

The Impact of Marriage and Childbearing on Women's Employment and Earnings in Urban China and Japan

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ABSTRACT

Using data from the China General Social Survey and Japan General Social Survey, this paper examines: (1) differences in gender inequality in labor force participation and earnings between China and Japan; (2) if family characteristics, such as marriage and presence of preschool children and children under 18 years old, have larger negative effects on women's employment and earnings in Japan than in China; (3) factors accounting for the differences, if any. The results indicate that whereas marital status and spouse's education and earnings have significant negative effects on women's labor force participation in Japan, these factors have smaller effects on women's labor force participation in China. Motherhood earnings penalty is only significant in the non-public sector, not in the public sector in Japan. In China, motherhood earnings penalty is not significant in both the public and the non-public sectors. While married men earn significantly more than single men in Japan and marital status has no significant effect on men's earnings in China, marriage earnings penalty for women in both countries exists. I discuss the effects of state policies, labor market structures, family system, and individual characteristics on men and women's labor force participation and earnings from a comparative gender stratification perspective. I also discuss the implications of these results on the gender stratification theory and on research on welfare regime and the transformation of post-socialist societies, as well as on women's labor market status.

Keywords: labor force participation, earnings, marriage, gender, childbearing, China, Japan

Despite the increase in female educational attainments during the twentieth century, economic and political opportunities for women in both industrialized and developing countries were limited (UN Human Development Report 1995). Previous studies on women's employment in Western countries and a few industrialized East Asian countries showed that economic development had different effects on married women's employment continuity across societies, even though women's economic participation increased dramatically in the twentieth century (Mincer 1962; Goldin, 1990; Brinton 2001).

Literature on both the North American and European countries show that women's employment is higher at higher educational levels (Evertsson et al. 2007; England et al. 2004); the effect of women's own education on their employment has increased steadily, whereas the effects of a husband's earnings have declined (Cohen and Bianchi 1999; Rosenfeld 1996; Thistle 2006; Van der Lippe and Van Dijk 2002). Research on women's employment in East Asia mainly focused on Japan, on comparing Japan with the U.S., or on newly industrialized 'Confucian' societies like Taiwan and South Korea (Brinton 1993, 1995, 2001; Yu 2005, 2009). Whereas some East Asian countries experienced a large increase in the employment of new mothers, others, like Japan, did not (Yu 2005). In Japan, education has no significant effect on women's continuous full-time employment (Tanaka 1998). In a study on sex segregation, Chang (2000) proposed that the United States is a formal-egalitarian society, and that Japan is a traditional, family-centered society. Japanese women, upon graduation, enter large firms at a rate similar to men, however, only a small proportion of women enter career-track positions, due to discrimination and to women's propensity to quit upon marriage or childbirth.

On the other hand, the economic reforms began in 1978 in China stimulated rapid economic growth and social changes. These drew the attentions of researchers to look at whether the transformations of the post-socialist country changed the social stratification structure (Zhou 2000). However, minimal research has been done on gender differences in labor force participation and earnings. The Chinese case can have important implications for studies on the effects of macro-level and micro-level factors on women's labor force participation and gender inequality in earnings. Since pursuing gender equality was one of the main goals and achievements under socialism,

as shown in Table 1, the ratio of estimated female to male earned income was 0.68¹, even higher than liberal welfare states such as the United States and the United Kingdom. Do gender equality employment policies promoted by the socialist state still affect individuals' employment while the labor market is emerging? As a post-socialist and traditional patriarchal society, China serves as an interesting case for comparative study with capitalist societies to examine gender inequality in employment and earnings.

[TABLE 1 ABOUT HERE]

Previous studies have decomposed earning gap in a country into parts explained by gender differences in human capital, family responsibilities, and labor-market location. The extent of gender differences may also reflect a country's political institutions, economic institutions, and culture. To relate variations in country-level context to individual-level factors that affect individuals' labor force participation and earnings, it is necessary to look at more than one country (Rosenfeld and Kalleberg 1990). In this paper, I examined the following questions: (1) what are the differences in gender inequality in labor force participation and earnings in China and Japan? (2) Do family characteristics, such as marriage, spouse' earnings, and presence of children, have a more significant effect on women's employment and earnings in Japan than in China? (3) If there are differences, what are the factors that account for the differences?

To discover the social mechanisms underlying similarities and differences of the effects of individual and family characteristics on individuals' employment and earnings across societies, a comparison between China and Japan was performed. As shown in Table 1, China and Japan share similar values in Gender Empowerment Measure (GEM)², even though Japan ranked top 15th in Gender-related Development Index (GDI)³ in the world. This implicates that economic development and individual

¹ United Nation Human Development Report 2009

² The Gender Empowerment Measure (GEM) is a measure of agency. It evaluates progress in advancing women's standing in political and economic forums. It examines the extent to which women and men are able to actively participate in economic and political life and take part in decision-making. GEM was constructed from a combination of women's percentage shares in parliamentary seats, positions as legislators, senior officials and managers, professional and technical positions, and women's estimated earned income.

³ GDI adjusts the average achievement in human development to reflect the inequalities between men and women in life expectancy at birth, adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio, and estimated earned income. The methodology used imposes a penalty for inequality, such that the GDI falls when the achievement levels of both women and men in a country go down or when the disparity between their achievements increases.

human capital characteristics alone can not explain gender inequality in economic activities. Political institution and family characteristics intervened with individual characteristics, social norms, and labor market structures shape individuals' labor market status. The combination of similar traditional patriarchal systems with different political and economic institutions in these two societies highlights the power of comparison to identify different roles played by macro-level and micro-level factors in shaping individuals' decisions on employment and earnings.

The growth of government jobs has been associated, across countries and over time, with an increased demand for female employment (Gornick and Jacobs 1995). The remaining state sector in China still serves as the most protective economic sector for women (Cohen and Wang 2009), and public-sector employment typically offers more regular work hours and vacations (Yu 2001). I therefore, examined further individuals' earnings in public and non-public sectors separately, to study how factors such as marital status, education, and number of dependents influence individuals' earnings differently in the two sectors.

The data source consists of four rounds (2002, 2003, 2005, and 2006) of the Japan General Social Survey and the 2006 China General Social Survey. Since Japan is more urbanized than China, only urban residents of the two countries were included in the sample for this analysis to make the data sets more comparable. Furthermore, the Chinese sample was restricted to urban residents who have urban household registration status. Established in 1958, household registration system (hukou) determines differential privileges in China such as access to good jobs and education for one's children. Each Chinese is assigned at birth, based on the mother's registration status, to either agricultural or nonagricultural status (Wu and Treiman 2004). Urban residents in China with and without urban hukou can have very different patterns of labor force participation. I begin by reviewing literature on background and theoretical issues. Subsequently, the hypotheses are developed, and data and method as well as results are presented. Finally, the findings are discussed and conclusions are made.

BACKGROUND AND THEORETICAL ISSUES

Women's Employment

One of the most momentous economic and social changes in the twentieth century was the increased women's participation in work roles outside the home. While male labor participation rate declined in the past three decades, the changes in women's labor participation rate varied in different societies.

[TABLE 2 ABOUT HERE]

[TABLE 3 ABOUT HERE]

Women's labor force participation typically declines in the early stages of industrialization, as production moves out of the home and into the factory. Participation later increases as a result of the expansion of the service sector (Goldin 1995; Pampel and Tanaka 1986). The impact of industrialization has not produced an equivalent degree of improvement in women's socioeconomic status in all countries. There are still significant differences in gender wage gap, women's employment rates and trajectories, as well as gender distributions across occupations and employment status among countries (Charles and Grusky 2004; Stier, Lewin-Epstein, and Braun 2001).

