

**Marriage Penalty in Transitional Urban China: Evidence from Gender Disparity  
on Job Mobility**

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# **Marriage Penalty in Transitional Urban China: Evidence from Gender Disparity on Job Mobility**

## **Abstract**

Drawing data from the Chinese General Social Survey (CGSS) in 2008, the pattern of career dynamics by gender is investigated to examine the varying effect of family related events on both genders in reform-era urban China. The results from discrete-time event history model show that as the state intervention declines over time, marriage and having children become more and more prominent on shaping people's career trajectory. Compared with male counterparts, women are affected more by the marriage and dependent children, they are more likely to withdraw from labor market; and they are less likely to experience career upward mobility especially in the later period of the reform as economic instability and inequality deepens rapidly. The loss of upward opportunities of women explains the significant portion of enlarging gender gap on earnings. Moreover, the supplementary decomposition results further suggest that if women have the same distribution of upward mobility as men would significantly increase the earnings of women.

## **Introduction**

It is widely shown women bear disproportionate household responsibilities within household, where the most pervasive division of labor is among married couples (Becker 1991). Ascribed to the effort allocation to tedious household, married women spend less energy on market work, which would dwarf their chance of being promoted and subsequent earnings relative to men (Becker 1991). Numerous studies in sociology have investigated the effect marriage and later childbearing on women, the research on how these family-related events interact with institutional transformation would affect labor market outcome between men and women remains rare. Institutional change involves the critical change in legal-regulatory arrangement at national level, changes in economic development and state policy implementation at regional level and change in social network structure at local level, the inter-correlation between institutional transformation and the individual level characteristics thus could crystallize the institutional paradigm to a large degree (Nee & Matthews, 1996). Across countries, it has been shown as economic institution moving from planned to market economy entails profound changes on gender earning differentials. For example, during the economic transition period, gender earning gap increases in Russia and Ukraine, while decreased in Eastern European countries (Brainerd 2000). Over the past three decades, the whole world witnessed the incredible economic achievement of China. The GDP per capita increased from 381RMB at the start of economic reform in 1978 to 22,698RMB in 2008. It has been reported that China merely took around 30 years to reach the modernization level that took US and Europe close to a hundred years to achieve. To meet the skill demand, China implemented a series of education policy (i.e., nine year compulsory education, higher education expansion). These educational policies successfully enhance the education level in China, and diminish the gender gap on educational attainment over time. According to Zhang et al. (2008), educational gender gap has already met the convergence among

working population in 2001. However, the relative labor force participation<sup>1</sup> rate as well as the gender earnings ratio doesn't go hand in hand with educational trend. On the contrary, the opposite pattern is suggested. The employment rate between genders is enlarging, so does the gender earnings gap. By identifying two forces that affect gender earnings inequality, He and Wu (2012) stated that marketization is the dominant factor that drives the ever-rising gender earnings differential. According to classical economic model, gender differences started from the household formation, it is the within household specialization make each partner spend rising amount of time in certain task while reduce the time and effort allocation on the other (Becker 1991[1981]). As a result, when estimating gender inequality, how family related events would exert impacts on individual's life chance is crucial.

[Figure 1 is about here]

Literature relevant to the gender difference at labor market entry has been that, gender wage gap is fairly small (Manning and Swaffield 2008, napari 2009). However, due to gender difference on family responsibilities, more effort for women to allocate outside labor market (Manning and Swaffield 2008), and the choice of job with high starting wage but low grow rate (Killingsworth 1985; Filer 1985) offers some explanations of subsequent gender inequality in wages returns. As it is shown from CGSS 2008, the gender gap in terms of first job attainment is little; however, when it comes to current/last job attainment, under-representation of women in high socio-economic status occupation is prominent. Despite the time-varying pattern, whether family related events would exert any influence on one's occupational attainment, and if they would,

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<sup>1</sup> Unlike most of other industrialized countries, labor force participation rate is declining since economic reform. However, this pattern is most likely to be driven by the structural factor, which is out of the scope of this paper.

how much do they contribute is not sufficient to claim.

[Figure 2 is about here]

As is widely suggested, large scale societal transformations may have fundamental impact on people's life chances (Bian and Logan, 1996; Dong and Li 2011; Dong and Pandey 2012; He and Wu 2012; Jia and Nan 2012; Nee 1989, 1991, 1996; Shu and Bian 2003; Walder 1995; Xie and Hannum 1996; Zhou 2000; Zhou et al. 1996, 1997, 2001). Notwithstanding the rising attention that paid to gender, research concerning varying effect of marriage and having children in responses to rapid societal change remain rare. Jia and Dong (2013) are among the few who investigated how family responsibility (i.e., child caring) affects the earnings of women in the transitional urban China. By comparing mothers and childless women, they found that mothers earns close to 60% less than women without children holding constant of other characteristics. However, as most other literature relevant to marriage penalty or motherhood penalty, they uniformly pointed to earnings. Earnings are merely part of story, gender specific job mobility pattern as a contingent process that is associated with mobility chances tied to gender and subsequent earnings gap is even important but has been neglected to a large degree. And moreover, when concerning marriage effect or having children effect, most research only focus on women. It is worth mentioning, structure change accruing from reform affected individuals regardless of sex; on the other hand, household formation and division of labor involves both men and women, single sex model can thus not offer a comprehensive picture.

To fill this gap, I attempt to evaluate the changing effect of the family related events on the job mobility pattern between sexes in the process of China's economic transition, where marriage and having dependent children as two important life course events that is closely related to gender would be paid particular attention. Drawing data from CGSS 2008, this paper shows that as the state intervention declines over time, marriage and

having children become more and more prominent on shaping people's career trajectory. Compared with male counterparts, women are affected more by the marriage and dependent children, they are more likely to withdraw from labor market; and they are less likely to experience career upward mobility especially in the later period of the reform as economic instability and inequality deepens rapidly. The loss of upward opportunities of women explains the significant portion of enlarging gender gap on earnings. In short, this analysis contributes both to the existing literature and to policy concerns over gender inequality in transitional urban China.

The remainder of this paper is organized as follows. In the next section, the background and the relevant theories are provided in detail. In session III, based on the logical inference, two hypotheses are further derived. The data on which the analysis undertaken and statistical model I would utilize are introduced in session IV. In adoption of event history analysis, in section V, the model result about gender disparity on job mobility pattern are shown. Section VI provides a brief conclusion.

## **Literature Review**

### **Dual-Career of Women**

A large body of literature suggested that women consistently bear more family responsibilities. According to dual-career theory, family responsibility is the primary obstacle for women to make investment on human capital (i.e., education, on-job training, continuous labor force attachment), and work supply. Young women with less family responsibility yet more likely have the similar career achievement as young men. Transition to marriage and parenthood increase the traditional gender division of labor (Bianchi et al. 2000; Gupta 1999; Sanchez and Thomson 1997). The rising family responsibility brought by marriage, childbearing would fundamentally depress women's chances of job mobility and further affect occupational attainment (Roos 1983). It has

been widely found that that marriage bears negatively to women but positively to men (Blum 1972; Treiman & Terrel 1975; Korenman & Neumark 1992). So does presence of children (Budig and England 2001; Duncan, Featherman, and Duncan 1972; Cramer 1980; Korenmann and Neumark 1992).

