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Labor Market Adjustment to Globalization:
Long-Term Employment in the United States and Japan¹

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Abstract

The increasing globalization of production and trade in the last 25 years has required substantial adjustment of employment relationships in the United States and Japan. Worker attachment to firms has always been lower in the U.S. than in Japan, and this is reflected in a difference in institutions. As both the U.S. and Japan have been faced with similar global competitive pressures, firms in the two countries have responded in ways that are consistent with their histories, institutions, and demographics. Firms in the United States have laid off workers, even those in long-term primary jobs. Firms in Japan have taken the approach of reassigning workers to other, perhaps lesser, jobs, seconding workers to other firms, and making more use of part-time and secondary jobs. The result of this difference in strategies is that the Japanese-U.S. gap in worker attachment to firms has widened, particularly for males. Interestingly, the Japanese labor market has made increased use of part-time and other non-standard workers, particularly for females, to an extent not seen in the United States

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1 Introduction

The increasing globalization of production and trade in the last 25 years has required substantial adjustment of employment relationships in the United States and Japan. In the U.S., this resulted in a wave of corporate restructuring and “downsizing” in the 1980s that continues today. These events cost many workers their jobs, and these job losers bore substantial costs in the form of non-employment and lower earnings among the re-employed (Farber 2005). At the same time, employment in the United States has grown steadily. Civilian employment in the U.S. was 106.2 million in 1984 and rose to 142.8 million in 2005.¹ Thus, more than 35 million jobs have been created on net in the past 21 years, for an average rate of employment growth of 1.4 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.² This has led to the view that, as high-quality manufacturing jobs are lost, perhaps 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 employment relationships in the U.S. is changing from one based on long-term full-time employment to one based on more short-term and casual employment. There has been concern that employers are moving toward greater reliance on temporary workers, on subcontractors, and on part-time workers.³ 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 general concern arises from the belief that these changes result in lower quality

¹ These statistics are taken from U.S. Bureau of Labor Statistics Series ID LNS12000000. This is the civilian employment level derived from the Current Population Survey for workers aged 16 and older.

² The manufacturing share of employment has been falling for over fifty years. Manufacturing’s share was 33.8 percent in 1950 and fell to 10.9 percent in 2004, 31.0 percent in 1960, 23.4 percent in 1970, and 15.8 percent in 1980. (President’s Council of Economic Advisers, 1996, Table B-42; President’s Council of Economic Advisers, 2005, Table B-45.

³ In fact, there is relatively little evidence that the incidence of these alternative employment relationships have increased greatly in the U.S. See XXXX.

(lower paying and less secure) jobs for the average worker.

There are similarities and differences between between the Japanese The 1990s saw a collapse in Japanese asset prices and slower economic growth. An interesting question is how the Japanese labor market adjusted in response to these pressures. In contrast to the United States, the employment growth generally has been much slower in Japan. Employment in Japan increased from 57.7 million in 1984 to 63.6 million in 2005, for an average rate of employment growth of 0.45 percent per year (OECD). This difference in employment growth rates reflects in part the much lower population growth rate in Japan. This is a result of two factors. First, Japanese birth rate is lower than the U.S. Birth rate. In XXXX, the Japanese birth rate was XX percent while the U.S. birth rate YY percent. Second, there are differences in the role of immigration in the two countries. The U.S., while far from completely open to immigration, has experienced substantial and increasing immigration in recent years. The foreign-born accounted for 7.9 percent of the U.S. population in 1990 and 11.1 percent of the U.S. population in 2000. (U.S. Census, 2003). In contrast, immigration is much lower in Japan. As of the end of 2000, registered immigrants accounted for only 1.3 percent of the total Japanese population (Kashiwazaki, 2002).

Rebick (2005) presents a detailed examination of how the Japanese labor market is adjusting in many dimensions to new global economic realities, and I do not attempt to match the breadth of his analysis. Given my earlier work on long-term employment in the U.S. (e.g., Farber 2006), I do try, in this more limited dimension, to provide some perspective on how employment relationships in the United States and Japan have adjusted to the changing world economy. Indeed, the role of “life-time jobs” has been highlighted as an important institutional, economic, and even cultural difference between the two countries, and it is worthwhile to understand the degree to which this difference is real and the extent to which these relationships are changing.

My analysis begins with a detailed examination of U.S. individual-level data on job tenure from the Current Population Survey (CPS).⁴ Unfortunately, I cannot carry out a comparable analysis for Japan due to restrictions on the availability of Japanese individual-level data. However, I am able to carry out some comparisons using published tabular and aggregate data on job tenure for Japan.

The results are clear cut. There has historically been more long-term employment in Japan than in the U.S. Over the last twenty-five years, job tenure has declined in the United States while remaining stable or even increasing somewhat in Japan, increasing the “tenure gap” between the two countries. More specifically, age-specific overall mean tenure has fallen

⁴ There is a substantial literature on changes in job tenure in the U.S. See Hall (1982), Ureta (1992), Diebold, Polsky, and Neumark (1996) and Swinnerton and Wial (1995, 1996), Farber (2000), Neumark (2000), Stevens (2005), and Farber (2006).

substantially in the U.S., particularly for workers over forty years of age. These declines are sharper for men than for women, as there has been a secular increase in the attachment of women to the labor force in the U.S. There appears to be no such changes over time in measures of tenure for workers in Japan.

The Japanese economy appears to have adjusted in other ways to changes in the global economy. In particular, Japanese employers appear to be making increased use of part-time workers, especially women, while there has been no such trend in the United States.⁵

2 “Careers” in the U.S. and Japan

A characterization of the dynamics of a typical American worker’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 structure exists in the context of a strong “employment-at-will” legal doctrine which permits either workers or employers to end an employment relationship “for good cause, bad cause, or no cause at all.” While some limitations to the employment-at-will doctrine have been adopted (notably anti-discrimination laws), the doctrine is alive and well in the U.S.

This conception of a career culminating in a life-time job in the U.S. 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.

A characterization of the dynamics of a typical Japanese worker’s employment history over the course of a working life (a “career”) is roughly similar with some important differences. A Japanese worker enters the labor market after concluding schooling and quickly finds a job (relationship with an employer) that lasts until retirement. One contrast with the U.S. is that there appears to be less “job-shopping” earlier in careers so that long-term employment begins at an earlier age in Japan. Additionally, a higher fraction of Japanese workers at virtually every age appear to be in long-term employment relationships. In

⁵ Rebeck (2005, p. 114) reports that 19.3 percent of employed women in Japan worked part-time in 1980 while fully 39.7 percent worked part-time in 2002. In contrast, my tabulations of the Current Population Survey for the U.S. shows that 22.6 percent of employed women in the U.S worked part-time in 1981 while 20.9 percent worked part-time in 2002.

contrast to the strong employment-at-will doctrine in the U.S., most workers (those in “regular” jobs) in the Japanese labor market enjoy strong employment protection resulting from Japanese case labor law and company practices (Rebick, 2005).

