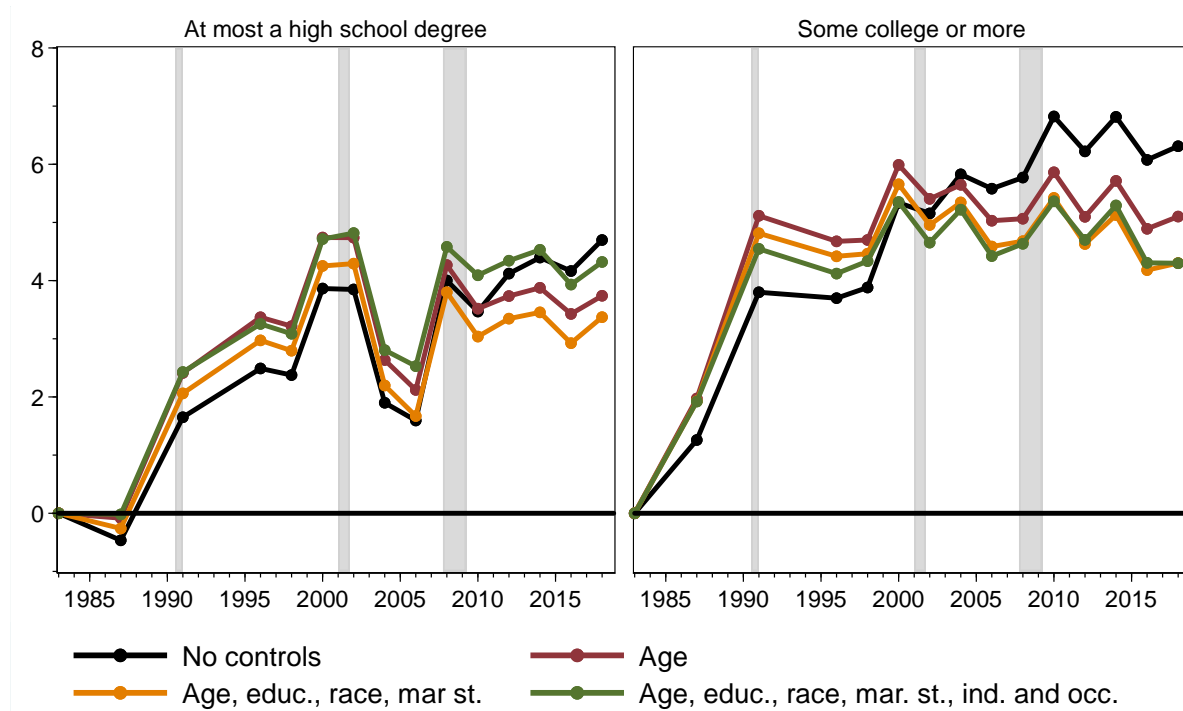
Notes: Source—Authors' calculations from microdata to the CPS occupational tenure supplements. See additional notes to figure 3. Estimates are in percentage points.

