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Is the Company Man an Anachronism?  
Trends in Long Term Employment in the U.S., 1973-2006<sup>1</sup>

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**Abstract**

The wave of corporate downsizing in the 1990s focused attention on the role of long-term employment relationships in the United States. Given 1) the importance that these relationships have played historically, 2) the general view that long-term jobs are “good jobs,” and 3) the suspicion that long-term employment relationships are becoming less common, I carry out a systematic investigation of the extent to which long-term employment relationships have, in fact, become less common. Specifically, I examine age-specific changes in the length of employment relationships for different birth cohorts from 1914-1981 using data from various supplements to the Current Population Survey (CPS) from 1973 through 2006. After controlling for demographic characteristics, I find that mean tenure and the fraction of workers reporting at least ten and at least twenty years of tenure have both fallen substantially. This decline is concentrated among men, while long-term employment relationships have become slightly more common among women. Mirroring this decline in tenure and long-term employment relationships, there has been an increase in “churning” (defined as the proportion of workers in jobs with less than one year of tenure) for males as they enter their thirties and later. This pattern suggests that more recent cohorts are less likely than their parents to have a career characterized by a “life-time” job with a single employer.

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# 1 Introduction and Background

The typical characterization of the dynamics of an individual's employment history over the course of a working life (a "career") is that a worker enters the labor market at some point after concluding schooling and holds a succession of jobs in the ensuing decades. Commonly, it is understood that, after some turnover early in careers, most workers find a job (relationship with an employer) that lasts for a long period of time (a "life-time" job). This conception of a career culminating in a life-time job has been challenged in the last fifteen to twenty years, both in academic research and in the media, as large corporations have engaged in highly publicized layoffs and the industrial structure of the U.S. economy has shifted in the face of global competitive pressures. To the extent that there has been a substantial change in career employment dynamics, young workers entering the labor force in recent years and in the future will face a very different type of career than did earlier cohorts.

In this study, I examine evidence on job durations from 1973-2006 in order to determine the extent to which, in fact, the structure of careers, indicating by the likelihood of long-term employment, is changing. I use data from 21 supplements to the Current Population Survey (CPS) over the 1973-2006 period that contain information on how long workers have been employed by their current firm. These data allow me to investigate the career dynamics of successive cohorts of workers. Specifically, I examine various age-specific measures of the length of employment relationships for different birth cohorts from 1914-1981 in order to determine whether more recent cohorts are experiencing a different level of job stability than their elders.

The evolution of the structure of careers in the U.S. has played out in the context of dramatic growth in employment over the last 40 years. Civilian employment was 85.1 million in 1973 and rose to 144.4 million in 2006.<sup>1</sup> Thus, almost sixty million jobs have been created on net in the past 33 years, for an average rate of employment growth of 1.6 percent per year over this period. Despite this record of sustained growth in employment in the United States, there is longstanding concern that the quality of the stock of jobs in the economy more generally is deteriorating. The concern about job quality is based in part on the fact that the share of employment that is in manufacturing has been declining over a long period of time.<sup>2</sup> This has led to the view that, as high-quality manufacturing jobs are lost, perhaps

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<sup>1</sup> These statistics are taken from U.S. Bureau of Labor Statistics Series ID LNU02000000. This is the civilian employment level derived from the Current Population Survey for workers aged 16 and older.

<sup>2</sup> The manufacturing share of non-farm employment has been falling for over fifty years. Manufacturing's

to import competition, they are being replaced by low-quality service sector jobs (so-called hamburger-flipping jobs). The high-quality jobs are characterized by relatively high wages, full-time employment, substantial fringe benefits, and, perhaps most importantly, substantial job security (low rates of turnover). The low-quality jobs are characterized disproportionately by relatively low wages, part-time employment, an absence of fringe benefits, and low job security (high rates of turnover).

The perceived low quality of many newly-created jobs fuels the concern that the nature of the employment relationship in the United States is changing from one based on long-term full-time employment to one based on more short-term and casual employment is. There has been concern that employers are moving toward greater reliance on temporary workers, on subcontractors, and on part-time workers. Potential motivation for employers to implement such changes range from a need for added flexibility in the face of greater uncertainty regarding product demand to avoidance of increasingly expensive fringe benefits and long-term obligations to workers. The public's concern arises from of the belief that these changes result in lower quality (lower paying and less secure) jobs for the average worker.

The results are clear cut. By virtually any measure, more recent cohorts of workers have been with their current employers for less time at specific ages. Age-specific overall mean tenure has fallen substantially, particularly for workers over forty years of age. Interestingly, there is an important contrast by sex. Age specific mean tenure has fallen sharply for men while there has been no corresponding change for women. This finding is mirrored in the fractions of older workers reporting at least ten and at least twenty years of tenure, where the fraction of men in such long-term employment relationships fell substantially between the 1910 birth cohort and cohorts born in the middle of the last century. In contrast, the fraction of women in long-term employment relationships increased somewhat between the early- and mid-twentieth century birth cohorts. This reflects the increased commitment of women to the labor force tempered by the fact that many working women, when have young children, either exit the labor force for a period of time or change jobs to one with different or more flexible hours.

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share was 30.9 percent in 1950 and fell to 10.4 percent in 2006. These statistics are taken from U.S. Bureau of Labor Statistics Series ID CEU00000001 and CEU30000001 derived from the Current Employment Statistics payroll data.

## 2 Review of Recent Literature on Job Stability

There have been a series of analyses of job stability that have relied on mobility supplements to various January Current Population Surveys. An influential early analysis was carried out by Hall(1982). He used published tabulations from some of the early January mobility supplements to compute contemporaneous job retention rates. Hall found that, while any particular new job is unlikely to last a long time, a job that has already lasted five years has a substantial probability of lasting twenty years. He also finds that a substantial fraction of workers will be on a “lifetime” job (defined as lasting at least twenty years) at some point in their life. Ureta (1992) used the January 1978, 1981, and 1983 mobility supplements to recompute retention rates using artificial cohorts rather than contemporaneous retention rates.

Several more recent papers have used CPS data on job tenure to examine changes in employment stability. Swinnerton and Wial (1995), using data from 1979 through 1991, analyze job retention rates computed from artificial cohorts and conclude that there has been a secular decline in job stability in the 1980’s. In contrast, Diebold, Neumark, and Polsky (1994), using CPS data on tenure from 1973 through 1991 to compute retention rates for artificial cohorts, find that aggregate retention rates were fairly stable over the 1980’s but that retention rates declined for high school dropouts and for high school graduates relative to college graduates over this period. I interpret a direct exchange between Diebold, Polsky, and Neumark (1996) and Swinnerton and Wial (1996) as supporting the view that the period from 1979-91 is not a period of generally decreasing job stability. Farber (1998), using CPS data on job tenure from 1973 through 1993, finds that the prevalence of long-term employment has not declined over time but that the distribution of long jobs has shifted. He finds that less-educated men are less likely to hold long jobs than they were previously but that this is offset by a substantial increase in the rate at which women hold long jobs. Farber (2000) examines CPS data on job tenure from 1973 through 1996, and he finds that the prevalence of long- term employment relationships among men declined by 1996 to its lowest level since 1979. In contrast, long-term employment relationships became somewhat more common among women.

Rose (1995) uses data from the Panel Study of Income Dynamics (PSID) to measure job stability by examining the fraction of male workers who do not report any job changes in a given time period, typically ten years. Rose finds that the fraction of workers who reported no job changes in given length of time was higher in the 1970’s than in the 1980’s. He argues that this is evidence of increasing instability of employment.

The Russell Sage Foundation sponsored a conference organized by David Neumark on “Changes in Job Stability and Job Security” in 1998.<sup>3</sup> The evidence presented here is mixed regarding whether job tenure was declining. Jaeger and Stevens (1999) use data from the PSID and the CPS mobility and benefit supplements on (roughly) annual rates of job change to try to reconcile evidence from the CPS and PSID on job stability. They find no change in the share of males in short jobs and some decline between the late 1980s and mid-1990s in the share of males with at least ten years of tenure.<sup>4</sup> Neumark, Polsky, and Hansen (1999) find a similar decline in long-term employment but conclude that this does not reflect a secular trend. Gottschalk and Moffitt (1999) use monthly data from the Survey of Income and Program Participation (SIPP) along with annual data from the SIPP and the PSID, and they find no evidence of an upward trend in job insecurity in the 1980s and 1990s. Valletta (1999) uses data from the PSID from 1976-1993 and finds some decline in long-term employment relationships.

In more recent work, Stewart (2002) uses data from the March CPS to investigate two aspects of job security. The first, the likelihood of leaving a job, shows no particular trend from 1975 through 2000 based on these data. The second, the likelihood of making an employment-to-employment transition, increased over this period while the likelihood of making an employment-to-unemployment transition decreased. Stewart concludes that the cost of changing jobs has decreased.

Stevens (2005) examines data from several longitudinal histories of older male workers (late 50s and early 60s) with regard to changes over time in the length of longest job held during careers. She finds that there has been no change between the late 1960s and late early 2000s and concludes that there has not been a decline in the incidence of “lifetime jobs”. A careful reading of her results show an increase in average longest tenure from about 22 years among older workers in 1969 to 24 years in 1980 followed by a decline to 21.4 years in 2002. A reasonable interpretation of this pattern is that the earliest cohorts had jobs interrupted by service in World War II, resulting in lower average longest tenure than subsequent cohorts. The decline since 1980 may then reflect a real decline in job durations. Additionally, the most recent cohort examined by Stevens was born in the 1940s so that her analysis cannot shed light on the experience of more recent birth cohorts.

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<sup>3</sup> The Proceedings of this conference are published in Neumark (2000), and a number of these papers are published in *The Journal of Labor Economics* Volume 17, Number 4, Part 2, October 1999

<sup>4</sup> Unfortunately, due to the design of the PSID, neither of these studies examine the mobility experience of women.

A careful reading of this earlier literature does not yield a clear answer regarding changes in the incidence of long-term employment relationships. I turn now to my analysis, which covers a long time period in a consistent way, in order to determine what, in fact, has happened to long-term employment in the United States.

### 3 Measuring the Change in Tenure Over Time

My analysis relies on a sample consisting not self employed workers aged 20-64 from the 21 CPS supplements covering the period from 1973 to 2006. In order to have data for each birth cohort over a five calendar year period, I further restrict my analysis to the 1914-1981 birth cohorts. The sample contains 876,063 workers, and the data are described in more detail in the Appendix.