As in the U.S., the view of the typical Japanese employment relationship as involving little mobility and “lifetime” employment has been challenged, although there has been little direct evidence supporting this view (Chuma, 1998). Rebick (2005) makes an important distinction between regular and non-regular workers. Regular workers are those on indefinite contracts and who have implicit or explicit employment protection. Non-regular workers are those on fixed-term contracts, usually less than one year. The quality of non-regular employment is generally inferior to that of regular employment. And to the extent the composition of Japanese employment has shifted from regular workers to non-regular workers, there is, as in the U.S. concern regarding a decline in the quality of jobs.

An interesting institutional contrast between Japan and the U.S. that appears to reverse the common view of the difference in the importance of lifetime jobs is in retirement policy. Mandatory retirement policies, which prevent employers from forcing workers to leave jobs at retirement age are illegal in the U.S. However, there are set retirement ages in Japanese companies that seem low in the U.S. context. While the age at retirement in many jobs in Japan has increased in the last twenty years from 50 or 55 to 60, retirement from a lifetime job in Japan typically has occurred at a lower age than in the U.S. It may be that an important factor that allows Japanese Farmer to offer “lifetime jobs” is that “job lifetimes” end at a relatively early age.

3 Trends in Long-Term Employment in the U.S.

3.1 The CPS Data on Employer Tenure

Data on how long workers have been with their current employer is available in machine-readable form in mobility supplements to the CPS in January or February of 1973, 1978, 1981, 1983, 1987, 1991, and in even years from 1996-2004. 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. 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 twenty CPS supplements with information on employer

tenure available in machine readable form over the period from 1973 to 2005, and my analysis relies on these data.⁶

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.⁷ 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.⁸

My sample consists of 826,842 not self employed workers aged 20-64 from the 20 CPS supplements covering the period from 1973 to 2005. 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.

3.2 Measuring the Change in Tenure Over Time

I organize my analysis of changes over time in the distribution of job durations by examining age-specific values of various distributional measures for different birth cohorts. I restrict my sample to workers aged 20-64, and my samples cover the period from 1973 to 2005. I classify

⁶ In Farber (2006), I describe these data and their limitations in more detail. I also present a review of the recent literature on job stability in the U.S..

⁷ This ignores the heaping of the tenure distribution at multiples of five and ten years.

⁸ 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 1: 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	172705	45.77	9.60	24	64
1950-59	234349	38.37	8.82	20	55
1960-69	167798	32.68	5.98	20	45
1970-80	91915	25.90	3.71	20	35
All	814922	38.97	11.33	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.

workers by year of birth, and I limit my analysis to birth cohorts for which the earliest and latest observations are at least five calendar years apart. As a result, my sample includes workers born between 1914 and 1980.⁹ In order to summarize these data, I classify workers by decade of birth, classifying workers born in 1980 (aged 25 in 2005, 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 1 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.

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 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

⁹ Workers born in the 1909-1913 period were sampled in 1973 but in no other years. Workers born between 1981 and 1985 were sampled in different CPSs between 2000 and 2005, but none five years apart. Elimination of workers in these birth cohorts results in the elimination of 2894 individuals born between 1909 and 1913 (0.35 percent of the overall sample) and 9026 individuals born between 1981 and 1985 (1.09 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.

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 1, there are workers aged 35 and older in my sample born in the six decades from the 1910s to the 1960s.

- 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 1, there are workers aged 45 and older in my sample born in the five decades from the 1910s to the 1950s.

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, 1998). One could compute median 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.

3.3 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.¹⁰ 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 11.9 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.¹¹ 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.¹²

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 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 almost

¹⁰ 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 1.

¹¹ 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.

¹² 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 this regression is 0.98 for both men and for women.

