Educational Differentials and Mechanisms in Married Women's Labor Force Transitions in Japan

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Abstract: This study examines several potential mechanisms underlying the recent emergence of positive relationship between educational attainment and married women's labor force attachment in Japan. We use data from a longitudinal survey collected in the 1990s and early 2000s, a period of substantial change in the context of women's work, to estimate discrete-time competing risk models for married women's labor force transitions including labor force exit, transitions between standard and non-standard employment, and reentry to the labor market. Study results indicate that recently emerging educational differentials in married women's labor force participation in Japan are mainly due to the fact that highly educated women are more likely to stay in the labor market (including standard and non-standard employment), not because they are more likely to return to the labor force. Study findings also show that it is those with the lowest educational attainment who are more likely to reenter the labor force usually in non-standard jobs with few benefits and little room for advancement. In addition, women's own income, work orientation, and job characteristics such as occupation, firm size, and public sector employment play important roles in mediating relationships between education and married women's labor force transitions. These findings provide evidence that married women's labor force participation in Japan is being differentiated, at least by educational levels and suggest that emerging educational differentials in women's work in Japan may contribute to increasing household income stratification, as observed in the U.S.

Increases in female labor force participation have been most pronounced among highly educated women in the U.S. and other industrialized countries (Cancian, Danziger, and Gottschalk 1994). In contrast, the labor force participation of married women in Japan has been distinguished by relatively small socioeconomic differentials (e.g., Brinton 2001). Many studies have found that married women's employment in Japan is inversely related to educational attainment (Brinton 1993; Choe, Bumpass, and Tsuya 2004; Ogawa 1996) and husbands' earnings (Higuchi 1995). This negative relationship between education and married women's work, combined with strong educational homogamy, has played a role in limiting family income inequality and stratification in Japan (Kohara 2001) while women's employment has been linked to increase in family income inequality in the U.S. (Cancian and Reed 1999; Levy 1998).

However, rapid socioeconomic changes that occurred in Japan in recent years appear to be changing the context of married women's work. For example, changes in labor market conditions during and after the economic recession in 1990s (e.g., increasing labor market segmentation and growing share of non-standard employment), implementation and strengthening of public policies supporting women's employment (e.g., Equal Employment Opportunity Law, Child Care Leave Law), and attitudinal changes (e.g., less support for the strong gender division of domestic work and increasing preference for women's employment) may have contributed to changes in the nature of the relationship between education and women's labor force participation. Indeed, recent studies have documented a positive association between higher education and continuous employment among married women (e.g., Nagase 2003; Sakai 2004; Raymo and Lim 2011) and stronger labor force attachment among women with high earning husbands (e.g., Kohara 2001; Manabe 2004; Ohtake 2005). In light of this evidence, it is unfortunate that we know very little about the underlying mechanisms linking educational attainment and married women's labor force attachment.

In this study, we begin to fill this gap by evaluating the ways in which higher education may contribute to stronger labor force attachment among Japanese married women in the rapidly changing social and economic contexts of the 1990s. To address this research objective, we use data from a longitudinal survey collected in the 1990s and early 2000s, a period of substantial change in women's labor market circumstances. Methodologically, we employ discrete-time competing risk models for married women's labor force transitions including labor force exit, transitions between standard and non-standard employment, and reentry to the labor market. This analytical strategy is a huge improvement in that most previous studies have examined only women's labor force exit (Yu 2005) or reentry (Yu 2002) in spite of the distinct pattern of female labor force participation in Japan (e.g., women's labor force withdrawal during prime ages of childbearing and return to the labor market when children reach school ages). By examining what factors are responsible for married women's exit from and reentry to the labor market, our study helps us more fully understand the complex dynamics of married women's working lives in Japan. Adding job changes (e.g., standard to non-standard employment) as a competing risk is particularly useful to examine educational differentials in the labor force transitions of married women in light of the feminization of nonstandard employment (e.g., part-time, contract, and temporary jobs) and rigid labor market segmentation between standard and nonstandard employment in Japan. In addition to expanding our understanding of educational differentials in labor force participation among Japanese married women, our research will also provide potentially important implications for growing family income inequality in Japan in that women's employment has played a role in family income inequality in the U.S. (e.g., Cancian et al. 1994)

Changing Context of Married Women's Work in Japan

One of the most prominent features of recent family change in industrialized societies is the

increase in married women's labor force participation. The increasing labor force participation of women with young children has been particularly notable (Casper and Bianchi 2002:287). On the contrary, the employment trajectories of Japanese women have continued to follow an M-shape, with a large dip during the prime ages of marriage and childbearing (Brinton 2001). The distinctively low level of labor force participation of married women with small children in Japan reflects the difficulty in balancing work and family. This difficulty reflects gender and age discrimination in the labor market (Brinton 2001), inflexible work schedules and unfriendly work environment for married women (Yu 2005), limited access to high-quality, convenient childcare (Wada 2007), husbands' very limited participation in domestic work (Tsuya, Bumpass, Choe, and Rindfuss 2005), and cultural norms emphasizing mother's role in children's education (Hirao 2001). Japan provides an interesting case in that this distinctive pattern of female labor force participation is also observed among highly educated women who have theoretically stronger incentives (i.e., higher wages) and ability to remain in the labor force (i.e., economic resources to outsource childcare or housework). The income effects of husbands' earnings have continued to outweigh substitution effects of women's own income on labor force attachment in Japan as a result of the barriers to continued labor force participation mentioned above. Thus women's own educational attainment has been negatively associated with labor force attachment (e.g., Brinton 1993; Choe, Bumpass, and Tsuya 2004) and we have observed limited socioeconomic differentials in married women's labor force attachment until recent years in Japan.

However, socioeconomic, structural, and attitudinal changes that Japan has recently experienced appear to have substantially impacted the context of women's working lives. More importantly, there are several theoretical and empirical reasons to expect that these changes may have increased the labor force attachment among highly educated women to a greater degree

than their less educated counterparts. First of all, labor-market changes, in particular the expansion of nonstandard employment among women, might have increased educational differentials in married women's work in Japan by increasing labor market segmentation into well-paid, rewarding standard (full-time) jobs and marginal, nonstandard employment among married women (Houseman and Osawa 2003). Nonstandard employment, especially part-time work, grew rapidly in Japan in the 1980s and 1990s and married women occupied a large portion of the part-time work positions (Houseman and Osawa 2003; Kalleberg 2000). This growth in nonstandard employment may have increased employment opportunities for married women. However, it is important to recognize that nonstandard (mostly part-time) jobs are marginalized and characterized by low wages, lack of benefits, and insecurity of employment. Further, there is little mobility from part-time jobs to regular employment in the Japanese labor market and thus there is little chance for nonstandard workers to move to standard, full-time positions. The observed increase in employment opportunities (through the expansion of non-standard jobs) therefore does not necessarily imply an improvement in work environment for all married women since Japanese labor market is highly segregated by education (Ogawa and Clark 1995) and is not favorable to workers who attempt to return to the labor market (Yu 2002). Under these circumstances, growing share of nonstandard work among married women might result in educational differentials by providing work opportunities (mostly nonstandard jobs) to those with lower education. But it should be noted that these nonstandard jobs, relative to standard, full-time jobs, might be less likely to be associated with continuous labor force participation because they are inherently insecure (or time-limited contracts) and are presumably less attractive or provide less incentive to remain in these jobs.

