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Long-term Employment in Japan: Past and Present

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Abstract

This paper revisits long-term employment practices in Japan and provides new evidence on their evolution over 1982–2022, extending prior work to cover the most recent decades marked by the Great Recession and the COVID-19 pandemic. Using microdata from the Employment Status Survey, we estimate 10-year job retention rates by gender and educational attainment. Contrary to the widespread view that Japan's long-term employment system has eroded since the 1990s, we find that job retention rates have remained highly stable over the past four decades. In particular, prime-age workers with at least five years of tenure ("core employees") continue to exhibit consistently high retention rates, even during major economic shocks. Although job stability among young entry-level workers, especially college graduates, has declined significantly, cohort analysis shows that this early-career instability does not persist. Most workers eventually transition into stable, long-term employment relationships as they age. We also find no evidence of a decline in the overall share of core employees, although younger male cohorts exhibit temporary delays in accumulating long tenure. In addition, mandatory retirement age extensions have contributed to higher job retention among older workers. Overall, our findings point to the resilience of Japan's long-term employment system and suggest that policy discussions should be grounded in its continued empirical relevance.

JEL classification

J21, J23, J63

Keywords

long-term employment, job retention rates, Japanese labor market, employment stability, cohort analysis, Employment Status Survey (ESS)

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Long-term Employment in Japan: Past and Present*

1. Introduction

The 1970's and 1980's were Japan's decades. As shown in Figure 1, in those two decades, Japan's real GDP grew substantially faster than any other G7 countries. The gap between Japan and the U.S. continued to narrow, and many started to predict that Japan will catch up with the U.S. and eventually surpass it (see, for instance, Vogel, 1979). In search for the "secret of the Japanese Miracle," Japan's employment system became a major focus of research in industrial relations, human resource management, and labor economics. Some evidence suggests that this system indeed contributed to higher productivity in Japanese firms (see, for instance, Jones and Kato, 1995, Ohkusa and Ohtake, 1997, and Kato and Morishima, 2002).

However, Japan's bubble economy in the 1980's burst at the end of the 1980's, and the Japanese miracle ended abruptly. Since then, the U.S. economy has grown faster than the Japanese economy, resulting in a widening gap in real GDP between the two largest mature market economies. In response to the reversal of the fortune of the Japanese economy *vis-à-vis* the U.S. economy, the popular narrative about Japan's employment system swung from a source of wonder as one of the secrets of the Japanese Miracle to a structural impediment to Japan's recovery from her economic malaise.

A cornerstone of Japan's employment system is the practice of long-term employment (implicit long-term employment contracts through which the firm offers its employees job security and employees reciprocate by remaining in the firm). It has been criticized as a form of labor market rigidity and a structural obstacle to Japan's swift and sustained economic recovery. For example, Chuma (1998) and Ono and Rebick (2003) argue that changes in Japan's legal environment after the first oil crisis in the mid-1970's made it increasingly difficult for

employers to dismiss workers, thereby reinforcing labor market rigidity and raising barriers to the development of effective external labor markets. The lack of such markets is thought to contribute to inefficient labor allocation and, consequently, lower productivity (see Ariga and Okazawa, 2007 for evidence of labor mismatches during the Great Recession).

In contrast, Kambayashi and Kawaguchi (2008) point out that the legal framework governing employment protection remained relatively stable at least until 1997. Moreover, theoretical perspectives that highlight the positive incentive effects of job security—particularly in fostering firm-specific human capital and knowledge, as well as the role of institutional complementarities—predict that "lifetime employment" is likely to persist as a stable equilibrium (Aoki, 2000; Moriguchi and Ono, 2006).

However, since Ono (2010)'s most comprehensive review of the literature on Japan's long-term employment, the literature on the practice of long-term employmnet (and many other Japan-specific topics) has been thin as many active scholars in Japan started to shift their research focus away from Japan-specific questions. The objective of the paper is to revisit the practice of long-term employment and provide the most up-to-date evidence on its evolution in general and its recent changes (or lack thereof) in particular. In the next section we review a number of key prior studies in some detail and establish an urgent need for an up-to-date study of changes in the practice of long-term employment or lack thereof for the most recent two decades, 2002-2022 which includes two of the most severe recessions the Japanese economy has faced in the postward period. The results from our study of the practice of long-term employment in Japan including the most recent two decades are presented in section 3, followed by a brief concluding section.

2. Prior studies on long-term employment in Japan

The textbook description of Japan's employment system often begins with the allegedly prevailing practice of lifetime employment (or implicit long-term employment contracts under which the firm promises not to lay off its workers and in exchange, workers promise their firms not to quit). The "prevailing practice of lifetime employment" in Japan was initially proposed as a uniquely Japanese feature of her industrial relations system by Abegglen (1958). Abegglen (1958) further argues that Japan's industrial relations system is a carryover from her feudal system and thus not a modern contractual relationship. As such, it is inefficient, and ought to be modernized, as Abegglen concludes.

Abegglen's lifetime employment theory became a mainstream view of Japan's industrial relations system quickly in the West as well as in Japan. It was only in the 1980's that rigorous attempts to test the validity of the lifetime employment theory began. When the lifetime employment theory is literally interpreted as Japanese workers tend to stay in the same firm from the beginning to the end of their working lives, it became clear that the theory applies to only very few Japanese workers. Empirical studies then quickly turned to a more meaningful and operational version of the lifetime employment theory or many Japanese workers tend to stay in the same firm for a considerable number of years, say at least 10 or 15 years. The literature on such a more meaningful and operational version of the lifetime employment theory is often called the literature on long-term employment.

Hashimoto and Rasian (1985) provide the first rigorous evidence on the salience of Japan's long-term employment. They apply the job retention rate methodology developed by Hall (1982) to the Employment Status Survey (ESS), the Japanese counterpart to U.S. CPS, and provide the first estimates on the job retention rates for Japanese workers. By comparing them to what they

obtain for U.S. workers by applying the same methodology to U.S. CPS, they establish for the first time that the job retention rates of Japanese workers are indeed substantially higher than their U.S. counterparts, lending support for the prevailing practice of long-term employment in Japan as compared to the U.S.[1]

Hashimoto and Rasian (1985) estimate the job retention rates for 1977-1982, which happens to correspond to Japan's high-growth era (often referred to as the Japanese Miracle). The Japanese Miracle abruptly ended at the end of 1980's when Japan's financial bubble burst, followed by a decade of stagnation, Lost Decade. The popular narrative about the Japanese economy quickly swung from a miracle story to a cautionary tale, and some started to claim with no compelling evidence that Japan's old "long-term employment" is finally ending. In the backdrop of the shifting narrative of the assessment of the Japanese economy and the popular rhetoric of the "end to lifetime employment at last," Kato (2001) applies the methodology of Hashimoto and Rasian (1985) to more recent data including the first half of Japan's Lost Decade with a specific objective to examine the transformation (or lack thereof) of Japan's long-term employment. Farber (2007) uses aggregate tables from the ESS from 2002 and earlier years for Japan and the CPS Tenure Supplements for the United States,[2] and conduct an econometric comparative study of the importance of long-term employment between Japan and the United States. Both studies show that even after the end of the Japanese miracle and the ensuring Lost Decade, the practice of long-term employment remained mostly intact in Japan, resulting in no

[1] When compared to Western European countries, however, the salience of Japan's long-term employment is less dramatic (see, for instance, Higuchi, 1997).

[2] In light of the growing popular perception in the late 1990's that long-term jobs were disappearing in the United States, a number of important empirical studies were conducted (see, for instance, Farber, 1998; 1999; Neumark, 2000).

narrowing of the gap in job retention rates between Japan and the U.S. even after the end of the Japanese Miracle.[3]

Most recently, Kambayashi and Kato (2017) extends Kato (2001) and Farber (2007) by obtaining access to micro data from Japan's ESS and U.S. CPS Tenure Supplements for the longest time period (1982-2007 for Japan and 1981-2006 for the U.S.). Particularly notable is that they extend the period of analysis to 2007 so that they can consider the long-term implications of Japan's Lost Decade for her long-term employment system. In addition, Kambayashi and Kato (2017) take advantage of their access to micro data from Japan's ESS to refine the job retention rate methodology of Hashimoto and Raisian (1985) and apply the refined methodology to more recent and comprehensive comparative data. They establish that Japan's long-term employment system indeed survived Japan's Lost Decade, and that the gap in job retention rates between the two nations did not shrink even after Japan went through her Lost Decade while the U.S. enjoyed its longest continuous prosperity.