Women's economic participation is commonly explained by the independent effects of key labor supply and demand factors as well as the intersection of supply and demand (Goldin 1990). Women's educational levels, marriage and fertility patterns, life expectancies, and household structures are central among the labor supply conditions affecting the decision to enter and remain in the labor force (Brinton 2003). In a society based primarily on "market principles," such as the United States, women are constrained in their time-allocation decisions and are compelled to weigh the costs and benefits of market activity against household responsibilities and obligations (Becker 1981). In a social-democratic welfare regime, the state provides state-subsidized child-care facilities, and enforces gender-equality measures in the labor market (Stier et al.2001).

Labor Market Structures and Gender Inequality in Employment and Earnings in China and Japan

In the East Asian context, previous studies show that the characteristics of the Japanese labor market led to a greater incompatibility between work and family

responsibilities than in Taiwan (Yu 2005). The Japanese Diet passed the Equal Employment Opportunity Law (EEO) in 1985. However, the EEO produced insignificant effect in the first decade after its enactment (Hanami 2000). In Japan, women are as likely as men to enter large firms upon graduation, but they are much less likely to receive on-the-job training (Brinton 1989, 1991, 1993). Employers perceive that they can more safely assume that men's length of service will be substantial. This led to a wider gender-wage gap (Brinton 2005). Employment positions are allocated according to gender, and women did not have equal access to promotion (Okano 2009).

China's economic reforms, which began in 1978, have stimulated rapid economic growth and enormous social changes. On the other hand, studies show that the rapid economic growth was also accompanied by sharp increases in income inequality as traditional socialist welfare systems were eroded (Griffin and Zhao 1993; Zhao and Zhou 2002; Hauser and Xie 2005). For instance, in the cities, as the market developed, growth eroded the power of the state both as employer and advocate of women's rights, leading to labor market discrimination against female workers in hiring and layoffs, job placements, and wage determination in both state and non-state sectors; thus, it resulted in gender inequalities in the economic status (Honig and Hershatter 1988).

Previous studies on gender gap in earnings in urban China showed mixed results. Earlier studies showed a stable gender gap in earnings in urban China (Bian et al. 2000; Bian and Logan 1996; Zhou 2000; Bian and Shu 2003). In another analysis of urban Chinese employees, Cao and Hu (2007) found that the gender gap in income increased sharply from 1986 to 2000, and women are consistently more likely to work in lower-paid occupations, industries, and sectors of the economy. They also found that married women are less likely than their male counterparts to change jobs for career advancements, but are more likely to experience family-oriented job changes and involuntary terminations (Cao and Hu, 2007).

Public Sector and Non-public sector

The growth of government jobs is associated, across countries and over time, with increased demand for female employment. A comparative study on gender and public employment showed that in liberal countries such as the United States, United Kingdom, and Canada, women benefit from their higher public-sector employment

rates and from their higher wages in the public sector, compared to women in the non-public sector and their male counterparts in the public sector (Gornick and Jacobs 1995).

Under the slogan of “women hold up half the sky,” the communist state made sustained efforts to promote women’s status through greater labor force participation (Whyte and Parish 1984). In the current reform era, what sets China apart from capitalist market economies is the coexistence of a remaining state sector and an emerging market sector, which structures the patterns of gender economic inequality. A study shows that the remaining state sector still serves as the most benign economic sector for women, at least with regard the gender gap in income (Cohen and Wang 2009). Such a pattern was also reported for Moscow in Russia and in a number of settings in Eastern transitional societies (Heyns 2005). Newly emerged market sectors are where gender income penalty is more extreme compared with the state-owned sector. In the service sector, the gap between their remuneration and that of public sector workers widens, even for those who deliver key services like health and education (Evans and Staveteig 2009).

In Japan, in contrast to the rigidities of the work environment in large private firms and the exclusion of women from organizational culture, public-sector employment typically offers more regular work hours and vacations (Yu 2001). Although the effect of public employment on the overall gender gap in wages is shown to be limited in most of the industrialized countries studied in a research on gender and public employment (Gornick and Jacobs 1998), the public sector is subject to more careful scrutiny by the government for adherence to legally sanctioned equal employment opportunity rules (Beggs 1995). Entrance to the civil service in Japan is governed by an examination, which is a more equal, meritocratic recruitment channel than personal connections used in some private companies. Female full-time employees in Japan earn higher wages in government service (Brinton 1993; Yu 1999 and 2001).

Effects of Marriage and Fertility

The Chinese communist party’s campaign against traditional gender norms and patriarchal families was not successful (Whyte and Parish 1984). The common Confucian ideology in traditional Confucian China and its cultural offshoot in Japan influences the nature of familial relationships and family expectations placed on

women. These two societies both evolved from a patriarchal family system with son preference. In China, there is a strong son preference, and the obligation of a son and his wife to support his old parents is greater than that of a daughter (Zimmer and Kwong 2003). In rural China, where peasants have no pension and continue to count on sons for old-age support, different expectations for sons versus daughters are still held (Yang 1996). In urban China, daughters provide more financial support to parents (Xie and Zhu 2009).

A decline in fertility intensified the son preference in China, but this was not the case in Japan (Hirao 2007). The retirement programs of large firms and the public pension program weakened Japanese parental reliance on children in old age (Brinton 1988). In terms of work and family relationship, married women in Japan are expected to take primary responsibility for the family, and women of working-class background work part-time to supplement the family income. While many post-industrial societies share the famous M-curve of female labor participation, the dip in the middle remains deep in Japan. Family responsibilities interfered with women's work arrangements. Many women gave up work when they married or had children, even they are university graduates. Japanese women differ from their counterparts in other post-industrial nations in that they rarely return to full-time permanent jobs after childbirth (Okano 2009).

Existing explanations for the increased female labor force participation in industrial societies include the following: as age at marriage increases and fertility falls with industrialization, decreasing family obligations free more of women's time for labor market activities (Goldin 1990). Previous studies show that there is a high level of educational homogamy in Japan, Taiwan, and South Korea. In Japan, an employer's practice of prodding women to quit the firm upon marriage was formally made illegal with the enactment of an Equal Opportunity Employment Law in 1986. However, the practice persists (Brinton 2005). In addition, pairing across educational levels in Japan is much more likely to involve a more highly educated husband than a more highly educated wife (Yamada 1996). More recent studies on marriage in Japan found that, unlike in most other industrialized societies, the decline in marriage rates is most pronounced among highly educated women. The change in the availability of potential spouses accounts for one-fourth of the decline in marriage among university-educated women (Raymo 2003, 2005).

Previous studies found that mothers experience disadvantages in the workplace, in addition to those commonly associated with gender. For example, studies found that employed mothers in the United States suffered a 5% per-child wage penalty after controlling for the usual human capital and occupational factors that affect wages (Budig and England 2001; Anderson, Binder, and Krause 2003). Mothers were penalized on a host of measures, including perceived competence and recommended starting salary. Men were not penalized for, and sometimes benefited from, being a parent (Correll, Benard, and Paik 2007).

Education as Human Capital

In the twentieth century, industrial societies experienced rapid educational expansions. Increases in human capital generally make women more attractive employees and raise their potential wage rate, which pulls more women into the labor market (Goldin 1990).

[FIGURE 1 ABOUT HERE]

[FIGURE 2 ABOUT HERE]

Gross enrollment rate in the secondary level in Japan has been about 100% since 1985, and gross enrollment rate in the tertiary level increased to above 50% in 2006. Gender inequality in access to higher education in Japan was reduced substantially in the postwar period, whereas gender inequality in access to university rather than junior college persists (Ishida 2007). Although the number of female students attending universities has increased, women remain a minority and constituted only 39% of all students in 2004.

Since the economic reform started in 1978, the number of students enrolled in the secondary and post-secondary levels in China increased rapidly. In 2006, the gross enrollment rate in the secondary level in China increased to 75%, and the gross enrollment rate in post-secondary level increased to 21.6% (World Bank Database). Previous studies show that modernization in China has not improved educational gender equality. Girls and young women in urban China were disadvantaged in their educational advancement throughout most of the historical periods of communist rule. (Zhou, Moen, and Tuma 1998). Economic returns to education in the reform era are increasing, which reflect the increasing importance of human capital in market transactions (Zhou 2000).