Public policy is another important factor to significantly change the context of married women's employment. Studies conducted in U.S. show that government policies have improved

working conditions for women and helped them to better manage work and family incompatibilities in the U.S. (Glass and Estes 1997; Klerman and Leibowitz 1999). However, the effects of public policies on married women's labor force attachment are somewhat contradictory in Japan and it is likely that it may have helped to increase educational differentials in women's work. On one hand, they are conducive to continuous employment but on the other hand, they provide strong incentives to remain out of the labor force or to have part-time jobs. For example, the Equal Employment Opportunity Law (which was implemented in 1986 and strengthened in 1999) aims to reduce gender inequality and provide more career opportunities for women. Similarly, the Childcare Leave Law (implemented in 1992) allows one year's maternal leave aiming to enable more women to return to employment following childbirth (e.g., Boiling 2007). Given the gender discrimination prevalent in the Japanese labor market and difficulty combining work and family, especially upon childbearing, implementation of these laws may have increased educational differentials in the labor force attachment since women with lower education are more likely to work in the small firms and to have non-standard jobs which are usually excluded from benefits of the implementation of such policies (Nagase 2000).

In contrast, tax and social security policies provide financial incentives to stay out of the labor force or to work part-time in order to limit income to a specified threshold (Houseman and Osawa 2003; Nagase 2003). The Tax and Social Insurance Law, for instance, was revised in a way that increases the benefits for nonworking or low-earning housewives and advantages to remain as a dependent spouse increased (Nagase 2003). Labor practices such as employer provision of "spouse allowance" depending on the dependent status of the wife also provides another incentive not to work or to stay as a low-earner worker (Nagase 2003). Therefore, sometimes it would be more reasonable for women not to work when considering costs (e.g., child care and losing tax benefits) and benefits (e.g., income) of employment given the limited

job opportunities (and low earning prospects) available for married women upon reentry into labor market. And it would be more applicable for highly educated women since they have less economic pressure to return to work and/or are less likely than those with lower education to willingly accept unattractive (nont-standard) jobs.

Accompanied by recent labor market and policy changes, several job characteristics which have been found to be influential for married women's work in Japan appear to have changed in ways that may contribute to increasing educational differentials in married women's work. For example, public sector employment is associated with stronger labor force attachment since it usually provides relatively flexible work schedules (Glass and Camarigg 1991: Desai and Waite 1991; Yu 2005). This positive association between public sector employment and labor force attachment may have strengthened in recent years since the public sector tends to more actively implement government policies conducive to facilitate combining work and family (Brinton 2001; Rosenfeld and Birkelund 1995). In Japan, gender discrimination and the limited chances for promotion in private firms made public sectors jobs particularly attractive to women with higher education (Brinton and Lee 2001). Also studies repeatedly find that women working in the public sector show stronger labor force attachment in Japan (e.g., Raymo and Lim 2007; Yu 2005). Therefore, highly educated women are more likely to benefit from the recent changes through the higher likelihood of employment in the government sector.

Occupational characteristics might also contribute to educational differences in married women's work. White-collar jobs are often found to discourage married women's labor force participation in Japan due to the unfavorable work environment (e.g., irregular work schedules and less concrete job context) compared to blue-collar jobs (Yu 2005). Furthermore, it is thought that women in white-collar jobs have less financial need to work because of the higher probability of having high-earning husbands with white-collar jobs (Ogasawara 1998; Roberts

1994). Among white-collar jobs, however, it appears that incentives and opportunity costs to stay in the labor force may have increased for those in the higher-end (e.g., professional or managerial jobs). In a recent study, professional or managerial jobs were positively associated with continuous employment while no differences were found between manual work (blue collar jobs) and clerical work (lower-level white-collar jobs) (Raymo & Lim 2011). Firm-size also affects married women's likelihood of labor force attachment. Studies have documented that working in large firms is negatively associated with women's continuous employment in Japan since large firms mostly operate under the permanent employment system and accompany excessive work demands and high level of work and family conflict (e.g., Raymo & Lim 2011; Yu 2005). At the same time, however, it is also the large firms that usually provide superior fringe benefits which increase the opportunity costs of quitting a job. Particularly given the declining job security and the decreasing earning power of men after the economic recession, it is plausible that women in large firms are more likely to want to keep jobs with higher wages and superior fringe benefits.

Linkages between Education and Labor Force Attachment among Japanese Married Women

As discussed in the previous section, recent economic, political, and social changes that Japan has experienced might have resulted in educational differentials in married women's labor force attachment, in particular, in a way which increased stronger labor force attachment among highly educated women than those with lower education (i.e., no university degree). In this study, we focus on three potential linkages that may link education and women's labor force attachment, i.e., income, career orientations, and job characteristics.

First, according to theories of human capital, higher education is expected to be associated with increasing labor force participation or stronger labor force attachment. To the

extent that education is a good proxy for human capital, the opportunity costs of labor force dropout and non-participation should be higher for more highly educated women. This is particularly true in Japan given the high labor market returns to education (Ogawa and Clark 1995; Ogawa and Ermisch 1996) and limited employment options for married women seeking to reenter the labor force. Moreover, recent political developments such as ratification of the Treaty on the Abolition of Discrimination against Women (1985) and implementation of the Equal Employment Opportunity Act (1986) have enhanced women's status in the labor market (Atoh 2001). Associated growth in access to high-paying and rewarding career-track jobs have presumably increased the opportunity costs of not working, particularly for highly educated women who are the most likely to benefit from these emerging occupational opportunities. Therefore, higher wages and greater opportunity costs may be one of primary mechanisms linking higher education to stronger labor force attachment. However, I expect that the mediating effect of income may be weaker in women's entry (to the labor market) than that found in labor force attachment given the rigid labor market segregation and limited employment opportunities for married women to seek for re-employment in Japan.

Higher education is also associated with attitudes and orientations that may promote stronger labor force attachment (Sorensen 1995). The level of work commitment, for instance, affects women's decisions in labor force transitions surrounding first childbearing in the U.S. (Desai and Waite 1991). Nevertheless, few studies have systematically examined the role of work orientation in women's labor force participation in Japan, mostly due to the fact that no socioeconomic or educational differentials were observed. The necessary data have not been available either. However, a recent evidence on a strong positive correlation between unobserved characteristics (e.g., work preference and career orientation) and labor force attachment among Japanese women implies that women's own work orientations and attitudes

might affect their labor force participation (Raymo and Lim 2011). To the extent that higher education is associated with stronger work orientation, work orientations may thus help explain the positive relationship between education and continuous labor force participation.