3. New Evidence on Long-term Employment in Japan

Following Kambayashi and Kato (2017), we use the Employment Status Survey (ESS) and estimate the 10-year job retention rates of Japanese employees. The ESS is Japan's counterpart to U.S. Current Population Survey (CPS), and it is one of the largest datasets of this kind in the world, containing more than a million individuals, ten times more than U.S. CPS. We have

[3] There is an alternative dataset for Japan, the Basic Survey of Wage Structure, commonly known as the Wage Census. Although this dataset is based on establishment-level surveys and is therefore not directly comparable to CPS tenure supplements, it still provides the necessary information to estimate job retention rates. Several studies using this dataset have reached conclusions broadly consistent with research based on the ESS (Chuma, 1998; Shimizutani and Yokoyama, 2009; Hamaaki et al., 2012). However, Kawaguchi and Ueno (2013) conduct a more detailed comparison of the two datasets (ESS and BSWS) and argue that the BSWS data may suffer from nonrandom employee selection by participating establishments, potentially leading to an overestimation of the salience of Japan's long-term employment system.

access to micro data from the ESS covering the last four decades.

Specifically, we first divide all employees into the following four groups: (1) college-educated men (men with four-year degrees or higher); (2) less-educated men (men without four-year degree); (3) college-educated women (women with four-year degrees or higher); and (4) less-educated women (women without four-year degree). For each of the four groups, we use the ESS in year Z and calculate the proportion of civilian noninstitutional population who are employees and X years old with Y years of tenure in year Z, P(Age = X, Tenure = Y, Year = Z). We then use the ESS in year Z + 10 and calculate the proportion of civilian non-institutional population who are employees and X + 10 years old with Y + 10 years of tenure in year Z + 10, P(Age = X + 10, Tenure = Y + 10, Year = Z + 10). Finally, we calculate the 10-year job retention rate of employees with Age X and Tenure Y in Year Z by dividing P(Age = X + 10, Tenure = Y + 10, Year = Z + 10) by P(Age = X, Tenure = Y, Year = Z). As such, the 10-year job retention rate of employees with Age X and Tenure Y in Year Z provides us with the estimated odds that the average employee who is X years old with Y years of tenure in year Z will remain in the same firm for the subsequent ten years. Following a methodology developed by Kambayashi and Kato (2017), we also calculate a 95% confidence interval for each job retention rate estimate.

The ESS data are available for 1982, 1987, 1992, 1997, 2002, 2007, 2012, 2017, and 2022, which enable us to estimate 10-year job retention rates for the seven time periods, 1982-1992 (1982decade); 1987-1997 (1987decade); 1992-2002 (1992decade); 1997-2007 (1997decade); 2002-2012 (2002decade); 2007-2017 (2007decade); and 2012-2022 (2012decade) or Z=1982, 1987, 1992, 1997, 2002, 2007, and 2012). Note that the 1982-1992 period represents Japan's high-growth bubble decade; the 1992-2002 period is Japan's Lost Decade; the 2002-2012 period

captures Japan's moderate, yet continuous positive growth followed by the global Great Recession of 2008-09; and the 2012-2022 period includes the 2020 Covid 19 recession. For age, we consider the following five age groups: age 15 to 19; age 20 to 24; age 25 to 29; age 30 to 34; age 35 to 39; and age 40 to 44. The first age group (15–19) is considered only for less-educated employees. Because of the prevailing practice of mandatory retirement in Japan, which was originally set at 55 and then raised to 60 in the 1990s and 65 in the early 2000s, we focus on those who are below age 45. However, to gauge the impact of extending mandatory retirement ages, we also supplement our main analysis by considering age 50 to 54. For tenure, following prior job retention rate estimates (such as Hashimoto and Raisian, 1992; Kato, 2001; and Kambayashi and Kato, 2017), we use two tenure groups: 0 to 4 years of tenure and 5+ years of tenure.

We begin with the 10-year job retention rates for all employees of prime age from 1982 to 2022 for each of the six tenure-age categories (age 30–34/tenure 0–4; age 35–39/tenure 0–4; age 40–44/tenure 0–4; age 30–34/tenure 5+; age 35–39/tenure 5+; and age 40–44/tenure 5+). For each retention rate estimate, we calculate the 95% confidence interval (see Kambayashi and Kato, 2017 for the derivation of the confidence interval). Thus, each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

One of the key findings from Kambayashi and Kato (2017) is that the job retention rates for those with at least 5 years of tenure ("core employees") have been high (for example, 80 percent for college-educated men) and that there is no downward trend over time, suggesting the resilience of Japan's long-term employment system. Their analysis, however, ends in 2007. Since then, there have been two major negative economic shocks to the Japanese economy (and the global economy), the global Great Recession of 2008-09 and the 2020 Covid 19 recession.

Both were indeed the largest negative shocks in terms of the size of real GDP drops since 1980 (Japan's real GDP fell by nearly 6 percent in 2009 and over 4 percent in 2020, while the third largest single year drop was 1.3 percent in 1997, the midst of Lost Decade according to IMF). Did Japan's long-term employment system withstand those two largest negative shocks since 1980?

Figure 2 shows the job retention rates for all employees of prime age with less than five years of tenure and with five or more years of tenure. From 1982decade (the first decade of the 10-year job retention rate estimates) to 1997decade, the 10-year job retention rates for all prime-age employees with 5 or more years of tenure ("core employees") remained stable, while the ones with less than 5 years of tenure ("mid-career hires") fell, resulting in a widening gap of the retention rates between core employees and mid-career hires. This is essentially a replication of Kambayashi and Kato (2017).

Figure 2 uncovers for the first time that the job retention rates for core employees continued to be stable for the following two and a half decades (2002decade, 2007decade, and 2012decade). Note that the job retention rates for mid-career hires (all prime-age employees with less than five years of tenure) are also found to be stable over the same period, indicating that the widening of the gap in the job retention rates between core employees and mid-career hirs did not continue beyond 1997decade. Considering the two largest negative shocks since 1980 (the global Great Recession and the Covid Recession), the observed job stability for the recent two and a half decades is rather remarkable. Overall, we find no evidence for the crumbling practice of long-term employment.

However, it is still possible that we may find evidence for the deteriorating practice of long-term employment for specific segments of Japan's labor market. To this end, we produce

Figures 3-6 for college-educated men of prime age; less-educated men of prime age; college-educated women of prime age; and less-educated women of prime age. For college-educated men of prime age with less than five years of tenure as well as with five and more years of tenure (Figure 3), we still find no significant downward trend in the estimated retention rates for the most recent two and a half decades. Particularly notable is that "core employees" of prime-age male college graduates with at least five years of tenure have continued to show remarkably high 10-year job retention rates (about 80%). Figure 4 shows the 10-year job retention rates for less-educated men of prime age with less than five years of tenure as well as with five or more years of tenure. As in the case of their college-graduated counterparts, we again find no downward trend in their 10-year job retention rates (which are lower than those of their college-graduated counterparts) over the last two and a half decades.

Figures 5 and 6 show the 10-year job retention rates for college-educated and less-educated women of prime age with less than five years of tenure and with five or more years of tenure. As in the case of men, we still find no downward trend in their job retention rates over the last two and a half decades.

In sum, notwithstanding Japan's postwar era's two largest recessions hitting the Japanese labor market over the last two and a half decades, we have evidence for the remarkable resilience of Japan's long-term employment system, and such resilience is found for both men and women as well as for both those with and without college degrees.

