A Note on Labor Supply Experiences of Japanese Women

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1 The analysis in Section 3 of this paper uses the data from the Japanese Panel Survey of Consumers, collected by the Institute for Research on Household Economics. I thank the Institute for permission to use the data. The data cannot be released because of the agreement between the Institute and the author. I thank seminar participants at Hokkaido University for comments. For financial support, I thank Nikkei Foundation and Ministry of Education Grant to Hosei University on International Research Project on Aging (Japan, China, Korea) (FY2003 and FY2004). Remaining errors are my own.
Abstract

This note documents the pattern of work behavior of Japanese women, by paying attention to the persistence of work behavior. Cohort effect is significant in women's participation in part-time work, in that women of later cohorts are much more likely to work part-time. Cross sectional data suggest that recent cohorts of college-educated women are more likely to reenter the labor market in their middle age. Panel data show that there is significant persistence in women's work decisions.

JEL classification: J21

Keywords: Labor supply, Cohort profile, Part-time work, Japan
1. Introduction

Women's labor force participation has advanced continuously in Japan for the past two decades. For women aged 20-59, the labor force participation rate was 57.7 percent in 1980, but it had risen to 66.5 percent by 2002. Among the labor force aged 20-59, the proportion of women was 41.3 percent in 2002, while it was 38.6 percent in 1980. There is significant interest in issues concerning women's work, including labor supply, male-female wage differentials, maternity and childcare leaves, Social Security rules for married women, and wage differentials of full-time and part-time workers.

In this note, I document patterns of women's labor force participation behavior by using two data sets. First, the data from the published versions of Employment Status Survey (ESS, Shugyo Kozo Kihon Chosa) of 1987, 1992, 1997, and 2002 are used to follow cohort experiences of women's labor force participation. Then I use the Japanese Panel Survey of Consumers (JPSC) to assess the degree of persistence in women's work behavior. Since the JPSC survey is conducted on young women, it is not possible to know the labor force behavior of older women or to know retirement behavior.

Many of the analyses in the literature that use relatively recent data are based on cross sectional data (Ogawa and Ermisch (1998), Sasaki (2002), and Nawata and Ii (2003), to name a few). This paper, in contrast, follows the cohort experiences

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2 The statistics of labor force participation and women's share in the labor force are from the Labour Force Survey.
3 I focus on women's participation in the labor market and the type of employment when they participate. Needless to say, other measures of labor market outcomes, such as wages, bonuses and fringe benefits, are important in understanding the effects of cohort and education in women's work.
of labor market participation by using repeated cross sections, and follows individual work history using panel data. The cohort and panel analysis reveals the very different nature of women's employment that cannot be observed from cross sectional analyses. In doing so, the need for an examination of the roles of educational attainment is made evident.

Concerning the role of educational attainment on women's work decisions, a common understanding has been that college-educated women tend to leave and not to reenter the labor force after marriage or childbirth. One of the explanations is that a higher husband's income tends to depress the wife's labor force participation, and because women with a college education tend to marry college-educated men, college-educated women are less likely to work than women who are not college-educated. The paper reaches the following two conclusions. First, educational investment probably improves the likelihood for women to work in good jobs. The types of jobs university graduate women hold are much more likely to be full-time, and university graduate women who do work are much more attached to the labor force than high school graduates. Second, later cohorts of more educated women (junior college graduates and four-year college graduates) are more likely to reenter the labor market in their 30s and 40s and are more likely to engage in

estimates a dynamic model of marriage, childbearing, and labor force participation, but her analysis is based on a short panel data set and does not distinguish cohort effects and age effects. Abe (2001) looks at labor supply behavior by cohort, but his analysis is limited to those aged 44 and younger. Furthermore, in Abe (2001), all wage-salary earners are placed in one category, without distinguishing between full-time and part-time employment. Takeuchi (2004) estimates a conditional logit model of participation behavior.