Appendix Figure 2. Retention Rates for Men



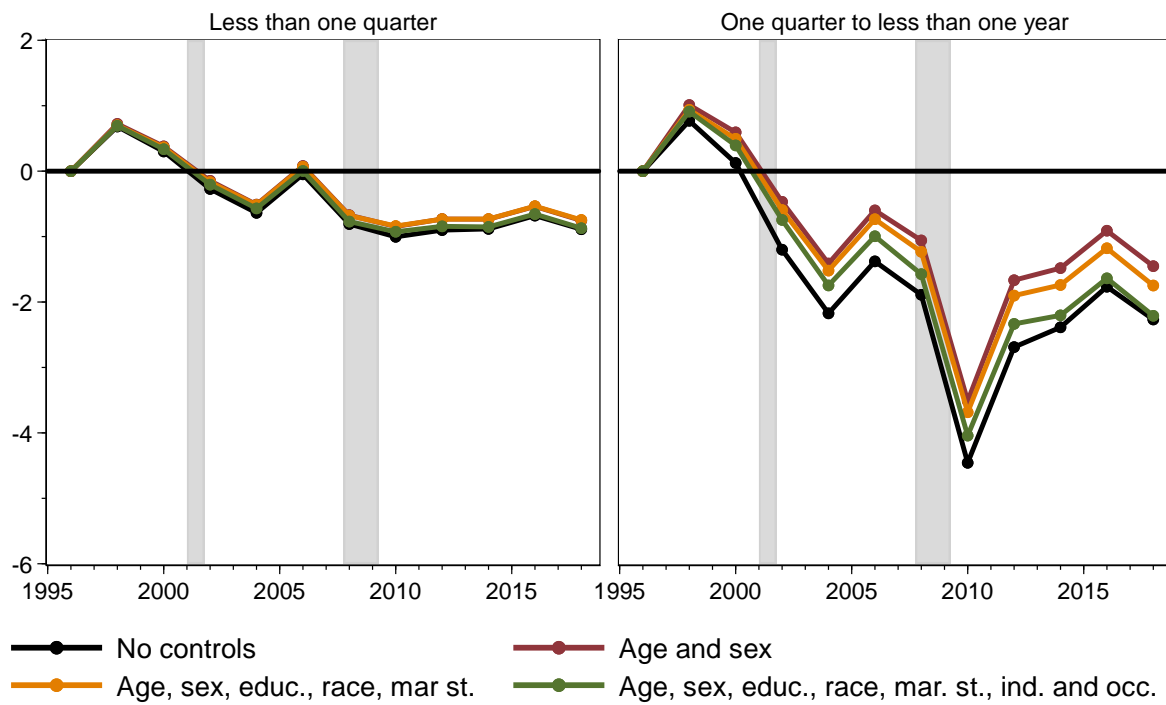
Source: Survey of Income and Program Participation. Black line shows the fraction of men with 20+ years of tenure who remained working with the same employer in the subsequent four months. Red line shows the fraction of men age 50 to 64 who were not unemployed or out of the labor force four months later.

**Appendix Figure 3. Percent of women age 40 to 64 with 20 or more years of tenure (by education group), relative to 1983**



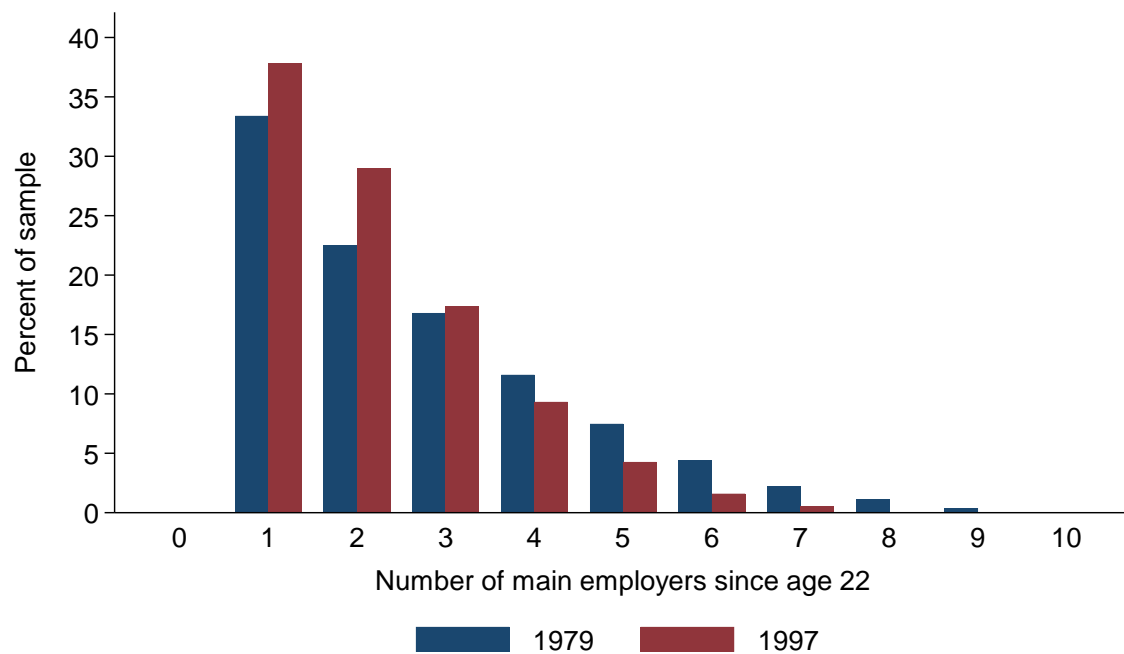
Note: See notes to figure 3.