I organize my analysis of changes over time in the distribution of job durations by examining age-specific values of various distributional measures of job tenure for different birth cohorts. No one statistic can completely characterize a distribution, and I focus on several measures here:

- Mean job tenure (years with the current employer). Note that this is not mean completed job duration since since the jobs sampled are still in progress.
- The age-specific probability that a worker reports being on their job at least ten years. Because younger workers cannot have accumulated substantial job tenure, I restrict this analysis to workers at least 35 years of age, and I examine how these probabilities have evolved from early to more recent birth cohorts. Based on the statistics in table 4, there are workers aged 35 and older in my sample born in the six decades from the 1910s to the 1960s. This allows me to investigate changes in the transition from the early “job shopping” phase of a career to more stable longer-term employment relationships in mid-career.
- The age-specific probability that a worker reports being in their job at least twenty years. Because younger workers cannot have accumulated substantial job tenure, I restrict this analysis to workers 45 years of age and older, and I examine how these probabilities have evolved from early- to mid-twentieth century birth cohorts. Based on the statistics in table 4, there are workers aged 45 and older in my sample born in the five decades from the 1910s to the 1950s. This allows me to investigate changes in the incidence of longer term employment relationship later in careers.

- The age-specific probability that a worker reports being their job for less than one year. This provides another approach to investigating changes in the transition from the early job-shopping phase of a career to more stable longer-term employment relationships. Based on the statistics in table 4, there are workers aged 24 and older in my sample born in the five decades from the 1940s to the 1980s.

An important measurement issue is related to cyclical changes in the composition of the sample. It is clear that workers with little seniority are more likely than high-tenure workers to lose their jobs in downturns (Abraham and Medoff, 1984). Thus, we would expect that the incidence of long-term important employment, as measured by the fraction of workers with tenure exceeding some threshold, to be counter-cyclical. Tight labor markets will lead the distribution of job durations to lie to the left of the distribution in slack labor markets. Since secular rather than cyclical changes are of interest here, an alternative measure of the distribution that is relatively free of cyclical movements would be useful.

A potential alternative would be to use the entire population in the relevant category (e.g., individuals in a given age range) regardless of employment status assuming that those not employed have zero tenure (Farber, 1995). One could compute mean tenure and population fractions in different tenure categories using these population-based data. While these population-based measures do not suffer to the same degree from the cyclical fluctuations that affect the employment-based measures, they have their own problems of interpretation. Secular changes in labor supply directly affect the population-based measures. If a group has increased its labor supply over time (e.g., as women have done), the population-based measures of the incidence of long-term employment for that group are likely to be affected in hard-to-predict ways. For example, if women are less likely to leave the labor force after some initial period working, then there is likely to be an increase in the fraction of women in long-term employment relationships. Similarly, if a group has decreased its labor supply over time (e.g., as older men have done), the population-based measures for that group are likely to show a decrease in the incidence of long-term employment. Changes in population-based measures due to shifts in labor supply do not reflect changes in the underlying structure of jobs.

I choose to present employment-based measures in this study in order to avoid confusing secular changes in labor supply behavior with changes in the structure of jobs. But cyclical influences need to be kept in mind when interpreting the results.

## 4 The Evolution of Job Tenure

### 4.1 Mean Tenure

Figure 1 contains separate plots by sex of mean tenure by age for the five decade-of-birth cohorts from the 1920s through the 1960s.<sup>5</sup> These figures show clearly that 1) mean tenure is rising with age and 2) women have lower mean tenure than men after about age 30. With regard to shifts over time in the tenure distribution, age-specific mean tenure for males has declined substantially, particularly for older workers. For example mean tenure for males at age 50 declined from 13.4 years for the 1930s birth cohort to 9.7 years for the 1950s birth cohort. There appears to be little systematic change for women.

It is not necessarily the case that classifying individuals by birth decade is appropriate. There may be important differences within decade, particularly with regard to the age distribution. Another approach to summarizing the data that allows each birth year to be independent is to estimate a linear model of the natural logarithm of tenure of the form

$$\ln(T_{ijk}) = C_j + A_k + \epsilon_{ijk}, \quad (1)$$

where  $T_{ijk}$  is tenure in years for individual  $i$  in birth cohort  $j$  aged  $k$ ,  $C_j$  is a birth year indicator, and  $A_k$  is a years-of-age indicator. This logarithmic specification embodies the plausible implicit assumption that proportional cohort effects on mean tenure are constant across ages and, equivalently, that the proportional age effects on mean tenure are constant across birth cohorts.<sup>6</sup> A more detailed investigation would allow for cohort effects that vary by age since changes in job security could express themselves differentially at various ages. However, the model in equation 1 fits the data quite well, and it serves as a good summary of the data.<sup>7</sup>

I estimate the model in equation 1 separately for men and women using ordinary least squares (OLS), weighted by the CPS final sample weights. The estimated cohort effects on

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<sup>5</sup> Means are calculated weighted by CPS final sample weights. The 1914-1919 and the 1970s birth cohorts are omitted for clarity of presentation and because of the narrow range of ages covered by these cohorts. See 4.

<sup>6</sup> I do not estimate this model using absolute tenure because the implicit assumption in that case would be that absolute cohort effects on mean tenure are constant across ages and, equivalently, that absolute age effects on mean tenure are constant across birth cohorts. This is clearly not plausible on inspection of figure 1, given the fact that younger workers have very low levels of tenure.

<sup>7</sup> I computed (separately for men and women) weighted mean tenure for each age/birth-year combination and regressed these measures on a complete set of age and birth year fixed effects. This is essentially the main-effects model in equation 1 aggregated to the cell level. The R-squared from the mean regression is 0.98 for both men and for women.

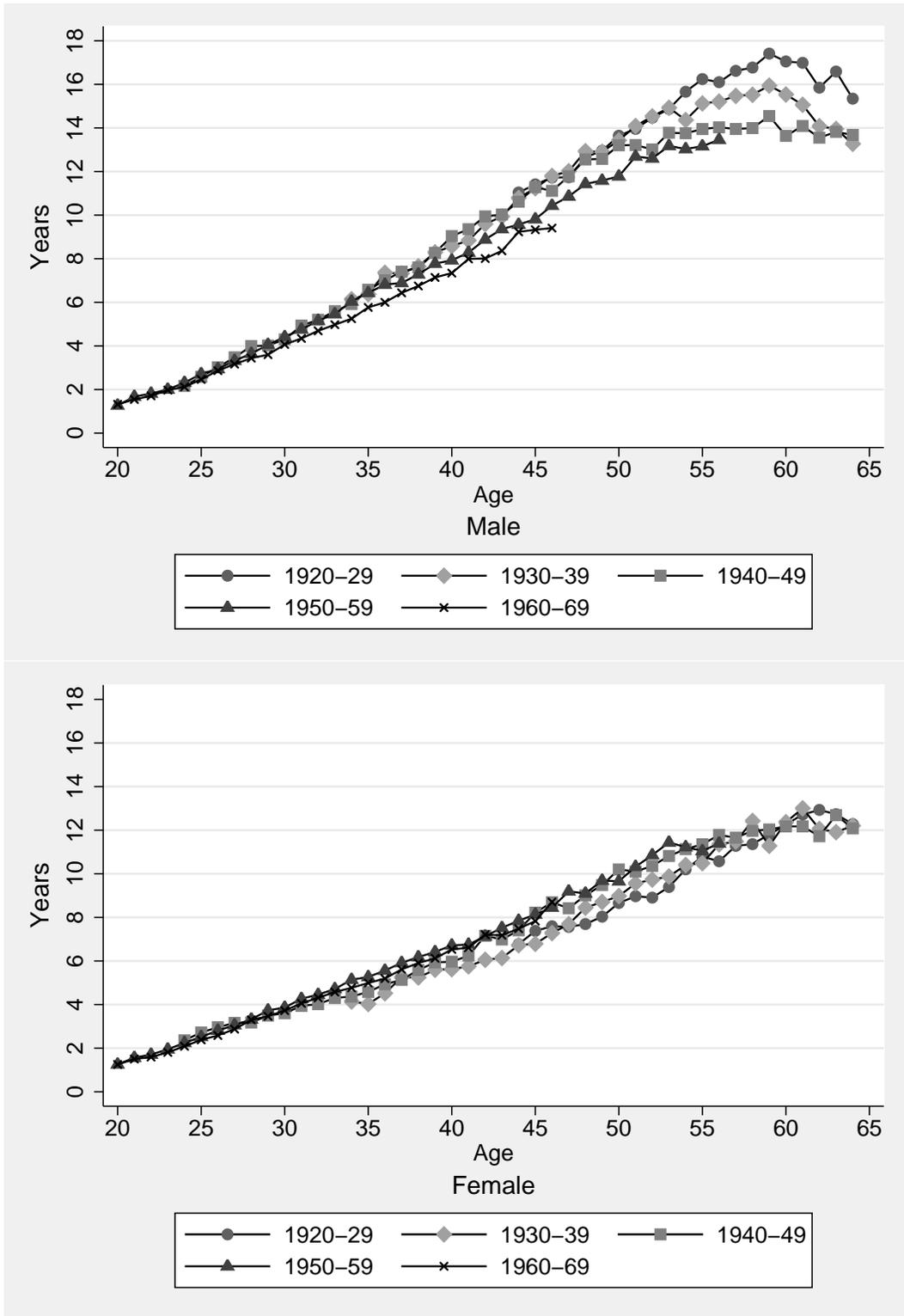


Figure 1: Mean Tenure, by Sex, Age, and Birth Cohort

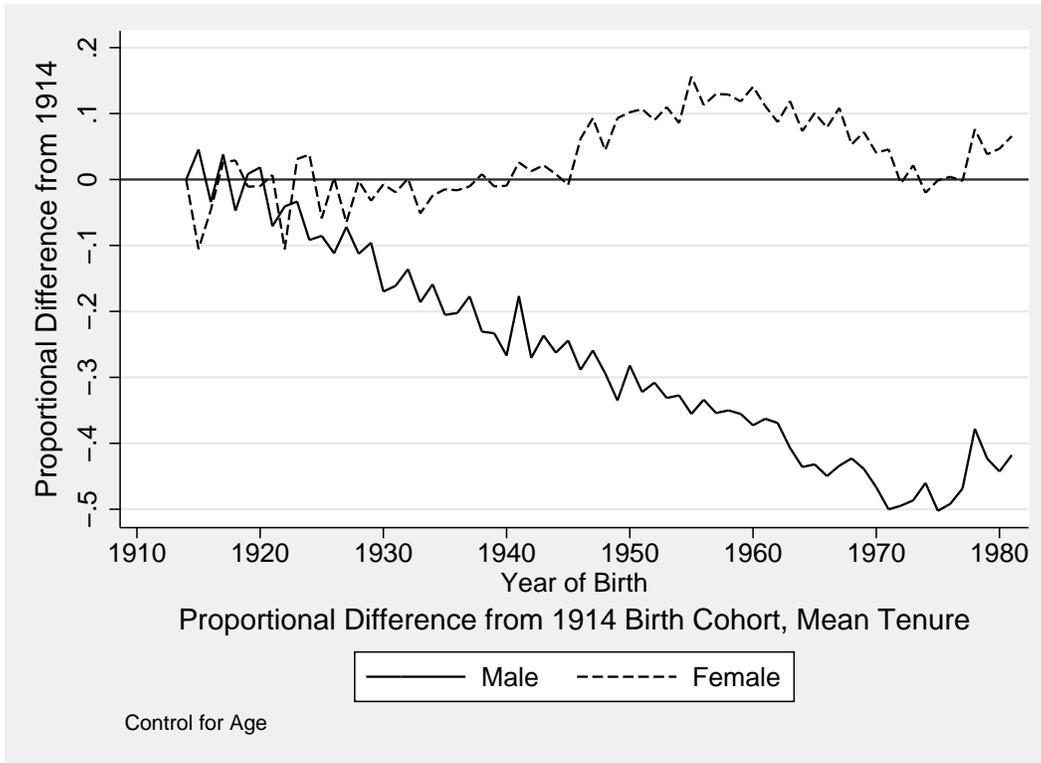


Figure 2: Proportional Difference from 1914 Birth Cohort, Mean and Mean Tenure, Controlling for Age.

mean tenure, normalized at zero for the 1914 birth cohort, are converted to proportional differences in mean tenure relative to the 1914 birth cohort as  $\exp(\hat{C}_j - \hat{C}_{1914}) - 1$ . These proportional differences are plotted in figure 2, and they show a sharp decline of about 50 percent in age-specific mean tenure for male workers between the 1914 and the mid-1970s birth cohorts.