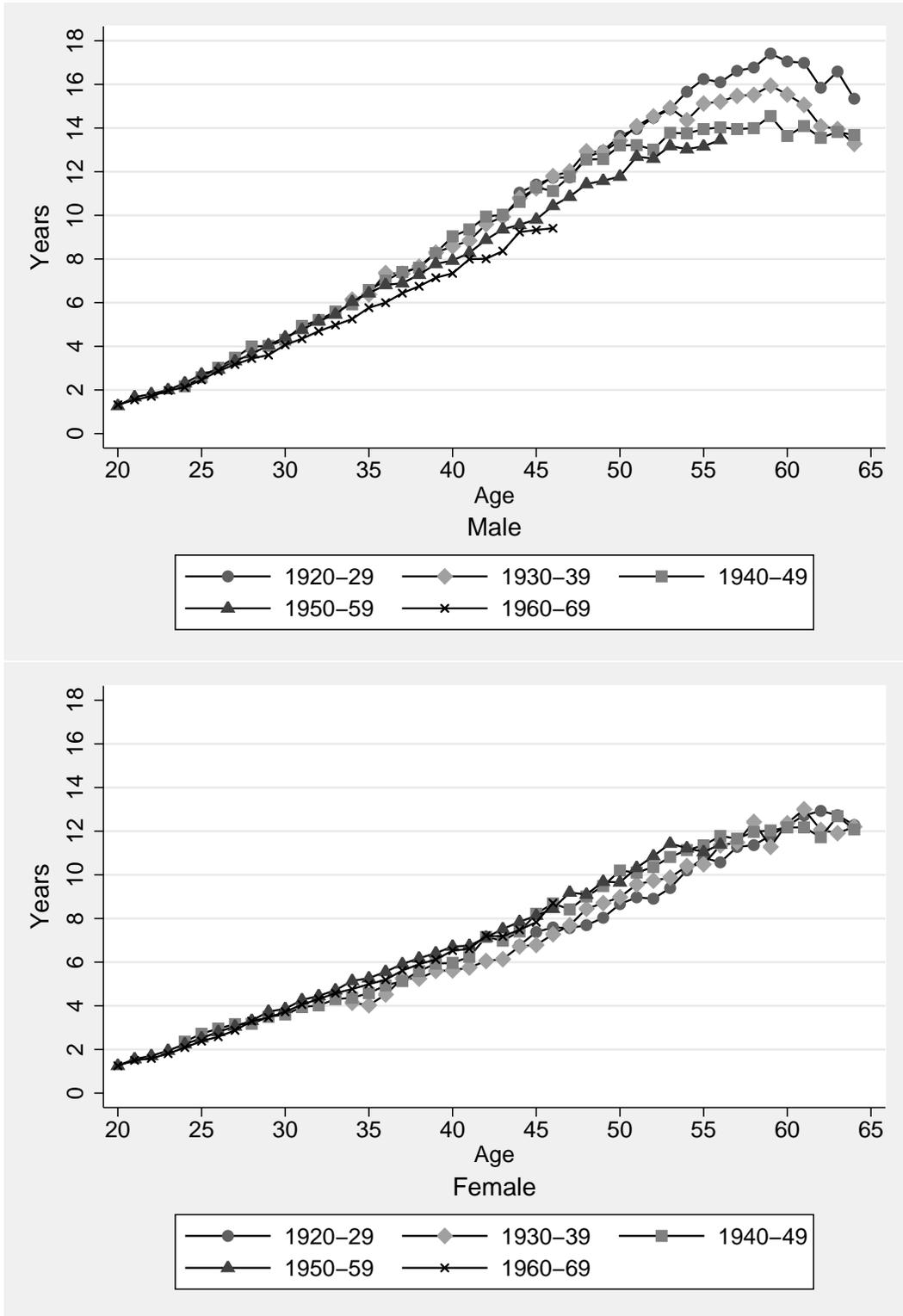


Figure 1: Mean Tenure, by Sex, Age, and Birth Cohort

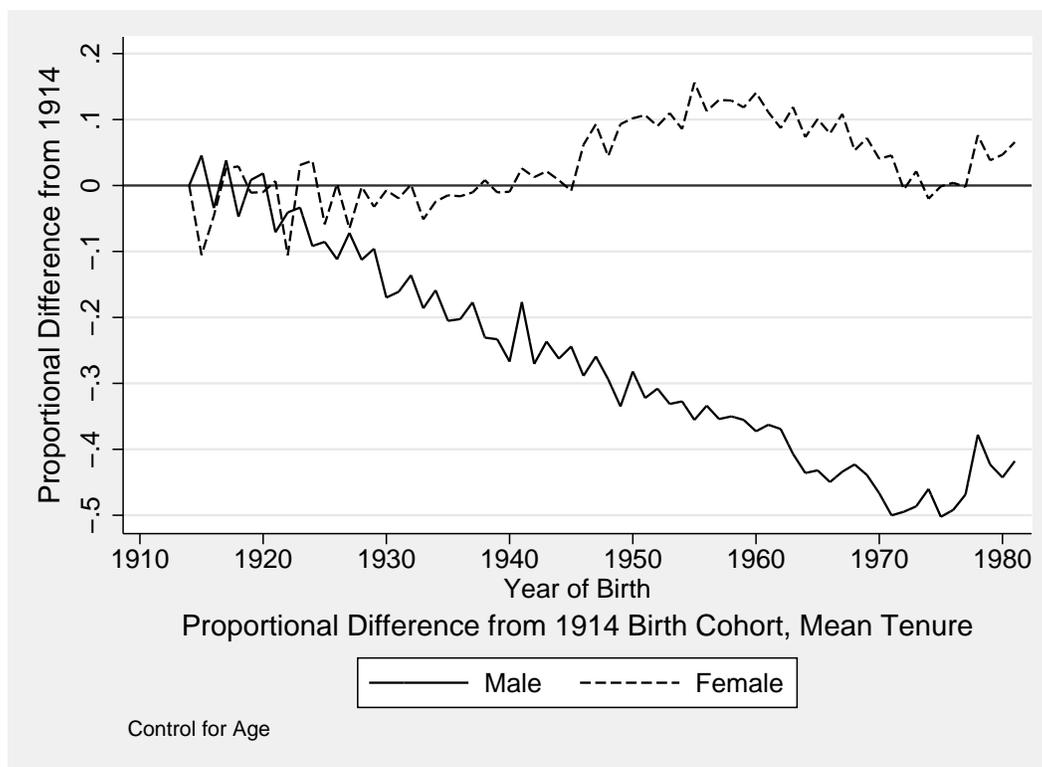


Figure 2: Proportional Difference from 1914 Birth Cohort, Mean Tenure, Controlling for Age.

50 percent in age-specific mean tenure for male workers between the 1914 and 1980 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 1970 birth cohort. 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 general decline in long-term employment opportunities that is not offset by a further increase in female commitment to the labor force.

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 mean tenure. First is the well-known large increase in average educational attainment during the 20th century summarized in

Table 2: 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	11.91	35.77	22.95	29.37
1950-59	8.46	33.96	27.33	30.26
1960-69	8.80	33.46	27.73	30.02
1970-80	8.64	28.60	29.68	33.08
All	12.28	34.76	24.56	28.40

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.

table 2.¹³ In order to assess whether changes in the educational composition of the labor force can account for the decline in mean tenure, 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 γ is a vector of associated coefficients. This provides a summary across educational categories of the proportional change in mean tenure relative to the 1914 birth cohort ($\exp(\hat{C}_j - \hat{C}_{1914}) - 1$) controlling for changes in the educational distribution over time. These estimates are plotted in figure 3, 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 no increase in mean tenure between the 1914 and 1960 cohorts followed by a decline of about 10 percent between the 1960 and 1975 cohorts.

¹³ There is not a clear relationship between educational attainment and tenure. 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. In Farber (2006), I investigate whether the changes in the tenure distribution over time are common across educational categories, and I conclude that they are.

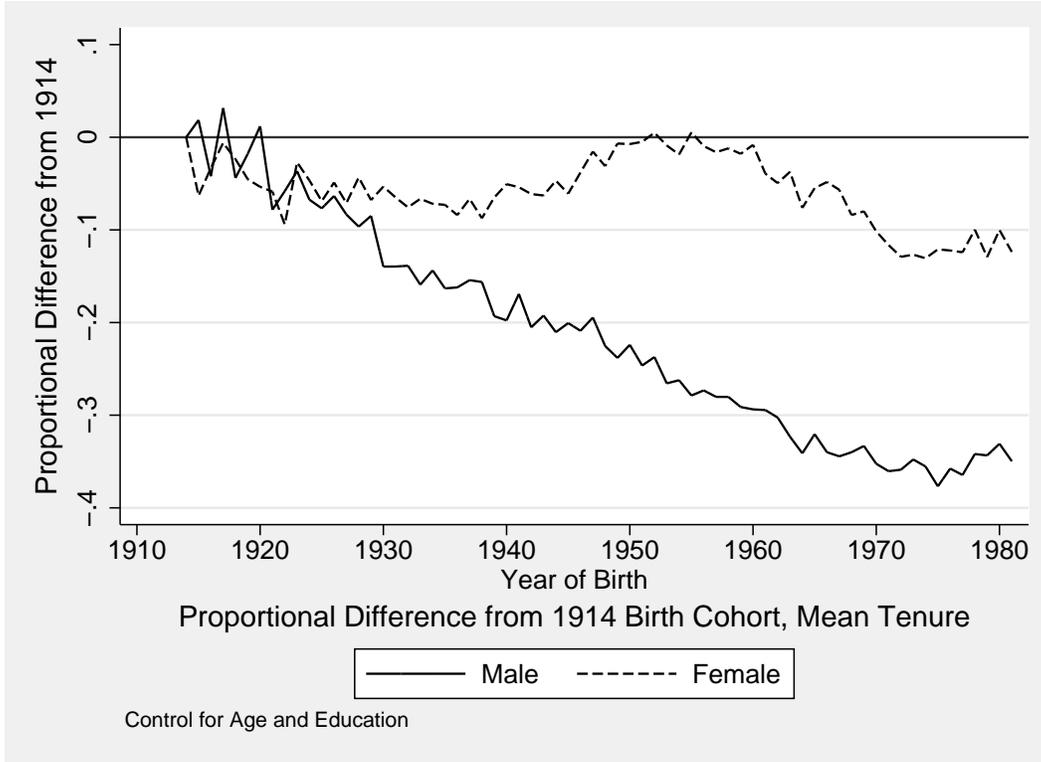


Figure 3: Proportional Difference from 1914 Birth Cohort, Mean Tenure. Controlling for Age and Education.

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 10 CPSs with tenure and immigration data between 1995 and 2005. In order to have data for each birth cohort over a five calendar year period, I further restrict my analysis to the 1935-1980 birth cohorts. The weighted immigrant fraction of the labor force in my sample increased steadily from 9.45 percent in 1995 to 14.1 percent in 2005. In every year, immigrants had about 2.1 years lower tenure than natives on average (overall average difference = 2.14 years (s.e. = 0.036)). Immigrants are only slightly younger than natives (overall average difference = 0.94 years (s.e. = 0.053)).