**Appendix Figure 4: Percent of workers age 22-64 with tenure less than one quarter and one quarter to less than one year, relative to 1996**



Note: See notes to figure 8.

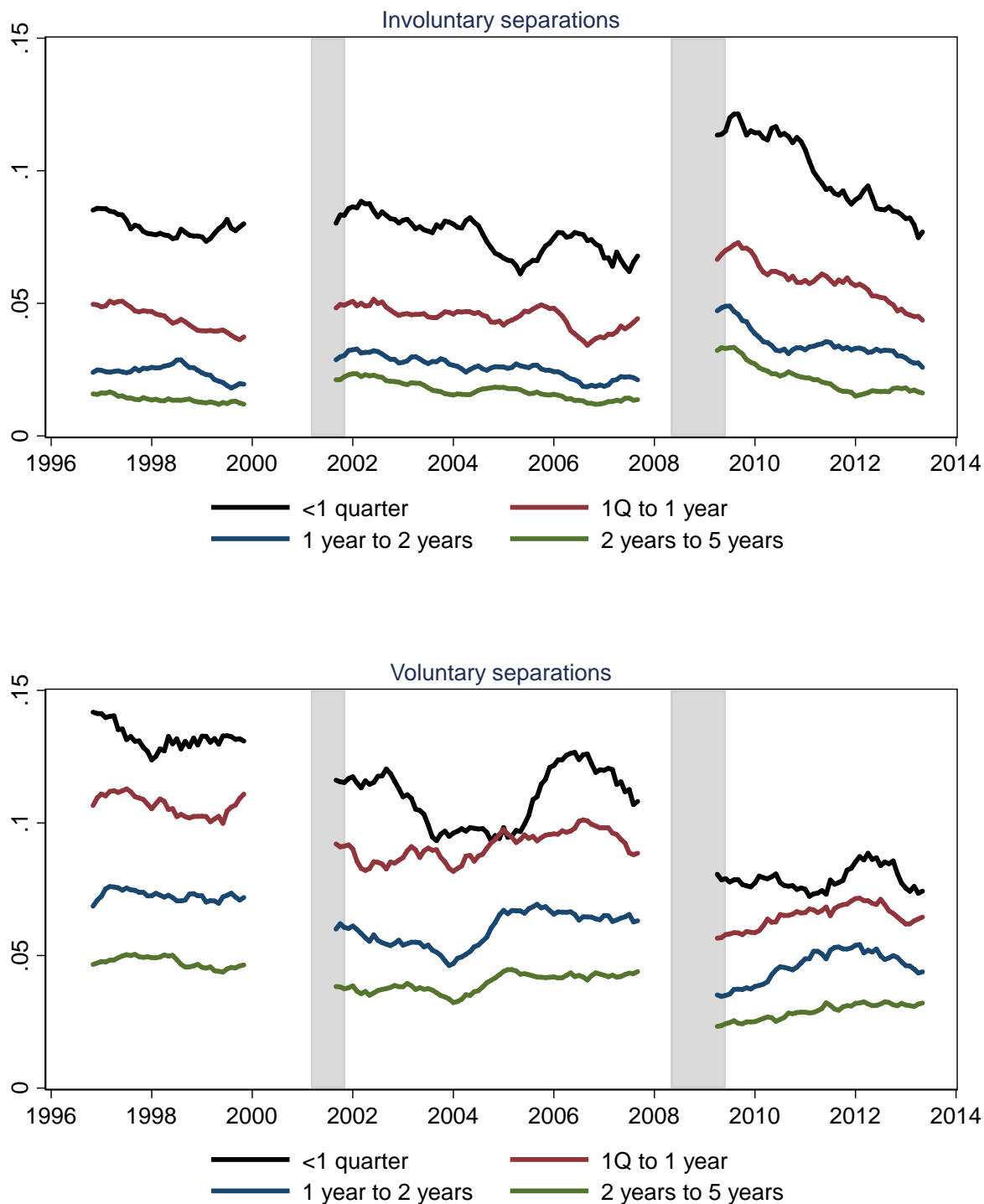
**Appendix Figure 5. Distribution of Main Employers in NLSY Cohorts**