The time-series pattern is quite different for female workers. Age-specific mean tenure for female workers did not change between the 1914 and 1940 birth cohorts, but it increased by about 15 percent between the 1940 and 1960 birth cohorts before declining to its original level by the mid-1970s birth cohorts. The increase in mean tenure for women between the 1940 and 1960 birth cohorts reflects the increased commitment of women to the labor force for women born in this period tempered by 1) high rates of withdrawal from the labor force, even if only for a short time, in the child-bearing years and 2) the general decline in long-term employment opportunities apparent in the data for males. The subsequent decline in tenure for females may reflect a continued general decline in long-term employment opportunities that is not offset by a further increase in female commitment to the labor force.

Table 1: Distribution of Education by Birth Cohort  
(Row Percentage in Education Category)

Birth Decade	ED < 12	ED = 12	ED 13-15	ED ≥ 16
1914-19	39.53	37.54	10.92	12.02
1920-29	31.18	39.30	12.83	16.69
1930-39	21.28	40.57	16.57	21.58
1940-49	11.82	35.58	23.09	29.50
1950-59	8.75	34.88	27.28	29.08
1960-69	9.10	34.78	28.00	28.12
1970-81	9.40	30.46	33.82	26.32
All	11.96	35.04	25.88	27.12

Note: Based on data for not self employed workers 20-64 years of age from 21 CPSs covering the period from 1973 to 2006. Weighted by CPS final sample weights.

#### 4.1.1 Education and the Decline in Mean Tenure

In addition to the increased presence of women in the labor force, there are other important changes that could be related to the decline in tenure. First is the well-known large increase in average educational attainment during the 20th century summarized in table 1. While there is not a clear relationship between educational attainment and tenure, I investigate how the decline in mean job tenure is related to the general increase in educational attainment.<sup>8</sup> I begin by estimating separate versions of equation 1 for each of four educational categories ( $ED < 12$ ,  $ED = 12$ ,  $ED 13 - 15$ , and  $ED \geq 16$ ). This allows me to determine whether the changes in mean tenure over time are common across educational categories.

The top panel of figure 3 contains plots for each of four education categories of the age-specific birth cohort effects for males. Mean tenure has fallen for all education categories, with the largest decline since 1914 for college graduates. The bottom panel contains the same plots for females, and it does not show a consistent pattern.

In order to provide a summary across educational categories of the proportional change in mean tenure over time accounting for changes in the educational distribution over time,

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<sup>8</sup> Mean tenure in my analysis sample for each of the four educational categories are ED<12: 7.3 years, ED=12: 7.4 years, ED 13-15: 6.5 years, and ED ≥ 16: 7.3 years.

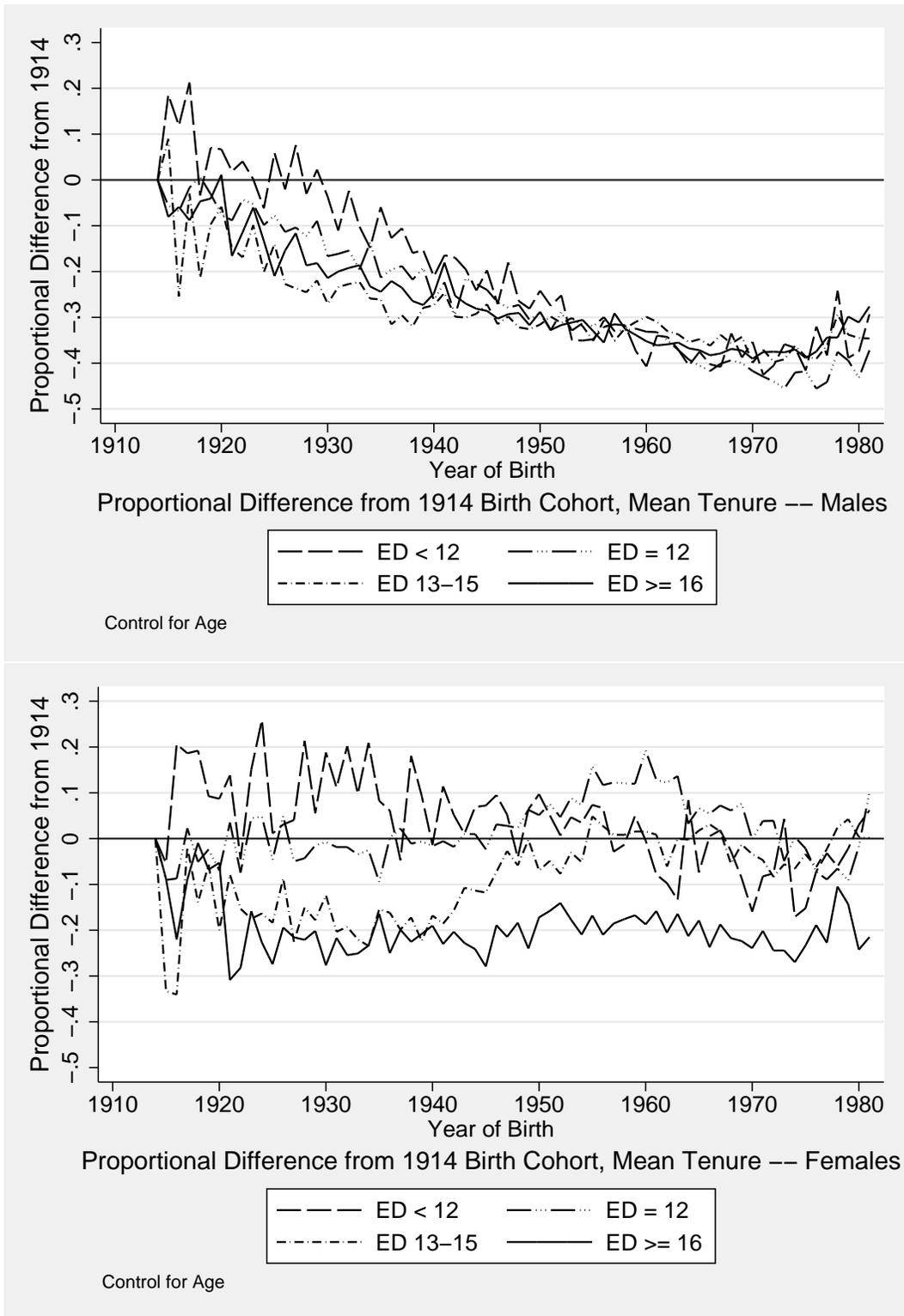


Figure 3: Proportional Difference from 1914 Birth Cohort, Mean Tenure. Controlling for Age: by Education.

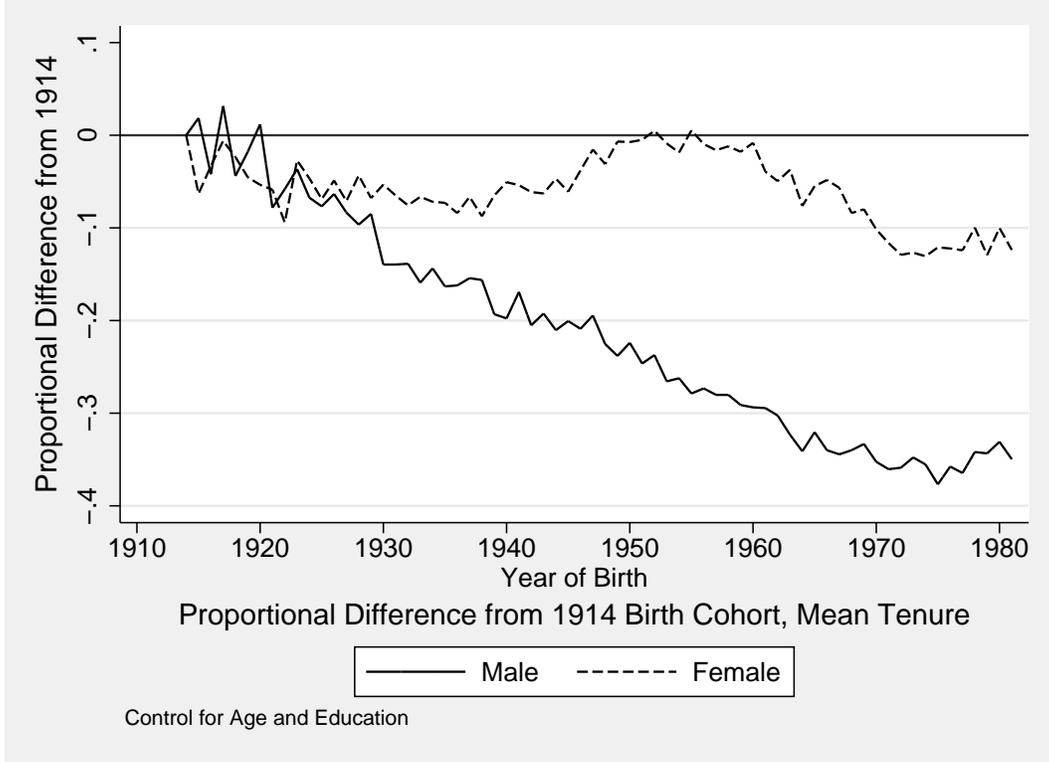


Figure 4: Proportional Difference from 1914 Birth Cohort, Mean Tenure. Controlling for Age and Education.