We have focused on prime-age workers, for the practice of long-term employment in Japan applies to such prime-age workers while allowing for a fair amount of job hopping by young workers at the entry level of job ladders before settling into their "long-term employment" jobs (Koike, 1997). It is possible that this entry-level job hopping has become more intensified in

recent years, giving us an impression of the crumbling long-term employment in Japan. To shed light on this possibility, we estimate the 10-year job retention rates for youth (Age 15-29). Figure 7 shows such retention rates for college-educated men of youth, with less than 5 years of tenure and with 5 or more years of tenure. Entry-level college graduates (Age 20-24 with less than 5 years of tenure) experienced a massive fall in their 10-year job retention rates with over 70 percent in 1982decade to about 30 percent in the most recent decade, 2012decade. However, the extraordinary decline in the job retention rates for college graduates of youth age 20-24 with 0-4 years of tenure over time appears to have little lasting impact on their future job stability. The age 20-24 cohort appears to have recovered well from the deterioration of their job stability at the entry level. For instance, the 10-year job retention rate for the cohort of college graduated men age 20-24 with 0-4 years of tenure in year 2002 (the 2002 entry cohort) was only 36.4%. The comparable retention rate for the previous cohort (the 1997 entry cohort or college graduated men age 20-24 with 0-4 years of tenure in year 1997) was 43.3%. The 2002 entry cohort experienced considerably greater job instability than the 1997 entry cohort. Some of the 2002 entry cohort continued to engage in job hopping for the next five years. In year 2007, they were 25-29 years old, and their tenure was still less than five years. As shown in the figure, however, their subsequent 10-year job retention rates (college graduated men age 25-29 with 0-4 year of tenure) rose to 58.0% in 2007, suggesting that the majority of those who continued to engage in job hopping for five more years till the end of their 20's finally completed their job hopping and settled into long-term employment. Note that a comparable retention rate for the previous cohort or the 1997 entry cohort (college graduated men age 25-29 with 0-4 years of tenure in year 2002) was 56.2%. In other words, the initial gap in the 10-year job retention rates between the 1997 entry cohort and the 2002 entry cohort when they were in their early 20's (43.3-36.4=6.9%)

became (56.2-58.0=-1.8%) by the time they became in their late 20's. The 2002 entry cohort did struggle with settling into long-term jobs more than the previous cohort (the 1997 entry cohort) but the struggle appears to be temporary, and the 2002 entry cohort caught up with the 1997 entry cohort in their late 20's (in fact, surpassed it slightly). Figure 8 indicates that for less-educated men, there is no such evidence for the increased job instability (even for short-lived instability) among entry-level young workers.

Figures 9 and 10 repeat the same analysis for young women. As in the case of college-educated young men at the entry level, college-educated young women at the entry level (age 20-24 with less than five years of tenure) also experienced falling job retention rates from close to 0.4 in 1982decade to less than 0.2 in 1997decade and 2002decade (Figure 9). Again, similar to college-educated young men at the entry level, the observed drop in their retention rates did not have a lasting impact on their future retention rates. For instance, the 10-year job retention rates for the 1997 entry cohort (college educated women age 20-24 with less than 5 years of tenure) was 19.4%, considerably lower than the 1992 entry cohort (23.3%). However, five years later (at age 25-29), the 1997 entry cohort's retention rate rose to 29.7%, while the 1992 entry cohort's retention rate rose to 31.6%. The retention rate gap in age 20-24 of 3.9% (=23.3-19.4) did shrink to 1.9% (=31.6-29.7).

For less educated women at the entry level, as in the case of their male counterparts, we find no evidence for downward trend in their job retention rates (Figure 10).

We have extended our job retention rate series beyond 2007 and have shown that despite the highly turbulent recent two decades with the global Great Recession of 2008-09 and the Covid 19 Recession of 2020, jobs for Japanese workers with at least five years of tenure (core employees) have continued to be remarkably stable, suggesting the resilience of Japan's long-

term employment system. However, the proportion of such core employees might have been decreasing, making the practice of long-term employment less relevant to Japan's employment system. To see if this is the case, we calculate the proportion of such core employees (or workers with five or more years of tenure) for different age groups over the last four decades for: (i) college-educated men; (ii) less-educated men; (iii) college-educated women; and (iv) less-educated women.

The results are summarized in Tables 1 and 2.[4] Overall, we find no evidence on the shrinking proportion of core employees for men and women and for college educated and less educated, suggesting the continued relevance of the practice of long-term employment to the Japanese economy and society. There is, however, a notable exception. For young men---age 30-34 for college-educated and age 25-29 for less-educated (and 30-34 for less-educated to a lesser degree), there have been downward trends in the proportion of those with five or more years of tenure. In 1982, 63 percent of college-educated men aged 30-34 had five or more years of tenure. The proportion has been falling and in 2022 it reached 52 percent. Likewise, in 1982, 52 percent of less-educated men aged 25-29 had five or more years of tenure, and it continued to decrease and reached 39 percent in 2022. In contrast, no such downward trend is found for women, and in fact, the proportion of core employees has been growing for women regardless of their education level (Table 2).

Table 1 allows us to study whether or not the shrinking share of young male workers with five or more years of tenure is a temporary phenomenon. First, we split all college-graduated men aged 30-34 into two groups: (i) Japanese miracle cohorts (those who graduated from their

[4] For college-educated workers, we begin with age 30 to 34 since we are reasonably confident that most college-educated workers of that age had an opportunity to accumulate five years of tenure with the firm, while that is not the case for those aged 25 to 29.

colleges prior to Japan's Lost Decade: college-educated men aged 30-34 in 1982, 1987, 1992, and 1997; and (ii) post miracle cohorts (those who graduated from their colleges after the onset of Japan's Lost Decade: college-educated men aged 30-34 in 2002, 2007, 2012, 2017, and 2022). Table 2 shows that 63, 63, 65, 68 percents of college-educated male workers of the Japanese miracle cohorts in 1982, 1987, 1992, and 1997 had at least five years of tenure at age 30 to 34. In contrast, the proportions of college-educated male workers aged 30-34 of the post-miracle cohorts with 5 or more years of tenure in 2002, 2007, 2012, 2017, and 2022 were considerably lower (60, 55, 56, 56, and 52 percent). For college-educated young men aged 30-34 in the post-miracle period, the proportion of core employees with five or more years of tenure was indeed smaller than their counterparts in the Japanese miracle period.

To see if the falling size of the core employees aged 30-34 in the post-miracle period is a temporary phenomenon, we follow the same cohorts for five to ten more years. The proportion of the cohort of college-educated male workers aged 30-34 in 2002 who had five or more years of tenure (percent core employees) is 60 percent. The percent core employees for the previous cohort of college-educated male workers aged 30-34 in 1997 is 68 percent. However, as each cohort spends five more years and becomes 35-39 years old, the percent core employees for the age 30-34 in 2002 cohort rises to 63 percent, whereas the percent core employees for the age 30-34 in 2007 cohort does not increase (in fact falls by one percentage point from 68 to 67 percent). In five years, the gap between the two neighboring cohorts narrows from 8 percentage points to 4 percentage points. In five more years, the gap actually reserves or the percent of core employees for the age 30-34 in 2002 cohort further grows to 68 percent whereas the percent core employees for the previous cohort remains at 67 percent.

For the age 30-34 in 2007 cohort, the proportion with five and more years of tenure also shows similar growth from its initial low level of 55 percent to 64 percent in five years to 67 percent in ten years. Likewise, for the age 30-34 in 2012 cohort, the proportion rises from its initial low level of 56 to 60 in five years. Turning to low-educated young men, we find a similar pattern.

In sum, the proportion of the post-miracle cohorts of male workers age 30-34 who are core employees (with five or more years of tenure) is considerably lower than their miracle-period counterparts. However, by following the post-miracle cohorts over time, we have found that in five years, they recovered well from their initial dips in the size of core employees and reached the level of their miracle-period cohorts.

Finally, over the last four decades, Japan's mandatory retirement age has been extended from 55 to 60 and then to 65. It is plausible that such an extension of the mandatory retirement age will result in an increase in the job retention rates for older workers. To this end, we supplement our main analysis by examining job retention rates for older workers. Specifically, we focus on a group of older workers aged 50-54 who will be 60-64 in ten years. Under the initial mandatory retirement regime with 55 as the retirement age, we expect their ten-year job retention rates to be quite low. The same age group 50-54 in more recent years is subject to their mandatory retirement age of 65, and thus their 10-year job retention rates are expected to be much higher than those of their previous generations. To confirm our conjecture, we estimate the 10-year job retention rates for workers aged 50-54 in 1982decade through 2012decade for the same four groups of workers: (i) college-educated men; (ii) less-educated men; (iii) college-educated women; and (iv) less-educated women. As we have done above, we do so for those with less than five years of tenure and with five or more years of tenure.

Figure 11 shows the results. As expected, we see upward trends in the job retention rates for all 8 groups, and the upward trends are particularly notable for those with five or more years of tenure, which is consistent with our prior expectation of the positive effect of the extension of the mandatory retirement age on job retention.

4. Conclusions

We have provided the most up-to-date and comprehensive estimates on the job retention rates for Japanese workers over 1980-2022. Our estimates have pointed to the remarkable stability of the job retention rates over the last four decades, pointing to the resilience of Japan's long-term employment system. Particularly noteworthy is that we have found no sign of the deteriorating practice of long-term employment over the most recent decade and a half which include two of the most severe recessions the Japanese economy has ever experienced in its postwar period. To explore the possibility of finding a sign of weakening long-term employment for particular subsets of the population of workers in Japan, we have disaggregated the data by education and age and have produced the job retention rate series for the following four groups of workers: (i) college-educated men; (ii) less-educated men; (iii) college-educated women; and (iv) less-educated women. We have found no evidence for declining practice of long-term employment for any of the disaggregated groups.