Hypotheses

Given the different hiring and labor force participation practices in post-socialist China and Japan as discussed above, and the differentiated family role expectations for men and women in traditional patriarchal societies, I assume that equal labor force participation policies and ideologies, once enforced by the socialist government, still exert influence on an individual's economic activities. In Japan, married women's labor force participation is less encouraged by social norms and more affected by family responsibilities. Based on these, I propose Hypothesis 1:

Marriage has a more significant negative effect on women's labor force participation in Japan than in China.

As married women's labor force participation is also to some extent affected by their family characteristics, such as availability of economic and social resources produced by their spouses and the responsibility of taking care of family members, I further propose hypothesis 2:

The higher the education and earnings their spouses have, the less likely women will take part in labor force. The presence of preschool children also has a negative effect on married women's labor force participation. These effects are larger in Japan than in post-socialist China.

I further assume that, as the public sector is strictly under government equal opportunity regulation, marriage and motherhood wage penalties are more significant for women working in the private/hybrid sector in both countries, whereas, as the gender equality labor participation policies still have significant effects in post-socialist China, I assume that married women working in the public sector in China fare better than their counterparts in Japan. Thus, I propose hypothesis 3:

Marriage and motherhood wage penalties are larger for women working in the non-public sector in both China and Japan, and the negative effects of marriage and motherhood are smaller for women working in public sector in China than for their counterparts in Japan. Gender inequality in earnings is smaller in China than in Japan.

DATA, VARIABLES, AND METHODS

Data

My empirical analyses are based on the 2006 China General Social Survey² (CGSS2006), and the 2002, 2003, 2005, and 2006 Japan General Social Survey³ (JGSS2002, 2003, 2005, and 2006).

China General Social Survey is a national survey using a four-stage stratified sampling scheme with unequal probabilities. The 2006 China General Social Survey gathered extensive information on respondent's personal and household basic characteristic, household membership, mental health, economic attitude and behavior, and rural governance. The survey subjects are 18 to 70 years old adults in China, and the sample includes 6013 cases from urban areas and 4138 cases from rural areas

The Japanese General Social Surveys were designed to collect solicit political, sociological, and economic information from people living in Japan. The data were collected by face-to-face interviews and self-administered questionnaires. The survey subjects are 20 to 89 years old adults in Japan. I combined the 2002 JGSS (N=2953), 2003 JGSS (N=3663), 2005 JGSS (N=2023), and 2006 JGSS (N=4254) samples to increase my case base, then removed cases with missing data.

The original samples were further restricted to respondents who are between 25 and 50 years old. Information from the samples of both countries on respondents' sex, education, marital status, the year when the respondents were born is exploited in the analyses. In addition, information on spouse' education and annual earnings is used. Table 1 presents descriptive statistics of the CGSS and JGSS samples by gender, and Table 2 presents descriptive statistics of the urban samples of CGSS and JGSS by gender analyzed in this study. Since in rural area the majority of able-bodied men and women alike are engaged in agricultural production and the labor force participation rate is high, the original Chinese and Japan samples were further restricted to respondents who reside in urban areas, to make the China data set and Japan data set more comparable. I further restrict the Chinese sample to urban residents who have urban household registration status, since the labor force participation rate for rural migrant workers who work in urban China is high and they probably have a different labor force participation pattern from residents who have urban household registration status.

Variables

The dependent variables in my analyses are: (1) individuals' probability of labor participation, dichotomous (0=current not in labor force; 1= currently participating

in labor force); (2) log annual earnings for individual who are working; (3) not working or work part-time rather than working full-time.

I use the following independent variables. The key independent variables include: respondent's education, spouse' education, spouse's annual earnings, marital status, and the presence of a preschool child younger than 6 years old. Other independent variables include: whether or not working in public sector and number of children under 18 years old, gender, and interaction terms of gender and marital status, gender and spouse's education, gender and presence of preschool children, and gender and number of children under 18-year-old.

Spouses' education is coded as years of schooling. Individuals' own education is categorized as middle school or less, high school, junior college, and four-year university and above. I use dummy variables for: gender(male=1, female=2), marital status (0=single, divorced or widowed; 1=currently married), presence of preschool child (0=no child younger than 6-year-old; 1= child younger than 6-year-old exists), and whether or not working in public sector [1=working in private/hybrid sector (private, hybrid, and collective firms), 2=working in public sector (government agencies, public organizations and state-owned firms)].

Control variables: I introduced dummy variables for three cohorts based on the respondents' age at the time of the surveys: 25-30, 31-40, 41-50. I also control for region dummy, family size, individuals' years of work experience, occupation, age and age square, and a dummy variable for whether living with parents or in-laws(1=living with parents or in-laws; 0=Not living with parents or in-laws). Occupation is coded to a binary variable based on the six-category version of the EGP class schema(Ganzeboom et al.1989;Erikson and Goldthorpe 1992), in other words, respondents' occupations are grouped into two types. The two categories include: (1) Professions and managers(EGP categories I +II);(2) [the routine nonmanual class (III), the small owners(IVab), the foremen and skilled workers(V+VI), the semi-skilled and unskilled workers(VIIa), the agricultural class(IVc+VIIb).]

Analytic Strategy

I first employ logistic regression model to examine the effects of marital status and educational attainment on individuals' labor participation, as well as the effects of individual characteristics and household characteristics on married women's labor participation. To measure the effects of women's education and husbands' education,

husband's earnings, marriage status, and the present of preschool child on married women's employment status, I employ multinomial logistic regression model, where the dependent variable has three categories: full-time employment, part-time employment, and not in the labor force. Then to measure how individuals' personal characteristics and household characteristics affect their earnings, and how the effects differentiate in public and non-public sectors, I employ ordinary least square regression model and heckman selection regression model (Heckman 1979) by maximum likelihood. The first step of the selection model involves estimation of the binary variable which measures married women's labor force participation status using a probit model. The second step is to estimate the effects of education, age, and number of children under 18 on married women's earnings.

I fit the married women's earnings model

$$\text{Log (earnings)} = \beta_0 + \beta_1 \text{Education} + \beta_2 \text{number_childrenunder18} + \beta_3 \text{region} + \beta_4 \text{Experience} + \beta_5 \text{Experience}^2 + \alpha,$$

And I assume the earnings are observed if

$$\gamma_0 + \gamma_1 \text{age} + \gamma_2 \text{age}^2 + \gamma_3 \text{number_childrenunder18} + \gamma_4 \text{present_preschoolchild} + \gamma_5 \log(\text{spouse_earnings}) + \mu > 0,$$

the correlation between α and μ is some parameter ρ ; when $\rho \neq 0$, only the Heckman selection model provides consistent, asymptotically efficient estimates for the parameters in the earnings equation.

I then use selection bias corrections estimate based on the multinomial logit model (Bourguignon et al. 2007) to examine the factors that determine married women's earnings in public sector and non-public sector. In the multinomial logit model the dependent variable has three categories: working in public sector, working in non-public sector, and not working.

RESULTS

Descriptive Results

Table 4 presents the proportions for independent variables and one dependent variable-participation in labor force of the urban samples of China General Social Survey and Japan General Social Survey used in the analysis by gender, and the means for the other dependent variable - earnings used in the analysis by gender and sector. As show in Table 4 women of the cohort 31-40 years old in urban Japan

have the lowest labor force participation rate among all cohorts, in contrast, women of 31-40 years old in urban China have the highest labor force participation rate among all cohorts. The statistics in Table 4 also show that the overall labor force participation rates for both men and women in urban Japan are higher than the rates for their counterparts in China. While about 46% of men and 39% of women in urban China work in public sector, only about 9% of men and women in urban Japan work in public sector. The public sector in China is larger than the one in Japan. Overall, men and women working in public sectors in both countries have higher average annual earnings than their counterparts in non-public sectors.

[TABLE 4 ABOUT HERE]

Figure 3 shows an M-curve of urban Japanese women's labor force participation. Urban Japanese women's labor force participation rate starts to drop since they are in their mid-20s.