I estimate an augmented version of the regression model for mean tenure in equation 1 as

$$\ln(T_{ijk}) = ED_i\gamma + C_j + A_k + \epsilon_{ijk}, \quad (2)$$

where  $ED_i$  is a vector of dummy variables indicating educational attainment and  $\gamma$  is a vector of associated coefficients. The estimated proportional change in mean tenure relative to the 1914 birth cohort ( $\exp(\hat{C}_j - \hat{C}_{1914}) - 1$ ) are plotted in figure 4, and, while they are very similar in shape to those derived without controlling for education (figure 2), there are some differences. Accounting for changes in the distribution of education, the estimated decline in mean tenure for males was approximately 40 percent between the 1914 and 1975 cohorts compared to a 50 percent decline when education is not controlled for. I conclude that about 20 percent of the decline in tenure for males between the 1914 and 1975 cohorts is due to a change in the distribution of education. When education is accounted for, women show an initial decline in mean tenure between the 1914 and mid-1940s birth cohorts followed by an increase in mean tenure between the mid-1940s and the mid-1950s birth cohorts followed by a decline of 10 to 15 percent between the 1960 and 1975 cohorts.

### 4.1.2 Increased Immigration and the Decline in Mean Tenure

A second and potentially more important factor that could account for the decline in tenure is the increased presence of immigrants in the U.S. labor force. By definition, newly arrived immigrants cannot have substantial tenure. Data on immigration are not available in any CPS with tenure data prior to 1995, and I begin my investigation using data from the 11 CPSs with tenure and immigration data between 1995 and 2006. In order to have data for each birth cohort over a five calendar year period, I further restrict my analysis to the 1935-1981 birth cohorts. The weighted immigrant fraction of the labor force in my sample increased steadily from 9.46 percent in 1995 to 15.0 percent in 2006. In every year, immigrants had about 2.2 years lower tenure than natives on average (overall average difference = 2.19 years (s.e. = 0.035)). Immigrants are only slightly younger than natives (overall average difference = 0.99 years (s.e. = 0.049)).

The key question is how much of the decline in observed tenure is due to the increased immigrant presence in the labor force. Figure 5 contains separate plots for natives and immigrants of the proportional difference in mean tenure relative to the 1935 birth cohort accounting for differences in age and education.<sup>9</sup> The plot for natives in the top panel shows a substantial decline in age-specific average tenure for native men between the 1940 and mid-1970s birth cohorts that is of the same magnitude as the decline for males between the 1940 and mid-1970s cohorts in the overall sample as shown in figure 4. There is not much change in age-specific average tenure across birth cohorts for native females.

The bottom panel of figure 5 contains the proportional changes in mean tenure over time for immigrants. These are somewhat noisy but show no systematic change in age-specific average tenure for immigrant males between the 1940 and early-1970s birth cohorts before increasing for later cohorts. The cohort effects for immigrant females shows steady increase in average tenure the 1940 birth cohort forward.

In order to summarize the effect of increased immigration on overall changes over time in job tenure, I re-estimated the basic model including an indicator for immigrant status (=1 if immigrant). This model is

$$\ln(T_{ijk}) = \alpha IMM_i + ED_i\gamma + C_j + A_k + \epsilon_{ijk}, \quad (3)$$

where  $IMM_i$  is an indicator variable if worker  $i$  is an immigrant. The estimates of the immigrant effect on mean log tenure ( $\alpha$ ) is -0.211 (s.e. = 0.008) for males and -0.185 (s.e. =

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<sup>9</sup> These are derived by estimating equation 2 separately for natives and immigrants.

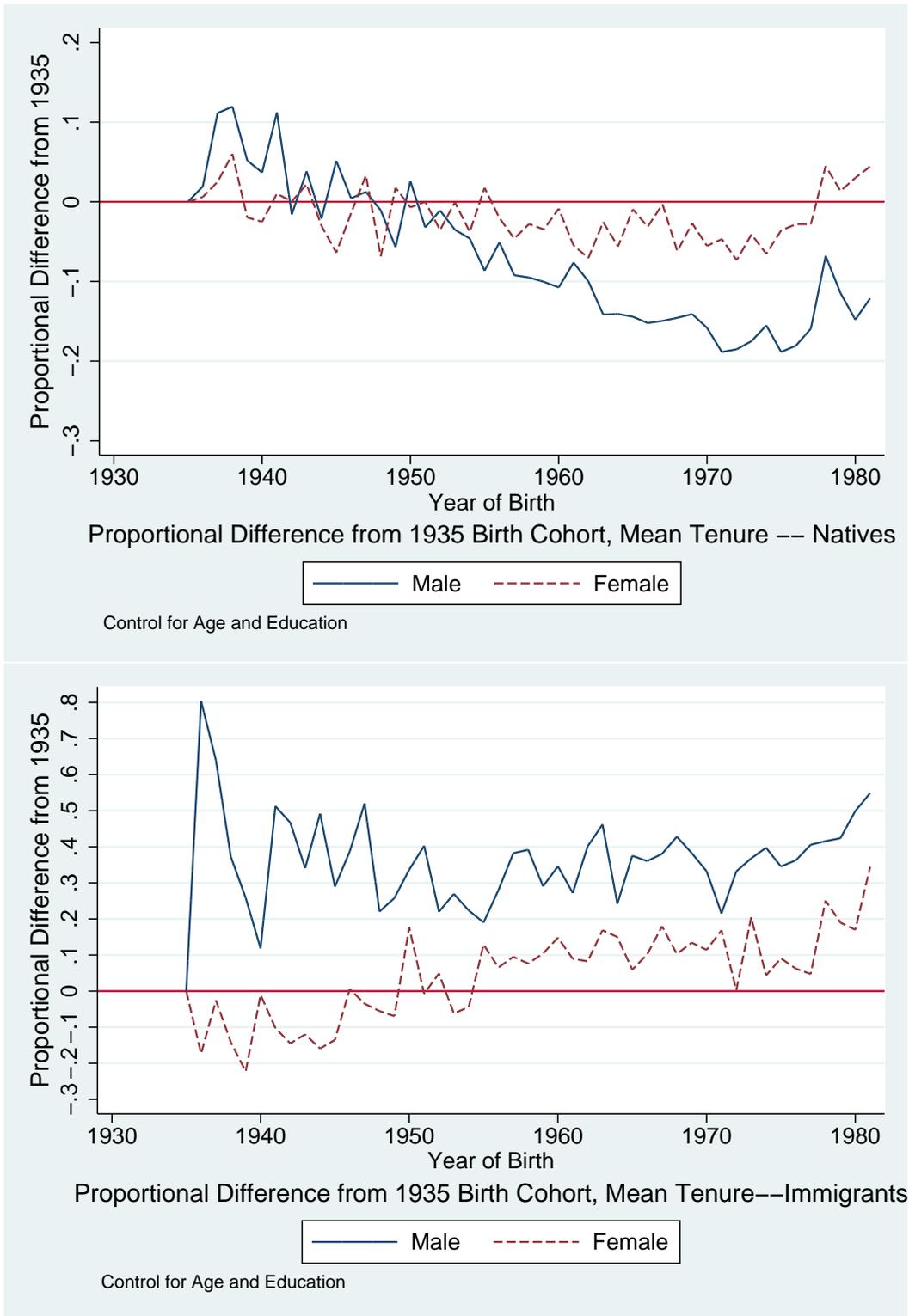


Figure 5: Proportional Difference from 1935 Birth Cohort, Mean Tenure, Controlling for Age and Education: Native Born and Immigrants.

0.009) for females. The proportional differences relative to the 1935 birth cohort from a base model without the immigrant variable (equation 2) are plotted in the top panel of figure 6. The bottom panel of this figure contains the proportional differences in mean tenure from the model with the immigrant variable (equation 3).

The base model shows a 20 percent decline in age-specific tenure for male workers between the 1935 and early-1970s birth cohorts. When immigrant status is controlled for, the decline in tenure for males between these birth cohorts is 16 percent. A similar pattern emerges for females, with a decline of about 8 percent without a control for immigrant status and a decline of about 6 percent with a control for immigrant status. Overall, it appears that about 20 to 25 percent of the decline in age-specific tenure between the 1935 and early-1970s birth cohorts is due to an increase in immigration.

A remaining problem is that immigration status is not observable prior to 1995 so that this analysis does not use information on the 21 birth cohorts between 1914 and 1934. However, immigrant status is strongly correlated with race and Hispanic ethnicity, which is observed in all years. Table 2 contains the immigrant proportion by race and Hispanic ethnicity for the 1995-2005 CPS data. The overall immigrant proportion of workers rose from 9.5 percent in 1995 to 14.7 percent in 2006. These immigrants are highly concentrated among nonwhites and Hispanics. Only 3.6 percent of white non-Hispanics are immigrants, while over fifty percent of Hispanics (white and nonwhite) are immigrants.<sup>10</sup> Additionally, a growing fraction of nonwhite non-Hispanics are immigrants, rising from 18.7 percent in 1995 to 28.2 percent in 2006. The rising overall immigrant share over this period is reflected in the growing share of Hispanics and nonwhites in the labor force. The Hispanic share of employment in my sample increased from 9.0 percent in 1995 to 13.4 percent in 2006 and the nonwhite share of employment increased from 15.2 percent to 17.2 percent over the same period.

In order to account, at least partly, for the role of increased immigration in the decline in tenure, I estimate age-specific proportional differences in mean tenure relative to the 1914 birth cohort using the 1973-2006 sample for the 1914-1981 birth cohorts controlling for race and ethnicity as well as age and education. I derive the birth cohort effects by estimating

$$\ln(T_{ijk}) = \alpha_1 NW_i + \alpha_2 H_i + ED_i \gamma + C_j + A_k + \epsilon_{ijk}, \quad (4)$$

where  $NW_i$  is an indicator for nonwhite and  $H_i$  is an indicator for Hispanic ethnicity.

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<sup>10</sup> The rather sharp drop in the immigrant proportion among nonwhite Hispanics is due to the change in the race identification coding in the CPS in 2004.