### **Varying Effect of Family Related Event in The Process of Reform**

Since 1978, the transformation from state socialism to market capitalization potentially altered the macro environment in China, and gradually shapes the macro-micro interactions between gender and environment.

#### *Pre-reform Era*

“Egalitarianism” has long been the motto of socialist China. In pre-reform era, to promote the genuine equality, private ownership was eliminated; all works and resources are collectivized. “Women hold up half the sky (*fu nv neng ding ban bian tian*)” was envisioned to encourage universal participation in production; social welfare and income are massively achieved through central planning and job assignment (Johnson 1976). It has been documented that the Communist Revolution in 1949 undoubtedly reduced marital inequality on a large scale (Whyte and Parish 1984). In the late 1950s and early 1960s, over 90% of married women participated in paid work, and they nearly shared the economic resources equally with their spouses during the Maoist period (Wolf 1984). This rate was even higher than some developed countries at that time (Honig, Hershatter 1988; Bian, Shu, & Logan 2000; Wolf 1984).

#### *Reform Era*

Since 1978, China launched market reform, China’s economic institution gradually transformed from central planning system to market-oriented system. State as a resource distributor was replaced by the market as the principal agent of social stratification (Cao and Nee 2000; Nee 1989, 1991, 1996; Nee and Matthews 1996). At early stage, the development of non-state economy was slow in absence of regulation. State economy

remained dominant during the period. As a legacy of state socialism, the equalization role of state persists to a large extent. Women in early reform era continue enjoying the benefits brought by the state.

Since the convening of the 14<sup>th</sup> party Congress in 1992, China officially embraced “socialist market economy”. The private sector experienced exponential growth. As economic reform proceeds, government economic policy has progressively given greater rein to market forces. The government has largely retreated from its provisions of housing, education, health care and other social services. Rising numbers of state firms converted to more profit-oriented entities that are less dependent on administrative fiat (Wu 2002) especially since mid-1990s as the Chinese government has become more determined to push state firms into the market for competition and survival. Similar with private entities, state firms have been increasingly allowed to adopt market practices to recruit, reward and dismiss workers to boost their economic efficiency at the expense of their social responsibilities (Wu 2010).

Facing the challenge from the fast developing non-state sector, state owned enterprises embarked the radical reform to further resolve the problem of inefficiency. In the late 1990s, the government launched large-scale layoff program to revitalize the public sector. As is showed by Dong and Pandey (2012, p386), “the SOE restructuring has brought an end to the era of ‘cradle-to-grave’ socialism and lifetime employment for Chinese state workers”. And relative to men, the labor retrenchment program had an even adverse impact on women (Appleton et al. 2002; Ding et al. 2009; Dong et al. 2006; Dong and Pandey 2012; Maurer-Fazio et al 2007) where lower-educated, middle age women is the main target (Hershatter 2007). As privatization continues at a higher rate, women are becoming more and more disadvantaged over time (He and Wu 2012).

From employers’ perspective, women are discriminated against owing to the culturally embedded reason; in patriarchal society such as China, women’s value is



traditionally resided in the domestic domain; employers may take rising family responsibility brought by marriage or childbearing as excuses to marginalize them. As Bielby (1991: 105) put forth, “Once the sex-based division of labor is established, it becomes ‘take for granted’, sustained over the years, unless some deliberate effort is taken to undo it”. From family’s perspective, strong son preference make parents deliberately dwarf women’s education chance for their male siblings (Chu, Xie and Yu 2007). Lower human capital further restricted their opportunities from pursuing career advancement and makes them more vulnerable as the protective role of state diminishes over time.

Moreover, as is put forth by Zuo and Bian (2001), there are three distinct features associated with economic transition should be taken into account. First, women’s employment was pushed by the state rather than driven by women’s internal need for economic independence. Second, being assigned to those physically-heavy, labor-intensive and low-paying jobs, majority of women received no extra benefits and protection. Finally, employed women were still bound to the traditional gender role to bear disproportionate housework within family. Therefore, Chinese women shoulder dual responsibilities for both paid work outside family and household work within families. As such, the success of transformation of gender role had been called into question in the pre-reform period. In this regard, when getting married and having children, women may voluntarily choose to return to family life especially as the macro societal environment deteriorated over time and their rights can no longer be guaranteed.

### **Research Hypothesis**

The preceding description sets a theoretic basis on how the family related events would exert varying impact on men and women in the process of China’s economic transition. Under socialist economy, dominant role of state in the economic and social lives of

China's urban residents promoted the gender equality to a large extent. Workers regardless of gender are encouraged to participate in the socialist labor. Establishment of publicly funded childcare system, paid maternal leave and etc., further make women married or unmarried, having children or not having children easier to balance work and family obligations. Since economic reform, the replacement of the state by the market as the principal agent of social stratification potentially changed the gender relations in China (Cao and Nee 2000; Nee 1989, 1991, 1996; Nee and Matthews 1996). More autonomy was assigned to work units on hiring and rewarding employees differently, together with rapid expansion of private sector make the family related events such as, marriage and having children show rising importance. On the one hand, with the belief – lower work commitment, more family responsibility, and higher turnover cost that tied to married women, the profit-prone managers have high propensity to restrict their chance of pursuing career advancement, and terminate their employment, especially in the later period when the SOE restructuring entered into the radical phase. On the other hand, women themselves are more likely to choose to return to family life when the labor market circumstances deteriorate for them.

In addition, it has been widely documented that marriage and parenthood bear negative impact on women's occupation attainment and positive impact on men's owing to the specialization within household.

In terms of the effect of marriage, I proposed following hypotheses:

***Hypothesis 1a:*** Marriage bears a negative impact for women to experience upward mobility, and make women more likely to withdraw from the labor market especially in the later period of the reform when the reform pace is more radical.

***Hypothesis 1b:*** Marriage has positive impact for men to experience upward mobility, negative effect to experience job exit, and the effect doesn't vary by period.

Likewise, in terms of the effect of having dependent children, I propose following hypotheses,

***Hypothesis 2a:*** Having dependent children has a negative impact for women to experience upward mobility, and make women more likely to withdraw from the labor market. This effect is especially prominent in the later period.

***Hypothesis 2b:*** Having dependent children have a positive impact for men to experience upward mobility, negative impact to experience job exit, and the effect doesn't vary by period.

## **Data, Variables and Method:**

### **Analytical Strategy**

Based on the above-mentioned, gender mobility pattern is affected by two levels of forces. At societal level, the structural change of the society would exert massive influence as a whole but varying by gender. At individual level, due to heavier family responsibility of women, family related events (i.e., marriage, having children) may create additional influence for women. To examine the varying impact of the family related events in response to the rapid societal change, my analysis entails two steps.

At the first step, by focusing on the people who had ever entered labor market, I employ the event history model with repeated events to evaluate the changing effect of family related events, where marriage and presence of children across the reform stages are the primary focuses of the analysis.

At the second step, by focusing on individual level data, I further examine counterfactual situation, how much would women's wage change when adjusting their distribution of frequency of upward mobility to men's level. Oaxaca decomposition

technique is adopted.

The analyses are conducted on male and female sample respectively. To check the statistical difference of each variable between men and women, I run the regression on the full sample, and make every predictor interact with gender dummy.