Notes: 1979 cohort observations from 1980 to 1994. 1997 cohort observations from 2002 to 2011. Median year in NLSY79 sample is 1988; in NLSY97 sample is 2008. Sample is employed respondents with valid tenure at t-1 interview, ages 22-31, not enrolled, not (likely) self-employed, not holding multiple jobs at t, and continuously interviewed since age 22. Number main employers is the number of main employers reported since age 22.

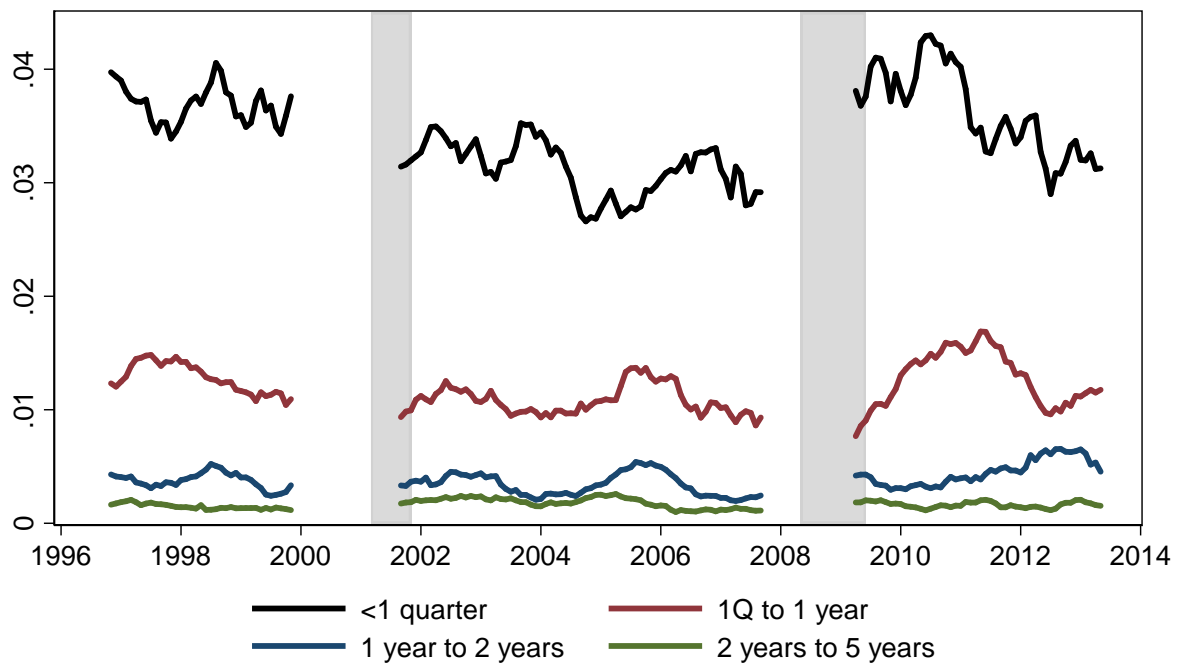


Appendix Figure 6. Involuntary and Voluntary Separations in the SIPP.