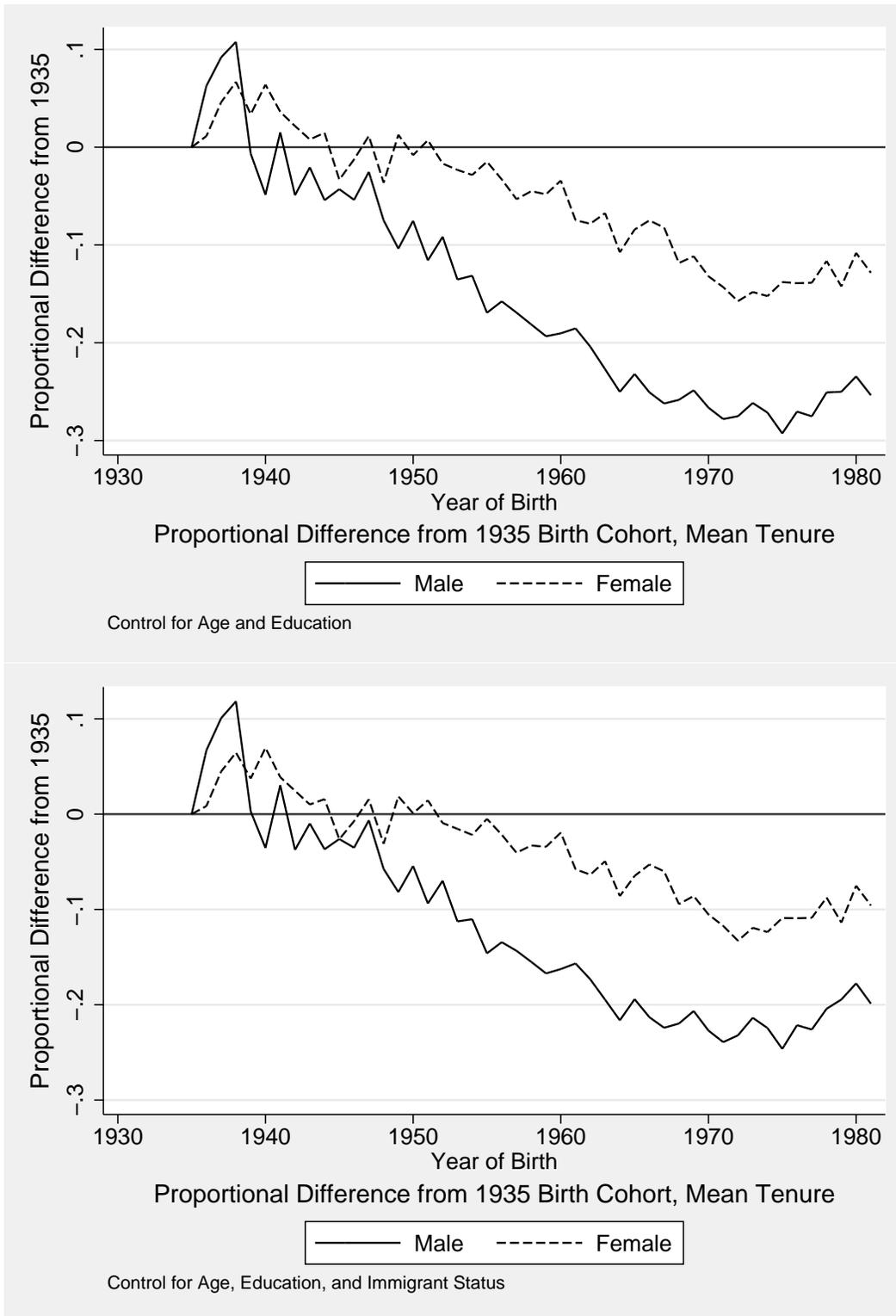


Figure 6: Proportional Difference from 1935 Birth Cohort, Mean Tenure. Controlling for Age and Education. (Immigrant Status Controlled in Bottom Panel).

Table 2: Proportion Immigrants by Race and Hispanic Ethnicity, 1995-2006

Year	All	White	Nonwhite	All	White	Nonwhite
		NonHisp	NonHisp	Hisp	Hisp	Hisp
1995	0.095	0.030	0.187	0.506	0.509	0.492
1996	0.100	0.032	0.226	0.494	0.493	0.510
1997	0.109	0.032	0.232	0.516	0.518	0.484
1998	0.117	0.035	0.240	0.517	0.516	0.526
1999	0.111	0.033	0.222	0.495	0.498	0.448
2000	0.121	0.038	0.239	0.517	0.514	0.585
2001	0.129	0.039	0.261	0.522	0.520	0.557
2002	0.130	0.040	0.270	0.528	0.527	0.543
2004	0.142	0.042	0.280	0.531	0.538	0.439
2005	0.141	0.037	0.275	0.538	0.545	0.439
2006	0.147	0.039	0.282	0.550	0.556	0.469
All	0.122	0.036	0.249	0.521	0.524	0.491

Note: Based on data for not self employed workers 20-64 years of age from 11 CPSs covering the period from 1995 to 2006. Weighted by CPS final sample weights. N=467,399.

Figure 7 contains separate plots for males and females of the proportional differences from the 1914 birth cohort in mean tenure based on equation 4. The estimated differences for males show a decline in age-specific tenure of about 38 percent between the 1914 and 1975 birth cohorts. This contrasts with an estimated decline over the same period of about 50 percent when there are no controls for race and Hispanic ethnicity (figure 4). Thus, about 25 percent of the decline in age-specific average tenure is related to changes in racial and ethnic composition. Age-specific average tenure for females, estimated when race and ethnicity are accounted for in figure 7, peaks for cohorts born in the late 1950s and declines about by 12 percent by the mid-1970s. This is similar to the decline over the same period of about 14 percent when there are no controls for race and ethnicity (figure 4).

It is clear from the analysis in this sub-section that age-specific mean tenure has declined dramatically over time and that only one quarter of this decline can be accounted for by the sharp growth in immigrants in the labor market. This decline is concentrated among men and is less apparent among women, where labor supply considerations are more important.

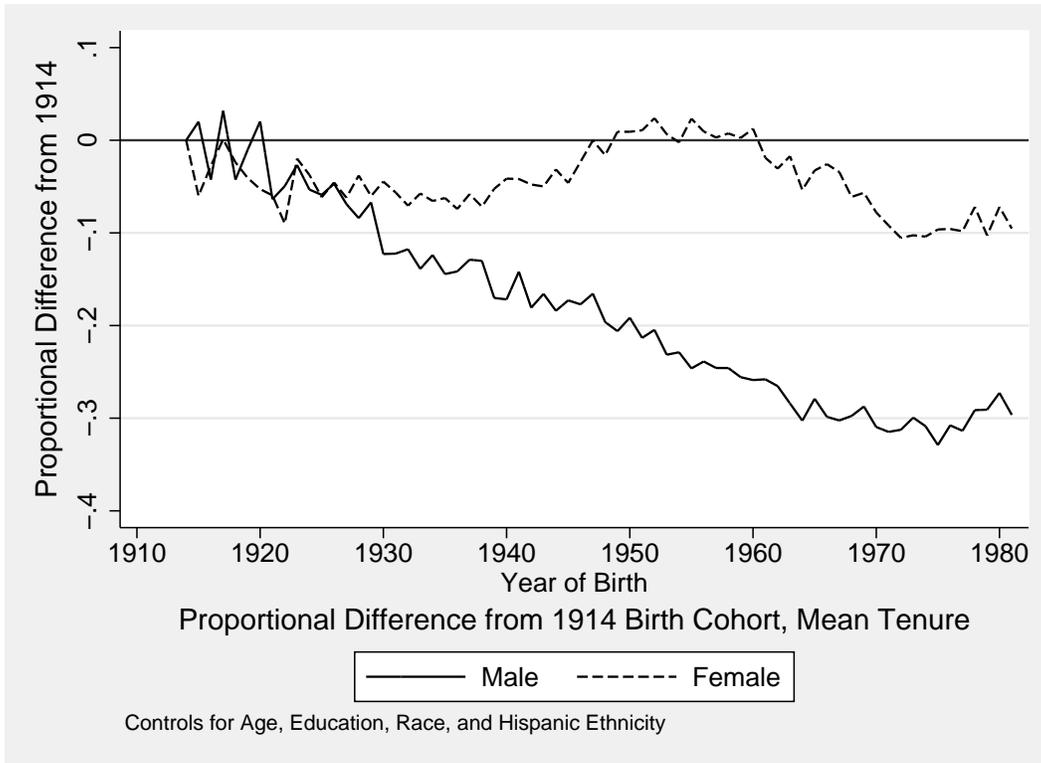


Figure 7: Proportional Difference from 1914 Birth Cohort, Mean Tenure. Controlling for Age, Education, Race, and Hispanic Ethnicity.

## 4.2 Long-Term Employment

Long-term employment is common in the U.S. Labor Market. In this analysis I consider two measures of long-term employment:

- the fraction of workers aged 35-64 who have been with their employer at least ten years (the “10-year rate”), and
- the fraction of workers aged 45-64 who have been with their employer at least twenty years (the “20-year rate”).

Figure 8 contains plots of these two measures over the 1973-2006 period for men and women. It is clear that the incidence of long term employment has declined dramatically for men, with the 10-year rate falling from about 50 percent to less than 40 percent and the 20-year rate falling from about 35 percent to less than 25 percent between 1973 and 2006. In contrast the incidence of long-term employment increased among women, with the 10-year rate increasing from about 30 percent to about 34 percent and the 20-year rate increasing