The key question is how much of the decline in observed tenure is due to the increased immigrant presence in the labor force. In order to address this question, I re-estimated the basic model including an indicator for immigrant status (=1 if immigrant). This model is

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

Table 3: Proportion Immigrants by Race and Hispanic Ethnicity, 1995-2005

Year	All	White NonHisp	Nonwhite NonHisp	All Hisp	White Hisp	Nonwhite 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
All	0.119	0.036	0.244	0.517	0.519	0.495

Note: Based on data for not self employed workers 20-64 years of age from 10 CPSs covering the period from 1995 to 2005. Weighted by CPS final sample weights. N=418,178.

where IMM_i is an indicator variable if worker i is an immigrant. The estimates of the immigrant effect on mean log tenure (α) is -0.247 (s.e. = 0.006) for males and -0.218 (s.e. = 0.007) for females, verifying that immigrants have substantially lower tenure than do natives. 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 4. 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 30 percent decline in age-specific tenure for male workers between the 1935 and 1975 birth cohorts. When immigrant status is controlled for, the decline in tenure for males between these birth cohorts is 25 percent. A similar pattern emerges for females, with a decline of 18 percent without a control for immigrant status and a decline of 15 percent with a control for immigrant status. Overall, it appears that only about about one-sixth of the decline in age-specific tenure between the 1935 and 1975 birth cohorts is due to an increase in immigration.

This analysis is incomplete in that it does not use information on the 21 birth cohorts between 1914 and 1934 due to the lack of data on immigration status prior to 1995. However, immigrant status is strongly correlated with race and Hispanic ethnicity, which is observed in all years. Table 3 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 14.1 percent in 2005. These immigrants are highly concentrated among nonwhites and Hispanics. Only 3.6 percent of white non-Hispanics are immigrants, while

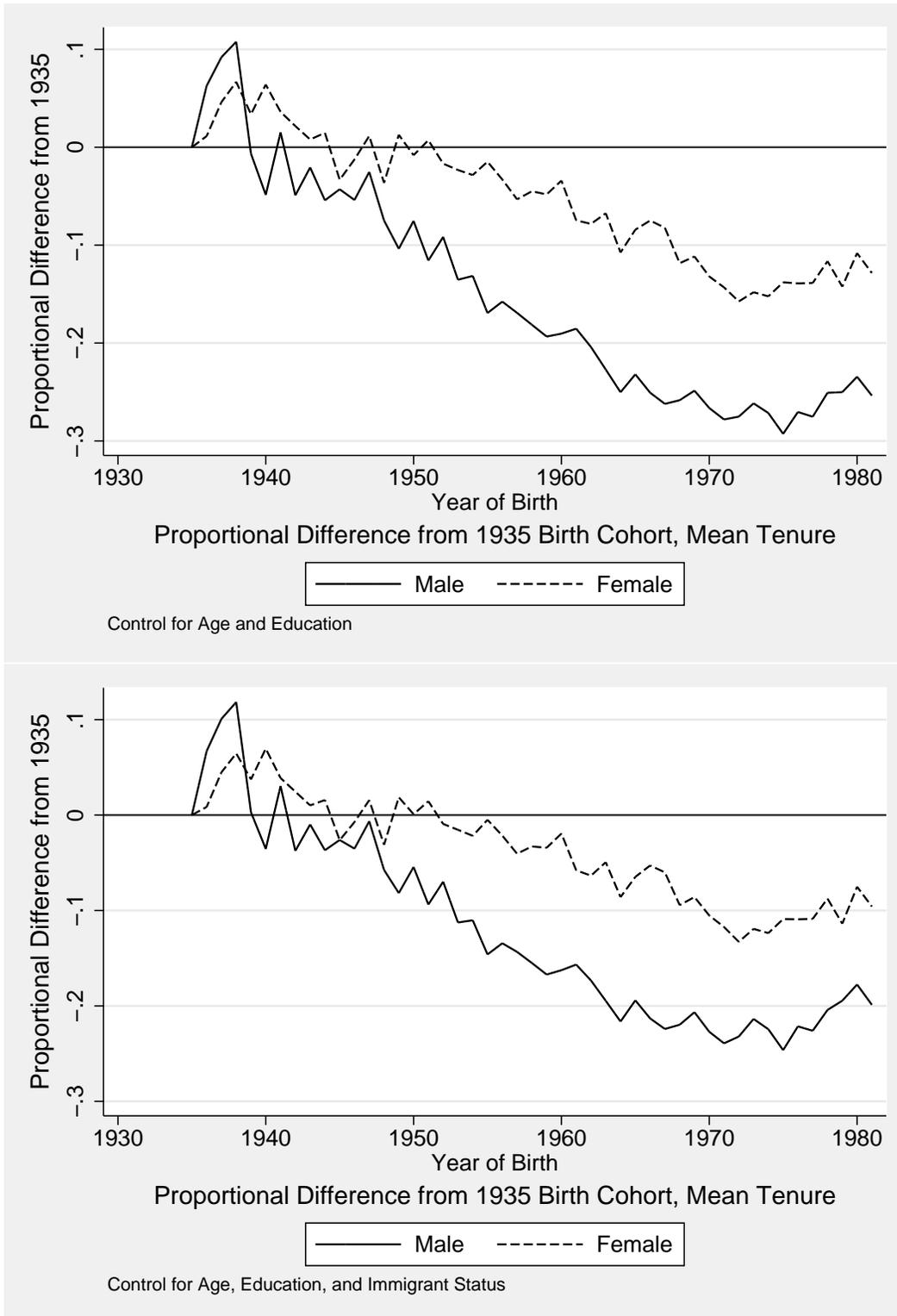


Figure 4: Proportional Difference from 1935 Birth Cohort, Mean Tenure. Controlling for Age and Education. (Immigrant Status Controlled in Bottom Panel).

about fifty percent of Hispanics (white and nonwhite) are immigrants.¹⁴ Additionally, a growing fraction of nonwhite non-Hispanics are immigrants, rising from 18.7 percent in 1995 to about 28 percent by 2004. 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 13.0 percent in 2005 and the nonwhite share of employment increased from 15.2 percent to 17.2 percent over the same period.

On this basis, I estimate age-specific proportional differences in mean tenure relative to the 1914 birth cohort using the 1973-2005 sample for the 1914-1980 birth cohorts controlling for race and ethnicity as well as age and education. This allows me to at least partly account for the role of increased immigration in the decline in tenure. 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.

Figure 5 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 32 percent between the 1914 and 1975 birth cohorts. This contrasts with an estimated decline over the same period of about 36 percent when there are no controls for race and Hispanic ethnicity (figure 3). Thus, only about 10 percent of the decline in tenure is related to changes in racial and ethnic composition. This is likely a lower bound on the effect of increased immigration.¹⁵ The pattern for females in figure 5 is very similar to that obtained when race and Hispanic ethnicity are not accounted for (figure 3). Age specific tenure for females peaks for cohorts born in the mid-1950s and declines about by 12 percent subsequently.