5 This observation is consistent with Higuchi (1991, 1998). Genda and Kurosawa (2001) argue that college education does not improve the chances for young women to gain full-time regular employment. In this paper, I focus on women older than those analyzed by Genda and Kurosawa, so that may be a reason for the difference.
part-time work than previous cohorts of educated women were. The latter pattern has not been mentioned in the previous literature.

The analysis reveals significant differences in reentry and retirement behavior across cohorts. In particular, cohort differences in participation in part-time work are quite large. On the other hand, employment as regular full-time employees has not advanced much for middle-aged women, even after the enactment and enhancement of the Equal Employment Opportunity Law (EEOL).

The results from aggregate data suggest that women’s work behavior is persistent. To examine the degree of persistence at the micro-level, I turn to the analysis of a panel data set of young women. The panel data show substantial persistence in participation in the labor market. As an additional measure of labor market attachment, I look at tenure (the length of service at a firm) distribution. It shows large differences across educational groups. University graduate regular full-time female employees tend to have longer tenure than the less educated regular full-time female employees. However, conditional on gaining full-time jobs after an interruption, high school graduates also stay continuously in a firm.

This paper is organized as follows. In the next section, the results from aggregate data of repeated cross sections are presented. In Section 3, results from panel data are presented. Section 4 shows the tenure distributions. Section 5 concludes.

2. Cohort Experiences of Women’s Work Behavior

It is well known that the female labor force participation profile is M-shaped in a cross section. It is also a common understanding that the dip in the middle is
much deeper in Japan than other developed countries (Nakamura and Ueda (1999), for example). However, the cross sectional profile does not necessarily represent the actual labor force experiences of various cohorts. In order to understand the actual experiences, it is useful to follow the cohort experiences (Goldin (1989), Chapter 2). In this section, I report the results obtained from repeated cross sectional data of the published versions of Employment Status Survey (ESS).

The ESS is a cross sectional survey conducted every five years by the Ministry of Public Management, Home Affairs, Posts and Telecommunications of Japan. It asks for detailed information on employment status and education. The published tables of the aggregated data provide information on labor force status by sex, age group, and education. Another advantage is its broad coverage: in 2002, the survey was conducted for adults in 440,000 households, with the size of original sample to be 1.05 million persons of age 15 and over.

Cross sectional Work profile

The cross sectional labor force participation profiles, which plot the participation against age, have been used widely as a characterization of the women's labor supply behavior. Figure 1 shows work profiles (the proportion of working women among the population, plotted against age) by using four points of time (1987, 1992, 1997, and 2002): the figures are drawn separately by education (senior high school graduates, junior college graduates and university graduates). Overall, the

6 In the ESS, respondents are asked to indicate their level of education by choosing one of the following four categories: junior high school graduate (9 years of compulsory schooling), senior high school graduate (12 years of schooling), junior college graduate (usually 14 years of schooling, while including some vocational and technical schools) and university graduate (16 years or more of schooling, including graduate education).
profiles move up over time for all education groups, so more women are participating in the labor force. All of the profiles show a decline in participation around age 30; the drop creates a double-peaked labor force participation profile. The comparison of educational groups indicates that the double-peaked shape of the profiles is most evident for senior high school graduates, while the second peak is not apparent for college graduates. The insignificant second peak (little reentry to the labor market) among college graduates has been pointed out in the previous literature (Wakisaka and Tomita (2001)). As the following analysis shows, however, the cross section profiles do not quite parallel the actual labor force experiences of cohorts. So, for example, interpreting the second peak in the M-shaped participation schedule as “reentry” or, interpreting the decline at old age as “retirement” is not necessarily an accurate description of the labor force decisions of women. Rather, the effects of the age variable from cross sectional estimates should be understood as a combined effect of age effects and cohort effects.\(^7\)

Cohort Profiles of Participation

Cohort profiles follow the work experiences of the cohorts, in aggregate. Since the ESS is conducted every 5 years and most of the published tables list statistics by 5-year age intervals, I define cohorts by a 5-year birth year interval and follow the work decisions of the cohorts from 1987 to 2002, by women’s education. The cohort

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Since more than 95 percent advanced to senior high school recently, I omit this category in showing the results by education.