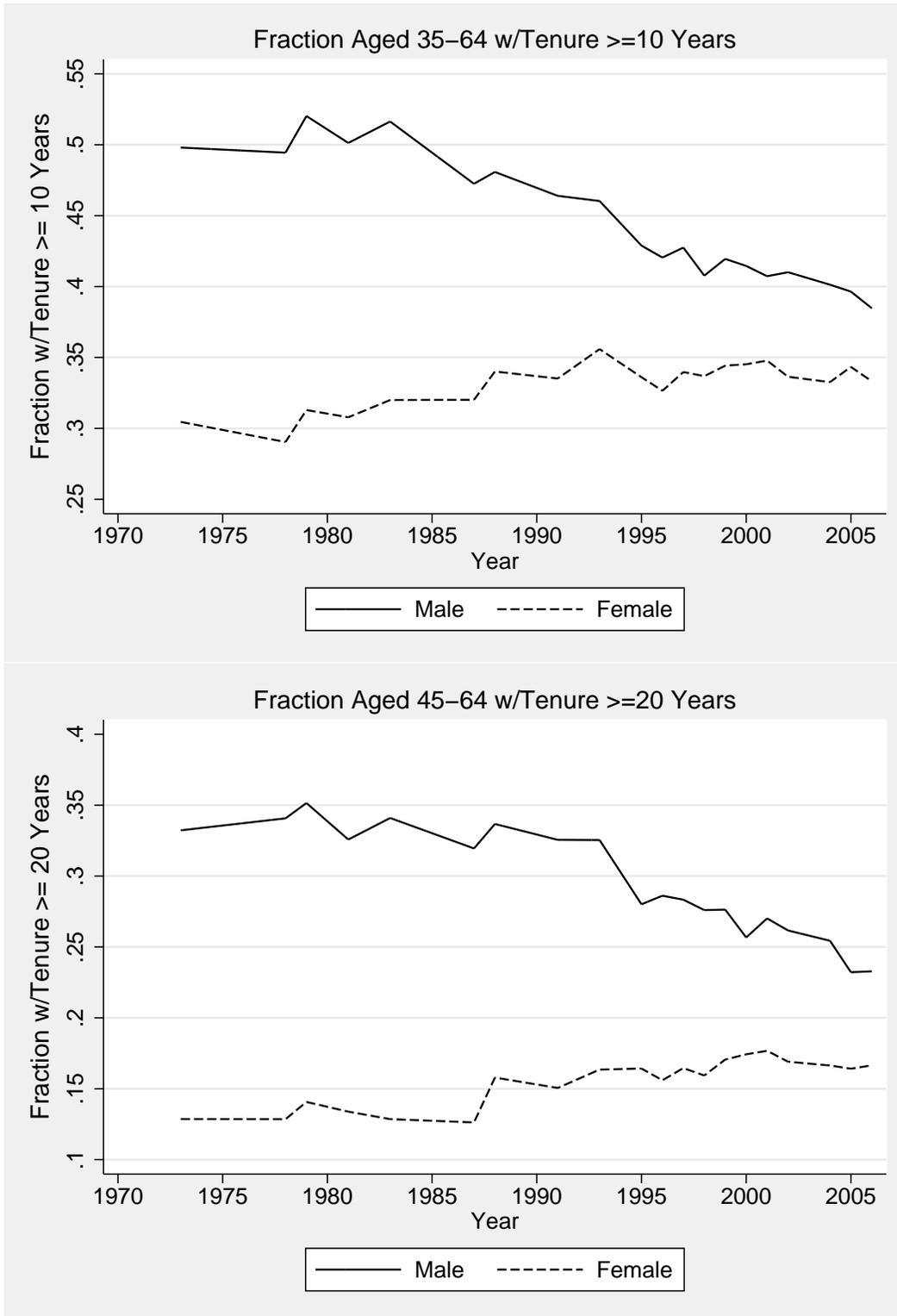


Figure 8: Fraction of Workers in Long Term Jobs, by Year.

from about 13 percent to about 17 percent between 1973 and 2006.

Because these measures are sensitive to the age distribution and other observable characteristics, I estimate age-specific birth-cohort effects using the same approach I used for means. I estimate linear probability models using the same specification of explanatory variables (birth cohort, age, education, race, Hispanic ethnicity) in equation 4, and I report the estimated birth cohort effects from this analysis in figure 9.

The top panel of figure 9 contains separate plots for males and females of the birth cohort effects (1914=0) for the 10-year rate. The age-specific probability that a male worker has been with his employer for at least ten years fell dramatically by 20 percentage points between the 1914 and 1966 birth cohorts.<sup>11</sup> The age-specific probability that a female worker has been with her employer for at least ten years was constant between the 1914 and the mid-1940s birth cohorts and then increased slightly between the mid-1940s and late 1950s cohorts before declining to its original level.

The bottom panel of figure 9 contains separate plots for males and females of the birth cohort effects (1914=0) for the 20-year rate. The age-specific probability that a male worker has been with his employer for at least twenty years fell sharply by about 12 percentage points between the 1914 and 1955 birth cohorts.<sup>12</sup> The age-specific probability that a female worker has been with her employer for at least twenty years was fairly steady between 1920 mid-1930s birth cohorts before rising through the 1950 cohort.

Taken together, the analysis of the change in mean tenure across cohorts and the analysis of the changes in average tenure (figure 7) and in the likelihood of long-term employment (9) across cohorts shows clearly that average tenure has declined and long-term employment has become much less common for males. Among females, average tenure increased slightly from the 1920s cohorts through the 1950s cohorts before declining among later cohorts. The likelihood of long-term employment for females grew slowly between the 1920s cohorts and the 1950s cohorts as well.

This difference in patterns between males and females reflects the common factors reducing tenure for all workers offset for females by their dramatically increased commitment to the labor force over the past half century. As that increase in commitment among women has slowed down average tenure and the incidence long-term employment among women

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<sup>11</sup> I do not include workers born after 1966 because they have not been observed in my sample over a five year period when at least 35 years of age.

<sup>12</sup> I do not include workers born after 1956 because they have not been observed in my sample over a five year period when at least 45 years of age.

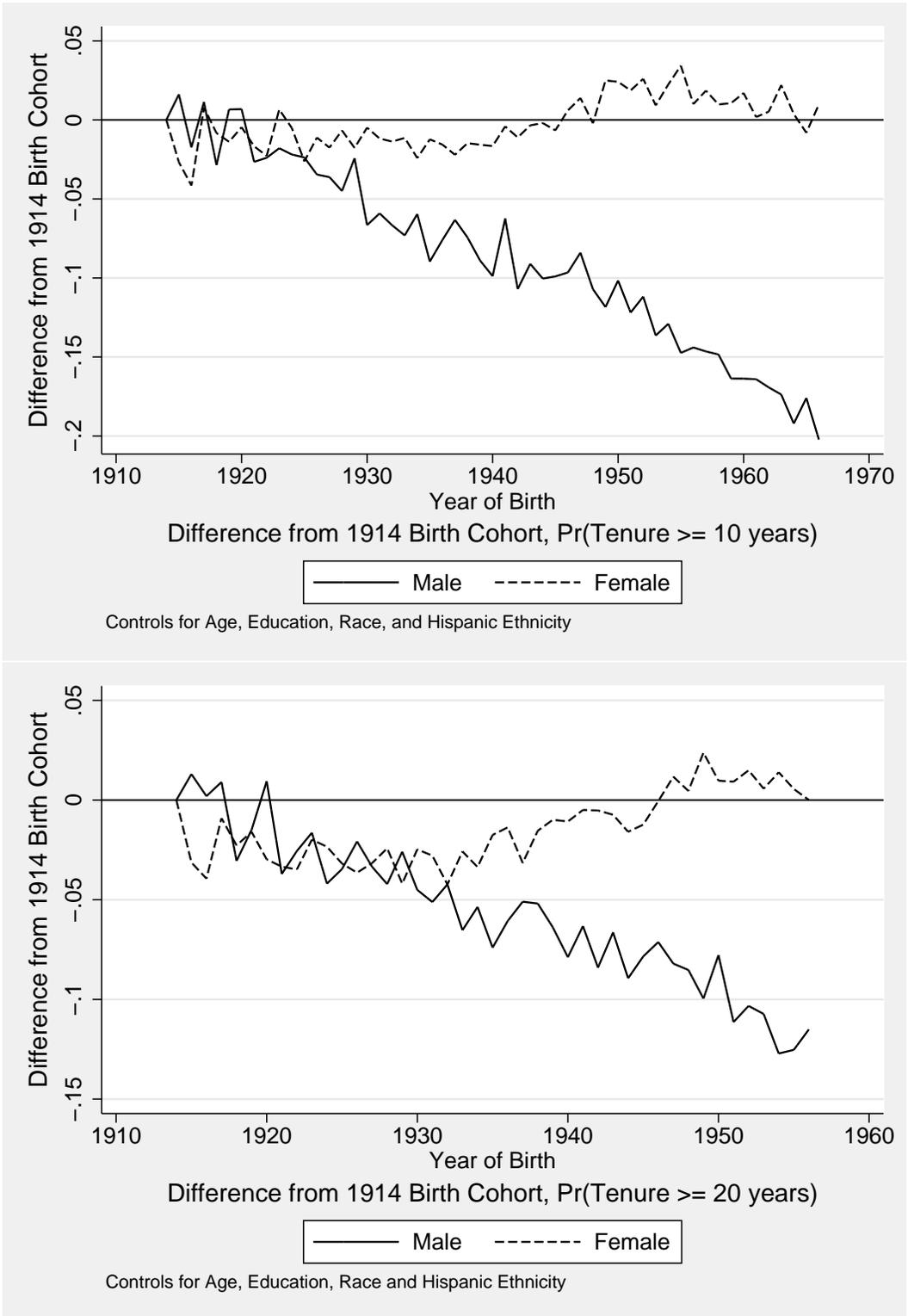


Figure 9: Proportional Difference from 1914 Birth Cohort,  $Pr(T \geq 10)$  and  $Pr(T \geq 20)$  by Birth Year. Controlling for Age, Education, Race, and Hispanic Ethnicity.

have begun to decline.

A key conclusion is that the structure of employment in the United States appears to have become less oriented toward long-term jobs. It appears that young workers today will be less likely than their parents to have a “life-time” job.

## 5 Churning: Are There More Very Short Jobs?

The opposite but related pole of the job tenure distribution is short-term jobs. Farber (1994, 1999) presents evidence that half of all new jobs (worker-employer matches) end within the first year. As I show below, a substantial fraction (around 20 percent) of all jobs have current tenure less than one year (“new jobs”). Not surprisingly, young workers are more likely than older workers to be in new jobs. High rates of job change among young workers are a natural result of search for a good job or a good match.<sup>13</sup>

Table 3 contains the new-job rate by ten-year age group for males and females. This illustrates the sharp decline in the new-job rate as workers age through their twenties especially and into their thirties. The new-job rate is slightly higher for females in all age groups, but the general pattern is the same as that for males.

Table 3: New Job Rate, by Sex, 1973-2005

Age	All	Male	Female
Age 20-29	0.349	0.335	0.365
Age 30-39	0.181	0.162	0.205
Age 40-49	0.124	0.111	0.139
Age 50-59	0.090	0.084	0.097
Age 60-64	0.077	0.075	0.079
All	0.191	0.176	0.206

Note: Based on data for not self employed workers 20-64 years of age from 19 CPSs covering the period from 1973 to 2006. Weighted by CPS final sample weights. N=876,063.

This contrast by age raises two interesting questions regarding the decline in mean tenure and long term employment and how this decline is related to the rate of “churning” in the labor market:

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<sup>13</sup> Burdett (1978) presents a model of job search with this implication. Jovanovic (1979) presents model of matching in the labor market with the same implication.

1. Are young workers taking longer to find good (long-lasting) matches or jobs? This would imply an increase in the new-job rate among younger workers.
2. Are older workers having more difficulty finding good matches when they lose jobs that may formerly have been “lifetime” jobs? This would imply an increase in the new-job rate among older workers.

In order to investigate how the new-job rate has changed over time, I estimate age-specific birth-cohort effects using the same approach I used for means and for the probability of long-term employment. I estimate linear probability models of the probability of being in a new job using the same specification of explanatory variables (birth cohort, age, education, race, Hispanic ethnicity) in equation 4.