3.4 Long-Term Employment

Long-term employment is common in the U.S. Labor Market. During the 1973-2005 period, 49.4 percent of employed males and 37.2 percent of employed females aged 40-64 report having been with their current employer for at least ten years. Over the same period, 33.3 percent of employed males and 18.1 percent of employed females aged 50-64 report having been with their current employer for at least twenty years. However, the declines in age-specific mean tenure presented in the preceding sub-section are also apparent in measures of

¹⁴ 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.

¹⁵ Over the 1995-2005 period, where I have data on immigrant status, I estimated that increased immigration accounted for about 15 percent of the decline in mean tenure.

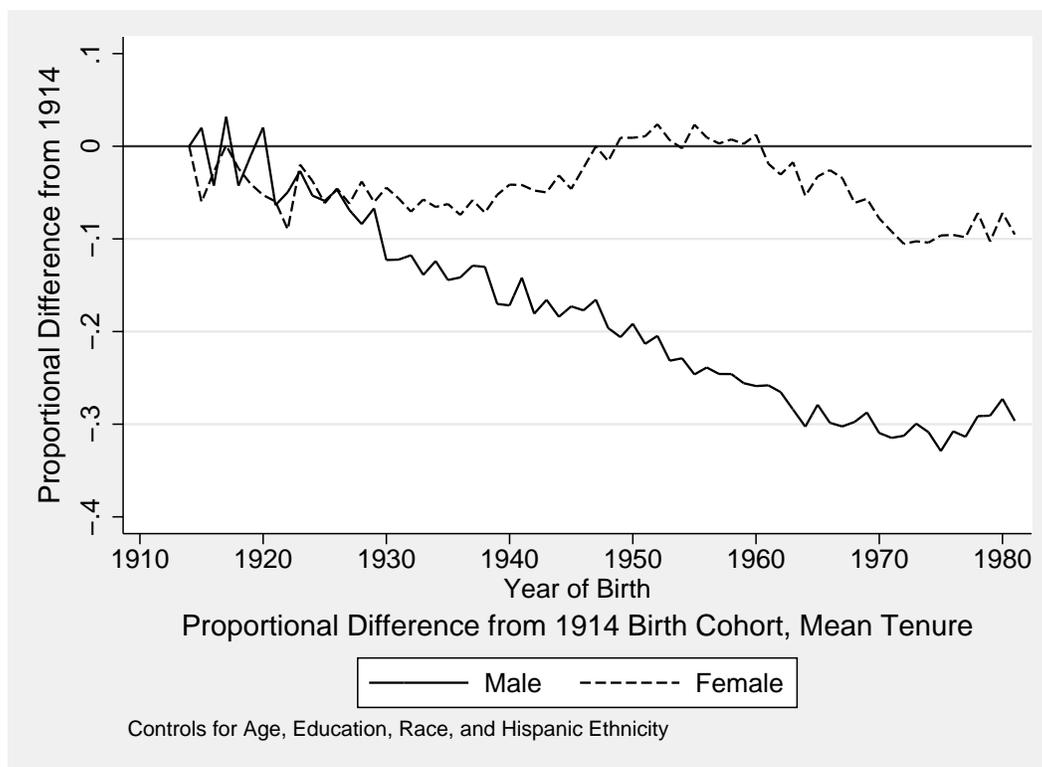


Figure 5: Proportional Difference from 1914 Birth Cohort, Mean Tenure. Controlling for Age, Education, Race, and Hispanic Ethnicity.

the age-specific incidence of long-term employment.

In order to investigate this, 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, and
- the fraction of workers aged 45-64 who have been with their employer at least twenty years.

I estimate age-specific birth-cohort effects using the same approach I used for mean tenure. I estimate linear probability models using the same specification of explanatory variables (birth cohort, age, education, race, Hispanic ethnicity) in equation 4.

The top panel of figure 6 contains separate plots for males and females of the birth cohort effects (1914=0) from a linear probability model for the probability that a worker has been with the same employer for ten or more years. Control variables include a set of age fixed effects, education, race, and Hispanic ethnicity. The age-specific probability that a male worker has been with his employer for at least ten years fell dramatically by almost 20

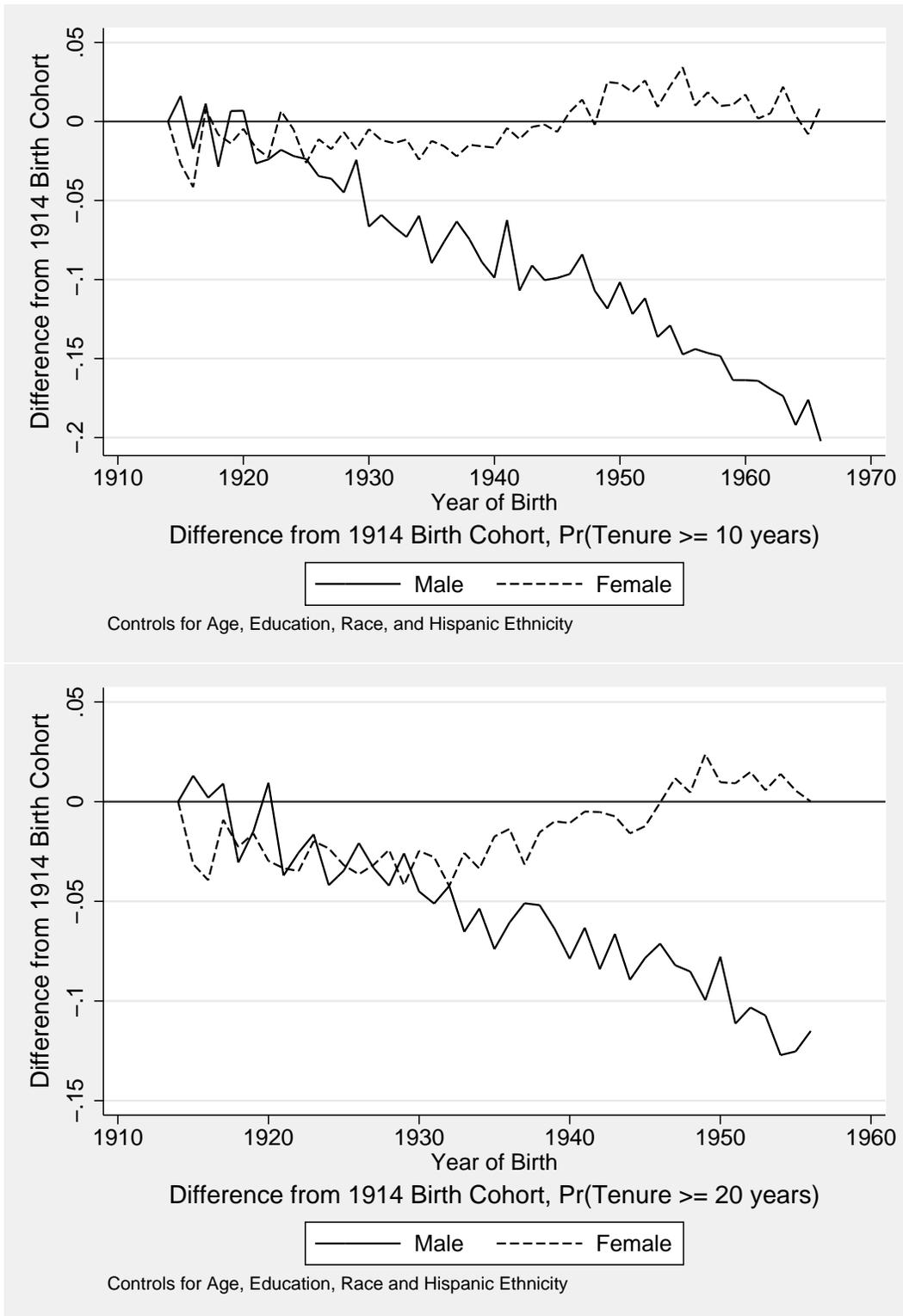


Figure 6: Proportional Difference from 1914 Birth Cohort, $Pr(T \geq 10)$ and $Pr(T \geq 20)$ by Birth Year. Controlling for Age, Education, Race, and Hispanic Ethnicity.