Third, job characteristics such as occupation and firm-size might also contribute to educational differentials in married women's labor force participation. Specifically, women holding professional or managerial jobs should be more likely to remain in the labor force if the incentives and opportunity costs have particularly increased for them in recent years. It would also be those with professional or managerial occupations who are more likely to reenter after leaving the labor force given the high opportunity cost of non-participation and high earning potential. On the contrary, recent changes in the labor market might not be similarly beneficial for women with the lower end white collar jobs (e.g., clerical work) and manual labor since there is no sufficient evidence suggesting that opportunity cost or incentives to work have increased for these women. In addition, public sector employment should be positively associated with continuous employment since it provides more family-friendly work environment and requires less work demands (Brinton 2001). As for the effects of firm size, the negative effects of working in big companies documented in the past may have changed in recent years (e.g., increase in job security) as noted. Also, we do not expect that employment in small companies is necessarily associated with stronger labor force attachment given the lack of empirical evidence. All these suggest that changing labor force context has different implications for women with different educational attainments. Highly educated women are more likely to work in the employment settings benefiting from the changes such as increasing career opportunities and access to childcare leave (e.g., prestigious occupations and public sector jobs). And it should increase the likelihood of labor force attachment and decrease the likelihood of job change (from standard to non-standard employment) among highly educated women. In contrast, those with

lower education are usually excluded from these benefits given their employment environment (e.g., small size firms, non-standard employment) as discussed.

In addition to these hypothesized linkages between women's education and labor force participation, we include several established correlates of married women's employment. Specifically, help from extended family (mostly parents (in-law)) reduces the burden of work-family balance by providing access to childcare and help with housework. So we expect that labor force attachment should be positively associated with coresidence with parents (in-laws) as documented in previous studies (Raymo and Lim 2007; Yu 2005). Husband's share in housework and childcare should be another important factor in women's decisions related to employment. Studies document that Japanese husbands, in general, do not provide much help in housework (Japan Statistics Bureau 2003; Tsuya, Bumpass, Choe, and Rindfuss 2003). However, how much husband shares the domestic responsibilities with working wife may make some difference, particularly given the difficulty of combining work and family in Japan. Moreover, even limited help from husbands might greatly facilitate women's work in the Japanese context in which husband's help is not usually expected. Other controls include age, parity, presence of preschool child(ren), husband's characteristics (education and income), and spell duration.

Data and Methods

Data come from the Japanese Panel Survey of Consumers (JPSC), an annual survey of a nationally representative sample of young women conducted by the Institute for Research on Household Economics. The original sample was stratified by marital status, with 1,002 married women and 498 unmarried women between the ages of 24 and 34 surveyed in the first wave in 1993. In wave 5 (1997), a second cohort consisting of 201 married and 299 unmarried women was added. A third cohort (351 married and 485 unmarried women) was recruited in wave 11

(2003). In this study, we use data from the first twelve waves (1993-2004).

The analytic sample is comprised of records for married women, including those who were married at the first survey in 1993, 1997 (in case of second cohort), or 2003 (third cohort) or who married during the survey years. Those who were not working are excluded since they are not exposed to risk of leaving the job.[1]

Women enter the observation window at the baseline survey or immediately following marriage and are censored at the earliest of the following three events: marital dissolution, loss to follow-up, or the most recent survey in 2004. Labor force transitions include: labor force exit, job change (standard/full-time to non-standard jobs and vice versa), and labor force reentry.[2] Labor force exit refers to cases where a woman who was working with a standard job or a non-standard job at the previous survey year (t-1) is not in the labor force at the survey year t. Job change refers to cases where a woman's employment type at the previous year (t-1) is different from that of survey year t. Labor force reentry refers to cases where a woman who was not-working at the previous year (t-1) reports that she is working at year t. All the labor force transitions are assumed to occur at the end of the interval between surveys – that is immediately

[1] Since we restricted the sample to women who were married and working at their first observation, the initial sample presumably overrepresents women with the strongest incentives or abilities to remain in the labor force. This process of selection may be relevant for the question of interest depending on whether this process of selection differs across levels of educational attainment. To examine whether there are educational differentials in the labor force participation (and job changes) is a different research question which requires a different study design. For example, it would be better start with unmarried women and follow them to examine how educational differentials in labor force behavior, especially following marriage and childbearing (e.g., Yu 2005). The current study design provides an opportunity to evaluate what factors might be responsible for the labor force exit among those who are already in the labor force (filtered through such selection process).

[2] Standard employment includes full-time, regular jobs and non-standard employment includes part-time, non-regular, short-term contract jobs. Self-employees, family workers, and freelancers are grouped as non-standard employment. In addition, I am going to use the term of "reentry" rather than "entry" since most of women not in the labor force have worked in the past.

prior to the survey at year t. Other interwave changes including childbirth are thus assumed to temporally precede labor force transitions. Spell refers to (the status of) being employed in the exit models or to being out of the labor force in the reentry model and duration indicates time spent in the current spell. For women who were married and (not-) working in the baseline survey year (i.e., left-truncated cases), it is possible to calculate the duration of the current spell using occupational history data which provides information on the previous employment circumstances. Three left-censored cases with missing data on beginning of current employment in the baseline survey were excluded from the analysis. After these restrictions, the total sample size used in this analysis is 11,403 person-years.

In this analysis, we use discrete-time hazard models allowing competing risks. Estimating discrete-time hazard is appropriate given the outcome of interest and the nature of the data (i.e., annual survey). This method also allows to examine how women's labor force transitions vary in relation to changes in the hypothesized factors affecting their employment decisions while also taking the duration of (non-) employment into account. When examining the pattern of women's labor force participation, it is important to consider the duration of current spell given that long-term earning potential is strongly related to stable labor force attachment and longer spell duration also presumably reflects the strength of women's work commitment or the economic needs of the family.

In addition, the aforementioned increase in the non-standard jobs and Japan's dual labor market structure suggest that models evaluating simple outcomes (e.g., labor force attachment vs. labor force exit) may not capture the recently emerging educational differentials in married women's work. The significant mediating role of job characteristics found in the earlier work (Raymo and Lim 2011) also suggests that adding job changes (e.g., standard to non-standard and vice versa) as competing risks may be more useful to better understand the educational

differentials in the labor for force transitions among married women. Out of the considerations of such factors, we use competing risk models by adding different labor force transitions (i.e., job changes). Furthermore, we also evaluate married women's labor force (re)entry since the distinct M-shaped pattern of female labor force participation during their life course suggests that we may also need to examine what factors are associated with their return to the labor market as well as their exit from the labor force. Examining women's reentry to the labor force may be more important given the recent changes surrounding women's work in Japan (e.g., increase in non-standard jobs). If women's decisions to go back to work differ by educational attainment, it would have contributed to the recently observed educational differentials in married women's labor force participation in conjunction with different trajectories by educational level in the labor force exit.

Measures

As discussed above, we estimate three sets of models – one for women in standard employment, one for those in non-standard employment, and one for those not in the labor force. In the first two sets of models, the independent variable includes three possible inter-wave transitions: staying in the labor force in the same employment sector (i.e., no change), job change between standard and non-standard employment, and exit from the labor force. For the reentry model, the dependent variable is reentry into the labor market, which is equal to one for married women who were not working at survey year t and working at survey year t+1 and equal to zero for women who were still not working at year t+1.[3] The role of employment duration (duration dependence) is measured by a linear term and a squared-term based on experimentation with

[3] In initial analyses, we differentiated the types of employment (i.e., standard or non-standard positions) when women reenter the labor force. However, the proportion of women who entered standard employment was very small (about 1 percent) and for the simplicity, we collapsed entries to different employment types and decided to use dichotomous indicator for the reentry.

several different specifications of duration (results not shown).[4]

The main independent variable of interest is educational attainment, constructed as a categorical variable. The four educational categories are: high school graduation or less, junior college, vocational school, and university or greater. [5]

To evaluate the hypothesized mechanisms linking educational attainment and labor force attachment, we include the following variables. Women's own income is a proxy for human capital and reflects the opportunity costs of leaving the current job. It also reflects economic resources that may allow women to stay in the labor force (such as outsourcing childcare and housework). For those not in the labor force, their previous income at the last job is included as a proxy for the earning potential and incentives to return to work.