[FIGURE 3 ABOUT HERE]

Determinants of Labor Force Participation

Table 5 presents the results of the baseline model of the linear probability model on labor force participation. It is shown that other factors controlled, married men are significantly more likely to work than single men in both China and Japan; in contrast, married women in Japan are significantly less likely to work than single women. Being married decreases Japanese women's probability of working by 0.317, while being married decreases Chinese women's probability of working by 0.111. Marriage has a larger negative effect on Japanese women's labor force participation than on Chinese women's labor force participation, which is consistent with hypothesis 1. While education has a significant positive effect on labor force participation for Chinese men and Japanese men as well as Chinese women, for Japanese women, university and above education have only marginally significant effects on their labor force participation.

[TABLE 5 ABOUT HERE]

Since the effects of marital status on labor force participation are very different for Chinese women and Japanese women, I further examine married women's labor force participation in these two countries, taking their household and individual characteristics into account. Table 6 presents the linear probability model of married women's labor force participation. The results show that having preschool

children significantly reduce the chance of working, while spouse's education has significant negative effects on a woman's probability of labor force participation in Japan. The presence of preschool child reduces the probability of labor force participation by 0.104 in China (although this negative effect is barely statistically significant at the .1 level); the negative effect of preschool child is stronger in Japan, reducing the probability of labor force participation significantly by 0.28. One year increase in spouse's education reduces a respondent's probability of labor force participation by 0.027 in Japan, in contrast, one year increase in spouse's education increases a woman's probability of labor force participation by 0.022 in China. While one number increase in children under 18 reduces a woman's probability of labor force participation significantly by 0.046 in Japan, the effect of numbers of children under 18 is not statistically significant in China. Compared to married women with middle school and less education, in China married women with high school and above are significantly more likely to work; while in Japan only married women with university and above education are significantly more likely to work, and the effects of education is smaller.

[TABLE 6 ABOUT HERE]

Since the M-curve in Figure 3 shows that Japanese women's labor force participation rate resurge since late 30s, as similar in some other industrial countries, some women return to the labor force after a few years of childcare and work part-time to cope with family responsibilities. Thus I further explore the differences in the effects of individual and household characteristics on married women's employment status using multinomial logistic model. Table 7 presents the results of multinomial logistic regression of married women's labor force participation. Others factors controlled, the higher educated a Chinese woman is, the less likely that she works part-time or does not work vs. working full-time. In other words, the higher educated a woman is in China, the more likely she works full-time. Women with university or above education are 84% [$1 - \exp(-1.815)$] less likely to work part-time rather than full-time than women with middle school or less education, and are 93% [$1 - \exp(-1.815)$] less likely not working rather than working full-time than her middle-school educated counterparts. Education has a significant positive effect on working full-time for married women in China. In contrast, education has no statistically significant effect on Japanese women's employment status except that women with university or

above education are 2.06[exp (0.725)] (this effect is statistically significant at the .05 level) times more likely to work part-time rather than full-time than women with middle school education. This is probably because Japanese women with university or above education are more likely to have higher educated husbands, and their higher educated husbands have relatively high earnings to support the whole family so that the married higher educated Japanese women can choose to work part-time rather than full-time. The results also show that the presence of preschool children has a larger significant positive effect on the odds of not working for Japanese women than Chinese women. In China married women with preschool children are 1.9 [exp (0.640)] times more likely not to work rather than working full-time than married women without preschool children. In Japan married women with preschool children are 3.8 [exp (1.344)] times more likely not to work rather than working full-time than married women without preschool children. The effect of the presence of preschool child and children under 18-year-old on the odds of working part-time rather than full-time is not statistically significant in both China and Japan.

[TABLE 7 ABOUT HERE]

Determinants of Earnings

In the following steps, I examine the differences in the determinants on individuals' annual earnings in China and Japan. Since individuals who would have low wages may be unlikely to choose to work, or individuals choose not to work when their personal reservation wage is greater than the wage offered by employers, there is probably selection bias. Thus, to correct for such a possible sample selection, I estimated individuals' annual earnings by computing a maximum likelihood estimation of the Heckman selection model (Heckman1979; Breen 1996). Table 8 presents the results of Heckman selection estimate of logged annual earnings. Other factors controlled, while being married significantly reduces women's annual earnings by 15% [1-exp (-.162)] in China and by 35% [1-exp (-.425)] in Japan, being married significantly increases Japanese men's annual earnings by 44% [exp (.368)-1]. Marital status is not significantly associated with men's earnings in China. This suggests while Japanese companies subsidizes married men's earnings, these subsidies are less available to married women. Other factors controlled, Japanese men working in public sector earn 7% [exp (0.066)-1] more than their counterparts in non-public

sector, and Japan women earn 24% [$\exp(0.212)-1$] more than their counterparts in non-public sector. Sector is not significantly associated with Chinese's earnings.

[TABLE 8 ABOUT HERE]

In contrast, the results of the OLS regression of logged annual earnings of married people in Table 9 show that while for married women in China and married men in Japan the effect of sector is not significant, working in public sector increases Japanese married women's annual earnings significantly by 30% [$\exp(0.26)-1$] and reduces Chinese married men's annual earnings significantly by 13% [$1 - \exp(-0.137)$]. This suggests Japanese married women benefit from working in public sector as there are less discrimination against them in public sector and more equal promotion and human capital accumulation opportunities. On the other hand, the disadvantage in earnings for married Chinese men who work in public sector can probably be explained by the fact that public sector especially some of the inefficient state-owned enterprises make less profits compared to private and hybrid sector in the transitional market economy. While education increases the annual earnings for married men and women in China and married men in Japan, high school education and junior college education has no significant positive effect on annual earnings compared to middle school education for Japanese married women. The effect of number of children under 18 years old on married people's annual earnings is not statistically significant after controlling for education, work experience, and job characteristics in both countries.

[TABLE 9 ABOUT HERE]

Table 10 presents the results of the Heckman selection estimation of Chinese and Japanese married women's earnings, correcting the bias in the sample of observed wages. The selection model includes additional variables of household characteristics that probably affect married women's likelihood of taking part in labor force participation: the presence of preschool children and spouse's annual earnings. Results show that the error terms of the selection equation and the earnings equation are significantly correlated in both countries ($P < 0.01$ for the test that $\rho = 0$ in the estimation of Chinese married women's earnings, and $P < 0.1$ for the test that $\rho = 0$ in the estimation of Japanese married women's earnings), suggesting the Heckman selection model provides consistent, asymptotically efficient estimates for the parameters in the earning equation. Education appears to be an important variable in both labor force participation and earnings for married women in China, while

education appears to be an important variable in only earnings for married women in Japan. Junior college and university and above education increase married women's annual earnings significantly in both countries. Junior college education increases married women's annual earnings by 32% [$\exp(0.278)-1$] in China, and by 36% [$\exp(0.304)-1$] in Japan. University and above education increases married women's annual earnings significantly by 81% [$\exp(0.596)-1$] in China, and by 73% [$\exp(0.55)-1$] in Japan. The number of children under 18 year olds has no significant effect on married women's earnings in both countries. Work experience has a statistically more significant positive effect on Japanese married women's earning than on Chinese married women's earnings. While for Chinese married women, on average their annual earnings reach the maximum when they have 27 years of work experience, and their annual earnings start to decrease after that. However, for Japanese married women, during their life time, the longer years their work experience is, the more annual earnings they have, and their annual earnings do not decrease as long as their work experience is increasing. Consistent with the results of the OLS estimation of married people's annual earnings, the effect of number of children under 18 years old on married women's annual earnings is not statistically significant after controlling for education and work experience in both countries.