When we turn our attention to entry-level young workers instead of prime-age workers, we have found that their 10-year job retention rates fell greatly over time for college-educated young men and women, pointing to intensified job changes at the entry level among young workers with college degrees. To see if such accelerating job instability of entry-level young workers with college degrees has a lasting negative effect on their subsequent careers, we have

followed the same cohort of workers from their early entry-level job experiences in their 20's to their later job experiences in their 30's as prime-age workers. Based on such cohort analysis, we have found that the observed massive increase in job instability of young workers over time did not have a lasting negative impact on their later careers. To supplement the above retention rate analysis for entry-level young workers, we have calculated the proportion of workers with five or more years of tenure (core employees) for each birth cohort and for each year. We have found that the proportion of young core employees with five or more years of tenure has been falling since 2002, yet we have also found that as they get older, the proportion of core employees recovers to the level of their previous cohorts.

At the opposite end of the career stages or in their 50's, we have identified an upward trend in their 10-year job retention rates over time, which is consistent with rising mandatory retirement age from 55 to 60, and to 65.

Overall, our study points to the remarkable resilience of Japan's long-term employment system and calls for a need to couch policy discourses in the reality of the persistent practice of long-term employment.

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Table 1 Proportion of Workers with Five-Plus Years of Tenure: Men

college-educated men

	age 25-29	age 30-34	age 35-39	age 40-44	age 45-49	age 50-54
1982		0.630	0.653	0.669	0.586	0.529
1987		0.632	0.651	0.640	0.637	0.555
1992		0.649	0.642	0.611	0.604	0.596
1997		0.681	0.702	0.653	0.620	0.584
2002		0.599	0.672	0.664	0.616	0.539
2007		0.547	0.634	0.666	0.640	0.563
2012		0.563	0.643	0.680	0.674	0.629
2017		0.557	0.624	0.670	0.676	0.654
2022		0.516	0.602	0.654	0.652	0.660

less-educated men

	age 25-29	age 30-34	age 35-39	age 40-44	age 45-49	age 50-54
1982	0.525	0.572	0.587	0.563	0.517	0.489
1987	0.515	0.582	0.580	0.585	0.554	0.506
1992	0.485	0.566	0.582	0.582	0.577	0.551
1997	0.500	0.579	0.606	0.601	0.588	0.576
2002	0.447	0.538	0.571	0.564	0.552	0.519
2007	0.405	0.531	0.560	0.563	0.560	0.526
2012	0.406	0.522	0.578	0.585	0.577	0.557
2017	0.403	0.503	0.569	0.587	0.588	0.578
2022	0.391	0.500	0.544	0.571	0.592	0.584

Source: The Employment Status Survey, 1982, 1987, 1992, 1997, 2002, 2007, 2012, 2017, and 2022.

Table 2 Proportion of Workers with Five-Plus Years of Tenure: Women

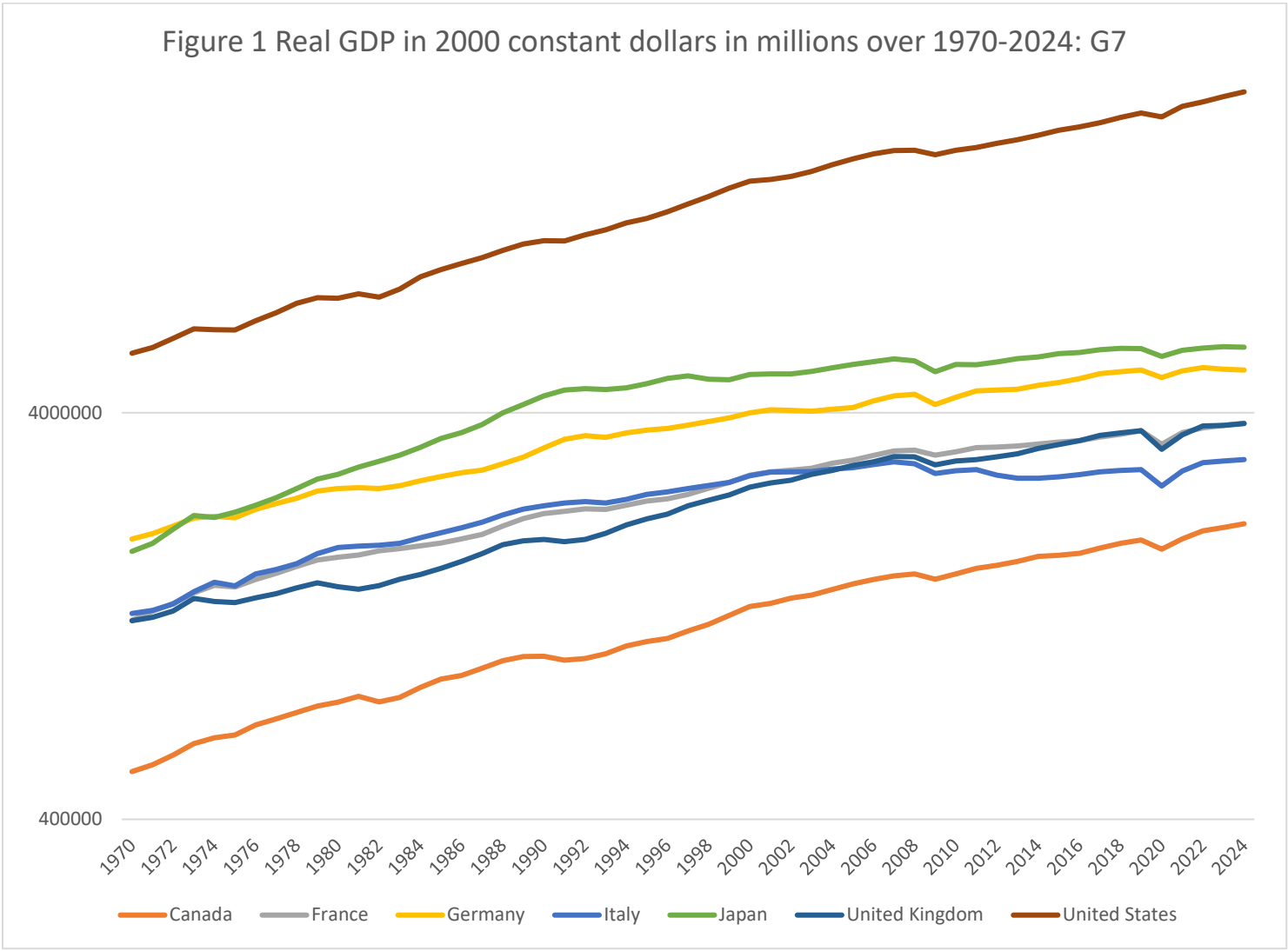
college-educated women

	age 25-29	age 30-34	age 35-39	age 40-44	age 45-49	age 50-54
1982		0.263	0.271	0.324	0.318	0.296
1987		0.279	0.287	0.299	0.332	0.301
1992		0.317	0.305	0.308	0.288	0.318
1997		0.333	0.300	0.339	0.367	0.366
2002		0.306	0.328	0.350	0.352	0.359
2007		0.301	0.328	0.356	0.387	0.418
2012		0.347	0.353	0.392	0.437	0.453
2017		0.410	0.400	0.404	0.416	0.456
2022		0.454	0.433	0.447	0.464	0.450