Source: Survey of Income and Program Participation. Lines show fraction of each tenure group that separated either involuntarily (top panel) or voluntarily (bottom panel) over the previous four months. Reason for separation is reported by the respondent. When two jobs are reported, both are included in the separation rates.

Appendix Figure 7. Separations Due to Temp Job Ending, SIPP.



Source: Survey of Income and Program Participation. Lines show fraction of each tenure group that separated because a temporary job had ended. Reason for separation is reported by the respondent. When two jobs are reported, both are included in the separation rates.

**Appendix Table 1. Shares of workers age 22-64 with less than one quarter of tenure**

	1996, 1998, 2000	2014, 2016, 2018	Change
A. Men			
Industry			
Agriculture	17.9	15.2	-2.8
Construction	25.1	17.7	-7.4
Manuf + transportation	14.7	13.4	-1.3
Wholesale and retail trade	23.0	19.3	-3.7
Finance, insurance, real estate	18.7	14.1	-4.5
Services	21.9	17.1	-4.8
Public Sector	8.9	7.9	-1.0
Occupation			
Prof/tech, manager	15.8	13.3	-2.6
Non-professional	20.2	17.2	-3.0
Education			
Non-college	19.1	16.0	-3.0
College	18.6	15.6	-3.0
B. Women			
Industry			
Agriculture	21.5	17.9	-3.6
Construction	22.9	17.6	-5.3
Manuf + transportation	17.3	14.9	-2.5
Wholesale and retail trade	27.2	21.4	-5.8
Finance, insurance, real estate	19.5	14.2	-5.3
Services	21.1	16.6	-4.5
Public Sector	11.5	9.9	-1.6
Occupation			
Prof/tech, manager	17.0	14.0	-3.0
Non-professional	23.3	19.0	-4.3
Education			
Non-college	21.1	16.7	-4.4
College	20.7	16.7	-4.1

Notes: Source—Authors’ calculations from microdata to the CPS occupational tenure supplements. Self-employed and unpaid family workers are excluded. Tenure shares are estimated by year and industry/occupation/education, and then averaged over the years shown in each column. Estimates are in percentage points.

**Appendix Table 2. NLSY Statistics: Transitions prior to next interview, by tenure with the main employer**

	Temp ended	job	Separated voluntarily	in-	Separated untarily	vol-	# Main Employers by age 31	
Cohort	79	97	79	97	79	97	79	97
Less than 1Q	.057	.047	.187	.163	.417	.319	3.56	2.61
1Q to less than 1Y	.026	.020	.126	.121	.336	.260	3.36	2.62
1Y to less than 3Y	.012	.011	.076	.085	.231	.201	2.78	2.24
3Y to less than 5Y	.007	.004	.050	.054	.153	.143	2.16	1.80
5Y to less than 10Y	.002	.004	.031	.046	.010	.093	1.59	1.38

Notes: 1979 cohort observations from 1980 to 1994. 1997 cohort observations from 2002 to 2011. Median year in NLSY79 sample is 1988; in NLSY97 sample is 2008. Sample is employed respondents with valid tenure at t-1 interview, ages 22-31, not enrolled, not (likely) self-employed, not holding multiple jobs at t. The first three sets of columns report share of the sample experiencing various separation types from the main employer prior to the next interview. “Temp job ended” is a subset of “Separated involuntarily.” Number main employers is the number of main employers reported since age 22 in the subsample of respondents continuously interviewed to age 31 (authors’ calculations).