## **Data**

This study relied on a national representative survey data – Chinese General Social Survey 2008 (CGSS 2008) to examine gender mobility pattern in reform-era urban China. This survey target at individuals aged 18-98, and comprises comprehensive information about family, marriage, social network, health; and moreover, and it contains detailed retrospective work histories of the urban individuals which are ideal for event history modeling.

Since the focus of the paper is related to the gender difference on job mobility, the probability of experiencing types of job mobility are investigated. In this analysis, qualified respondents include those who current have a job or who have ever had a job. I set up the dataset as repeated events, on the one hand, job mobility is not the one-time shot, each individual thus can experience more than once job separations; and on the other hand, it can also mirror the accumulated advantages or disadvantages of experiencing the events over the life course. To achieve the event history data structure, I expanded the dataset and make each line of the observation as one year interval person-year. The risk set in my analysis is those who have ever started first job had the risk of experiencing subsequent job mobility over the life course. The person-years are censored once they exit from labor market because of layoff or taking care of the family, or for the question - “Did you change the position and work unit?”, the respondent responded “I left the work unit, but haven’t had a new work unit yet”. For those haven’t experienced the employment exit at the time of the survey, the time went on until the

end of the time spell of the individual. It is worth nothing, marriage and having children as life-course events took place at the certain stage of life, to rule out the confounding age effect, I would further censor the sample when people reach 50 years old in this setting.

### **Variables**

There are three dependent variables in this analysis. For the first stage analysis, the dummy variables – whether experienced upward mobility and whether experienced employment exit are the dependent variables; for the second stage analysis, the continuous variable logarithm of income in 2007 is used as dependent variable. In terms of upward mobility, relative job position, administrative level and ISEI score are the principle criteria on identifying whether person had experienced the events. The setting rule is, for each individual if there is upgrading of job position; or given the position, there is upgrading of the administrative level; or given job position as well as administrative level, there is a increase in ISEI score of the job will be defined as one job upward mobility. In terms of job exit, I defined those who reported that they had ever had a job but left the labor market later either because of being laid off or family obligation as job exit. Due to this setting rule, one person can experience multiple times of job upward mobility, but only once job exit.

The key independent variables are time-variant variables – “marital status” which is a binary variable with 1 denoting ever married, and 0 for never married; and “whether having child”, with 1 denoting yes and 0 other; party membership with 1 denotes yes, 0 otherwise. Other predictors include time invariant variables are education (1- <=primary education; 2 – junior high; 3 – senior high; 4- college or above), and region dummies<sup>2</sup>; I

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<sup>2</sup> Due to the regional variations on industrial structure, the relative risk of experiencing variant events is different. However, the work history data is based on the retrospective

also included some time variant variables, work unit type is a binary dummy variable as well(1=state sector; 0=private sector). Considering the interactions between macro-level stages of economic reform and micro-level individual characteristics, the period effect of job separation cannot be ignored, thus, the categorical variable of period has been created with 1 denoting 1978-1992, 2 denoting 1993-1998, and 3 denoting 1999-2008. For the second stage of analysis, I calculate the frequency of upward mobility for each individual for further use.

### Statistical Model

By taking into account the types of job mobility that could be occurred to person  $i$ . I implemented discrete-time event history model, in terms of which, the probability of failure in is conditional upon survival and covariates, which can be expressed as below:

$$h(t) = \Pr(T = t_i | T \geq t_i, x)$$

In this analysis, the dependent variables are binary. As such, binary logistics regression is employed to capture the probability the event occurrence (i.e., upward mobility or job exit). Job duration dummy is included in model to control for the moving step of time.

In the estimation of Marriage Effect, model form is:

$$\log \frac{P_j}{1 - P_j} = \alpha + \beta \text{Marriage} + \gamma_i \text{Period}_i + \delta_i \text{Marriage} * \text{Period}_i + \eta X + \varepsilon,$$

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memory of respondents in current location, we cannot guarantee that they have consistently resided in the interview location since they were born. Therefore, instead of controlling for the detailed regional information, for example, prefecture level or province level, I categorize the region into 3 big categories (east, west and middle) based on the assumption that people usually don't migrate too far away due to the culture shock.

$$i = 2, 3; j = 0, 1, 2; k = 0, 1, 2; j \neq k$$

Taking occurrence of upward mobility as example, this function specifies  $P_j$  as regards the log-odds ratio of the probability of experiencing upward mobility to the probability of not experiencing upward mobility.  $\beta$  is interpreted as marriage would increase the log-odds of occurrence of the upward mobility by  $\beta$ . Since our research interest is to test how marriage effect would vary by different stage of reform,  $\delta_i$  of the interaction terms is the primary focuses of the overall analysis. The clustering effect of individuals is adjusted in the analysis, because each individuals contribute at least one person-year, and the older the person in the survey time, the more person-year, he or she may have. Similarly, in the estimation of effect of having children, the model can be expressed as below,

$$\log \frac{P_j}{1 - P_j} = \alpha + \beta \text{HaveKid} + \gamma_i \text{Period}_i + \delta_i \text{HaveKid} * \text{Period}_i + \eta X + \varepsilon,$$

$$i = 2, 3; j = 0, 1, 2; k = 0, 1, 2; j \neq k$$

## Results

### Descriptive Statistics

Table 1 is descriptive statistics of the sample. Panel A is individual data, whereas Panel B is the person-year setting. Clearly, there are 52.7% men and 47.3% women in this analytical sample. The significant gender differences are shown in terms of experiencing types of mobility based on both individual observation and person-year setting. It is shown that the percentage of people ever experiencing upward mobility is 30.55 and 26.05 respectively for men and women. In terms of job exit, there are 23.48% men and 31.60% of women ever experiencing the events. Clearly, women's propensity on experiencing upward mobility is lower while their propensity on job loss is higher relative

to men. For marriage, there are over 80% of people are married, if we further look at age at entry into first marriage, women in general marry earlier than men, their average age of first marriage is 24.2 while the corresponding age for men is 25.6. Subsequently, women enter parenthood are earlier as well. It can be seen that, age at entry to parenthood for men and women are 26.7 and 25.3 respectively, which is about one year later relative to first marriage age. In addition, there is slight gender difference on education, and this difference mainly concentrated among primary education level. From Panel B, it is also clear that the job duration is short for women.

[Table 1 is about here]

To see whether marriage would exert different impact for men and women, I further draw the non-parametric smoothed hazard function for job upward mobility and job exit by gender respectively (see Figure 4). Within each graph, the dash line denotes the never married episode whereas the solid line denotes the married episode. For women, relative to never married episode, marriage makes them less likely to experience career upward and more likely to withdraw from labor market. The effect is significant from both log-rank and Wilcoxon test (see Table 2). For men, marriage effect is much smaller. Marriage doesn't have significant impact on them experiencing job loss. With regard to upward mobility, similar with women, married men are less likely to experience events as well, which seems different from the traditional fatherhood wage premium research. However, regarding to this pattern, there are two points worth mentioning. First, unlike wage function, negative effect would implies wage decline; lower occurrence rates of upward mobility doesn't mean there is downward mobility, it indicates time span is longer for another upward mobility; second, promotion rates are generally higher for the first several years of one's career; marriage as a life course event only took place at certain stage of life, at what time, individuals are likely to pass the accelerating stage of experiencing upward mobility, occurrence rates of upward mobility thus slow down. In



terms of job exit, the marriage effect for men is insignificant.