[TABLE 10 ABOUT HERE]

Determinants of Earnings in Public Sector and Non-public Sector

The different effects of sector on women's earnings in China and Japan raises the interesting question of whether or not individual and household characteristics are associated with earnings differently in public sector and non-public sector. To examine this question, I further estimate individuals' earnings in public sector and non-public sector using selection bias corrections based on the multinomial logit model (the categories include working at public sector, working at non-public sector, and not working). The results of Table 11 show that work experience significantly increases married women's earnings in non-public sector in both China and Japan, while this association is not significant in public sector. In China Married women with university and above education working in public sector earn 82% [$\exp(0.599)-1$] more than married women with middle school and less education. In the public sector in Japan, married women with junior college education earn 2.76 times [$\exp(1.016)$], and married women with university and above education earn 4.58 times [$\exp(1.522)$], of the earnings of married women with middle school and less education. In both

countries, the positive effects of university and above education on married women's earnings are larger in public sector than in non-public sector. The motherhood wage penalty is only significant for married women working in non-public sector in Japan. For married women working in non-public sector in Japan, one number increase of dependence is associated with 6% [$1 - \exp(-0.059)$] decrease in earnings. These suggest more severe discriminations against married women with children in non-public sector in Japan than in public sector.

[TABLE 11 ABOUT HERE]

DISCUSSION AND CONCLUSION

This paper examined the factors that affect the differences in (1) gender inequality in labor force participation and earnings in China and Japan, (2) the effects of family characteristics such as marital status and the presence of preschool children on individuals' labor force participation and earnings in China and Japan, and (3) the effects of individual characteristics and family characteristics on individuals' earnings in the public and the non-public sectors. The findings show that whereas marital status and spouse's education and earnings show significant effects on women's labor force participation in Japan, these factors have smaller effects on women's labor force participation in China. Moreover, the findings also show that motherhood wage penalty is only significant in the non-public sector in Japan. For married women higher education is more rewarded in public sector than in non-public sector in both countries. Marriage wage penalty is larger for Japanese women than for Chinese women. In contrast, married men earn significantly more than single men in Japan. Marital status has no significant effect on Chinese men's earnings. Gender inequality in labor force participation and earnings exists in both countries, and the gender inequality is more pronounced in Japan.

These reflect that state policies on promoting gender equality in labor force participation still influence opportunity structures in post-socialist China. However, in Japan, employers consider gender and marital status in offering job trainings and promotions, as social norms expect married women to focus more on family responsibilities instead of on employment, and periodic separation of women from work after child birth is assumed to result in reduced productivity (Stier et al. 2001). Institutions structure and sustain inequality. This is particularly the case with the most

long-lasting form of inequality in all human societies, gender inequality (England 1992).

The findings also show that, in China, the higher the education a woman has, the more likely that she will participate in the labor market. In contrast, educational attainment does not have a significant effect on women's labor force participation in Japan. The probability of participating in the labor market does not vary significantly among women with different levels of education. One possible explanation for this is the differences in the structures of labor market opportunities in the two countries. In Japan, discrimination against university-educated women is mainly due to the prevalence of internal labor markets and employer investment in workers' human capital in large firms. Employers are biased toward hiring men who are viewed as more stable employees over university-educated women (Brinton 1993; Lam 1992). Moreover, employers can hire high school- and junior college- educated women into low-level, non-career-track clerical jobs at lower wages than university-educated women (Ogasawara 2001). In contrast, as economic opportunities in China has expanded rapidly since the economic reforms began in 1978, the labor shortage in the second industry and the service industries opened doors for women with education, especially for those with higher education.

In China, husband's earnings have negative effects on women's labor force participation in China. This effect is smaller compared with Japan. In contrast, the higher educational attainment and earnings the spouse has, the less likely a Japanese woman will participate in the labor force. This is probably because, in Japan, the higher the education a husband has, the more likely that his wage is enough to cover the household consumption expenditures, thus his wife has less pressure to bring in earnings to support the family. Whereas in state socialist China, in line with the Soviet model state policies which advocate gender equality in employment and wages, there was a substantial improvement in the human capital and economic contributions of women (Whyte 2009).

Although the presence of preschool children has a significant and negative effect on women's labor force participation in both China and Japan, the effect is larger in Japan. A possible reason for this is that child care supports provided by other family members who live in the same household or nearby, or by child-care centers in the working units or nearby are more available in China. In Japan, three-generation

households are less common, and child-care centers are less available and often operate only in regular day-time working hours while many employees in Japanese companies need to work overtime. Mothers are therefore faced with the problem of providing care and early childhood education to their children (Hirao 2001). Another possible reason is that full time employees in Japanese firms often need to work overtime and transfer to different branches of the companies, and in these cases, many women find it hard to cope with both of work and family responsibilities.

These implicate that state policies, political systems, and economic developments mediate the effects of educational expansions and reveal different pictures in various contexts. Individuals' economic participation and gender inequality in employment and earnings are shaped by both micro-level factors (such as women's educational qualifications, husbands' education and income, and family structures) and institutional factors (such as labor market opportunity structures and state policies on gender equality in employment). Political institutions have a strong effect on structuring individuals' life opportunities, changing social stratification structures.

Future studies may include analyses of longitudinal data to examine how institutional changes affect occupational careers, existence of labor force, and re-entry of individuals with different levels of educational attainment in their life course. Another significant step is to include more countries in the cross-national comparative study on gender differences in labor force participation and earnings. This could include other East Asian societies like Taiwan, South Korea, and Hong Kong as well as liberal countries such as the United States and the United Kingdom.

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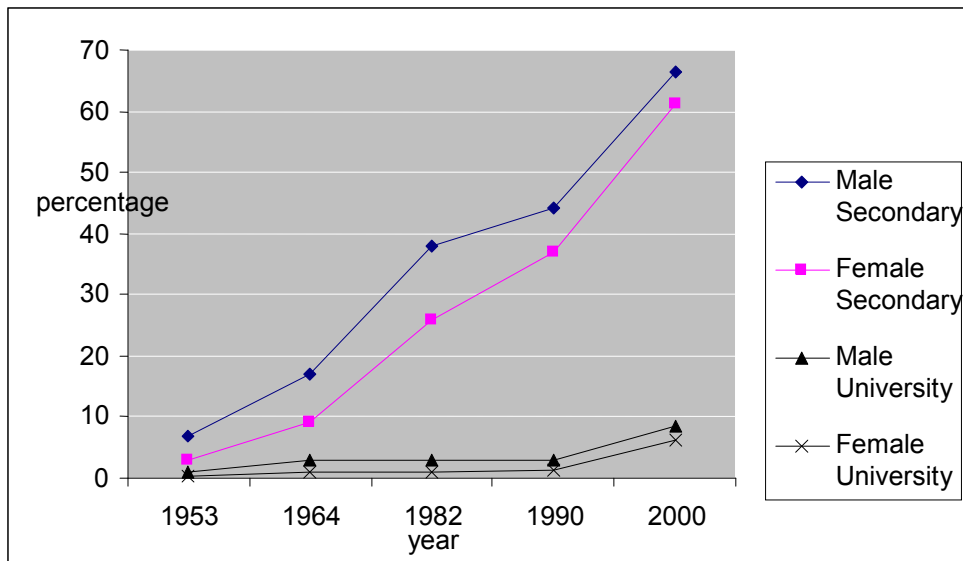


FIG. 2. –Gross Enrollment Ratio in secondary schools and postsecondary schools in China. Source: National Bureau of Statistics of China.