less-educated women

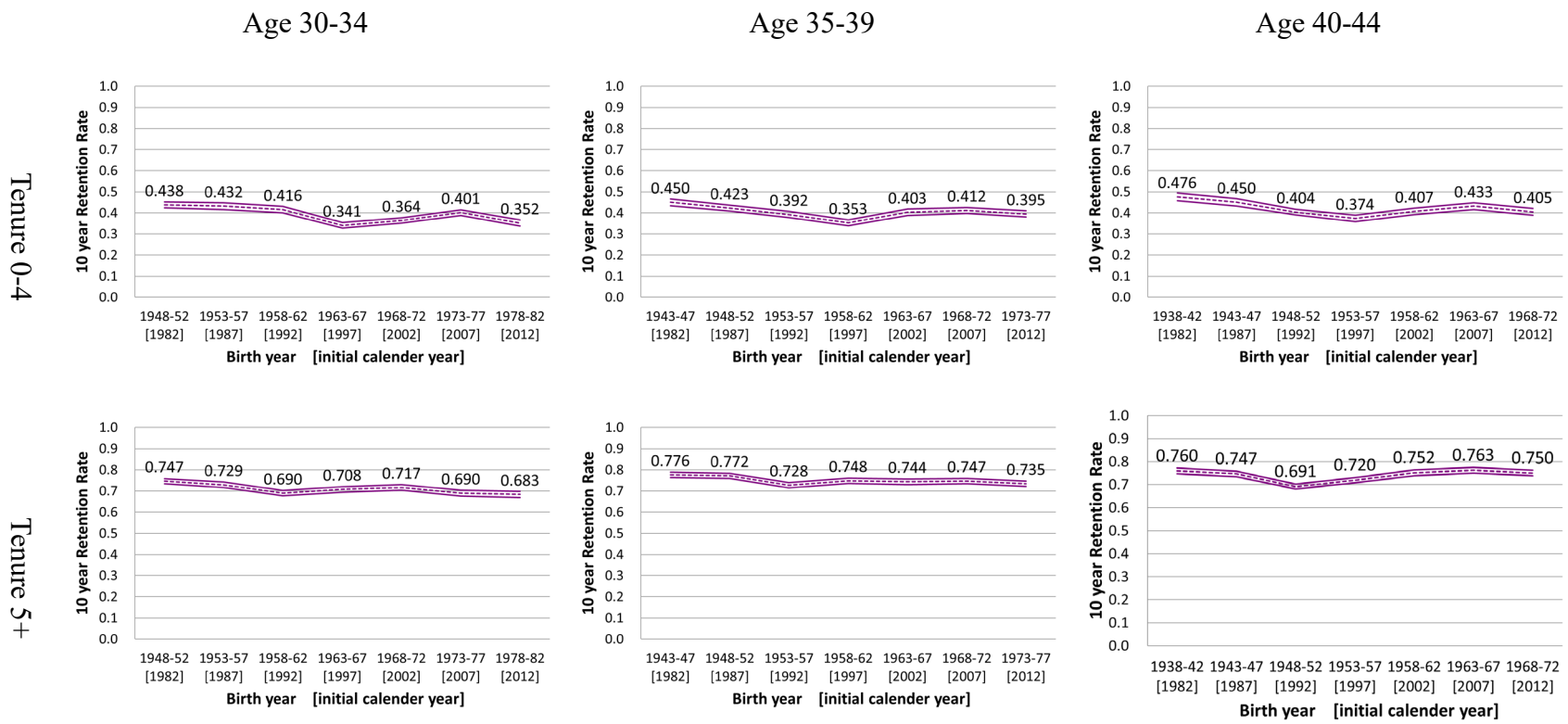
	age 25-29	age 30-34	age 35-39	age 40-44	age 45-49	age 50-54
1982	0.193	0.145	0.163	0.219	0.251	0.235
1987	0.230	0.170	0.189	0.245	0.285	0.270
1992	0.247	0.191	0.216	0.266	0.312	0.317
1997	0.282	0.220	0.236	0.301	0.354	0.348
2002	0.260	0.222	0.238	0.291	0.345	0.342
2007	0.259	0.262	0.265	0.319	0.389	0.401
2012	0.271	0.290	0.318	0.354	0.415	0.448
2017	0.292	0.318	0.340	0.386	0.425	0.469
2022	0.288	0.368	0.388	0.424	0.470	0.482

Source: The Employment Status Survey, 1982, 1987, 1992, 1997, 2002, 2007, 2012, 2017, and 2022.



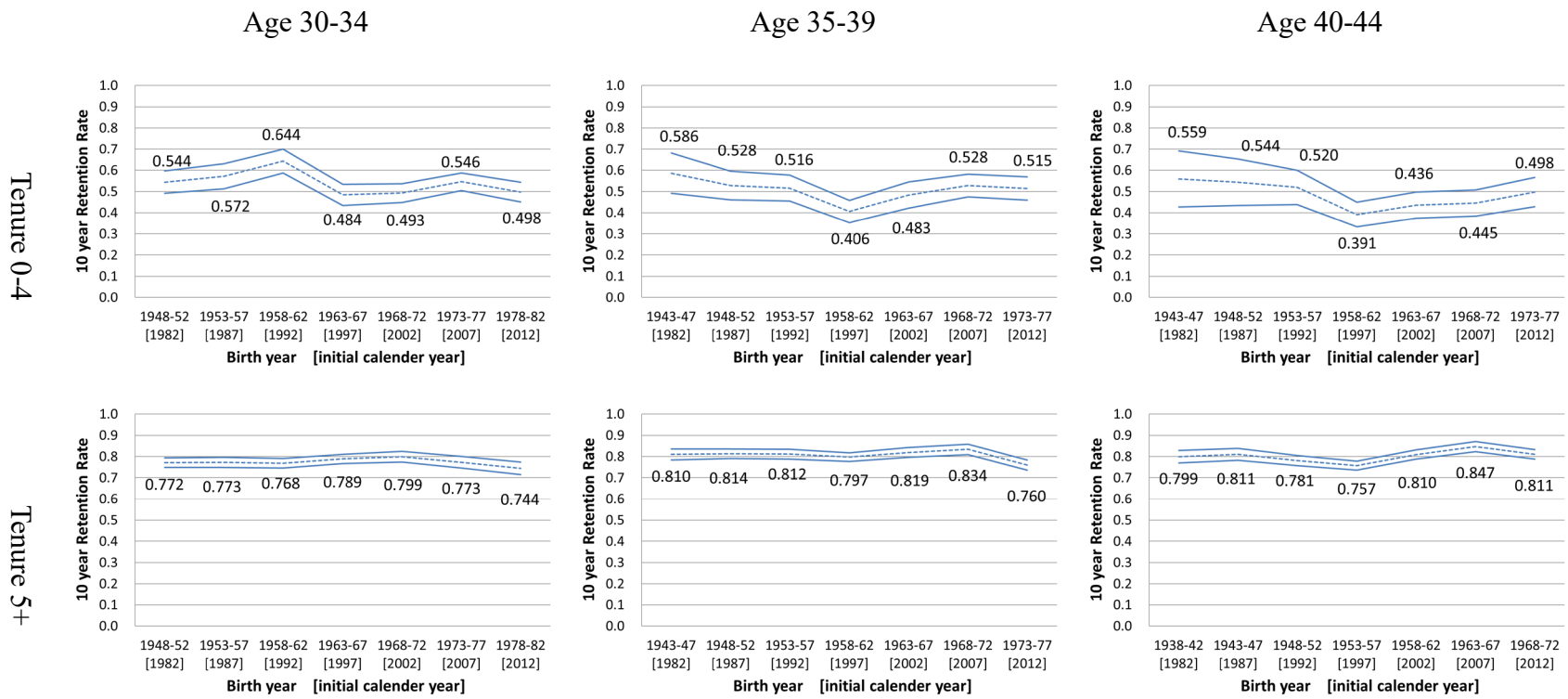
Source: OECD Data Explore. Vertical axis in log scale

Figure 2: Ten-Year Job Retention Rates from 1982 to 2022: All Workers of Prime Age