Figure 10 contains separate plots for males and females of the difference by birth cohort in the new-job rate relative to the 1914 birth cohort. The age-specific probability that a male worker has been with his employer for less than one year increased by about 6 percentage points between the 1914 and 1970 birth cohorts. The age-specific probability that a female worker has been with her employer for less than one year was constant between the 1914

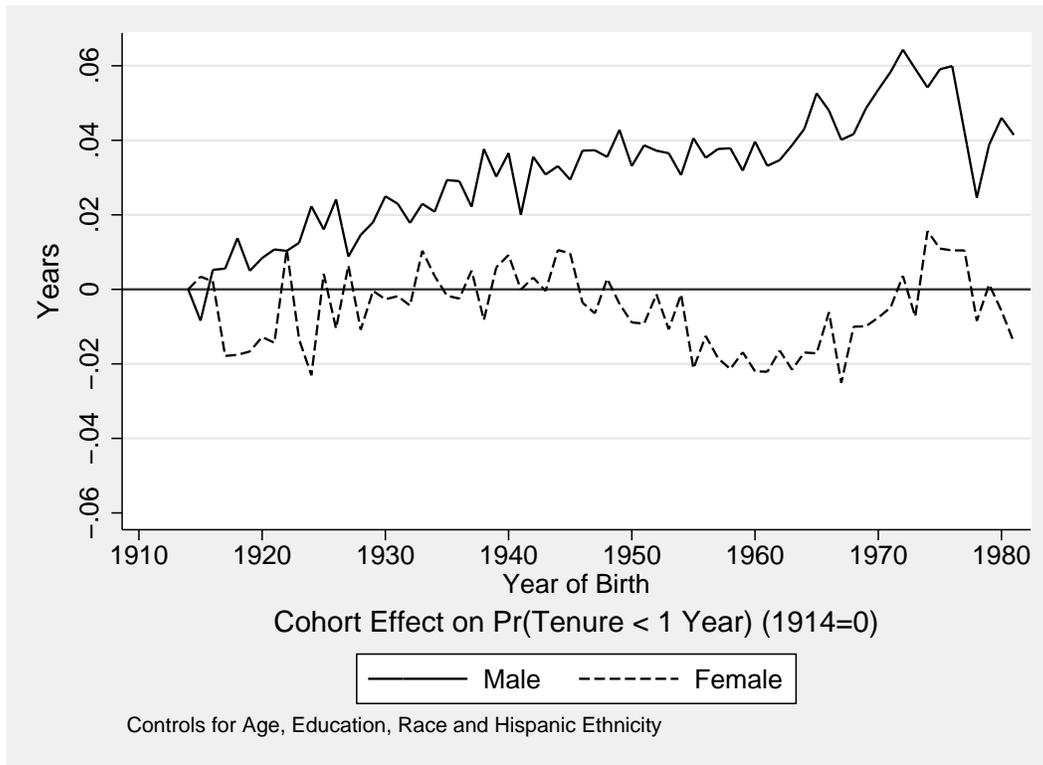


Figure 10: Cohort Effects on  $Pr(T < 1)$  by Birth Year

and 1940 birth cohorts and then fell by about 2.5 percentage points by the 1960 birth cohort before returning to its original level. These patterns mirror those found for mean tenure and for long-term employment.

An implicit constraint in my model is that cohort effects are constant across age groups. Given the role that job change plays in matching and job search early in careers, I estimate separate birth cohort effects for different age groups. The top panel of figure 11 contains differences by birth cohort in the new-job rate relative to the 1949 birth cohort estimated using a sample of workers aged 20-29.<sup>14</sup> These estimates, which are very similar for males and females, show a sharp *decline* between the 1949 and 1960 cohorts followed by an increase through the early 1970s cohorts again followed by a decline.

The bottom panel of figure 11 contains differences by birth cohort in the new-job rate relative to the 1939 birth cohort estimated using a sample of workers aged 30-39.<sup>15</sup> These estimated cohort effects differ substantially from those for workers in their twenties. There is an increase of about 3 percent in the new job rate for males, and decrease of over 4 percent for females between the 1939 and 1970 birth cohorts. The pattern for males is consistent with the hypothesis that men are job shopping in their twenties but have become less likely to settle into longer-term jobs in their thirties. The pattern for females likely reflects an increase in commitment to the labor force by women as they enter their thirties.

Given that older workers are less likely to be in long-term jobs, I next investigate how the new-job rate has changed for workers aged 40 and older. The top panel of figure 12 contains differences by birth cohort in the new-job rate relative to the 1929 birth cohort estimated using a sample of workers aged 40-49.<sup>16</sup> The bottom panel of this figure contains differences by birth cohort in the new-job rate relative to the 1914 birth cohort using a sample of workers aged estimated using a sample of workers aged 50-64.<sup>17</sup> Both plots show an increase in the probability of being on a new job for males. The magnitude of the increase (about 2 percentage points) is substantial when compared to the overall mean new job rates for older men in table 3. The new job rate for women in their forties or older shows no consistent pattern.

The overall pattern over time with regard to the age-specific new-job rate is a general

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<sup>14</sup> The sample includes birth cohorts between 1949 and 1980

<sup>15</sup> This sample includes birth cohorts between 1939 and 1970.

<sup>16</sup> This sample includes birth cohorts between 1929 and 1960

<sup>17</sup> This sample includes birth cohorts between 1914 and 1950

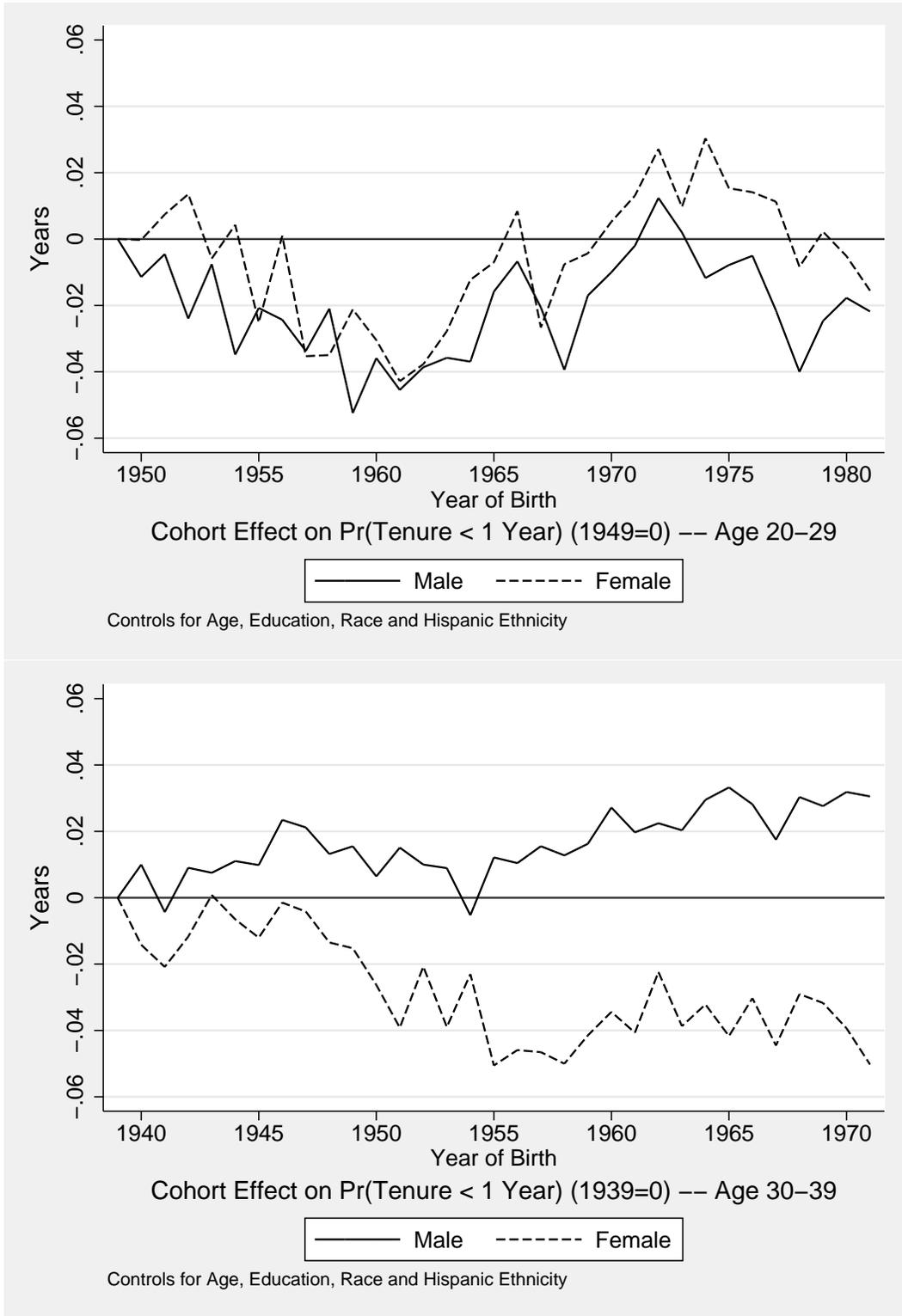


Figure 11: Cohort Effects on  $Pr(T < 1)$  by Birth Year (Age 20-29 and 30-39)