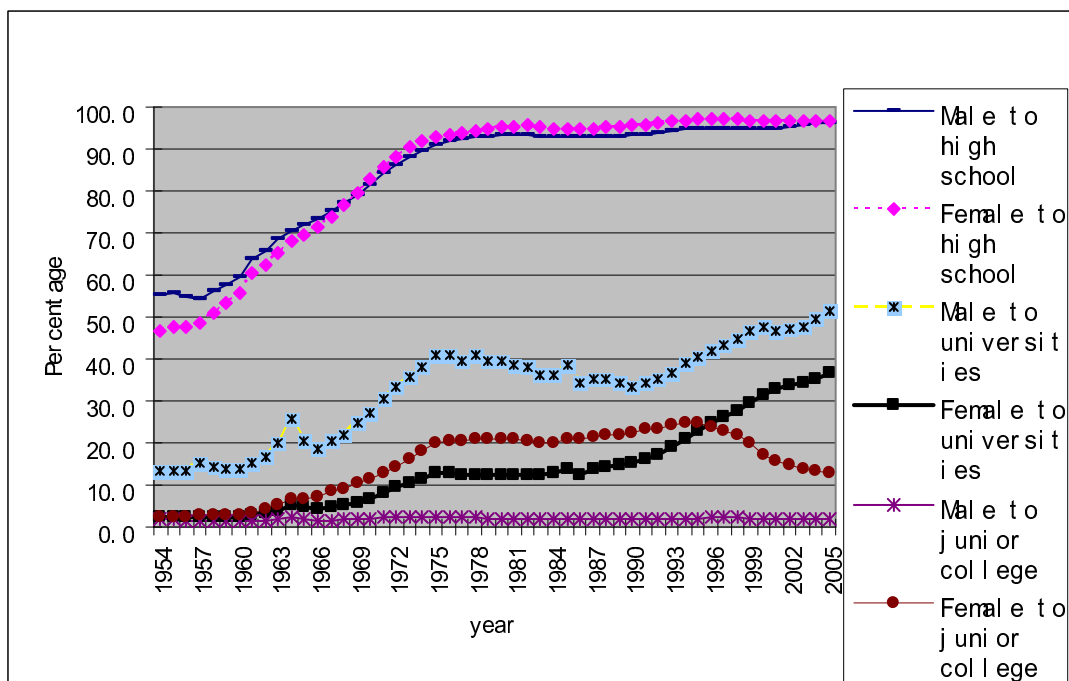


FIG. 3. –Advancement rate to high school, junior college, and universities in Japan. Source: Lifelong Learning Policy Bureau, Ministry of Education, Culture, Sports, Science and Technology, Statistics Bureau of Japan.

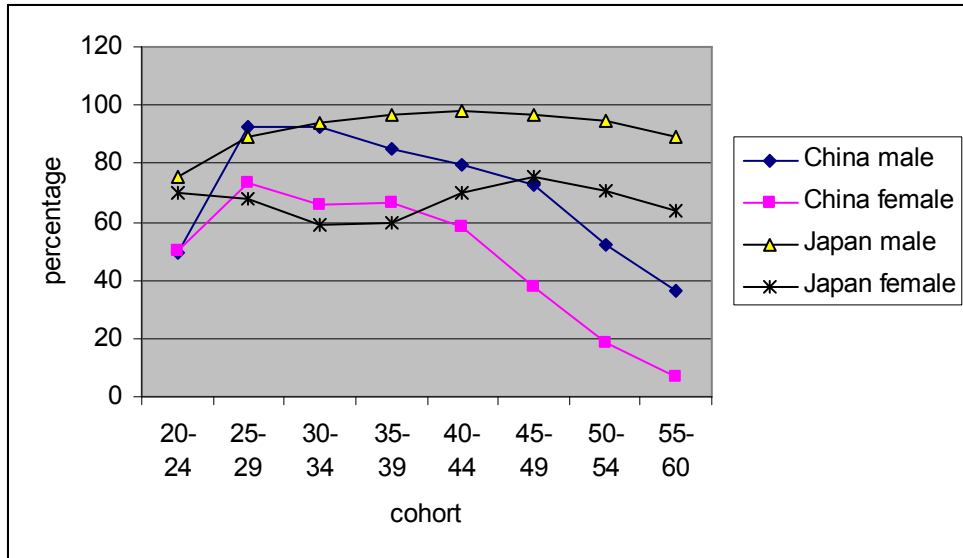


FIG. 3. –Labor force participation rates of urban residents in China and Japan, by age group.
 Source: 2006 China General Social Survey, 2002, 2003, 2005, and 2006 Japan General Social Survey.

TABLE 1. GENDER RELATED HUMAN DEVELOPMENT AND ECONOMIC GROWTH

		Gender empowerment measure (GEM)		Ratio of estimated female to male earned income	Gender-related development index (GDI) 2007		GDP per capita
Human Development Index Rank		Rank	Value		Rank	Value	US\$
Very High Human Development							
1	Norway	2	0.906	0.77	2	0.961	53,433
2	Australia	7	0.870	0.70	1	0.966	34,923
7	Sweden	1	0.909	0.67	5	0.956	36,712
8	France	17	0.779	0.61	6	0.956	33,674
10	Japan	57	0.567	0.45	14	0.945	33,632
13	United States	18	0.767	0.62	19	0.942	45,592
14	Austria	20	0.744	0.40	23	0.930	37,370
15	Spain	11	0.835	0.52	9	0.949	31,560
21	United Kingdom	15	0.790	0.67	17	0.943	35,130
22	Germany	9	0.852	0.59	20	0.939	34,401
23	Singapore	16	0.786	0.53	49,704
26	Korea (Republic of)	61	0.554	0.52	25	0.926	24,801
High Human Development							
41	Poland	38	0.631	0.59	39	0.877	15,987
43	Hungary	52	0.590	0.75	37	0.879	18,755
51	Cuba	29	0.676	0.49	49	0.844	6,876
66	Malaysia	68	0.542	0.42	58	0.823	13,518
71	Russian Federation	60	0.556	0.64	59	0.816	14,690
Mediate Human Development							
87	Thailand	76	0.514	0.63	72	0.782	8,135
92	China	72	0.533	0.68	75	0.770	5,383

Notes: source: United Nation Human Development Report 2009.

TABLE 2. FEMALE LABOR FORCE PARTICIPATION RATE (% of female population ages 15+)

Country	1980	1985	1990	1995	2000	2005	2008
China	71	71.6	73	72.3	70.9	68.5	67.5
Japan	47.6	48.6	50.1	50	49.2	48.4	48.6
Vietnam	74.2	73.9	73.7	73.3	69.5	68.5	68.2
Korea, D.P.R. of	55.6	54.5	55.4	54.9	53.8	54.4	54.7
Cuba	31.4	34.5	35.7	37.7	38.1	39.1	42
Singapore	44.7	44.9	50.7	49.7	52.3	53.5	54.2
Korea, Rep. of	43.6	42.7	47.1	48.5	48.9	50	49.9
Hong Kong SAR, China	45.7	48.8	47.2	47.3	49.5	51.8	52.5
Brazil	38.2	41.3	44.7	53.6	54.7	58.5	59.9
India	32.6	33.2	34	34.5	33	32.4	33.1
Malaysia	41.4	41.5	43	42.5	44.3	44.2	44.1
Thailand	75.5	75.6	75.1	66.3	66.1	66.2	65.9
Russian Federation	63	62	60	54.6	53.9	55.5	57.1
Hungary	50.1	47.9	46.3	40.5	41.1	42.9	42.7
Poland	56.8	57.3	55.2	51.2	49.6	47.8	46.8
Spain	28.1	28.7	33.7	36.6	40.5	45.6	49.3
Norway	51.2	55.1	56.6	57.5	61.4	61.3	64.2
Sweden	59	60.6	63.2	59.7	58.2	60.1	60.8
Canada	50.1	54.2	57.9	56.8	58.6	61	62.1
United Kingdom	44.7	48.3	52	51.8	53.5	54.7	55.2
United States	51.1	54.1	56.9	58.4	59.5	58.6	58.9
France	44.1	45.8	46	47.3	48.3	50.2	50.9
Australia	44.8	46.2	52.1	53.6	54.6	57	58.4

Notes: Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period. Not everyone who works is included: unpaid workers, family workers, and students are often omitted, while some countries do not count members of the armed forces. Source: International Labor Organization, Key Indicators of the Labor Market database.