\(^7\) The age variable is typically included in cross section regression equations that predict labor force participation. If the cohort effect is large, however, predicting the participation behavior of younger cohorts based on the experiences of older cohorts can be misleading.
profiles of labor market participation are shown in Figure 2-1 to Figure 2-3.\footnote{In the analysis using the ESS in this paper, the proportion of “working” is called “labor force participation.” This does not correspond to the usual definition of labor force participation in that unemployed workers are included in the labor force participants, even though they do not work. Since the ESS asks for the usual status of respondents and I use aggregate tables instead of micro data, tabulating labor force participation rates from the ESS is impossible.}

The cohorts born between 1963- and 1967 are the generation that experienced the enactment of the Equal Employment Opportunity Law for Women (EEOL) around the time of finishing their four-year college education. So, the cohorts born in 1962 or later are the ones that potentially benefited from the EEOL at the time of labor market entry (“post-EEOL cohorts”). In Figure 2-1, the cohort profiles of senior high school graduates do not move up much for post-EEOL cohorts, compared with previous cohorts. For junior college graduates and college graduates, the profiles move up a little (Figure 2-2 and Figure 2-3). Therefore, as far as the participation decision is concerned, the EEOL benefited more educated women.\footnote{Of course, EEOL may benefit women workers in many other ways, such as wages, promotion, or working conditions. These aspects are not considered in this paper. Furthermore, if macroeconomic conditions at the point of entry in the labor market affect the participation outcome differential outcomes for post-EEOL cohorts may not solely due to the EEOL.} However, as the following analysis shows, the participation in full-time work by older women has not advanced much after enactment of the EEOL.

The cohort profile of university graduate women indicates some signs of reentry into the labor market after age 30 for cohorts born around 1950 (Figure 2-3), although the extent of reentry is smaller than the other two educational groups. Recently, university graduate women are more likely to reenter the labor market around age 40 than in the past.
Cohort Profile of Full-time and Part-time Employment

In Japan, employment as a regular full-time employee and as a non-regular employee (typically, a part-time worker) is quite different in terms of wages, hours, fringe benefits, and working conditions. There is some evidence that the wage gap between regular female workers and part-time female workers has widened since the 1980s.\textsuperscript{10} To understand the pattern of regular and non-regular employment across education groups, I create the following two measures:

\[
\text{Regular Employment Ratio} = \frac{\text{Number of Regular Workers}}{\text{Population}}
\]

\[
\text{Part-time Employment Ratio} = \frac{\text{Number of Part-time Workers}}{\text{Population}}.
\]

These measures are calculated for each education-age group pair, using the ESS data. Part-time worker in the ESS correspond to those workers who are called part-timers in the workplace. They measure the proportion of each type of employment in the population, by cohort and education. In Figure 3-1 to Figure 3-3, Regular Employment Ratio is plotted against age, by cohort. The following implications are derived from the figures.

First, comparing the later cohorts with the earlier cohorts, full-time regular employment increased little for senior high school graduates and junior college graduates. For university graduate women born between 1963 and 1972, regular employment ratio at age 25-29 is about 10 percent higher than that of the university graduate cohort born between 1958 and 1962. But even for university-educated women, the regular employment ratio after age 40 has not increased much for cohorts

\textsuperscript{10} For example, Ohtake (2000), Ministry of Health, Labour and Welfare (2003).
born later. Therefore, EEOL has not necessarily advanced the proportion of regular employment among highly educated, middle aged or older women.