[Table 2 is about here]

[Figure 3 is about here]

### **Event History Analysis**

As is shown in Figure 2, there is little gender differences in terms of first job attainment, if men and women engage in the similar job, the mobility chances that is associated with job per se should be similar. Why occupational attainment differs largely in the current/last occupation? Do marriage and having children would exert some influence on the resulting gender gap? To further investigate whether marriage or further having children would affect men and women's mobility differently, event history analysis is applies.

#### *Marriage*

Table 3 is result of discrete-time event history analysis on estimating the effect marriage. The left two columns are the baseline models for men and women respectively. P-value is derived by fully interaction each variable with gender dummy. The baseline model showed that, marriage has negative impact on both men and women holding constant of other characteristics; the higher the educational level, the higher the probability of experiencing upward mobility; and party membership is also crucial on determining one's upward mobility chance. When further taking into account varying impact of the marriage across different period, the results show that, in early-reform period, marriage doesn't show significant effect on one's upward mobility regardless of gender; however, effect, its effect become more and more evidence over time, especially in recent period. It is shown that relative to early reform period, married would lower occurrence of upward mobility by 81.5% ( $=1-\exp(-1.690)$ ) for women, and 50% for men net of other factor. And gender difference is significantly difference, which means marriage

disadvantage women even more. In terms of job exit, we can see that marriage make women are more likely to exit from employment, but not for men in the baseline model (see Table 4). Once we interact the reform period with marriage, it is seen that in early reform era, the state's equalizing role make both men and women, married or not have similar low propensity of experiencing job loss. As reform gradually moved to radical stage, marriage make women more and more likely to exit from labor market holding constant of other individual and work sector characteristics, while its impact on men is little. This result show evidence for Hypothesis 1a, marriage bears negative impact for women to experience upward mobility and positive impact for women on job exit, this effect is especially substantial in the later period as the reform entered the radical stage; however, with respect to Hypothesis 1b, only some support can be seen, that is, marriage effect on job exit doesn't vary by period. The varying marriage effect can be more intuitively seen in Figure 4. Across stages of reform, marriage effect becomes more and more prominent. In terms of upward mobility, never married women are more likely to experience upward mobility due to their rising educational level; once getting married, their probability of experiencing upward mobility is consistently low and even lower across periods, marriage penalty deepens over time. For men, in spite of the significant marriage effect, a parallel pattern on experiencing upward mobility for both never married and married men is shown, which to some extent implies that, structural factor is more likely to the one drive the pattern. As is mentioned earlier, the negative marriage effect is because the probability of experiencing upward mobility is high at the beginning of one's career and slows down thereafter. In terms of job exit, it is clear that as the reform enters into radical stage, massive labor retrenchment program harm both genders, the exit rate sharply increased over time; however, marriage effect differs for gender. Women are even more likely to experience employment exit when getting married; however, for men, marriage penalty is not shown.

[Tables 3, 4 are about here]

[Figure 4 is about here]

### *Having Children*

Presence of children is another important factor that would affect gender's job mobility as is widely documented. To investigate its effect, I further restrict the sample to married person-year, since out of wedlock birth is rare in China. Table 5 is regression result. It is seen that controlling for other factors, men are more likely to experience upward mobility with the presence of dependent children and the effect is not significant for women in the baseline model. When including the interactions between having children and period; it is shown that, the negative effect of having dependent children is increasing significantly for women. Compared with women in early reform-era, having dependent children makes them 74.2% ( $=1-\exp(-1.353)$ ) less likely to experience upward mobility net of other factors. But for men, it seems having children have persistent advantage for their upward mobility. In terms of job exit, we can see from the baseline model that women are more likely to exit from employment with the presence of dependent children. However, no significant effect is found among men. The inclusion of the interaction term further show that, as the reform become more and more radical, the growing effect of having dependent children is seen for women. Relative to early reform period, women having kid are 2.8 ( $=\exp(1.022)$ ) times likely to experience job loss, while for men, the result is not significant. More importantly, the negative sign implies that having dependent kids seems make them less likely to exit from employment. This result is consistent with the Hypothesis 2a and 2b, having dependent children would negatively affect women's chances on upward mobility and make them more likely to experience job loss but not for men. And this effect becomes increasingly important for women in the later stage of reform. Figure 5 is further drawn to show the pattern more

explicitly based on the regression results in Table 5 and 6.

[Tables 5,6 is about here]

[Figure 5 is about here]

### **Decomposition Results**

As we shown earlier, compared with men, marriage and having children largely restricted women more to experience upward mobility; this part has been included in unexplained error term for a long time in cross-sectional analysis due to the ignorance of dynamic work trajectory of individuals. Research relevant to returns to mobility has been shown gender differences on the job mobility could be one primary reason for the resulting gender wage gap (i.e., Hollister 2011; Kronberg 2013; Topel and Ward 1992; ). To test how loss of upward mobility chances would affect gender gap on earnings, I use individual level data to investigate the effect frequency of experiencing upward mobility on wages difference between men and women in this part.

To examine the wage equation determinants for both genders, I simply adopted OLS regression. Table 7 presents the regression results. It is show frequency of the upward mobility is an important predictor for wage for both sexes. For men, increase of frequency of upward mobility by one would increase the wage by 10.0% ( $=\exp(0.0955)-1$ ); for women, each increase of upward mobility would increase their wage by 16.1% ( $=\exp(0.149)-1$ ). Moreover, consistent with most of study in regard to motherhood wage penalty, fatherhood premium, it can also be seen that marriage is positively associated with men's wage but not women; while having children would significantly decrease women's wage but not men.

To further identify the detailed contribution of frequency of upward mobility, Oaxaca decomposition is employed to see how much women's wage can be improved if women have men's distribution of frequency of upward mobility. The last two columns

of the Table 7 are the results of Oaxaca decomposition; it is shown the mean yearly income for men is 18477 RMB, while the corresponding yearly wage for women is 13667 RMB which yield 35% of difference. Here, we pay particular attention on the “explained” column which presents the counterfactual information we are interested. Evidently, among all the variables we utilized, only frequency of upward mobility shows its significance. The result implies that if adjusting women’s frequency distribution of upward mobility to men’s, women’s wage would be significantly increased by 1.2%. In sum, compared with male counterparts, loss of opportunities of upward mobility exerted long-last impact which results in the enlarging gender gap on earnings.

### **Conclusion and Discussion**

This analysis shows that the effect of family related events differs by gender and more importantly it differs across the stage of reform. Since economic transition, the deterioration of state power broke the protective membranes for women, and exerted long-lasting adverse impact for women.

In terms of job exit, rising importance of family related events is shown to predict occurrence rate of exit for women but not men. It is shown that once getting marriage and further having children, women are more likely to exit from employment; however, men reap marriage premium to some degree. In terms of upward mobility, marriage bears negatively for both men and women, but hurt women even more especially in the recent period as economic reform deepens over time. Moreover, having dependent children make women increasingly less likely to experience upward but not men. To some extent, it makes the probability of men experiencing upward mobility even higher.