As a proxy for career orientation, we include three measures, i.e., reason for choosing the final school, reason for choosing current company, and reason for leaving the previous job. The first measure is constructed from a question that asked respondents the reason for choosing the school they last attended. This measure is included for all the three labor force models. In addition, in the models examining transitions from standard and non-standard employment, we added measure of work orientation based on a question about reasons for choosing their current company. Correspondingly, the reason for leaving the previous job was included for the reentry

[4] In supplementary analyses, we also examined differences in employment spells but no evidence was found. Consequently, employment spell is excluded from the presented models.

[5] We separated vocational school and junior college although these two groups are often considered to be similar in terms of labor force participation. Considering the objectives and content of the education offered in the two institutions and consequently the compositional differences in students attending them, there may be differentials among them that have not been observed in the past during the recent years of rapid changes surrounding married women's work. The findings from the earlier study on married women's labor force attachment also provides evidence for the heterogeneity of these two groups of women (Raymo and Lim 2011).

model. All these measures for career orientation are dichotomous.[6]

Job characteristics reflecting women's working environment and the changing labor market context are measured by occupation, firm size, and public sector employment. More specifically, occupation includes family workers/ self-employed, professional/managerial work, clerical work, sales/service work, and manual labor. Firm size specifies four different categories differentiating public and private sector. Private sector jobs are further grouped into small (1-99 employees), medium (100-499 employees), and large (more than 500 employees) firms based on evidence from preliminary analyses. For the sample in the reentry model, the job characteristics from the respondent's previous employment spell were used.

In all models, we control for age, experience of childbirth between waves, presence of preschool age children, parity, husband's income and education, husband's participation in housework (including childcare) and coresidence with parents(-in-law)[7] that might be related to both women's educational attainment and labor force participation (e.g., Raymo and Lim 2011; Yu 2005).

Analytically, for women in each of the three labor force statuses, we estimate five parallel

[6] As for the measure for reason for choosing final school, responses of "to prepare for a job (which I want to have) in the future" or "to get a good education/knowledge" were coded as 1 and other responses (e.g., "my teacher/parents suggested it," "to be helpful for marriage") were coded as 0. Other two measures are constructed from questions allowing multiple choices and recorded as 1 if a woman answered yes to any items (among 15 to 20 items, depending on survey year) related to career orientation such as "to have potential of career development", "to be interested in the content of the work", or "to be able to promote (into managerial positions)".

[7] Husband's share in housework indicates the proportion of total housework and childcare done by husbands on a scale of 0 to 1. This measure is based on questions in which respondents were asked to allocate the twenty-four hours of a typical day to several different activities. I combined information from both husband's and wife's questions to construct a measure of weekly housework hours. Then total housework hours done by husbands is divided by sum of hours spent in housework by couple. Housework hours done by other people except husband and wife would also be useful. However, this information is only available in the first wave.

models in an attempt to evaluate the mechanisms linking higher education and married women's employment to labor force transitions. The first model estimates the relationships between educational attainment and labor force transitions, net of demographic characteristics (age, parity, having interwave birth, presence of preschooler), and husbands' characteristics (e.g., income, education, share of housework), and family-related measures (e.g, coresidence with parents(-in-law).) The first model also includes the quadratic specification of employment duration as baseline hazard. We then examine how the associations observed in the baseline model are mediated by women's own income (opportunity costs for exit or earning potential/incentives to return) in model 2, work orientation in model 3, and job characteristics (including occupation, firm size, public sector job) in model 4. The fifth model (full model) examines the extent to which the relationships in the first model are altered by including all three hypothesized mediators of relationships between educational attainment and labor force transitions.

Results

Table 1 presents descriptive statistics (means and standard deviations) of the variables used in the analysis for the entire sample and separately by labor force status. Duration in the current status is longest for the standard (full-time) employment (8.13 years) and shortest for those not in the labor force (4.81 years). The proportion remaining in their current labor force status is similar for all three groups of women, ranging from 0.82 (non-standard employment sample) to 0.87 (not-working sample). However, the nature of labor force transitions varies by current employment status: for those with standard/full-time jobs, the probability of exiting the labor force in a given year is 0.07 and that of moving to non-standard employment is 0.06. In contrast, women working in non-standard employment are much more likely to drop out of the labor force (0.14) than to move to a standard job (0.04). The probability that women not in the labor force at

wave t enter the labor market by year (t+1) is 0.16. Table 1 also shows the educational differentials by women's labor force status. Highly educated women (university graduates) are more prevalent in standard employment while those in the lowest educational category (high school or less) are more likely to have non-standard jobs or to be out of the labor force.

As for the hypothesized key mediators, women having standard jobs have higher income and are more likely to have chosen the final school out of considerations of career development relative to those with non-standard jobs or those not in the labor force[8]. In terms of job characteristics, standard employees are much more likely than non-standard workers to work in the big companies, and to have public sector jobs, and to have professional or managerial jobs. The previous occupations of women currently out of the labor force are predominantly clerical and sales/ services positions and they tend to have worked in the small companies.

Husbands of working women are somewhat more likely to do housework although the differences across the three categories are small. Also women in the labor force are more likely to coreside with parents(-in-law). Regarding childbearing, there are no big differences although not-working women are more likely than those in the labor force to have preschool age child(ren). Together, these figures from descriptive statistics indicate large differences among married women by their labor force status and employment type with respect to educational attainment, hypothesized key medicating factors, and family circumstances. These differences are consistent with the recent changes in the context of women's work as discussed earlier.

Table 2 presents the results of discrete-time event history models for labor force transitions among women in the standard employment. As described earlier, the dependent variable has three categories - staying in the standard employment, job change into non-standard

[8] The small percentage for the measure for reason for quitting the previous job may be due to restrictive standards that we applied when constructing it. In subsequent revisions, we will consider alternative definitions.

employment, and exit from the labor force. The reference category is no change in labor force status.

The baseline model includes educational attainment, the background variables, and baseline hazard. The two coefficients for duration indicate that the hazard of exit is U-shaped, with the likelihood of labor force exit inversely related to duration but this association changes in direction and hazard of leaving a job increases after 12.6 years of employment. Similarly, the hazard of job changes (to non-standard work) also seems to be U-shaped. Age is not associated with either labor force exit or transition to non-standard employment. Birth of a child is strongly associated with a higher likelihood of exit, as expected. The negative coefficient associated with current higher parity might indicate that those women who will exit the labor force to raise children do so prior to having any children (i.e., selection process) and/or they were able to manage work and family incompatibility when they had child(ren) before first observed in the survey. The number of children is not related to likelihood of job change however. In addition, the presence of preschool-age child has no association with labor force transitions for women working in the standard employment at baseline. As for husband's characteristics, husband's income and education are not significantly related to the likelihood of exit from standard employment. In addition, coresidence with parents(-in-law) is negatively associated with labor force exit. The coefficient for husband's help in housework is not significant for either exit or job change. As for the educational differentials, little differences are found in the likelihood of labor force exit for married women in standard employment, except that junior college graduates are significantly less likely to leave the labor force (relative to high school graduates). However, university graduates with standard employment are the least likely to change to non-standard jobs.