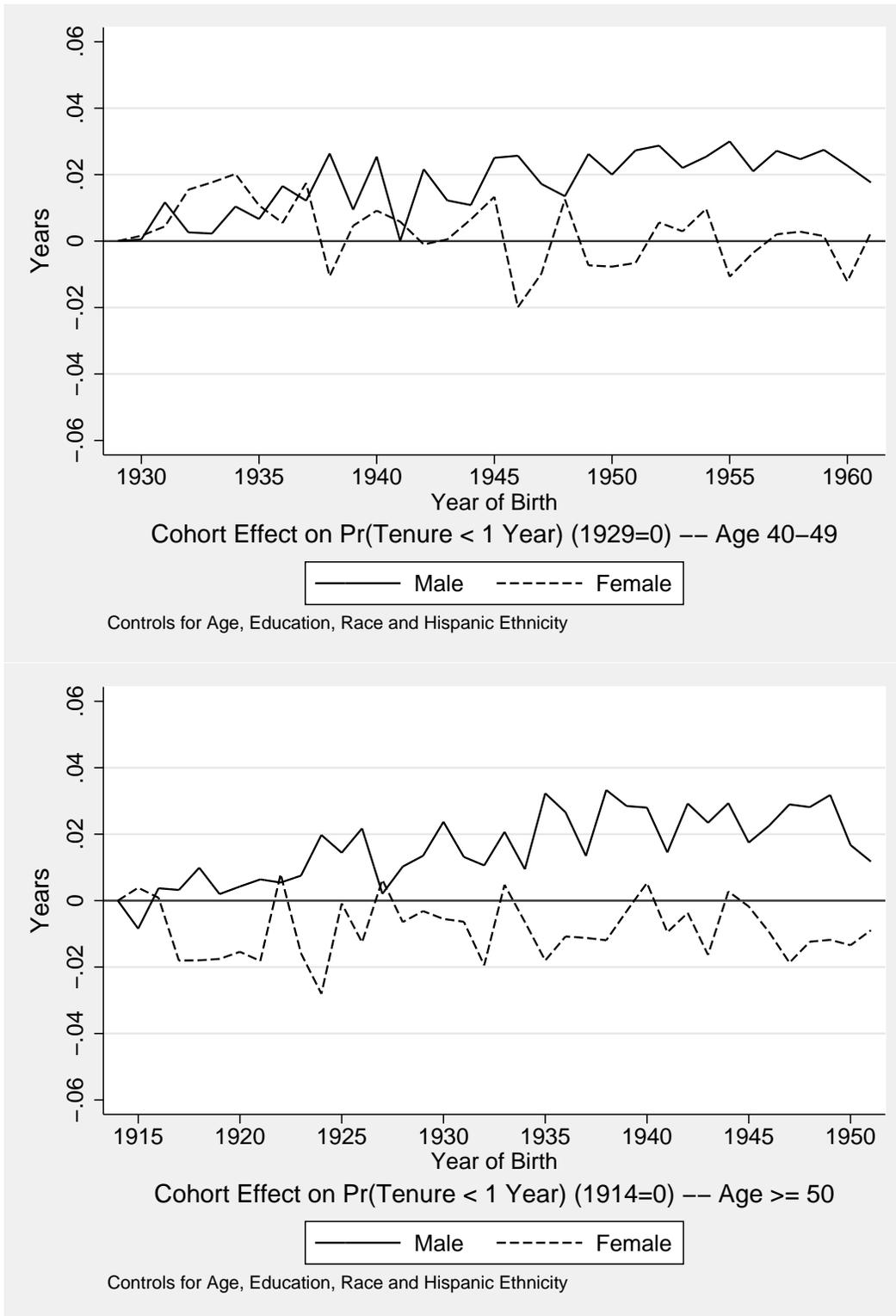


Figure 12: Cohort Effects on  $Pr(T < 1)$  by Birth Year (Age 40-49 and 50-64)

increase over time for men aged 30 and older. Part of this reflects an extension of the period of “job-shopping” early in careers and part reflects increased probabilities of jobs ending later in careers. There is not much change over time in the age-specific new-job rate for women aside from a substantial decline for women in their thirties, likely reflecting a reduced likelihood of withdrawing from the labor force at that age.

## 6 Concluding Remarks

Long-term employment relationships in the United States, while not a thing of the past, are not as dominant as they once were. Males 35-64 in recent birth cohorts (circa 1965) are almost 20 percentage points less likely to be in ten-year jobs as males in the same age range born circa 1920. Similarly, males 45-64 in recent birth cohorts (circa 1955) are about 12 percentage points less likely to be in twenty-year jobs as males in the same age range born circa 1920.

Further analysis of churning in the labor market as reflected in the new-job rate (the fraction of jobs with tenure less than one year) indicates that there has consistently been a high level of turnover for young workers (less than 30 years of age), both male and female. However, as these workers age into their thirties, it appears that males have become less likely to settle into longer-term jobs as reflected by an increase in the new-job rate for males in their thirties since the 1955 birth cohort. In contrast females in their thirties have become more likely to stay in their jobs.

The decline in all measures of tenure and long-term employment for males more accurately reflects the changing nature of the employment relationship than does the less obvious pattern for females. This is because changes in the distribution of tenure for women is a mix of common (by sex) changes in the structure of employment relationships and changes in labor supply decisions over time that are specific to females. On this basis, I conclude that the nature of the employment relationship in the United States has changed substantially in ways that make jobs less secure and workers more mobile.

The reasons for the changes in the structure of jobs that has yielded these changes are unclear and beg further research. One possibility is that the move away from long-term employment relationships reflects less demand by employers for a stable labor force, perhaps due to increased competitive pressure. What is clear is that young workers today should not look forward to the same type of career with one firm experienced by their parents.

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## Appendix: The CPS Data on Employer Tenure

At irregular intervals, the Census Bureau has appended mobility supplements to the January or February Current Population Surveys. The years in which they did so include 1951, 1963, 1966, 1968, 1973, 1978, 1981, 1983, 1987, 1991, and in even years from 1996-2006. These supplements contain information on how long workers have been continuously employed by their current employer, and they are asked of all eight CPS rotation groups. However, only the supplements since 1973 are available in machine-readable form. Information on job durations is also available in pension and benefit supplements to the CPS in May of 1979, 1981, 1983, and 1988, and in April 1993. These supplements contain information on how long workers have been working for their current employer, and they are asked of four of the eight CPS rotation groups. Finally, information on job durations is available in the continuous and alternative employment arrangement supplements (CAEAS) to the CPS in February of 1995, 1997, 1999, 2001, and 2005. In total there are 21 CPS supplements with information on employer tenure available in machine readable form over the period from 1973 to 2006, and my analysis relies on these data.

A question of comparability of the data over time that must be kept in mind when interpreting the results arises because of a significant change in the wording of the central question about job duration. The early mobility supplements (1951-1981) asked workers what year they started working for their current employer. In later mobility supplements (1983-2006), in all of the pension and benefit supplements (1979-1993), and in all of the CAEAS supplements (1995-2005) workers were asked how many years they worked for their current employer. If the respondents were perfectly literal and accurate in their responses (a strong and unreasonable assumption), then these two questions would yield identical information (up to the error due to the fact that calendar years may not be perfectly aligned with the count of years since the worker started with his/her current employer). But responses are not completely accurate, and this is best illustrated by the heaping of responses at round numbers. The empirical distribution function has spikes at five-year intervals, and there are even larger spikes at ten-year intervals. In the early question, the spikes occur at round calendar years (1960, 1965, etc.). Later, the spikes occur at round counts of years (5, 10, 15, etc.).

There are also subtle but potentially important changes in wording of the key questions even within these surveys. All of the mobility supplements since 1983 ask individuals how long they have worked *continuously* (italics added) for their current employer. However, neither the pension and benefit supplements nor the CAEAS include the word “continuously”. The May 1979 and 1983 pension and benefit supplements ask individuals how long they have worked for their current employer and specify that if there was an interruption greater than one year to count only the time since the interruption. The May 1988 and

April 1993 supplements and the CAEAS ask individuals how long they have worked for their current employer without any reference to interruptions or continuity. Thus, it might be the case that the mobility supplements would yield shorter tenures than the pension and benefit supplements and the CAEAS due to the requirement of continuity in the former. And it might be the case that the early two pension and benefit supplements would yield shorter durations than the later two pension and benefit supplements due to the consideration of long interruptions given in the early supplements. I make no explicit allowance for these differences in my analysis, but they should be kept in mind when interpreting the results.

With the exception of jobs of less than one year, all of the supplements before the February 1996 mobility supplement collect data on job duration in integer form reporting the number of years employed. For jobs of less than one year, the mobility supplements report the number of months employed while the pension and benefit supplements report only the fact that the job was less than one year old. The February 1996 and later mobility supplement ask workers how long they have worked continuously for their current employer and accepts a numerical response where the worker specifies the time units. The 1995-2005 CAEAS ask workers how long they have worked for their current employer and accepts a numerical response where the worker specifies the time units. Virtually all workers in jobs even five years old and all workers in jobs 10 years old or longer, report job durations in years.

One reasonable interpretation of the integer report of the number of years is that workers round to the nearest integer when they report jobs of duration of at least one year.<sup>18</sup> For example, a response of 10 years would imply tenure greater than or equal to 9.5 years and less than 10.5 years. In order to create a smooth tenure variable, I assume that the distribution of job tenure is uniform in these one-year intervals. Given a reported tenure of  $T$  years, I replace  $T$  by  $T - 0.5 + u$  where  $u$  is a random variable distributed uniformly on the unit interval.<sup>19</sup>

My sample consists of 876,063 not self employed workers aged 20-64 from the 21 CPS supplements covering the period from 1973 to 2006. The self-employed are not included because the concept of employer tenure is less clear for the self-employed, and, in any case, the CPS supplements do not contain consistent information on tenure for the self-employed.

I classify workers by year of birth, and I limit my analysis to birth cohorts for which the

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<sup>18</sup> This ignores the heaping of the tenure distribution at multiples of five and ten years.

<sup>19</sup> Where reported tenure is zero years, I assume that tenure is uniformly distributed between zero and one and define tenure as  $u$ . Given that jobs are more likely to end earlier in the first year than later in the first year, this is not completely accurate (Farber, 1994). However, the measures used in my analysis will not be affected by this representation. Where reported tenure is exactly one year, I assume that true tenure is uniformly distributed between 1 and 1.5 and define tenure as  $1 + u/2$ .

Table 4: Distribution of Age by Birth Cohort

Birth Decade	N	Mean	SD	MIN	MAX
1914-19	12016	59.32	3.18	54	64
1920-29	50797	54.74	4.90	44	64
1930-39	85342	50.51	7.85	34	64
1940-49	177966	44.86	9.89	24	64
1950-59	246830	37.85	9.43	20	56
1960-69	181172	32.91	6.53	20	46
1970-80	108593	26.44	4.05	20	36
All	862716	39.28	11.42	20	64

Note: Based on data for not self employed workers 20-64 years of age from 20 CPSs covering the period from 1973 to 2005. Weighted by CPS final sample weights.

earliest and latest observations are at least five calendar years apart. As a result, my sample includes workers born between 1914 and 1981.<sup>20</sup> The resulting sample contains 862,716 not self employed workers aged 20-64 born between 1914 and 1981 from the 21 CPS supplements covering the period from 1973 to 2006.

In order to summarize these data, I classify workers by decade of birth, classifying workers born in 1980 and 1981 (aged 26 and 25 respectively in 2006, the last sampled year) as belonging to the 1970s birth cohort. My analysis sample includes workers born in the seven decades from the 1910s through the 1970s. Table 4 contains summary statistics on age by decade of birth. The earliest birth cohorts have predominantly older workers and the more recent birth cohorts have predominantly younger workers. No single birth cohort covers the entire age spectrum.

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<sup>20</sup> Workers born in the 1909-1913 period were sampled in 1973 but in no other years. Workers born between 1982 and 1986 were sampled in different CPSs between 2002 and 2006, but none five years apart. Elimination of workers in these birth cohorts results in the elimination of 2894 individuals born between 1909 and 1913 (0.33 percent of the overall sample) and 10453 individuals born between 1981 and 1985 (1.19 percent of the overall sample). Individuals from the early cohorts who were eliminated are ages 60-64 at the time of sampling. Individuals from the late cohorts who were eliminated are ages 20-24 at the time of sampling.