It is note-worthy that this analysis left reemployment untouched; however, re-employment as an important aspect of occupational mobility is crucial on determining labor force participation and subsequent earnings between men and women. And it

becomes especially true within a short time-span right after rigid reform period when large amount of workers regardless of gender were laid off. Unfortunately, small cases make the investigation on the probability of being reemployed impossible in this analysis. According to Zhang (2003) the reemployment rate in China is very low, even for those laid-off workers during restructuring period. Despite the availability of *xianggang* subsidies, it didn't help. However, by investigating reemployment of dislocated worker, Giles et al. (2006) shows, women are less responsive to public subsidies in terms of reemployment. In contrast, they are more responsive to family circumstances. This result on the other hand offers additional support to my analysis to a large degree.

All in all, there are still some limitation remains unsolved. It should be noted that the overall assumption is based on the constant selection of individual in the labor force; however, the changing selection effect of women in the labor market is more likely to be the truth. Due to the data limitation, this part cannot be addressed, because although we can construct the retrospective work history information of the respondents, when tracing back to respondent earlier jobs, it would be associated with differential mortality problem at different age across different period.

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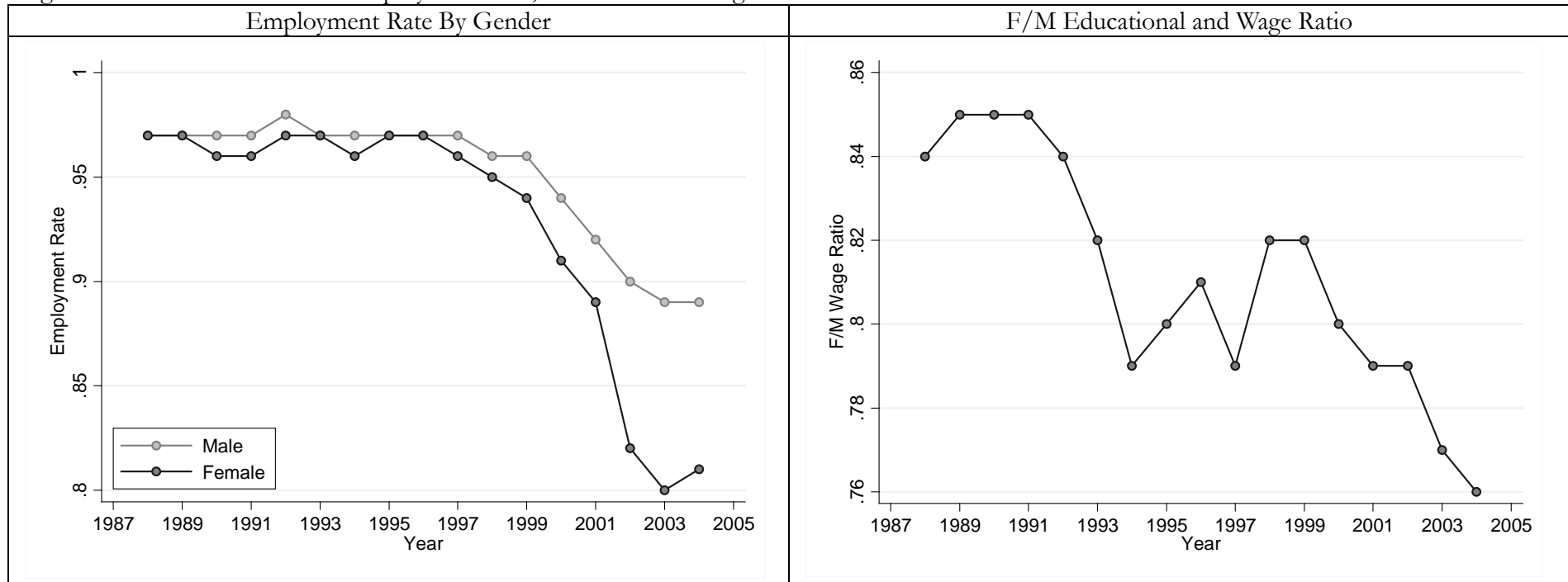
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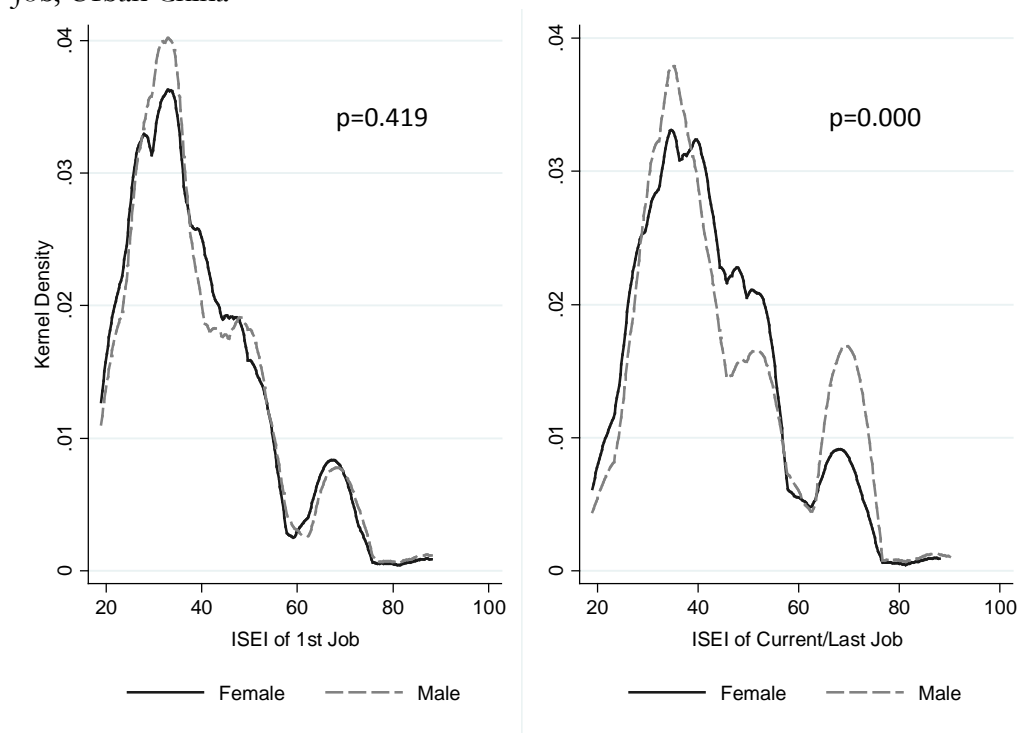
## Figures

Figure 1 Gender Difference on Employment Rate, Education and Wage 1988-2004



Data Source: numbers are adopted from Zhang et al. (2008).

Figure 2. Kernel Density of Gender Difference on ISEI of First Job and Current/Last Job, Urban China<sup>3</sup>



<sup>3</sup> We keep people living in urban area excluding those students.