Results from the subsequent models (Model 2 to Model 4) evaluating the effects of key

mediators show that higher income decreases the hazard of labor force exit and job changes from standard (Model 2). The inclusion of income also changes the negative association between junior college education and labor force exit observed in the baseline model. The measures for work orientation, however, are not related to any labor force transitions although the coefficient for junior college loses its significance when they are introduced. As for job characteristics, public sector employment is negatively related to both labor force exit and job change as expected. In addition, working at a large company significantly lowers the likelihood of job change. Also, manual laborers and sales/service sector employees have higher probabilities of moving to nonstandard jobs than clerical employees. More importantly, the negative association between university education and job change from standard to nonstandard employment disappears when job characteristics are taken into account (Model 4). Supplementary analyses show that this change is due to the fact that university graduates with standard employment are less likely to have occupations such as manual labor, sales/service jobs, and are more likely to be employed in big companies and in the public sector. Including all three hypothesized mediators in the final model does not result in much change in the coefficients for other explanatory variables observed in model 4.

Table 3 presents results from the models for transitions among women with non-standard jobs. Given the scarcity of job changes from standard to non-standard employment (see Table 1), we will mainly focus on labor force exit in these models. The baseline hazard expressed as linear and quadratic terms suggests that probability of exit declines as spell duration increases but this negative association changes at some point (16.3 years). Compared to the standard employment model, highly educated women are less likely than those in the lowest education category (high school or less) to exit the labor force but there are no educational differentials observed in the likelihood of moving to standard employment. In addition, having a highly

educated husband (university degree or more) is positively related to women's labor force exit from non-standard employment. These baseline associations between women's (and husband's) education and labor force transitions remain after introducing potential mediators in the next four models. Specifically, women's income and career orientation (reason for choosing the final school), are associated with a lower likelihood of labor force exit, as expected. In contrast to findings from the standard employment model, occupation, firm size, and public sector are not associated with the likelihood of labor force exit or job changes except that self-employment and family work increases the hazard of exit and decreases that of job change. The finding that job characteristics do not link education and labor force dropout among married women in nonstandard employment likely reflects the overall poor quality of nonstandard jobs. It is therefore an interesting question why university graduates in nonstandard employment have stronger labor force attachment than women with lower education, which is not explained by income, work orientation, and job characteristics. It might be the case that (some) highly educated women want to balance work and family by working nonstandard jobs (Hakim 1995), which is not captured by our measures for work orientations.

Finally, Table 4 presents results from the models for labor force reentry. Combining the two coefficients for duration, women who are not in the labor force are less likely to go back to work as they stay longer out of the labor force but this negative association between duration (of not working) and likelihood of reentry would change 13.7 years later . This baseline hazard reflects the fact that married women tend to return to work when their children reach school age. Results from the baseline model for non-working women show that higher education (university degree) is negatively associated with likelihood of reentry. Combined with the findings from the earlier models that women with higher education (university graduates) are more likely to stay in the labor force, it suggests that highly educated women have the most stable pattern of labor

force participation. In other words, when these women are employed, they are less likely to experience labor force transitions but they are also less likely to reenter once they leave the labor force. Husband's higher education (university degree) and high earnings are negatively related to the likelihood of entry, suggesting that the suppressing effects of husband's education and income are still present in women's decisions to return to work. It is also worth noting that coresidence with parents(-in-law) significantly reduces the hazard of exit from the labor force in both standard and non-standard employment models, but it does not seem to help women to return to work after they dropped out of the labor market.

In the next three models evaluating the mediating effects of women's previous income, work orientations, and previous job characteristics, we find that both career orientation (the reason for leaving the previous job) and having had professional job significantly increase the hazard of labor force entry. Also, adding these measures in Model 2 and Model 3 changes the initial associations in the baseline model as vocational school graduates are also less likely than the reference group (women with high school or less) to enter the labor force. According to supplementary analyses, such change among women with vocational school education are related to the fact that vocational school graduates have stronger work orientation in terms of reason for choosing the final school and have worked in professional/managerial positions before labor force withdrawal compared to high school graduates (reference). Results from the full model (Model 5) show that high school graduates, i.e., women in the lowest educational category, have a significantly higher likelihood of reentry into labor market relative to those in other educational categories even after all demographic, family background, and potential mediators are controlled for.

Conclusions and Discussion

In this study, using national representative longitudinal data of Japanese women we examine the

extent to which married women's labor force attachment varies by education while focusing on women's labor force status and employment type, i.e., whether women have standard or nonstandard employment or women are out of labor force. Considering theoretical expectations and growing empirical evidence for potential linkages between married women's education and labor force participation, we also evaluate whether women's human capital/opportunity cost, work orientation, and job characteristics mediate the relationships between education and married women's work in Japan. In this section, we would like to summarize our findings and discuss potential implications of the study results.

First, results suggest that recently emerging educational differentials in married women's labor force participation in Japan are mainly due to the fact that highly educated women are more likely to stay in the labor market (including standard and non-standard employment), not because they are more likely to return to the labor force. In spite of the increasing work opportunities in recent years (e.g., Equal Employment Opportunity Law), those with higher education are less likely to enter the labor market once they leave. Study findings also show that it is those with the lowest educational attainment who are more likely to reenter the labor force, usually in non-standard jobs with few benefits and little room for advancement.

Second, in addition to the differences at the two ends of the educational spectrum, I found evidence that those in the middle categories (vocational school and junior college) have some differences in terms of their employment stability and in the key mechanisms linking education and labor force participation. In past studies, these two groups of women are usually grouped together and assumed to be homogeneous; however, our findings suggest that these two groups of women may not be homogeneous and that we may need to take such between group heterogeneity into account in the future studies on married women's labor force participation in Japan.

Third, we found that women's own income, work orientation, and job characteristics play important roles in mediating relationships between education and labor force transitions. For example, firm size and public sector employment are associated with a lower likelihood of job changes for university graduates in standard employment. For women with vocational school degrees, work orientation (i.e., the reason for choosing the final school) and occupational characteristics are related to the likelihood of returning to the labor market. These findings provide evidence that married women's labor force participation in Japan is being differentiated, at least by educational levels. Results of our study imply that policies to facilitate married women's work may need to consider these differentials in key mediators. In particular, the strong mediating effects of job characteristics indicate that educational differentials reflected in such job characteristics will continue to increase if current labor market conditions (e.g., growth in differential economic opportunities) do not change in the near future.

All these changes surrounding women's work in Japan may have important implications for other outcomes such as marital stability, fertility, and children's development and well-being. Particularly, growing differentials in women's labor force attachment may be very important for understanding variation in the economic well-being of families. For instance, women's education is positively associated with both labor force participation and husband's education in the U.S. (Cancian, Danziger, and Gottshalk 1994) and these changes associated with married women's employment have been linked to increasing inequality in household income (Cancian and Reed 1999; Levy 1998). Similarly, recent growth in family income inequality has been of great concern in Japan (Ohtake 2005; Sato 2000; Tachibanaki 1998) and it appears that increasing differentials in the labor force participation of married women (i.e., increase in continuous employment among highly educated women with high-earning husbands) have contributed to this trend (Kohara 2001). It is therefore theoretically and substantively important

to carefully examine whether newly emerging educational differentials in women's work in Japan play similar roles in stratification as observed in the U.S.