Second, reentry into regular employment is limited for junior college graduates and university graduates. The cohort profiles of regular employment after age 40 are virtually flat or declining for these groups.\textsuperscript{11} For three cohorts of senior high school graduates, there seems to be a small degree of increase in regular full-time employment after age 30 and a subsequent decline (the 3 thick lines in Figure 3-1, corresponding to 1943-1947, 1948-1952, and 1953-1957 birth year cohorts).\textsuperscript{12} So the net reentry into the labor market after interruptions (due to childbirth or child rearing) does not take place as regular employment.

Third, the Regular Employment Ratio is much higher for university graduates than senior high school graduates, implying that education is an important determinant for employment status. In 2002, the Regular Employment Ratio is 33 percent for 40- to 44-year-old college graduates, while it is 22 percent for senior high school graduates of the same age group. Although education does not significantly increase the labor force participation rate of women in middle age, more education helps women to gain a “better type of paid employment.”

Finally, the regular employment ratio drops suddenly from the age 55 to 59 group to the age 60 to 64 group. This is most likely the result of the mandatory retirement age of 60. Before that age, no significant retirement seems to take place;

\textsuperscript{11} An exception is the university graduates born between 1943 and 1947.
\textsuperscript{12} Interestingly, though, this increase in regular employment by senior high school graduates occurred from 1987 to 1992, followed by a decline in 1997 to 2002. The 1987-1992 period was when the Japanese economy experienced the “bubble,” while the 1997-2002 period was the time of deep recession. Such a rise and subsequent fall has not taken place for junior college graduates, nor for university graduates.
cohort profiles are flat and are not declining with age.\textsuperscript{13}

In the same way that the regular employment profiles are created, the part-time profiles are drawn by plotting the Part-time Employment Ratio against age. They are shown in Figure 4-1 to Figure 4-3. The most notable fact from these figures is the large cohort effects in part-time profiles. Later cohorts are much more likely to engage in part-time work, compared with previous cohorts, for all education groups. The increase in part-time work occurs in middle age, so it is a typical form of reentry into the labor market for middle-aged women.

Participation in part-time employment is also significantly related to education. University graduate women are much less likely to work as part-timers than senior high school graduates are. It is also notable that the proportion of part-time employment in the population stays almost constant for women aged 45 to 59. So, at least in the aggregate, retirement from part-time work does not take place until age 60, which is the typical mandatory retirement age for regular full-time workers. This is somewhat surprising, since part-time workers are usually not eligible for a large amount of severance pay, and their wages do not grow as fast as those of regular workers.\textsuperscript{14} Since cohort differences are large in part-time profiles, the cross sectional differences in part-time participation across age groups do not correspond to the actual experiences of each cohort. The dotted line in Figure 4-1 is the cross sectional

\textsuperscript{13} Since Figure 3 is drawn from cross sectional data, the flat profile before age 55 may mean that some women start to work as regular workers while others quit from regular employment, so the overall proportion stays at the same level. This is an unlikely scenario, however, given that the tenure distribution of full-time workers is concentrated at long years (Section 4). The other possibility is that those who quit from regular employment may move to part-time work, instead of retiring from the labor market. It is difficult to confirm this at the point of this writing, since no panel data set has followed older women in Japan.

\textsuperscript{14} These are considered to be some of the reasons Japanese regular employees have a strong attachment to their jobs.
part-time participation profile in 2002: it increases in middle age and falls in old age. In a cross section, older women are less likely to work part-time. This is not a result of older women retiring from part-time work; rather, older cohorts are much less likely to engage in part-time work than younger cohorts are. In such a case, a cross sectional profile overestimates the degree of retirement from part-time work by older women.

Women with high educational attainment did not work part-time in the past (Nagase (1997)). It has also been a common understanding that college-educated women have two distinct patterns of labor force participation: a persistent participation in paid employment or a complete exit from the labor market after marriage or childbirth (Higuchi (1991, 1998), Wakisaka and Tomita (2001)). Although these understandings were true in the past, part-time work has become increasingly prevalent among highly educated women of later cohorts: Figure 4-2 and Figure 4-3 show that the cohort profiles of part-time work moved up for later cohorts of university graduates and junior college graduates.