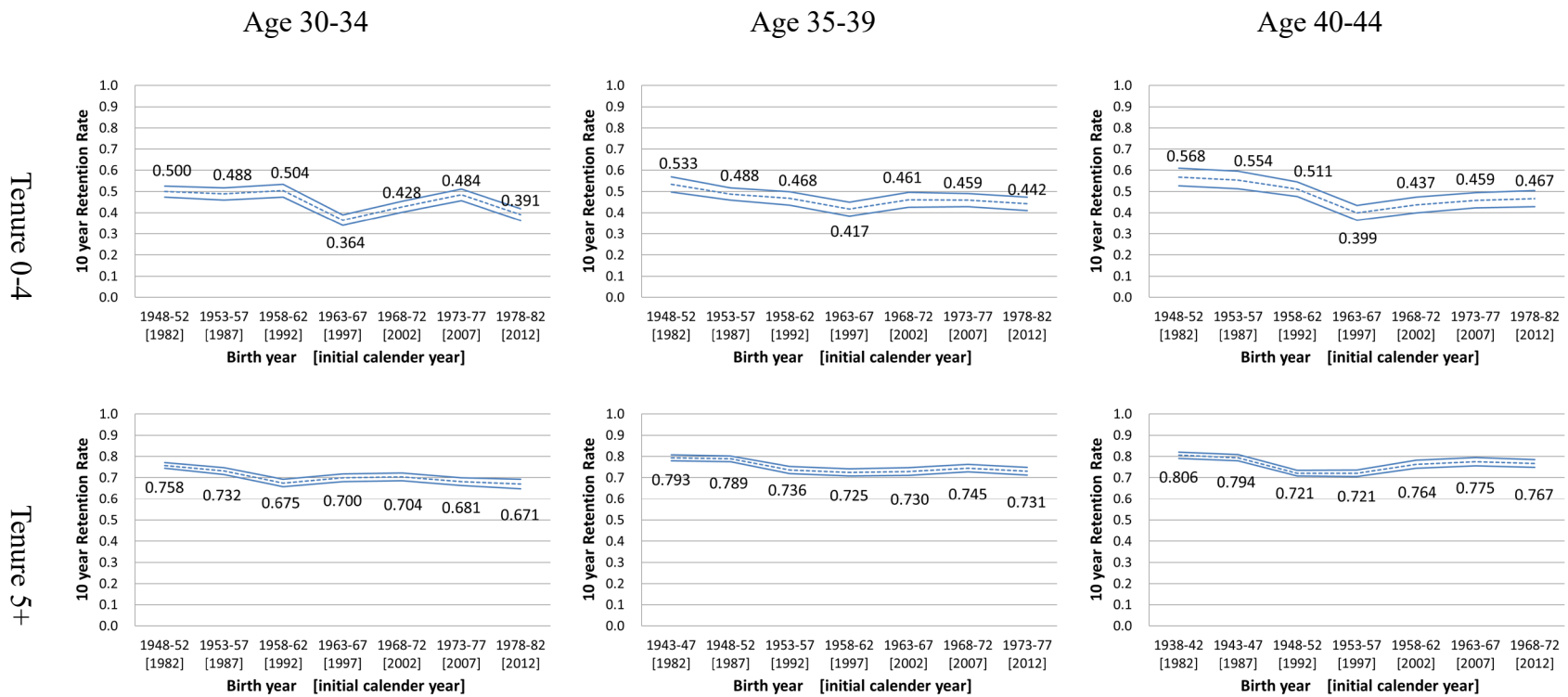
Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

Figure 3: Ten-Year Job Retention Rates from 1982 to 2022: College-educated Men of Prime Age



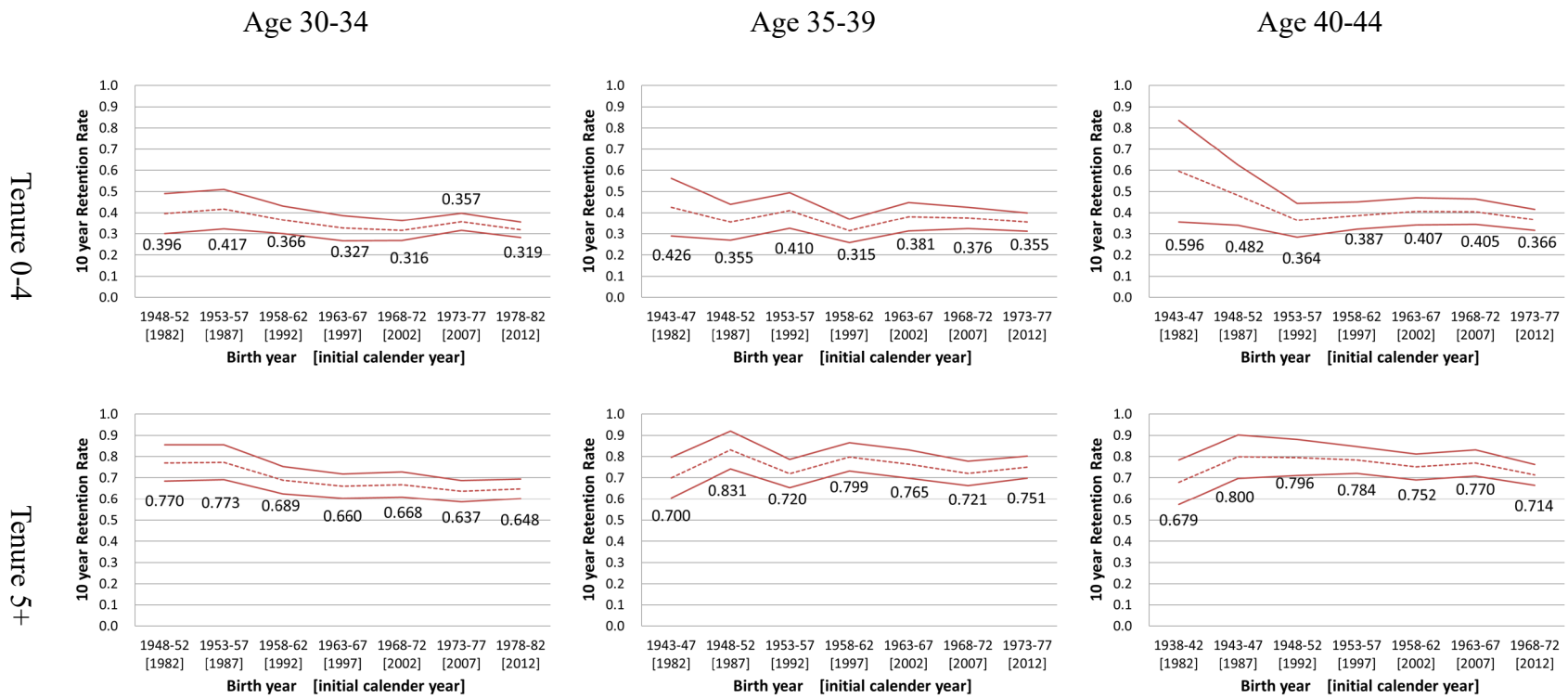
Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

Figure 4: Ten-Year Job Retention Rates from 1982 to 2022: Less-educated Men of Prime Age



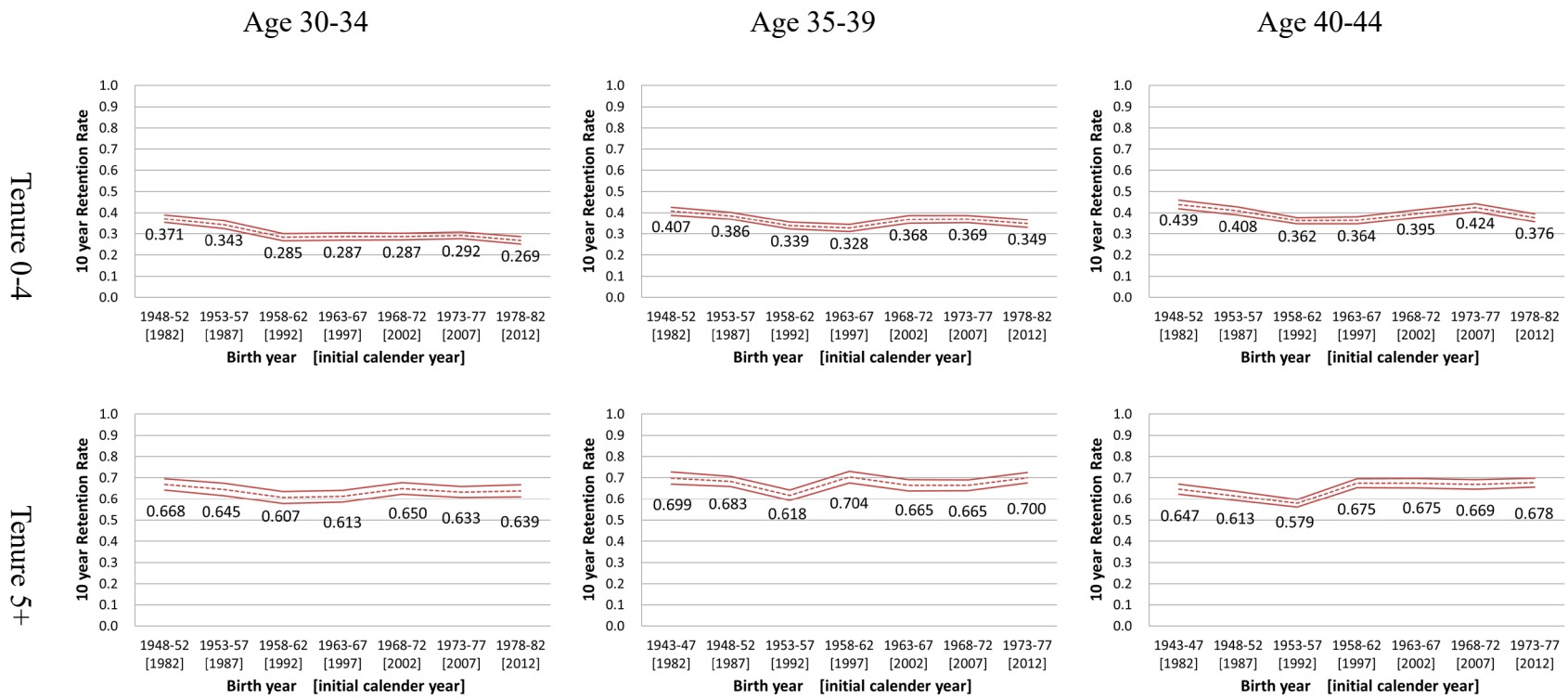
Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