In subsequent analyses, we would like to address some limitations in this study and extend the research scope. First, we have noted that the data used in this study are limited in that the period of observation is short. As a result, we could not directly examine what factors account for the changes (e.g., growing educational differentials) in women's labor force participation and associated inequality of household income. Using different data (with longer coverage) and different methods such as decomposition analysis will be necessary to answer these research questions. In addition, more refined (and better) measures for the key mediators such as work orientation (e.g., using alternative definitions for measures for reason for choosing current job and for leaving the past job) and job characteristics (e.g., adding measures for industry and female-dominated occupation) will be helpful to fully understand the mechanisms linking education and married women's work. Together, our findings and these limitations of the current study suggest that growing differentials in women's employment in Japan are a research topic of great importance and of much room for the future study.

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Table 1: Sample characteristics (Meand and SD), by labor force status at wave t

Variable	**Total**	**Standard/ Full-time**	**Non-standard/ Part-time**	**Not in the Labor Force**
Duration in curent status (years)		8.13	3.51	4.81
		(5.86)	(3.74)	(4.27)
Duration in curent status (squared term)		100.46	26.45	41.36
		(112.13)	(46.39)	(61.79)
Transition (between wave t and wave t+1)				
No transition		0.87	0.82	0.84
Exit from the labor force		0.07	0.14	
Full-time to Part-time		0.06		
Part-time to Full-time			0.04	
Entry to Full-time				
Entry to Part-time				0.16
Age	33.23	33.37	34.45	32.42
	(4.54)	(4.7)	(4.51)	(4.25)
Education				
High school or less	0.51	0.41	0.58	0.49
Vocational school	0.19	0.21	0.18	0.20
Junior College	0.20	0.21	0.17	0.21
University or more	0.10	0.17	0.07	0.10
Gave birth between t and t+1 [a]	0.09	0.10	0.05	0.11
Parity	1.71	1.47	1.80	1.75
	(0.93)	(1.04)	(0.93)	(0.86)
Has preschool-age child [a]	0.40	0.32	0.23	0.56
Husband's education				
High school or less	0.51	0.52	0.58	0.47
Vocational school/Junior College	0.16	0.14	0.17	0.15
University or more	0.33	0.34	0.26	0.38
Husband's income (log)	6.09	6.03	6.05	6.17
	(0.65)	(0.78)	(0.88)	(0.66)
Coresidence with parents(-in-law) [a]	0.35	0.45	0.41	0.28
Huband's share in housework	0.13	0.17	0.17	0.11
	(0.12)	(0.15)	(0.13)	(0.10)
Current/previous income (log)	4.41	5.55	3.88	4.43
	(1.68)	(1.01)	(1.62)	(1.97)
Reason for chossing final school [a]				
Active	0.48	0.56	0.46	0.47
Passive	0.52	0.44	0.54	0.53
Reason for choosing the current company [a]				
Reasons related to carrer orientation		0.08	0.09	
Reasons not-related to carrer orientation		0.92	0.91	
Reason for quitting the previous job [a]				
Reasons related to carrer orientation				0.01
Reasons not-related to carrer orientation				0.99
Current/previous occupation				
Self-employed/family work		N/A	0.26	0.07
Professional/managerial		0.35	0.12	0.13
Clerical		0.36	0.18	0.47
Manual labor		0.13	0.18	0.10
Sales/service		0.17	0.28	0.24
Current/previous firm size				
1-99		0.35	0.73	0.49
100-499		0.19	0.13	0.19
500+		0.22	0.10	0.27
Public sector		0.24	0.05	0.05
Firm size missing		0.01	0.04	0.10
Number of person-years	11,403	1,995	3,925	5,483

* Standard deviation in parenthesis
* a: Dichotomous variables coded 1=yes, 0=no
* In some cases, totals do not sum up to 1 due to the rounding error

Table 2: Discrete-time competing risk models predicting labor force transitions for women working in standard employment at wave t