There could be several explanations for this. One is that attending higher education institutions has become increasingly common among later cohorts of women, so those who would have finished their education at the senior high school level decades ago would have advanced to a junior college or four-year university recently. If higher education institutions do not add sufficient human capital to these “new entrants to higher education,” the graduates are not placed in the types of employment where the earlier cohorts of university graduates have been placed. The second explanation is that the Japanese labor market went through significant changes in employment practices, so some full-time jobs that used to be filled by female junior
college graduates, for example, are now cut down or eliminated; tasks these workers used to do are now performed by part-time workers or temporary staffers. Because of this development, the younger cohorts of junior college and some college graduates are now engaged in part-time jobs. Third, younger cohorts of highly educated women have a stronger preference for reentry into the labor market than previous counterparts, so reentry becomes increasingly common, but it is possible only as a part-time worker. The last explanation is consistent with the upward shift in part-time profiles for the younger cohorts.

3. Evidence on Persistence in Work from a Panel Data Set

The repeated cross sectional data are not the reflection of the actual labor force experience of individuals. In order to better understand the pattern of persistence in work behavior, I now turn to the analysis of the micro data set of the Japan Panel Survey of Consumers (JPSC).

Panel data allow me to assess the degree of persistence by looking at the actual experiences of women. Unlike the repeated cross sections, the distinction between “in and out of the workforce” and “continuous participation” can be made clear. The drawback is that the JPSC data contains relatively young women, so the scope for identifying reentry behavior is limited. In addition, identifying retirement behavior is impossible; the women in the sample were between age 24 and 34 in 1993. Since the aggregate data show some sign of reentry for university-educated women, this could potentially be important. Another weakness of the JPSC is that it does not include observations from distant cohorts, so if the cohort differences are large (which is likely, based on the analysis in Section 2), inferences based on the JPSC cannot be
generalized.

Here, I summarize the actual labor market status for 6 years in the J PSC. If the respondent is working in the year the survey is conducted, the labor force status takes value 1 and zero otherwise. The results from 6 survey years are arrayed in such a manner that the first year comes at the beginning and the last year is at the end. Therefore, for example, reentry into the labor market in the third survey year and continuous work afterwards is coded as “001111.” The distribution of work history is presented in Table 1. There are 64 possibilities for the sequences, and only the patterns with a sufficient number of realizations are listed in the table. The results clearly show that persistence is quite significant: 36 percent of all women worked continuously for all 6 years, while 21.2 percent worked none of the 6 years. I also list the “single transition” pattern, which means that work status changed only once in the 6 years from no-work to work (reentry) or vice versa (exit); for those workers, except during the year of change, the behavior stayed the same. The proportion of reentry from no-work to work is 13.6 percent, while exit from work to no-work is 11.4

15 Mifune and Shigekawa (1999) use a similar but coarser classification of labor force transitions of married women by using the 5 years of J PSC data. They do not look at differences across education.
16 As of February 2004, J PSC micro data from 1993 to 2000 are available for research, upon the approval from the Institute for Research on Household Economics. So, instead of 6 years, 8 years of work experience can be followed. I decided to report the results of 6 years for the following reasons. Following a longer period reduces the number of observations in the sample because there are attritions from the J PSC sample. Furthermore, by including a longer time period, the patterns of work history and employment history become more diverse, so it becomes more difficult to summarize them easily. The results from 8 years of data show a similar pattern of persistence reported here.
17 As in Section 2, “participation” in this section means the respondent worked in the survey year. Unemployment is not counted as participation (footnote 8).
18 In using J PSC, I call a change from no-work to work as “reentry,” because for women aged over 24, a change from no-work to work is most likely to be reentry into the labor market, instead of the first entry.
19 Hyslop (1999) and Chay and Hyslop (1998) report that married women’s labor
Panel B shows a similar pattern of distribution for continuously married women. Among them, 28.4 percent worked continuously for 6 years, while 30.9 percent did not work at all in 6 years. The proportion of single transition of exit is 6.2 percent, while that of reentry is 17.5 percent.