Figure 5: Ten-Year Job Retention Rates from 1982 to 2022: College-educated Women of Prime Age



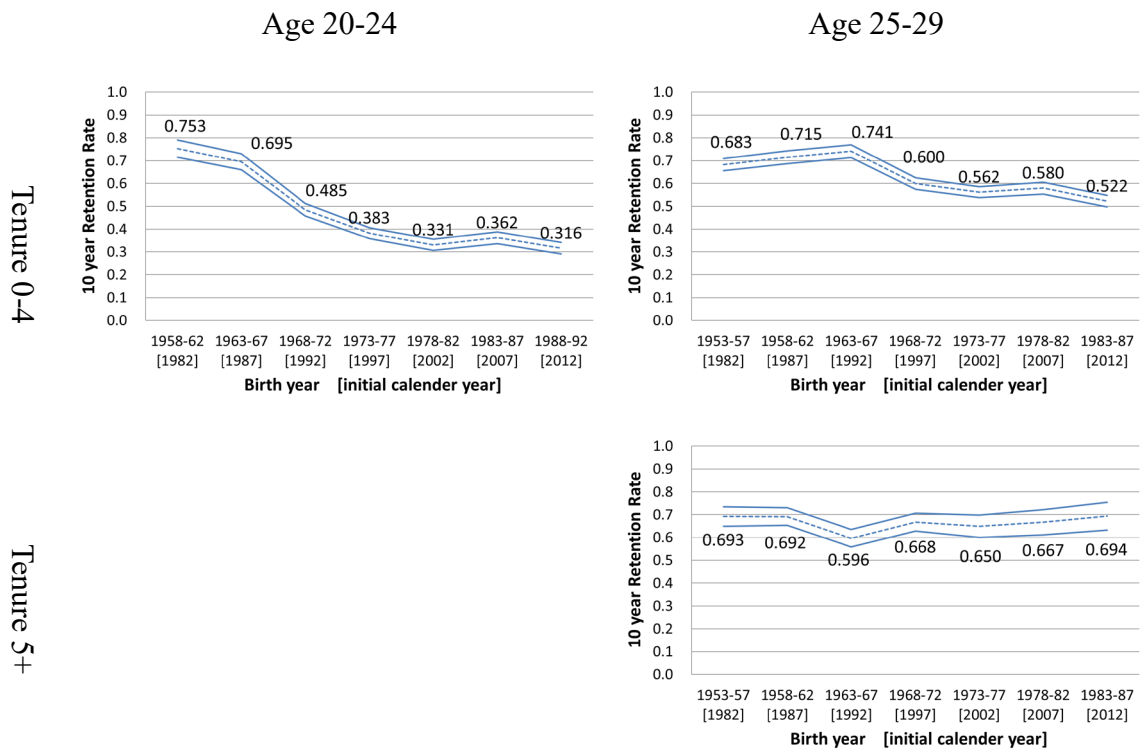
Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

Figure 6: Ten-Year Job Retention Rates from 1982 to 2022: Less-educated Women of Prime Age



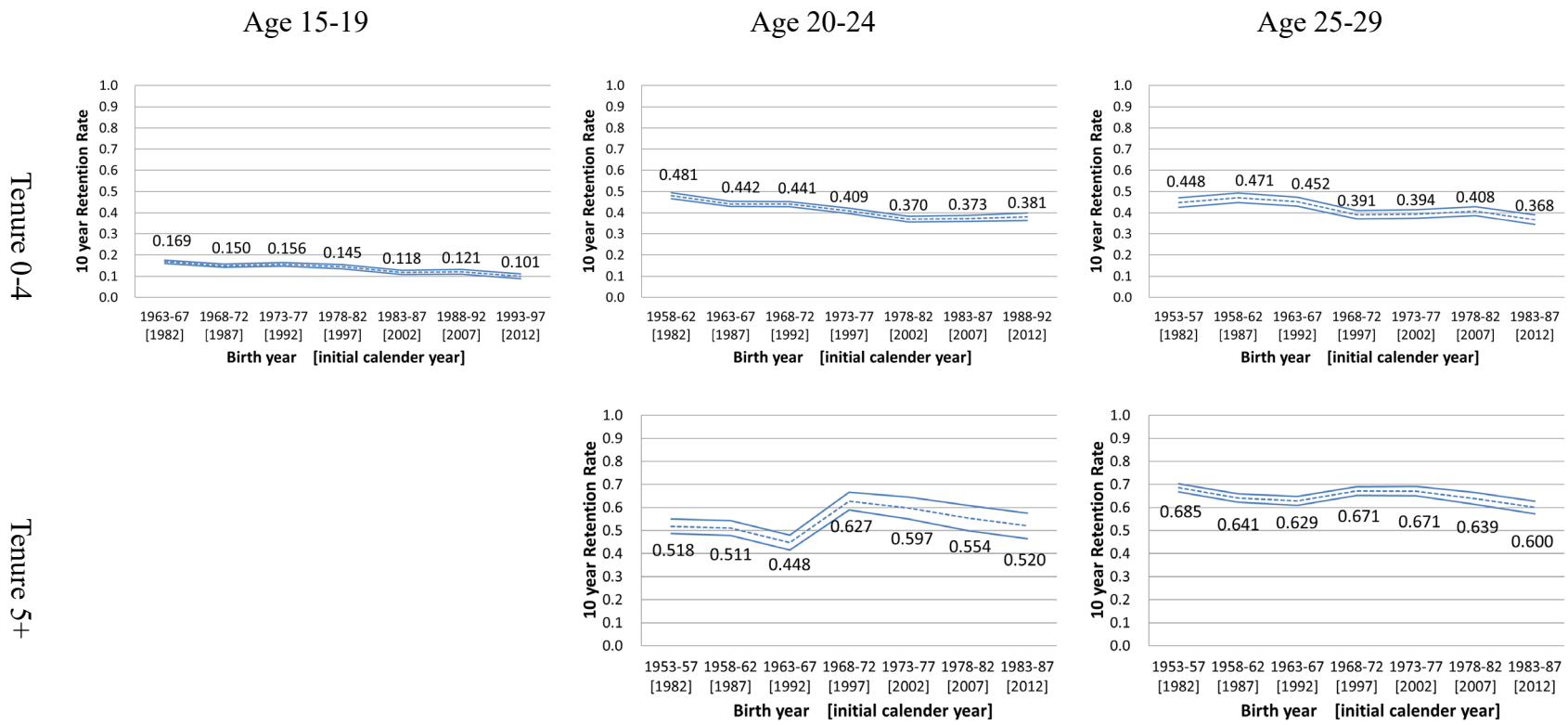
Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

Figure 7: Ten-Year Job Retention Rates from 1982 to 2022: College-educated Men of Youth