percentage points between the 1914 and 1965 birth cohorts.¹⁶ The age-specific probability that a female worker has been with her employer for at least ten years was constant between the 1914 and 1940 birth cohorts and then increased slightly between the early 1940s and late 1950s cohorts before declining to its original level.

I repeat this analysis for the probability that workers aged 45-64 have been with their employer at least twenty years. The bottom panel of figure 6 contains separate plots for males and females of the birth cohort effects (1914=0) from a linear probability model for the probability that a worker has been with the same employer for twenty or more years. As before, control variables include a set of age fixed effects, education, race, and Hispanic ethnicity. The age-specific probability that a male worker has been with his employer for at least twenty years fell sharply by almost 12 percentage points between the 1914 and 1955 birth cohorts.¹⁷ The age-specific probability that a female worker has been with her employer for at least twenty years was fairly steady between the late 1910s and the mid-1930s birth cohorts before rising through 1950.

3.5 Summary of U.S. Experience

Taken together, the analysis of the change in mean tenure across cohorts and the analysis of the change in the likelihood of long-term employment across cohorts shows clearly that long-term employment has become much less common for males and has not changed substantially for females despite the dramatically increased commitment of females to the labor force over the past half century. It appears that younger American workers will be less likely than their parents to have a “life-time” job.

4 The Evolution of Job Tenure in Japan

Unfortunately, the lack of availability of individual-level data for the Japanese workforce make it impossible for me to repeat my U.S. analysis for Japan. However, I do use published tabulations and the results of other researchers to provide some evidence on changes in Japanese job tenure. I also aggregate the CPS-based U.S. data to the same level in order to provide direct comparisons.

¹⁶ I do not include any birth cohorts after 1965 because they have not been observed in my sample over a five year period.

¹⁷ I do not include any birth cohorts after 1955 because they have not been observed in my sample over a five year period.

4.1 Mean Tenure

Rebick (2005, p.38) presents data from the Japanese wage censuses (Ministry of Labour/Health, Labour, and Welfare) on average tenure for full-time employees by 5-year age category at three points in time (1977, 1988, and 2003) separately for males and females. I created comparable data for the U.S. using the January 1978, May 1988, and January 2004 CPSs.

The top panel of figure 7 contains plots of these data for male workers in the U.S. and Japan. There is a decline of 2.1 years in average tenure (from 16.3 years in 1978 to 14.2 years in 2004) for U.S. males in the 54-59 age category. The decline is smaller but apparent at earlier ages. The trend in Japan is the opposite, with average tenure for 55-59 year old Japanese males increasing by 9.6 years (from 13.2 years in 1977 to 22.8 years in 2003). This trend begins for workers in their late thirties and increases rapidly. At least part of this increase is likely due to the steady increase in the Japanese firms' mandatory retirement ages over the last thirty years.

There is an equally interesting contrast between the U.S. and Japan for women. The bottom panel of figure 7 contains plots of the same data for female workers. There is a relatively small increase in average tenure for older women in the U.S. over the period studied of 1.6 years in average tenure (from 9.7 years in 1978 to 11.3 years in 2004) for U.S. female in the 50-54 age category. There are smaller increases in other age groups. The increase in tenure for Japanese women is quite dramatic, with average tenure for 55-59 year old Japanese females increasing by 6.7 years (from 9.4 years in 1977 to 16.1 years in 2003). This trend is apparent for Japanese women in virtually all age categories. Once again, at least part of this increase in average tenure is likely due to the steady increase in the Japanese firms' mandatory retirement ages over the last thirty years. It may also be at least partly a result of relatively recent public policies guaranteeing women non-discriminatory treatment in the labor market.

4.2 Long-Term Employment

I use data from the Japanese Employment Status Surveys taken in 1979, 1982, 1987, 1992, 1997, and 2002 in order to investigate changes in the incidence of long-term employment. The published tabulations from these surveys allow me to calculate the fraction of full-time workers in specific age categories who have tenure levels in specific tenure categories. I use these data to calculate 1) the fraction of workers aged 35-64 with at least ten years tenure, 2) the fraction of workers aged 35-64 with at least fifteen years tenure, and 3) the fraction of workers aged 55-64 with at least twenty years tenure. These are not the most satisfactory breakdowns of age categories, but they are the only ones I could create with the available data that are consistent across all survey years. I created comparable data for the U.S. using