TABLE 3. MALE LABOR FORCE PARTICIPATION RATE (% of male population ages 15+)

Country	1980	1985	1990	1995	2000	2005	2008
China	87.4	85.9	84.7	83.7	82	79	78.2
Japan	84.4	85.1	84.4	83.3	81.4	81.2	80.7
Vietnam	82.1	82.2	81.4	79.9	76.8	75.8	75.3
Korea, D.P.R. of	80.1	78.5	79.2	79.7	77.9	78	77.5
Cuba	71.3	72.7	72.1	72.9	71.1	69	67.6
Singapore	86.7	85.8	84.6	83.5	82.5	81.8	81.4
Korea, Rep. of	78.4	78.2	80.4	81	80.7	80.4	79.9
Hong Kong SAR, China	87.4	87.9	87	83.2	81.1	80.7	80
Brazil	70	67.8	64.3	60.4	59.9	58.8	58.1
India	79.8	78.1	76.5	76.7	75.1	71.8	69.2
Malaysia	81.5	80.6	78.8	78.3	78	76.5	74.8
Thailand	76.1	72.1	73.2	75.1	73.1	73	72.2
Russian Federation	81.6	80.6	79	75.3	72.1	69.3	67
Hungary	76.8	78.5	75.2	70.1	67.5	67.5	68.7
Poland	71.9	69.1	64.3	58	57.2	57.2	57.4
Spain	74.1	75.1	71.3	65.6	62.7	61.4	59.9
Norway	76.2	72	67.7	63.6	64.4	65.9	65.6
Sweden	75.4	75.2	71.2	68.6	71.1	69.7	69
Canada	74.1	71.3	70	66.2	66.2	66.8	66.5
United Kingdom	78.1	76.4	74.7	70.9	70.6	70.9	70.9
United States	77.8	75.5	73.4	69.4	68.8	67.6	67.3
France	77.3	76.1	74.5	73.1	72.8	70.9	70.3
Australia	71.1	67.8	62.8	60.6	60.4	59.8	58.7

Notes: Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period. Not everyone who works is included: unpaid workers, family workers, and students are often omitted, while some countries do not count members of the armed forces. Source: International Labor Organization, Key Indicators of the Labor Market database.

TABLE 4. DESCRIPTIVE STATISTICS OF THE INDEPENDENT VARIABLES AND DEPENDENT VARIABLES IN THE ANALYSIS BY GENDER

	China		Japan	
	Men	Women	Men	Women
Cohort				
20-30	23.1	22.4	19.3	19.4
31-40	27.1	25.9	41.1	25.8
41-50	26.9	27.8	39.7	24.7
Currently married	77.6	80.6	69.4	74.3
Working fulltime or part-time	70.2	46.0	95.3	66.8
Working full time or part-time by cohort				
20-30	73.8	61.7	84.4	68.3
31-40	87.3	65.0	95.3	59.6
41-50	74.6	46.1	97.3	73.4
51-60	41.3	10.7	91.0	66.4
Highest education attended				
Middle school and less	37.7	44.7	9.1	6.8
High school and less	35.7	34.6	45.8	52.0
Junior college	15.6	12.9	6.6	19.2
University and above	10.9	7.7	38.5	22.0
Working in public sector	46.0	39.2	9.2	9.3
Earnings in public sector ^a	100	67.2	100	54.6
Earnings in non-public sector	96.3	59.5	79.3	29
N	1884	2298	3009	3751

Source: China 2006 CGSS (only urban residents who have urban household registration status); Japan, 2002, 2003, 2005, and 2006 JGSS (only urban residents). All numbers are in percentages, except for numbers of cases (N) and earnings (mean). Standard deviations in parentheses.

a. Earnings normalized to be 100 for men in public sector in each country, and ratio compared to the earnings of men in public sector for men in non-public sector, and women in public and non-public sector.

TABLE 5. LINEAR PROBABILITY MODEL OF LABOR FORCE PARTICIPATION IN URBAN CHINA AND JAPAN

	China		Japan	
	Men	Women	Men	Women
Education(reference: middle school)				
High school	0.101** (0.031)	0.163*** (0.035)	0.049* (0.023)	0.123* (0.059)
Junior college	0.163*** (0.033)	0.395*** (0.043)	0.048+ (0.029)	0.086 (0.061)
University and above	0.118** (0.045)	0.374*** (0.065)	0.054* (0.023)	0.106+ (0.061)
Cohort(reference: 25-30)				
31-40	-0.109*** (0.028)	0.043 (0.043)	0.017 (0.014)	0.009 (0.027)
41-50	-0.204*** (0.030)	-0.108* (0.044)	0.025+ (0.015)	0.171*** (0.028)
Currently married	0.198*** (0.044)	-0.111* (0.051)	0.094*** (0.011)	-0.317*** (0.024)
Region controlled	yes	yes	yes	yes
Constant	0.736*** (0.049)	0.578*** (0.058)	0.819*** (0.029)	0.715*** (0.068)
Observations	1263	1521	1723	2301
R-squared	0.087	0.130	0.058	0.096

Notes: Robust standard errors in parentheses, *** p<0.001, ** p<0.01, * p<0.05.

TABLE 6. LINEAR PROBABILITY MODEL OF MARRIED WOMEN'S LABOR FORCE PARTICIPATION IN URBAN CHINA AND JAPAN

	China	Japan
Education (reference: middle school)		
High school	0.146*** (0.042)	-0.028 (0.213)
Junior college	0.387*** (0.049)	0.086 (0.236)
University and above	0.342*** (0.079)	0.051 (0.220)
Preschool child present	-0.104+ (0.061)	-0.280*** (0.064)
Number of children under 18	0.039 (0.029)	-0.046+ (0.024)
Living with parents or in-laws	-0.016 (0.051)	-0.013 (0.057)
Spouse's education, years	0.022** (0.007)	-0.027* (0.012)
Spouse's earnings, log	-0.029 (0.026)	-0.062 (0.048)
Cohort controlled	yes	yes
Region controlled	yes	yes
Constant	0.281 (1.224)	8.797*** (2.670)
Observations	1,586	624
R-squared	219.0	83.32

Notes: Robust standard errors in parentheses, *** p<0.001, ** p<0.01, * p<0.05, † P<0.1

TABLE 7. MULTINOMIAL LOGISTIC MODEL OF MARRIED WOMEN'S
LABOR FORCE PARTICIPATION IN URBAN CHINA AND JAPAN

	China		Japan	
	Work part- time Vs working full-time	Not working full-time	Work part-time Vs working full-time	Not working full-time
Education(reference: middle school)				
high school	-0.784** (0.260)	-0.645*** (0.146)	0.432 (0.313)	-0.184 (0.237)
junior college	-1.103** (0.381)	-1.997*** (0.260)	0.193 (0.361)	-0.289 (0.273)
University and above	-1.815** (0.669)	-2.666*** (0.487)	0.725* (0.365)	-0.371 (0.286)
Preschool children present	0.214 (0.367)	0.640** (0.226)	-0.170 (0.227)	1.344*** (0.167)
Number of children under 18	-0.018 (0.184)	-0.242* (0.114)	-0.032 (0.081)	-0.010 (0.068)
Living with parents or in-laws	-0.108 (0.313)	-0.112 (0.188)	-0.154 (0.163)	-0.176 (0.135)
Spouse's education, years	-0.008 (0.048)	-0.092** (0.028)	0.016 (0.035)	0.093** (0.029)
Spouse's earnings, log	0.108 (0.155)	0.063 (0.089)	-0.178 (0.114)	0.246* (0.102)
Cohort controlled	yes	yes	yes	yes
Region controlled	yes	yes	yes	yes
Constant	-2.957 (1.508)	0.493 (0.862)	0.638 (1.695)	-5.210** (1.514)
Observations	1586	1586	1883	1883
LR chi2	576.47	576.47	221.0	221.0

Notes: Robust standard errors in parentheses, *** p<0.001, ** p<0.01, * p<0.05.