Figure 3. Smoothed Hazard and Survival Function of Job Change by Gender

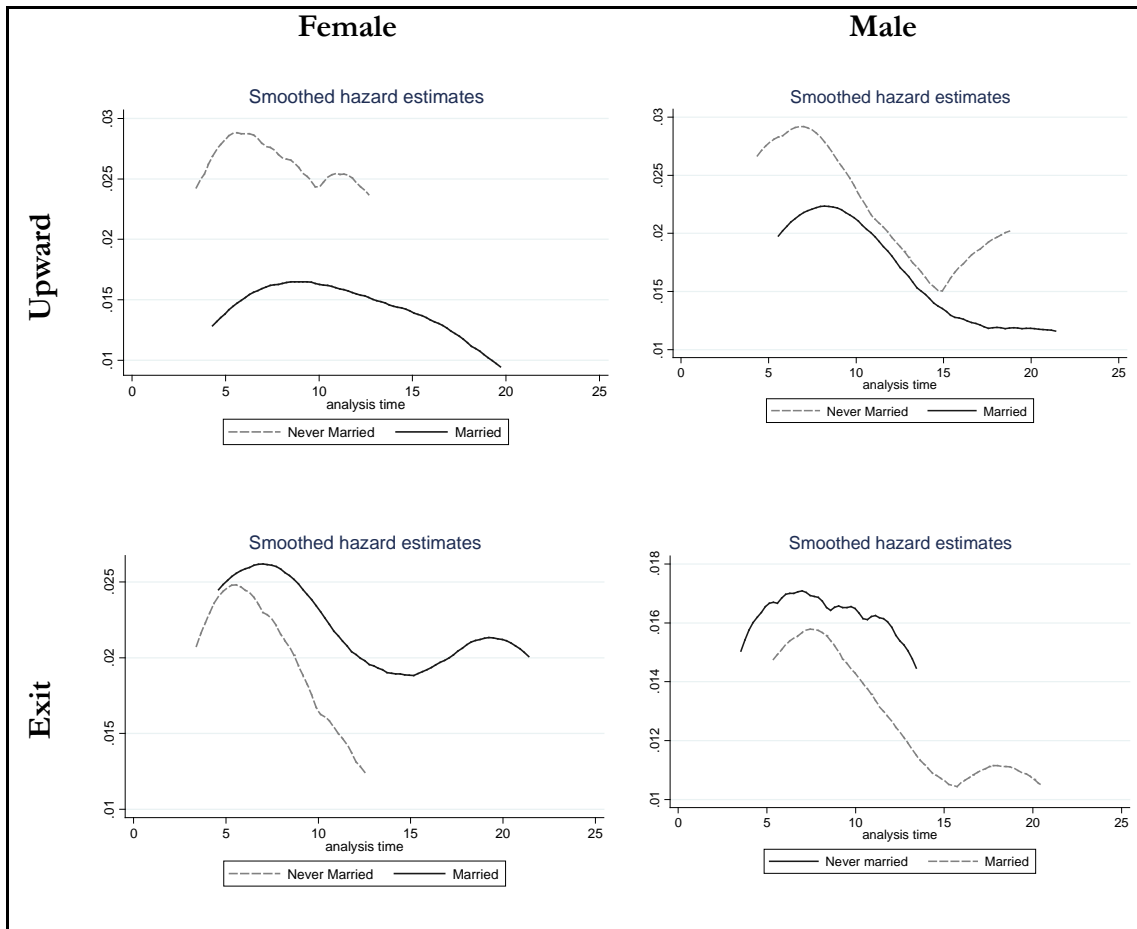




Figure 4. Predicted Marriage Effect on Job Mobility by Gender

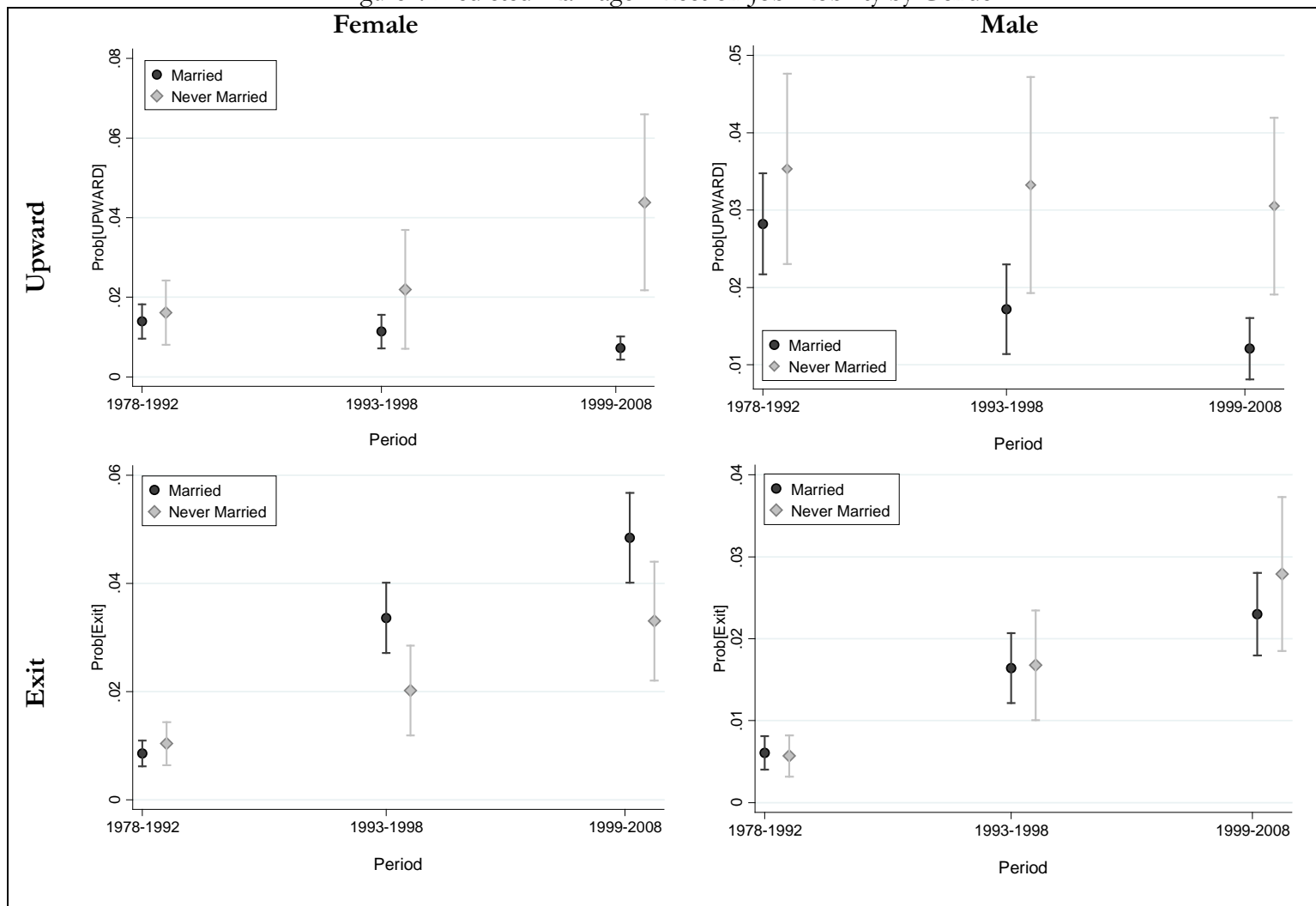
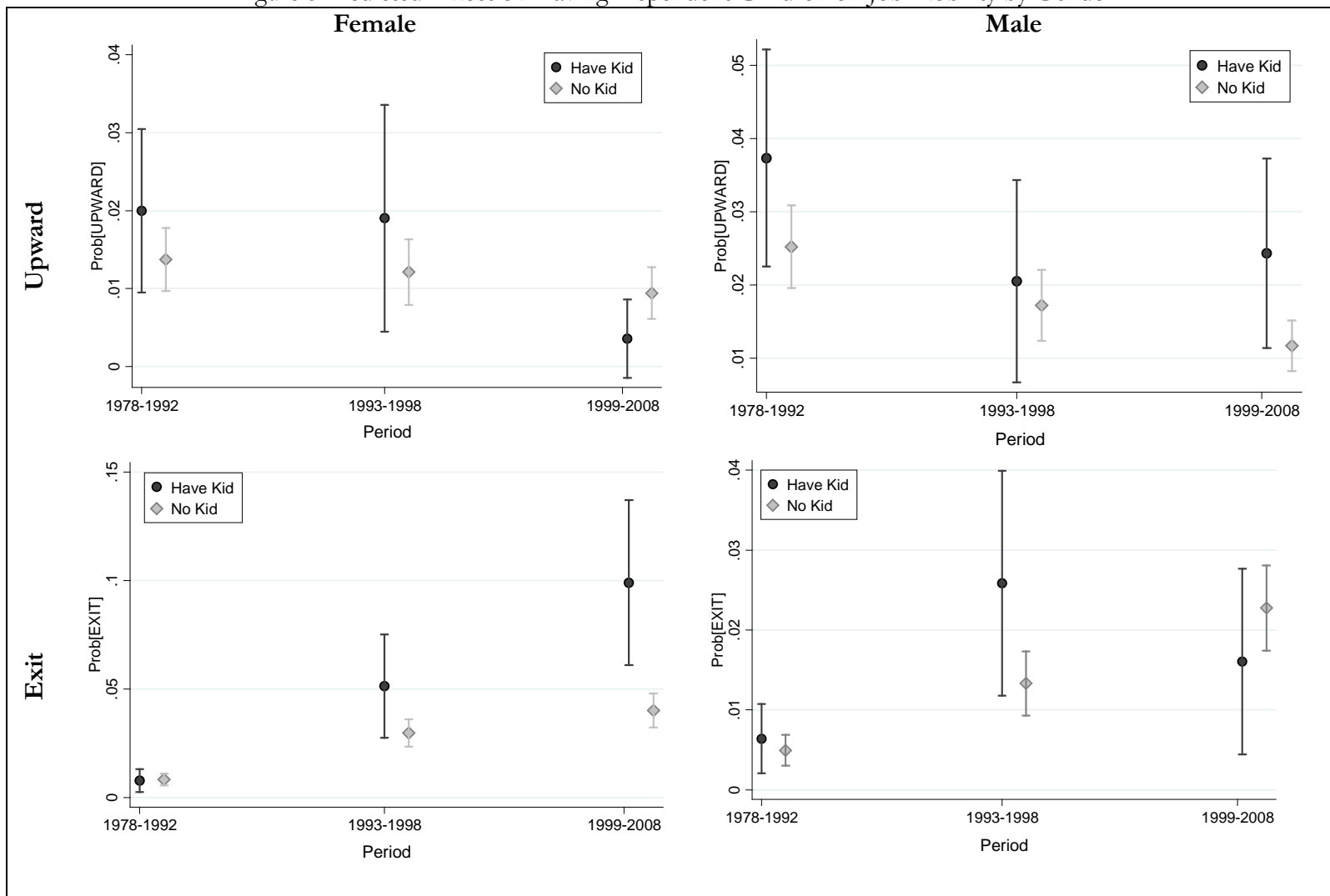