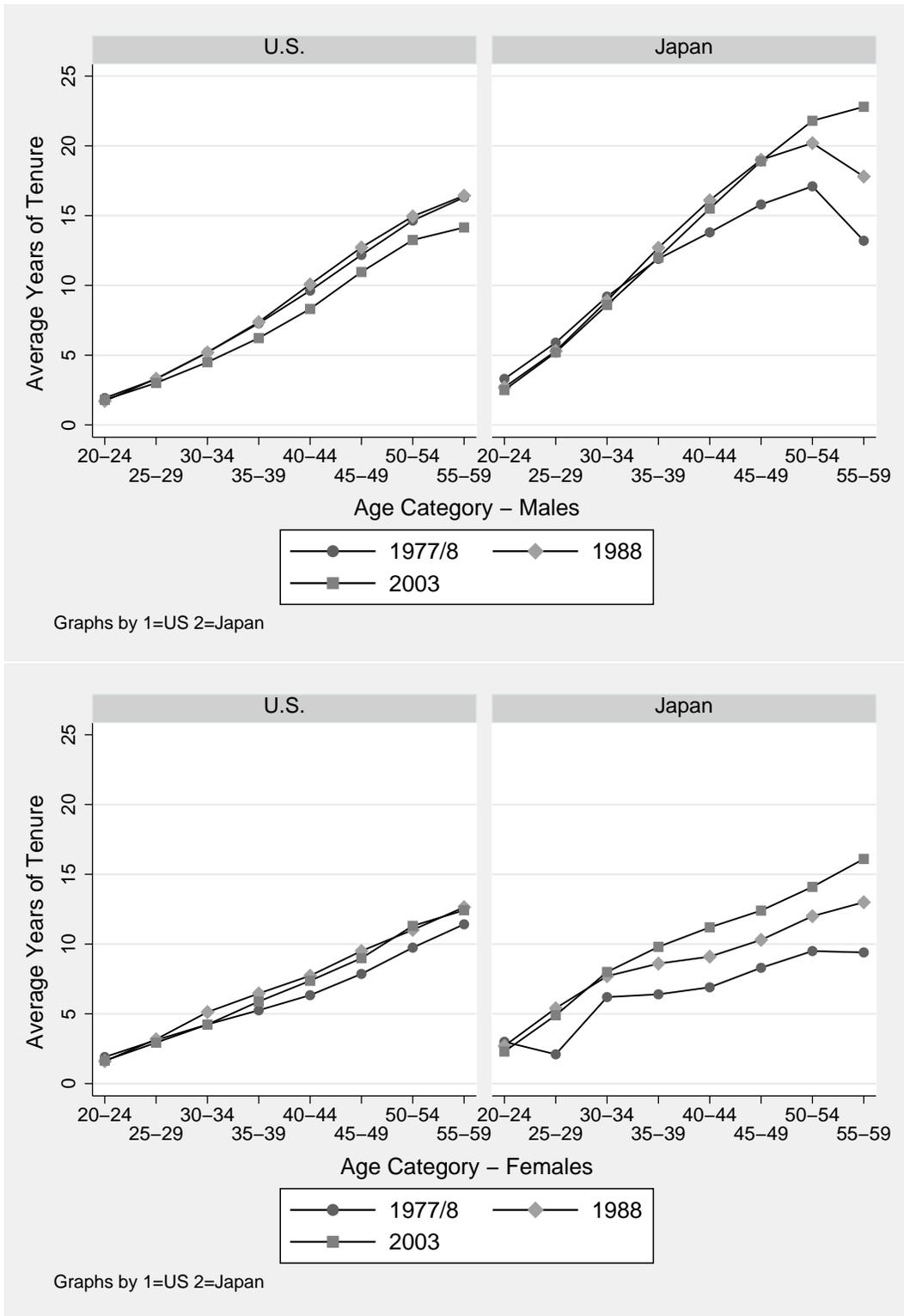


Figure 7: Average Tenure by Age Category, by Year and Sex

the CPSs from January 1978, 1981, 1983, 1987, 1991, and 2002 along with the May 1983, April 1993, and February 1997 CPSs.

The top panel of figure 8 contains plots of these data for male workers in the U.S. and Japan. Not surprisingly, the rates of long-term employment are substantially higher in Japan than in the U.S. in all time period, and these differences have been growing over time. There is a clear decline in each of the three long-term employment fractions for U.S. males. For example, the fraction of U.S. males aged 35-64 who had been with their employer for at least ten years declined from 55.4 percent in 1979 to 44.0 percent in 2002. There is no trend in the fraction of Japanese males aged 35-64 who had been with their employer for at least ten years. Interestingly, there is a sharp increase between 1979 and 1997 in the fraction of Japanese males aged 55-64 who had been with their employers for at least 20 years. This fraction increased from 40.0 percent in 1979 to 57.7 percent in 1997 before declining to 53.9 percent by 2002. Once again, at least part of this increase is likely due to the steady increase in the Japanese firms' mandatory retirement ages over the last thirty years.

The rates of long-term employment for females, shown in the bottom panel of figure 8 are quite comparable for women in the U.S. and Japan. There has been very little movement over time in any of the three measure for U.S. females. There has been a relatively small increase over time for Japanese females. The largest of these is an increase in the fraction of Japanese female workers between 35 and 64 years of ages with at least ten years tenure. This fraction increased from 38.4 percent in 1979 to 44.6 percent in 2002.

4.3 A Note on Part-Time Employment

A caveat to the conclusions that average tenure for Japanese women has substantially increased and that Japanese women have increased access to long-term jobs is that the rate of part-time employment among Japanese women has skyrocketed, and the data on job tenure that I rely on here is for full-time workers only. As I noted above, 19.3 percent of employed women in Japan worked part-time in 1980 while fully 39.7 percent worked part-time in 2002 (Rebick, 2005). In contrast, my tabulations of the Current Population Survey for the U.S. show that 22.6 percent of employed women in the U.S worked part-time in 1981 while 20.9 percent worked part-time in 2002. To the extent that part-time jobs offer lower pay, job security, and benefits, it is likely that part of the adjustment of Japanese firms to the changing environment is to shift work to part-time positions. Rebick (2005, p. 59) reports that the share of total employment (male and female) that is part-time increased from 12.6 percent in 1990 to 19.1 percent in 2001. The comparable figures for the United States are 14.38 percent part-time in 1991 and 12.96 percent part-time in 2000.

The growth of part-time employment in Japan is relevant because part-time jobs, in both Japan and the United States, offer lower pay and inferior benefits. Rebick (2005, p. 114)