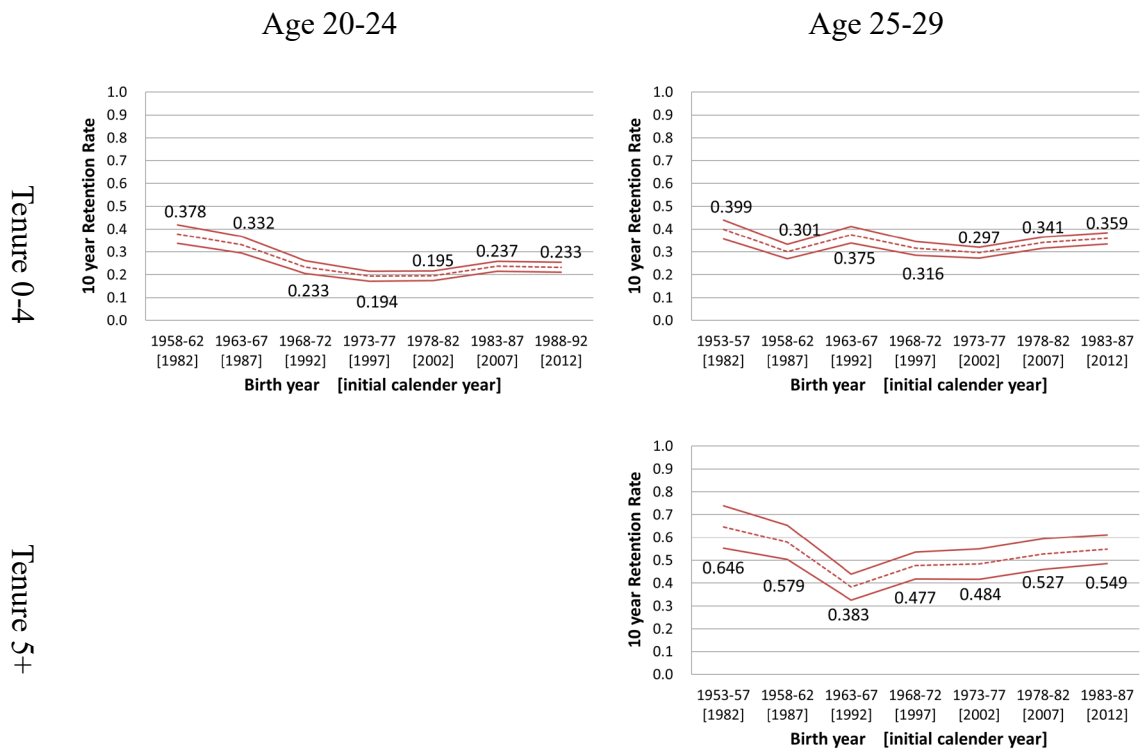
Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

Figure 8: Ten-Year Job Retention Rates from 1982 to 2022: Less-educated Men of Youth



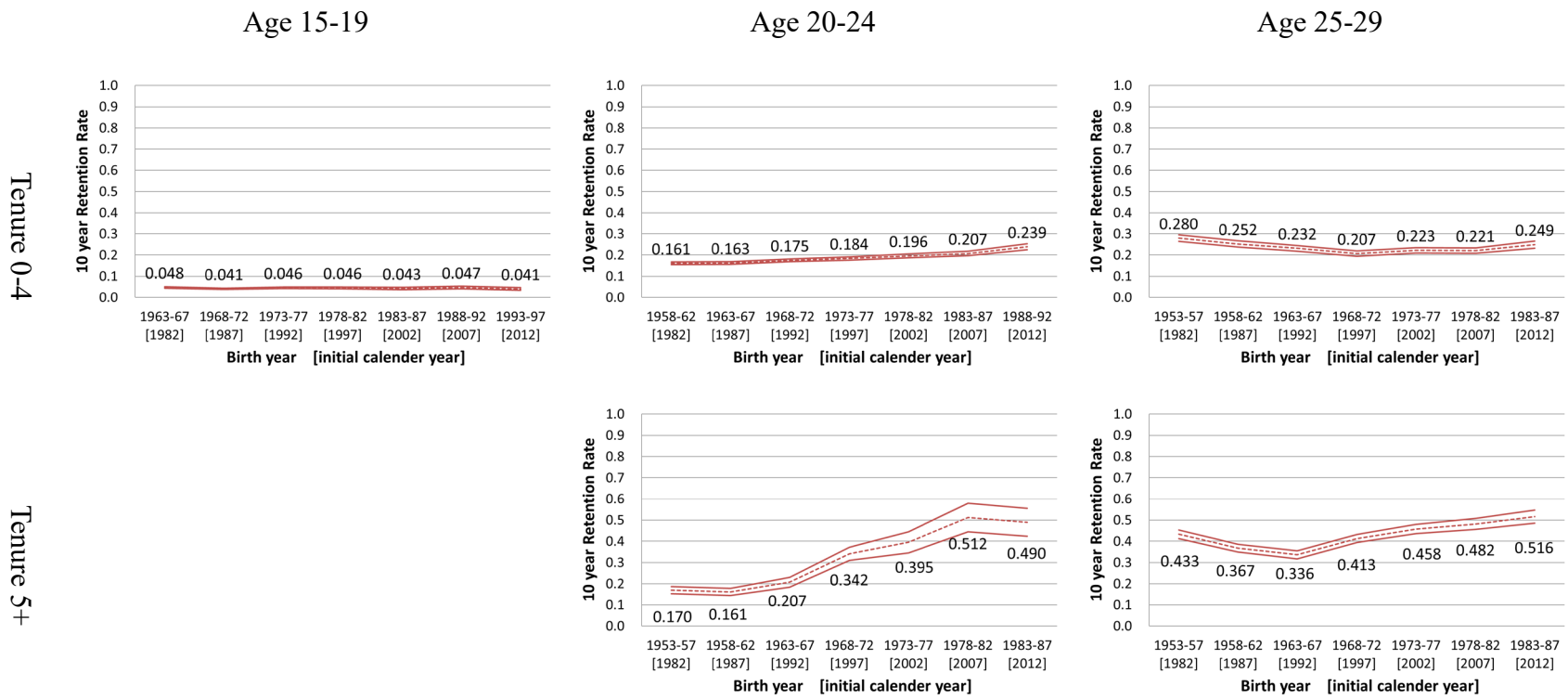
Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

Figure 9: Ten-Year Job Retention Rates from 1982 to 2022: College-educated Women of Youth



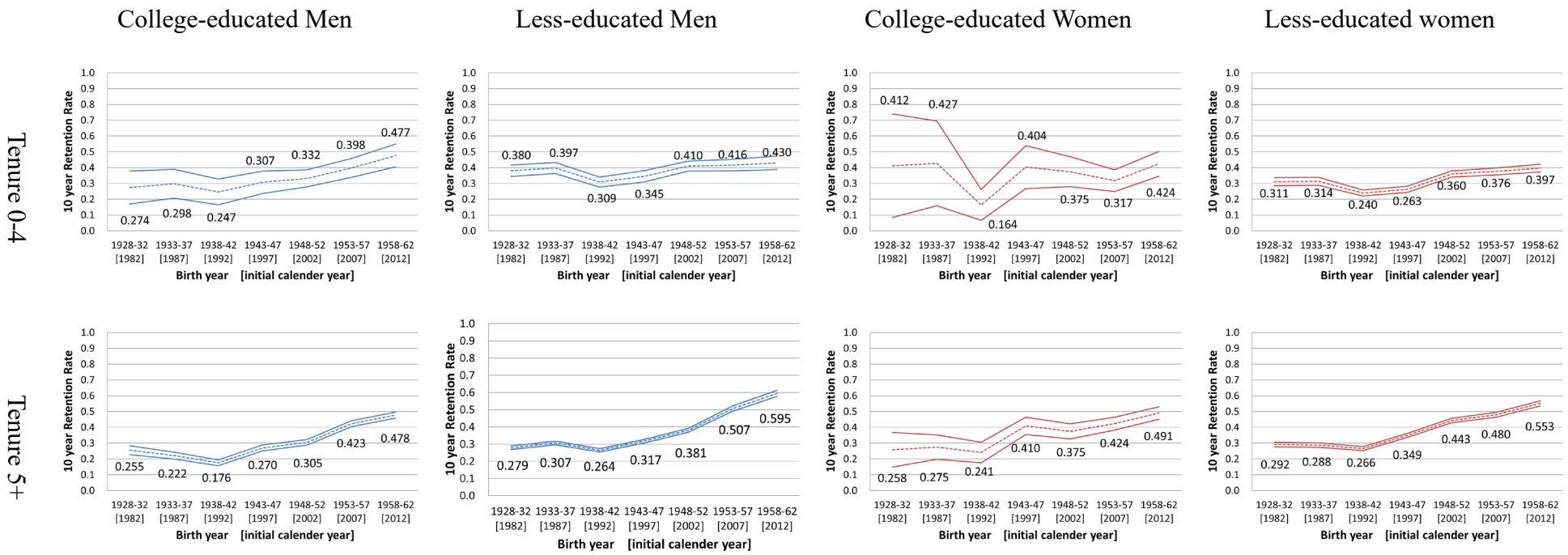
Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

Figure 10: Ten-Year Job Retention Rates from 1982 to 2022: Less-educated Women of Youth



Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).

Figure 11: Ten-Year Job Retention Rates from 1982 to 2022: Age 50-54



Notes: The dotted lines indicate the 10-year job retention rates of workers from 1982 to 2022 for each of the 12 education-tenure-age categories. For each retention rate we calculate the 95% confidence interval (see appendix for the derivation of the confidence interval). Each retention rate series has an accompanying 95% confidence interval series (indicated by a pair of solid lines).