Figure 5. Predicted Effect of Having Dependent Children on Job Mobility by Gender



## Tables

Table 1. Descriptive Statistics for Selected Variables (Person-Year), CGSS2008

	Full Sample	Male	Female	Diff.	p-Value
Panel A: Individuals					
Ever Upward	28.42	30.55	26.05	-	0.030
# of Upward	0.36	0.41	0.31		0.000
	(0.65)	(0.72)	(0.57)		
Ever Exit	27.32	23.48	31.60	+	0.000
Ever Marry	80.55	80.70	80.38	-	0.860
Age of First Marriage	24.90	25.57	24.16	-	0.000
	(3.23)	(3.32)	(2.96)	+	
Ever Have Children	75.51	74.73	76.39	+	0.400
Age at entry to parenthood	26.04	26.72	25.30	-	0.000
	(3.34)	(3.28)	(3.26)		
Education					
<=Primary	6.97	5.67	8.43	+	0.018
Junior High	26.53	26.07	27.05	+	0.628
Senior High	37.07	37.31	36.81	-	0.819
>=College	29.42	30.95	27.72	-	0.122
Party Member	14.94	20.50	8.76	-	0.000
Full-time Employed	45.62	45.17	46.12	+	0.230
State Sector	54.38	54.83	53.88	-	0.679
Work Hours per Week	48.80	49.13	48.44	-	0.132
	(13.43)	(13.87)	(12.91)		
Income in 2007	23,531.47	28,071.48	18,473.03		0.000
	(38,545.83)	(50,538.08)	(15,760.04)		
N	1,907	1,005	902		
Panel B: Person-year					
Job Mobility Rate %					
Upward	2.35	2.72	1.94	-	0.000
Exit	2.65	1.99	3.36	+	0.000
Period					
1978-1991	41.99	40.42	43.69	+	0.000
1993-2001	25.44	25.53	25.35	-	0.700
2002-2008	32.57	34.05	30.96	-	0.000
Time Variant Variable					
Age	31.76	31.91	31.59	+	0.000
	(8.47)	(8.45)	(8.50)		
Duration	12.71	13.01	12.37	+	0.000
	(8.58)	(8.66)	(8.48)		
Married	72.73	70.55	75.09	+	0.000
Have Dependent Children	9.59	9.27	9.95	+	0.001
Party Member	12.09	16.77	7.01	-	0.000
State Sector	81.52	80.89	82.18	+	0.002
Person-Year	35,330	18,401	16,929		

Note: The results are tabulated in person-year. The numbers in the parentheses are standard deviation.

Table 2. Test for Equality of Survival Function of Marriage by Gender

ALL	Function	Overall	1978-1992	1993-1998	1999-2008
Upward	Log-Rank	28.82***	6.05*	1.51	38.04***
	Wilcoxon	30.98***	7.92*	1.57	38.31***
Job Exit	Log-Rank	4.38*	0.00	0.50	1.13
	Wilcoxon	4.64*	0.01	0.68	1.28
FEMALE	Function	Overall	1978-1992	1993-1998	1999-2008
Upward	Log-Rank	20.64***	3.6	1.62	22.10***
	Wilcoxon	20.50***	3.74	1.71	21.09***
Job Exit	Log-Rank	6.28*	0.54	2.35	4.60*
	Wilcoxon	5.35*	0.61	2.31	4.54*
MALE	Function	Overall	1978-1992	1993-1998	1999-2008
Upward	Log-Rank	6.89*	1.49	0.04	15.29***
	Wilcoxon	8.31**	2.62	0.03	16.68***
Job Exit	Log-Rank	0.46	0.58	1.79	2.38
	Wilcoxon	0.17	0.73	1.28	1.92