	Exit					Change to non-stanard job				
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Duration in curent status (years)	-0.202***	-0.141**	-0.212***	-0.184***	-0.143*	-0.376***	-0.340***	-0.391***	-0.329***	-0.315***
	(-3.96)	(-2.64)	(-4.03)	(-3.49)	(-2.54)	(-6.00)	(-5.2)	(-6.12)	(-4.95)	(-4.53)
Duration in curent status (squared term)	0.008**	0.006*	0.008**	0.008*	0.007*	0.011**	0.010*	0.012**	0.011*	0.010*
	(2.65)	(1.97)	(2.76)	(2.52)	(2.06)	(2.78)	(2.36)	(2.95)	(2.54)	(2.37)
Age	-0.037	-0.046	-0.039	-0.033	-0.046	-0.003	-0.003	-0.005	-0.001	-0.003
	(-1.29)	(-1.57)	(-1.35)	(-1.14)	(-1.54)	(-0.1)	(-0.11)	(-0.18)	(-0.02)	(-0.12)
Education										
High school or less (ref)										
Vocational school	-0.474	-0.462	-0.336	-0.329	-0.351	0.074	0.074	0.096	-0.04	-0.069
	(-1.83)	(-1.77)	(-1.17)	(-1.14)	(-1.12)	(0.3)	(0.3)	(0.35)	(-0.14)	(-0.22)
Junior College	-0.606*	-0.515	-0.495	-0.196	-0.158	-0.127	-0.074	-0.106	0.462	0.469
	(-2.16)	(-1.81)	(-1.67)	(-0.63)	(-0.49)	(-0.42)	(-0.24)	(-0.34)	(1.37)	(1.29)
University or more	-0.573	-0.496	-0.446	-0.1	-0.073	-1.460*	-1.395*	-1.421*	-0.907	-0.87
	(-1.79)	(-1.53)	(-1.32)	(-0.29)	(-0.2)	(-2.56)	(-2.44)	(-2.44)	(-1.48)	(-1.39)
Gave birth between t and t+1 [a]	1.248***	1.231***	1.244***	1.388***	1.371***	-0.332	-0.346	-0.341	-0.183	-0.191
	(5.49)	(5.34)	(5.47)	(5.88)	(5.73)	(-0.68)	(-0.7)	(-0.69)	(-0.37)	(-0.38)
Parity	-0.349**	-0.427**	-0.363**	-0.370**	-0.423**	0.183	0.166	0.17	0.095	0.066
	(-2.69)	(-3.19)	(-2.78)	(-2.72)	(-3.04)	(1.41)	(1.28)	(1.3)	(0.72)	(0.49)
Has preschool-age child [a]	-0.269	-0.487	-0.253	-0.152	-0.382	-0.058	-0.147	-0.046	0.057	-0.009
	(-1.05)	(-1.82)	(-0.98)	(-0.58)	(-1.39)	(-0.22)	(-0.54)	(-0.17)	(0.2)	(-0.03)
Husband's education										
High school or less (ref)										
Vocational school/Junior College	0.078	0.098	0.069	0.034	0.052	0.681*	0.699**	0.662*	0.734**	0.721**
	(0.28)	(0.34)	(0.24)	(0.12)	(0.18)	(2.530	(2.58)	(2.45)	(2.64)	(2.58)
University or more	-0.175	-0.137	-0.179	-0.045	-0.052	0.17	0.187	0.175	0.474	0.497
	(-0.68)	(-0.52)	(-0.69)	(-0.17)	(-0.19)	(0.6)	(0.65)	(0.61)	(1.56)	(1.63)
Husband's income (log)	0.411	0.551**	0.417	0.474*	0.602**	-0.056	-0.041	-0.05	-0.025	-0.023
	(1.92)	(2.61)	(1.94)	92.14)	(2.79)	(-0.56)	(-0.41)	(-0.5)	(-0.23)	(-0.22)
Huband's share in housework	-0.049	0.177	-0.044	-0.061	0.168	-1.099	-1.059	-1.071	-0.791	-0.742
	(-0.08)	(0.27)	(-0.07)	(-0.09)	(0.25)	(-1.49)	(-1.42)	(-1.44)	(-1.06)	(-0.98)
Coresidence with parents(-in-law) [a]	-0.798***	-0.768***	-0.805***	-0.711**	-0.710**	-0.337	-0.319	-0.337	-0.26	-0.251
	(-3.54)	(-3.36)	(-3.56)	(-3.05)	(-3.02)	(-1.53)	(-1.45)	(-1.53)	(-1.14)	(-1.09)
Income (log)		-0.448***			-0.398***		-0.211**			-0.203*
		(-6.17)			(-5.36)		(-2.66)			(-2.43)
Reason for chossing final school [a]			-0.249		-0.016			-0.046		0.004
			(-1.15)		(-0.07)			(-0.19)		(0.02)
Reason for choosing the current company			-0.158		-0.239			-0.373		-0.435
			(-0.51)		(-0.74)			(-1.12)		(-1.24)
Occupation										
Professional/managerial				-0.093	-0.052				0.266	0.309
				(-0.33)	(-0.18)				(0.79)	(0.91)
Clerical (ref)										
Manual labor				0.53	0.421				0.792*	0.754*
				(1.72)	(1.34)				(2.22)	(2.1)
Sales/service				0.399	0.331				1.251***	1.268***
				(1.52)	(1.24)				(4.44)	(4.46)
Firm size										
Small (1-99: ref)										
Medium (100-499)				0.028	0.078				-0.5	-0.472
				(0.11)	(0.29)				(-1.79)	(-1.67)
Big (500+)				0.229	0.236				-1.437***	-1.472***
				(0.95)	(0.96)				(-3.84)	(-3.88)
Public sector				-2.175***	-2.095***				-2.173***	-2.107***
				(-3.93)	(-3.76)				(-3.43)	(-3.32)
Firm size missing				0.877	0.348				-0.293	-0.644
				(1.14)	(0.43)				(-0.4)	(-0.84)
Constant	-2.134	-0.516	-1.985	-3.000*	-1.322	-0.853	0.098	-0.712	-1.578	-0.389
	(-1.49)	(-0.36)	(-1.38)	(-1.99)	(-0.88)	(-0.81)	(0.09)	(-0.67)	(-1.39)	(-0.32)
Number of person-years	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995
Log-likelihood	-795.762	-778.435	-794.354	-748.617	-734.42	-795.762	-778.435	-794.354	-748.617	-734.42

* p<0.05; ** p<0.01; *** p<0.001
* a: Dichotomous variables coded 1=yes, 0=no
* z statistics in parentheses

Table 3: Discrete-time competing risk models predicting labor force transitions for women working in non-standard employment at wave t

	Exit					Change to standard job				
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Duration in curent status (years)	-0.294***	-0.253***	-0.296***	-0.294***	-0.256***	-0.087	-0.181*	-0.076	-0.063	-0.151*
	(-6.26)	(-5.06)	(-6.22)	(-6.18)	(-5.03)	(-1.23)	(-2.49)	(-1.04)	(-0.88)	(-2.03)
Duration in curent status (squared term)	0.009*	0.007	0.010*	0.009	0.007	-0.003	0.003	-0.004	-0.003	0.003
	(2.02)	(1.36)	(2.09)	(1.84)	(1.29)	(-0.45)	(0.37)	(-0.53)	(-0.36)	(0.43)
Age	-0.036*	-0.038*	-0.038*	-0.035*	-0.037*	-0.031	-0.028	-0.031	-0.036	-0.031
	(-2.45)	(-2.52)	(-2.54)	(-2.36)	(-2.5)	(-1.34)	(-1.22)	(-1.33)	(-1.5)	(-1.32)
Education										
High school or less (ref)										
Vocational school	-0.053	-0.053	0.092	-0.006	0.118	0.272	0.279	0.406	0.205	0.382
	(-0.38)	(-0.38)	(0.59)	(-0.04)	(0.74)	(1.33)	(1.36)	(1.77)	(0.95)	(1.59)
Junior College	-0.048	-0.061	0.067	0.031	0.111	-0.096	-0.098	0.019	-0.168	-0.046
	(-0.34)	(-0.43)	(0.44)	(0.21)	(0.71)	(-0.41)	(-0.42)	(0.08)	(-0.69)	(-0.18)
University or more	-0.690**	-0.688**	-0.579*	-0.578*	-0.503*	-0.489	-0.465	-0.399	-0.43	-0.337
	(-2.88)	(-2.88)	(-2.37)	(-2.35)	(-2.02)	(-1.21)	(-1.14)	(-0.97)	(-1.01)	(-0.78)
Gave birth between t and t+1 [a]	2.348***	2.360***	2.350***	2.342***	2.355***	-0.441	-0.494	-0.437	-0.449	-0.47
	(13.32)	(13.35)	(13.3)	(13.2)	(13.22)	(-0.73)	(-0.82)	(-0.72)	(-0.74)	(-0.77)
Parity	-0.135*	-0.151*	-0.128*	-0.165*	-0.168**	0.059	0.091	0.068	0.106	0.126
	(-2.14)	(-2.37)	(-2.03)	(-2.57)	(-2.61)	(0.59)	(0.9)	(0.68)	(1.02)	(1.21)
Has preschool-age child [a]	-0.316*	-0.358*	-0.310*	-0.341*	-0.369**	-0.075	0.026	-0.059	0.022	0.13
	(-2.28)	(-2.56)	(-2.23)	(-2.42)	(-2.61)	(-0.36)	(0.13)	(-0.28)	(0.1)	(0.61)
Husband's education										
High school or less (ref)										
Vocational school/Junior College	0.095	0.099	0.119	0.084	0.113	-0.868**	-0.901**	-0.840**	-0.757**	-0.753*
	(0.67)	(0.7)	(0.83)	(0.59)	(0.79)	(-2.99)	(-3.08)	(-2.88)	(-2.59)	(-2.56)
University or more	0.382**	0.388**	0.398**	0.398**	0.413**	0.225	0.233	0.229	0.262	0.294
	(2.91)	(2.95)	(3.01)	(2.98)	(3.08)	(1.12)	(1.16)	(1.14)	(1.29)	(1.43)
Husband's income (log)	0.017	0.015	0.018	0.006	0.007	-0.174*	-0.191**	-0.171*	-0.151*	-0.160*
	(0.27)	(0.25)	(0.29)	(0.09)	(0.12)	(-2.54)	(-2.71)	(-2.5)	(-2.14)	(-2.21)
Huband's share in housework	-0.586	-0.582	-0.526	-0.475	-0.442	1.122	1.03	1.134*	1.035	0.971
	(-1.41)	(-1.4)	(-1.27)	(-1.14)	(-1.06)	(1.94)	(1.78)	(1.96)	(1.74)	(1.63)
Coresidence with parents(-in-law) [a]	-0.310**	-0.313**	-0.306**	-0.340**	-0.337**	-0.179	-0.161	-0.171	-0.108	-0.093
	(-2.79)	(-2.8)	(-2.74)	(-3.02)	(-2.99)	(-1.06)	(-0.95)	(-1.02)	(-0.64)	(-0.55)
Income (log)		-0.080**			-0.071*		0.298***			0.284***
		(-2.59)			(-2.28)		(4.36)			(3.96)
Reason for chossing final school [a]			-0.261*		-0.224			-0.244		-0.3
			(-2.18)		(-1.86)			(-1.31)		(-1.56)
Reason for choosing the current company			-0.094		-0.018			0.196		0.079
			(-0.58)		(-0.11)			(0.81)		(0.32)
Occupation										
Self-employed/family work				0.367*	0.306				-1.207***	-1.115**
				(2.1)	(1.72)				(-3.53)	(-3.24)
Professional/managerial				-0.285	-0.255				0.396	0.41
				(-1.28)	(-1.13)				(1.4)	(1.44)
Clerical (ref)										
Manual labor				0.163	0.149				0.035	0.051
				(0.92)	(0.84)				(0.14)	(0.2)
Sales/service				0.147	0.116				0.01	0.031
				(0.95)	(0.74)				(0.04)	(0.13)
Firm size										
Small (1-99: ref)										
Medium (100-499)				-0.045	-0.034				-0.055	-0.087
				(-0.27)	(-0.2)				(-0.24)	(-0.37)
Big (500+)				0.26	0.252				-0.305	-0.306
				(1.49)	(1.44)				(-1.02)	(-1.02)
Public sector				-0.462	-0.496				-0.291	-0.298
				(-1.57)	(-1.67)				(-0.79)	(-0.8)
Firm size missing				0.149	0.149				-0.759	-0.727
				(0.52)	(0.52)				(-1.41)	(-1.34)
Constant	0.166	0.487	0.25	0.073	0.426	-0.632	-1.769*	-0.675	-0.632	-1.764
	(0.3)	(0.85)	(0.44)	(0.13)	(0.72)	(-0.77)	(-2.07)	(-0.82)	(-0.74)	(-1.95)
Number of person-years	3925	3925	3925	3925	3925	3925	3925	3925	3925	3925
Log-likelihood	-1976.86	-1960.36	-1973.26	-1951.72	-1935.75	-1976.86	-1960.36	-1973.26	-1951.72	-1935.75