The continuous employment of 6 years, continuous non-participation of 6 years, and single transition consist of 82.3 percent of all women and 82.9 percent of continuously married women. Therefore, other patterns, such as working one year, not working the following year, and reentering later, are uncommon. There is a significant degree of persistence in participation decisions by young and middle-aged women.

The work history distributions by education are shown in the left portion of Table 2. Across education groups, there are distinct differences in the proportion of working continuously: it is 33-34 percent for senior high school and junior college graduates, and it is 51.8 percent for university graduates; figures for vocational school graduates fall in the middle. Persistence is much stronger for college-educated women than other women. Another notable difference is the extent of entry and exit from the labor market. The proportion of single transition as reentry (moving from no-work to work and working continuously afterward) consists of 14.1 percent for senior high

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market participation in the U.S. has a significant degree of persistence.

20 Persistence in work behavior does not necessarily mean that workers have a strong attachment to their employers. For example, if workers change employers frequently but continue working, that is considered “persistent” in the framework here.

21 In JPSC, respondents are asked to choose completed education from the following: (1) junior high school, (2) senior high school, (3) vocational school, (4) junior college, (5) university, (6) graduate school, and (7) other. In reporting results by education using JPSC data, I list senior high school graduates, vocational school graduates, junior college graduates, and university graduates.
school graduates, while the same proportion is 9.2 percent for university graduates.

The right portion of Table 2 lists the employment status history by education. If a woman worked as a regular full-time employee, the employment status for that period is coded as 1; if she worked as a part-time employee, it is coded as 2; if she worked as a self-employed or a family worker, it is coded as 3; if she is non-working, it is coded as 0. Just like the participation history, employment status for 6 years is arrayed as a sequence. The sequences with 6 or more observations are listed in the table. The figures indicate that most reentry in the labor market occurs as part-time work. No sequence of the type that starts with 0 and ends with 1 appears in the table, which means that such a sequence is rare. Among senior high school graduates, part-time work seems to be persistent in that 8.8 percent of all senior high school graduates continuously work as part-time workers for 6 years, and the proportion of single transition from no-work to part-time work is 8.6 percent (these figures are the percentages for all senior high school graduates). Part-time work is less common among vocational school and junior college graduates and very rare among university graduates. For university graduates, no employment status sequence that contains part-time work (coded as 2) has 6 or more observations in the sample.\footnote{\protect\textsuperscript{22}}

The proportion of continuous participation as a full-time regular employee differs significantly across education. It is 42.6 percent for university graduates, and 14.3 percent for senior high school graduates. As the ESS results show, a university education enables women to obtain a better type of paid employment than they would otherwise be able to obtain.

\footnote{\protect\textsuperscript{22} Therefore, although the ESS results indicate that reentry as a part-time worker has become gradually common among university graduates, such a pattern is not observed in panel data.}
4. Evidence from Tenure Distribution

The analyses in the previous two sections indicate that a significant degree of persistence in the work behavior of women in Japan. A way to measure persistence, other than following the actual experiences by using panel data, is looking at the distribution of tenure (the continuous length of service at a firm). This variable is asked widely in surveys of various labor statistics in Japan. Here, I use the published figures from ESS in 2002, where the published statistics contain tenure distributions by age, education, employment status, and sex. The distributions of tenure length of regular full-time female employees are shown in Figures 5-1 to 5-3 for three age groups. It should be noted that the tenure distributions are shown for female workers who were regular employees in 2002.

The figures show that there are some reentries to regular employment by high school graduates. Since high school graduates finish schooling 4 years earlier than university graduates, if they work continuously at the employers where they are hired immediately after finishing high school, the tenure length of high school graduates

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23 By using the ESS data, Kato (2001) shows that the job retention rate for middle-aged female employees who have more than 5 years of tenure is reasonably high. This includes all employees of all education levels, but it suggests that job attachment is strong for certain portions of female employees.