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Table 3. Discrete Time Model Estimating the Effect of Marriage on Job Upward Mobility, CGSS2008

VARIABLES	Upward Mobility					
	Female	Male	p-value	Female	Male	p-value
Married	-0.922*** (0.235)	-0.533** (0.175)	0.184	-0.152 (0.306)	-0.232 (0.218)	0.831
Period (ref.=1978-1991)						
1993-1998	-0.00528 (0.209)	-0.356* (0.163)	0.186	0.312 (0.396)	-0.0633 (0.258)	0.427
1999-2008	0.0906 (0.239)	-0.642*** (0.162)	0.011	1.027** (0.324)	-0.151 (0.234)	0.003
Interaction						
Married*1993-1998				-0.514 (0.442)	-0.444 (0.321)	0.898
Married*1999-2008				-1.690*** (0.363)	-0.713* (0.296)	0.037
Individual Characteristics	Yes	Yes		Yes	Yes	
Duration	Yes	Yes		Yes	Yes	
Regional Dummy	Yes	Yes		Yes	Yes	
Constant	-4.516*** (0.482)	-4.556*** (0.529)		-5.101*** (0.498)	-4.817*** (0.550)	
Observations	16,083	17,445		16,083	17,445	
Log-Likelihood	-890.8	-1387		-878.9	-1384	
Chi2	163.2	164.8		211.6	173.1	

Note: \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, + p<0.1. Robust standard errors in parentheses

Table 4. Discrete Time Model Estimating the Effect of Marriage on Job Exit, CGSS2008

VARIABLES	Job Exit					
	Female	Male	p-value	Female	Male	p-value
Married	0.291+ (0.159)	-0.0783 (0.168)	0.070	-0.195 (0.245)	0.0645 (0.286)	0.176
Period (ref.=1978-1991)						
1993-1998	1.211*** (0.135)	1.042*** (0.160)	0.220	0.677* (0.267)	1.091*** (0.265)	0.212
1999-2008	1.615*** (0.143)	1.436*** (0.167)	0.332	1.183*** (0.241)	1.612*** (0.259)	0.121
Interaction						
Married*1993-1998				0.719* (0.309)	-0.0852 (0.334)	0.114
Married*1999-2008				0.593* (0.279)	-0.263 (0.314)	0.026
Individual Characteristics	Yes	Yes		Yes	Yes	
Duration	Yes	Yes		Yes	Yes	
Regional Dummy	Yes	Yes		Yes	Yes	
	Yes	Yes		Yes	Yes	
Observations	16,083	17,445		16,083	17,445	
Log-Likelihood	-2143	-1530		-2140	-1530	
Chi2	420.6	265.2		424.8	268.8	

Note: † p<0.1; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001. Robust standard errors are in parentheses.

Table 5. Discrete Time Model Estimating the Effect of Having Kid on Job Upward Mobility, CGSS2008

VARIABLES	Upward					
	Female	Male	p-value	Female	Male	p-value
Having Kid	0.205 (0.231)	0.454* (0.181)	0.042	0.381 (0.291)	0.404+ (0.231)	0.951
Period (ref.=1978-1991)						
1993-1998	-0.128 (0.207)	-0.418** (0.159)	0.303	-0.127 (0.228)	-0.391* (0.177)	0.361
1999-2008	-0.514* (0.222)	-0.726*** (0.173)	0.308	-0.382 (0.235)	-0.781*** (0.187)	0.183
Interaction						
Having Kid*1993-1998				0.0779 (0.509)	-0.225 (0.425)	0.648
Having Kid*1999-2008				-1.353† (0.781)	0.34 (0.372)	0.049
Individual Characteristics	Yes	Yes		Yes	Yes	
Relative Education	Yes	Yes		Yes	Yes	
Duration	Yes	Yes		Yes	Yes	
Regional Dummy	Yes	Yes		Yes	Yes	
Observations	11,359	12,064		11,359	12,064	
Log-Likelihood	-825.4	-1289		-823.1	-1288	
Chi2	40.67	114.7		48.44	118.1	

Note: † p<0.1; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001. Robust standard errors are in parentheses.

Table 6. Discrete Time Model Estimating the Effect of Having Dependent Kid on Job Exit , CGSS2008

VARIABLES	Exit			Exit		
	Female	Male	p-value	Female	Male	p-value
Having Kid	0.632*** (0.162)	0.191 (0.208)	0.094	-0.0557 (0.371)	0.259 (0.379)	0.553
Period (ref.=1978-1991)						
1993-1998	1.444*** (0.175)	1.067*** (0.212)	0.169	1.301*** (0.186)	0.998*** (0.233)	0.31
1999-2008	1.810*** (0.189)	1.480*** (0.216)	0.25	1.612*** (0.197)	1.543*** (0.234)	0.821
Interaction						
Having Kid*1993-1998				0.624 (0.448)	0.416 (0.479)	0.752
Having Kid*1999-2008				1.022* (0.431)	-0.614 (0.538)	0.018
Individual Characteristics	Yes	Yes		Yes	Yes	
Relative Education	Yes	Yes		Yes	Yes	
Duration	Yes	Yes		Yes	Yes	
Regional Dummy	Yes	Yes		Yes	Yes	
Observations	11,359	12,064		11,359	12,064	
Log-Likelihood	-1519	-1011		-1515	-1008	
Chi2	313.4	175.6		328.7	181.5	

Note: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001. Robust standard errors are in parentheses.



Table 7 Oaxaca Decomposition of Wage Equation between Men and Women

VARIABLES	Female	Male	Explained	Unexplained
# of Upward	0.149*** (0.043)	0.0955** (0.036)	0.012** (0.004)	-0.018 (0.019)
Education (ref: <=Primary)				
Junior High	0.154 (0.099)	0.310** (0.117)	-0.002 (0.005)	0.041 (0.047)
Senior High	0.442*** (0.104)	0.440*** (0.118)	0.002 (0.010)	-0.001 (0.066)
College or Above	0.953*** (0.121)	0.881*** (0.131)	0.029 (0.019)	-0.021 (0.056)
Experience	0.0189 (0.011)	0.0218 (0.012)	-0.012 (0.011)	0.056 (0.334)
Squared Experience	-0.0436 (0.025)	-0.0635* (0.026)	0.022 (0.013)	-0.094 (0.186)
Married	0.0576 (0.076)	0.203* (0.085)	0.000 (0.002)	0.117 (0.095)
Have Kid	-0.259** (0.095)	-0.0335 (0.093)	0.002 (0.003)	0.171 (0.097)
Party Member	0.0943 (0.091)	0.044 (0.068)	0.006 (0.006)	-0.006 (0.013)
Fulltime Employed	0.22 (0.157)	0.109 (0.141)	-0.001 (0.002)	-0.107 (0.255)
Working Hour/week	-0.00494* (0.002)	-0.0104*** (0.002)	-0.006 (0.005)	-0.264 (0.186)
Non-state Sector	0.0823 (0.057)	0.258*** (0.056)	-0.002 (0.004)	0.080* (0.038)
Constant	8.992*** (0.213)	9.289*** (0.203)		0.297 (0.343)
Observations	902	1,005	Total	0.050** 0.251***
R-squared	0.237	0.179		(0.018) -0.035

Note: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001. Robust standard errors are in parentheses.