TABLE 8. HECKMAN SELECTION MODEL (MAXIMUM LIKELIHOOD) OF
LOGGED ANNUAL EARNINGS IN URBAN CHINA AND JAPAN

	China				Japan			
	Working (selection model)		Earnings (main model)		Working (selection model)		Earnings (main model)	
	Men	Women	Men	Women	Men	Women	Men	Women
Education (reference: middle school)								
High school	0.318*** (0.080)	0.448*** (0.069)	0.259*** (0.049)	0.209*** (0.062)	0.435*** (0.114)	0.059 (0.095)	0.096* (0.044)	0.219*** (0.066)
Junior college	0.527*** (0.114)	0.853*** (0.105)	0.427*** (0.067)	0.367*** (0.086)	0.353* (0.175)	0.001 (0.106)	0.197** (0.061)	0.326*** (0.073)
University and above	0.349** (0.132)	0.840*** (0.131)	0.687*** (0.078)	0.652*** (0.103)	0.337** (0.117)	-0.082 (0.105)	0.219*** (0.046)	0.441*** (0.073)
Currently married	0.496*** (0.105)	-0.112 (0.095)	0.006 (0.056)	-0.162** (0.055)	0.423*** (0.098)	- (0.069)	0.368*** (0.028)	-0.425*** (0.044)
Professionals & managers			0.206*** (0.051)	0.207*** (0.056)			0.186*** (0.029)	0.433*** (0.043)
Part- time/temporary			-0.161* (0.064)	-0.064 (0.065)			-0.264*** (0.036)	-0.436*** (0.036)
Public sector			-0.037 (0.041)	-0.047 (0.049)			0.066+ (0.040)	0.212*** (0.057)
Work experience			0.017* (0.007)	0.027** (0.009)			0.020*** (0.001)	0.037*** (0.002)
Work experience ² *100			-0.044* (0.02)	-0.068* (0.032)			-0.002*** (0.000)	-0.004*** (0.000)
Preschool child present	0.113 (0.113)	-0.130 (0.095)			0.198 (0.160)	- (0.068)		
age	0.256*** (0.026)	0.288*** (0.025)			0.215*** (0.022)	0.094*** (0.018)		
age ² *100	-0.357*** (0.03)	- (0.032)			- (0.028)	- (0.021)		
Region controlled	yes	yes	yes	yes	yes	yes	yes	yes
Constant	-4.084*** (0.484)	- (0.456)	9.534*** (0.093)	9.446*** (0.120)	- (0.436)	-0.915** (0.355)	14.561*** (0.058)	13.969*** (0.093)
Wald chi-square statistics			360.2***	253.4***			969.48***	1027.87***
P> χ^2			0.187	0.048			0.000	0.261
Rho			-0.154 (0.117)	-0.242 (0.120)			0.845 (0.029)	-0.134 (0.125)
Observations			1768	2168			2483	3279

Notes: Robust standard errors in parentheses, *** p<0.001, ** p<0.01, * p<0.05.

TALBE 9. ORDINARY LEAST SQUARE MODEL OF LOGGED ANNUAL EARNINGS OF MARRIED PEOPLE IN URBAN CHINA AND JAPAN

	China		Japan	
	Men	Women	Men	Women
Education(reference: middle school)				
high school	0.346*** (0.062)	0.183** (0.060)	0.159** (0.050)	0.136 (0.094)
junior college	0.634*** (0.078)	0.574*** (0.072)	0.233*** (0.069)	0.154 (0.106)
University and above	0.875*** (0.114)	0.760*** (0.126)	0.365*** (0.053)	0.371*** (0.106)
Work experience	0.004 (0.005)	0.007 (0.009)	0.015*** (0.001)	0.032*** (0.003)
Work experience ² *100	-0.010 (0.009)	-0.010 (0.027)	-0.001*** (0.000)	-0.003*** (0.000)
Professionals & managers	0.092 (0.066)	0.205** (0.062)	0.195*** (0.034)	0.466*** (0.062)
Part-time/temporary	-0.262** (0.091)	-0.138 (0.078)	-0.127* (0.056)	-0.517*** (0.048)
Public sector	-0.137** (0.053)	-0.050 (0.055)	0.084 (0.044)	0.260*** (0.078)
Family size	-0.022 (0.034)	-0.062 (0.033)	0.006 (0.013)	0.011 (0.019)
Number of children under 18	-0.071 (0.037)	0.019 (0.035)	0.013 (0.016)	-0.003 (0.029)
Region controlled	yes	yes	yes	yes
Constant	9.543*** (0.116)	9.064*** (0.111)	14.836*** (0.067)	13.641*** (0.123)
Observations	1,281	1,366	1,257	1,084
R ²	0.222	0.170	0.238	0.343

Notes: Robust standard errors in parentheses, *** p<0.001, ** p<0.01, * p<0.05.

TABLE 10. HECKMAN SELECTION MODEL (MAXIMUM LIKELIHOOD) OF MARRIED WOMEN'S LOGGED ANNUAL EARNINGS IN URBAN CHINA AND JAPAN

	Working (selection model)		Annual earnings (main model)	
	China	Japan	China	Japan
Education(reference: middle school)				
high school	0.380*** (0.079)	0.027 (0.136)	0.180* (0.072)	0.111 (0.098)
junior college	1.172*** (0.142)	0.002 (0.153)	0.278* (0.115)	0.304** (0.110)
University and above	1.608*** (0.262)	0.043 (0.153)	0.596*** (0.144)	0.550*** (0.109)
age	0.156*** (0.035)	0.056† (0.033)		
age ² *100	-0.252*** (0.043)	-0.066† (0.038)		
Work experience			0.023* (0.010)	0.045*** (0.003)
Work experience ² *100			-0.044 (0.037)	-0.005*** (0.000)
Number of children under 18	0.097 (0.061)	-0.018 (0.040)	-0.065 (0.040)	-0.012 (0.026)
Preschool children present	-0.332** (0.121)	-0.909*** (0.097)		
Spouse's earnings, log	0.108 (0.063)	-0.226*** (0.056)		
Region controlled	yes	yes	yes	yes
Constant	-3.387*** (0.895)	2.741** (0.966)	9.366*** (0.157)	13.480*** (0.141)
Wald chi-square statistic			92.52***	340.04***
P> χ^2			0.016	0.092
Rho			-0.472 (0.145)	0.248 (0.135)
Observations	1,570	1,851	1,570	1,851
LR chi2	92.52	340.0	92.52	340.0

Notes: Robust standard errors in parentheses, *** p<0.001, ** p<0.01, * p<0.05, † p<0.1.

TABLE 11. SELECTIVITY CORRECTION ESTIMATE OF LOGGED ANNUAL EARNINGS OF MARRIED WOMEN IN CHINA AND JAPAN, BY SECTOR

	China		Japan	
	Public	Non-public	Public	Non-public
Education (reference: middle school)				
High school	0.154 (0.123)	0.045 (0.120)	0.458 (0.301)	0.021 (0.102)
Junior college	0.313 (0.231)	-0.066 (0.283)	1.016** (0.350)	0.135 (0.114)
University and above	0.599* (0.285)	0.179 (0.355)	1.522*** (0.410)	0.392** (0.131)
Work experience	0.004 (0.016)	0.040** (0.014)	0.038+ (0.022)	0.037*** (0.003)
Work experience ² *100	-0.013 (0.054)	-0.097+ (0.052)	0.042 (0.059)	-0.004*** (0.000)
Professionals & managers	0.094 (0.077)	0.310** (0.110)	0.448** (0.156)	0.524*** (0.068)
Number of dependents	-0.025 (0.051)	-0.080 (0.060)	0.070 (0.090)	-0.059* (0.029)
Region controlled	yes	yes	yes	yes
Constant	9.692*** (0.498)	9.284*** (0.437)	3.592 (3.145)	13.641*** (0.333)
Rho0	-0.832	0.670	-1.404	-0.642
Rho1	0.444	-0.045	-1.714	-0.195
Rho2	-0.596	-0.881	-0.135	1.406
Observations	280	386	108	999

Notes: This is second step regression of selection bias corrections based on the multinomial logit model. Robust standard errors in parentheses, *** p<0.001, ** p<0.01, * p<0.05.