24 In the ESS, if an employee changes status from part-time to full-time (or vice versa) at the same employer, this change should be coded as a change of job, so the tenure variable is set to zero at the time of such a change. So, if such a procedure is fully enforced in the survey, the tenure distribution shown in Figures 5-1 to 5-3 shows the length of time workers stays at the current employer as full-time employees. The above is the understanding of the conductor of the survey, the Labour Force Statistics Office in Statistics Bureau of the Ministry of Public Management, Home Affairs, Posts and Telecommunications. However, the instructions for filling out the survey questionnaire do not explicitly mention how to indicate transitions between full-time status and part-time status within the same employer. The instructions do explicitly state the following: (1) the respondent should fill in the time she started to work for the current employer, and (2) the time when the place of work or task of work changed...
should be longer than that of university graduates. This is not true for all age groups over 35. For the 35- to 44-year-old age group, the proportion of regular employees with tenures of 10-19 years is 61 percent for university graduates, while it is 36 percent for high school graduates. The pattern is similar for the 45- to 54-year-old age group and the 55- to 64-year-old age group. University graduates who work as regular full-time employees have very strong attachments to employers; many of them probably do not change employers at all and work continuously after finishing school. Senior high school graduates who re-enter the labor market as full-time regular employees seem to work continuously as well. The difference is that many of the high school graduates experience interruptions, so their tenures are shorter than university graduates. However, between age 55 and 64, 51 percent of them had worked more than 20 years. So, work as a regular full-time employee by senior high school graduates is quite persistent. The tenure distribution of regular full-time women who graduated from junior college graduate is in the middle of the tenure distributions for university graduates and high school graduates.

5. Conclusion

In this note, I focus on two aspects of women's participation in the labor market: cohort effect and persistence. Many of the previous studies of the labor market participation of Japanese women have used cross sectional data. In a cross section, age differences in participation are the combined effects of cohort effect and age effect. Following the repeated cross sectional data enables us to separate cohort effect and age effect, albeit in a limited sense. Cohort effect is significant, especially within a firm does not imply the change of the job.
for participation in the part-time work of senior high school graduates; later cohorts are much more likely to engage in part-time work than previous cohorts are, and it seems that retirement from part-time work occurs around age 60. Those who started to work part-time continue to do so until the normal mandatory retirement age of most full-time regular employees. These observations suggest that the age effect found from cross sectional regressions, for example, does not necessarily represent the actual labor force experiences of women as they age.

Women's participation patterns in the labor market differ by educational attainment. University-educated women are much less likely than senior high school graduates to work as part-time workers. University-educated women who do work are much more likely than others to be regular full-time workers. This pattern is consistent with what has been found in the previous literature. However, more recent data reveal that reentry into the labor market in the late 30s and 40s has become increasingly common for university-educated women born after the late 1940s (the cohorts after the baby boom cohorts).

Descriptive statistics of panel data from JPSC also show that women's participation in the labor market is, in general, quite persistent. About 80 percent of the work history patterns for 6 years consist of one of the following: (1) continuous work for 6 years, (2) continuous non-participation for 6 years, or (3) single entry into or exit from the labor market within the 6 years. The strong labor market attachment by university graduates is also observed in the panel data. The tenure distribution also confirms that women's participation in full-time jobs is persistent.

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Statistics Bureau, Management and Coordination Agency (1998) 1997 Employment Status Survey Results for Japan


Data Appendix

The following are the tables of the Employment Status Survey that are used in Section 2 and Section 4. Some of them are unpublished tables.

Table 3, Table 12 (Year 1987)

Table 4, Table 24 (Year 1992)

Table 3, Table 17 (Year 1997)

Table 8, Table 10, Table 45 (Year 2002)


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