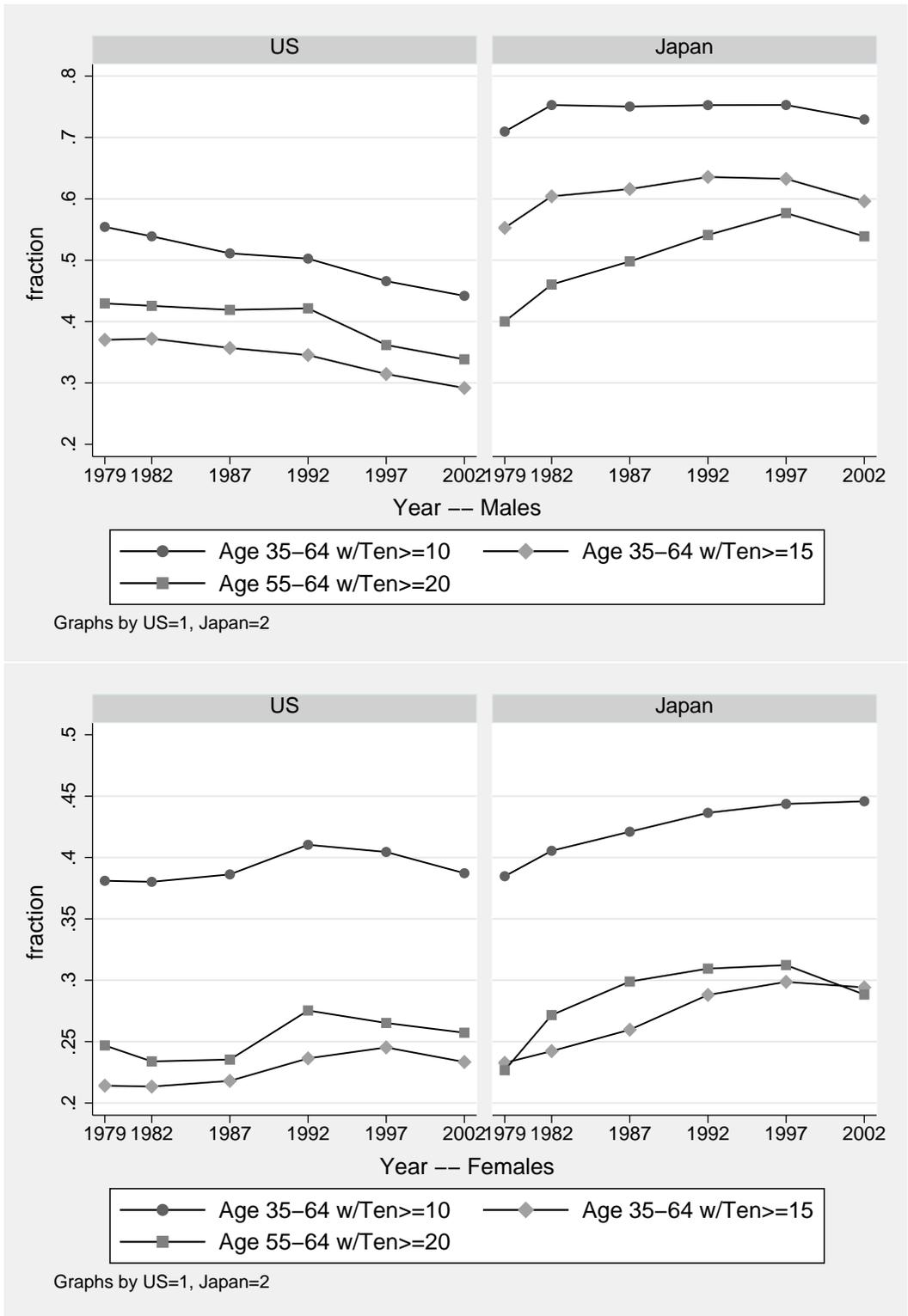


Figure 8: Fraction Long-Term Jobs, by Year and Sex

reports that part-time workers in Japan in 2003 earned only 55 percent of the hourly earnings of full-time workers. The full-time/part-time wage differential in the U.S. is not at large but is substantial. Additionally, data from the U.S. indicate that job tenure is substantially lower on part-time jobs.¹⁸

Taken together, the findings on job tenure and the Japanese trend in part-time work is consistent with the view that the Japanese labor market is in fact adjusting by reducing the incidence of “life-time” jobs by increasing the role of part-time employment. In contrast, the U.S. labor market is adjusting by reducing the incidence of “lifetime” jobs among full-time workers.

5 Concluding Remarks

There are many aspects of the Japanese labor market which I have not addressed. I have implicitly ignored smaller firms in the institutional discussion and home-work and self-employment, which are substantial but declining in Japan, are not measured. However, the larger forces and trends that I highlight here and contrast with those in the U.S., I believe illuminate important differences and some commonalities.

I conclude with the observation that worker attachment to firms has always been lower in the U.S. than in Japan and that this is reflected in a difference in institutions. As both the U.S. and Japan have been faced with similar global competitive pressures, firms in the two countries have responded in ways that are consistent with their histories and institutions. Firms in the U.S. have laid off workers, even those in long-term primary jobs. Reassignment to other jobs within firms has not been an important phenomenon, and workers who lose their jobs pay a real economic penalty in the form of unemployment and lower earnings (Farber 2005). Firms in Japan have taken the approach of reassigning workers to other, perhaps lesser, jobs, seconding workers to other firms, and making more use of part-time and non-regular forms of employment. These reassignments are not fully reflected in data on job tenure, but it is likely that many Japanese workers have suffered losses in economic and social status as a result of the necessary adjustments.

Legal institutions, which are likely endogenous to other social and economic forces, may be important factors in the difference in adjustment strategies between the U.S. and Japan. The lack of mandatory retirement in the U.S. combined with a legal prohibition against using age as a factor in layoff decisions may mean that U.S. firms find it efficient to lay off

¹⁸ Using data from the CPS from 1973 through 2006 and accounting for calendar year and age, my estimate is that, for men, average tenure is 30 percent lower on parttime jobs than on full-time jobs. The differential for women is 23.7 percent.

workers at earlier ages in order to avoid an aging workforce with little room to hire fresh workers. The stronger job protections for regular workers in Japan may make it efficient for Japanese employers to redesign jobs to use non-regular workers who are part-time and may be on fixed-term contracts.

In conclusion, each country's strategy for dealing with the sharp changes in product and labor demand caused by globalization reflects its history and institutions. Neither strategy is without costs for the workers involved, and, as the pace of global change continues, these costs are likely to increase. Indeed, it would not be surprising to see some convergence in the structure of employment practices in the United States and Japan over time as both economies continue to be subjected to common global forces.

6 References

- Abraham, Katharine G. and James L. Medoff. "Length of Service and Layoffs in Union and Nonunion Work Groups," *Industrial and Labor Relations Review* 38 (October 1984): pp. 87-97.
- Chuma, Hiroyuki. "Is Japan's Long-Term Employment System Changing?" in Isao Ohashi and Toshiaki Tachibanaki, eds. *Internal Labour Markets Incentives and Employment* Macmillan Press, New York, 1998.
- Diebold, Francis X., David Neumark, and Daniel Polsky. "Comment of Kenneth A. Swinerton and Howard Wial, 'Is Job Stability Declining in the U.S. Economy?'," *Industrial and Labor Relations Review* 49 (January 1996) : pp. 348-352.
- Farber, Henry S. "The Analysis of Inter-Firm Worker Mobility," *Journal of Labor Economics*, October 1994: pp. 554-593.
- Farber, Henry S. "Are Lifetime Jobs Disappearing: Job Duration in the United States, 1973-93," in *Labor Statistics Measurement Issues*, John Haltiwanger, Marilyn Manser, and Robert Topel, eds., University of Chicago Press, 1998. pp. 157-203.
- Farber, Henry S. "What Do We Know About Job Loss in the United States, 1981-2004," *Economic Perspectives*, Federal Reserve Bank of Chicago (Second Quarter, 2005). pp. 13-28.

- Farber, Henry S. "Is the Company Man and Anachronism: Trends in Long-Term Employment in the U.S., 1973-2005," mimeo, Industrial Relations Section, Princeton University, January 2006.
- Hall, Robert E. "The Importance of Lifetime Jobs in the U.S. Economy," *American Economic Review* 72 (September 1982): pp. 716-724.
- Higuchi, Yoshio. "Trends in Japanese Labour Markets," in Mari Sako and Hiroki Sato, eds. *Japanese Labour Markets and Management in Transition: Diversity, Flexibility, and Participation*. Routledge, London, 1997.
- Kashiwazaki, Chikako. "Japan: From Immigration Control to Immigration Policy," Migration Information Source, MPI, August 2002.
- Neumark, David, ed. *On the Job: Is Long-Term Employment a Thing of the Past?* New York. Russell Sage Foundation, 2000.
- President's Council of Economic Advisers. *Economic Report of the President*, USGPO, 1996.
- President's Council of Economic Advisers. *Economic Report of the President*, USGPO, 2005.
- Rebick, Marcus. *The Japanese Employment System*. Oxford University Press, 2005.
- Swinnerton, Kenneth and Howard Wial. "Is Job Stability Declining in the U.S. Economy?" *Industrial and Labor Relations Review* 48 January 1995 : pp. 293-304.
- Swinnerton, Kenneth and Howard Wial. "Is Job Stability Declining in the U.S. Economy? Reply to Diebold, Neumark, and Polsky" *Industrial and Labor Relations Review* 49 January 1996 : pp. 352-355.
- Ureta, Manuelita. "The Importance of Lifetime Jobs in the U.S. Economy, Revisited," *American Economic Review* 82 (March 1992): pp. 322-335.