* p<0.05; ** p<0.01; *** p<0.001
* a: Dichotomous variables coded 1=yes, 0=no
* z statistics in parentheses

Table 4: Discrete-time competing risk models predicting labor force transitions for women not in the labor force at wave t

			Reentry		
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Duration in curent status (years)	-0.246***	-0.248***	-0.233***	-0.244***	-0.230***
	(-9.73)	(-9.7)	(-9.15)	(-9.36)	(-8.65)
Duration in curent status (squared term)	0.009***	0.009***	0.008***	0.009***	0.008***
	(5.0)	(5.0)	(4.68)	(4.87)	(4.54)
Age	-0.005	-0.004	-0.006	-0.003	-0.005
	(-0.41)	(-0.39)	(-0.53)	(-0.27)	(-0.45)
Education					
High school or less (ref)					
Vocational school	-0.185	-0.185	-0.233*	-0.270*	-0.311*
	(-1.76)	(-1.76)	(-1.98)	(-2.42)	(-2.55)
Junior College	-0.234*	-0.235*	-0.272*	-0.271*	-0.306*
	(-2.1)	(-2.11)	(-2.32)	(-2.39)	(-2.56)
University or more	-0.388*	-0.393*	-0.410*	-0.426*	-0.439*
	(-2.28)	(-2.31)	(-2.37)	(-2.43)	(-2.47)
Gave birth between t and t+1 [a]	-2.329***	-2.331***	-2.319***	-2.343***	-2.330***
	(-8.62)	(-8.63)	(-8.57)	(-8.67)	(-8.61)
Parity	0.252***	0.255***	0.246***	0.239***	0.229***
	(4.75)	(4.77)	(4.61)	(4.33)	(4.11)
Has preschool-age child [a]	-0.834***	-0.835***	-0.810***	-0.843***	-0.815***
	(-9.0)	(-9.01)	(-8.69)	(-8.94)	(-8.59)
Husband's education					
High school or less (ref)					
Vocational school/Junior College	-0.162	-0.165	-0.165	-0.179	-0.178
	(-1.45)	(-1.47)	(-1.47)	(-1.59)	(-1.58)
University or more	-0.334***	-0.335***	-0.355***	-0.345***	-0.364***
	(-3.33)	(-3.33)	(-3.5)	(-3.38)	(-3.54)
Husband's income (log)	-0.109*	-0.108*	-0.101	-0.107*	-0.099
	(-2.11)	(-2.1)	(-1.95)	(-2.06)	(-1.9)
Huband's share in housework	-0.312	-0.303	-0.347	-0.347	-0.382
	(-0.78)	(-0.76)	(-0.86)	(-0.86)	(-0.95)
Coresidence with parents(-in-law) [a]	0.009	0.01	0.022	0.007	0.02
	(0.1)	(0.11)	(0.25)	(0.08)	(0.23)
Previous income (log)		0.009			-0.002
		(0.45)			(-0.09)
Reason for chossing final school [a]			0.114		0.107
			(1.25)		(1.15)
Reason for quitting the previous job [a]			1.063***		1.080***
			(3.9)		(3.94)
Previous occupation					
Self-employed/family work				0.346	0.416
				(1.27)	(1.52)
Professional/managerial				0.346**	0.341*
				(2.58)	(2.52)
Clerical (ref)					
Manual labor				-0.017	-0.009
				(0.12)	(-0.07)
Sales/service				0.036	0.045
				(0.35)	(0.43)
Previous firm size					
Small (1-99: ref)					
Medium (100-499)				-0.002	-0.015
				(-0.02)	(-0.13)
Big (500+)				-0.093	-0.099
				(-0.89)	(-0.93)
Public sector				-0.247	-0.263
				(-1.09)	(-1.15)
Firm size missing				-0.374	-0.404
				(-1.6)	(-1.7)
Constant	0.302	0.256	0.22	0.297	0.24
	(0.67)	(0.55)	(0.48)	(0.65)	(0.5)
Number of person-years	5483	5483	5483	5483	5483
Log-likelihood	-2164.993	-2164.893	-2156.652	-2159.772	-2151.383

* p<0.05; ** p<0.01; *** p<0.001
* a: Dichotomous variables coded 1=yes, 0=no
* z statistics in parentheses